TOWN OF AMHERSTBURG
SPECIAL COUNCIL MEETING - PLANNING

AGENDA

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Monday, July 11, 2022

4:30 PM

Council Chambers

271 Sandwich Street South, Amherstburg, ON, N9V 2A5

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Pages

1. CALL TO ORDER

2. ROLL CALL

3. DISCLOSURE OF PECUNIARY INTEREST & GENERAL NATURE THEREOF

4. SPECIAL PLANNING REPORTS

4.1. Statutory Public Meeting to Consider a Draft Plan of Subdivision for Woodland Trails Subdivision

It is recommended that:

1. Council **RECOMMEND** to the County of Essex's Manager of Planning Services, that they grant draft approval to a Draft Plan of Subdivision (as per Figure 1) for the subject lands, and that the County of Essex **BE REQUESTED** to attach the following conditions to the subject draft plan of subdivision approval:

- That the required storm water management plan be prepared by the Applicant and approved by the Town Engineer and ERCA Staff;
- That all identified road allowances be conveyed to the Town;
- That a subdivision agreement be entered into with the Town to ensure that all required municipal infrastructure and services are designed and built by the Applicant to the satisfaction of the Town, and that all required financial contributions (including cash in lieu of parkland) be made and/or secured to the Town, including all required letters of credit, cash securities and insurances;
- That Block 85 be dedicated to the Town for storm water management purposes; and,
- That Blocks 75 be conveyed to the Town for drainage purposes.

2. Once the County of Essex has granted draft approval to the Applicant's Draft Plan of Subdivision:

- That the required subdivision agreement be prepared and executed to Council's satisfaction; and,
- That the required zoning by-law amendment, removing the holding zone from the subject lands in accordance with the corresponding land uses recommended in this Staff Report, be prepared by Town Staff and brought to Council for adoption purposes.

3. All comments from the public, and Council with respect to the application for a proposed plan of subdivision (File 37-T-22006) **BE RECEIVED**; and,

4. All comments and the above conditions **BE FORWARDED** to the County of Essex (the Approval Authority).

5. ADJOURNMENT

That Council rise and adjourn at p.m.

THE CORPORATION OF THE TOWN OF AMHERSTBURG

OFFICE OF DEVELOPMENT SERVICES

MISSION STATEMENT: Committed to delivering cost-effective and efficient services for the residents of the Town of Amherstburg with a view to improve and enhance their quality of life.

Author's Name: Christopher Aspila	**Report Date: July 4, 2022**
Author's Phone: 519 736-5408 ext. 2124	**Date to Council: July 11, 2022**
Author's E-mail: caspila@amherstburg.ca	**Resolution #:**

To: **Mayor and Members of Town Council**

Subject: **Statutory Public Meeting to Consider a Draft Plan of Subdivision for Woodland Trails Subdivision**

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1. RECOMMENDATION:

It is recommended that:

1. Council recommend to the County of Essex's Manager of Planning Services, that they grant draft approval to a Draft Plan of Subdivision (as per Figure 1) for the subject lands, and that the County of Essex be requested to attach the following conditions to the subject draft plan of subdivision approval:

(i) That the required storm water management plan be prepared by the Applicant and approved by the Town Engineer and ERCA Staff;
(ii) that all identified road allowances be conveyed to the Town;
(iii) that a subdivision agreement be entered into with the Town to ensure that all required municipal infrastructure and services are designed and built by the Applicant to the satisfaction of the Town, and that all required financial contributions (including cash in lieu of parkland) be made and/or secured to the Town, including all required letters of credit, cash securities and insurances;
(iv) that Block 85 be dedicated to the Town for storm water management purposes;
(v) that Blocks 75 be conveyed to the Town for drainage purposes;

2. Once the County of Essex has granted draft approval to the Applicant's Draft Plan of Subdivision:

(i) that the required subdivision agreement be prepared and executed to Council's satisfaction;
(ii) that the required zoning by-law amendment, removing the holding zone from the subject lands in accordance with the corresponding land uses

recommended in this Staff Report, be prepared by Town Staff and brought to Council for adoption purposes.

3. That all comments from the public, and Council with respect to the application for a proposed plan of subdivision (File 37-T-22006) **BE RECEIVED**; and

4. That all comments and the above conditions **BE FORWARDED** to the County of Essex (the Approval Authority).

EXECUTIVE SUMMARY:

N/A

2. **BACKGROUND:**

The County of Essex (the Approval Authority) has received Application No. 37-T-22006 for approval of a Plan of Subdivision on Part of Lot 7, Concession 8 (McGregor), generally located on the north side of Middle Sideroad (County Rd 8) and on the west side of Walker Road (County Rd 11) (refer to Figure 1). The property has a frontage of 32.55m on Walker Road and a varied depth with a total area of 26.02 hectares. The lands subject to the draft Plan of Subdivision include the first phase of the development that has an area of 9.09 hectares.

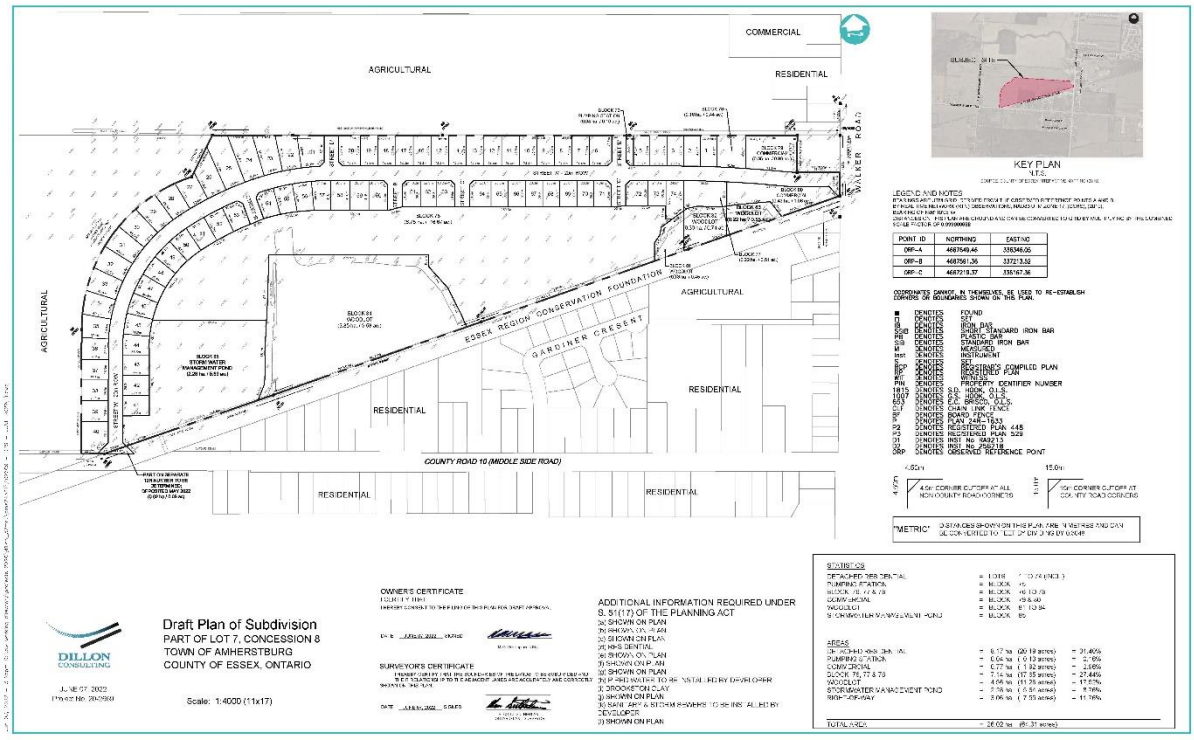


Figure 1 – Draft Plan of Subdivision (June 2022)

The applicant is proposing the creation of 74 single detached residential lots and 2 commercial lots at this location. The lands are designated Low Density Residential which allows for residential development in the Town's Official Plan.

The County of Essex on June 7, 2022, requested as per Section 51(20) of the Planning Act, that the Town of Amherstburg give notice and hold a public meeting to advise the public that the application for draft Plan of Subdivision has been received and is being processed.

3. DISCUSSION:

The Official Plan currently designates the subject lands Low Density Residential. Section 4.3.1 of the Plan set out the following applicable policies:

> "Areas designated as Low Density Residential shall be limited to single detached, semi-detached, duplex, or converted dwelling units, home occupation uses and public uses.
>
> Notwithstanding the above policy, vacant tracts of land greater than 5 hectares in size and designated Low Density Residential may be developed for Medium or High Density Residential uses if they can meet the criteria outlined in Subsection 4.3.1(3).
>
> (1) Maximum Density
> Although the existing densities within areas designated Low Density Residential are in the order of 6 to 12 units per hectare, smart growth encourages a more cost effective development pattern to better utilize services and the land base. In a desire to promote more efficient use of the land, the maximum density for single detached developments shall be 15 units per hectare and the maximum density for semidetached development and conversions shall be 22 units per hectare. The overall maximum density shall not exceed 19 units per gross hectare.1 In keeping with the Provincial Policy Statement regarding intensification, in the older established portions of Amherstburg, a reduced lot frontage may be considered in the Zoning By-law where sufficient lot depth is available to accommodate new low density residential units/lots.
>
> In areas where the criteria of Subsection 4.3.1(3) have been achieved, the density policies for the Medium Density Residential designation or the High Density Residential designation shall apply.
>
> Low Density Residential may be placed in separate zoning categories in the implementing Zoning By-Law."

This lot creation application conforms the policies contained within the Town's Official Plan. These lands are zoned Commercial General (CG), Residential First Density (R1) and Residential Second Density (R2).

Attached to this report is a copy of the support studies prepared by Dillon Consulting which outlines details with respect to the proposed Plan of Subdivision.

Also attached is a copy of the comments received to date by the Town from agencies and comments from internal municipal departments.

4. RISK ANALYSIS:

The recommendation presents little to no risk to the municipality.

Costs will be incurred should this application be appealed to the Ontario Land Tribunal.

5. FINANCIAL MATTERS:

All costs associated with this application are to be borne by the Applicant.

The Town will incur costs should the decision be appealed to the Ontario Land Tribunal.

6. CONSULTATIONS:

The Notice of Public Meeting was published in the local newspaper and circulated to the required agencies, property owners and municipal departments in accordance with the requirements of the Planning Act, R.S.O. 1990, c.P. 13 and associated regulations.

7. CONCLUSION:

Based on the above and subject to any further comments and/or direction from Council, it is recommended that Council support the County of Essex granting draft plan approval to the subject lot creation application, and that the comments received together with the recommended conditions as noted in Section 1 of this Staff Report be forwarded to the County of Essex (Approval Authority).

_____

Christopher Aspila
Manager, Planning Services

CA

DEPARTMENTS/OTHERS CONSULTED:
Name: Office of Engineering and Public Works
Phone #: 519 736-3664 ext. 2313

Name: Building Services
Phone #: 519 736-5408 ext. 2136

Name: Fire Services
Phone #: 519 736-6500

Name: Windsor Police

Name: Union Gas

Email: ONTUGLandsINQ@uniongas.com

Name: Ontario Power Generation
Email: Executivevp.lawanddevelopment@opg.com

Name: Essex Region Conservation Authority
Phone #: 519 776-5209

Name: County of Essex
Phone #: 519 776-6441

Name: Essex Power
Phone #: 519 737-9811

Name: Windsor Essex Catholic District School Board
Phone #: 519 253-2481

Name: Greater Essex County District School Board
Phone #: 519 255-3200

Report Approval Details

Document Title:	Statutory Public Meeting to Consider a Draft Plan of Subdivision for Woodland Trails Subdivison.docx
Attachments:	- DPS - Stage 1 and 2 Archaeological Study.pdf - Archaelogical Report Entered into Register.pdf - McGregor Woodland Trails - Functional Servicing Report.pdf - McGregor Woodland Trails - Transportation Impact Study.pdf - Environmental Impact Assessment, Oct 21, 2020_Optimized.pdf - McGregor Woodland Trails_Stormwater Management Report_Dillon.pdf - 202669 - DPS - JUNE 2022(1)-DPS.pdf
Final Approval Date:	Jul 6, 2022

This report and all of its attachments were approved and signed as outlined below:

Tracy Prince - CFO

Melissa Osborne – Acting CAO

Task assigned to Valerie Critchley was completed by workflow administrator Tammy Fowkes

Tammy Fowkes – Acting Clerk

DILLON CONSULTING

3200 Deziel Drive
Suite 608
Windsor, Ontario
Canada
N8W 5K8
Telephone
519.948.5000
Fax
519.948.5054

Our File: 20-2669

February 3, 2021

Town of Amherstburg
271 Sandwich Street South
Amherstburg, ON
N9V 2A5

Attention: Frank Garado
Manager, Planning Services

McGregor – Woodland Trails Subdivision
Functional Servicing Report
Re: Draft Plan of Subdivision – First Submission
9358 Walker Road, Amherstburg, ON

On behalf of our client, MGV Developments Inc., Dillon Consulting Limited is submitting the enclosed Draft Plan of Subdivision Application package for the property located at 9358 Walker Road in Amherstburg, Ontario.

The applicant is requesting that the enclosed application package be reviewed for approval at this time as it aligns with current sanitary capacity availability, as confirmed by Todd Hewitt via email on January 25, 2022. The proposed Draft Plan of Subdivision includes 74 residential lots, one (1) stormwater management pond, two (2) woodlots, two (2) commercial blocks and two (2) future residential development blocks. The remainder of the blocks shown in grey on the concept plan will proceed through Part Lot Control Exemption application(s) to create lots, when sanitary capacity becomes available.

The enclosed Functional Servicing Report (FSR), dated March 2021 was based on a previous concept plan for the Woodland Trails subdivision and with an allocation of 66 lots. Based on the confirmation from Todd Hewitt via email on January 25, 2022, there is now an allocation of 74 lots for this development. The FSR can be updated when the area in grey on the current concept plan is able to proceed through the required planning applications for development approvals with servicing capacity availability, if required. For the purposes of this application, the conclusions of the March 2021 FSR are still valid, and further analysis is not required at this time.

Sincerely,

DILLON CONSULTING LIMITED

Kyle Edmunds, P. Eng.
Associate

Zoe Sotirakos, MES
Planner

ZCS: dt

Dillon Consulting Limited

DILLON CONSULTING

2439478 ONTARIO LIMITED

9538 Walker Road
Functional Servicing Study

Draft Report

March 2021 – 20-2669

Table of Contents

Tables

Appendices

1.0 Introduction

Dillon Consulting Limited (Dillon) was retained by 2439478 Ontario Limited to develop a functional servicing strategy for the property at 9538 Walker Road in the Town of Amherstburg. This document outlines the servicing strategy including supporting studies and related information for the transportation, sanitary, stormwater management, and watermain servicing for the site.

The proposed development is approximately 26.29 Ha and is currently in operation as agricultural lands. When fully developed, the land use will consist of approximately 13.04 Ha of residential, 1.66 Ha of commercial blocks, 4.01 Ha of woodlots, 2.14 Ha of parkland, 1.47 Ha of stormwater management area, and 3.97 Ha of right-of-way.

1.1 References Documents

The following documents and drawings were referenced when completing this study:

- Corporation of the Town of Amherstburg – Development Manual (Amherstburg, 2009);
- County of Essex – Interactive Mapping (Amherstburg);
- Town of Amherstburg - Interactive Mapping (Amherstburg); and
- Design Guidelines for Sewage Works (MOE, 2008).

2.0 Transportation Servicing

2.1 Existing Conditions

Current access to the property consists of a private gravel access off of Walker Road near the southeast property limits. The existing access is not sufficient for the proposed development.

The property is bounded on the west limit by farmland, on the east limit by Walker Road, on the north limit by farmland, and on the south limit by the Cypher System Greenway Trail and Middle Side Road.

2.2 Proposed Roadways

The proposed access points to this development will be from Walker Road from the east limit and Concession Road 11 from the south limit.

The internal road network is proposed to be local roads with a 20 m wide right-of-way. All roads will be designed to an urban cross-section. All local roads will be designed to the Town's standard cross-section (Figure R1 from the Town Development Manual). The road layout is shown in **Figure 1** (in **Appendix A)**.

The pavement structure of the proposed internal roads will be consistent with geotechnical recommendations.

A Traffic Impact Study (TIS) has been completed for this development by Dillon Consulting Limited. Any upgrades such as left turn lanes or deceleration lanes that may be required to the existing road network will be incorporated in the detailed design of this development.

3.0 Sanitary Servicing

3.1 Existing Conditions

Currently, there are no sanitary services to this property. An existing 375 mm diameter trunk sewer is located on Walker Road. This existing 375 mm trunk, which flows south along Walker Road, is intended to provide servicing to this property. Due to a previously signed agreement with the Town of Essex, the Town of Amherstburg has 133 units of capacity for the downstream lagoon system. The 133 unit capacity is to be shared between this development and the Canard Estates, Phase 2 development. There is an allocation for this development of 66 lots.

3.2 Design Criteria

The following sanitary sewer design criteria for this property are outlined in **Table 1.0.** The design criteria were established by the Town of Amherstburg's Development Manual (2009).

Table 1: Sanitary Sewer Design Criteria

Criteria	Town of Amherstburg Development Manual
Hydraulic Sewer Sizing	Manning's Equation
Minimum Sewer Size (mm)	200 diameter
Minimum Cover Depth (m)	1.20
Manning's Roughness Coefficient 'n'	0.013
Velocity: Minimum (m/s) Maximum (m/s)	 0.76 3.66
Hydraulic Losses Across manholes: Straight Run (mm) 45 degree turn of less (mm) Greater than 45 degree turn to 90 degree turn (mm)	 10 50 100
Infiltration Allowance/Peak Extraneous Flow	0.2 L/Ha/s
Peaking Factor	Based on Harmon Formula
Population Densities For: Residential Commercial	 3.5 persons/unit 75 persons/Ha
Average Daily Sewage	450 L/Cap/Day
Sewer Surcharging	Maximum hydraulic grade line with pump failure

3.3 Proposed Servicing

Please refer to the attached **Figure 1** (in **Appendix A**) which illustrates the proposed sanitary servicing layout. The sanitary servicing for the proposed development is as follows:

- All sanitary flows from within the proposed development will be conveyed via local sanitary sewers constructed within the right-of-way of the proposed road network.
- It is proposed that the local sanitary sewer outlet to the existing Walker Road sanitary trunk sewer via a single connection at the intersection of Street 'A' and Walker Road.

As discussed in Section 3.1, there is currently only available capacity in the existing sanitary sewer system for 66 lots in this development. In order to remain within the available capacity for sanitary services, the proposed development will be built out in phases. The first phase of development will only include up to 66 units with the remaining units to be built out in the following phases once additional sanitary capacity is made available by the Town of Amherstburg.

The sanitary sewer functional design sheets are provided in **Appendix B** and assumes a full development build out. Criteria used in flow calculation is listed in **Table 1.0**.

The existing invert elevations of the stub from the Walker Road trunk sanitary sewer allows for a maximum 1.20 m cover at the top end of the internal sewers. All serviced lots where the bottom of the footings are below the sewer and the hydraulic grade line is less than 300 mm below the basement floor elevation, shall be equipped with a sewage ejector pump. It is recommended that all serviced lots install sewage ejector pumps to provide a hydraulic break between the sewer and the building lot.

The future detailed design of the sanitary sewers and services are to be consistent with the requirements of the Town of Amherstburg and the Ministry of Environment, Conservation and Parks (MECP).

4.0 Stormwater Servicing

4.1 Background Information

The proposed development lands are currently undeveloped agricultural lands and are assessed to the Dufour Drain.

4.2 Design Criteria

The following storm sewer design criteria for this property are outlined in **Table 2.0.** The design criteria were established by the Town of Amherstburg's Development Manual (2009).

Table 2: Storm Sewer Design Criteria

Criteria	Windsor/Essex Region Stormwater Management Standards Manual
Stormwater Runoff	Hydrodynamic Model
Hydraulic Sewer Sizing	Hydrodynamic Model
Sewer Sizing Rainfall Event	WERSMS (2018)
Minimum Cover Depth (m)	1.00
Manning's Roughness Coefficient 'n'	0.013
Velocity: Minimum (m/s) Maximum (m/s)	 0.80 3.66
Roof Downspouts	Disconnected (splash to ground)
Inlet Times: Residential	 15 minutes
Runoff Coefficients: Residential (Single Detached) Residential (Semi-Detached) Park/Open Space	 0.60 0.70 0.20
Sewer Surcharging	Maximum 5 year hydraulic grade line is below road grade

Note: The detailed design for stormwater servicing will be completed with a dual drainage hydrodynamic model and will adhere to ERCA Guidelines.

4.3 Proposed Servicing

It is proposed that the site's stormwater outlet be provided to the Dufour Drain.

Refer to **Figure 1** (in **Appendix A**) for the proposed servicing. The stormwater servicing for the proposed development is as follows:

- The proposed lots and right-of-way will be serviced through a new storm sewer network constructed within the proposed municipal right-of-way.
- The storm sewer network will outlet into a proposed stormwater management pond located in the southwest corner of the property. Refer to the Stormwater Management Report in **Appendix C** for details.
- The roads will be graded to allow for overland flow to be captured on-site and directed to the stormwater management pond. The flow depth will not exceed 300 mm within the roadways.
- Stormwater quality control will be provided in the stormwater management pond. Details are provided in **Appendix C**.

Overland flow will be provided through road grading towards the proposed pond. The overland flow will "cascade" over the "saw-tooth" road grading to the pond. There will be temporary ponding of runoff on the road surfaces until it can be captured by the catchbasins and conveyed to the ponds. The roadway ponding will not exceed 300 mm.

Details related to the quantity and quality sizing of the stormwater management facility can be found in the Stormwater Management Report. This report has been included in **Appendix C**.

5.0 Watermain Servicing

5.1 Existing Conditions

The site is not currently connected to a watermain service. There is an existing 150 mm diameter watermain located to the east of the proposed development within the Walker Road right-of-way. There is also a 200 mm diameter watermain located to the south within the Concession Road 11 right-of-way.

5.2 Proposed Servicing

Please refer to the attached **Figure 1** (in **Appendix A**) which illustrates the proposed watermain servicing. The watermain servicing for the proposed development is as follows:

- The internal development will be serviced by new 200 mm diameter watermains constructed within the right-of-way of the proposed road network; and
- The new watermain will connect to the existing 150 mm diameter main located within Walker Road right-of-way and to the existing 200 mm diameter watermain located within the Concession Road 11 right-of-way.

No pressure/flow testing has been completed for this development. During detailed design, pressure testing of the existing watermains on Walker Road and Concession Road 11 may be required.

The detailed design of the watermain services are to be consistent with the requirements of the Town. Placement of hydrants for adequate fire protection will be completed during detailed design.

6.0 Utilities

6.1 Gas

Existing natural gas service is available along Walker Road and Concession Road 11. During detailed design, future conversation on loading will be required with Enbridge.

6.2 Bell

Bell does not currently have any plant within 250 m of the subject site.

6.3 Cogeco

Cogeco has aerial services along the east side of the Walker Road right-of-way and along the north side of the Scott Lane right-of-way.

6.4 MNSi

MNSi does not currently have any plant within 250 m of the subject site.

7.0 Conclusion

The review of the adjacent services have been found to be sufficient for the proposed development. The design of the proposed internal services will be finalized during detailed design.

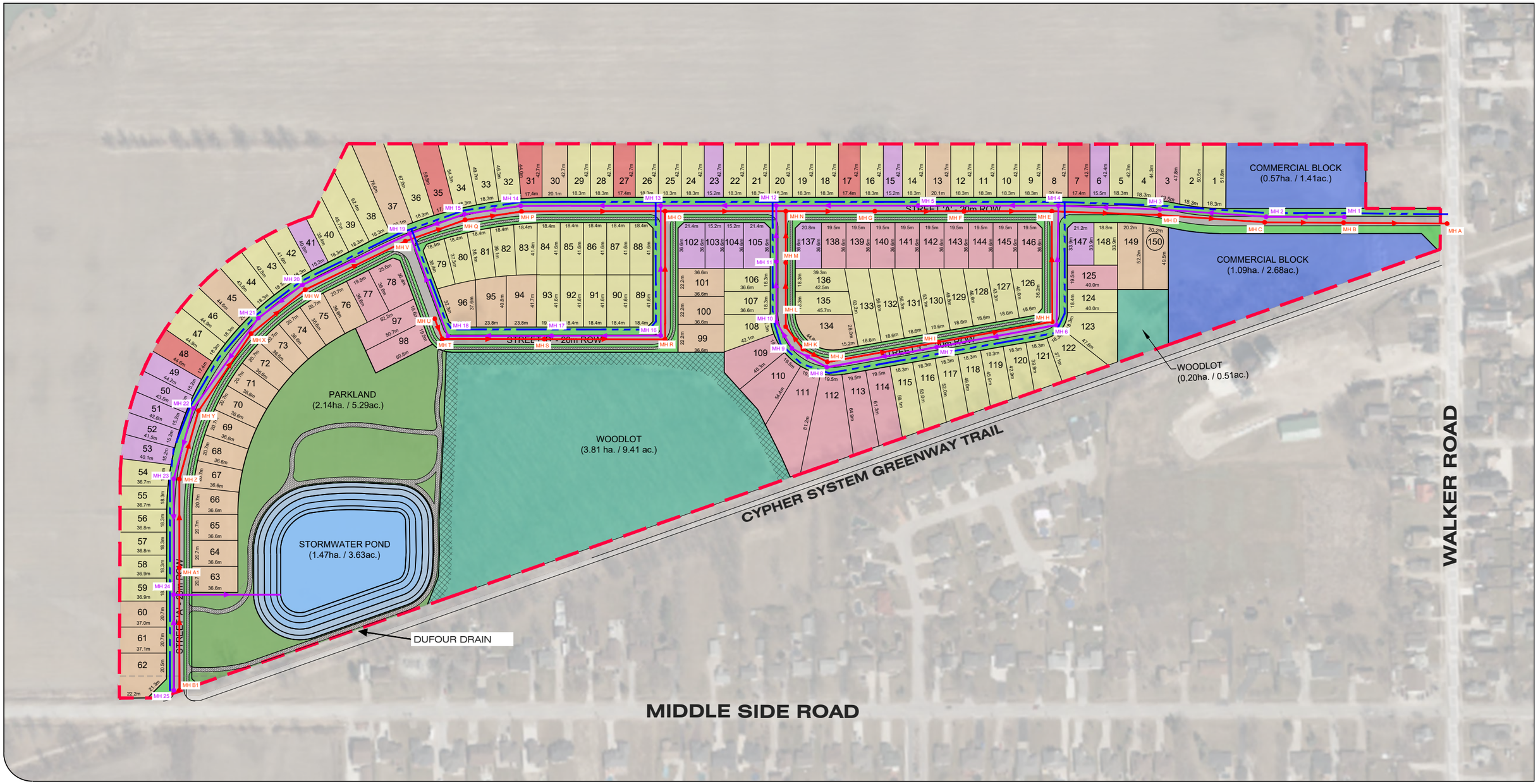
Yours sincerely,

DILLON CONSULTING LIMITED

Kyle Edmunds, P.Eng.
Project Engineer

Appendix A

Functional Servicing Plan



2551424 ONTARIO LIMITED
9538 WALKER ROAD
CONCESSION ROAD 11 AND WALKER ROAD

FIGURE 1
SITE SERVICING

SUBJECT AREA (± 26.29ha / 64.96ac)
PROPOSED LOTS
PROPOSED PARKLAND
EXISTING WOODLOT
PROPOSED PAVEMENT
PROPOSED SWM POND
PROPOSED COMMERCIAL
PROPOSED BOULEVARD
10m WOODLOT BUFFER
PROPOSED SIDEWALK/ MULTI USE TRAIL
SANITARY SEWER
STORM SEWER
WATERMAIN

File Location:
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March, 04, 2021 10:53 AM

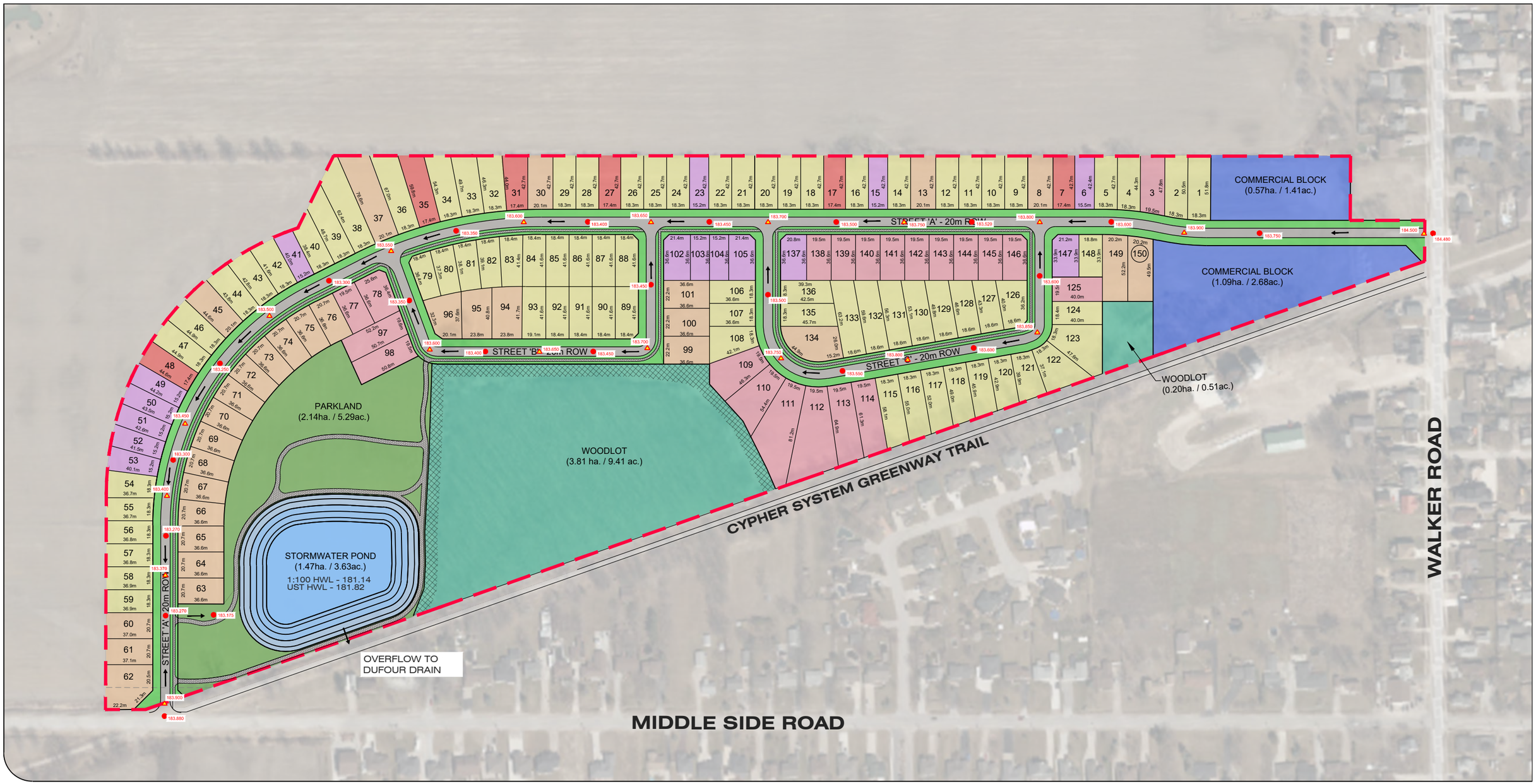
SOURCE: COUNTY OF ESSEX AERIAL (2019)

MAP/DRAWING INFORMATION
THIS DRAWING IS FOR INFORMATION PURPOSES ONLY. ALL DIMENSIONS AND BOUNDARY INFORMATION SHOULD BE VERIFIED BY AN O.L.S PRIOR TO CONSTRUCTION.
CREATED BY: MMM
CHECKED BY: SEF/KNE
DESIGNED BY: SEF

SCALE : 1:3000

DILLON CONSULTING

PROJECT: 20-2669
STATUS: FINAL
DATE: 03/02/2021



2551424 ONTARIO LIMITED
9538 WALKER ROAD
CONCESSION ROAD 11 AND WALKER ROAD

FIGURE 2
SITE GRADING

SUBJECT AREA (± 26.29ha / 64.96ac)
PROPOSED LOTS
PROPOSED PARKLAND
EXISTING WOODLOT
PROPOSED PAVEMENT
PROPOSED SIDEWALK/ MULTI USE TRAIL
HIGH POINT
PROPOSED SWM POND
OVERLAND FLOW ROUTE
PROPOSED COMMERCIAL
PROPOSED BOULEVARD
10m WOODLOT BUFFER
LOW POINT

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SOURCE: COUNTY OF ESSEX AERIAL (2019)

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CREATED BY: MMM
CHECKED BY: SEF/KNE
DESIGNED BY: SEF

SCALE : 1:3000

DILLON CONSULTING

PROJECT: 20-2669
STATUS: FINAL
DATE: 03/02/2021

Appendix B

Sanitary Sewer and Storm Sewer Design Sheets

9538 WALKER ROAD
SANITARY SEWER DESIGN SHEET

Project Name: 9538 WALKER ROAD
Project No: 20-2669

Town of Amherstburg

The Peaking Factor was derived:
Using Harmon Formula= Y (Y or N)
From a Table= N
Value from table=

Residential Average Daily Flow= 450 L/Cap.D
Peak Extraneous Flow= 0.120 L/Ha.S

Outlet Invert Elevation= 178.385
Mannings 'n'= 0.013
Total Area= 26.290

Basement Floor Elevation =
or
Hydraulic Grade Line Cover = 2.40

Ground Elevation at Outlet = 184.480
HGL at Outlet = 178.760

Location			Flow Characteristics								Sewer Design/Profile										Cover			Hydraulic Grade Line		
ROAD/STN	LOCATION		INDIVIDUAL		CUMULATIVE		PEAKING	POP FLOW	PEAK EXTR.	PEAK DESIGN	CAPACITY	LENGTH	PIPE DIA.	Wall	SLOPE	UPPER	LOWER	FALL	VELOCITY	DROP IN LOWER	Ground Elevation	Cover @ Up MH	Cover @ Low MH	HGL Elev	HGL Elev vs.	HGL Elev vs.
	FROM MH	TO MH	POP	AREA (ha.)	POP	AREA (ha.)	FACTOR M	Q(p) (L/s)	FLOW Q(i) (L/s)	FLOW Q(d) (L/s)	(L/s)	(m)	(mm)	Thickness (mm)	(%)	INVERT (m)	INVERT (m)	(m)	(m/s)	MANHOLE (m)	Upper MH	(m)	(m)	at Upstream MH	Grnd Elev @ Up MH	Obvert @ Up MH
Street A	B1	A1	21	2.11	21	2.11	4.378	0.479	0.253	**0.73**	**110.89**	97.6	375	11	0.40	182.034	181.644	0.390	1.00	0.025	183.900	1.480	1.380	178.800	OKAY	INTERSECTS OBVERT
Street A	A1	Z	21	1.92	42	4.03	4.329	0.947	0.484	**1.43**	**84.09**	70.4	375	11	0.23	181.619	181.457	0.162	0.76	0.050	183.410	1.405	1.557	178.800	OKAY	INTERSECTS OBVERT
Street A	Z	Y	25	1.48	67	5.51	4.287	1.496	0.661	**2.16**	**84.09**	56.8	375	11	**0.23**	181.407	181.276	0.131	0.76	0.050	183.400	1.607	1.788	178.800	OKAY	INTERSECTS OBVERT
Street A	Y	X	25	0.72	92	6.23	4.253	2.038	0.748	**2.79**	**84.09**	74.3	375	11	0.23	181.226	181.055	0.171	0.76	0.050	183.450	1.838	1.969	178.799	OKAY	INTERSECTS OBVERT
Street A	X	W	21	0.63	113	6.86	4.229	2.489	0.823	**3.31**	**84.09**	55.5	375	11	**0.23**	181.005	180.878	0.128	0.76	0.050	183.410	2.019	2.163	178.799	OKAY	INTERSECTS OBVERT
Street A	W	V	32	1.04	145	7.90	4.196	3.169	0.948	**4.12**	**84.09**	88.6	375	11	0.23	180.828	180.624	0.204	0.76	0.050	183.427	2.213	2.540	178.799	OKAY	INTERSECTS OBVERT
Street A	V	Q	18	0.61	163	8.51	4.179	3.548	1.021	**4.57**	**84.09**	50.4	375	11	0.23	180.574	180.458	0.116	0.76	0.050	183.550	2.590	2.522	178.799	OKAY	INTERSECTS OBVERT
Street A	Q	P	18	0.50	181	9.01	4.164	3.925	1.081	**5.01**	**84.09**	45.4	375	11	0.23	180.408	180.303	0.104	0.76	0.025	183.366	2.572	2.853	178.798	OKAY	INTERSECTS OBVERT
Street A	P	O	39	1.10	220	10.11	4.133	4.735	1.213	**5.95**	**84.09**	114.1	375	11	**0.23**	180.278	180.016	0.262	0.76	0.025	183.542	2.878	3.248	178.798	OKAY	INTERSECTS OBVERT
Street B	U	T	7	0.26	7	0.26	4.428	0.161	0.031	**0.19**	**59.47**	17.1	250	11	1.00	182.091	181.920	0.171	1.21	0.100	183.570	1.218	1.419	178.798	OKAY	INTERSECTS OBVERT
Street B	T	S	11	2.42	18	2.68	4.386	0.411	0.322	**0.73**	**59.47**	81.2	250	11	1.00	181.820	181.008	0.812	1.21	0.025	183.600	1.519	2.338	178.798	OKAY	INTERSECTS OBVERT
Street B	S	R	21	2.54	39	5.22	4.335	0.881	0.626	**1.51**	**37.61**	96.2	250	11	0.40	180.983	180.599	0.385	0.77	0.100	183.607	2.363	2.840	178.798	OKAY	INTERSECTS OBVERT
Street B	R	O	7	0.35	46	5.57	4.322	1.035	0.668	**1.70**	**37.61**	101.9	250	11	0.40	180.499	180.091	0.408	0.77	0.100	183.700	2.940	3.298	178.797	OKAY	INTERSECTS OBVERT
Stret A	O	N	35	0.95	301	16.63	4.078	6.393	1.996	**8.39**	**84.09**	95.9	375	11	0.23	179.991	179.770	0.221	0.76	0.025	183.650	3.273	3.544	178.797	OKAY	INTERSECTS OBVERT
Street C	K	L	7	0.28	7	0.28	4.428	0.161	0.034	**0.20**	**32.80**	22.5	200	11	1.00	180.961	180.736	0.225	1.04	0.050	183.727	2.555	2.718	178.795	OKAY	INTERSECTS OBVERT
Street C	L	M	18	0.48	25	0.76	4.367	0.569	0.091	**0.66**	**32.80**	51.0	200	11	1.00	180.686	180.176	0.510	1.04	0.025	183.665	2.768	3.169	178.795	OKAY	INTERSECTS OBVERT
Street C	M	N	1	0.07	26	0.83	4.364	0.591	0.100	**0.69**	**23.88**	40.9	200	11	0.53	180.151	179.934	0.217	0.76	0.189	183.556	3.194	3.555	178.795	OKAY	INTERSECTS OBVERT
Street C	K	J	7	0.36	7	0.36	4.428	0.161	0.043	**0.20**	**32.80**	21.9	200	11	1.00	181.528	181.309	0.219	1.04	0.050	183.727	1.988	2.121	178.796	OKAY	INTERSECTS OBVERT
Street C	J	I	35	1.34	42	1.70	4.329	0.947	0.204	**1.15**	**32.80**	89.8	200	11	1.00	181.259	180.361	0.898	1.04	0.025	183.641	2.171	3.173	178.796	OKAY	INTERSECTS OBVERT
Street C	I	H	32	0.93	74	2.63	4.277	1.648	0.316	**1.96**	**23.88**	91.8	200	11	0.53	180.336	179.849	0.487	0.76	0.100	183.745	3.198	3.790	178.795	OKAY	INTERSECTS OBVERT
Street C	H	E	11	0.44	85	3.07	4.262	1.887	0.368	**2.26**	**23.88**	87.9	200	11	0.53	179.749	179.284	0.466	0.76	0.100	183.850	3.890	4.305	178.791	OKAY	INTERSECTS OBVERT
Street A	N	G	21	0.59	348	18.05	4.050	7.341	2.166	**9.51**	**84.09**	70.8	375	11	0.23	179.745	179.583	0.163	0.76	0.025	183.700	3.569	3.693	178.794	OKAY	INTERSECTS OBVERT
Street A	G	F	28	0.76	376	18.81	4.035	7.901	2.257	**10.16**	**84.09**	71.1	375	11	0.23	179.558	179.394	0.164	0.76	0.025	183.662	3.718	3.820	178.792	OKAY	INTERSECTS OBVERT
Street A	F	E	25	0.68	401	19.49	4.022	8.399	2.339	**10.74**	**84.09**	69.8	375	11	0.23	179.369	179.209	0.161	0.76	0.025	183.600	3.845	4.205	178.790	OKAY	INTERSECTS OBVERT
Street A	E	D	32	0.74	518	23.30	3.966	10.701	2.796	**13.50**	**84.09**	85.9	375	11	0.23	179.184	178.986	0.198	0.76	0.025	183.800	4.230	4.388	178.787	OKAY	INTERSECTS OBVERT
Street A	D	C	103	1.23	621	24.53	3.924	12.696	2.944	**15.64**	**84.09**	83.7	375	11	0.23	178.961	178.769	0.193	0.76	0.025	183.760	4.413	4.616	178.782	OKAY	INTERSECTS OBVERT
Street A	C	B	113	1.50	734	26.03	3.883	14.838	3.124	**17.96**	**84.09**	62.7	375	11	0.23	178.744	178.599	0.144	0.76	0.025	183.770	4.641	5.192	178.776	OKAY	INTERSECTS OBVERT
Street A	B	A	17	0.26	751	26.29	3.877	15.157	3.155	**18.31**	**84.09**	82.3	375	11	0.23	178.574	178.385	0.189	0.76	0.100	184.177	5.217	5.709	178.769	OKAY	OKAY

9538 WALKER ROAD
STORM SEWER DESIGN SHEET

Project Name: 9538 Walker Road
Project Number: 20-2669

Based on 1:5 Year Storm Event
Amherstburg, Ontario

Intensity Option # 1

1) Intensity (i) = a/(t+b)^c **2) Intensity (i) = a*t^b** **3) Insert Intensity**

a= 1259.000 **b=** 8.800 **c=** 0.838 **a=** **b=** **i=**

Manning's n = 0.013

Total Area (ha)= 26.2901 Outlet Invert Elevation= 179.500 Ground Elevation @ Outlet = 183.18 High Water Level at Outlet= 182.00

Location			Sewer Design / Profile																		Cover		Hydraulic Grade Line	
Road /Stations	From MH	To MH	Area (ha)	Run. Coef.	2.78AC	Accum. 2.78AC	T of In (min)	T of F (min)	T of Conc. (min)	Intensity (mm/hr)	Exp. Flow (L/s)	Capacity (L/s)	Velocity (m/s)	Wall Thickness (mm)	Length (m)	Pipe Dia. (mm)	Slope (%)	Invert Up MH	Invert Low MH	Fall (m)	Drop Across Low MH (m)	Ground Elev Up MH	Cover @ Up MH (m)	Cover @ Low MH (m)	HGL Elevation at Upstream MH	HGL Elev vs. Grnd Elev @ Up MH
Street A	1	2	1.50	0.90	3.75	3.75	15.0	1.06	15.00	88.40	**331.77**	**431.17**	0.98	108	62.2	750	0.15	181.883	181.790	0.09	0.150	184.073	1.33	1.12	182.83	Okay
Street A	2	3	1.26	0.75	2.63	6.38	15.0	1.38	16.06	85.22	**543.74**	**652.72**	1.03	121	84.7	900	0.13	181.640	181.530	0.11	0.150	183.770	1.11	1.18	182.78	Okay
Street A	3	4	0.97	0.60	1.62	8.00	15.0	1.42	17.44	81.46	**651.55**	**819.22**	0.95	133	80.7	1050	0.09	181.380	181.307	0.07	0.000	183.735	1.17	1.31	182.70	Okay
Street C	6	4	0.45	0.60	0.75	0.75	15.0	1.98	15.00	88.40	**66.35**	**127.50**	0.80	64	95.1	450	0.20	181.997	181.807	0.19	0.500	183.850	1.34	1.48	182.71	Okay
Street A	4	5	1.06	0.60	1.77	10.52	15.0	1.58	18.86	77.94	**819.67**	**1021.74**	1.18	133	111.8	1050	0.14	181.307	181.150	0.16	0.000	183.800	1.31	1.42	182.66	Okay
Street A	5	12	1.06	0.60	1.77	12.28	15.0	1.54	20.44	74.40	**913.94**	**1057.61**	1.22	133	112.6	1050	0.15	181.150	180.981	0.17	0.400	183.750	1.42	1.54	182.56	Okay
Street C	6	7	1.14	0.60	1.90	1.90	15.0	1.63	15.00	88.40	**168.10**	**215.03**	0.99	89	96.9	525	0.25	181.823	181.580	0.24	0.225	183.850	1.41	1.65	182.73	Okay
Street C	7	8	1.12	0.60	1.87	3.77	15.0	1.52	16.63	83.64	**315.29**	**431.17**	0.98	108	89.0	750	0.15	181.355	181.222	0.13	0.000	183.842	1.63	1.57	182.58	Okay
Street C	8	9	0.51	0.60	0.85	4.62	15.0	0.65	18.15	79.67	**368.09**	**512.03**	0.80	121	31.5	900	0.08	181.222	181.197	0.03	0.000	183.645	1.40	1.53	182.51	Okay
Street C	9	10	0.24	0.60	0.40	5.02	15.0	0.47	18.80	78.09	**392.04**	**543.09**	0.85	121	24.3	900	0.09	181.197	181.175	0.02	0.125	183.750	1.53	1.45	182.49	Okay
Street C	10	11	0.38	0.60	0.63	5.65	15.0	0.89	19.27	76.98	**435.27**	**572.47**	0.90	121	48.3	900	0.10	181.050	181.001	0.05	0.000	183.645	1.57	1.62	182.48	Okay
Street C	11	12	0.08	0.60	0.13	5.79	15.0	0.83	20.17	74.98	**433.99**	**572.47**	0.90	121	44.8	900	0.10	181.001	180.956	0.04	0.375	183.640	1.62	1.72	182.46	Okay
Street A	12	13	0.85	0.60	1.42	19.49	15.0	1.24	21.98	71.27	**1389.11**	**1770.22**	1.24	158	92.0	1350	0.11	180.581	180.480	0.10	0.000	183.700	1.61	1.66	182.43	Okay
Street A	13	14	1.17	0.60	1.95	22.04	15.0	1.38	23.22	68.95	**1519.85**	**1924.43**	1.34	158	111.5	1350	0.13	180.480	180.335	0.14	0.000	183.650	1.66	1.73	182.37	Okay
Street A	14	15	0.41	0.60	0.68	22.73	15.0	0.57	24.60	66.55	**1512.47**	**1924.43**	1.34	158	45.6	1350	0.13	180.335	180.276	0.06	0.000	183.570	1.73	1.59	182.28	Okay
Street B	16	13	0.36	0.60	0.60	0.60	15.0	2.15	15.00	88.40	**53.08**	**127.50**	0.80	64	103.4	450	0.20	181.437	181.230	0.21	0.750	183.700	1.75	1.91	182.40	Okay
Street B	16	17	2.41	0.60	4.02	4.02	15.0	1.48	15.00	88.40	**355.36**	**431.17**	0.98	108	86.8	750	0.15	180.999	180.869	0.13	0.150	183.700	1.84	1.92	182.40	Okay
Street B	17	18	2.56	0.60	4.27	8.29	15.0	1.26	16.48	84.04	**696.66**	**945.95**	1.09	133	82.6	1050	0.12	180.719	180.620	0.10	0.000	183.650	1.75	1.80	182.31	Okay
Street B	18	19	0.35	0.60	0.58	8.87	15.0	1.28	17.74	80.68	**715.93**	**984.58**	1.14	133	87.0	1050	0.13	180.620	180.506	0.11	0.600	183.600	1.80	1.86	182.26	Okay
Street A	15	19	0.61	0.60	1.02	23.74	15.0	0.53	25.16	65.62	**1558.11**	**2067.17**	1.44	158	46.2	1350	0.15	180.276	180.206	0.07	0.300	183.370	1.59	1.84	182.24	Okay
Street A	19	20	0.97	0.60	1.62	34.24	15.0	1.32	25.70	64.77	**2217.46**	**3041.23**	1.20	196	94.6	1800	0.07	179.906	179.840	0.07	0.000	183.550	1.65	1.58	182.20	Okay
Street A	20	21	0.43	0.60	0.72	34.95	15.0	0.61	27.02	62.77	**2193.82**	**3041.23**	1.20	196	43.9	1800	0.07	179.840	179.809	0.03	0.000	183.420	1.58	1.59	182.17	Okay
Street A	21	22	1.00	0.60	1.67	36.62	15.0	1.15	27.63	61.88	**2266.10**	**3251.21**	1.28	196	88.4	1800	0.08	179.809	179.739	0.07	0.000	183.395	1.59	1.72	182.15	Okay
Street A	22	23	1.90	0.60	3.17	39.79	15.0	0.72	28.78	60.28	**2398.73**	**3448.43**	1.36	196	58.3	1800	0.09	179.738	179.686	0.05	0.000	183.450	1.72	1.72	182.12	Okay
Street A	23	24	1.79	0.60	2.99	42.78	15.0	1.07	29.50	59.34	**2538.21**	**3634.96**	1.43	196	92.1	1800	0.10	179.686	179.594	0.09	0.000	183.400	1.72	1.64	182.09	Okay
Street A	25	24	1.71	0.60	2.85	2.85	15.0	1.30	15.00	88.40	**252.14**	**431.17**	0.98	108	76.2	750	0.15	180.458	180.344	0.11	0.750	183.900	2.58	2.02	182.08	Okay
Street A	24	POND	0.00	0.60	0.00	45.63	15.0	0.95	30.57	57.98	**2645.40**	**3812.38**	1.50	196	85.1	1800	0.11	179.594	179.500	0.09	0.000	183.225	1.64	1.68	182.05	Okay

Appendix C

Stormwater Management Report

DILLON
CONSULTING

3200 Deziel Drive
Suite 608
Windsor, Ontario
Canada
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Telephone
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Our File: 20-2669

February 3, 2021

Town of Amherstburg
271 Sandwich Street South
Amherstburg, ON
N9V 2A5

Attention: Frank Garado
Manager, Planning Services

McGregor – Woodland Trails Subdivision
Transportation Impact Study
Re: Draft Plan of Subdivision – First Submission
9358 Walker Road, Amherstburg, ON

On behalf of our client, MGV Developments Inc., Dillon Consulting Limited is submitting the enclosed Draft Plan of Subdivision Application package for the property located at 9358 Walker Road in Amherstburg, Ontario.

The applicant is requesting that the enclosed application package be reviewed for approval at this time as it aligns with current sanitary capacity availability, as confirmed by Todd Hewitt via email on January 25, 2022. The proposed Draft Plan of Subdivision includes 74 residential lots, one stormwater management pond, two woodlots, two commercial blocks and two future residential development blocks. The remainder of the blocks shown in grey on the concept plan will proceed through Part Lot Control Exemption application(s) to create lots, when sanitary capacity becomes available.

The enclosed Transportation Impact Study (TIS), dated October 2020 was based on a previous concept plan for the Woodland Trails subdivision, which included 154 residential lots, two commercial blocks, and a stormwater management pond. The current development concept has fewer lots than assessed previously, and can be considered less intensive in use. For the purposes of this application, the conclusions of the October 2020 TIS are still valid, and further analysis is not required at this time.

Sincerely,

DILLON CONSULTING LIMITED

Mike Walters, P. Eng.
Associate

Zoe Sotirakos, MES
Planner

ZCS: dt
Encl.

Dillon Consulting Limited

DILLON CONSULTING

2439478 ONTARIO INC.

McGregor Subdivision (NW Quadrant of Middle Side Road and Walker Road), Amherstburg

Transportation Impact Study

October 2020 – 20-2669

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1.0 Introduction

1.1 Purpose

Dillon Consulting Limited (Dillon) has been retained by 2439478 Ontario Inc. to undertake a transportation impact study (TIS) for a proposed residential subdivision, found on the northwest quadrant at County Road 10 and County Road 11 in the community of McGregor, Ontario.

This TIS documents the existing traffic operations within the vicinity of the site, as well as assesses the future traffic conditions both with and without the proposed subdivision. The objective of this review is to determine the transportation impact of the development and whether any transportation infrastructure modifications are required to accommodate traffic generated by the development.

Figure 1 illustrates the location of the site in a regional context, as well as the study area intersections. Figure 2 illustrates the context of the site location and its immediate surroundings.

Figure 1: Regional Context

Figure 2: Site Context

1.2 Proposed Development

The conceptual development plan for the subject site is provided in Appendix A.

The proposed development is found northwest of County Road 10 and County Road 11, and north of the Cypher System Greenway Trail (CSG Trail). The development envisions the construction of 154 residential lots, two commercial blocks (0.66 hectares and 0.55 hectares), a stormwater management (SWM) pond, woodlots, and a parkland. The two commercial blocks will be located at the east end of the subdivision. The SWM pond, woodlots, and parkland will generally be located at the south end of the subject site, and the remaining areas will be occupied by residential lots. The development will be accessed via a new street ("Street A") that connects to both County Road 10 and County Road 11. Two internal streets ("Street B" and Street C") are provided within the subject site to connect residential lots to Street A. The development can also be accessed via proposed trails that connect the proposed woodlots and parkland to the CSG Trail.

1.3 Scope of Analysis

This study analyzed traffic operations at the following intersections:

- County Road 8 and County Road 9;
- County Road 8 and County Road 11;
- County Road 10 and County Road 9;
- County Road 10/Concession Road 11 and County Road 11;
- County Road 18 and County Road 9;
- Street A at County Road 10; and
- Street A at County Road 11.

Given the residential nature of the proposed subdivision, traffic analyses were undertaken during the AM and PM peak hours of a typical weekday. Traffic has been forecasted for 2024 (the anticipated full build-out year) and 2029 (five years following the full build-out of the site).

2.0 Existing Conditions

2.1 Existing Road Network

The following describes the existing road network in the immediate study area. All roads are under the jurisdiction of the County of Essex unless stated otherwise.

County Road 8 is a roadway that extends east-west through the centre of the County of Essex. County Road 8 is approximately 53 kilometres in length. Within the study area, County Road 8 is an undivided rural road with one travel lane in each direction and unpaved gravel shoulders. Near County Road 9 and County Road 11, County Road 8 has concrete curbs and guide rails on the north side of the road. The posted speed limit on County Road 8 is mostly 80 km/h. Portions of County Road 8 near County Road 9 and County Road 11 contain transitional speed limits of 60 km/h and 50 km/h, respectively.

County Road 9 is a roadway that extends north-south from County Road 20 into the city of Windsor. Within the study area, County Road 9 is an undivided rural road with one travel lane in each direction and unpaved gravel shoulders. County Road 9 has a posted speed limit of 80 km/h except for portions near County Road 18, County Road 10, North Side Road, and County Road 8, all of which have a speed limit of 60 km/h.

County Road 10 is an east-west roadway that extends approximately 12 kilometres from County Road 20 to County Road 11. County Road 10 is the primary road that connects residents of McGregor to the towns of Amherstburg and LaSalle (via County Road 20). Within the study area, County Road 10 is a semi-urban roadway featuring unpaved gravel shoulders and one travel lane in each direction. It has a posted speed limit of 60 km/h.

County Road 11 is a roadway that extends north-south from County Road 20 into the city of Windsor. Within the study area, County Road 11 has one travel lane in each direction and varies between urban and rural cross-sections. The posted speed limit along this section of County Road 11 is 50 km/h. County Road 11 north of 12th Concession Road is rural with unpaved gravel shoulders. The posted speed limit within that rural section is 80 km/h.

County Road 18 is an east-west roadway that extends approximately 9 kilometres from County Road 20 (within the town of Amherstburg) to County Road 11. Within the study area, County Road 18 is a rural undivided roadway with one travel lane in each direction, unpaved gravel shoulders, and has a posted speed limit of 80 km/h.

Figure 3 illustrates the existing lane configurations and traffic control at the study area intersections.

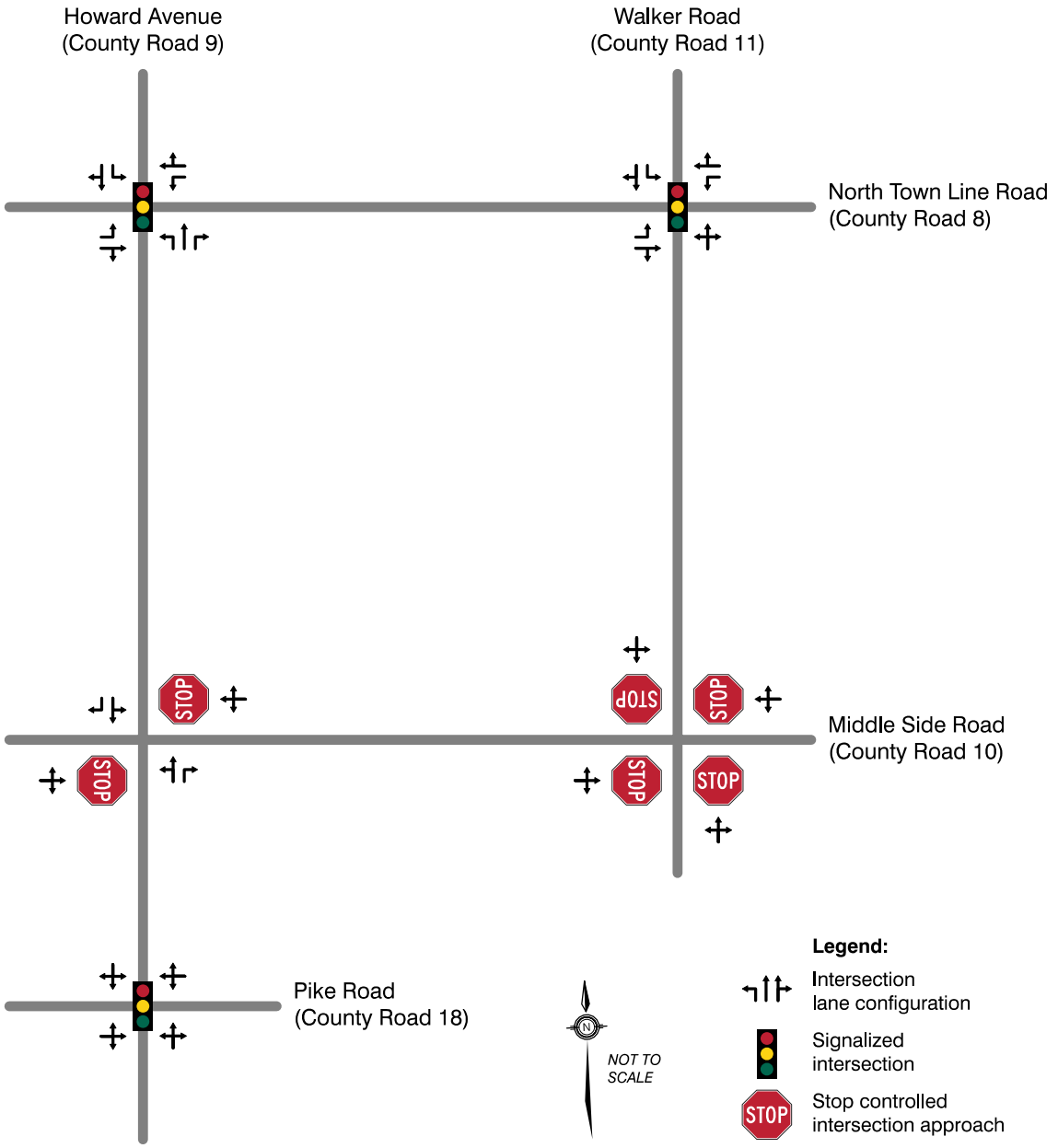


Figure 3: Existing Lane Configurations and Traffic Controls

2.2 Existing Active Transportation Infrastructure

The CSG Trail forms the southern border of the subject site. It is approximately 24 kilometres long extending from Amherstburg to the urban centre of Essex and intersects with the existing Chrysler Canada Greenway. The CSG Trail is managed by the Essex Region Conservation Authority (ECRA). Activities conducted on the trail include hiking, cross-county skiing, bird watching, running, and cycling. Figure 4 illustrates the location of the CSG Trail.

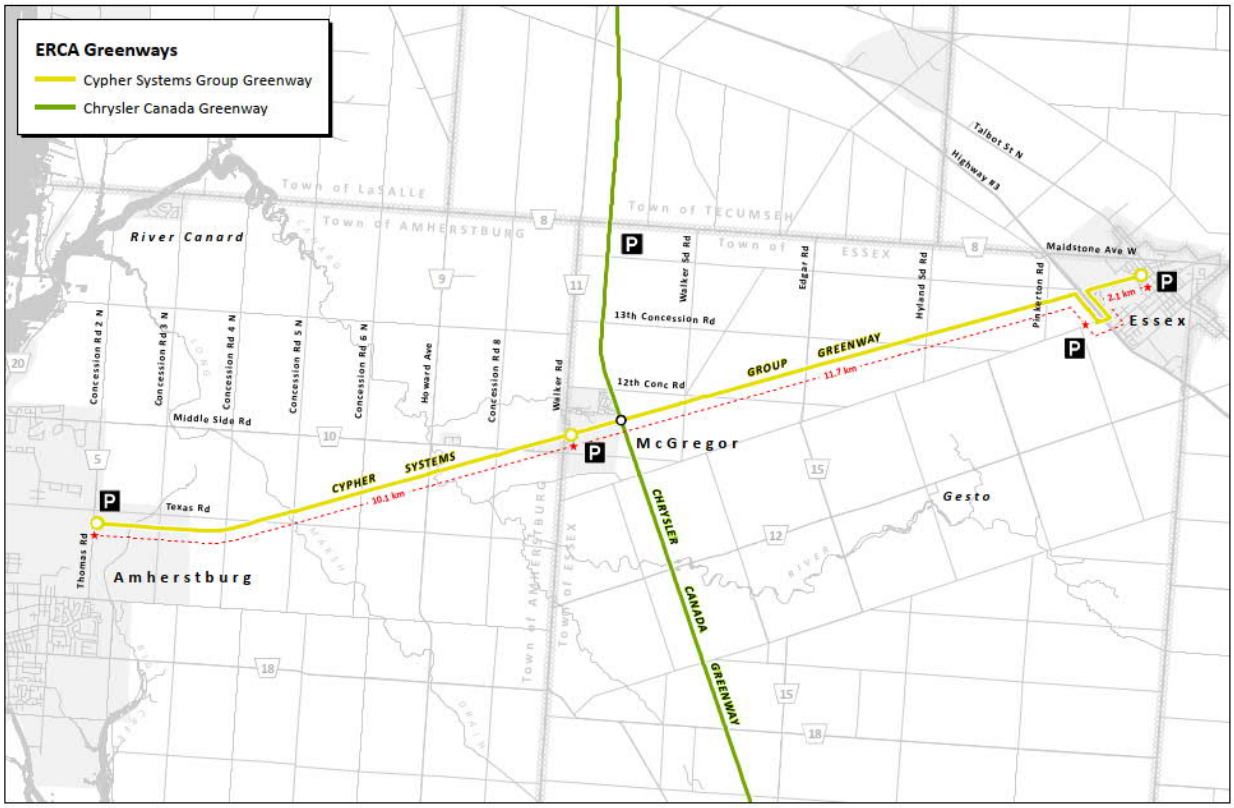


Figure 4: Cypher Systems Greenway Trail

2.3 Existing Traffic Volumes

Turning movement counts (TMC) at County Road 10 / Concession Road 11 and County Road 11 intersection were provided by the County of Essex. The TMC data for this intersection was collected on Wednesday, September 25, 2019. No other TMCs were available from the County of Essex for the other study area intersections. Turning movement counts at the other four study intersections were not collected in the field due to the restrictions imposed by the COVID-19 pandemic. Consequently, TMCs at the remaining four study area intersections were estimated using traffic volume information available from StreetLight.

StreetLight Data ("StreetLight") is a company based out of San Francisco, California that uses "Big Data" to estimate traffic volumes and patterns on transportation networks in Canada and the United States. In short, StreetLight collects data from location-based services (LBS) on mobile devices (e.g., phones, tablets, etc.) to estimate travel characteristics on a given network. StreetLight data was used to estimate turning movement counts for a typical weekday morning and afternoon peak hour at the following study area intersections:

- County Road 8 and County Road 9;
- County Road 8 and County Road 11;
- County Road 10 and County Road 9; and
- County Road 18 and County Road 9.

The following parameters were selected to guide in extracting traffic data from StreetLight's platform:

- Date Period(s): September 2019;
- Specific Date(s): Monday to Friday; and
- Day Part(s): hourly intervals between 6:00 AM and 10:00 AM, and 3:00 PM and 7:00 PM.

The month of September in 2019 was selected to allow for a better comparison between StreetLight data and the September TMC data provided by the County of Essex (at County Road 10 and County Road 11). The traffic volume data extracted from StreetLight reflects the average volumes for the specified date periods, dates, and day parts.

Unfortunately, Streetlight does not disaggregate their time intervals into 15-minute intervals and thus the peak hour cannot be explicitly determined at each intersection. Instead, the hour interval with the highest total traffic volume for each intersection was selected as a pseudo peak hour. The true/pseudo peak hour at each study intersection is summarized in Table 1.

Table 1: Intersection Peak Hours

Intersection	AM Peak Hour	PM Peak Hour	Source
County Road 8 and County Road 9	7:00 – 8:00	4:00 – 5:00	StreetLight
County Road 8 and County Road 11	7:00 – 8:00	4:00 – 5:00	StreetLight
County Road 10 and County Road 9	7:15 - 8:15	4:00 – 5:00	StreetLight
County Road 10 / Concession Road 11 and County Road 11	7:00 – 8:00	5:00 – 6:00	County of Essex
County Road 18 and County Road 9	7:00 – 8:00	5:00 – 6:00	StreetLight

The 2019 traffic volumes were adjusted to 2020 volumes using a compounded annual growth rate of 2%. A 2% annual background traffic growth rate was used to be consistent with typical growth within the County of Essex.

Figure 5 shows the existing (2020) traffic volumes during the AM and PM peak hours. The turning movement count data is provided in Appendix B.

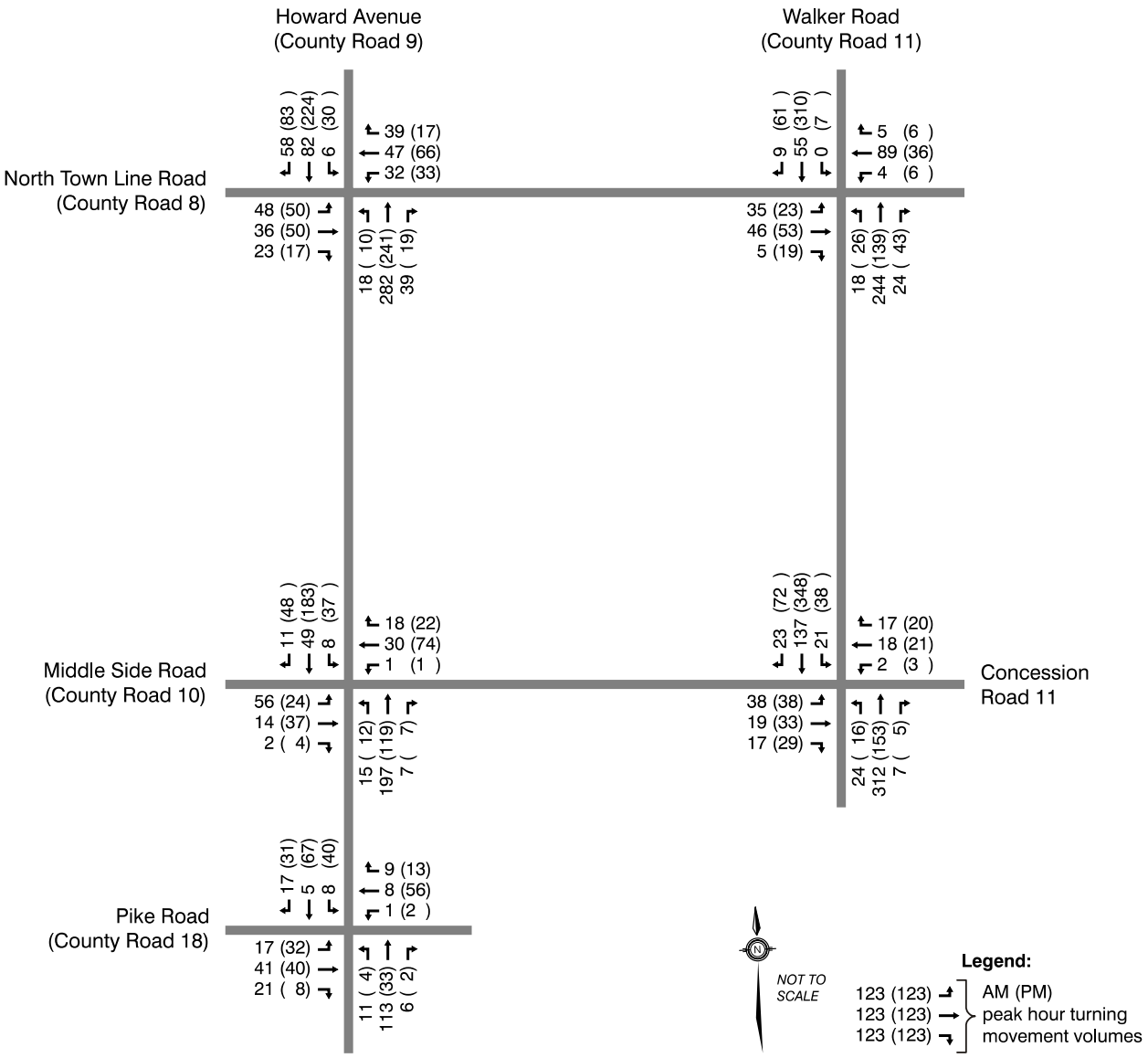


Figure 5: Existing (2020) Traffic Volumes

3.0 Future Background Conditions

Future background traffic volumes reflect the volume of traffic that is anticipated to be on the road network during the horizon years without the subject development in place. Typically this is comprised of two components:

- The application of a growth rate to reflect general background traffic growth on the road network; and
- The application of the site-specific traffic volumes for any background developments near the site.

Following the scoping of this assessment, no background developments were identified which would have a significant impact on the traffic volumes at the study area intersections.

The future background analyses considered two horizon periods:

- 2024 – the anticipated build-out of the site; and
- 2029 – five years beyond the anticipated build-out of the site.

3.1 Future Background Traffic Volumes

Future background traffic volumes were calculated by applying a background traffic growth rate to the existing (2020) traffic volumes. A 2.0% compounded annual growth rate was applied to all movements at all study intersections. The resulting future background traffic volumes for the 2024 and 2029 horizon years are shown in Figure 6 and Figure 7, respectively.

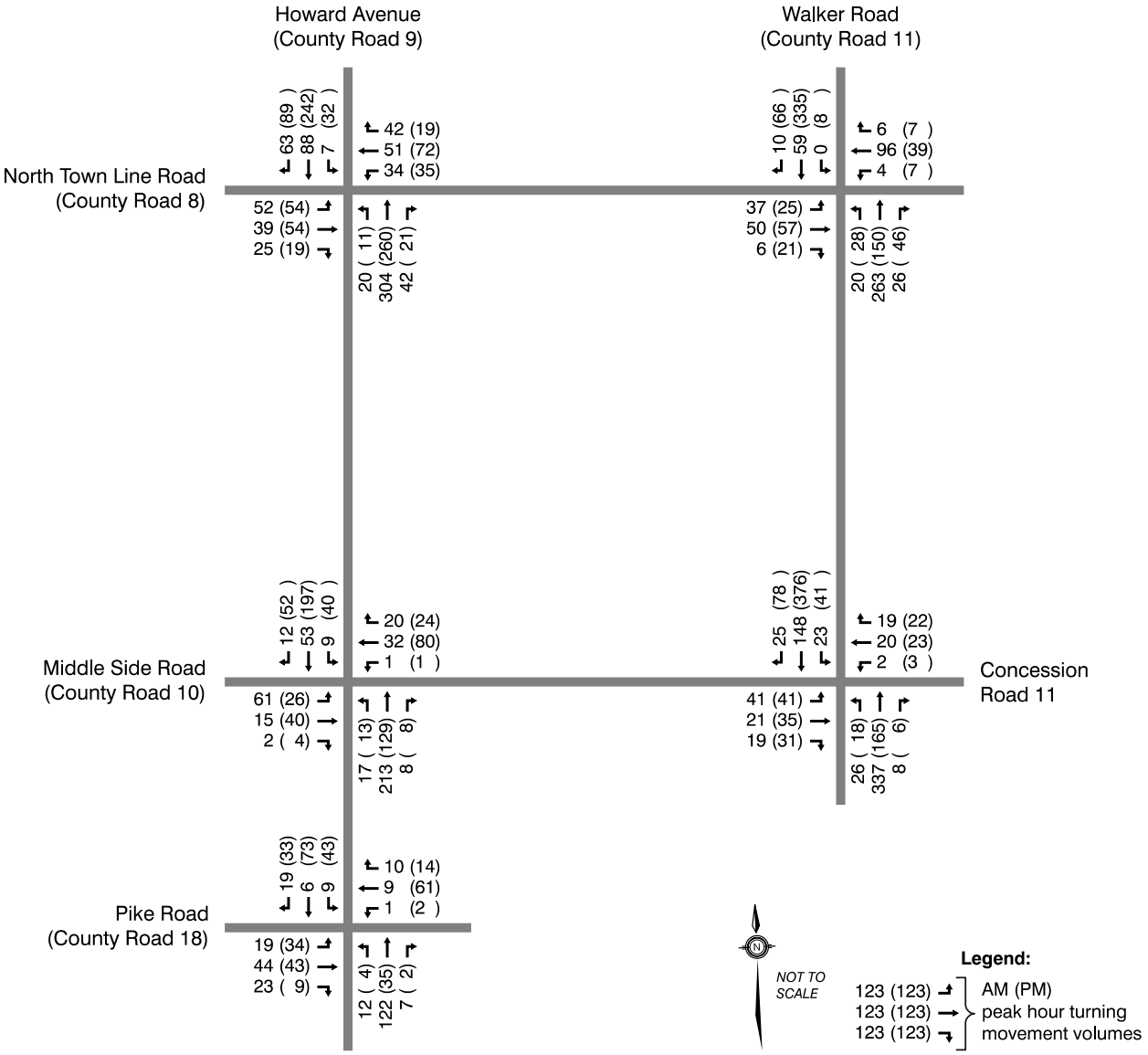


Figure 6: Future Background (2024) Traffic Volumes

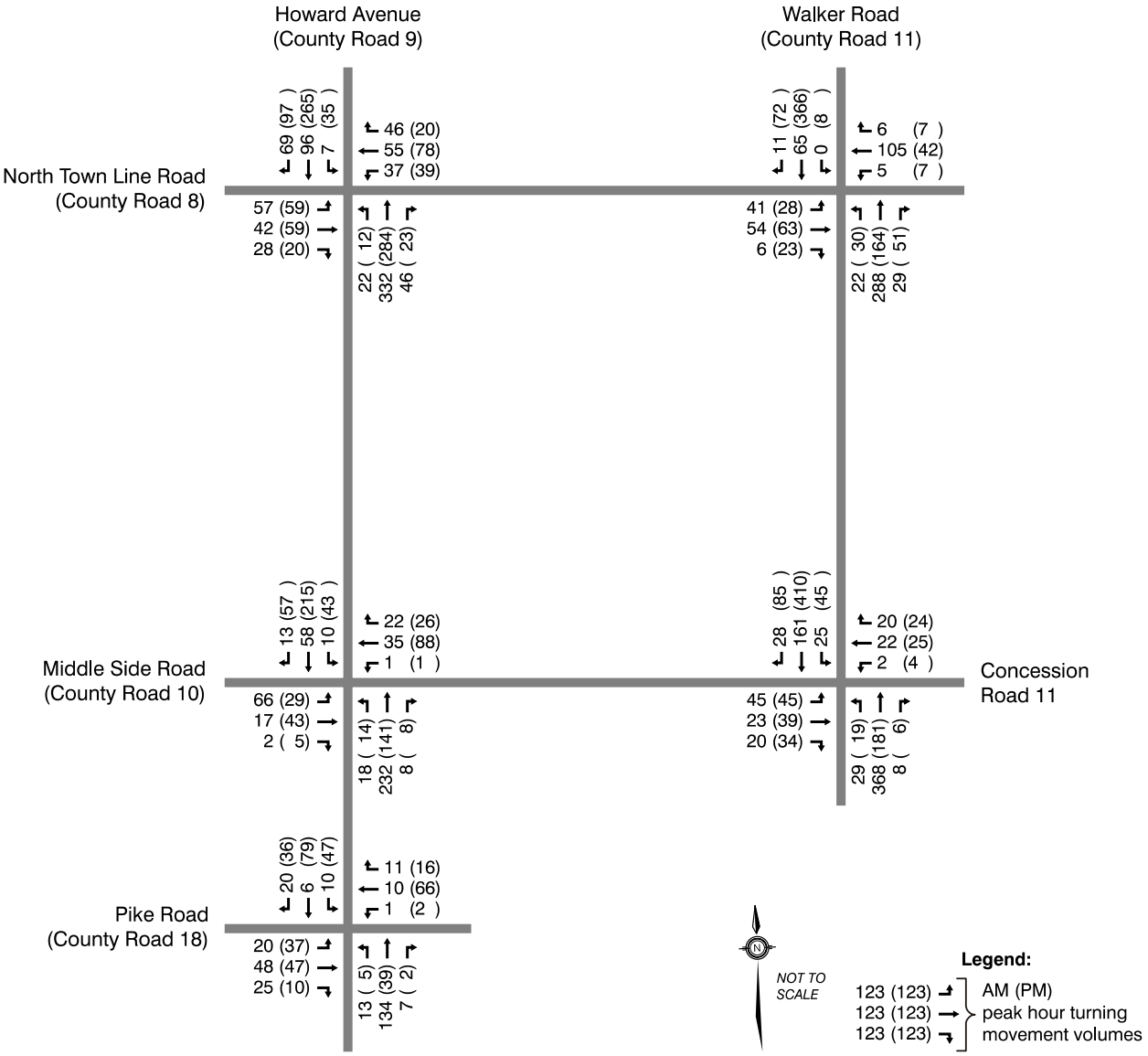


Figure 7: Future Background (2029) Traffic Volumes

4.0 Site Traffic Volumes

4.1 Trip Generation

The number of vehicle trips that are expected to be generated by the proposed development was estimated based on trip generation rates published within the Institute of Transportation Engineers' document Trip Generation Manual (10th edition). Table 2 shows the number of vehicle trips anticipated to be generated by the development. The exact tenants for the commercial blocks are not yet known. Thus, ITE Land Use Code 820 ("Shopping Centre") was assumed to estimate trips for these blocks. A 15% lot coverage was assumed to estimate the gross floor area (GFA) of the commercial blocks. This 15% lot coverage results in an estimated GFA of 20,000 ft^2.

Table 2: Trip Generation

Development	AM peak hour			PM peak hour		
	In	Out	Total	In	Out	Total
Single-Family Detached Housing (ITE Land Use Code 210)						
% in/out, trip generation rate	25%	75%	0.74	63%	37%	0.99
Site trips (154 units)	29	85	114	96	56	152
Shopping Centre (ITE Land Use Code 820)						
% in/out, trip generation rate	62%	38%	0.94	48%	52%	3.81
Site trips (20 x1000 sq.ft.)	12	7	19	36	40	76
Total auto trips	41	92	133	132	96	228

The development is forecasted to generate a total of 133 vehicle trips (41 inbound, 92 outbound) in the AM peak hour and 228 vehicle trips (132 inbound, 96 outbound) in the PM peak hour.

4.2 Trip Distribution

It is expected that a vast majority of future residents will work outside of McGregor. Therefore, site trips were distributed to reflect this expectation. It is expected that a vast majority of commercial trips will originate from (and be destined to) residential areas within McGregor, while others will originate from rural areas outside McGregor. Table 3 and Table 4 outlines the trip distribution assumed for residential and commercial trips, respectively.

Table 3: Trip Distribution for Residential Trips

To/From	Trip Distribution	
	In	Out
North towards Windsor	75%	75%
East towards Essex, Leamington, and Kingsville	5%	5%
West towards Amherstburg, and LaSalle	20%	20%

Table 4: Trip Distribution for Commercial Trips

To/From	Trip Distribution	
	In	Out
North	25%	25%
East	20%	20%
South	20%	20%
West	10%	10%
New Subdivision	25%	25%

4.3 Trip Assignment

Trips generated by the subject site were assigned to the existing road network through a combination of the most direct route and the proximity to street connections to county roads. Based on the conceptual development plan, it was determined that 58% of residential lots are closer to County Road 10, and the remaining 42% are closer to County Road 11. Assignment of residential site trips are discussed below:

Trips north towards Windsor via County Road 9 and County Road 11:

- 42% of trips were assigned to County Road 11 via the Street A and County Road 11 intersection; and
- 58% of trips were assigned to County Road 9 via the Street A and County Road 10 intersection.

Trips east towards Essex, Leamington, and Kingsville:

- 42% of trips were assigned to Concession Road 11 via the Street A and County Road 11 intersection; and
- 58% of trips were assigned to Concession Road 11 via the Street A and County Road 10 intersection.

Trips west towards Amherstburg and LaSalle:

- All site trips were assigned to the Street A and County Road 10 intersection:
  - 75% of site trips were assigned to County Road 10; and
  - 25% of site trips were assigned to County Road 18 via County Road 10 and County Road 9.

Assignment of commercial site trips are discussed below:

Trips to/from the north:

- were assigned to County Road 11 via the Street A and County Road 11 intersection.

Trips to/from the east:

- were assigned to Concession Road 11 via Street A and County Road 11 intersection;

Trips to/from the south:

- 20% of trips were assigned to the residential area on County Road 11 between Street A and County Road 10;
- 20% of trips were assigned to the residential area south of the County Road 10 and County Road 11 intersection; and
- 60% of trips were assigned to the residential area west of the County Road 10 and County Road 11 intersection.

Trips to/from the west:

- 95% of trips were assigned to County Road 11 via the Street A and County Road 11 intersection; and
- 5% of trips were assigned to County Road 10 via the Street A and County Road 10 intersection.

Figure 8 shows the site-generated trips applied to the study area intersections as well as at the future street connections to County Road 10 and County Road 11.

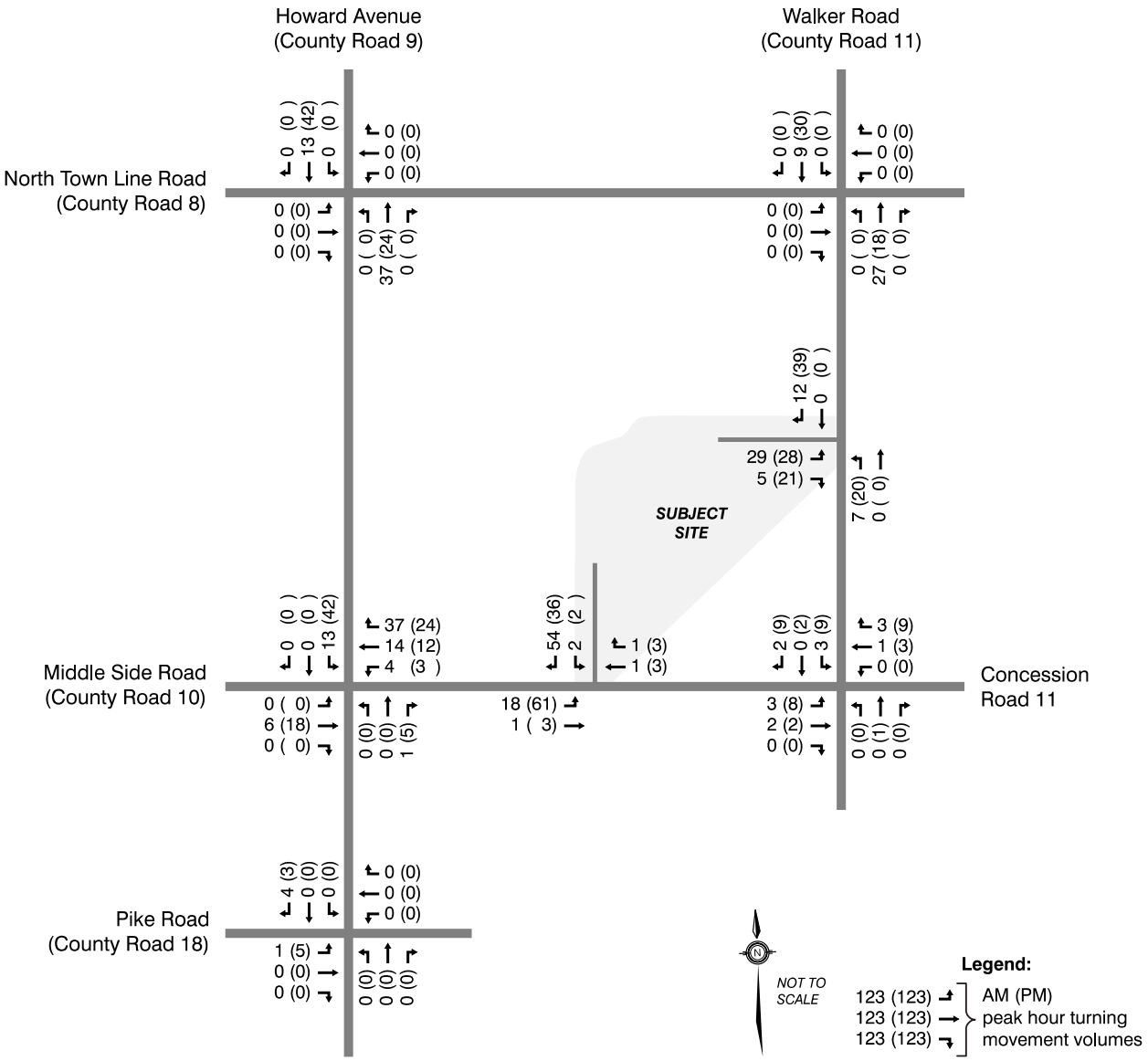


Figure 8: Site Generated Traffic Volumes

4.4 Total Future Traffic Volumes

Total future traffic volumes were calculated by adding the traffic generated by the subdivision to the projected future background volumes for the 2024 and 2029 horizon years.

Figure 9 and
Figure 10 illustrates total future traffic volumes for the 2024 and 2029 horizons, respectively.

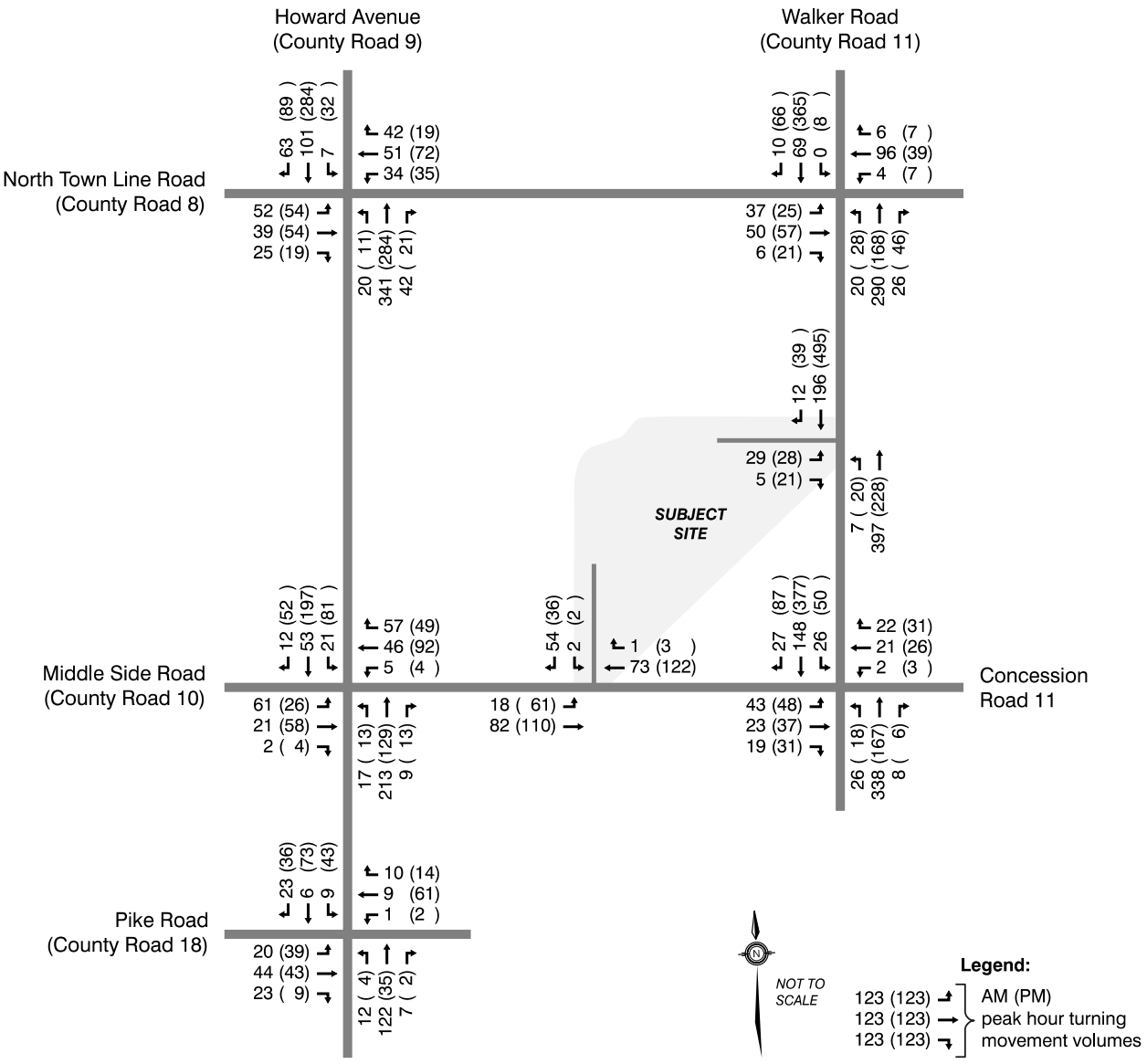


Figure 9: Total Future (2024) Traffic Volumes

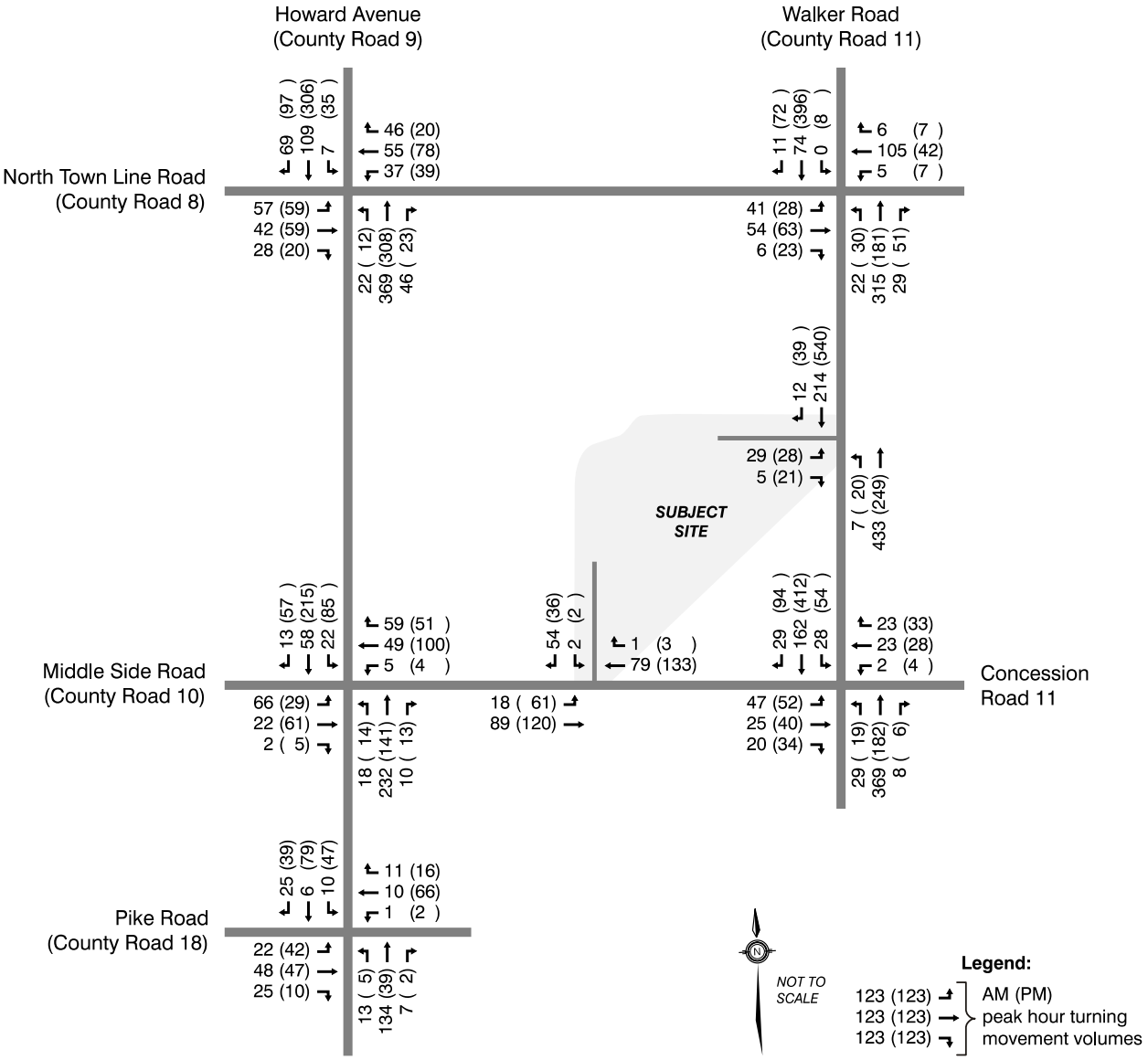


Figure 10: Total Future (2029) Traffic Volumes

5.0 Intersection Operations

Intersection operational analyses were completed using Trafficware's Synchro software (version 10), which is based on the Highway Capacity Manual (HCM) methodology.

At signalized intersections, the volume-to-capacity (v/c) ratio, average vehicular delay, level of service[1] , and 95th percentile queue were noted for each movement. In addition, the average delay and level of service have been noted for the intersection as a whole.

At unsignalized intersections, the v/c ratio, delay, level of service, and 95th percentile queue were noted for any stop and/or yield-controlled movements. Synchro analysis worksheets reports are provided in Appendix D.

For signalized intersections, the overall level of service and average vehicle delay were noted. Also, for each movement, the volume-to-capacity ratio, level of service, average delay, and 95th percentile queue were noted. The results were reviewed to identify any critical movements, defined in this report as follows:

- Any through lane with a v/c ratio exceeding 0.85;
- Any exclusive turning lane with a v/c ratio exceeding 1.00;
- Any movement operating at LOS E or F; or
- Any turning movement with a 95th percentile queue exceeding the available storage.

At unsignalized intersections and the proposed Street A connections to the road network, operational measures were noted for all stop-controlled movements, as well as left turn movements into the site.

Unless otherwise specified, existing lane configurations and signal timings and phasings were applied to the future background and total future analyses.

[1] Level of Service (LOS), applied to an intersection, is a measure qualifying the amount of delay experienced by motorists, expressed either for specific turning movements or for the intersection as a whole. A more detailed explanation of LOS is provided in Appendix C.

5.1 County Road 8 and County Road 9

Intersection operations at the County Road 8 and County Road 9 intersection are presented in Table 5.

Currently, the signalized intersection at County Road 8 and County Road 9 operates at an excellent overall level of service (LOS A) in the AM peak hour and a good overall level of service (LOS B) in the PM peak hour. No critical movements are present under existing conditions. Individual movements operate at LOS C or better, are well under capacity, and 95th percentile queues do not exceed the available storage.

Under both 2024 and 2029 horizons, background traffic growth and site traffic do not significantly impact intersection operations. The level of service for each movement remains the same. Volume-to-capacity ratios, delays, and 95th percentile queues are expected to increase slightly with the addition of background traffic growth and/or site traffic.

Table 5: County Road 8 and County Road 9 – **Intersection Operations**

Scenario	Movement	AM peak hour				PM peak hour			
		v/c	LOS	Delay (s/veh)	95th %ile queue (m)	v/c	LOS	Delay (s/veh)	95th %ile queue (m)
Existing	EB left	0.23	C	24.2	14	0.23	C	24.3	14
	EB through/right	0.19	B	16.3	13	0.22	B	18.8	15
	WB left	0.15	C	22.8	10	0.15	C	22.8	11
	WB through/right	0.27	B	15.8	16	0.27	C	20.3	18
	NB left	0.02	A	5.6	3	0.02	A	5.6	2
	NB through	0.24	A	6.4	29	0.21	A	6.2	25
	NB right	0.04	A	1.7	3	0.02	A	0.6	1
	SB left	0.01	A	5.5	2	0.04	A	5.7	5
	SB through/right	0.13	A	4.1	12	0.27	A	6.1	30
	Overall	—	A	9.6	—	—	B	10.1	—
2024 Future Background	EB left	0.25	C	24.5	15	0.26	C	24.6	15
	EB through/right	0.21	B	16.3	14	0.24	B	18.7	16
	WB left	0.16	C	22.8	11	0.16	C	22.9	11
	WB through/right	0.29	B	15.8	17	0.29	C	20.7	20
	NB left	0.03	A	5.7	4	0.02	A	5.7	2
	NB through	0.26	A	6.6	32	0.23	A	6.4	27
	NB right	0.04	A	1.9	3	0.02	A	0.7	1
	SB left	0.01	A	5.6	2	0.05	A	5.8	5
	SB through/right	0.14	A	4.3	13	0.30	A	6.4	33
	Overall	—	A	9.7	—	—	B	10.4	—
2024 Total Future	EB left	0.25	C	24.5	15	0.26	C	24.6	15
	EB through/right	0.21	B	16.3	14	0.24	B	18.7	16
	WB left	0.16	C	22.8	11	0.16	C	22.9	11
	WB through/right	0.29	B	15.8	17	0.29	C	20.7	20
	NB left	0.03	A	5.7	4	0.02	A	5.7	3
	NB through	0.29	A	6.8	36	0.25	A	6.5	30
	NB right	0.04	A	1.9	3	0.02	A	0.7	1
	SB left	0.01	A	5.6	2	0.05	A	5.9	5
	SB through/right	0.15	A	4.6	14	0.33	A	6.8	39
	Overall	—	A	9.7	—	—	B	10.3	—
2029 Future Background	EB left	0.27	C	24.8	16	0.28	C	24.8	16
	EB through/right	0.22	B	16.2	14	0.25	B	18.9	17
	WB left	0.17	C	22.9	11	0.18	C	23.0	12
	WB through/right	0.31	B	15.8	18	0.31	C	21.0	21
	NB left	0.03	A	5.8	4	0.02	A	5.8	3
	NB through	0.29	A	6.9	36	0.25	A	6.6	30
	NB right	0.05	A	2.1	4	0.02	A	0.9	1
	SB left	0.01	A	5.7	2	0.05	A	6.0	6
	SB through/right	0.15	A	4.5	14	0.33	A	6.8	38
	Overall	—	A	9.9	—	—	B	10.6	—
2029 Total Future	EB left	0.27	C	24.8	16	0.28	C	24.8	16
	EB through/right	0.22	B	16.2	14	0.25	B	18.9	17
	WB left	0.17	C	22.9	11	0.18	C	23.0	12
	WB through/right	0.31	B	15.8	18	0.31	C	21.0	21
	NB left	0.03	A	5.8	4	0.02	A	5.8	3
	NB through	0.32	A	7.1	40	0.27	A	6.8	33
	NB right	0.05	A	2.1	4	0.02	A	0.9	1
	SB left	0.01	A	5.7	2	0.05	A	6.1	6
	SB through/right	0.16	A	4.8	16	0.36	A	7.2	44
	Overall	—	A	9.9	—	—	B	10.6	—

5.2 County Road 8 and County Road 11

Intersection operations at the County Road 8 and County Road 11 intersection are presented in Table 6.

Currently, the signalized intersection at County Road 8 and County Road 11 operates at a good overall level of service (LOS B) in the AM peak hour and an excellent overall level of service (LOS A) in the PM peak hour. No critical movements are present under existing conditions. Individual movements operate at LOS B or better, are well under capacity, and 95th percentile queues do not exceed the available storage during either peak hour.

Under both the 2024 and 2029 horizon years, background traffic growth and site traffic do not significantly impact intersection operations. The overall level of service drops to LOS B in the PM peak hour under 2029 total future conditions. Notwithstanding, the level of service for each movement remains the same. Volume-to-capacity ratios, delays, and 95th percentile queues are expected to increase slightly with the addition of background traffic growth and/or site traffic.

Table 6: County Road 8 and County Road 11 – **Intersection Operations**

Scenario	Movement	AM peak hour				PM peak hour			
		v/c	LOS	Delay (s/veh)	95th %ile queue (m)	v/c	LOS	Delay (s/veh)	95th %ile queue (m)
Existing	EB left	0.11	B	18.1	10	0.07	B	17.4	7
	EB through/right	0.11	B	16.5	12	0.15	B	14.1	14
	WB left	0.01	B	16.8	2	0.02	B	16.8	3
	WB through/right	0.21	B	18.2	20	0.09	B	15.3	10
	NB approach	0.28	A	8.7	33	0.19	A	6.7	23
	SB through/left	0.05	A	7.6	8	0.26	A	7.7	38
	SB right	0.01	A	0.0	0	0.06	A	2.7	5
	Overall	—	B	11.5	—	—	A	8.4	—
2024 Future Background	EB left	0.12	B	18.2	10	0.08	B	17.6	8
	EB through/right	0.13	B	16.3	13	0.18	B	14.6	15
	WB left	0.01	B	16.8	2	0.02	B	16.9	4
	WB through/right	0.23	B	18.2	21	0.10	B	15.6	11
	NB approach	0.30	A	8.9	36	0.24	A	7.9	25
	SB through/left	0.06	A	7.6	8	0.33	A	9.4	41
	SB right	0.01	A	0.0	0	0.07	A	2.9	5
	Overall	—	B	11.6	—	—	A	9.6	—
2024 Total Future	EB left	0.12	B	18.2	10	0.08	B	17.6	8
	EB through/right	0.13	B	16.3	13	0.18	B	14.6	15
	WB left	0.01	B	16.8	2	0.02	B	16.9	4
	WB through/right	0.23	B	18.2	21	0.10	B	15.6	11
	NB approach	0.33	A	9.2	40	0.25	A	8.1	27
	SB through/left	0.07	A	7.7	9	0.36	A	9.7	46
	SB right	0.01	A	0.0	0	0.07	A	3.0	5
	Overall	—	B	11.6	—	—	A	9.8	—
2029 Future Background	EB left	0.14	B	18.4	11	0.09	B	17.7	8
	EB through/right	0.14	B	16.5	13	0.19	B	14.7	16
	WB left	0.01	B	16.8	3	0.02	B	16.9	4
	WB through/right	0.25	B	18.5	22	0.11	B	15.8	11
	NB approach	0.34	A	9.2	40	0.26	A	8.1	27
	SB through/left	0.06	A	7.7	9	0.36	A	9.7	46
	SB right	0.01	A	0.0	0	0.08	A	3.2	6
	Overall	—	B	11.9	—	—	A	9.9	—
2029 Total Future	EB left	0.14	B	18.4	11	0.09	B	17.7	8
	EB through/right	0.14	B	16.5	13	0.19	B	14.7	16
	WB left	0.01	B	16.8	3	0.02	B	16.9	4
	WB through/right	0.25	B	18.5	22	0.11	B	15.8	11
	NB approach	0.36	A	9.5	44	0.28	A	8.4	30
	SB through/left	0.07	A	7.8	10	0.39	A	10.0	50
	SB right	0.01	A	0.0	0	0.08	A	3.2	6
	Overall	—	B	11.9	—	—	B	10.0	—

5.3 County Road 10 and County Road 9

Intersection operations at the County Road 10 and County Road 9 intersection are presented in Table 7.

Table 7: County Road 10 and County Road 9 – **Intersection Operations**

Scenario	Movement	AM peak hour				PM peak hour			
		v/c	LOS	Delay (s/veh)	95th %ile queue (m)	v/c	LOS	Delay (s/veh)	95th %ile queue (m)
Existing	EB approach	0.14	B	12.4	4	0.15	B	14.2	4
	WB approach	0.08	B	11.0	2	0.20	B	13.6	6
2024 Future Background	EB approach	0.16	B	13.0	4	0.17	C	15.1	5
	WB approach	0.09	B	11.3	2	0.23	B	14.4	7
2024 Total Future	EB approach	0.20	B	14.8	6	0.27	C	18.8	9
	WB approach	0.18	B	11.7	5	0.32	C	16.5	12
2029 Future Background	EB approach	0.18	B	13.7	5	0.21	C	16.5	6
	WB approach	0.10	B	11.6	3	0.27	C	15.5	9
2029 Total Future	EB approach	0.23	C	15.8	7	0.32	C	21.2	11
	WB approach	0.20	B	12.1	6	0.38	C	18.2	14

Currently, the eastbound and westbound approaches, which are STOP-controlled, operate at a good level of service (LOS B) during both peak hours. These approaches operate well under capacity, and 95th percentile queues do not exceed a single vehicle during either peak hour.

Background traffic growth does not significantly impact traffic operations on the eastbound and westbound approaches during either peak hour or study horizon year. During the PM peak hour, the level of service for the eastbound approach drops to LOS C by the 2024 horizon. Also, the level of service for the westbound approach drops to LOS C by the 2029 horizon. These approaches are expected to continue to operate well under capacity, and with 95th percentile queues that do not exceed two vehicles.

The introduction of site traffic does not significantly impact traffic operations on the eastbound and westbound approaches. During the AM peak hour, the level of service on the eastbound approach drops to LOS C by the 2029 horizon when compared to future background conditions. During the PM peak hour, the level of service on the westbound approach drops to LOS C by the 2024 horizon when compared to future background conditions. Notwithstanding, all movements are expected to operate well under capacity, with 95th percentile queues not expected to exceed two vehicles.

5.4 County Road 10 / Concession Road 11 and County Road 11

Intersection operations at the County Road 10 / Concession Road 11 and County Road 11 intersection are presented in Table 8.

Table 8: County Road 10 / Concession Road 11 and County Road 11 – **Intersection Operations**

Scenario	Movement	AM peak hour				PM peak hour			
		v/c	LOS	Delay (s/veh)	95th %ile queue (m)	v/c	LOS	Delay (s/veh)	95th %ile queue (m)
Existing	EB approach	0.19	C	15.4	6	0.29	C	18.5	10
	WB approach	0.08	B	13.1	2	0.11	B	13.9	3
2024 Future Background	EB approach	0.22	C	16.7	7	0.35	C	21.2	12
	WB approach	0.10	B	13.6	3	0.12	B	14.8	3
2024 Total Future	EB approach	0.24	C	17.3	8	0.40	C	24.1	12
	WB approach	0.11	B	13.7	3	0.15	B	14.8	4
2029 Future Background	EB approach	0.27	C	18.7	9	0.42	D	25.2	16
	WB approach	0.11	B	14.5	3	0.15	C	16.1	4
2029 Total Future	EB approach	0.29	C	19.5	9	0.49	D	29.8	20
	WB approach	0.12	B	14.6	3	0.18	C	16.3	5

Currently, the eastbound approach operates at LOS C and the westbound approach operates at LOS B during both peak hours. Each approach operates well under capacity, and 95th percentile queues do not exceed two vehicles.

Background traffic growth does not significantly impact traffic operations. In the AM peak hour, the level of service remains unchanged through to the 2029 horizon. However, in the PM peak hour, the level of service for the eastbound approach drops to LOS D in the 2029 horizon. All individual movements are expected to operate under capacity in both peak hours and horizon years. Under all scenarios, the 95th percentile queues do not exceed two vehicles in the AM peak hour and three vehicles in the PM peak hour.

The introduction of site traffic does not significantly impact traffic operations when compared to future background conditions.

5.5 County Road 18 and County Road 9

Intersection operations at the County Road 10 and County Road 11 intersection are presented inTable 9.

Table 9: County Road 18 and County Road 9 – **Intersection Operations**

Scenario	Movement	AM peak hour				PM peak hour			
		v/c	LOS	Delay (s/veh)	95th %ile queue (m)	v/c	LOS	Delay (s/veh)	95th %ile queue (m)
Existing	EB approach	0.22	B	18.2	18	0.24	C	21.9	20
	WB approach	0.05	B	15.3	6	0.18	B	19.3	17
	NB approach	0.12	A	6.8	15	0.04	A	6.4	6
	SB approach	0.03	A	4.2	4	0.14	A	6.2	15
	Overall	—	B	10.6	—	—	B	12.9	—
2024 Future Background	EB approach	0.24	B	18.5	19	0.26	C	22.3	21
	WB approach	0.06	B	15.2	6	0.20	B	19.5	18
	NB approach	0.13	A	6.8	16	0.04	A	6.4	6
	SB approach	0.04	A	4.2	4	0.15	A	6.3	16
	Overall	—	B	10.7	—	—	B	13.1	—
2024 Total Future	EB approach	0.24	B	18.6	19	0.28	C	22.7	22
	WB approach	0.06	B	15.2	6	0.20	B	19.5	18
	NB approach	0.13	A	6.9	16	0.04	A	6.4	6
	SB approach	0.04	A	3.9	5	0.15	A	6.2	16
	Overall	—	B	10.6	—	—	B	13.2	—
2029 Future Background	EB approach	0.25	B	19.0	20	0.29	C	22.7	23
	WB approach	0.06	B	15.0	7	0.21	B	19.7	19
	NB approach	0.14	A	6.9	18	0.04	A	6.4	7
	SB approach	0.04	A	4.1	4	0.16	A	6.4	17
	Overall	—	B	10.8	—	—	B	13.3	—
2029 Total Future	EB approach	0.26	B	19.1	20	0.31	C	23.1	24
	WB approach	0.06	B	15.0	7	0.21	B	19.7	19
	NB approach	0.14	A	6.9	18	0.04	A	6.4	7
	SB approach	0.04	A	3.9	5	0.16	A	6.3	17
	Overall	—	B	10.8	—	—	B	13.4	—

Currently, the signalized intersection at County Road 18 and County Road 9 operates at a good overall level of service (LOS B) during both peak hours. Each approach operates at LOS C or better, is well under capacity, and 95th percentile queues do not exceed 20 metres.

Background traffic growth does not significantly impact traffic operations. The overall level of service remains at LOS B during both peak hours and both horizon years. Each approach is still well under capacity, and 95th percentile queues do not exceed three to four vehicles under all scenarios.

The introduction of site traffic does not significantly impact traffic operations when compared to future background conditions.

5.6 Street A at County Road 10 and County Road 11

Intersection operations of Street A at County Road 10 and County Road 11 are presented in Table 10.

Table 10: Street A at County Road 10 and County Road 11 – **Intersection Operations**

Scenario	Movement	AM peak hour				PM peak hour			
		v/c	LOS	Delay (s/veh)	95th %ile queue (m)	v/c	LOS	Delay (s/veh)	95th %ile queue (m)
Street A at County Road 10									
2024 Total Future	SB approach	0.06	A	9.0	2	0.05	A	9.2	1
	EB left	0.01	A	0.1	0	0.05	A	0.4	1
2029 Total Future	SB approach	0.06	A	9.0	2	0.05	A	9.3	1
	EB left	0.01	A	0.1	0	0.05	A	0.4	1
Street A at County Road 11									
2024 Total Future	EB approach	0.08	B	13.7	2	0.14	C	15.7	4
	NB left	0.01	A	0.0	0	0.02	A	0.2	1
2029 Total Future	EB approach	0.09	B	14.5	2	0.15	C	16.9	4
	NB left	0.01	A	0.1	0	0.02	A	0.2	1

The southbound approach on Street A at County Road 10 is expected to operate at an excellent level of service (LOS A) during both peak hours and both horizon years. Eastbound left turn movements are expected to operate with very little delay (at LOS A) in both horizon years.

The eastbound approach on Street A at County Road 11 is expected to operate at a good level of service (LOS B) during the AM peak hour under both horizon years. In the PM peak hour, the eastbound approach is expected to operate at a satisfactory level of service (LOS C) under both horizon years. Northbound left turn movements are expected to operate with very little delay (at LOS A) in both horizon years.

6.0 Left Turn Lane Warrants

6.1 Street A Connections

Left turn lane warrant analyses were conducted for the eastbound left turn movement at Street A and County Road 10, and for the northbound left turn movement at Street A and County Road 11. The analyses concluded that left turn lanes are not warranted at either Street A intersection. This is primarily due to the low approach and opposing volumes at Street A and County Road 10 and low left turn volumes at Street A and County Road 11. Table 11 and Table 12 presents the parameters applied in the analyses; the left turn warrant nomographs are presented in Appendix E.

Table 11: Left Turn Lane Warrant Analyses, Street A at County Road 10, Total Future Traffic Volumes

	2024 Total Future		2029 Total Future	
	AM peak hour	PM peak hour	AM peak hour	PM peak hour
Movement	EB left	EB left	EB left	EB left
Design speed	80 km/h	80 km/h	80 km/h	80 km/h
Advancing volume, V_A (vph)	100	171	107	181
Left turn volume, V_{LT} (vph)	18	61	18	61
% left turns in V_A	18.4%	35.6%	17.2%	33.7%
Opposing volume, V_O (vph)	74	125	80	136
MTO nomograph	Exhibit 9A-15	Exhibit 9A-17	Exhibit 9A-15	Exhibit 9A-17
Left turn lane warranted?	No	No	No	No
Storage length	N/A	N/A	N/A	N/A

Table 12: Left Turn Lane Warrant Analyses, Street A at County Road 11, Total Future Traffic Volumes

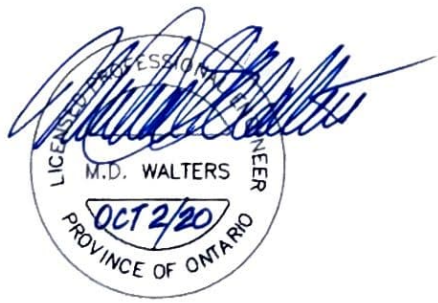
	2024 Total Future		2029 Total Future	
	AM peak hour	PM peak hour	AM peak hour	PM peak hour
Movement	NB left	NB left	NB left	NB left
Design speed	70 km/h	70 km/h	70 km/h	70 km/h
Advancing volume, V_A (vph)	400	248	440	269
Left turn volume, V_{LT} (vph)	7	20	7	20
% left turns in V_A	1.6%	8.0%	1.5%	7.4%
Opposing volume, V_O (vph)	208	534	226	580
MTO nomograph	Exhibit 9A-10	Exhibit 9A-10	Exhibit 9A-10	Exhibit 9A-10
Left turn lane warranted?	No	No	No	No
Storage length	N/A	N/A	N/A	N/A

7.0 Summary

Dillon was retained by 2439478 Ontario Inc. to undertake a transportation impact study (TIS) for the proposed development northwest of County Road 10 and County Road 11 in McGregor, Ontario. The development is envisioned to include 154 residential lots, two commercial blocks, as well as a stormwater management pond, woodlots, and a parkland. The development will be connected to the existing road network via a new street ("Street A"), which connects to both County Road 10 and County Road 11. Trails within the development will also connect to the existing Cypher System Greenway Trail.

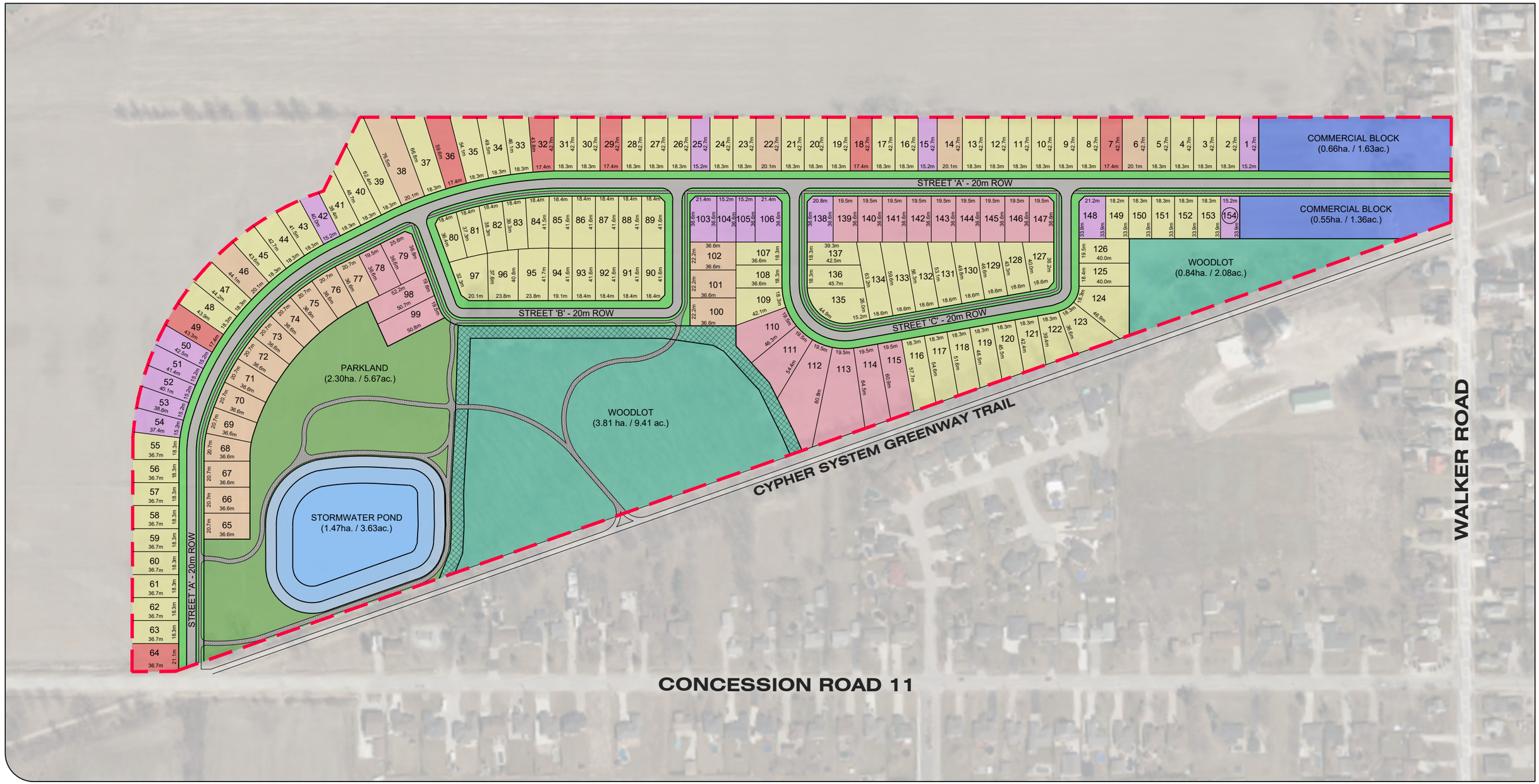
The TIS found the following:

- The development is estimated to generate approximately 133 vehicle trips (114 residential trips and 19 commercial trips) during the AM peak hour, and 228 vehicle trips (152 residential trips and 76 commercial trips) during the PM peak hour;
- All study intersections currently operate at a satisfactory level or better and no critical movements were identified. The addition of background traffic growth and site traffic does not significantly impact traffic operations at the study intersections in both 2024 and 2029 horizons;
- The T-intersections connecting the development to County Road 10 and County Road 11 are anticipated to operate without issues in both 2024 and 2029 horizons. Left turn lanes are not warranted at these new street connections in both horizons;
- It is anticipated that residents from the new residential subdivision will use the CSG Trail due to its proximity and adequate accesses between residential lots and the CSG Trail. Consequently, it is anticipated that the CSG Trail pedestrian crossing (east of the subject site on County Road 11) will experience higher pedestrian volumes resulting from the subject development; and
- Modifications to the roadway infrastructures or traffic controls are not required to accommodate the traffic generated by the subject development.



Appendix A

Conceptual Development Plan



2439478 ONTARIO INC.
MIDDLE SIDE ROAD AND WALKER ROAD

CONCEPT PLAN

- SUBJECT AREA (± 26.29ha / 64.96ac)
- PROPOSED 50' LOTS (16 LOTS)
- PROPOSED 57' LOTS (7 LOTS)
- PROPOSED 60' LOTS (91 LOTS)
- EXISTING WOODLOT
- PROPOSED ROW
- PROPOSED SWM POND
- PROPOSED 64' LOTS (19 LOTS)
- PROPOSED +66' LOTS (21 UNITS)
- PROPOSED COMMERCIAL
- PROPOSED PARKLAND
- PROPOSED SIDEWALK/ MULTI USE TRAIL

File Location:
c:\users\32esb\desktop\mcgregor\202669 - mcgregor development - concept plan final-new pond.dwg
July, 29, 2020 12:38 PM

SOURCE: COUNTY OF ESSEX AERIAL (2019)

MAP/DRAWING INFORMATION
THIS DRAWING IS FOR INFORMATION PURPOSES ONLY. ALL DIMENSIONS AND BOUNDARY INFORMATION SHOULD BE VERIFIED BY AN O.L.S PRIOR TO CONSTRUCTION.
CREATED BY: ESB
CHECKED BY: JHH
DESIGNED BY: ESB

SCALE : 1:3000

DILLON CONSULTING

PROJECT: 20-2669
STATUS: DRAFT
DATE: 06/16/2020

Appendix B

Traffic Volume Data

CR 11 (Walker Rd) @ CR 10 (Middle Sideroad)

Morning Peak Diagram

Specified Period
From: 6:00:00
To: 9:00:00

One Hour Peak
From: 7:15:00
To: 8:15:00

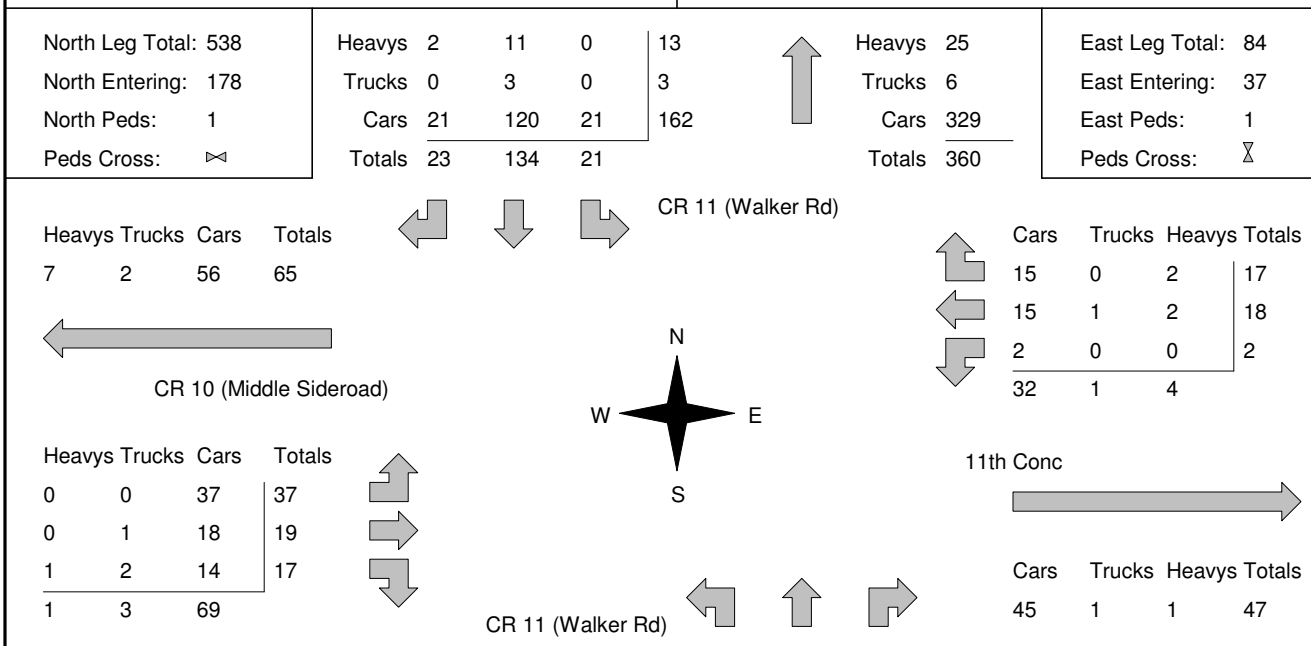
Municipality: Essex
Site #: 0000000002
Intersection: CR 11 & CR 10
TFR File #: 2
Count date: 25-Sep-2019

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Non-Signalized Intersection ****

Major Road: CR 11 runs N/S



Comments

CR 11 (Walker Rd) @ CR 10 (Middle Sideroad)

Mid-day Peak Diagram

Specified Period
From: 11:00:00
To: 14:00:00

One Hour Peak
From: 11:45:00
To: 12:45:00

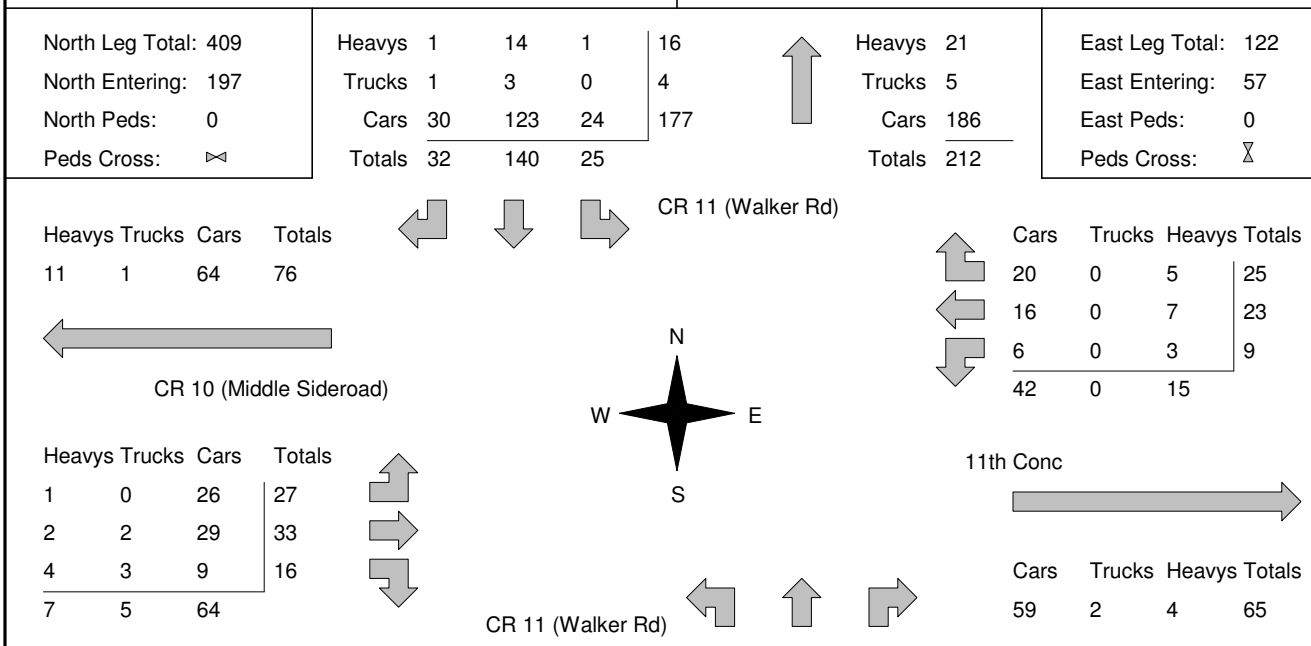
Municipality: Essex
Site #: 0000000002
Intersection: CR 11 & CR 10
TFR File #: 2
Count date: 25-Sep-2019

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Non-Signalized Intersection ****

Major Road: CR 11 runs N/S



Comments

CR 11 (Walker Rd) @ CR 10 (Middle Sideroad)

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

One Hour Peak
From: 16:00:00
To: 17:00:00

Municipality: Essex
Site #: 0000000002
Intersection: CR 11 & CR 10
TFR File #: 2
Count date: 25-Sep-2019

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Non-Signalized Intersection ****

Major Road: CR 11 runs N/S

North Leg Total:	656			
North Entering:	449			
North Peds:	0			
Peds Cross:	⋈			
Heavys	1	18	2	21
Trucks	1	9	1	11
Cars	69	314	34	417
Totals	71	341	37	
Heavys	10			
Trucks	3			
Cars	194			
Totals	207			
East Leg Total:	118			
East Entering:	44			
East Peds:	0			
Peds Cross:	⧖			

CR 11 (Walker Rd)

Heavys	Trucks	Cars	Totals
4	1	103	108

CR 10 (Middle Sideroad)

Cars	Trucks	Heavys	Totals
18	1	1	20
21	0	0	21
3	0	0	3
42	1	1	

N
W E
S

Heavys	Trucks	Cars	Totals
1	1	35	37
1	1	30	32
3	2	23	28
5	4	88	

11th Conc

Cars	Trucks	Heavys	Totals
67	2	5	74

CR 11 (Walker Rd)

Peds Cross:	⧖			
West Peds:	0			
West Entering:	97			
West Leg Total:	205			
Cars	340			
Trucks	11			
Heavys	21			
Totals	372			
Cars	13	141	3	157
Trucks	0	1	0	1
Heavys	3	8	2	13
Totals	16	150	5	
Peds Cross:	⋈			
South Peds:	0			
South Entering:	171			
South Leg Total:	543			

Comments

CR 11 (Walker Rd) @ CR 10 (Middle Sideroad)

Total Count Diagram

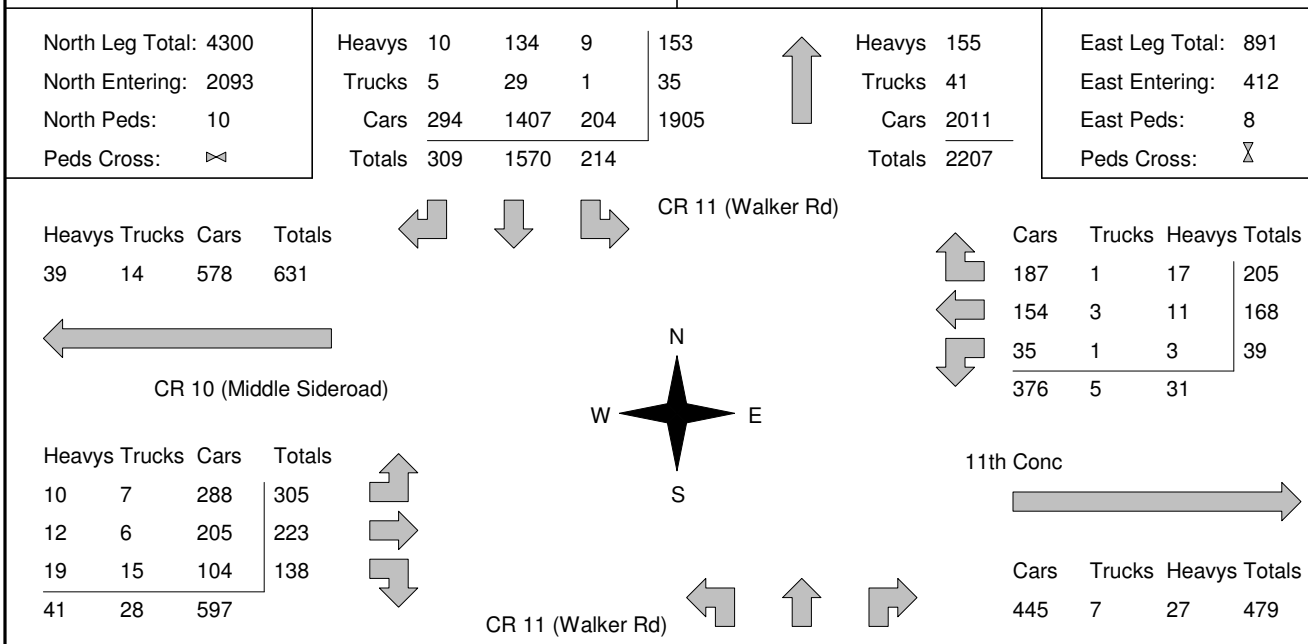
Municipality: Essex
Site #: 0000000002
Intersection: CR 11 & CR 10
TFR File #: 2
Count date: 25-Sep-2019

Weather conditions:
Clear/Dry

Person(s) who counted:
Cam

**** Non-Signalized Intersection ****

Major Road: CR 11 runs N/S



Comments

County Road 8 and County Road 9

Type of Travel	Origin Zone Name	Destination Zone Name	Day Type	Day Part	Average Daily O-D Traffic (Calibrated Index)	Average Daily Origin Zone Traffic (Calibrated Index)	Average Daily Destination Zone Traffic (Calibrated Index)	Avg Trip Duration (sec)
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	0: All Day (12am-12am)	522	931	1221	19
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	1: 6am (6am-7am)	8	31	17	16
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	2: 7am (7am-8am)	34	86	89	20
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	3: 8am (8am-9am)	16	38	65	20
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	4: 9am (9am-10am)	18	43	56	15
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	52	82	102	20
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	56	99	136	17
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	56	90	124	15
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	34	58	64	15
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	0: All Day (12am-12am)	561	1024	1349	20
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	1: 6am (6am-7am)	12	44	24	16
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	2: 7am (7am-8am)	46	116	124	20
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	3: 8am (8am-9am)	21	49	75	21
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	4: 9am (9am-10am)	24	51	70	16
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	57	90	110	21
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	65	115	157	16
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	58	97	141	14
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	33	56	64	17
Personal	CR8_east_leg	CR9_north_leg	0: All Days (M-Su)	0: All Day (12am-12am)	208	931	2808	10
Personal	CR8_east_leg	CR9_north_leg	0: All Days (M-Su)	1: 6am (6am-7am)	13	31	153	7
Personal	CR8_east_leg	CR9_north_leg	0: All Days (M-Su)	2: 7am (7am-8am)	30	86	279	11
Personal	CR8_east_leg	CR9_north_leg	0: All Days (M-Su)	3: 8am (8am-9am)	10	38	173	11
Personal	CR8_east_leg	CR9_north_leg	0: All Days (M-Su)	4: 9am (9am-10am)	15	43	148	11
Personal	CR8_east_leg	CR9_north_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	14	82	235	13
Personal	CR8_east_leg	CR9_north_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	12	99	250	9
Personal	CR8_east_leg	CR9_north_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	17	90	208	10
Personal	CR8_east_leg	CR9_north_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	11	58	144	8
Personal	CR8_east_leg	CR9_north_leg	1: Weekday (M-F)	0: All Day (12am-12am)	235	1024	3011	10
Personal	CR8_east_leg	CR9_north_leg	1: Weekday (M-F)	1: 6am (6am-7am)	18	44	200	7
Personal	CR8_east_leg	CR9_north_leg	1: Weekday (M-F)	2: 7am (7am-8am)	38	116	369	11
Personal	CR8_east_leg	CR9_north_leg	1: Weekday (M-F)	3: 8am (8am-9am)	13	49	195	11
Personal	CR8_east_leg	CR9_north_leg	1: Weekday (M-F)	4: 9am (9am-10am)	15	51	146	10
Personal	CR8_east_leg	CR9_north_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	11	90	258	17
Personal	CR8_east_leg	CR9_north_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	17	115	312	9
Personal	CR8_east_leg	CR9_north_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	20	97	237	10
Personal	CR8_east_leg	CR9_north_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	14	56	138	8
Personal	CR8_east_leg	CR9_south_leg	0: All Days (M-Su)	0: All Day (12am-12am)	191	931	2600	19
Personal	CR8_east_leg	CR9_south_leg	0: All Days (M-Su)	1: 6am (6am-7am)	8	31	142	59
Personal	CR8_east_leg	CR9_south_leg	0: All Days (M-Su)	2: 7am (7am-8am)	22	86	117	21
Personal	CR8_east_leg	CR9_south_leg	0: All Days (M-Su)	3: 8am (8am-9am)	12	38	130	16
Personal	CR8_east_leg	CR9_south_leg	0: All Days (M-Su)	4: 9am (9am-10am)	11	43	117	20
Personal	CR8_east_leg	CR9_south_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	15	82	218	17
Personal	CR8_east_leg	CR9_south_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	31	99	264	14
Personal	CR8_east_leg	CR9_south_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	15	90	255	12
Personal	CR8_east_leg	CR9_south_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	13	58	149	16
Personal	CR8_east_leg	CR9_south_leg	1: Weekday (M-F)	0: All Day (12am-12am)	222	1024	2762	19
Personal	CR8_east_leg	CR9_south_leg	1: Weekday (M-F)	1: 6am (6am-7am)	12	44	183	59
Personal	CR8_east_leg	CR9_south_leg	1: Weekday (M-F)	2: 7am (7am-8am)	31	116	151	21
Personal	CR8_east_leg	CR9_south_leg	1: Weekday (M-F)	3: 8am (8am-9am)	16	49	167	17
Personal	CR8_east_leg	CR9_south_leg	1: Weekday (M-F)	4: 9am (9am-10am)	14	51	122	19
Personal	CR8_east_leg	CR9_south_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	22	90	232	17
Personal	CR8_east_leg	CR9_south_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	32	115	279	11
Personal	CR8_east_leg	CR9_south_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	17	97	291	14
Personal	CR8_east_leg	CR9_south_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	10	56	154	15
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	0: All Day (12am-12am)	402	1074	872	19
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	1: 6am (6am-7am)	24	68	39	24
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	2: 7am (7am-8am)	25	78	58	12
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	3: 8am (8am-9am)	33	85	52	23
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	4: 9am (9am-10am)	20	63	46	39
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	29	68	66	18
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	37	90	82	16
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	32	73	75	14
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	20	52	46	17
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	0: All Day (12am-12am)	429	1193	971	19
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	1: 6am (6am-7am)	31	89	53	24
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	2: 7am (7am-8am)	35	107	82	12
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	3: 8am (8am-9am)	32	93	55	19
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	4: 9am (9am-10am)	25	70	57	42
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	32	81	80	18
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	49	114	99	17
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	33	77	88	13
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	24	57	55	18
Personal	CR8_west_leg	CR9_north_leg	0: All Days (M-Su)	0: All Day (12am-12am)	481	1074	2808	14
Personal	CR8_west_leg	CR9_north_leg	0: All Days (M-Su)	1: 6am (6am-7am)	33	68	153	15
Personal	CR8_west_leg	CR9_north_leg	0: All Days (M-Su)	2: 7am (7am-8am)	36	78	279	13
Personal	CR8_west_leg	CR9_north_leg	0: All Days (M-Su)	3: 8am (8am-9am)	44	85	173	8
Personal	CR8_west_leg	CR9_north_leg	0: All Days (M-Su)	4: 9am (9am-10am)	24	63	148	11
Personal	CR8_west_leg	CR9_north_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	30	68	235	16
Personal	CR8_west_leg	CR9_north_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	38	90	250	14
Personal	CR8_west_leg	CR9_north_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	29	73	208	14
Personal	CR8_west_leg	CR9_north_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	29	52	144	8
Personal	CR8_west_leg	CR9_north_leg	1: Weekday (M-F)	0: All Day (12am-12am)	536	1193	3011	14
Personal	CR8_west_leg	CR9_north_leg	1: Weekday (M-F)	1: 6am (6am-7am)	42	89	200	15
Personal	CR8_west_leg	CR9_north_leg	1: Weekday (M-F)	2: 7am (7am-8am)	47	107	369	14
Personal	CR8_west_leg	CR9_north_leg	1: Weekday (M-F)	3: 8am (8am-9am)	51	93	195	8
Personal	CR8_west_leg	CR9_north_leg	1: Weekday (M-F)	4: 9am (9am-10am)	23	70	146	9
Personal	CR8_west_leg	CR9_north_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	36	81	258	13

Personal	CR8_west_leg	CR9_north_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	49	114	312	14
Personal	CR8_west_leg	CR9_north_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	31	77	237	14
Personal	CR8_west_leg	CR9_north_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	30	57	138	8
Personal	CR8_west_leg	CR9_south_leg	0: All Days (M-Su)	0: All Day (12am-12am)	173	1074	2600	14
Personal	CR8_west_leg	CR9_south_leg	0: All Days (M-Su)	1: 6am (6am-7am)	11	68	142	12
Personal	CR8_west_leg	CR9_south_leg	0: All Days (M-Su)	2: 7am (7am-8am)	16	78	117	17
Personal	CR8_west_leg	CR9_south_leg	0: All Days (M-Su)	3: 8am (8am-9am)	8	85	130	12
Personal	CR8_west_leg	CR9_south_leg	0: All Days (M-Su)	4: 9am (9am-10am)	18	63	117	13
Personal	CR8_west_leg	CR9_south_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	5	68	218	7
Personal	CR8_west_leg	CR9_south_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	15	90	264	7
Personal	CR8_west_leg	CR9_south_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	12	73	255	13
Personal	CR8_west_leg	CR9_south_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	4	52	149	18
Personal	CR8_west_leg	CR9_south_leg	1: Weekday (M-F)	0: All Day (12am-12am)	206	1193	2762	14
Personal	CR8_west_leg	CR9_south_leg	1: Weekday (M-F)	1: 6am (6am-7am)	15	89	183	12
Personal	CR8_west_leg	CR9_south_leg	1: Weekday (M-F)	2: 7am (7am-8am)	23	107	151	17
Personal	CR8_west_leg	CR9_south_leg	1: Weekday (M-F)	3: 8am (8am-9am)	11	93	167	12
Personal	CR8_west_leg	CR9_south_leg	1: Weekday (M-F)	4: 9am (9am-10am)	20	70	122	10
Personal	CR8_west_leg	CR9_south_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	8	81	232	7
Personal	CR8_west_leg	CR9_south_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	17	114	279	7
Personal	CR8_west_leg	CR9_south_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	14	77	291	14
Personal	CR8_west_leg	CR9_south_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	4	57	154	19
Personal	CR9_north_leg	CR8_east_leg	0: All Days (M-Su)	0: All Day (12am-12am)	263	2992	872	11
Personal	CR9_north_leg	CR8_east_leg	0: All Days (M-Su)	1: 6am (6am-7am)	2	132	39	9
Personal	CR9_north_leg	CR8_east_leg	0: All Days (M-Su)	2: 7am (7am-8am)	4	114	58	17
Personal	CR9_north_leg	CR8_east_leg	0: All Days (M-Su)	3: 8am (8am-9am)	9	156	52	9
Personal	CR9_north_leg	CR8_east_leg	0: All Days (M-Su)	4: 9am (9am-10am)	23	129	46	8
Personal	CR9_north_leg	CR8_east_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	26	254	66	9
Personal	CR9_north_leg	CR8_east_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	27	308	82	9
Personal	CR9_north_leg	CR8_east_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	25	311	75	13
Personal	CR9_north_leg	CR8_east_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	17	173	46	10
Personal	CR9_north_leg	CR8_east_leg	1: Weekday (M-F)	0: All Day (12am-12am)	292	3166	971	12
Personal	CR9_north_leg	CR8_east_leg	1: Weekday (M-F)	1: 6am (6am-7am)	3	169	53	9
Personal	CR9_north_leg	CR8_east_leg	1: Weekday (M-F)	2: 7am (7am-8am)	6	144	82	17
Personal	CR9_north_leg	CR8_east_leg	1: Weekday (M-F)	3: 8am (8am-9am)	10	187	55	10
Personal	CR9_north_leg	CR8_east_leg	1: Weekday (M-F)	4: 9am (9am-10am)	27	136	57	8
Personal	CR9_north_leg	CR8_east_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	32	268	80	9
Personal	CR9_north_leg	CR8_east_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	29	332	99	9
Personal	CR9_north_leg	CR8_east_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	32	363	88	13
Personal	CR9_north_leg	CR8_east_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	19	185	55	10
Personal	CR9_north_leg	CR8_west_leg	0: All Days (M-Su)	0: All Day (12am-12am)	543	2992	1221	8
Personal	CR9_north_leg	CR8_west_leg	0: All Days (M-Su)	1: 6am (6am-7am)	7	132	17	7
Personal	CR9_north_leg	CR8_west_leg	0: All Days (M-Su)	2: 7am (7am-8am)	41	114	89	6
Personal	CR9_north_leg	CR8_west_leg	0: All Days (M-Su)	3: 8am (8am-9am)	42	156	65	7
Personal	CR9_north_leg	CR8_west_leg	0: All Days (M-Su)	4: 9am (9am-10am)	18	129	56	6
Personal	CR9_north_leg	CR8_west_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	35	254	102	10
Personal	CR9_north_leg	CR8_west_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	69	308	136	9
Personal	CR9_north_leg	CR8_west_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	61	311	124	7
Personal	CR9_north_leg	CR8_west_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	25	173	64	7
Personal	CR9_north_leg	CR8_west_leg	1: Weekday (M-F)	0: All Day (12am-12am)	606	3166	1349	8
Personal	CR9_north_leg	CR8_west_leg	1: Weekday (M-F)	1: 6am (6am-7am)	9	169	24	7
Personal	CR9_north_leg	CR8_west_leg	1: Weekday (M-F)	2: 7am (7am-8am)	57	144	124	6
Personal	CR9_north_leg	CR8_west_leg	1: Weekday (M-F)	3: 8am (8am-9am)	44	187	75	8
Personal	CR9_north_leg	CR8_west_leg	1: Weekday (M-F)	4: 9am (9am-10am)	19	136	70	5
Personal	CR9_north_leg	CR8_west_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	39	268	110	11
Personal	CR9_north_leg	CR8_west_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	81	332	157	9
Personal	CR9_north_leg	CR8_west_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	75	363	141	7
Personal	CR9_north_leg	CR8_west_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	28	185	64	6
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	0: All Day (12am-12am)	2147	2992	2600	8
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	1: 6am (6am-7am)	122	132	142	10
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	2: 7am (7am-8am)	68	114	117	9
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	3: 8am (8am-9am)	103	156	130	11
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	4: 9am (9am-10am)	86	129	117	8
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	187	254	218	10
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	210	308	264	9
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	224	311	255	8
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	131	173	149	8
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	0: All Day (12am-12am)	2231	3166	2762	9
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	1: 6am (6am-7am)	155	169	183	10
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	2: 7am (7am-8am)	80	144	151	9
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	3: 8am (8am-9am)	130	187	167	11
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	4: 9am (9am-10am)	86	136	122	8
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	191	268	232	10
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	220	332	279	9
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	257	363	291	9
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	138	185	154	9
Personal	CR9_south_leg	CR8_east_leg	0: All Days (M-Su)	0: All Day (12am-12am)	187	2376	872	23
Personal	CR9_south_leg	CR8_east_leg	0: All Days (M-Su)	1: 6am (6am-7am)	14	120	39	10
Personal	CR9_south_leg	CR8_east_leg	0: All Days (M-Su)	2: 7am (7am-8am)	26	249	58	99
Personal	CR9_south_leg	CR8_east_leg	0: All Days (M-Su)	3: 8am (8am-9am)	9	127	52	11
Personal	CR9_south_leg	CR8_east_leg	0: All Days (M-Su)	4: 9am (9am-10am)	5	131	46	12
Personal	CR9_south_leg	CR8_east_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	10	211	66	10
Personal	CR9_south_leg	CR8_east_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	15	226	82	11
Personal	CR9_south_leg	CR8_east_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	16	182	75	9
Personal	CR9_south_leg	CR8_east_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	6	110	46	9
Personal	CR9_south_leg	CR8_east_leg	1: Weekday (M-F)	0: All Day (12am-12am)	231	2560	971	25
Personal	CR9_south_leg	CR8_east_leg	1: Weekday (M-F)	1: 6am (6am-7am)	19	159	53	10
Personal	CR9_south_leg	CR8_east_leg	1: Weekday (M-F)	2: 7am (7am-8am)	38	335	82	99
Personal	CR9_south_leg	CR8_east_leg	1: Weekday (M-F)	3: 8am (8am-9am)	12	143	55	11
Personal	CR9_south_leg	CR8_east_leg	1: Weekday (M-F)	4: 9am (9am-10am)	6	136	57	12
Personal	CR9_south_leg	CR8_east_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	14	231	80	10
Personal	CR9_south_leg	CR8_east_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	19	272	99	11

Personal	CR9_south_leg	CR8_east_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	21	216	88	9
Personal	CR9_south_leg	CR8_east_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	9	99	55	9
Personal	CR9_south_leg	CR8_west_leg	0: All Days (M-Su)	0: All Day (12am-12am)	124	2376	1221	14
Personal	CR9_south_leg	CR8_west_leg	0: All Days (M-Su)	2: 7am (7am-8am)	13	249	89	14
Personal	CR9_south_leg	CR8_west_leg	0: All Days (M-Su)	3: 8am (8am-9am)	5	127	65	17
Personal	CR9_south_leg	CR8_west_leg	0: All Days (M-Su)	4: 9am (9am-10am)	20	131	56	12
Personal	CR9_south_leg	CR8_west_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	13	211	102	21
Personal	CR9_south_leg	CR8_west_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	11	226	136	16
Personal	CR9_south_leg	CR8_west_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	2	182	124	4
Personal	CR9_south_leg	CR8_west_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	4	110	64	8
Personal	CR9_south_leg	CR8_west_leg	1: Weekday (M-F)	0: All Day (12am-12am)	150	2560	1349	14
Personal	CR9_south_leg	CR8_west_leg	1: Weekday (M-F)	2: 7am (7am-8am)	18	335	124	14
Personal	CR9_south_leg	CR8_west_leg	1: Weekday (M-F)	3: 8am (8am-9am)	7	143	75	17
Personal	CR9_south_leg	CR8_west_leg	1: Weekday (M-F)	4: 9am (9am-10am)	27	136	70	12
Personal	CR9_south_leg	CR8_west_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	11	231	110	19
Personal	CR9_south_leg	CR8_west_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	10	272	157	18
Personal	CR9_south_leg	CR8_west_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	3	216	141	4
Personal	CR9_south_leg	CR8_west_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	3	99	64	11
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	0: All Day (12am-12am)	2034	2376	2808	9
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	1: 6am (6am-7am)	104	120	153	9
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	2: 7am (7am-8am)	208	249	279	10
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	3: 8am (8am-9am)	114	127	173	8
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	4: 9am (9am-10am)	106	131	148	9
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	183	211	235	10
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	194	226	250	9
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	164	182	208	8
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	99	110	144	6
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	0: All Day (12am-12am)	2145	2560	3011	9
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	1: 6am (6am-7am)	135	159	200	9
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	2: 7am (7am-8am)	276	335	369	10
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	3: 8am (8am-9am)	124	143	195	8
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	4: 9am (9am-10am)	102	136	146	10
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	199	231	258	11
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	236	272	312	9
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	192	216	237	9
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	87	99	138	5

County Road 8 and County Road 11

Type of Travel	Origin Zone Name	Destination Zone Name	Day Type	Day Part	Average Daily O-D Traffic (Calibrated Index)	Average Daily Origin Zone Traffic (Calibrated Index)	Average Daily Destination Zone Traffic (Calibrated Index)	Avg Trip Duration (sec)
Personal	CR11_north_leg	CR11_south_leg	0: All Days (M-Su)	0: All Day (12am-12am)	2163	2695	2622	9
Personal	CR11_north_leg	CR11_south_leg	0: All Days (M-Su)	1: 6am (6am-7am)	24	27	27	8
Personal	CR11_north_leg	CR11_south_leg	0: All Days (M-Su)	2: 7am (7am-8am)	47	57	56	8
Personal	CR11_north_leg	CR11_south_leg	0: All Days (M-Su)	3: 8am (8am-9am)	91	120	110	10
Personal	CR11_north_leg	CR11_south_leg	0: All Days (M-Su)	4: 9am (9am-10am)	80	102	111	23
Personal	CR11_north_leg	CR11_south_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	212	264	261	8
Personal	CR11_north_leg	CR11_south_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	268	332	304	8
Personal	CR11_north_leg	CR11_south_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	241	300	290	9
Personal	CR11_north_leg	CR11_south_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	149	183	171	8
Personal	CR11_north_leg	CR11_south_leg	1: Weekday (M-F)	0: All Day (12am-12am)	2311	2885	2785	8
Personal	CR11_north_leg	CR11_south_leg	1: Weekday (M-F)	1: 6am (6am-7am)	34	38	37	8
Personal	CR11_north_leg	CR11_south_leg	1: Weekday (M-F)	2: 7am (7am-8am)	54	64	66	8
Personal	CR11_north_leg	CR11_south_leg	1: Weekday (M-F)	3: 8am (8am-9am)	122	155	140	11
Personal	CR11_north_leg	CR11_south_leg	1: Weekday (M-F)	4: 9am (9am-10am)	83	112	121	7
Personal	CR11_north_leg	CR11_south_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	236	296	296	9
Personal	CR11_north_leg	CR11_south_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	304	371	340	8
Personal	CR11_north_leg	CR11_south_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	299	367	349	9
Personal	CR11_north_leg	CR11_south_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	142	182	169	8
Personal	CR11_north_leg	CR8_east_leg	0: All Days (M-Su)	0: All Day (12am-12am)	75	2695	590	16
Personal	CR11_north_leg	CR8_east_leg	0: All Days (M-Su)	2: 7am (7am-8am)	1	57	52	11
Personal	CR11_north_leg	CR8_east_leg	0: All Days (M-Su)	3: 8am (8am-9am)	7	120	33	10
Personal	CR11_north_leg	CR8_east_leg	0: All Days (M-Su)	4: 9am (9am-10am)	4	102	32	13
Personal	CR11_north_leg	CR8_east_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	4	264	36	16
Personal	CR11_north_leg	CR8_east_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	8	332	84	13
Personal	CR11_north_leg	CR8_east_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	9	300	58	17
Personal	CR11_north_leg	CR8_east_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	6	183	32	23
Personal	CR11_north_leg	CR8_east_leg	1: Weekday (M-F)	0: All Day (12am-12am)	81	2885	662	16
Personal	CR11_north_leg	CR8_east_leg	1: Weekday (M-F)	3: 8am (8am-9am)	10	155	36	9
Personal	CR11_north_leg	CR8_east_leg	1: Weekday (M-F)	4: 9am (9am-10am)	4	112	34	14
Personal	CR11_north_leg	CR8_east_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	5	296	39	18
Personal	CR11_north_leg	CR8_east_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	7	371	105	8
Personal	CR11_north_leg	CR8_east_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	10	367	74	18
Personal	CR11_north_leg	CR8_east_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	8	182	35	21
Personal	CR11_north_leg	CR8_west_leg	0: All Days (M-Su)	0: All Day (12am-12am)	431	2695	943	9
Personal	CR11_north_leg	CR8_west_leg	0: All Days (M-Su)	1: 6am (6am-7am)	3	27	20	9
Personal	CR11_north_leg	CR8_west_leg	0: All Days (M-Su)	2: 7am (7am-8am)	9	57	83	13
Personal	CR11_north_leg	CR8_west_leg	0: All Days (M-Su)	3: 8am (8am-9am)	20	120	34	11
Personal	CR11_north_leg	CR8_west_leg	0: All Days (M-Su)	4: 9am (9am-10am)	16	102	47	12
Personal	CR11_north_leg	CR8_west_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	47	264	87	9
Personal	CR11_north_leg	CR8_west_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	56	332	107	9
Personal	CR11_north_leg	CR8_west_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	49	300	99	7
Personal	CR11_north_leg	CR8_west_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	25	183	49	8
Personal	CR11_north_leg	CR8_west_leg	1: Weekday (M-F)	0: All Day (12am-12am)	469	2885	1027	9
Personal	CR11_north_leg	CR8_west_leg	1: Weekday (M-F)	1: 6am (6am-7am)	5	38	28	9
Personal	CR11_north_leg	CR8_west_leg	1: Weekday (M-F)	2: 7am (7am-8am)	9	64	114	14
Personal	CR11_north_leg	CR8_west_leg	1: Weekday (M-F)	3: 8am (8am-9am)	23	155	43	11
Personal	CR11_north_leg	CR8_west_leg	1: Weekday (M-F)	4: 9am (9am-10am)	21	112	57	11
Personal	CR11_north_leg	CR8_west_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	53	296	90	10
Personal	CR11_north_leg	CR8_west_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	60	371	120	9
Personal	CR11_north_leg	CR8_west_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	56	367	106	8
Personal	CR11_north_leg	CR8_west_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	28	182	50	9
Personal	CR11_south_leg	CR11_north_leg	0: All Days (M-Su)	0: All Day (12am-12am)	1993	2412	2437	10
Personal	CR11_south_leg	CR11_north_leg	0: All Days (M-Su)	1: 6am (6am-7am)	127	138	179	9
Personal	CR11_south_leg	CR11_north_leg	0: All Days (M-Su)	2: 7am (7am-8am)	176	220	208	11
Personal	CR11_south_leg	CR11_north_leg	0: All Days (M-Su)	3: 8am (8am-9am)	155	178	191	12
Personal	CR11_south_leg	CR11_north_leg	0: All Days (M-Su)	4: 9am (9am-10am)	131	162	161	9
Personal	CR11_south_leg	CR11_north_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	122	147	153	9
Personal	CR11_south_leg	CR11_north_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	132	189	159	10
Personal	CR11_south_leg	CR11_north_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	153	174	174	9
Personal	CR11_south_leg	CR11_north_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	102	119	114	9
Personal	CR11_south_leg	CR11_north_leg	1: Weekday (M-F)	0: All Day (12am-12am)	2089	2538	2547	10
Personal	CR11_south_leg	CR11_north_leg	1: Weekday (M-F)	1: 6am (6am-7am)	169	185	235	9
Personal	CR11_south_leg	CR11_north_leg	1: Weekday (M-F)	2: 7am (7am-8am)	239	295	281	12
Personal	CR11_south_leg	CR11_north_leg	1: Weekday (M-F)	3: 8am (8am-9am)	199	224	238	13
Personal	CR11_south_leg	CR11_north_leg	1: Weekday (M-F)	4: 9am (9am-10am)	130	162	164	8
Personal	CR11_south_leg	CR11_north_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	100	120	135	10
Personal	CR11_south_leg	CR11_north_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	136	210	169	9
Personal	CR11_south_leg	CR11_north_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	148	173	170	9
Personal	CR11_south_leg	CR11_north_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	100	115	111	10
Personal	CR11_south_leg	CR8_east_leg	0: All Days (M-Su)	0: All Day (12am-12am)	130	2412	590	16
Personal	CR11_south_leg	CR8_east_leg	0: All Days (M-Su)	1: 6am (6am-7am)	1	138	15	13
Personal	CR11_south_leg	CR8_east_leg	0: All Days (M-Su)	2: 7am (7am-8am)	18	220	52	18
Personal	CR11_south_leg	CR8_east_leg	0: All Days (M-Su)	3: 8am (8am-9am)	7	178	33	12
Personal	CR11_south_leg	CR8_east_leg	0: All Days (M-Su)	4: 9am (9am-10am)	9	162	32	14
Personal	CR11_south_leg	CR8_east_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	10	147	36	18
Personal	CR11_south_leg	CR8_east_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	32	189	84	19
Personal	CR11_south_leg	CR8_east_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	6	174	58	26
Personal	CR11_south_leg	CR8_east_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	4	119	32	12
Personal	CR11_south_leg	CR8_east_leg	1: Weekday (M-F)	0: All Day (12am-12am)	143	2538	662	17
Personal	CR11_south_leg	CR8_east_leg	1: Weekday (M-F)	1: 6am (6am-7am)	2	185	21	13
Personal	CR11_south_leg	CR8_east_leg	1: Weekday (M-F)	2: 7am (7am-8am)	24	295	71	18
Personal	CR11_south_leg	CR8_east_leg	1: Weekday (M-F)	3: 8am (8am-9am)	7	224	36	11
Personal	CR11_south_leg	CR8_east_leg	1: Weekday (M-F)	4: 9am (9am-10am)	10	162	34	15
Personal	CR11_south_leg	CR8_east_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	8	120	39	21
Personal	CR11_south_leg	CR8_east_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	42	210	105	20
Personal	CR11_south_leg	CR8_east_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	5	173	74	39
Personal	CR11_south_leg	CR8_east_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	5	115	35	11

Personal	CR11_south_leg	CR8_west_leg	0: All Days (M-Su)	0: All Day (12am-12am)	174	2412	943	16
Personal	CR11_south_leg	CR8_west_leg	0: All Days (M-Su)	1: 6am (6am-7am)	2	138	20	10
Personal	CR11_south_leg	CR8_west_leg	0: All Days (M-Su)	2: 7am (7am-8am)	14	220	83	18
Personal	CR11_south_leg	CR8_west_leg	0: All Days (M-Su)	3: 8am (8am-9am)	7	178	34	12
Personal	CR11_south_leg	CR8_west_leg	0: All Days (M-Su)	4: 9am (9am-10am)	12	162	47	11
Personal	CR11_south_leg	CR8_west_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	14	147	87	13
Personal	CR11_south_leg	CR8_west_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	19	189	107	12
Personal	CR11_south_leg	CR8_west_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	8	174	99	66
Personal	CR11_south_leg	CR8_west_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	3	119	49	8
Personal	CR11_south_leg	CR8_west_leg	1: Weekday (M-F)	0: All Day (12am-12am)	187	2538	1027	17
Personal	CR11_south_leg	CR8_west_leg	1: Weekday (M-F)	1: 6am (6am-7am)	3	185	28	10
Personal	CR11_south_leg	CR8_west_leg	1: Weekday (M-F)	2: 7am (7am-8am)	18	295	114	18
Personal	CR11_south_leg	CR8_west_leg	1: Weekday (M-F)	3: 8am (8am-9am)	11	224	43	12
Personal	CR11_south_leg	CR8_west_leg	1: Weekday (M-F)	4: 9am (9am-10am)	14	162	57	12
Personal	CR11_south_leg	CR8_west_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	10	120	90	10
Personal	CR11_south_leg	CR8_west_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	25	210	120	12
Personal	CR11_south_leg	CR8_west_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	9	173	106	76
Personal	CR11_south_leg	CR8_west_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	5	115	50	8
Personal	CR8_east_leg	CR11_north_leg	0: All Days (M-Su)	0: All Day (12am-12am)	79	548	2437	18
Personal	CR8_east_leg	CR11_north_leg	0: All Days (M-Su)	1: 6am (6am-7am)	13	28	179	11
Personal	CR8_east_leg	CR11_north_leg	0: All Days (M-Su)	2: 7am (7am-8am)	4	70	208	17
Personal	CR8_east_leg	CR11_north_leg	0: All Days (M-Su)	3: 8am (8am-9am)	3	19	191	37
Personal	CR8_east_leg	CR11_north_leg	0: All Days (M-Su)	4: 9am (9am-10am)	5	32	161	22
Personal	CR8_east_leg	CR11_north_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	4	47	153	9
Personal	CR8_east_leg	CR11_north_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	4	39	159	10
Personal	CR8_east_leg	CR11_north_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	1	49	174	13
Personal	CR8_east_leg	CR11_north_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	1	27	114	9
Personal	CR8_east_leg	CR11_north_leg	1: Weekday (M-F)	0: All Day (12am-12am)	81	588	2547	16
Personal	CR8_east_leg	CR11_north_leg	1: Weekday (M-F)	1: 6am (6am-7am)	17	38	235	10
Personal	CR8_east_leg	CR11_north_leg	1: Weekday (M-F)	2: 7am (7am-8am)	5	99	281	17
Personal	CR8_east_leg	CR11_north_leg	1: Weekday (M-F)	3: 8am (8am-9am)	4	23	238	46
Personal	CR8_east_leg	CR11_north_leg	1: Weekday (M-F)	4: 9am (9am-10am)	6	36	164	13
Personal	CR8_east_leg	CR11_north_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	5	54	135	12
Personal	CR8_east_leg	CR11_north_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	6	47	169	10
Personal	CR8_east_leg	CR11_north_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	2	49	170	13
Personal	CR8_east_leg	CR11_north_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	1	26	111	11
Personal	CR8_east_leg	CR11_south_leg	0: All Days (M-Su)	0: All Day (12am-12am)	130	548	2622	23
Personal	CR8_east_leg	CR11_south_leg	0: All Days (M-Su)	1: 6am (6am-7am)	1	28	27	15
Personal	CR8_east_leg	CR11_south_leg	0: All Days (M-Su)	2: 7am (7am-8am)	3	70	56	21
Personal	CR8_east_leg	CR11_south_leg	0: All Days (M-Su)	3: 8am (8am-9am)	10	19	110	23
Personal	CR8_east_leg	CR11_south_leg	0: All Days (M-Su)	4: 9am (9am-10am)	8	32	111	13
Personal	CR8_east_leg	CR11_south_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	13	47	261	24
Personal	CR8_east_leg	CR11_south_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	6	39	304	14
Personal	CR8_east_leg	CR11_south_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	8	49	290	21
Personal	CR8_east_leg	CR11_south_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	4	27	171	20
Personal	CR8_east_leg	CR11_south_leg	1: Weekday (M-F)	0: All Day (12am-12am)	139	588	2785	24
Personal	CR8_east_leg	CR11_south_leg	1: Weekday (M-F)	1: 6am (6am-7am)	2	38	37	15
Personal	CR8_east_leg	CR11_south_leg	1: Weekday (M-F)	2: 7am (7am-8am)	4	99	66	21
Personal	CR8_east_leg	CR11_south_leg	1: Weekday (M-F)	3: 8am (8am-9am)	11	23	140	27
Personal	CR8_east_leg	CR11_south_leg	1: Weekday (M-F)	4: 9am (9am-10am)	9	36	121	13
Personal	CR8_east_leg	CR11_south_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	18	54	296	24
Personal	CR8_east_leg	CR11_south_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	6	47	340	14
Personal	CR8_east_leg	CR11_south_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	11	49	349	21
Personal	CR8_east_leg	CR11_south_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	6	26	169	20
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	0: All Day (12am-12am)	320	548	943	23
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	1: 6am (6am-7am)	14	28	20	14
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	2: 7am (7am-8am)	61	70	83	24
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	3: 8am (8am-9am)	6	19	34	26
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	4: 9am (9am-10am)	15	32	47	21
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	28	47	87	21
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	30	39	107	24
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	39	49	99	22
Personal	CR8_east_leg	CR8_west_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	19	27	49	24
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	0: All Day (12am-12am)	354	588	1027	23
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	1: 6am (6am-7am)	19	38	28	14
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	2: 7am (7am-8am)	87	99	114	24
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	3: 8am (8am-9am)	9	23	43	26
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	4: 9am (9am-10am)	18	36	57	22
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	29	54	90	18
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	35	47	120	24
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	36	49	106	20
Personal	CR8_east_leg	CR8_west_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	16	26	50	26
Personal	CR8_west_leg	CR11_north_leg	0: All Days (M-Su)	0: All Day (12am-12am)	301	896	2437	15
Personal	CR8_west_leg	CR11_north_leg	0: All Days (M-Su)	1: 6am (6am-7am)	36	50	179	18
Personal	CR8_west_leg	CR11_north_leg	0: All Days (M-Su)	2: 7am (7am-8am)	25	62	208	15
Personal	CR8_west_leg	CR11_north_leg	0: All Days (M-Su)	3: 8am (8am-9am)	26	54	191	16
Personal	CR8_west_leg	CR11_north_leg	0: All Days (M-Su)	4: 9am (9am-10am)	21	51	161	10
Personal	CR8_west_leg	CR11_north_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	23	71	153	11
Personal	CR8_west_leg	CR11_north_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	18	79	159	11
Personal	CR8_west_leg	CR11_north_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	14	80	174	12
Personal	CR8_west_leg	CR11_north_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	9	44	114	14
Personal	CR8_west_leg	CR11_north_leg	1: Weekday (M-F)	0: All Day (12am-12am)	313	988	2547	15
Personal	CR8_west_leg	CR11_north_leg	1: Weekday (M-F)	1: 6am (6am-7am)	47	67	235	18
Personal	CR8_west_leg	CR11_north_leg	1: Weekday (M-F)	2: 7am (7am-8am)	34	87	281	15
Personal	CR8_west_leg	CR11_north_leg	1: Weekday (M-F)	3: 8am (8am-9am)	29	58	238	16
Personal	CR8_west_leg	CR11_north_leg	1: Weekday (M-F)	4: 9am (9am-10am)	25	61	164	10
Personal	CR8_west_leg	CR11_north_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	26	85	135	12
Personal	CR8_west_leg	CR11_north_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	23	96	169	12
Personal	CR8_west_leg	CR11_north_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	13	91	170	14
Personal	CR8_west_leg	CR11_north_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	10	52	111	19
Personal	CR8_west_leg	CR11_south_leg	0: All Days (M-Su)	0: All Day (12am-12am)	203	896	2622	16

Personal	CR8_west_leg	CR11_south_leg	0: All Days (M-Su)	2: 7am (7am-8am)	4	62	56	19
Personal	CR8_west_leg	CR11_south_leg	0: All Days (M-Su)	3: 8am (8am-9am)	5	54	110	15
Personal	CR8_west_leg	CR11_south_leg	0: All Days (M-Su)	4: 9am (9am-10am)	12	51	111	14
Personal	CR8_west_leg	CR11_south_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	23	71	261	14
Personal	CR8_west_leg	CR11_south_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	18	79	304	12
Personal	CR8_west_leg	CR11_south_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	24	80	290	12
Personal	CR8_west_leg	CR11_south_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	12	44	171	62
Personal	CR8_west_leg	CR11_south_leg	1: Weekday (M-F)	0: All Day (12am-12am)	228	988	2785	12
Personal	CR8_west_leg	CR11_south_leg	1: Weekday (M-F)	2: 7am (7am-8am)	5	87	66	19
Personal	CR8_west_leg	CR11_south_leg	1: Weekday (M-F)	3: 8am (8am-9am)	5	58	140	15
Personal	CR8_west_leg	CR11_south_leg	1: Weekday (M-F)	4: 9am (9am-10am)	16	61	121	15
Personal	CR8_west_leg	CR11_south_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	30	85	296	13
Personal	CR8_west_leg	CR11_south_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	19	96	340	13
Personal	CR8_west_leg	CR11_south_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	20	91	349	12
Personal	CR8_west_leg	CR11_south_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	15	52	169	11
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	0: All Day (12am-12am)	363	896	590	25
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	1: 6am (6am-7am)	14	50	15	25
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	2: 7am (7am-8am)	32	62	52	26
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	3: 8am (8am-9am)	18	54	33	27
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	4: 9am (9am-10am)	16	51	32	23
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	23	71	36	26
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	41	79	84	19
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	38	80	58	27
Personal	CR8_west_leg	CR8_east_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	19	44	32	23
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	0: All Day (12am-12am)	418	988	662	25
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	1: 6am (6am-7am)	20	67	21	25
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	2: 7am (7am-8am)	45	87	71	26
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	3: 8am (8am-9am)	19	58	36	29
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	4: 9am (9am-10am)	18	61	34	21
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	29	85	39	27
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	52	96	105	19
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	52	91	74	26
Personal	CR8_west_leg	CR8_east_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	22	52	35	24

County Road 18 and County Road 9

Type of Travel	Origin Zone Name	Destination Zone Name	Day Type	Day Part	Average Daily O-D Traffic (Calibrated Index)	Average Daily Origin Zone Traffic (Calibrated Index)	Average Daily Destination Zone Traffic (Calibrated Index)	Avg Trip Duration (sec)
Personal	CR18_east_leg	CR18_west_leg	0: All Days (M-Su)	0: All Day (12am-12am)	535	716	964	47
Personal	CR18_east_leg	CR18_west_leg	0: All Days (M-Su)	1: 6am (6am-7am)	6	10	7	45
Personal	CR18_east_leg	CR18_west_leg	0: All Days (M-Su)	2: 7am (7am-8am)	8	15	34	38
Personal	CR18_east_leg	CR18_west_leg	0: All Days (M-Su)	3: 8am (8am-9am)	33	47	69	45
Personal	CR18_east_leg	CR18_west_leg	0: All Days (M-Su)	4: 9am (9am-10am)	23	30	35	42
Personal	CR18_east_leg	CR18_west_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	54	80	93	47
Personal	CR18_east_leg	CR18_west_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	55	83	89	47
Personal	CR18_east_leg	CR18_west_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	50	62	82	46
Personal	CR18_east_leg	CR18_west_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	48	57	70	48
Personal	CR18_east_leg	CR18_west_leg	1: Weekday (M-F)	0: All Day (12am-12am)	537	739	964	47
Personal	CR18_east_leg	CR18_west_leg	1: Weekday (M-F)	1: 6am (6am-7am)	8	14	8	45
Personal	CR18_east_leg	CR18_west_leg	1: Weekday (M-F)	2: 7am (7am-8am)	8	18	37	40
Personal	CR18_east_leg	CR18_west_leg	1: Weekday (M-F)	3: 8am (8am-9am)	45	55	90	46
Personal	CR18_east_leg	CR18_west_leg	1: Weekday (M-F)	4: 9am (9am-10am)	24	31	38	45
Personal	CR18_east_leg	CR18_west_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	36	62	78	43
Personal	CR18_east_leg	CR18_west_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	59	94	99	48
Personal	CR18_east_leg	CR18_west_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	55	70	92	44
Personal	CR18_east_leg	CR18_west_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	48	61	72	48
Personal	CR18_east_leg	CR9_north_leg	0: All Days (M-Su)	0: All Day (12am-12am)	121	716	1024	32
Personal	CR18_east_leg	CR9_north_leg	0: All Days (M-Su)	1: 6am (6am-7am)	5	10	53	33
Personal	CR18_east_leg	CR9_north_leg	0: All Days (M-Su)	2: 7am (7am-8am)	6	15	104	21
Personal	CR18_east_leg	CR9_north_leg	0: All Days (M-Su)	3: 8am (8am-9am)	14	47	51	23
Personal	CR18_east_leg	CR9_north_leg	0: All Days (M-Su)	4: 9am (9am-10am)	3	30	52	23
Personal	CR18_east_leg	CR9_north_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	18	80	94	29
Personal	CR18_east_leg	CR9_north_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	11	83	72	32
Personal	CR18_east_leg	CR9_north_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	10	62	83	27
Personal	CR18_east_leg	CR9_north_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	6	57	42	36
Personal	CR18_east_leg	CR9_north_leg	1: Weekday (M-F)	0: All Day (12am-12am)	141	739	1058	29
Personal	CR18_east_leg	CR9_north_leg	1: Weekday (M-F)	1: 6am (6am-7am)	7	14	69	33
Personal	CR18_east_leg	CR9_north_leg	1: Weekday (M-F)	2: 7am (7am-8am)	9	18	143	21
Personal	CR18_east_leg	CR9_north_leg	1: Weekday (M-F)	3: 8am (8am-9am)	11	55	54	22
Personal	CR18_east_leg	CR9_north_leg	1: Weekday (M-F)	4: 9am (9am-10am)	4	31	48	23
Personal	CR18_east_leg	CR9_north_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	21	62	93	29
Personal	CR18_east_leg	CR9_north_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	13	94	79	34
Personal	CR18_east_leg	CR9_north_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	13	70	88	29
Personal	CR18_east_leg	CR9_north_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	8	61	37	33
Personal	CR18_east_leg	CR9_south_leg	0: All Days (M-Su)	0: All Day (12am-12am)	53	716	895	29
Personal	CR18_east_leg	CR9_south_leg	0: All Days (M-Su)	2: 7am (7am-8am)	1	15	17	22
Personal	CR18_east_leg	CR9_south_leg	0: All Days (M-Su)	3: 8am (8am-9am)	1	47	30	47
Personal	CR18_east_leg	CR9_south_leg	0: All Days (M-Su)	4: 9am (9am-10am)	3	30	40	42
Personal	CR18_east_leg	CR9_south_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	7	80	84	21
Personal	CR18_east_leg	CR9_south_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	11	83	115	18
Personal	CR18_east_leg	CR9_south_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	2	62	79	38
Personal	CR18_east_leg	CR9_south_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	3	57	73	28
Personal	CR18_east_leg	CR9_south_leg	1: Weekday (M-F)	0: All Day (12am-12am)	54	739	875	27
Personal	CR18_east_leg	CR9_south_leg	1: Weekday (M-F)	2: 7am (7am-8am)	1	18	24	22
Personal	CR18_east_leg	CR9_south_leg	1: Weekday (M-F)	4: 9am (9am-10am)	2	31	43	34
Personal	CR18_east_leg	CR9_south_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	5	62	84	24
Personal	CR18_east_leg	CR9_south_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	15	94	116	19
Personal	CR18_east_leg	CR9_south_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	2	70	80	29
Personal	CR18_east_leg	CR9_south_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	5	61	84	28
Personal	CR18_west_leg	CR18_east_leg	0: All Days (M-Su)	0: All Day (12am-12am)	501	937	680	46
Personal	CR18_west_leg	CR18_east_leg	0: All Days (M-Su)	1: 6am (6am-7am)	10	32	19	35
Personal	CR18_west_leg	CR18_east_leg	0: All Days (M-Su)	2: 7am (7am-8am)	30	59	37	54
Personal	CR18_west_leg	CR18_east_leg	0: All Days (M-Su)	3: 8am (8am-9am)	19	39	23	43
Personal	CR18_west_leg	CR18_east_leg	0: All Days (M-Su)	4: 9am (9am-10am)	33	52	41	45
Personal	CR18_west_leg	CR18_east_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	35	71	48	48
Personal	CR18_west_leg	CR18_east_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	30	62	50	47
Personal	CR18_west_leg	CR18_east_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	36	78	69	44
Personal	CR18_west_leg	CR18_east_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	28	51	40	47
Personal	CR18_west_leg	CR18_east_leg	1: Weekday (M-F)	0: All Day (12am-12am)	457	926	648	46
Personal	CR18_west_leg	CR18_east_leg	1: Weekday (M-F)	1: 6am (6am-7am)	11	39	22	32
Personal	CR18_west_leg	CR18_east_leg	1: Weekday (M-F)	2: 7am (7am-8am)	40	78	50	55
Personal	CR18_west_leg	CR18_east_leg	1: Weekday (M-F)	3: 8am (8am-9am)	17	36	22	43
Personal	CR18_west_leg	CR18_east_leg	1: Weekday (M-F)	4: 9am (9am-10am)	32	49	37	45
Personal	CR18_west_leg	CR18_east_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	29	66	44	49
Personal	CR18_west_leg	CR18_east_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	23	63	46	45
Personal	CR18_west_leg	CR18_east_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	39	81	82	41
Personal	CR18_west_leg	CR18_east_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	23	46	34	49
Personal	CR18_west_leg	CR9_north_leg	0: All Days (M-Su)	0: All Day (12am-12am)	268	937	1024	50
Personal	CR18_west_leg	CR9_north_leg	0: All Days (M-Su)	1: 6am (6am-7am)	19	32	53	56
Personal	CR18_west_leg	CR9_north_leg	0: All Days (M-Su)	2: 7am (7am-8am)	15	59	104	54
Personal	CR18_west_leg	CR9_north_leg	0: All Days (M-Su)	3: 8am (8am-9am)	11	39	51	53
Personal	CR18_west_leg	CR9_north_leg	0: All Days (M-Su)	4: 9am (9am-10am)	13	52	52	60
Personal	CR18_west_leg	CR9_north_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	12	71	94	68
Personal	CR18_west_leg	CR9_north_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	16	62	72	53
Personal	CR18_west_leg	CR9_north_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	27	78	83	50
Personal	CR18_west_leg	CR9_north_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	13	51	42	49
Personal	CR18_west_leg	CR9_north_leg	1: Weekday (M-F)	0: All Day (12am-12am)	284	926	1058	50
Personal	CR18_west_leg	CR9_north_leg	1: Weekday (M-F)	1: 6am (6am-7am)	25	39	69	57
Personal	CR18_west_leg	CR9_north_leg	1: Weekday (M-F)	2: 7am (7am-8am)	17	78	143	52
Personal	CR18_west_leg	CR9_north_leg	1: Weekday (M-F)	3: 8am (8am-9am)	9	36	54	66
Personal	CR18_west_leg	CR9_north_leg	1: Weekday (M-F)	4: 9am (9am-10am)	11	49	48	54
Personal	CR18_west_leg	CR9_north_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	9	66	93	66
Personal	CR18_west_leg	CR9_north_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	21	63	79	53
Personal	CR18_west_leg	CR9_north_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	31	81	88	50
Personal	CR18_west_leg	CR9_north_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	12	46	37	51

Personal	CR18_west_leg	CR9_south_leg	0: All Days (M-Su)	0: All Day (12am-12am)	143	937	895	43
Personal	CR18_west_leg	CR9_south_leg	0: All Days (M-Su)	1: 6am (6am-7am)	1	32	7	33
Personal	CR18_west_leg	CR9_south_leg	0: All Days (M-Su)	2: 7am (7am-8am)	15	59	17	42
Personal	CR18_west_leg	CR9_south_leg	0: All Days (M-Su)	3: 8am (8am-9am)	7	39	30	37
Personal	CR18_west_leg	CR9_south_leg	0: All Days (M-Su)	4: 9am (9am-10am)	5	52	40	36
Personal	CR18_west_leg	CR9_south_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	23	71	84	43
Personal	CR18_west_leg	CR9_south_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	11	62	115	40
Personal	CR18_west_leg	CR9_south_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	13	78	79	36
Personal	CR18_west_leg	CR9_south_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	9	51	73	44
Personal	CR18_west_leg	CR9_south_leg	1: Weekday (M-F)	0: All Day (12am-12am)	158	926	875	43
Personal	CR18_west_leg	CR9_south_leg	1: Weekday (M-F)	1: 6am (6am-7am)	2	39	7	33
Personal	CR18_west_leg	CR9_south_leg	1: Weekday (M-F)	2: 7am (7am-8am)	21	78	24	42
Personal	CR18_west_leg	CR9_south_leg	1: Weekday (M-F)	3: 8am (8am-9am)	8	36	33	36
Personal	CR18_west_leg	CR9_south_leg	1: Weekday (M-F)	4: 9am (9am-10am)	5	49	43	35
Personal	CR18_west_leg	CR9_south_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	28	66	84	43
Personal	CR18_west_leg	CR9_south_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	13	63	116	42
Personal	CR18_west_leg	CR9_south_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	8	81	80	43
Personal	CR18_west_leg	CR9_south_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	10	46	84	43
Personal	CR9_north_leg	CR18_east_leg	0: All Days (M-Su)	0: All Day (12am-12am)	135	1135	680	36
Personal	CR9_north_leg	CR18_east_leg	0: All Days (M-Su)	1: 6am (6am-7am)	5	12	19	55
Personal	CR9_north_leg	CR18_east_leg	0: All Days (M-Su)	2: 7am (7am-8am)	5	26	37	31
Personal	CR9_north_leg	CR18_east_leg	0: All Days (M-Su)	3: 8am (8am-9am)	4	46	23	40
Personal	CR9_north_leg	CR18_east_leg	0: All Days (M-Su)	4: 9am (9am-10am)	5	48	41	29
Personal	CR9_north_leg	CR18_east_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	11	91	48	30
Personal	CR9_north_leg	CR18_east_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	11	126	50	28
Personal	CR9_north_leg	CR18_east_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	29	119	69	37
Personal	CR9_north_leg	CR18_east_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	10	88	40	35
Personal	CR9_north_leg	CR18_east_leg	1: Weekday (M-F)	0: All Day (12am-12am)	152	1116	648	37
Personal	CR9_north_leg	CR18_east_leg	1: Weekday (M-F)	1: 6am (6am-7am)	5	10	22	46
Personal	CR9_north_leg	CR18_east_leg	1: Weekday (M-F)	2: 7am (7am-8am)	8	31	50	31
Personal	CR9_north_leg	CR18_east_leg	1: Weekday (M-F)	3: 8am (8am-9am)	5	55	22	40
Personal	CR9_north_leg	CR18_east_leg	1: Weekday (M-F)	4: 9am (9am-10am)	3	55	37	34
Personal	CR9_north_leg	CR18_east_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	14	97	44	30
Personal	CR9_north_leg	CR18_east_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	16	126	46	28
Personal	CR9_north_leg	CR18_east_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	39	137	82	36
Personal	CR9_north_leg	CR18_east_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	11	101	34	35
Personal	CR9_north_leg	CR18_west_leg	0: All Days (M-Su)	0: All Day (12am-12am)	295	1135	964	40
Personal	CR9_north_leg	CR18_west_leg	0: All Days (M-Su)	1: 6am (6am-7am)	1	12	7	33
Personal	CR9_north_leg	CR18_west_leg	0: All Days (M-Su)	2: 7am (7am-8am)	14	26	34	28
Personal	CR9_north_leg	CR18_west_leg	0: All Days (M-Su)	3: 8am (8am-9am)	25	46	69	43
Personal	CR9_north_leg	CR18_west_leg	0: All Days (M-Su)	4: 9am (9am-10am)	12	48	35	39
Personal	CR9_north_leg	CR18_west_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	28	91	93	40
Personal	CR9_north_leg	CR18_west_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	14	126	89	37
Personal	CR9_north_leg	CR18_west_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	27	119	82	37
Personal	CR9_north_leg	CR18_west_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	16	88	70	35
Personal	CR9_north_leg	CR18_west_leg	1: Weekday (M-F)	0: All Day (12am-12am)	299	1116	964	41
Personal	CR9_north_leg	CR18_west_leg	1: Weekday (M-F)	2: 7am (7am-8am)	17	31	37	26
Personal	CR9_north_leg	CR18_west_leg	1: Weekday (M-F)	3: 8am (8am-9am)	30	55	90	44
Personal	CR9_north_leg	CR18_west_leg	1: Weekday (M-F)	4: 9am (9am-10am)	15	55	38	39
Personal	CR9_north_leg	CR18_west_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	30	97	78	41
Personal	CR9_north_leg	CR18_west_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	14	126	99	36
Personal	CR9_north_leg	CR18_west_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	30	137	92	36
Personal	CR9_north_leg	CR18_west_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	18	101	72	35
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	0: All Day (12am-12am)	678	1135	895	33
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	1: 6am (6am-7am)	6	12	7	26
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	2: 7am (7am-8am)	5	26	17	34
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	3: 8am (8am-9am)	19	46	30	42
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	4: 9am (9am-10am)	32	48	40	33
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	50	91	84	32
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	93	126	115	33
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	61	119	79	32
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	61	88	73	33
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	0: All Day (12am-12am)	640	1116	875	33
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	1: 6am (6am-7am)	5	10	7	26
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	2: 7am (7am-8am)	5	31	24	38
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	3: 8am (8am-9am)	21	55	33	46
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	4: 9am (9am-10am)	37	55	43	34
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	51	97	84	32
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	87	126	116	34
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	66	137	80	32
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	70	101	84	33
Personal	CR9_south_leg	CR18_east_leg	0: All Days (M-Su)	0: All Day (12am-12am)	43	774	680	28
Personal	CR9_south_leg	CR18_east_leg	0: All Days (M-Su)	1: 6am (6am-7am)	5	32	19	29
Personal	CR9_south_leg	CR18_east_leg	0: All Days (M-Su)	2: 7am (7am-8am)	4	93	37	11
Personal	CR9_south_leg	CR18_east_leg	0: All Days (M-Su)	4: 9am (9am-10am)	4	40	41	34
Personal	CR9_south_leg	CR18_east_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	2	76	48	33
Personal	CR9_south_leg	CR18_east_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	8	73	50	30
Personal	CR9_south_leg	CR18_east_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	1	43	69	43
Personal	CR9_south_leg	CR18_east_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	3	29	40	32
Personal	CR9_south_leg	CR18_east_leg	1: Weekday (M-F)	0: All Day (12am-12am)	41	761	648	27
Personal	CR9_south_leg	CR18_east_leg	1: Weekday (M-F)	1: 6am (6am-7am)	7	43	22	29
Personal	CR9_south_leg	CR18_east_leg	1: Weekday (M-F)	2: 7am (7am-8am)	6	128	50	11
Personal	CR9_south_leg	CR18_east_leg	1: Weekday (M-F)	4: 9am (9am-10am)	4	35	37	37
Personal	CR9_south_leg	CR18_east_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	2	75	44	37
Personal	CR9_south_leg	CR18_east_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	6	77	46	27
Personal	CR9_south_leg	CR18_east_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	2	38	82	43
Personal	CR9_south_leg	CR18_east_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	1	23	34	36
Personal	CR9_south_leg	CR18_west_leg	0: All Days (M-Su)	0: All Day (12am-12am)	111	774	964	59
Personal	CR9_south_leg	CR18_west_leg	0: All Days (M-Su)	2: 7am (7am-8am)	10	93	34	51
Personal	CR9_south_leg	CR18_west_leg	0: All Days (M-Su)	3: 8am (8am-9am)	9	37	69	135
Personal	CR9_south_leg	CR18_west_leg	0: All Days (M-Su)	4: 9am (9am-10am)	2	40	35	338

Personal	CR9_south_leg	CR18_west_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	10	76	93	51
Personal	CR9_south_leg	CR18_west_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	18	73	89	38
Personal	CR9_south_leg	CR18_west_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	5	43	82	49
Personal	CR9_south_leg	CR18_west_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	3	29	70	56
Personal	CR9_south_leg	CR18_west_leg	1: Weekday (M-F)	0: All Day (12am-12am)	106	761	964	56
Personal	CR9_south_leg	CR18_west_leg	1: Weekday (M-F)	2: 7am (7am-8am)	11	128	37	49
Personal	CR9_south_leg	CR18_west_leg	1: Weekday (M-F)	3: 8am (8am-9am)	11	47	90	156
Personal	CR9_south_leg	CR18_west_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	10	75	78	59
Personal	CR9_south_leg	CR18_west_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	22	77	99	38
Personal	CR9_south_leg	CR18_west_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	4	38	92	49
Personal	CR9_south_leg	CR18_west_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	2	23	72	42
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	0: All Day (12am-12am)	609	774	1024	32
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	1: 6am (6am-7am)	27	32	53	29
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	2: 7am (7am-8am)	78	93	104	34
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	3: 8am (8am-9am)	28	37	51	32
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	4: 9am (9am-10am)	34	40	52	30
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	62	76	94	31
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	47	73	72	34
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	36	43	83	34
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	23	29	42	29
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	0: All Day (12am-12am)	606	761	1058	32
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	1: 6am (6am-7am)	36	43	69	30
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	2: 7am (7am-8am)	111	128	143	34
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	3: 8am (8am-9am)	36	47	54	31
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	4: 9am (9am-10am)	30	35	48	30
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	61	75	93	31
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	49	77	79	34
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	32	38	88	35
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	20	23	37	28

County Road 10 and County Road 9

Type of Travel	Origin Zone Name	Destination Zone Name	Day Type	Day Part	Average Daily O-D Traffic (Calibrated Index)	Average Daily Origin Zone Traffic (Calibrated Index)	Average Daily Destination Zone Traffic (Calibrated Index)	Avg Trip Duration (sec)
Personal	CR10_east_leg	CR10_west_leg	0: All Days (M-Su)	0: All Day (12am-12am)	333	681	744	12
Personal	CR10_east_leg	CR10_west_leg	0: All Days (M-Su)	1: 6am (6am-7am)	13	28	14	13
Personal	CR10_east_leg	CR10_west_leg	0: All Days (M-Su)	2: 7am (7am-8am)	23	45	44	15
Personal	CR10_east_leg	CR10_west_leg	0: All Days (M-Su)	3: 8am (8am-9am)	9	32	32	9
Personal	CR10_east_leg	CR10_west_leg	0: All Days (M-Su)	4: 9am (9am-10am)	10	33	25	10
Personal	CR10_east_leg	CR10_west_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	27	61	58	12
Personal	CR10_east_leg	CR10_west_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	34	64	92	13
Personal	CR10_east_leg	CR10_west_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	57	83	111	12
Personal	CR10_east_leg	CR10_west_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	17	36	43	16
Personal	CR10_east_leg	CR10_west_leg	1: Weekday (M-F)	0: All Day (12am-12am)	329	662	745	13
Personal	CR10_east_leg	CR10_west_leg	1: Weekday (M-F)	1: 6am (6am-7am)	18	36	19	14
Personal	CR10_east_leg	CR10_west_leg	1: Weekday (M-F)	2: 7am (7am-8am)	29	50	57	16
Personal	CR10_east_leg	CR10_west_leg	1: Weekday (M-F)	3: 8am (8am-9am)	9	31	37	10
Personal	CR10_east_leg	CR10_west_leg	1: Weekday (M-F)	4: 9am (9am-10am)	13	27	28	10
Personal	CR10_east_leg	CR10_west_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	11	45	33	14
Personal	CR10_east_leg	CR10_west_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	38	72	103	14
Personal	CR10_east_leg	CR10_west_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	73	101	134	12
Personal	CR10_east_leg	CR10_west_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	20	32	45	17
Personal	CR10_east_leg	CR9_north_leg	0: All Days (M-Su)	0: All Day (12am-12am)	270	681	1974	22
Personal	CR10_east_leg	CR9_north_leg	0: All Days (M-Su)	1: 6am (6am-7am)	14	28	101	20
Personal	CR10_east_leg	CR9_north_leg	0: All Days (M-Su)	2: 7am (7am-8am)	19	45	205	8
Personal	CR10_east_leg	CR9_north_leg	0: All Days (M-Su)	3: 8am (8am-9am)	21	32	137	38
Personal	CR10_east_leg	CR9_north_leg	0: All Days (M-Su)	4: 9am (9am-10am)	16	33	115	12
Personal	CR10_east_leg	CR9_north_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	30	61	149	16
Personal	CR10_east_leg	CR9_north_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	22	64	160	17
Personal	CR10_east_leg	CR9_north_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	22	83	149	16
Personal	CR10_east_leg	CR9_north_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	14	36	96	6
Personal	CR10_east_leg	CR9_north_leg	1: Weekday (M-F)	0: All Day (12am-12am)	254	662	2035	23
Personal	CR10_east_leg	CR9_north_leg	1: Weekday (M-F)	1: 6am (6am-7am)	17	36	131	20
Personal	CR10_east_leg	CR9_north_leg	1: Weekday (M-F)	2: 7am (7am-8am)	18	50	266	8
Personal	CR10_east_leg	CR9_north_leg	1: Weekday (M-F)	3: 8am (8am-9am)	21	31	155	9
Personal	CR10_east_leg	CR9_north_leg	1: Weekday (M-F)	4: 9am (9am-10am)	7	27	111	14
Personal	CR10_east_leg	CR9_north_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	32	45	144	18
Personal	CR10_east_leg	CR9_north_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	23	72	187	20
Personal	CR10_east_leg	CR9_north_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	22	101	166	19
Personal	CR10_east_leg	CR9_north_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	8	32	93	9
Personal	CR10_east_leg	CR9_south_leg	0: All Days (M-Su)	0: All Day (12am-12am)	52	681	1557	10
Personal	CR10_east_leg	CR9_south_leg	0: All Days (M-Su)	2: 7am (7am-8am)	1	45	37	8
Personal	CR10_east_leg	CR9_south_leg	0: All Days (M-Su)	3: 8am (8am-9am)	1	32	65	8
Personal	CR10_east_leg	CR9_south_leg	0: All Days (M-Su)	4: 9am (9am-10am)	4	33	65	8
Personal	CR10_east_leg	CR9_south_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	2	61	143	19
Personal	CR10_east_leg	CR9_south_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	5	64	161	10
Personal	CR10_east_leg	CR9_south_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	1	83	163	8
Personal	CR10_east_leg	CR9_south_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	3	36	100	13
Personal	CR10_east_leg	CR9_south_leg	1: Weekday (M-F)	0: All Day (12am-12am)	51	662	1591	10
Personal	CR10_east_leg	CR9_south_leg	1: Weekday (M-F)	2: 7am (7am-8am)	1	50	49	8
Personal	CR10_east_leg	CR9_south_leg	1: Weekday (M-F)	4: 9am (9am-10am)	6	27	75	8
Personal	CR10_east_leg	CR9_south_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	7	72	175	10
Personal	CR10_east_leg	CR9_south_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	1	101	188	8
Personal	CR10_east_leg	CR9_south_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	3	32	101	7
Personal	CR10_west_leg	CR10_east_leg	0: All Days (M-Su)	0: All Day (12am-12am)	358	805	766	12
Personal	CR10_west_leg	CR10_east_leg	0: All Days (M-Su)	1: 6am (6am-7am)	24	46	30	14
Personal	CR10_west_leg	CR10_east_leg	0: All Days (M-Su)	2: 7am (7am-8am)	10	47	25	13
Personal	CR10_west_leg	CR10_east_leg	0: All Days (M-Su)	3: 8am (8am-9am)	71	113	85	14
Personal	CR10_west_leg	CR10_east_leg	0: All Days (M-Su)	4: 9am (9am-10am)	16	44	33	11
Personal	CR10_west_leg	CR10_east_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	24	60	61	10
Personal	CR10_west_leg	CR10_east_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	23	70	60	13
Personal	CR10_west_leg	CR10_east_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	30	60	68	15
Personal	CR10_west_leg	CR10_east_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	24	52	53	12
Personal	CR10_west_leg	CR10_east_leg	1: Weekday (M-F)	0: All Day (12am-12am)	388	854	804	12
Personal	CR10_west_leg	CR10_east_leg	1: Weekday (M-F)	1: 6am (6am-7am)	34	64	37	14
Personal	CR10_west_leg	CR10_east_leg	1: Weekday (M-F)	2: 7am (7am-8am)	14	66	28	13
Personal	CR10_west_leg	CR10_east_leg	1: Weekday (M-F)	3: 8am (8am-9am)	98	149	111	14
Personal	CR10_west_leg	CR10_east_leg	1: Weekday (M-F)	4: 9am (9am-10am)	14	42	28	11
Personal	CR10_west_leg	CR10_east_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	29	60	67	9
Personal	CR10_west_leg	CR10_east_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	24	80	58	12
Personal	CR10_west_leg	CR10_east_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	35	69	80	15
Personal	CR10_west_leg	CR10_east_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	26	62	60	12
Personal	CR10_west_leg	CR9_north_leg	0: All Days (M-Su)	0: All Day (12am-12am)	381	805	1974	13
Personal	CR10_west_leg	CR9_north_leg	0: All Days (M-Su)	1: 6am (6am-7am)	22	46	101	9
Personal	CR10_west_leg	CR9_north_leg	0: All Days (M-Su)	2: 7am (7am-8am)	40	47	205	18
Personal	CR10_west_leg	CR9_north_leg	0: All Days (M-Su)	3: 8am (8am-9am)	42	113	137	10
Personal	CR10_west_leg	CR9_north_leg	0: All Days (M-Su)	4: 9am (9am-10am)	19	44	115	11
Personal	CR10_west_leg	CR9_north_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	30	60	149	15
Personal	CR10_west_leg	CR9_north_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	43	70	160	14
Personal	CR10_west_leg	CR9_north_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	22	60	149	16
Personal	CR10_west_leg	CR9_north_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	24	52	96	14
Personal	CR10_west_leg	CR9_north_leg	1: Weekday (M-F)	0: All Day (12am-12am)	409	854	2035	13
Personal	CR10_west_leg	CR9_north_leg	1: Weekday (M-F)	1: 6am (6am-7am)	30	64	131	9
Personal	CR10_west_leg	CR9_north_leg	1: Weekday (M-F)	2: 7am (7am-8am)	55	66	266	17
Personal	CR10_west_leg	CR9_north_leg	1: Weekday (M-F)	3: 8am (8am-9am)	51	149	155	11
Personal	CR10_west_leg	CR9_north_leg	1: Weekday (M-F)	4: 9am (9am-10am)	19	42	111	11
Personal	CR10_west_leg	CR9_north_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	26	60	144	14
Personal	CR10_west_leg	CR9_north_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	54	80	187	14
Personal	CR10_west_leg	CR9_north_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	24	69	166	16
Personal	CR10_west_leg	CR9_north_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	31	62	93	13
Personal	CR10_west_leg	CR9_south_leg	0: All Days (M-Su)	0: All Day (12am-12am)	65	805	1557	13

Personal	CR10_west_leg	CR9_south_leg	0: All Days (M-Su)	2: 7am (7am-8am)	2	47	37	N/A
Personal	CR10_west_leg	CR9_south_leg	0: All Days (M-Su)	3: 8am (8am-9am)	2	113	65	6
Personal	CR10_west_leg	CR9_south_leg	0: All Days (M-Su)	4: 9am (9am-10am)	6	44	65	9
Personal	CR10_west_leg	CR9_south_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	6	60	143	14
Personal	CR10_west_leg	CR9_south_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	4	70	161	9
Personal	CR10_west_leg	CR9_south_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	5	60	163	14
Personal	CR10_west_leg	CR9_south_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	8	52	100	11
Personal	CR10_west_leg	CR9_south_leg	1: Weekday (M-F)	0: All Day (12am-12am)	59	854	1591	11
Personal	CR10_west_leg	CR9_south_leg	1: Weekday (M-F)	2: 7am (7am-8am)	2	66	49	N/A
Personal	CR10_west_leg	CR9_south_leg	1: Weekday (M-F)	3: 8am (8am-9am)	3	149	80	6
Personal	CR10_west_leg	CR9_south_leg	1: Weekday (M-F)	4: 9am (9am-10am)	7	42	75	10
Personal	CR10_west_leg	CR9_south_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	5	60	148	14
Personal	CR10_west_leg	CR9_south_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	2	80	175	7
Personal	CR10_west_leg	CR9_south_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	4	69	188	5
Personal	CR10_west_leg	CR9_south_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	7	62	101	10
Personal	CR9_north_leg	CR10_east_leg	0: All Days (M-Su)	0: All Day (12am-12am)	284	2033	766	14
Personal	CR9_north_leg	CR10_east_leg	0: All Days (M-Su)	1: 6am (6am-7am)	3	24	30	1
Personal	CR9_north_leg	CR10_east_leg	0: All Days (M-Su)	2: 7am (7am-8am)	7	51	25	6
Personal	CR9_north_leg	CR10_east_leg	0: All Days (M-Su)	3: 8am (8am-9am)	13	91	85	16
Personal	CR9_north_leg	CR10_east_leg	0: All Days (M-Su)	4: 9am (9am-10am)	10	76	33	6
Personal	CR9_north_leg	CR10_east_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	27	180	61	10
Personal	CR9_north_leg	CR10_east_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	24	224	60	16
Personal	CR9_north_leg	CR10_east_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	29	224	68	10
Personal	CR9_north_leg	CR10_east_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	20	132	53	9
Personal	CR9_north_leg	CR10_east_leg	1: Weekday (M-F)	0: All Day (12am-12am)	290	2081	804	15
Personal	CR9_north_leg	CR10_east_leg	1: Weekday (M-F)	1: 6am (6am-7am)	1	24	37	0
Personal	CR9_north_leg	CR10_east_leg	1: Weekday (M-F)	2: 7am (7am-8am)	8	63	28	8
Personal	CR9_north_leg	CR10_east_leg	1: Weekday (M-F)	3: 8am (8am-9am)	12	107	111	8
Personal	CR9_north_leg	CR10_east_leg	1: Weekday (M-F)	4: 9am (9am-10am)	10	81	28	7
Personal	CR9_north_leg	CR10_east_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	25	180	67	10
Personal	CR9_north_leg	CR10_east_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	25	242	58	16
Personal	CR9_north_leg	CR10_east_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	36	263	80	10
Personal	CR9_north_leg	CR10_east_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	24	139	60	9
Personal	CR9_north_leg	CR10_west_leg	0: All Days (M-Su)	0: All Day (12am-12am)	311	2033	744	8
Personal	CR9_north_leg	CR10_west_leg	0: All Days (M-Su)	1: 6am (6am-7am)	1	24	14	11
Personal	CR9_north_leg	CR10_west_leg	0: All Days (M-Su)	2: 7am (7am-8am)	10	51	44	6
Personal	CR9_north_leg	CR10_west_leg	0: All Days (M-Su)	3: 8am (8am-9am)	18	91	32	11
Personal	CR9_north_leg	CR10_west_leg	0: All Days (M-Su)	4: 9am (9am-10am)	13	76	25	8
Personal	CR9_north_leg	CR10_west_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	21	180	58	8
Personal	CR9_north_leg	CR10_west_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	46	224	92	7
Personal	CR9_north_leg	CR10_west_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	39	224	111	8
Personal	CR9_north_leg	CR10_west_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	21	132	43	8
Personal	CR9_north_leg	CR10_west_leg	1: Weekday (M-F)	0: All Day (12am-12am)	322	2081	745	8
Personal	CR9_north_leg	CR10_west_leg	1: Weekday (M-F)	1: 6am (6am-7am)	2	24	19	11
Personal	CR9_north_leg	CR10_west_leg	1: Weekday (M-F)	2: 7am (7am-8am)	11	63	57	6
Personal	CR9_north_leg	CR10_west_leg	1: Weekday (M-F)	3: 8am (8am-9am)	21	107	37	12
Personal	CR9_north_leg	CR10_west_leg	1: Weekday (M-F)	4: 9am (9am-10am)	11	81	28	8
Personal	CR9_north_leg	CR10_west_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	16	180	33	9
Personal	CR9_north_leg	CR10_west_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	50	242	103	7
Personal	CR9_north_leg	CR10_west_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	47	263	134	8
Personal	CR9_north_leg	CR10_west_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	22	139	45	8
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	0: All Day (12am-12am)	1414	2033	1557	9
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	1: 6am (6am-7am)	18	24	18	9
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	2: 7am (7am-8am)	36	51	37	9
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	3: 8am (8am-9am)	60	91	65	9
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	4: 9am (9am-10am)	53	76	65	9
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	132	180	143	9
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	145	224	161	9
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	155	224	163	9
Personal	CR9_north_leg	CR9_south_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	90	132	100	10
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	0: All Day (12am-12am)	1452	2081	1591	9
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	1: 6am (6am-7am)	21	24	21	9
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	2: 7am (7am-8am)	48	63	49	9
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	3: 8am (8am-9am)	74	107	80	9
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	4: 9am (9am-10am)	62	81	75	9
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	140	180	148	9
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	159	242	175	9
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	179	263	188	9
Personal	CR9_north_leg	CR9_south_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	92	139	101	9
Personal	CR9_south_leg	CR10_east_leg	0: All Days (M-Su)	0: All Day (12am-12am)	74	1423	766	9
Personal	CR9_south_leg	CR10_east_leg	0: All Days (M-Su)	1: 6am (6am-7am)	1	64	30	7
Personal	CR9_south_leg	CR10_east_leg	0: All Days (M-Su)	2: 7am (7am-8am)	8	162	25	6
Personal	CR9_south_leg	CR10_east_leg	0: All Days (M-Su)	4: 9am (9am-10am)	3	78	33	5
Personal	CR9_south_leg	CR10_east_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	9	104	61	12
Personal	CR9_south_leg	CR10_east_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	7	109	60	6
Personal	CR9_south_leg	CR10_east_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	7	120	68	6
Personal	CR9_south_leg	CR10_east_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	5	67	53	31
Personal	CR9_south_leg	CR10_east_leg	1: Weekday (M-F)	0: All Day (12am-12am)	80	1471	804	7
Personal	CR9_south_leg	CR10_east_leg	1: Weekday (M-F)	1: 6am (6am-7am)	2	83	37	7
Personal	CR9_south_leg	CR10_east_leg	1: Weekday (M-F)	2: 7am (7am-8am)	7	214	28	5
Personal	CR9_south_leg	CR10_east_leg	1: Weekday (M-F)	4: 9am (9am-10am)	3	82	28	4
Personal	CR9_south_leg	CR10_east_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	13	96	67	12
Personal	CR9_south_leg	CR10_east_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	4	125	58	5
Personal	CR9_south_leg	CR10_east_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	7	132	80	6
Personal	CR9_south_leg	CR10_east_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	5	65	60	6
Personal	CR9_south_leg	CR10_west_leg	0: All Days (M-Su)	0: All Day (12am-12am)	88	1423	744	11
Personal	CR9_south_leg	CR10_west_leg	0: All Days (M-Su)	2: 7am (7am-8am)	11	162	44	8
Personal	CR9_south_leg	CR10_west_leg	0: All Days (M-Su)	3: 8am (8am-9am)	5	78	32	7
Personal	CR9_south_leg	CR10_west_leg	0: All Days (M-Su)	4: 9am (9am-10am)	1	78	25	9
Personal	CR9_south_leg	CR10_west_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	10	104	58	10
Personal	CR9_south_leg	CR10_west_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	11	109	92	12

Personal	CR9_south_leg	CR10_west_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	13	120	111	19
Personal	CR9_south_leg	CR10_west_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	4	67	43	10
Personal	CR9_south_leg	CR10_west_leg	1: Weekday (M-F)	0: All Day (12am-12am)	85	1471	745	11
Personal	CR9_south_leg	CR10_west_leg	1: Weekday (M-F)	2: 7am (7am-8am)	15	214	57	8
Personal	CR9_south_leg	CR10_west_leg	1: Weekday (M-F)	3: 8am (8am-9am)	7	89	37	7
Personal	CR9_south_leg	CR10_west_leg	1: Weekday (M-F)	4: 9am (9am-10am)	2	82	28	9
Personal	CR9_south_leg	CR10_west_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	6	96	33	9
Personal	CR9_south_leg	CR10_west_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	15	125	103	12
Personal	CR9_south_leg	CR10_west_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	12	132	134	25
Personal	CR9_south_leg	CR10_west_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	4	65	45	7
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	0: All Day (12am-12am)	1260	1423	1974	9
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	1: 6am (6am-7am)	63	64	101	9
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	2: 7am (7am-8am)	145	162	205	9
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	3: 8am (8am-9am)	73	78	137	12
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	4: 9am (9am-10am)	75	78	115	9
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	5: 3pm (3pm-4pm)	86	104	149	8
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	6: 4pm (4pm-5pm)	90	109	160	9
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	7: 5pm (5pm-6pm)	102	120	149	9
Personal	CR9_south_leg	CR9_north_leg	0: All Days (M-Su)	8: 6pm (6pm-7pm)	56	67	96	8
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	0: All Day (12am-12am)	1312	1471	2035	9
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	1: 6am (6am-7am)	81	83	131	9
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	2: 7am (7am-8am)	193	214	266	9
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	3: 8am (8am-9am)	82	89	155	9
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	4: 9am (9am-10am)	78	82	111	9
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	5: 3pm (3pm-4pm)	79	96	144	8
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	6: 4pm (4pm-5pm)	106	125	187	9
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	7: 5pm (5pm-6pm)	117	132	166	10
Personal	CR9_south_leg	CR9_north_leg	1: Weekday (M-F)	8: 6pm (6pm-7pm)	55	65	93	8

Appendix C

Level of Service Definitions

LEVEL OF SERVICE[1]

Level of Service (LOS) is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. This concept was introduced in the 1965 *Highway Capacity Manual* as a criteria for interrupted flow conditions. The 2000 *Highway Capacity Manual* changed the basis for measuring Level of Service at intersections to control delay[2].

Six Levels of Service are defined with LOS A representing the best operating conditions, and LOS F the worst (briefly described below). It should be noted that there is often significant variability in the amount of delay experienced by individual drivers.

LOS A: This Level of Service describes the highest quality of traffic flow and is referred to as free flow. The approach appears open, turning movements are easily made and drivers have freedom of operation. Control delay is less than 10 seconds/vehicle.

LOS B: This Level of Service is referred to as a stable flow. Drivers feel somewhat restricted and occasionally may have to wait to complete the minor movement. Control delay is 10-15 seconds/vehicle for unsignalized intersections and 10-20 seconds/vehicle for signalized intersections.

LOS C: At this level, the operation is stable. Drivers feel more restricted and may have to wait, with queues developing for short periods. Control delay is 15-25 seconds/vehicle at unsignalized intersections and 20-35 seconds/vehicle at signalized intersections.

LOS D: At this level, traffic is approaching unstable flow. The motorist experiences increasing restriction and instability of flow. There are substantial delays to approaching vehicles during short peaks within the peak period, but there are enough gaps to lower demand to permit occasional clearance of developing queues and prevent excessive back-ups. Control delay is 25-35 seconds/vehicle at unsignalized intersections and 35-55 seconds/vehicle at signalized intersections.

LOS E: At this level capacity occurs. Long queues of vehicles exist and delays to vehicles may extend. Control delay is 35-50 seconds/vehicle at unsignalized intersections and 55-80 seconds/vehicle at signalized intersections.

LOS F: At this Level of Service, the intersection has failed. Capacity of the intersection has been exceeded. Control delay exceeds 50 seconds/vehicle at unsignalized intersections and exceeds 80 seconds/vehicle at signalized intersections.

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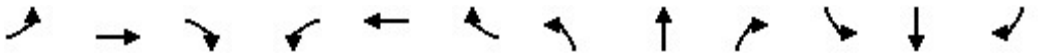
[1] *Transportation Research Board: Highway Capacity Manual 1965, 2000*

[2] *Control delay is defined as the component of delay that results when a control signal causes a lane group to reduce speed or to stop; it is measured by comparison with the uncontrolled condition.*

Appendix D

Synchro Analysis Worksheet

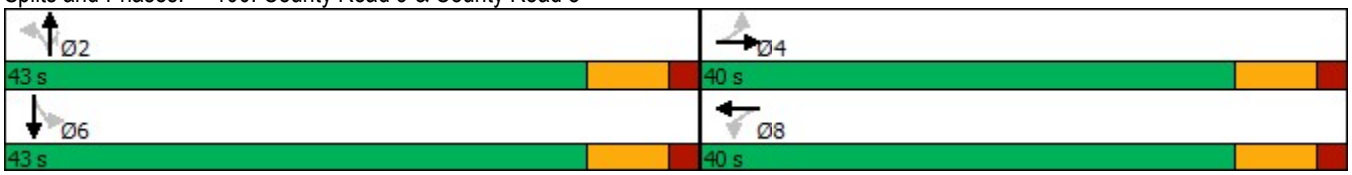


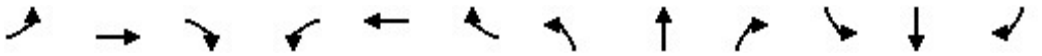
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	36	23	32	47	39	18	282	39	6	82	58
Future Volume (vph)	48	36	23	32	47	39	18	282	39	6	82	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		5.0	30.0		5.0	30.0		30.0	30.0		5.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		0.941			0.932				0.850		0.938	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1753	0	1770	1736	0	1770	1863	1583	1770	1747	0
Flt Permitted	0.697			0.715			0.660			0.573		
Satd. Flow (perm)	1298	1753	0	1332	1736	0	1229	1863	1583	1067	1747	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			42				53		54	
Link Speed (k/h)		50			80			80			80	
Link Distance (m)		288.0			2781.8			4852.6			543.4	
Travel Time (s)		20.7			125.2			218.4			24.5	
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
Adj. Flow (vph)	52	39	25	35	51	42	20	307	42	7	89	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	64	0	35	93	0	20	307	42	7	152	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		36.0	36.0	36.0	36.0	36.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		43.0	43.0	43.0	43.0	43.0	
Total Split (s)	40.0	40.0		40.0	40.0		43.0	43.0	43.0	43.0	43.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		51.8%	51.8%	51.8%	51.8%	51.8%	
Maximum Green (s)	33.0	33.0		33.0	33.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2	0.2	0.2	0.2	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Act Effct Green (s)	10.7	10.7		10.7	10.7		40.6	40.6	40.6	40.6	40.6	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.67	0.67	0.67	0.67	0.67	
v/c Ratio	0.23	0.19		0.15	0.27		0.02	0.24	0.04	0.01	0.13	
Control Delay	24.2	16.3		22.8	15.8		5.6	6.4	1.7	5.5	4.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.2	16.3		22.8	15.8		5.6	6.4	1.7	5.5	4.1	
LOS	C	B		C	B		A	A	A	A	A	
Approach Delay		19.8			17.7			5.8			4.2	
Approach LOS		B			B			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (m)	5.3	3.9		3.5	5.2		0.8	14.7	0.0	0.3	4.2	
Queue Length 95th (m)	13.9	13.0		10.3	16.1		3.3	29.0	2.8	1.7	11.5	
Internal Link Dist (m)		264.0			2757.8			4828.6			519.4	
Turn Bay Length (m)	20.0			30.0			30.0		30.0	30.0		
Base Capacity (vph)	711	971		729	970		827	1255	1083	718	1194	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.07	0.07		0.05	0.10		0.02	0.24	0.04	0.01	0.13	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 60.3			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.27			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 85.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 100: County Road 9 & County Road 8



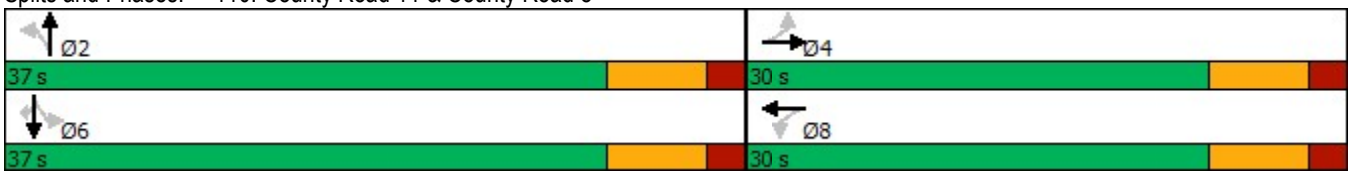


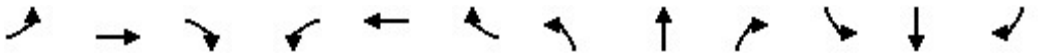
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	46	5	4	89	5	18	244	24	0	55	9
Future Volume (vph)	35	46	5	4	89	5	18	244	24	0	55	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		5.0	20.0		5.0	0.0		7.0	0.0		20.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
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		0.986			0.993			0.989				0.850
Flt Protected	0.950			0.950				0.997				
Satd. Flow (prot)	1770	1837	0	1770	1850	0	0	1837	0	0	1863	1583
Flt Permitted	0.691			0.721				0.984				
Satd. Flow (perm)	1287	1837	0	1343	1850	0	0	1813	0	0	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			4			9				65
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		2781.8			501.5			4847.4			486.2	
Travel Time (s)		125.2			22.6			218.1			21.9	
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
Adj. Flow (vph)	38	50	5	4	97	5	20	265	26	0	60	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	55	0	4	102	0	0	311	0	0	60	10
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		30.0	30.0		30.0	30.0	30.0
Minimum Split (s)	31.0	31.0		25.0	25.0		37.0	37.0		37.0	37.0	37.0
Total Split (s)	30.0	30.0		30.0	30.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	44.8%	44.8%		44.8%	44.8%		55.2%	55.2%		55.2%	55.2%	55.2%
Maximum Green (s)	23.0	23.0		23.0	23.0		30.0	30.0		30.0	30.0	30.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Minimum Gap (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	None		None	None		Max	Max		Max	Max	Max
Walk Time (s)	10.0	10.0					10.0	10.0				
Flash Dont Walk (s)	14.0	14.0					14.0	14.0				
Pedestrian Calls (#/hr)	0	0					0	0				
Act Effct Green (s)	15.0	15.0		15.0	15.0			35.0			35.0	35.0
Actuated g/C Ratio	0.26	0.26		0.26	0.26			0.61			0.61	0.61
v/c Ratio	0.11	0.11		0.01	0.21			0.28			0.05	0.01

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	18.1	16.5		16.8	18.2			8.7			7.6	0.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	18.1	16.5		16.8	18.2			8.7			7.6	0.0
LOS	B	B		B	B			A			A	A
Approach Delay		17.2			18.2			8.7			6.5	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	3.3	4.3		0.3	8.7			18.6			3.2	0.0
Queue Length 95th (m)	9.7	11.8		2.3	19.5			33.0			8.0	0.0
Internal Link Dist (m)		2757.8			477.5			4823.4			462.2	
Turn Bay Length (m)	25.0			20.0								20.0
Base Capacity (vph)	515	738		537	742			1103			1130	985
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.07	0.07		0.01	0.14			0.28			0.05	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 67			
Actuated Cycle Length: 57.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.28			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 110: County Road 11 & County Road 8



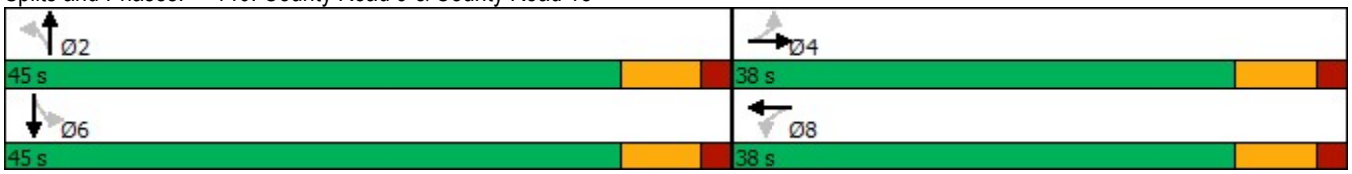


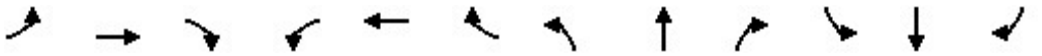
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	41	21	1	8	9	11	113	6	8	5	17
Future Volume (vph)	17	41	21	1	8	9	11	113	6	8	5	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.964			0.932			0.993			0.924	
Flt Protected		0.990			0.998			0.996			0.986	
Satd. Flow (prot)	0	1778	0	0	1733	0	0	1842	0	0	1697	0
Flt Permitted		0.926			0.984			0.984			0.940	
Satd. Flow (perm)	0	1663	0	0	1708	0	0	1820	0	0	1618	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			10			4			18	
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1234.6			2445.7			579.1			4947.9	
Travel Time (s)		55.6			110.1			26.1			222.7	
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
Adj. Flow (vph)	18	45	23	1	9	10	12	123	7	9	5	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	86	0	0	20	0	0	142	0	0	32	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		38.0	38.0		38.0	38.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		45.0	45.0		45.0	45.0	
Total Split (s)	38.0	38.0		38.0	38.0		45.0	45.0		45.0	45.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%		54.2%	54.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		15.0			15.0			42.9			42.9	
Actuated g/C Ratio		0.23			0.23			0.65			0.65	
v/c Ratio		0.22			0.05			0.12			0.03	
Control Delay		18.2			15.3			6.8			4.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.2			15.3			6.8			4.2	
LOS		B			B			A			A	
Approach Delay		18.2			15.3			6.8			4.2	
Approach LOS		B			B			A			A	
Queue Length 50th (m)		6.7			1.0			7.6			0.7	
Queue Length 95th (m)		17.5			6.1			15.0			3.9	
Internal Link Dist (m)		1210.6			2421.7			555.1			4923.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (m)												
Base Capacity (vph)		799			813			1190			1064	
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		0.11			0.02			0.12			0.03	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 65.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.22			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 55.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 140: County Road 9 & County Road 18

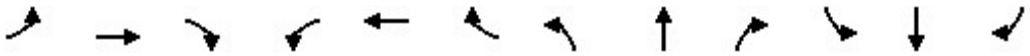




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	14	2	1	30	18	15	197	7	8	49	11
Future Volume (Veh/h)	56	14	2	1	30	18	15	197	7	8	49	11
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	61	15	2	1	33	20	16	214	8	9	53	12
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	354	325	53	326	329	214	65			222		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	354	325	53	326	329	214	65			222		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	89	97	100	100	94	98	99			99		
cM capacity (veh/h)	554	583	1014	605	580	826	1537			1347		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	78	54	230	8	62	12
Volume Left	61	1	16	0	9	0
Volume Right	2	20	0	8	0	12
cSH	566	652	1537	1700	1347	1700
Volume to Capacity	0.14	0.08	0.01	0.00	0.01	0.01
Queue Length 95th (m)	3.8	2.2	0.3	0.0	0.2	0.0
Control Delay (s)	12.4	11.0	0.6	0.0	1.2	0.0
Lane LOS	B	B	A		A	
Approach Delay (s)	12.4	11.0	0.6		1.0	
Approach LOS	B	B				

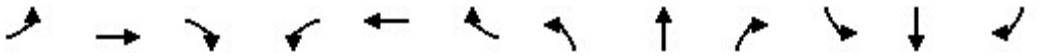
Intersection Summary				
Average Delay	4.0			
Intersection Capacity Utilization	35.2%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	19	17	2	18	17	24	312	7	21	137	23
Future Volume (Veh/h)	38	19	17	2	18	17	24	312	7	21	137	23
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	41	21	18	2	20	18	26	339	8	23	149	25
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	630	606	162	631	615	343	174			347		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	630	606	162	631	615	343	174			347		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	89	95	98	99	95	97	98			98		
cM capacity (veh/h)	358	396	883	360	391	700	1403			1212		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	80	40	373	197
Volume Left	41	2	26	23
Volume Right	18	18	8	25
cSH	426	486	1403	1212
Volume to Capacity	0.19	0.08	0.02	0.02
Queue Length 95th (m)	5.5	2.1	0.5	0.5
Control Delay (s)	15.4	13.1	0.7	1.1
Lane LOS	C	B	A	A
Approach Delay (s)	15.4	13.1	0.7	1.1
Approach LOS	C	B		

Intersection Summary				
Average Delay	3.2			
Intersection Capacity Utilization	39.0%	ICU Level of Service	A	
Analysis Period (min)	15			

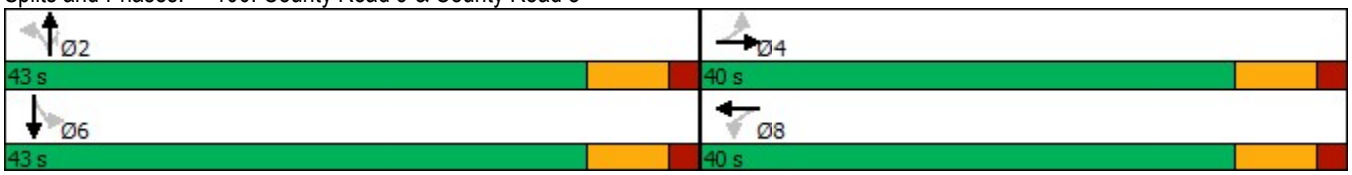


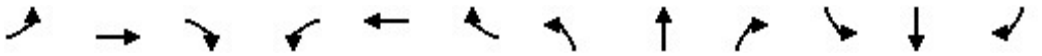
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	50	17	33	66	17	10	241	19	30	224	83
Future Volume (vph)	50	50	17	33	66	17	10	241	19	30	224	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		5.0	30.0		5.0	30.0		30.0	30.0		5.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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			0.970				0.850		0.959	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1792	0	1770	1807	0	1770	1863	1583	1770	1786	0
Flt Permitted	0.699			0.710			0.560			0.597		
Satd. Flow (perm)	1302	1792	0	1323	1807	0	1043	1863	1583	1112	1786	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			18				53		28	
Link Speed (k/h)		50			80			80			80	
Link Distance (m)		288.0			2781.8			4852.6			543.4	
Travel Time (s)		20.7			125.2			218.4			24.5	
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
Adj. Flow (vph)	54	54	18	36	72	18	11	262	21	33	243	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	72	0	36	90	0	11	262	21	33	333	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		36.0	36.0	36.0	36.0	36.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		43.0	43.0	43.0	43.0	43.0	
Total Split (s)	40.0	40.0		40.0	40.0		43.0	43.0	43.0	43.0	43.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		51.8%	51.8%	51.8%	51.8%	51.8%	
Maximum Green (s)	33.0	33.0		33.0	33.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2	0.2	0.2	0.2	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Act Effct Green (s)	10.7	10.7		10.7	10.7		40.6	40.6	40.6	40.6	40.6	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.67	0.67	0.67	0.67	0.67	
v/c Ratio	0.23	0.22		0.15	0.27		0.02	0.21	0.02	0.04	0.27	
Control Delay	24.3	18.8		22.8	20.3		5.6	6.2	0.6	5.7	6.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.3	18.8		22.8	20.3		5.6	6.2	0.6	5.7	6.1	
LOS	C	B		C	C		A	A	A	A	A	
Approach Delay		21.2			21.0			5.8			6.1	
Approach LOS		C			C			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (m)	5.5	5.5		3.6	7.3		0.5	12.2	0.0	1.4	14.7	
Queue Length 95th (m)	14.2	15.1		10.6	18.2		2.3	24.7	0.8	4.8	29.9	
Internal Link Dist (m)		264.0			2757.8			4828.6			519.4	
Turn Bay Length (m)	20.0			30.0			30.0		30.0	30.0		
Base Capacity (vph)	713	989		724	997		702	1254	1083	749	1211	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.08	0.07		0.05	0.09		0.02	0.21	0.02	0.04	0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 60.3			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.27			
Intersection Signal Delay: 10.1		Intersection LOS: B	
Intersection Capacity Utilization 85.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 100: County Road 9 & County Road 8



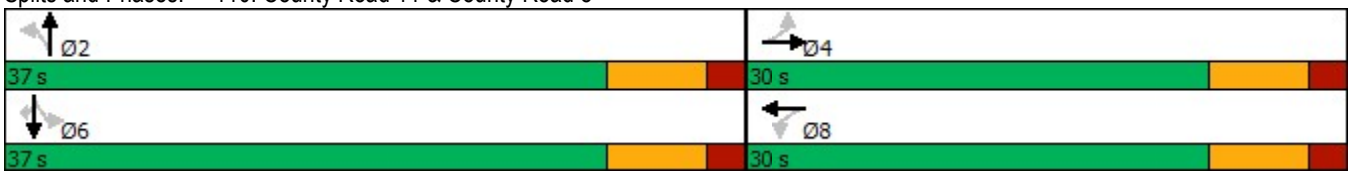


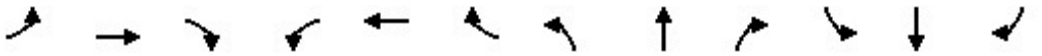
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	53	19	6	36	6	26	139	43	7	310	61
Future Volume (vph)	23	53	19	6	36	6	26	139	43	7	310	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		5.0	20.0		5.0	0.0		7.0	0.0		20.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
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			0.977			0.972				0.850
Flt Protected	0.950			0.950				0.994			0.999	
Satd. Flow (prot)	1770	1788	0	1770	1820	0	0	1800	0	0	1861	1583
Flt Permitted	0.727			0.706				0.935			0.993	
Satd. Flow (perm)	1354	1788	0	1315	1820	0	0	1693	0	0	1850	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			7			26				65
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		2781.8			501.5			4847.4			486.2	
Travel Time (s)		125.2			22.6			218.1			21.9	
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
Adj. Flow (vph)	25	58	21	7	39	7	28	151	47	8	337	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	79	0	7	46	0	0	226	0	0	345	66
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		30.0	30.0		30.0	30.0	30.0
Minimum Split (s)	31.0	31.0		25.0	25.0		37.0	37.0		37.0	37.0	37.0
Total Split (s)	30.0	30.0		30.0	30.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	44.8%	44.8%		44.8%	44.8%		55.2%	55.2%		55.2%	55.2%	55.2%
Maximum Green (s)	23.0	23.0		23.0	23.0		30.0	30.0		30.0	30.0	30.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Minimum Gap (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	None		None	None		Max	Max		Max	Max	Max
Walk Time (s)	10.0	10.0					10.0	10.0				
Flash Dont Walk (s)	14.0	14.0					14.0	14.0				
Pedestrian Calls (#/hr)	0	0					0	0				
Act Effct Green (s)	15.3	15.3		15.3	15.3			38.1			38.1	38.1
Actuated g/C Ratio	0.28	0.28		0.28	0.28			0.70			0.70	0.70
v/c Ratio	0.07	0.15		0.02	0.09			0.19			0.26	0.06

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	17.4	14.1		16.8	15.3			6.7			7.7	2.7
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	17.4	14.1		16.8	15.3			6.7			7.7	2.7
LOS	B	B		B	B			A			A	A
Approach Delay		14.9			15.5			6.7			6.9	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	2.2	5.1		0.6	3.4			11.6			21.7	0.1
Queue Length 95th (m)	7.2	14.1		3.2	10.2			22.7			37.7	4.8
Internal Link Dist (m)		2757.8			477.5			4823.4			462.2	
Turn Bay Length (m)	25.0			20.0								20.0
Base Capacity (vph)	586	786		569	792			1201			1304	1135
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.04	0.10		0.01	0.06			0.19			0.26	0.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 67			
Actuated Cycle Length: 54.1			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.26			
Intersection Signal Delay: 8.4		Intersection LOS: A	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 110: County Road 11 & County Road 8



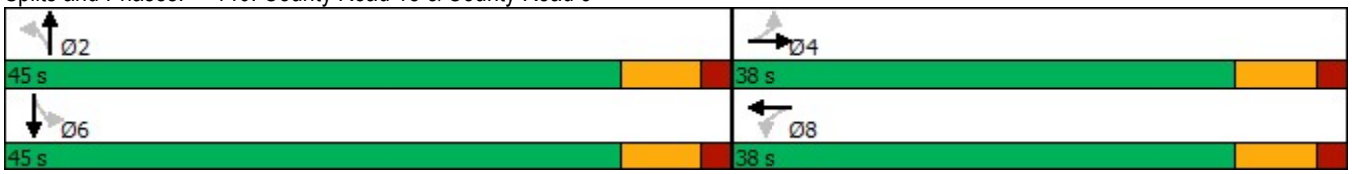


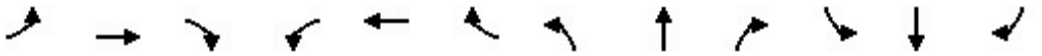
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	40	8	2	56	13	4	33	2	40	67	31
Future Volume (vph)	32	40	8	2	56	13	4	33	2	40	67	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986			0.975			0.994			0.969	
Flt Protected		0.980			0.999			0.995			0.986	
Satd. Flow (prot)	0	1800	0	0	1814	0	0	1842	0	0	1780	0
Flt Permitted		0.834			0.991			0.982			0.922	
Satd. Flow (perm)	0	1532	0	0	1800	0	0	1818	0	0	1664	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			14			2			23	
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1234.6			2445.7			579.1			4947.9	
Travel Time (s)		55.6			110.1			26.1			222.7	
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
Adj. Flow (vph)	35	43	9	2	61	14	4	36	2	43	73	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	77	0	0	42	0	0	150	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		38.0	38.0		38.0	38.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		45.0	45.0		45.0	45.0	
Total Split (s)	38.0	38.0		38.0	38.0		45.0	45.0		45.0	45.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%		54.2%	54.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		15.0			15.0			42.9			42.9	
Actuated g/C Ratio		0.23			0.23			0.65			0.65	
v/c Ratio		0.24			0.18			0.04			0.14	
Control Delay		21.9			19.3			6.4			6.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		21.9			19.3			6.4			6.2	
LOS		C			B			A			A	
Approach Delay		21.9			19.3			6.4			6.2	
Approach LOS		C			B			A			A	
Queue Length 50th (m)		8.5			6.7			2.1			7.1	
Queue Length 95th (m)		19.7			16.9			5.8			14.7	
Internal Link Dist (m)		1210.6			2421.7			555.1			4923.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (m)												
Base Capacity (vph)		729			859			1188			1095	
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		0.12			0.09			0.04			0.14	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 65.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.24			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 55.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 140: County Road 18 & County Road 9

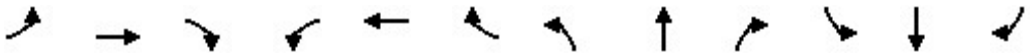




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	37	4	1	74	22	12	119	7	37	183	48
Future Volume (Veh/h)	24	37	4	1	74	22	12	119	7	37	183	48
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	40	4	1	80	24	13	129	8	40	199	52
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	498	442	199	458	486	129	251			137		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	498	442	199	458	486	129	251			137		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	92	100	100	83	97	99			97		
cM capacity (veh/h)	397	491	842	465	463	921	1314			1447		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	70	105	142	8	239	52
Volume Left	26	1	13	0	40	0
Volume Right	4	24	0	8	0	52
cSH	461	523	1314	1700	1447	1700
Volume to Capacity	0.15	0.20	0.01	0.00	0.03	0.03
Queue Length 95th (m)	4.3	5.9	0.2	0.0	0.7	0.0
Control Delay (s)	14.2	13.6	0.8	0.0	1.5	0.0
Lane LOS	B	B	A		A	
Approach Delay (s)	14.2	13.6	0.7		1.2	
Approach LOS	B	B				

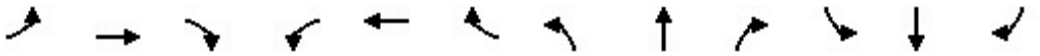
Intersection Summary				
Average Delay	4.7			
Intersection Capacity Utilization	35.2%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	33	29	3	21	20	16	153	5	38	348	72
Future Volume (Veh/h)	38	33	29	3	21	20	16	153	5	38	348	72
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	41	36	32	3	23	22	17	166	5	41	378	78
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	735	704	417	752	740	168	456			171		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	735	704	417	752	740	168	456			171		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	86	90	95	99	93	97	98			97		
cM capacity (veh/h)	299	346	636	276	329	876	1105			1406		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	109	48	188	497
Volume Left	41	3	17	41
Volume Right	32	22	5	78
cSH	374	453	1105	1406
Volume to Capacity	0.29	0.11	0.02	0.03
Queue Length 95th (m)	9.5	2.8	0.4	0.7
Control Delay (s)	18.5	13.9	0.9	0.9
Lane LOS	C	B	A	A
Approach Delay (s)	18.5	13.9	0.9	0.9
Approach LOS	C	B		

Intersection Summary				
Average Delay	3.9			
Intersection Capacity Utilization	50.7%	ICU Level of Service	A	
Analysis Period (min)	15			

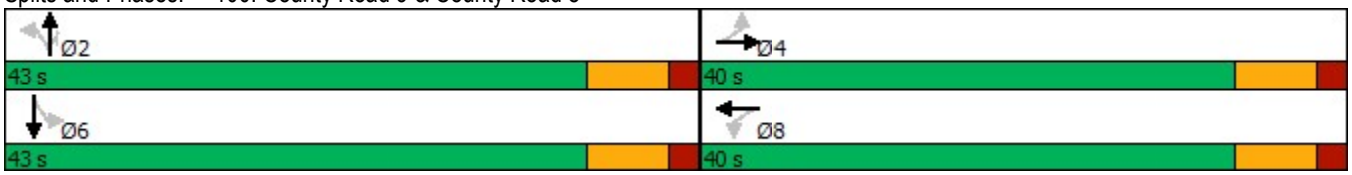


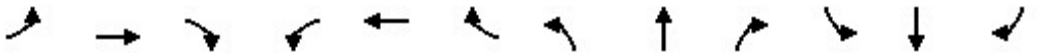
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	39	25	34	51	42	20	304	42	7	88	63
Future Volume (vph)	52	39	25	34	51	42	20	304	42	7	88	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		5.0	30.0		5.0	30.0		30.0	30.0		5.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		0.941			0.932				0.850		0.938	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1753	0	1770	1736	0	1770	1863	1583	1770	1747	0
Flt Permitted	0.692			0.712			0.653			0.561		
Satd. Flow (perm)	1289	1753	0	1326	1736	0	1216	1863	1583	1045	1747	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			46				53		54	
Link Speed (k/h)		50			80			80			80	
Link Distance (m)		288.0			2781.8			4852.6			543.4	
Travel Time (s)		20.7			125.2			218.4			24.5	
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
Adj. Flow (vph)	57	42	27	37	55	46	22	330	46	8	96	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	57	69	0	37	101	0	22	330	46	8	164	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		36.0	36.0	36.0	36.0	36.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		43.0	43.0	43.0	43.0	43.0	
Total Split (s)	40.0	40.0		40.0	40.0		43.0	43.0	43.0	43.0	43.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		51.8%	51.8%	51.8%	51.8%	51.8%	
Maximum Green (s)	33.0	33.0		33.0	33.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2	0.2	0.2	0.2	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Act Effct Green (s)	10.8	10.8		10.8	10.8		40.6	40.6	40.6	40.6	40.6	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.67	0.67	0.67	0.67	0.67	
v/c Ratio	0.25	0.21		0.16	0.29		0.03	0.26	0.04	0.01	0.14	
Control Delay	24.5	16.3		22.8	15.8		5.7	6.6	1.9	5.6	4.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.5	16.3		22.8	15.8		5.7	6.6	1.9	5.6	4.3	
LOS	C	B		C	B		A	A	A	A	A	
Approach Delay		20.0			17.7			6.0			4.4	
Approach LOS		B			B			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (m)	5.8	4.2		3.7	5.6		0.9	16.0	0.0	0.3	4.7	
Queue Length 95th (m)	14.9	13.5		10.8	16.9		3.6	31.7	3.1	1.9	12.7	
Internal Link Dist (m)		264.0			2757.8			4828.6			519.4	
Turn Bay Length (m)	20.0			30.0			30.0		30.0	30.0		
Base Capacity (vph)	704	970		725	969		817	1252	1081	702	1192	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.08	0.07		0.05	0.10		0.03	0.26	0.04	0.01	0.14	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 60.4			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.29			
Intersection Signal Delay: 9.7		Intersection LOS: A	
Intersection Capacity Utilization 85.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 100: County Road 9 & County Road 8



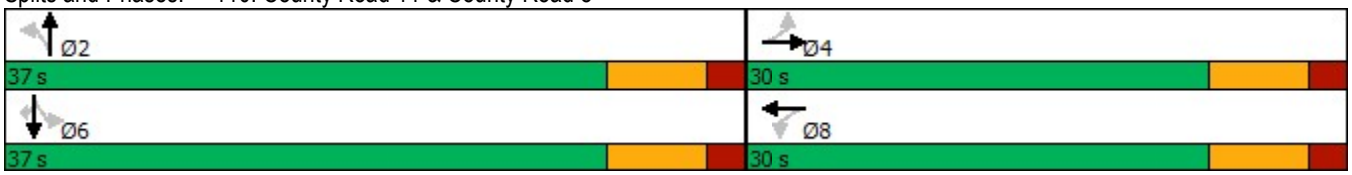


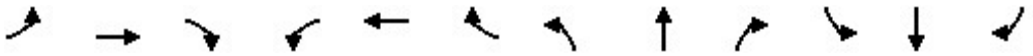
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	50	6	4	96	6	20	263	26	0	59	10
Future Volume (vph)	37	50	6	4	96	6	20	263	26	0	59	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		5.0	20.0		5.0	0.0		7.0	0.0		20.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
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			0.991			0.989				0.850
Flt Protected	0.950			0.950				0.997				
Satd. Flow (prot)	1770	1831	0	1770	1846	0	0	1837	0	0	1863	1583
Flt Permitted	0.685			0.717				0.983				
Satd. Flow (perm)	1276	1831	0	1336	1846	0	0	1811	0	0	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			6			9				65
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		2781.8			501.5			4847.4			486.2	
Travel Time (s)		125.2			22.6			218.1			21.9	
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
Adj. Flow (vph)	40	54	7	4	104	7	22	286	28	0	64	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	61	0	4	111	0	0	336	0	0	64	11
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		30.0	30.0		30.0	30.0	30.0
Minimum Split (s)	31.0	31.0		25.0	25.0		37.0	37.0		37.0	37.0	37.0
Total Split (s)	30.0	30.0		30.0	30.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	44.8%	44.8%		44.8%	44.8%		55.2%	55.2%		55.2%	55.2%	55.2%
Maximum Green (s)	23.0	23.0		23.0	23.0		30.0	30.0		30.0	30.0	30.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Minimum Gap (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	None		None	None		Max	Max		Max	Max	Max
Walk Time (s)	10.0	10.0					10.0	10.0				
Flash Dont Walk (s)	14.0	14.0					14.0	14.0				
Pedestrian Calls (#/hr)	0	0					0	0				
Act Effct Green (s)	15.0	15.0		15.0	15.0			35.0			35.0	35.0
Actuated g/C Ratio	0.26	0.26		0.26	0.26			0.61			0.61	0.61
v/c Ratio	0.12	0.13		0.01	0.23			0.30			0.06	0.01

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	18.2	16.3		16.8	18.2			8.9			7.6	0.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	18.2	16.3		16.8	18.2			8.9			7.6	0.0
LOS	B	B		B	B			A			A	A
Approach Delay		17.1			18.2			8.9			6.5	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	3.5	4.7		0.3	9.4			20.5			3.4	0.0
Queue Length 95th (m)	10.1	12.6		2.3	20.6			36.1			8.4	0.0
Internal Link Dist (m)		2757.8			477.5			4823.4			462.2	
Turn Bay Length (m)	25.0			20.0								20.0
Base Capacity (vph)	510	737		534	742			1102			1130	985
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.08	0.08		0.01	0.15			0.30			0.06	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 67			
Actuated Cycle Length: 57.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.30			
Intersection Signal Delay: 11.6		Intersection LOS: B	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 110: County Road 11 & County Road 8



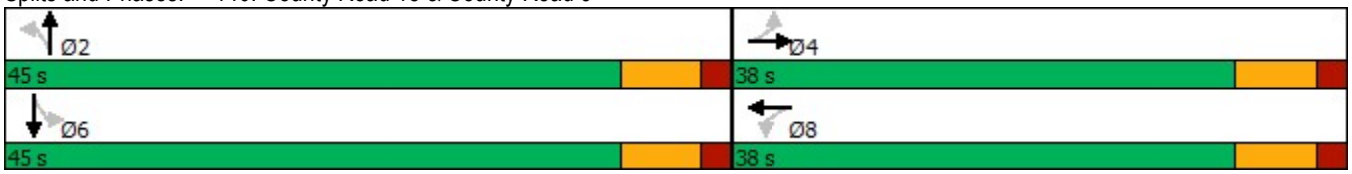


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	44	23	1	9	10	12	122	7	9	6	19
Future Volume (vph)	19	44	23	1	9	10	12	122	7	9	6	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.964			0.932			0.993			0.925	
Flt Protected		0.989			0.998			0.996			0.987	
Satd. Flow (prot)	0	1776	0	0	1733	0	0	1842	0	0	1701	0
Flt Permitted		0.918			0.985			0.984			0.940	
Satd. Flow (perm)	0	1648	0	0	1710	0	0	1820	0	0	1620	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			11			4			21	
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1234.6			2445.7			579.1			4947.9	
Travel Time (s)		55.6			110.1			26.1			222.7	
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
Adj. Flow (vph)	21	48	25	1	10	11	13	133	8	10	7	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	94	0	0	22	0	0	154	0	0	38	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		38.0	38.0		38.0	38.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		45.0	45.0		45.0	45.0	
Total Split (s)	38.0	38.0		38.0	38.0		45.0	45.0		45.0	45.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%		54.2%	54.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		15.0			15.0			42.9			42.9	
Actuated g/C Ratio		0.23			0.23			0.65			0.65	
v/c Ratio		0.24			0.06			0.13			0.04	
Control Delay		18.5			15.2			6.8			4.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.5			15.2			6.8			4.2	
LOS		B			B			A			A	
Approach Delay		18.5			15.2			6.8			4.2	
Approach LOS		B			B			A			A	
Queue Length 50th (m)		7.4			1.2			8.4			0.9	
Queue Length 95th (m)		18.8			6.4			16.2			4.3	
Internal Link Dist (m)		1210.6			2421.7			555.1			4923.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (m)												
Base Capacity (vph)		793			815			1190			1066	
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		0.12			0.03			0.13			0.04	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 65.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.24			
Intersection Signal Delay: 10.7		Intersection LOS: B	
Intersection Capacity Utilization 55.8%		ICU Level of Service B	
Analysis Period (min) 15			

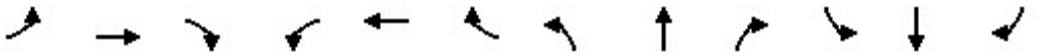
Splits and Phases: 140: County Road 18 & County Road 9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	15	2	1	32	20	17	213	8	9	53	12
Future Volume (Veh/h)	61	15	2	1	32	20	17	213	8	9	53	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	66	16	2	1	35	22	18	232	9	10	58	13
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	386	355	58	356	359	232	71			241		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	386	355	58	356	359	232	71			241		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	87	97	100	100	94	97	99			99		
cM capacity (veh/h)	523	560	1008	576	557	807	1529			1326		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	84	58	250	9	68	13
Volume Left	66	1	18	0	10	0
Volume Right	2	22	0	9	0	13
cSH	536	631	1529	1700	1326	1700
Volume to Capacity	0.16	0.09	0.01	0.01	0.01	0.01
Queue Length 95th (m)	4.4	2.4	0.3	0.0	0.2	0.0
Control Delay (s)	13.0	11.3	0.6	0.0	1.2	0.0
Lane LOS	B	B	A		A	
Approach Delay (s)	13.0	11.3	0.6		1.0	
Approach LOS	B	B				

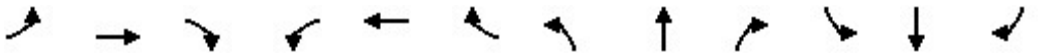
Intersection Summary				
Average Delay	4.1			
Intersection Capacity Utilization	36.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	21	19	2	20	19	26	337	8	23	148	25
Future Volume (Veh/h)	41	21	19	2	20	19	26	337	8	23	148	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	45	23	21	2	22	21	28	366	9	25	161	27
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	683	656	174	684	664	370	188			375		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	683	656	174	684	664	370	188			375		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	86	94	98	99	94	97	98			98		
cM capacity (veh/h)	325	370	869	327	365	675	1386			1183		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	89	45	403	213
Volume Left	45	2	28	25
Volume Right	21	21	9	27
cSH	396	462	1386	1183
Volume to Capacity	0.22	0.10	0.02	0.02
Queue Length 95th (m)	6.8	2.6	0.5	0.5
Control Delay (s)	16.7	13.6	0.7	1.1
Lane LOS	C	B	A	A
Approach Delay (s)	16.7	13.6	0.7	1.1
Approach LOS	C	B		

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	41.1%	ICU Level of Service	A	
Analysis Period (min)	15			

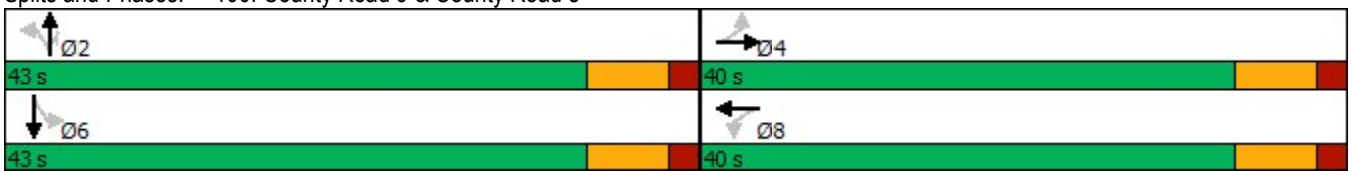


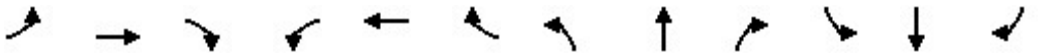
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	54	19	35	72	19	11	260	21	32	242	89
Future Volume (vph)	54	54	19	35	72	19	11	260	21	32	242	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		5.0	30.0		5.0	30.0		30.0	30.0		5.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		0.961			0.968				0.850		0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1790	0	1770	1803	0	1770	1863	1583	1770	1788	0
Flt Permitted	0.693			0.705			0.546			0.586		
Satd. Flow (perm)	1291	1790	0	1313	1803	0	1017	1863	1583	1092	1788	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			19				53		28	
Link Speed (k/h)		50			80			80			80	
Link Distance (m)		288.0			2781.8			4852.6			543.4	
Travel Time (s)		20.7			125.2			218.4			24.5	
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
Adj. Flow (vph)	59	59	21	38	78	21	12	283	23	35	263	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	80	0	38	99	0	12	283	23	35	360	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		36.0	36.0	36.0	36.0	36.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		43.0	43.0	43.0	43.0	43.0	
Total Split (s)	40.0	40.0		40.0	40.0		43.0	43.0	43.0	43.0	43.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		51.8%	51.8%	51.8%	51.8%	51.8%	
Maximum Green (s)	33.0	33.0		33.0	33.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2	0.2	0.2	0.2	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Act Effct Green (s)	10.8	10.8		10.8	10.8		40.6	40.6	40.6	40.6	40.6	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.67	0.67	0.67	0.67	0.67	
v/c Ratio	0.26	0.24		0.16	0.29		0.02	0.23	0.02	0.05	0.30	
Control Delay	24.6	18.7		22.9	20.7		5.7	6.4	0.7	5.8	6.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.6	18.7		22.9	20.7		5.7	6.4	0.7	5.8	6.4	
LOS	C	B		C	C		A	A	A	A	A	
Approach Delay		21.2			21.3			5.9			6.4	
Approach LOS		C			C			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (m)	6.1	6.0		3.8	8.2		0.5	13.4	0.0	1.5	16.4	
Queue Length 95th (m)	15.4	16.1		11.1	19.8		2.5	27.2	1.1	5.0	33.4	
Internal Link Dist (m)		264.0			2757.8			4828.6			519.4	
Turn Bay Length (m)	20.0			30.0			30.0		30.0	30.0		
Base Capacity (vph)	705	987		717	993		683	1251	1081	734	1210	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.08	0.08		0.05	0.10		0.02	0.23	0.02	0.05	0.30	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 60.4			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.30			
Intersection Signal Delay: 10.4		Intersection LOS: B	
Intersection Capacity Utilization 85.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 100: County Road 9 & County Road 8



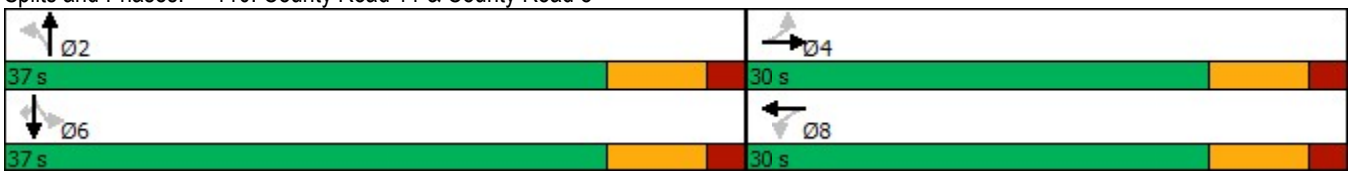


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	57	21	7	39	7	28	150	46	8	335	66
Future Volume (vph)	25	57	21	7	39	7	28	150	46	8	335	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		5.0	20.0		5.0	0.0		7.0	0.0		20.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
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			0.976			0.972				0.850
Flt Protected	0.950			0.950				0.994			0.999	
Satd. Flow (prot)	1770	1786	0	1770	1818	0	0	1800	0	0	1861	1583
Flt Permitted	0.724			0.702				0.929			0.992	
Satd. Flow (perm)	1349	1786	0	1308	1818	0	0	1682	0	0	1848	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			8			25				66
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		2781.8			501.5			4847.4			486.2	
Travel Time (s)		125.2			22.6			218.1			21.9	
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
Adj. Flow (vph)	27	62	23	8	42	8	30	163	50	9	364	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	85	0	8	50	0	0	243	0	0	373	72
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		30.0	30.0		30.0	30.0	30.0
Minimum Split (s)	31.0	31.0		25.0	25.0		37.0	37.0		37.0	37.0	37.0
Total Split (s)	30.0	30.0		30.0	30.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	44.8%	44.8%		44.8%	44.8%		55.2%	55.2%		55.2%	55.2%	55.2%
Maximum Green (s)	23.0	23.0		23.0	23.0		30.0	30.0		30.0	30.0	30.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Minimum Gap (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	None		None	None		Max	Max		Max	Max	Max
Walk Time (s)	10.0	10.0					10.0	10.0				
Flash Dont Walk (s)	14.0	14.0					14.0	14.0				
Pedestrian Calls (#/hr)	0	0					0	0				
Act Effct Green (s)	15.0	15.0		15.0	15.0			35.0			35.0	35.0
Actuated g/C Ratio	0.26	0.26		0.26	0.26			0.61			0.61	0.61
v/c Ratio	0.08	0.18		0.02	0.10			0.24			0.33	0.07

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	17.6	14.6		16.9	15.6			7.9			9.4	2.9
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	17.6	14.6		16.9	15.6			7.9			9.4	2.9
LOS	B	B		B	B			A			A	A
Approach Delay		15.3			15.8			7.9			8.3	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	2.3	5.5		0.7	3.6			12.8			23.9	0.3
Queue Length 95th (m)	7.7	14.9		3.5	10.8			24.7			41.0	5.3
Internal Link Dist (m)		2757.8			477.5			4823.4			462.2	
Turn Bay Length (m)	25.0			20.0								20.0
Base Capacity (vph)	539	728		523	732			1030			1121	986
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.05	0.12		0.02	0.07			0.24			0.33	0.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 67			
Actuated Cycle Length: 57.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 110: County Road 11 & County Road 8

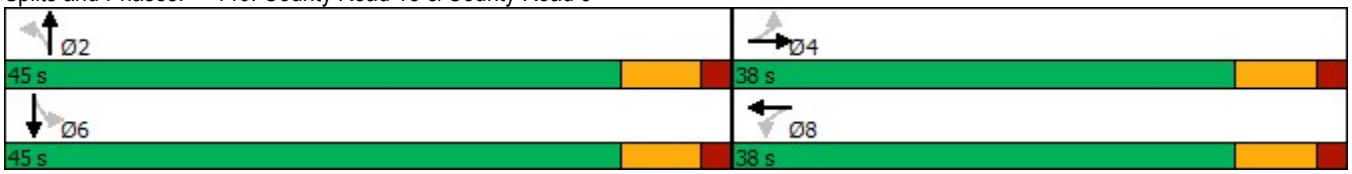


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	43	9	2	61	14	4	35	2	43	73	33
Future Volume (vph)	34	43	9	2	61	14	4	35	2	43	73	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986			0.976			0.994			0.970	
Flt Protected		0.981			0.999			0.995			0.986	
Satd. Flow (prot)	0	1802	0	0	1816	0	0	1842	0	0	1782	0
Flt Permitted		0.835			0.991			0.982			0.919	
Satd. Flow (perm)	0	1534	0	0	1802	0	0	1818	0	0	1661	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			15			2			23	
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1234.6			2445.7			579.1			4947.9	
Travel Time (s)		55.6			110.1			26.1			222.7	
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
Adj. Flow (vph)	37	47	10	2	66	15	4	38	2	47	79	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	94	0	0	83	0	0	44	0	0	162	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		38.0	38.0		38.0	38.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		45.0	45.0		45.0	45.0	
Total Split (s)	38.0	38.0		38.0	38.0		45.0	45.0		45.0	45.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%		54.2%	54.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		15.0			15.0			42.9			42.9	
Actuated g/C Ratio		0.23			0.23			0.65			0.65	
v/c Ratio		0.26			0.20			0.04			0.15	
Control Delay		22.3			19.5			6.4			6.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		22.3			19.5			6.4			6.3	
LOS		C			B			A			A	
Approach Delay		22.3			19.5			6.4			6.3	
Approach LOS		C			B			A			A	
Queue Length 50th (m)		9.3			7.2			2.2			7.7	
Queue Length 95th (m)		21.1			17.8			6.0			15.8	
Internal Link Dist (m)		1210.6			2421.7			555.1			4923.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (m)												
Base Capacity (vph)		730			860			1188			1094	
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		0.13			0.10			0.04			0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 65.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.26			
Intersection Signal Delay: 13.1		Intersection LOS: B	
Intersection Capacity Utilization 55.8%		ICU Level of Service B	
Analysis Period (min) 15			

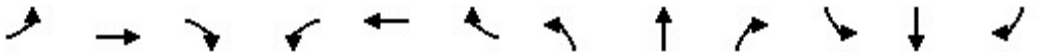
Splits and Phases: 140: County Road 18 & County Road 9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	40	4	1	80	24	13	129	8	40	197	52
Future Volume (Veh/h)	26	40	4	1	80	24	13	129	8	40	197	52
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	28	43	4	1	87	26	14	140	9	43	214	57
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	538	477	214	494	525	140	271			149		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	538	477	214	494	525	140	271			149		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	92	91	100	100	80	97	99			97		
cM capacity (veh/h)	363	467	826	436	439	908	1292			1432		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	75	114	154	9	257	57
Volume Left	28	1	14	0	43	0
Volume Right	4	26	0	9	0	57
cSH	431	498	1292	1700	1432	1700
Volume to Capacity	0.17	0.23	0.01	0.01	0.03	0.03
Queue Length 95th (m)	5.0	7.0	0.3	0.0	0.7	0.0
Control Delay (s)	15.1	14.4	0.8	0.0	1.5	0.0
Lane LOS	C	B	A		A	
Approach Delay (s)	15.1	14.4	0.8		1.2	
Approach LOS	C	B				

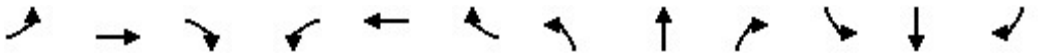
Intersection Summary				
Average Delay	4.9			
Intersection Capacity Utilization	40.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	35	31	3	23	22	18	165	6	41	376	78
Future Volume (Veh/h)	41	35	31	3	23	22	18	165	6	41	376	78
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	45	38	34	3	25	24	20	179	7	45	409	85
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	800	768	452	817	806	182	494			186		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	800	768	452	817	806	182	494			186		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	83	88	94	99	92	97	98			97		
cM capacity (veh/h)	265	315	608	243	299	860	1070			1388		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	117	52	206	539
Volume Left	45	3	20	45
Volume Right	34	24	7	85
cSH	338	420	1070	1388
Volume to Capacity	0.35	0.12	0.02	0.03
Queue Length 95th (m)	12.0	3.4	0.5	0.8
Control Delay (s)	21.2	14.8	1.0	1.0
Lane LOS	C	B	A	A
Approach Delay (s)	21.2	14.8	1.0	1.0
Approach LOS	C	B		

Intersection Summary				
Average Delay	4.3			
Intersection Capacity Utilization	53.4%	ICU Level of Service	A	
Analysis Period (min)	15			

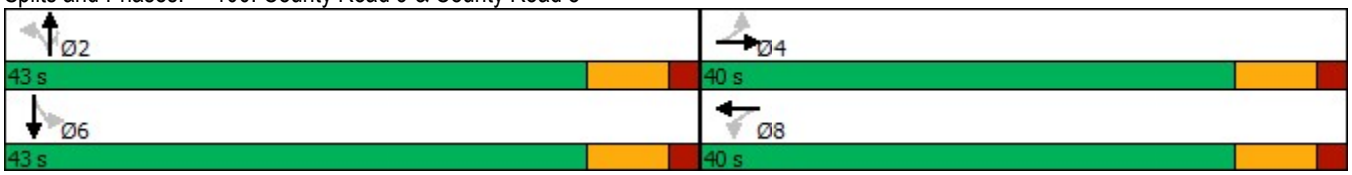


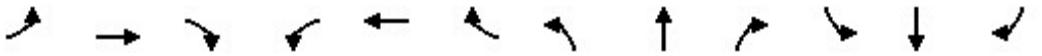
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	42	28	37	55	46	22	332	46	7	96	69
Future Volume (vph)	57	42	28	37	55	46	22	332	46	7	96	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		5.0	30.0		5.0	30.0		30.0	30.0		5.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		0.941			0.932				0.850		0.937	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1753	0	1770	1736	0	1770	1863	1583	1770	1745	0
Flt Permitted	0.686			0.708			0.644			0.546		
Satd. Flow (perm)	1278	1753	0	1319	1736	0	1200	1863	1583	1017	1745	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			50				53		55	
Link Speed (k/h)		50			80			80			80	
Link Distance (m)		288.0			2781.8			4852.6			543.4	
Travel Time (s)		20.7			125.2			218.4			24.5	
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
Adj. Flow (vph)	62	46	30	40	60	50	24	361	50	8	104	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	76	0	40	110	0	24	361	50	8	179	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		36.0	36.0	36.0	36.0	36.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		43.0	43.0	43.0	43.0	43.0	
Total Split (s)	40.0	40.0		40.0	40.0		43.0	43.0	43.0	43.0	43.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		51.8%	51.8%	51.8%	51.8%	51.8%	
Maximum Green (s)	33.0	33.0		33.0	33.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2	0.2	0.2	0.2	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Act Effct Green (s)	10.9	10.9		10.9	10.9		40.7	40.7	40.7	40.7	40.7	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.67	0.67	0.67	0.67	0.67	
v/c Ratio	0.27	0.22		0.17	0.31		0.03	0.29	0.05	0.01	0.15	
Control Delay	24.8	16.2		22.9	15.8		5.8	6.9	2.1	5.7	4.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.8	16.2		22.9	15.8		5.8	6.9	2.1	5.7	4.5	
LOS	C	B		C	B		A	A	A	A	A	
Approach Delay		20.1			17.7			6.3			4.6	
Approach LOS		C			B			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (m)	6.4	4.6		4.0	6.1		1.0	18.0	0.0	0.3	5.4	
Queue Length 95th (m)	15.9	14.4		11.3	17.9		3.9	35.7	3.5	1.9	14.2	
Internal Link Dist (m)		264.0			2757.8			4828.6			519.4	
Turn Bay Length (m)	20.0			30.0			30.0		30.0	30.0		
Base Capacity (vph)	696	969		719	969		805	1249	1079	682	1188	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.09	0.08		0.06	0.11		0.03	0.29	0.05	0.01	0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 60.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.31			
Intersection Signal Delay: 9.9		Intersection LOS: A	
Intersection Capacity Utilization 85.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 100: County Road 9 & County Road 8



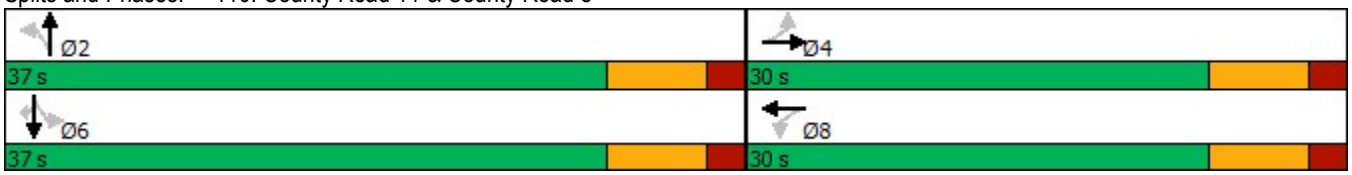


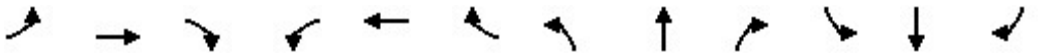
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	54	6	5	105	6	22	288	29	0	65	11
Future Volume (vph)	41	54	6	5	105	6	22	288	29	0	65	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		5.0	20.0		5.0	0.0		7.0	0.0		20.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
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		0.984			0.991			0.988				0.850
Flt Protected	0.950			0.950				0.997				
Satd. Flow (prot)	1770	1833	0	1770	1846	0	0	1835	0	0	1863	1583
Flt Permitted	0.679			0.714				0.982				
Satd. Flow (perm)	1265	1833	0	1330	1846	0	0	1807	0	0	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			5			9				65
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		2781.8			501.5			4847.4			486.2	
Travel Time (s)		125.2			22.6			218.1			21.9	
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
Adj. Flow (vph)	45	59	7	5	114	7	24	313	32	0	71	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	66	0	5	121	0	0	369	0	0	71	12
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		30.0	30.0		30.0	30.0	30.0
Minimum Split (s)	31.0	31.0		25.0	25.0		37.0	37.0		37.0	37.0	37.0
Total Split (s)	30.0	30.0		30.0	30.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	44.8%	44.8%		44.8%	44.8%		55.2%	55.2%		55.2%	55.2%	55.2%
Maximum Green (s)	23.0	23.0		23.0	23.0		30.0	30.0		30.0	30.0	30.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Minimum Gap (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	None		None	None		Max	Max		Max	Max	Max
Walk Time (s)	10.0	10.0					10.0	10.0				
Flash Dont Walk (s)	14.0	14.0					14.0	14.0				
Pedestrian Calls (#/hr)	0	0					0	0				
Act Effct Green (s)	15.0	15.0		15.0	15.0			35.0			35.0	35.0
Actuated g/C Ratio	0.26	0.26		0.26	0.26			0.61			0.61	0.61
v/c Ratio	0.14	0.14		0.01	0.25			0.34			0.06	0.01

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	18.4	16.5		16.8	18.5			9.2			7.7	0.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	18.4	16.5		16.8	18.5			9.2			7.7	0.0
LOS	B	B		B	B			A			A	A
Approach Delay		17.3			18.5			9.2			6.6	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	4.0	5.2		0.4	10.5			23.0			3.8	0.0
Queue Length 95th (m)	11.0	13.4		2.7	22.3			40.1			9.0	0.0
Internal Link Dist (m)		2757.8			477.5			4823.4			462.2	
Turn Bay Length (m)	25.0			20.0								20.0
Base Capacity (vph)	506	737		532	741			1100			1130	985
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.09	0.09		0.01	0.16			0.34			0.06	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 67			
Actuated Cycle Length: 57.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.34			
Intersection Signal Delay: 11.9		Intersection LOS: B	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 110: County Road 11 & County Road 8



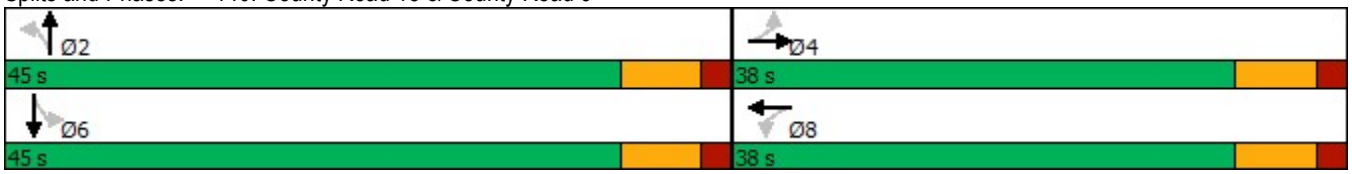


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	48	25	1	10	11	13	134	7	10	6	20
Future Volume (vph)	20	48	25	1	10	11	13	134	7	10	6	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.964			0.932			0.994			0.926	
Flt Protected		0.989			0.998			0.996			0.986	
Satd. Flow (prot)	0	1776	0	0	1733	0	0	1844	0	0	1701	0
Flt Permitted		0.919			0.986			0.983			0.934	
Satd. Flow (perm)	0	1650	0	0	1712	0	0	1820	0	0	1611	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			12			4			22	
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1234.6			2445.7			579.1			4947.9	
Travel Time (s)		55.6			110.1			26.1			222.7	
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
Adj. Flow (vph)	22	52	27	1	11	12	14	146	8	11	7	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	101	0	0	24	0	0	168	0	0	40	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		38.0	38.0		38.0	38.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		45.0	45.0		45.0	45.0	
Total Split (s)	38.0	38.0		38.0	38.0		45.0	45.0		45.0	45.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%		54.2%	54.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		15.0			15.0			42.9			42.9	
Actuated g/C Ratio		0.23			0.23			0.65			0.65	
v/c Ratio		0.25			0.06			0.14			0.04	
Control Delay		19.0			15.0			6.9			4.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		19.0			15.0			6.9			4.1	
LOS		B			B			A			A	
Approach Delay		19.0			15.0			6.9			4.1	
Approach LOS		B			B			A			A	
Queue Length 50th (m)		8.2			1.2			9.2			0.9	
Queue Length 95th (m)		20.0			6.7			17.5			4.4	
Internal Link Dist (m)		1210.6			2421.7			555.1			4923.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (m)												
Base Capacity (vph)		794			816			1190			1061	
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		0.13			0.03			0.14			0.04	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 65.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.25			
Intersection Signal Delay: 10.8		Intersection LOS: B	
Intersection Capacity Utilization 55.8%		ICU Level of Service B	
Analysis Period (min) 15			

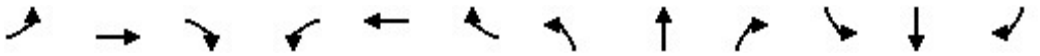
Splits and Phases: 140: County Road 18 & County Road 9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	17	2	1	35	22	18	232	8	10	58	13
Future Volume (Veh/h)	66	17	2	1	35	22	18	232	8	10	58	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	72	18	2	1	38	24	20	252	9	11	63	14
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	420	386	63	388	391	252	77			261		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	420	386	63	388	391	252	77			261		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	85	97	100	100	93	97	99			99		
cM capacity (veh/h)	490	536	1002	546	533	787	1522			1303		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	92	63	272	9	74	14
Volume Left	72	1	20	0	11	0
Volume Right	2	24	0	9	0	14
cSH	504	608	1522	1700	1303	1700
Volume to Capacity	0.18	0.10	0.01	0.01	0.01	0.01
Queue Length 95th (m)	5.3	2.8	0.3	0.0	0.2	0.0
Control Delay (s)	13.7	11.6	0.6	0.0	1.2	0.0
Lane LOS	B	B	A		A	
Approach Delay (s)	13.7	11.6	0.6		1.0	
Approach LOS	B	B				

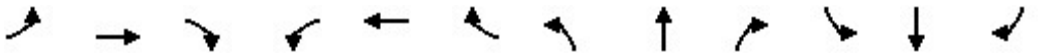
Intersection Summary				
Average Delay	4.3			
Intersection Capacity Utilization	37.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	23	20	2	22	20	29	368	8	25	161	28
Future Volume (Veh/h)	45	23	20	2	22	20	29	368	8	25	161	28
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	49	25	22	2	24	22	32	400	9	27	175	30
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	746	717	190	747	728	404	205			409		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	746	717	190	747	728	404	205			409		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	83	93	97	99	93	97	98			98		
cM capacity (veh/h)	290	339	852	292	334	646	1366			1150		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	96	48	441	232
Volume Left	49	2	32	27
Volume Right	22	22	9	30
cSH	358	426	1366	1150
Volume to Capacity	0.27	0.11	0.02	0.02
Queue Length 95th (m)	8.5	3.0	0.6	0.6
Control Delay (s)	18.7	14.5	0.8	1.1
Lane LOS	C	B	A	A
Approach Delay (s)	18.7	14.5	0.8	1.1
Approach LOS	C	B		

Intersection Summary				
Average Delay	3.8			
Intersection Capacity Utilization	43.8%	ICU Level of Service	A	
Analysis Period (min)	15			

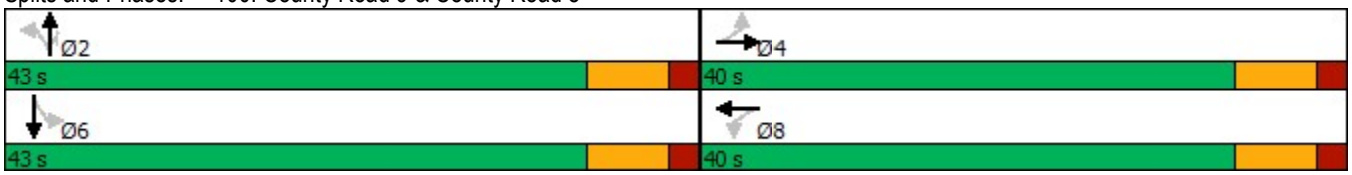


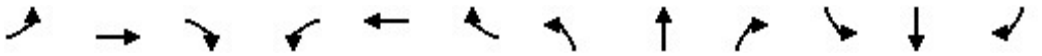
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	59	20	39	78	20	12	284	23	35	265	97
Future Volume (vph)	59	59	20	39	78	20	12	284	23	35	265	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		5.0	30.0		5.0	30.0		30.0	30.0		5.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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			0.969				0.850		0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1792	0	1770	1805	0	1770	1863	1583	1770	1788	0
Flt Permitted	0.688			0.701			0.530			0.572		
Satd. Flow (perm)	1282	1792	0	1306	1805	0	987	1863	1583	1065	1788	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			19				53		28	
Link Speed (k/h)		50			80			80			80	
Link Distance (m)		288.0			2781.8			4852.6			543.4	
Travel Time (s)		20.7			125.2			218.4			24.5	
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
Adj. Flow (vph)	64	64	22	42	85	22	13	309	25	38	288	105
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	86	0	42	107	0	13	309	25	38	393	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		36.0	36.0	36.0	36.0	36.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		43.0	43.0	43.0	43.0	43.0	
Total Split (s)	40.0	40.0		40.0	40.0		43.0	43.0	43.0	43.0	43.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		51.8%	51.8%	51.8%	51.8%	51.8%	
Maximum Green (s)	33.0	33.0		33.0	33.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2	0.2	0.2	0.2	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Act Effct Green (s)	11.0	11.0		11.0	11.0		40.6	40.6	40.6	40.6	40.6	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.67	0.67	0.67	0.67	0.67	
v/c Ratio	0.28	0.25		0.18	0.31		0.02	0.25	0.02	0.05	0.33	
Control Delay	24.8	18.9		23.0	21.0		5.8	6.6	0.9	6.0	6.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.8	18.9		23.0	21.0		5.8	6.6	0.9	6.0	6.8	
LOS	C	B		C	C		A	A	A	A	A	
Approach Delay		21.4			21.5			6.2			6.7	
Approach LOS		C			C			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (m)	6.6	6.5		4.3	9.1		0.5	15.0	0.0	1.6	18.6	
Queue Length 95th (m)	16.2	17.1		11.8	21.1		2.6	30.4	1.2	5.5	38.1	
Internal Link Dist (m)		264.0			2757.8			4828.6			519.4	
Turn Bay Length (m)	20.0			30.0			30.0		30.0	30.0		
Base Capacity (vph)	698	986		711	992		661	1248	1078	713	1207	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.09	0.09		0.06	0.11		0.02	0.25	0.02	0.05	0.33	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 60.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 85.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 100: County Road 9 & County Road 8



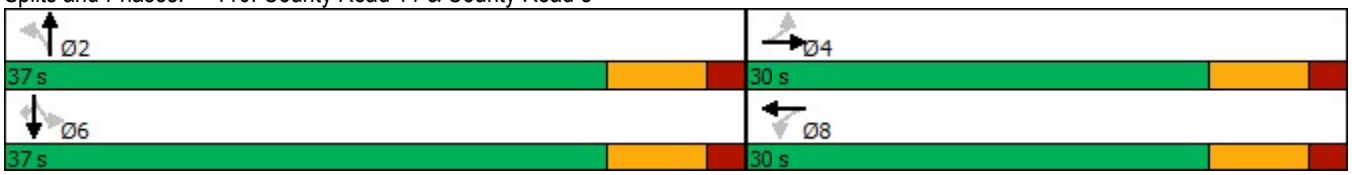


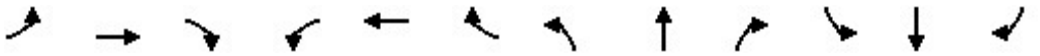
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	63	23	7	42	7	30	164	51	8	366	72
Future Volume (vph)	28	63	23	7	42	7	30	164	51	8	366	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		5.0	20.0		5.0	0.0		7.0	0.0		20.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
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			0.978			0.972				0.850
Flt Protected	0.950			0.950				0.994			0.999	
Satd. Flow (prot)	1770	1788	0	1770	1822	0	0	1800	0	0	1861	1583
Flt Permitted	0.722			0.697				0.922			0.992	
Satd. Flow (perm)	1345	1788	0	1298	1822	0	0	1669	0	0	1848	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			8			25				65
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		2781.8			501.5			4847.4			486.2	
Travel Time (s)		125.2			22.6			218.1			21.9	
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
Adj. Flow (vph)	30	68	25	8	46	8	33	178	55	9	398	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	93	0	8	54	0	0	266	0	0	407	78
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		30.0	30.0		30.0	30.0	30.0
Minimum Split (s)	31.0	31.0		25.0	25.0		37.0	37.0		37.0	37.0	37.0
Total Split (s)	30.0	30.0		30.0	30.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	44.8%	44.8%		44.8%	44.8%		55.2%	55.2%		55.2%	55.2%	55.2%
Maximum Green (s)	23.0	23.0		23.0	23.0		30.0	30.0		30.0	30.0	30.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Minimum Gap (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	None		None	None		Max	Max		Max	Max	Max
Walk Time (s)	10.0	10.0					10.0	10.0				
Flash Dont Walk (s)	14.0	14.0					14.0	14.0				
Pedestrian Calls (#/hr)	0	0					0	0				
Act Effct Green (s)	15.0	15.0		15.0	15.0			35.0			35.0	35.0
Actuated g/C Ratio	0.26	0.26		0.26	0.26			0.61			0.61	0.61
v/c Ratio	0.09	0.19		0.02	0.11			0.26			0.36	0.08

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	17.7	14.7		16.9	15.8			8.1			9.7	3.2
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	17.7	14.7		16.9	15.8			8.1			9.7	3.2
LOS	B	B		B	B			A			A	A
Approach Delay		15.5			15.9			8.1			8.6	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	2.6	6.0		0.7	4.0			14.4			26.6	0.7
Queue Length 95th (m)	8.2	15.9		3.5	11.4			27.4			45.5	5.9
Internal Link Dist (m)		2757.8			477.5			4823.4			462.2	
Turn Bay Length (m)	25.0			20.0								20.0
Base Capacity (vph)	538	730		520	734			1022			1121	985
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.06	0.13		0.02	0.07			0.26			0.36	0.08

Intersection Summary			
Area Type:	Other		
Cycle Length: 67			
Actuated Cycle Length: 57.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.36			
Intersection Signal Delay: 9.9		Intersection LOS: A	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 110: County Road 11 & County Road 8



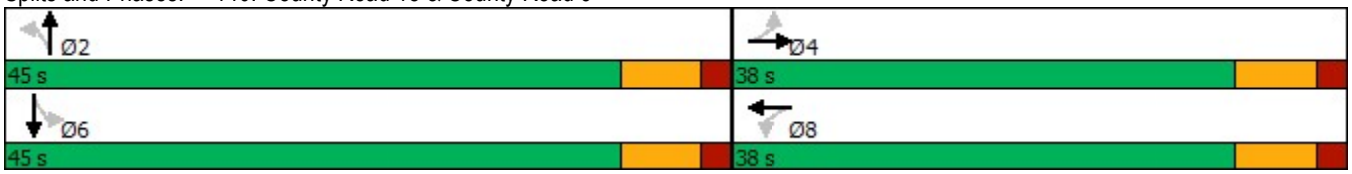


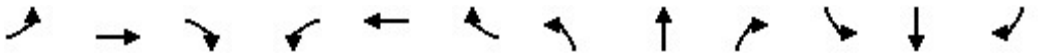
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	47	10	2	66	16	5	39	2	47	79	36
Future Volume (vph)	37	47	10	2	66	16	5	39	2	47	79	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.975			0.994			0.970	
Flt Protected		0.981			0.999			0.995			0.986	
Satd. Flow (prot)	0	1800	0	0	1814	0	0	1842	0	0	1782	0
Flt Permitted		0.832			0.992			0.978			0.915	
Satd. Flow (perm)	0	1527	0	0	1802	0	0	1811	0	0	1653	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			16			2			23	
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1234.6			2445.7			579.1			4947.9	
Travel Time (s)		55.6			110.1			26.1			222.7	
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
Adj. Flow (vph)	40	51	11	2	72	17	5	42	2	51	86	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	102	0	0	91	0	0	49	0	0	176	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		38.0	38.0		38.0	38.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		45.0	45.0		45.0	45.0	
Total Split (s)	38.0	38.0		38.0	38.0		45.0	45.0		45.0	45.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%		54.2%	54.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		15.0			15.0			42.9			42.9	
Actuated g/C Ratio		0.23			0.23			0.65			0.65	
v/c Ratio		0.29			0.21			0.04			0.16	
Control Delay		22.7			19.7			6.4			6.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		22.7			19.7			6.4			6.4	
LOS		C			B			A			A	
Approach Delay		22.7			19.7			6.4			6.4	
Approach LOS		C			B			A			A	
Queue Length 50th (m)		10.3			8.0			2.5			8.6	
Queue Length 95th (m)		22.8			19.1			6.5			17.2	
Internal Link Dist (m)		1210.6			2421.7			555.1			4923.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (m)												
Base Capacity (vph)		726			861			1185			1088	
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		0.14			0.11			0.04			0.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 65.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.29			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 55.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 140: County Road 18 & County Road 9

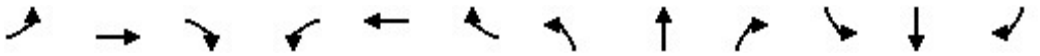




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	43	5	1	88	26	14	141	8	43	215	57
Future Volume (Veh/h)	29	43	5	1	88	26	14	141	8	43	215	57
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	47	5	1	96	28	15	153	9	47	234	62
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	587	520	234	540	573	153	296			162		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	587	520	234	540	573	153	296			162		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	89	99	100	77	97	99			97		
cM capacity (veh/h)	323	440	805	399	410	893	1265			1417		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	84	125	168	9	281	62
Volume Left	32	1	15	0	47	0
Volume Right	5	28	0	9	0	62
cSH	396	467	1265	1700	1417	1700
Volume to Capacity	0.21	0.27	0.01	0.01	0.03	0.04
Queue Length 95th (m)	6.3	8.6	0.3	0.0	0.8	0.0
Control Delay (s)	16.5	15.5	0.8	0.0	1.5	0.0
Lane LOS	C	C	A		A	
Approach Delay (s)	16.5	15.5	0.8		1.2	
Approach LOS	C	C				

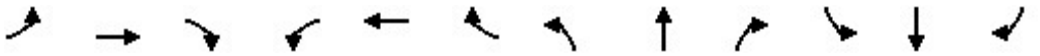
Intersection Summary				
Average Delay	5.3			
Intersection Capacity Utilization	42.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	39	34	4	25	24	19	181	6	45	410	85
Future Volume (Veh/h)	45	39	34	4	25	24	19	181	6	45	410	85
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	49	42	37	4	27	26	21	197	7	49	446	92
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	872	836	492	890	878	200	538			204		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	872	836	492	890	878	200	538			204		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	79	85	94	98	90	97	98			96		
cM capacity (veh/h)	232	286	577	210	271	840	1030			1368		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	128	57	225	587
Volume Left	49	4	21	49
Volume Right	37	26	7	92
cSH	304	380	1030	1368
Volume to Capacity	0.42	0.15	0.02	0.04
Queue Length 95th (m)	16.0	4.2	0.5	0.9
Control Delay (s)	25.2	16.1	1.0	1.0
Lane LOS	D	C	A	A
Approach Delay (s)	25.2	16.1	1.0	1.0
Approach LOS	D	C		

Intersection Summary				
Average Delay	5.0			
Intersection Capacity Utilization	57.5%	ICU Level of Service	B	
Analysis Period (min)	15			

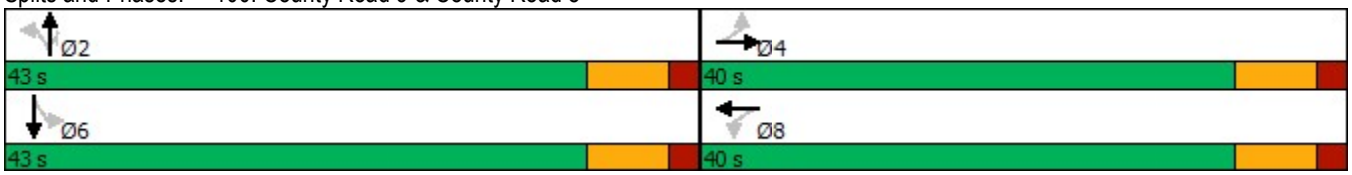


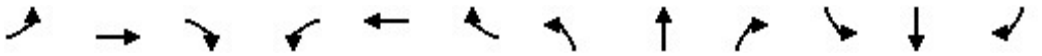
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	39	25	34	51	42	20	341	42	7	101	63
Future Volume (vph)	52	39	25	34	51	42	20	341	42	7	101	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		5.0	30.0		5.0	30.0		30.0	30.0		5.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		0.941			0.932				0.850		0.943	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1753	0	1770	1736	0	1770	1863	1583	1770	1757	0
Flt Permitted	0.692			0.712			0.645			0.541		
Satd. Flow (perm)	1289	1753	0	1326	1736	0	1201	1863	1583	1008	1757	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			46				53		47	
Link Speed (k/h)		50			80			80			80	
Link Distance (m)		288.0			2781.8			4852.6			543.4	
Travel Time (s)		20.7			125.2			218.4			24.5	
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
Adj. Flow (vph)	57	42	27	37	55	46	22	371	46	8	110	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	57	69	0	37	101	0	22	371	46	8	178	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		36.0	36.0	36.0	36.0	36.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		43.0	43.0	43.0	43.0	43.0	
Total Split (s)	40.0	40.0		40.0	40.0		43.0	43.0	43.0	43.0	43.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		51.8%	51.8%	51.8%	51.8%	51.8%	
Maximum Green (s)	33.0	33.0		33.0	33.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2	0.2	0.2	0.2	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Act Effct Green (s)	10.8	10.8		10.8	10.8		40.6	40.6	40.6	40.6	40.6	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.67	0.67	0.67	0.67	0.67	
v/c Ratio	0.25	0.21		0.16	0.29		0.03	0.30	0.04	0.01	0.15	
Control Delay	24.5	16.3		22.8	15.8		5.7	6.8	1.9	5.6	4.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.5	16.3		22.8	15.8		5.7	6.8	1.9	5.6	4.7	
LOS	C	B		C	B		A	A	A	A	A	
Approach Delay		20.0			17.7			6.3			4.7	
Approach LOS		B			B			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (m)	5.8	4.2		3.7	5.6		0.9	18.5	0.0	0.3	5.7	
Queue Length 95th (m)	14.9	13.5		10.8	16.9		3.6	36.3	3.1	1.9	14.4	
Internal Link Dist (m)		264.0			2757.8			4828.6			519.4	
Turn Bay Length (m)	20.0			30.0			30.0		30.0	30.0		
Base Capacity (vph)	704	970		725	969		807	1252	1081	677	1196	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.08	0.07		0.05	0.10		0.03	0.30	0.04	0.01	0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 60.4			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.30			
Intersection Signal Delay: 9.7		Intersection LOS: A	
Intersection Capacity Utilization 85.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 100: County Road 9 & County Road 8



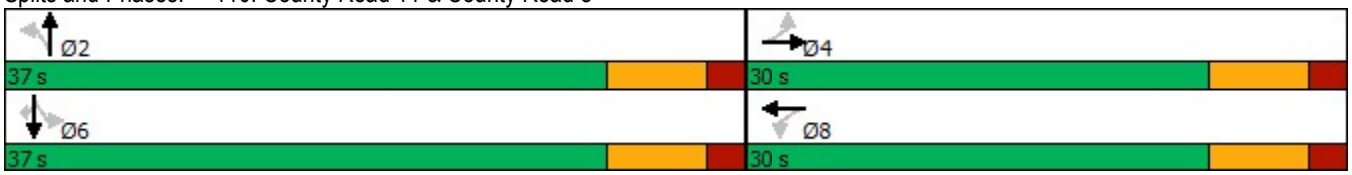


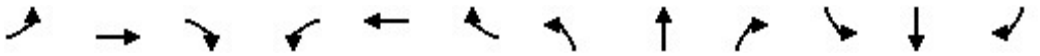
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	50	6	4	96	6	20	290	26	0	69	10
Future Volume (vph)	37	50	6	4	96	6	20	290	26	0	69	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		5.0	20.0		5.0	0.0		7.0	0.0		20.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
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			0.991			0.990				0.850
Flt Protected	0.950			0.950				0.997				
Satd. Flow (prot)	1770	1831	0	1770	1846	0	0	1839	0	0	1863	1583
Flt Permitted	0.685			0.717				0.984				
Satd. Flow (perm)	1276	1831	0	1336	1846	0	0	1815	0	0	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			6			8				65
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		2781.8			501.5			4461.8			486.2	
Travel Time (s)		125.2			22.6			200.8			21.9	
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
Adj. Flow (vph)	40	54	7	4	104	7	22	315	28	0	75	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	61	0	4	111	0	0	365	0	0	75	11
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		30.0	30.0		30.0	30.0	30.0
Minimum Split (s)	31.0	31.0		25.0	25.0		37.0	37.0		37.0	37.0	37.0
Total Split (s)	30.0	30.0		30.0	30.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	44.8%	44.8%		44.8%	44.8%		55.2%	55.2%		55.2%	55.2%	55.2%
Maximum Green (s)	23.0	23.0		23.0	23.0		30.0	30.0		30.0	30.0	30.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Minimum Gap (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	None		None	None		Max	Max		Max	Max	Max
Walk Time (s)	10.0	10.0					10.0	10.0				
Flash Dont Walk (s)	14.0	14.0					14.0	14.0				
Pedestrian Calls (#/hr)	0	0					0	0				
Act Effct Green (s)	15.0	15.0		15.0	15.0			35.0			35.0	35.0
Actuated g/C Ratio	0.26	0.26		0.26	0.26			0.61			0.61	0.61
v/c Ratio	0.12	0.13		0.01	0.23			0.33			0.07	0.01

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	18.2	16.3		16.8	18.2			9.2			7.7	0.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	18.2	16.3		16.8	18.2			9.2			7.7	0.0
LOS	B	B		B	B			A			A	A
Approach Delay		17.1			18.2			9.2			6.7	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	3.5	4.7		0.3	9.4			22.7			4.0	0.0
Queue Length 95th (m)	10.1	12.6		2.3	20.6			39.6			9.4	0.0
Internal Link Dist (m)		2757.8			477.5			4437.8			462.2	
Turn Bay Length (m)	25.0			20.0								20.0
Base Capacity (vph)	510	737		534	742			1104			1130	985
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.08	0.08		0.01	0.15			0.33			0.07	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 67			
Actuated Cycle Length: 57.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay: 11.6		Intersection LOS: B	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 110: County Road 11 & County Road 8



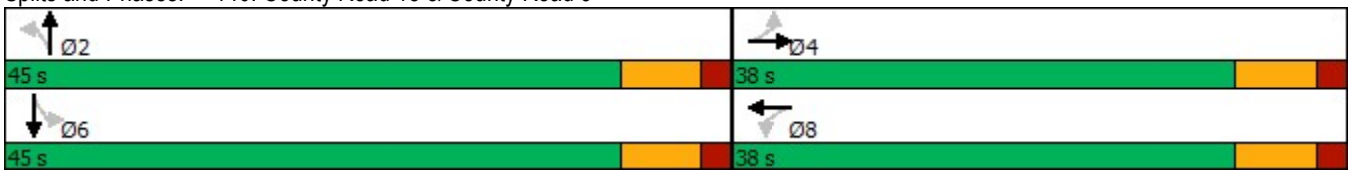


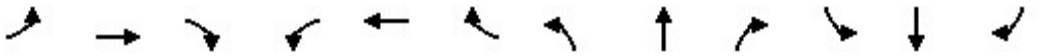
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	44	23	1	9	10	12	122	7	9	6	23
Future Volume (vph)	20	44	23	1	9	10	12	122	7	9	6	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.964			0.932			0.993			0.920	
Flt Protected		0.989			0.998			0.996			0.988	
Satd. Flow (prot)	0	1776	0	0	1733	0	0	1842	0	0	1693	0
Flt Permitted		0.915			0.985			0.983			0.945	
Satd. Flow (perm)	0	1643	0	0	1710	0	0	1818	0	0	1619	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			11			4			25	
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1234.6			2445.7			579.1			4947.9	
Travel Time (s)		55.6			110.1			26.1			222.7	
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
Adj. Flow (vph)	22	48	25	1	10	11	13	133	8	10	7	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	0	0	22	0	0	154	0	0	42	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		38.0	38.0		38.0	38.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		45.0	45.0		45.0	45.0	
Total Split (s)	38.0	38.0		38.0	38.0		45.0	45.0		45.0	45.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%		54.2%	54.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		15.0			15.0			42.9			42.9	
Actuated g/C Ratio		0.23			0.23			0.65			0.65	
v/c Ratio		0.24			0.06			0.13			0.04	
Control Delay		18.6			15.2			6.9			3.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		18.6			15.2			6.9			3.9	
LOS		B			B			A			A	
Approach Delay		18.6			15.2			6.9			3.9	
Approach LOS		B			B			A			A	
Queue Length 50th (m)		7.5			1.2			8.4			0.9	
Queue Length 95th (m)		19.0			6.4			16.2			4.5	
Internal Link Dist (m)		1210.6			2421.7			555.1			4923.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (m)												
Base Capacity (vph)		790			815			1189			1067	
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		0.12			0.03			0.13			0.04	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 65.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.24			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 55.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 140: County Road 18 & County Road 9

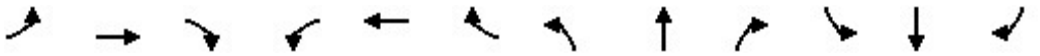




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	21	2	5	46	57	17	213	9	21	53	12
Future Volume (Veh/h)	61	21	2	5	46	57	17	213	9	21	53	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	66	23	2	5	50	62	18	232	10	23	58	13
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	459	382	58	386	385	232	71			242		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	459	382	58	386	385	232	71			242		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	85	96	100	99	91	92	99			98		
cM capacity (veh/h)	429	535	1008	541	533	807	1529			1324		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	91	117	250	10	81	13
Volume Left	66	5	18	0	23	0
Volume Right	2	62	0	10	0	13
cSH	458	650	1529	1700	1324	1700
Volume to Capacity	0.20	0.18	0.01	0.01	0.02	0.01
Queue Length 95th (m)	5.9	5.2	0.3	0.0	0.4	0.0
Control Delay (s)	14.8	11.7	0.6	0.0	2.3	0.0
Lane LOS	B	B	A		A	
Approach Delay (s)	14.8	11.7	0.6		2.0	
Approach LOS	B	B				

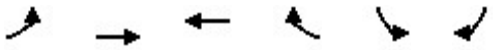
Intersection Summary				
Average Delay	5.5			
Intersection Capacity Utilization	37.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	23	19	2	21	22	26	338	8	26	148	27
Future Volume (Veh/h)	43	23	19	2	21	22	26	338	8	26	148	27
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	47	25	21	2	23	24	28	367	9	28	161	29
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	694	664	176	692	674	372	190			376		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	694	664	176	692	674	372	190			376		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	85	93	98	99	94	96	98			98		
cM capacity (veh/h)	317	365	868	320	360	674	1384			1182		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	93	49	404	218
Volume Left	47	2	28	28
Volume Right	21	24	9	29
cSH	386	463	1384	1182
Volume to Capacity	0.24	0.11	0.02	0.02
Queue Length 95th (m)	7.4	2.8	0.5	0.6
Control Delay (s)	17.3	13.7	0.7	1.2
Lane LOS	C	B	A	A
Approach Delay (s)	17.3	13.7	0.7	1.2
Approach LOS	C	B		

Intersection Summary				
Average Delay	3.7			
Intersection Capacity Utilization	41.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	18	82	73	1	2	54
Future Volume (Veh/h)	18	82	73	1	2	54
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	89	79	1	2	59
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	80				208	80
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	80				208	80
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	94
cM capacity (veh/h)	1518				770	981

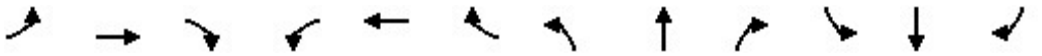
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	109	80	61
Volume Left	20	0	2
Volume Right	0	1	59
cSH	1518	1700	972
Volume to Capacity	0.01	0.05	0.06
Queue Length 95th (m)	0.3	0.0	1.6
Control Delay (s)	1.4	0.0	9.0
Lane LOS	A		A
Approach Delay (s)	1.4	0.0	9.0
Approach LOS			A

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	22.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	5	7	397	196	12
Future Volume (Veh/h)	29	5	7	397	196	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	5	8	432	213	13
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	668	220	226			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	668	220	226			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	99	99			
cM capacity (veh/h)	421	820	1342			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	37	440	226
Volume Left	32	8	0
Volume Right	5	0	13
cSH	451	1342	1700
Volume to Capacity	0.08	0.01	0.13
Queue Length 95th (m)	2.1	0.1	0.0
Control Delay (s)	13.7	0.2	0.0
Lane LOS	B	A	
Approach Delay (s)	13.7	0.2	0.0
Approach LOS	B		

Intersection Summary			
Average Delay		0.8	
Intersection Capacity Utilization		36.5%	ICU Level of Service
Analysis Period (min)		15	

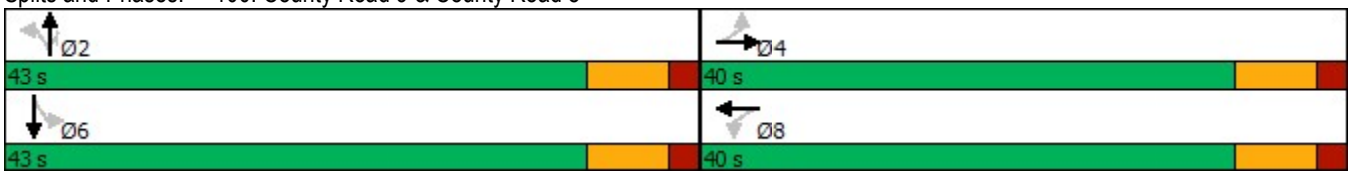


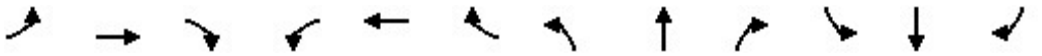
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	54	19	35	72	19	11	284	21	32	284	89
Future Volume (vph)	54	54	19	35	72	19	11	284	21	32	284	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		5.0	30.0		5.0	30.0		30.0	30.0		5.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		0.961			0.968				0.850		0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1790	0	1770	1803	0	1770	1863	1583	1770	1796	0
Flt Permitted	0.693			0.705			0.524			0.572		
Satd. Flow (perm)	1291	1790	0	1313	1803	0	976	1863	1583	1065	1796	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			19				53		24	
Link Speed (k/h)		50			80			80			80	
Link Distance (m)		288.0			2781.8			4852.6			543.4	
Travel Time (s)		20.7			125.2			218.4			24.5	
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
Adj. Flow (vph)	59	59	21	38	78	21	12	309	23	35	309	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	80	0	38	99	0	12	309	23	35	406	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		36.0	36.0	36.0	36.0	36.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		43.0	43.0	43.0	43.0	43.0	
Total Split (s)	40.0	40.0		40.0	40.0		43.0	43.0	43.0	43.0	43.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		51.8%	51.8%	51.8%	51.8%	51.8%	
Maximum Green (s)	33.0	33.0		33.0	33.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2	0.2	0.2	0.2	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Act Effct Green (s)	10.8	10.8		10.8	10.8		40.6	40.6	40.6	40.6	40.6	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.67	0.67	0.67	0.67	0.67	
v/c Ratio	0.26	0.24		0.16	0.29		0.02	0.25	0.02	0.05	0.33	
Control Delay	24.6	18.7		22.9	20.7		5.7	6.5	0.7	5.9	6.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.6	18.7		22.9	20.7		5.7	6.5	0.7	5.9	6.8	
LOS	C	B		C	C		A	A	A	A	A	
Approach Delay		21.2			21.3			6.1			6.7	
Approach LOS		C			C			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (m)	6.1	6.0		3.8	8.2		0.5	14.8	0.0	1.5	19.4	
Queue Length 95th (m)	15.4	16.1		11.1	19.8		2.5	29.8	1.1	5.0	39.1	
Internal Link Dist (m)		264.0			2757.8			4828.6			519.4	
Turn Bay Length (m)	20.0			30.0			30.0		30.0	30.0		
Base Capacity (vph)	705	987		717	993		655	1251	1081	715	1214	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.08	0.08		0.05	0.10		0.02	0.25	0.02	0.05	0.33	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 60.4			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay: 10.3		Intersection LOS: B	
Intersection Capacity Utilization 85.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 100: County Road 9 & County Road 8



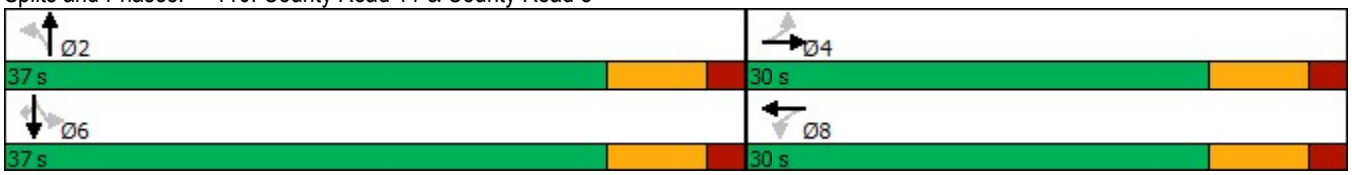


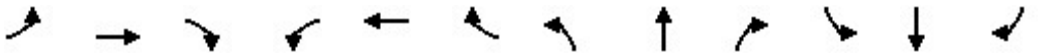
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	57	21	7	39	7	28	168	46	8	365	66
Future Volume (vph)	25	57	21	7	39	7	28	168	46	8	365	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		5.0	20.0		5.0	0.0		7.0	0.0		20.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
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			0.976			0.974				0.850
Flt Protected	0.950			0.950				0.994			0.999	
Satd. Flow (prot)	1770	1786	0	1770	1818	0	0	1803	0	0	1861	1583
Flt Permitted	0.724			0.702				0.930			0.992	
Satd. Flow (perm)	1349	1786	0	1308	1818	0	0	1687	0	0	1848	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			8			23				65
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		2781.8			501.5			4461.8			486.2	
Travel Time (s)		125.2			22.6			200.8			21.9	
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
Adj. Flow (vph)	27	62	23	8	42	8	30	183	50	9	397	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	85	0	8	50	0	0	263	0	0	406	72
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		30.0	30.0		30.0	30.0	30.0
Minimum Split (s)	31.0	31.0		25.0	25.0		37.0	37.0		37.0	37.0	37.0
Total Split (s)	30.0	30.0		30.0	30.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	44.8%	44.8%		44.8%	44.8%		55.2%	55.2%		55.2%	55.2%	55.2%
Maximum Green (s)	23.0	23.0		23.0	23.0		30.0	30.0		30.0	30.0	30.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Minimum Gap (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	None		None	None		Max	Max		Max	Max	Max
Walk Time (s)	10.0	10.0					10.0	10.0				
Flash Dont Walk (s)	14.0	14.0					14.0	14.0				
Pedestrian Calls (#/hr)	0	0					0	0				
Act Effct Green (s)	15.0	15.0		15.0	15.0			35.0			35.0	35.0
Actuated g/C Ratio	0.26	0.26		0.26	0.26			0.61			0.61	0.61
v/c Ratio	0.08	0.18		0.02	0.10			0.25			0.36	0.07

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	17.6	14.6		16.9	15.6			8.1			9.7	3.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	17.6	14.6		16.9	15.6			8.1			9.7	3.0
LOS	B	B		B	B			A			A	A
Approach Delay		15.3			15.8			8.1			8.7	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	2.3	5.5		0.7	3.6			14.3			26.6	0.4
Queue Length 95th (m)	7.7	14.9		3.5	10.8			27.0			45.5	5.4
Internal Link Dist (m)		2757.8			477.5			4437.8			462.2	
Turn Bay Length (m)	25.0			20.0								20.0
Base Capacity (vph)	539	728		523	732			1033			1121	985
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.05	0.12		0.02	0.07			0.25			0.36	0.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 67			
Actuated Cycle Length: 57.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.36			
Intersection Signal Delay: 9.8		Intersection LOS: A	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 110: County Road 11 & County Road 8



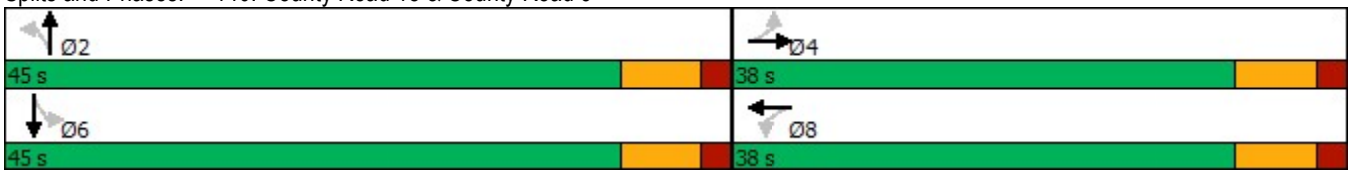


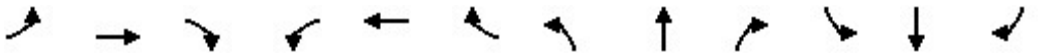
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	43	9	2	61	14	4	35	2	43	73	36
Future Volume (vph)	39	43	9	2	61	14	4	35	2	43	73	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986			0.976			0.994			0.968	
Flt Protected		0.979			0.999			0.995			0.986	
Satd. Flow (prot)	0	1798	0	0	1816	0	0	1842	0	0	1778	0
Flt Permitted		0.824			0.991			0.982			0.920	
Satd. Flow (perm)	0	1513	0	0	1802	0	0	1818	0	0	1659	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			15			2			25	
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1234.6			2445.7			579.1			4947.9	
Travel Time (s)		55.6			110.1			26.1			222.7	
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
Adj. Flow (vph)	42	47	10	2	66	15	4	38	2	47	79	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	99	0	0	83	0	0	44	0	0	165	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		38.0	38.0		38.0	38.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		45.0	45.0		45.0	45.0	
Total Split (s)	38.0	38.0		38.0	38.0		45.0	45.0		45.0	45.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%		54.2%	54.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		15.0			15.0			42.9			42.9	
Actuated g/C Ratio		0.23			0.23			0.65			0.65	
v/c Ratio		0.28			0.20			0.04			0.15	
Control Delay		22.7			19.5			6.4			6.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		22.7			19.5			6.4			6.2	
LOS		C			B			A			A	
Approach Delay		22.7			19.5			6.4			6.2	
Approach LOS		C			B			A			A	
Queue Length 50th (m)		9.9			7.2			2.2			7.8	
Queue Length 95th (m)		22.1			17.8			6.0			16.0	
Internal Link Dist (m)		1210.6			2421.7			555.1			4923.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (m)												
Base Capacity (vph)		720			860			1188			1093	
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		0.14			0.10			0.04			0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 65.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.28			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 55.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 140: County Road 18 & County Road 9

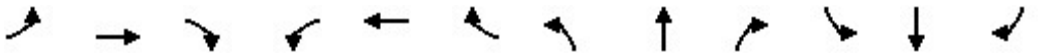




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	58	4	4	92	49	13	129	13	81	197	52
Future Volume (Veh/h)	26	58	4	4	92	49	13	129	13	81	197	52
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	28	63	4	4	100	53	14	140	14	88	214	57
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	661	572	214	594	615	140	271			154		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	661	572	214	594	615	140	271			154		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	84	100	99	73	94	99			94		
cM capacity (veh/h)	267	399	826	345	377	908	1292			1426		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	95	157	154	14	302	57
Volume Left	28	4	14	0	88	0
Volume Right	4	53	0	14	0	57
cSH	355	469	1292	1700	1426	1700
Volume to Capacity	0.27	0.33	0.01	0.01	0.06	0.03
Queue Length 95th (m)	8.5	11.7	0.3	0.0	1.6	0.0
Control Delay (s)	18.8	16.5	0.8	0.0	2.6	0.0
Lane LOS	C	C	A		A	
Approach Delay (s)	18.8	16.5	0.7		2.2	
Approach LOS	C	C				

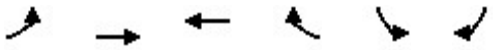
Intersection Summary				
Average Delay	6.8			
Intersection Capacity Utilization	48.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	37	31	3	26	31	18	167	6	50	377	87
Future Volume (Veh/h)	48	37	31	3	26	31	18	167	6	50	377	87
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	52	40	34	3	28	34	20	182	7	54	410	95
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	839	794	458	845	838	186	505			189		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	839	794	458	845	838	186	505			189		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	79	87	94	99	90	96	98			96		
cM capacity (veh/h)	242	302	603	229	285	857	1060			1385		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	126	65	209	559
Volume Left	52	3	20	54
Volume Right	34	34	7	95
cSH	313	430	1060	1385
Volume to Capacity	0.40	0.15	0.02	0.04
Queue Length 95th (m)	15.0	4.2	0.5	1.0
Control Delay (s)	24.1	14.8	1.0	1.1
Lane LOS	C	B	A	A
Approach Delay (s)	24.1	14.8	1.0	1.1
Approach LOS	C	B		

Intersection Summary				
Average Delay	5.0			
Intersection Capacity Utilization	56.9%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	61	110	122	3	2	36
Future Volume (Veh/h)	61	110	122	3	2	36
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	66	120	133	3	2	39
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	136				386	134
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	136				386	134
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				100	96
cM capacity (veh/h)	1448				589	914

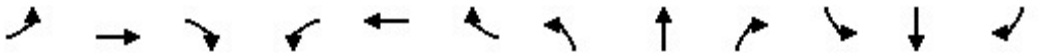
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	186	136	41
Volume Left	66	0	2
Volume Right	0	3	39
cSH	1448	1700	890
Volume to Capacity	0.05	0.08	0.05
Queue Length 95th (m)	1.1	0.0	1.2
Control Delay (s)	2.9	0.0	9.2
Lane LOS	A		A
Approach Delay (s)	2.9	0.0	9.2
Approach LOS			A

Intersection Summary			
Average Delay		2.5	
Intersection Capacity Utilization		29.1%	ICU Level of Service
Analysis Period (min)		15	

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	28	21	20	228	495	39
Future Volume (Veh/h)	28	21	20	228	495	39
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	30	23	22	248	538	42
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	851	559	580			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	851	559	580			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	96	98			
cM capacity (veh/h)	323	529	994			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	53	270	580
Volume Left	30	22	0
Volume Right	23	0	42
cSH	389	994	1700
Volume to Capacity	0.14	0.02	0.34
Queue Length 95th (m)	3.7	0.5	0.0
Control Delay (s)	15.7	0.9	0.0
Lane LOS	C	A	
Approach Delay (s)	15.7	0.9	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	38.6%	ICU Level of Service	A
Analysis Period (min)	15		

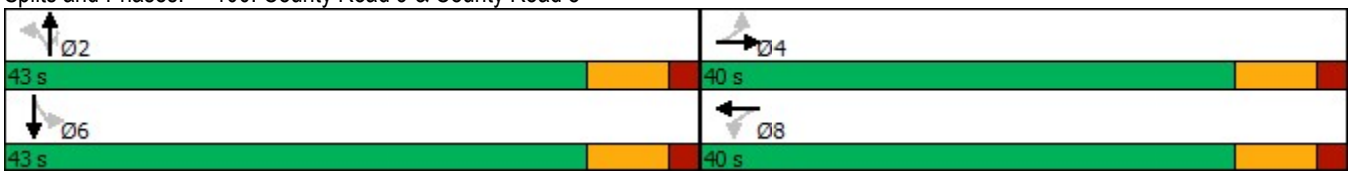


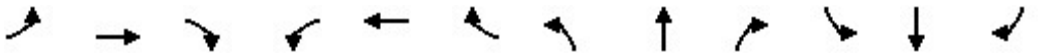
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	42	28	37	55	46	22	369	46	7	109	69
Future Volume (vph)	57	42	28	37	55	46	22	369	46	7	109	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		5.0	30.0		5.0	30.0		30.0	30.0		5.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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		0.941			0.932				0.850		0.942	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1753	0	1770	1736	0	1770	1863	1583	1770	1755	0
Flt Permitted	0.686			0.708			0.636			0.526		
Satd. Flow (perm)	1278	1753	0	1319	1736	0	1185	1863	1583	980	1755	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			50				53		49	
Link Speed (k/h)		50			80			80			80	
Link Distance (m)		288.0			2781.8			4852.6			543.4	
Travel Time (s)		20.7			125.2			218.4			24.5	
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
Adj. Flow (vph)	62	46	30	40	60	50	24	401	50	8	118	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	76	0	40	110	0	24	401	50	8	193	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		36.0	36.0	36.0	36.0	36.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		43.0	43.0	43.0	43.0	43.0	
Total Split (s)	40.0	40.0		40.0	40.0		43.0	43.0	43.0	43.0	43.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		51.8%	51.8%	51.8%	51.8%	51.8%	
Maximum Green (s)	33.0	33.0		33.0	33.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2	0.2	0.2	0.2	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Act Effct Green (s)	10.9	10.9		10.9	10.9		40.7	40.7	40.7	40.7	40.7	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.67	0.67	0.67	0.67	0.67	
v/c Ratio	0.27	0.22		0.17	0.31		0.03	0.32	0.05	0.01	0.16	
Control Delay	24.8	16.2		22.9	15.8		5.8	7.1	2.1	5.7	4.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.8	16.2		22.9	15.8		5.8	7.1	2.1	5.7	4.8	
LOS	C	B		C	B		A	A	A	A	A	
Approach Delay		20.1			17.7			6.5			4.9	
Approach LOS		C			B			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (m)	6.4	4.6		4.0	6.1		1.0	20.6	0.0	0.3	6.3	
Queue Length 95th (m)	15.9	14.4		11.3	17.9		3.9	40.3	3.5	1.9	15.8	
Internal Link Dist (m)		264.0			2757.8			4828.6			519.4	
Turn Bay Length (m)	20.0			30.0			30.0		30.0	30.0		
Base Capacity (vph)	696	969		719	969		794	1249	1079	657	1193	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.09	0.08		0.06	0.11		0.03	0.32	0.05	0.01	0.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 60.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.32			
Intersection Signal Delay: 9.9		Intersection LOS: A	
Intersection Capacity Utilization 85.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 100: County Road 9 & County Road 8



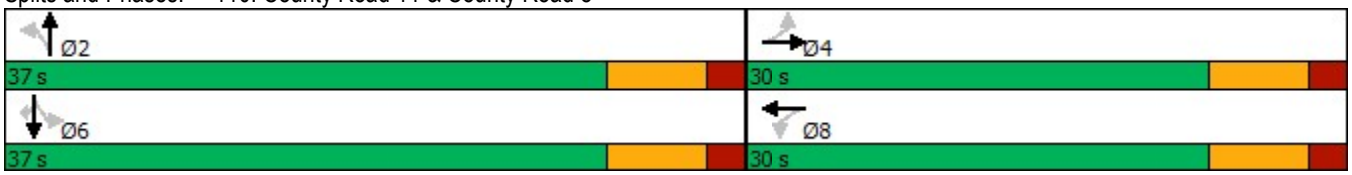


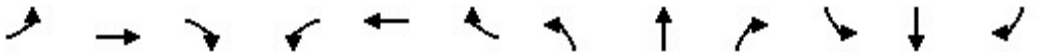
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	54	6	5	105	6	22	315	29	0	74	11
Future Volume (vph)	41	54	6	5	105	6	22	315	29	0	74	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		5.0	20.0		5.0	0.0		7.0	0.0		20.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
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		0.984			0.991			0.989				0.850
Flt Protected	0.950			0.950				0.997				
Satd. Flow (prot)	1770	1833	0	1770	1846	0	0	1837	0	0	1863	1583
Flt Permitted	0.679			0.714				0.983				
Satd. Flow (perm)	1265	1833	0	1330	1846	0	0	1811	0	0	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			5			9				65
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		2781.8			501.5			4461.8			486.2	
Travel Time (s)		125.2			22.6			200.8			21.9	
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
Adj. Flow (vph)	45	59	7	5	114	7	24	342	32	0	80	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	66	0	5	121	0	0	398	0	0	80	12
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		30.0	30.0		30.0	30.0	30.0
Minimum Split (s)	31.0	31.0		25.0	25.0		37.0	37.0		37.0	37.0	37.0
Total Split (s)	30.0	30.0		30.0	30.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	44.8%	44.8%		44.8%	44.8%		55.2%	55.2%		55.2%	55.2%	55.2%
Maximum Green (s)	23.0	23.0		23.0	23.0		30.0	30.0		30.0	30.0	30.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Minimum Gap (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	None		None	None		Max	Max		Max	Max	Max
Walk Time (s)	10.0	10.0					10.0	10.0				
Flash Dont Walk (s)	14.0	14.0					14.0	14.0				
Pedestrian Calls (#/hr)	0	0					0	0				
Act Effct Green (s)	15.0	15.0		15.0	15.0			35.0			35.0	35.0
Actuated g/C Ratio	0.26	0.26		0.26	0.26			0.61			0.61	0.61
v/c Ratio	0.14	0.14		0.01	0.25			0.36			0.07	0.01

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	18.4	16.5		16.8	18.5			9.5			7.8	0.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	18.4	16.5		16.8	18.5			9.5			7.8	0.0
LOS	B	B		B	B			A			A	A
Approach Delay		17.3			18.5			9.5			6.7	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	4.0	5.2		0.4	10.5			25.4			4.3	0.0
Queue Length 95th (m)	11.0	13.4		2.7	22.3			43.7			10.0	0.0
Internal Link Dist (m)		2757.8			477.5			4437.8			462.2	
Turn Bay Length (m)	25.0			20.0								20.0
Base Capacity (vph)	506	737		532	741			1102			1130	985
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.09	0.09		0.01	0.16			0.36			0.07	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 67			
Actuated Cycle Length: 57.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.36			
Intersection Signal Delay: 11.9		Intersection LOS: B	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 110: County Road 11 & County Road 8



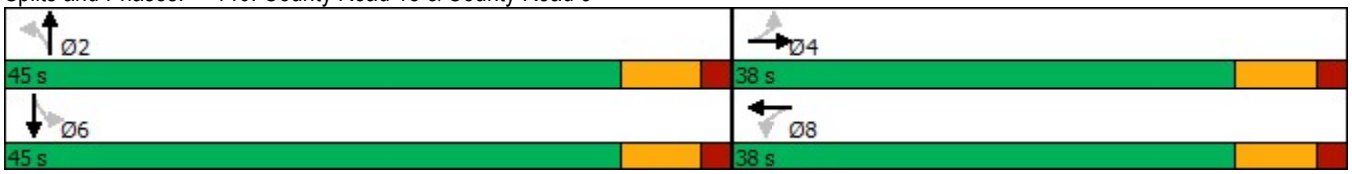


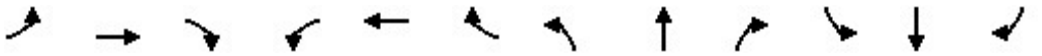
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	48	25	1	10	11	13	134	7	10	6	25
Future Volume (vph)	22	48	25	1	10	11	13	134	7	10	6	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	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			0.932			0.994			0.919	
Flt Protected		0.988			0.998			0.996			0.988	
Satd. Flow (prot)	0	1776	0	0	1733	0	0	1844	0	0	1691	0
Flt Permitted		0.913			0.985			0.983			0.940	
Satd. Flow (perm)	0	1641	0	0	1710	0	0	1820	0	0	1609	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			12			4			27	
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1234.6			2445.7			579.1			4947.9	
Travel Time (s)		55.6			110.1			26.1			222.7	
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
Adj. Flow (vph)	24	52	27	1	11	12	14	146	8	11	7	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	24	0	0	168	0	0	45	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		38.0	38.0		38.0	38.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		45.0	45.0		45.0	45.0	
Total Split (s)	38.0	38.0		38.0	38.0		45.0	45.0		45.0	45.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%		54.2%	54.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		15.0			15.0			42.9			42.9	
Actuated g/C Ratio		0.23			0.23			0.65			0.65	
v/c Ratio		0.26			0.06			0.14			0.04	
Control Delay		19.1			15.0			6.9			3.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		19.1			15.0			6.9			3.9	
LOS		B			B			A			A	
Approach Delay		19.1			15.0			6.9			3.9	
Approach LOS		B			B			A			A	
Queue Length 50th (m)		8.4			1.2			9.2			0.9	
Queue Length 95th (m)		20.4			6.7			17.5			4.7	
Internal Link Dist (m)		1210.6			2421.7			555.1			4923.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (m)												
Base Capacity (vph)		789			815			1190			1061	
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		0.13			0.03			0.14			0.04	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 65.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.26			
Intersection Signal Delay: 10.8		Intersection LOS: B	
Intersection Capacity Utilization 55.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 140: County Road 18 & County Road 9

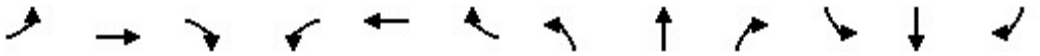




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	22	2	5	49	59	18	232	10	22	58	13
Future Volume (Veh/h)	66	22	2	5	49	59	18	232	10	22	58	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	72	24	2	5	53	64	20	252	11	24	63	14
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	494	414	63	417	417	252	77			263		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	494	414	63	417	417	252	77			263		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	82	95	100	99	90	92	99			98		
cM capacity (veh/h)	401	512	1002	513	510	787	1522			1301		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	98	122	272	11	87	14
Volume Left	72	5	20	0	24	0
Volume Right	2	64	0	11	0	14
cSH	429	626	1522	1700	1301	1700
Volume to Capacity	0.23	0.20	0.01	0.01	0.02	0.01
Queue Length 95th (m)	7.0	5.7	0.3	0.0	0.5	0.0
Control Delay (s)	15.8	12.1	0.6	0.0	2.3	0.0
Lane LOS	C	B	A		A	
Approach Delay (s)	15.8	12.1	0.6		2.0	
Approach LOS	C	B				

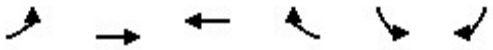
Intersection Summary				
Average Delay	5.6			
Intersection Capacity Utilization	39.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	25	20	2	23	23	29	369	8	28	162	29
Future Volume (Veh/h)	47	25	20	2	23	23	29	369	8	28	162	29
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	51	27	22	2	25	25	32	401	9	30	176	32
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	759	726	192	757	738	406	208			410		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	759	726	192	757	738	406	208			410		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	82	92	97	99	92	96	98			97		
cM capacity (veh/h)	282	334	850	285	329	645	1363			1149		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	100	52	442	238
Volume Left	51	2	32	30
Volume Right	22	25	9	32
cSH	347	427	1363	1149
Volume to Capacity	0.29	0.12	0.02	0.03
Queue Length 95th (m)	9.3	3.3	0.6	0.6
Control Delay (s)	19.5	14.6	0.8	1.2
Lane LOS	C	B	A	A
Approach Delay (s)	19.5	14.6	0.8	1.2
Approach LOS	C	B		

Intersection Summary				
Average Delay	4.0			
Intersection Capacity Utilization	43.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	18	89	79	1	2	54
Future Volume (Veh/h)	18	89	79	1	2	54
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	97	86	1	2	59
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	87				224	86
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	87				224	86
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	94
cM capacity (veh/h)	1509				755	972

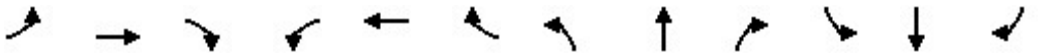
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	117	87	61
Volume Left	20	0	2
Volume Right	0	1	59
cSH	1509	1700	963
Volume to Capacity	0.01	0.05	0.06
Queue Length 95th (m)	0.3	0.0	1.6
Control Delay (s)	1.4	0.0	9.0
Lane LOS	A		A
Approach Delay (s)	1.4	0.0	9.0
Approach LOS			A

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	22.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	5	7	433	214	12
Future Volume (Veh/h)	29	5	7	433	214	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	5	8	471	233	13
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	726	240	246			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	726	240	246			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	99	99			
cM capacity (veh/h)	389	799	1320			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	37	479	246
Volume Left	32	8	0
Volume Right	5	0	13
cSH	418	1320	1700
Volume to Capacity	0.09	0.01	0.14
Queue Length 95th (m)	2.3	0.1	0.0
Control Delay (s)	14.5	0.2	0.0
Lane LOS	B	A	
Approach Delay (s)	14.5	0.2	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	38.4%	ICU Level of Service	A
Analysis Period (min)	15		

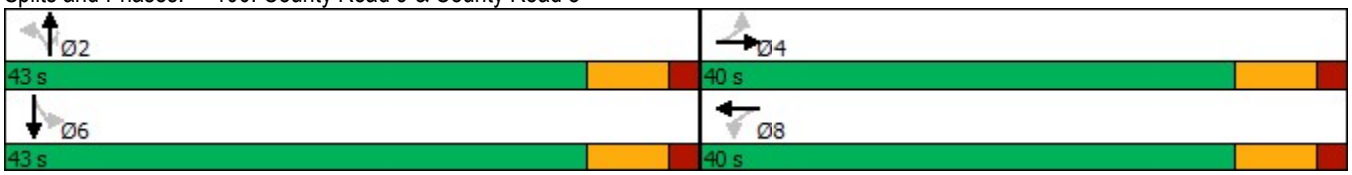


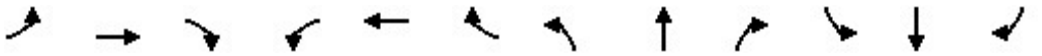
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	59	20	39	78	20	12	308	23	35	306	97
Future Volume (vph)	59	59	20	39	78	20	12	308	23	35	306	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		5.0	30.0		5.0	30.0		30.0	30.0		5.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
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			0.969				0.850		0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1792	0	1770	1805	0	1770	1863	1583	1770	1796	0
Flt Permitted	0.688			0.701			0.504			0.559		
Satd. Flow (perm)	1282	1792	0	1306	1805	0	939	1863	1583	1041	1796	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			19				53		24	
Link Speed (k/h)		50			80			80			80	
Link Distance (m)		288.0			2781.8			4852.6			543.4	
Travel Time (s)		20.7			125.2			218.4			24.5	
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
Adj. Flow (vph)	64	64	22	42	85	22	13	335	25	38	333	105
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	86	0	42	107	0	13	335	25	38	438	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		36.0	36.0	36.0	36.0	36.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		43.0	43.0	43.0	43.0	43.0	
Total Split (s)	40.0	40.0		40.0	40.0		43.0	43.0	43.0	43.0	43.0	
Total Split (%)	48.2%	48.2%		48.2%	48.2%		51.8%	51.8%	51.8%	51.8%	51.8%	
Maximum Green (s)	33.0	33.0		33.0	33.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2	0.2	0.2	0.2	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Act Effct Green (s)	11.0	11.0		11.0	11.0		40.6	40.6	40.6	40.6	40.6	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.67	0.67	0.67	0.67	0.67	
v/c Ratio	0.28	0.25		0.18	0.31		0.02	0.27	0.02	0.05	0.36	
Control Delay	24.8	18.9		23.0	21.0		5.8	6.8	0.9	6.1	7.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.8	18.9		23.0	21.0		5.8	6.8	0.9	6.1	7.2	
LOS	C	B		C	C		A	A	A	A	A	
Approach Delay		21.4			21.5			6.3			7.1	
Approach LOS		C			C			A			A	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (m)	6.6	6.5		4.3	9.1		0.5	16.6	0.0	1.6	21.8	
Queue Length 95th (m)	16.2	17.1		11.8	21.1		2.7	33.2	1.2	5.5	43.8	
Internal Link Dist (m)		264.0			2757.8			4828.6			519.4	
Turn Bay Length (m)	20.0			30.0			30.0		30.0	30.0		
Base Capacity (vph)	698	986		711	992		629	1248	1078	697	1211	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.09	0.09		0.06	0.11		0.02	0.27	0.02	0.05	0.36	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 60.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.36			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 85.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 100: County Road 9 & County Road 8



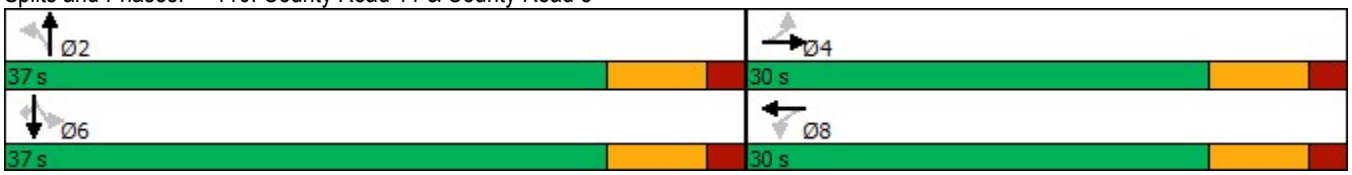


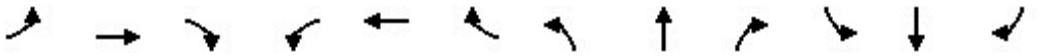
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	63	23	7	42	7	30	181	51	8	396	72
Future Volume (vph)	28	63	23	7	42	7	30	181	51	8	396	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		5.0	20.0		5.0	0.0		7.0	0.0		20.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
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			0.978			0.974				0.850
Flt Protected	0.950			0.950				0.994			0.999	
Satd. Flow (prot)	1770	1788	0	1770	1822	0	0	1803	0	0	1861	1583
Flt Permitted	0.722			0.697				0.923			0.992	
Satd. Flow (perm)	1345	1788	0	1298	1822	0	0	1675	0	0	1848	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			8			23				65
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		2781.8			501.5			4461.8			486.2	
Travel Time (s)		125.2			22.6			200.8			21.9	
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
Adj. Flow (vph)	30	68	25	8	46	8	33	197	55	9	430	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	93	0	8	54	0	0	285	0	0	439	78
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		30.0	30.0		30.0	30.0	30.0
Minimum Split (s)	31.0	31.0		25.0	25.0		37.0	37.0		37.0	37.0	37.0
Total Split (s)	30.0	30.0		30.0	30.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	44.8%	44.8%		44.8%	44.8%		55.2%	55.2%		55.2%	55.2%	55.2%
Maximum Green (s)	23.0	23.0		23.0	23.0		30.0	30.0		30.0	30.0	30.0
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Minimum Gap (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	None		None	None		Max	Max		Max	Max	Max
Walk Time (s)	10.0	10.0					10.0	10.0				
Flash Dont Walk (s)	14.0	14.0					14.0	14.0				
Pedestrian Calls (#/hr)	0	0					0	0				
Act Effct Green (s)	15.0	15.0		15.0	15.0			35.0			35.0	35.0
Actuated g/C Ratio	0.26	0.26		0.26	0.26			0.61			0.61	0.61
v/c Ratio	0.09	0.19		0.02	0.11			0.28			0.39	0.08

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	17.7	14.7		16.9	15.8			8.4			10.0	3.2
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	17.7	14.7		16.9	15.8			8.4			10.0	3.2
LOS	B	B		B	B			A			A	A
Approach Delay		15.5			15.9			8.4			9.0	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	2.6	6.0		0.7	4.0			15.9			29.5	0.7
Queue Length 95th (m)	8.2	15.9		3.5	11.4			29.6			49.8	5.9
Internal Link Dist (m)		2757.8			477.5			4437.8			462.2	
Turn Bay Length (m)	25.0			20.0								20.0
Base Capacity (vph)	538	730		520	734			1025			1121	985
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.06	0.13		0.02	0.07			0.28			0.39	0.08

Intersection Summary			
Area Type:	Other		
Cycle Length: 67			
Actuated Cycle Length: 57.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay: 10.0		Intersection LOS: B	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 110: County Road 11 & County Road 8



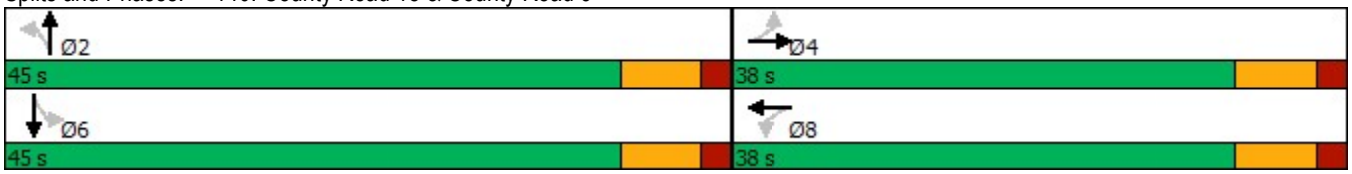


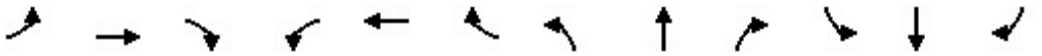
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	47	10	2	66	16	5	39	2	47	79	39
Future Volume (vph)	42	47	10	2	66	16	5	39	2	47	79	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986			0.975			0.994			0.968	
Flt Protected		0.979			0.999			0.995			0.986	
Satd. Flow (prot)	0	1798	0	0	1814	0	0	1842	0	0	1778	0
Flt Permitted		0.820			0.992			0.978			0.917	
Satd. Flow (perm)	0	1506	0	0	1802	0	0	1811	0	0	1653	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			16			2			25	
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		1234.6			2445.7			579.1			4947.9	
Travel Time (s)		55.6			110.1			26.1			222.7	
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
Adj. Flow (vph)	46	51	11	2	72	17	5	42	2	51	86	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	108	0	0	91	0	0	49	0	0	179	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	15.0	15.0		15.0	15.0		38.0	38.0		38.0	38.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		45.0	45.0		45.0	45.0	
Total Split (s)	38.0	38.0		38.0	38.0		45.0	45.0		45.0	45.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%		54.2%	54.2%	
Maximum Green (s)	31.0	31.0		31.0	31.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			7.0			7.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		0.2	0.2		0.2	0.2	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Act Effct Green (s)		15.0			15.0			42.9			42.9	
Actuated g/C Ratio		0.23			0.23			0.65			0.65	
v/c Ratio		0.31			0.21			0.04			0.16	
Control Delay		23.1			19.7			6.4			6.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		23.1			19.7			6.4			6.3	
LOS		C			B			A			A	
Approach Delay		23.1			19.7			6.4			6.3	
Approach LOS		C			B			A			A	
Queue Length 50th (m)		11.0			8.0			2.5			8.7	
Queue Length 95th (m)		23.9			19.1			6.5			17.3	
Internal Link Dist (m)		1210.6			2421.7			555.1			4923.9	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (m)												
Base Capacity (vph)		717			861			1185			1089	
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		0.15			0.11			0.04			0.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 83			
Actuated Cycle Length: 65.6			
Natural Cycle: 70			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.31			
Intersection Signal Delay: 13.4		Intersection LOS: B	
Intersection Capacity Utilization 55.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 140: County Road 18 & County Road 9

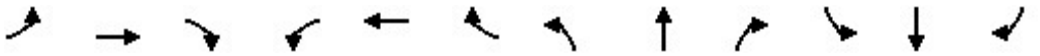




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	61	5	4	100	51	14	141	13	85	215	57
Future Volume (Veh/h)	29	61	5	4	100	51	14	141	13	85	215	57
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	66	5	4	109	55	15	153	14	92	234	62
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	710	615	234	639	663	153	296			167		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	710	615	234	639	663	153	296			167		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	86	82	99	99	69	94	99			93		
cM capacity (veh/h)	235	376	805	315	353	893	1265			1411		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	103	168	168	14	326	62
Volume Left	32	4	15	0	92	0
Volume Right	5	55	0	14	0	62
cSH	324	438	1265	1700	1411	1700
Volume to Capacity	0.32	0.38	0.01	0.01	0.07	0.04
Queue Length 95th (m)	10.7	14.2	0.3	0.0	1.7	0.0
Control Delay (s)	21.2	18.2	0.8	0.0	2.6	0.0
Lane LOS	C	C	A		A	
Approach Delay (s)	21.2	18.2	0.7		2.2	
Approach LOS	C	C				

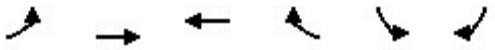
Intersection Summary				
Average Delay	7.4			
Intersection Capacity Utilization	51.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	40	34	4	28	33	19	182	6	54	412	94
Future Volume (Veh/h)	52	40	34	4	28	33	19	182	6	54	412	94
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	57	43	37	4	30	36	21	198	7	59	448	102
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	912	864	499	919	912	202	550			205		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	912	864	499	919	912	202	550			205		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	73	84	94	98	88	96	98			96		
cM capacity (veh/h)	212	274	572	197	257	839	1020			1366		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	137	70	226	609
Volume Left	57	4	21	59
Volume Right	37	36	7	102
cSH	279	389	1020	1366
Volume to Capacity	0.49	0.18	0.02	0.04
Queue Length 95th (m)	20.3	5.2	0.5	1.1
Control Delay (s)	29.8	16.3	1.0	1.2
Lane LOS	D	C	A	A
Approach Delay (s)	29.8	16.3	1.0	1.2
Approach LOS	D	C		

Intersection Summary				
Average Delay	5.9			
Intersection Capacity Utilization	61.0%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	61	120	133	3	2	36
Future Volume (Veh/h)	61	120	133	3	2	36
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	66	130	145	3	2	39
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	148				408	146
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	148				408	146
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				100	96
cM capacity (veh/h)	1434				571	901

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	196	148	41
Volume Left	66	0	2
Volume Right	0	3	39
cSH	1434	1700	876
Volume to Capacity	0.05	0.09	0.05
Queue Length 95th (m)	1.2	0.0	1.2
Control Delay (s)	2.8	0.0	9.3
Lane LOS	A		A
Approach Delay (s)	2.8	0.0	9.3
Approach LOS			A

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	30.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	28	21	20	249	540	39
Future Volume (Veh/h)	28	21	20	249	540	39
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	30	23	22	271	587	42
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	923	608	629			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	923	608	629			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	95	98			
cM capacity (veh/h)	293	496	953			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	53	293	629
Volume Left	30	22	0
Volume Right	23	0	42
cSH	356	953	1700
Volume to Capacity	0.15	0.02	0.37
Queue Length 95th (m)	4.1	0.6	0.0
Control Delay (s)	16.9	0.9	0.0
Lane LOS	C	A	
Approach Delay (s)	16.9	0.9	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

Appendix E

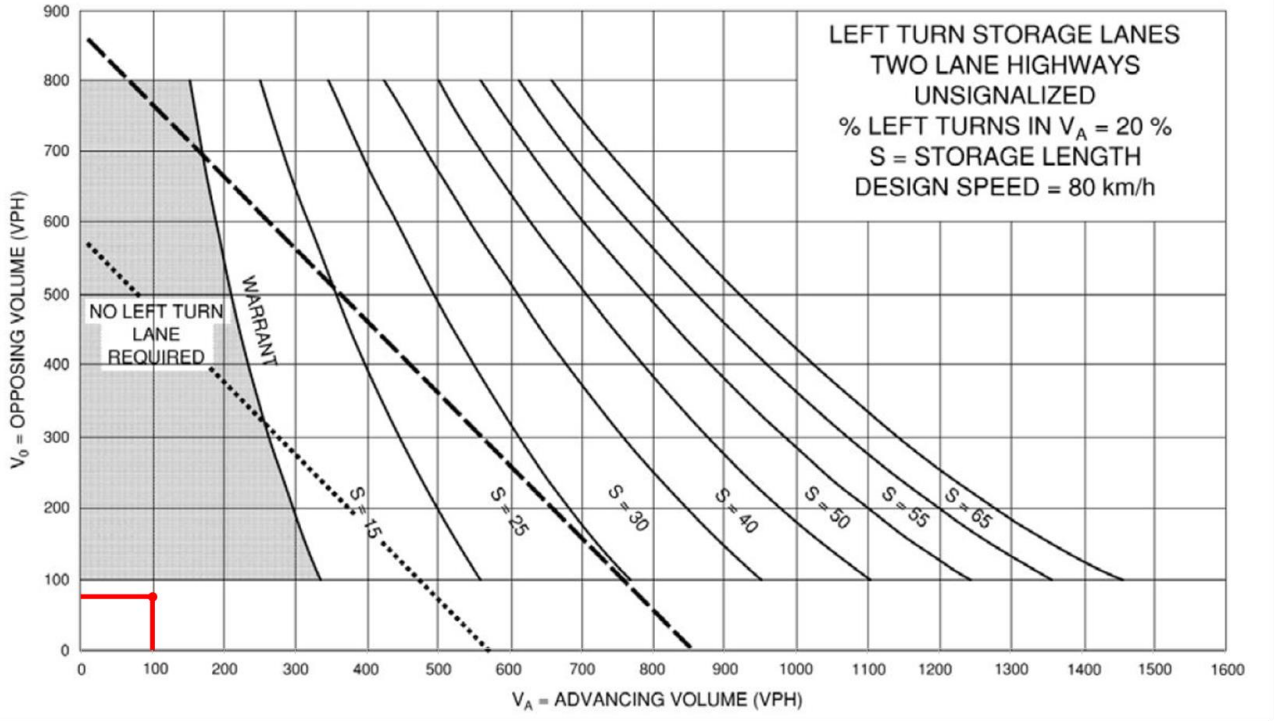
Left Turn Lane Warrant Analysis

Left Turn Lane Warrant Analysis

Eastbound left at Street A and County Road 10

AM Peak Hour

2024 Total Future

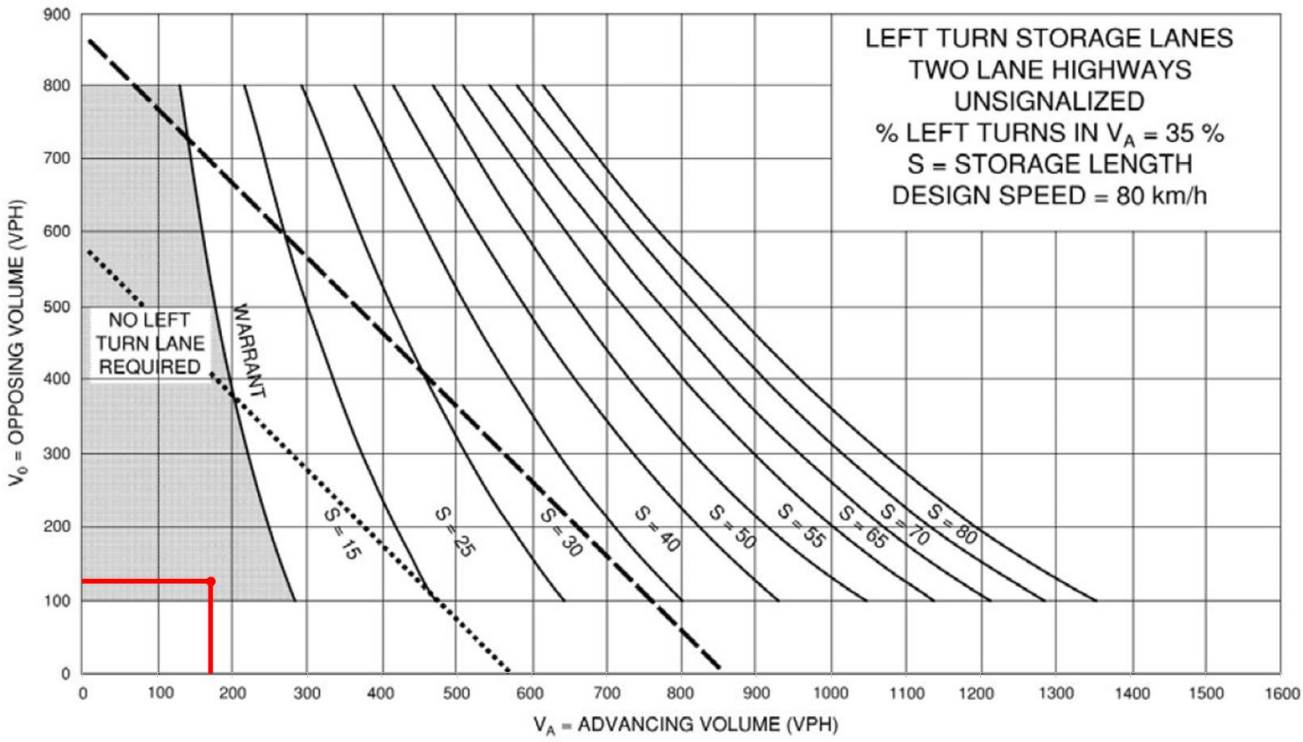


Left Turn Lane Warrant Analysis

Eastbound left at Street A and County Road 10

PM Peak Hour

2024 Total Future

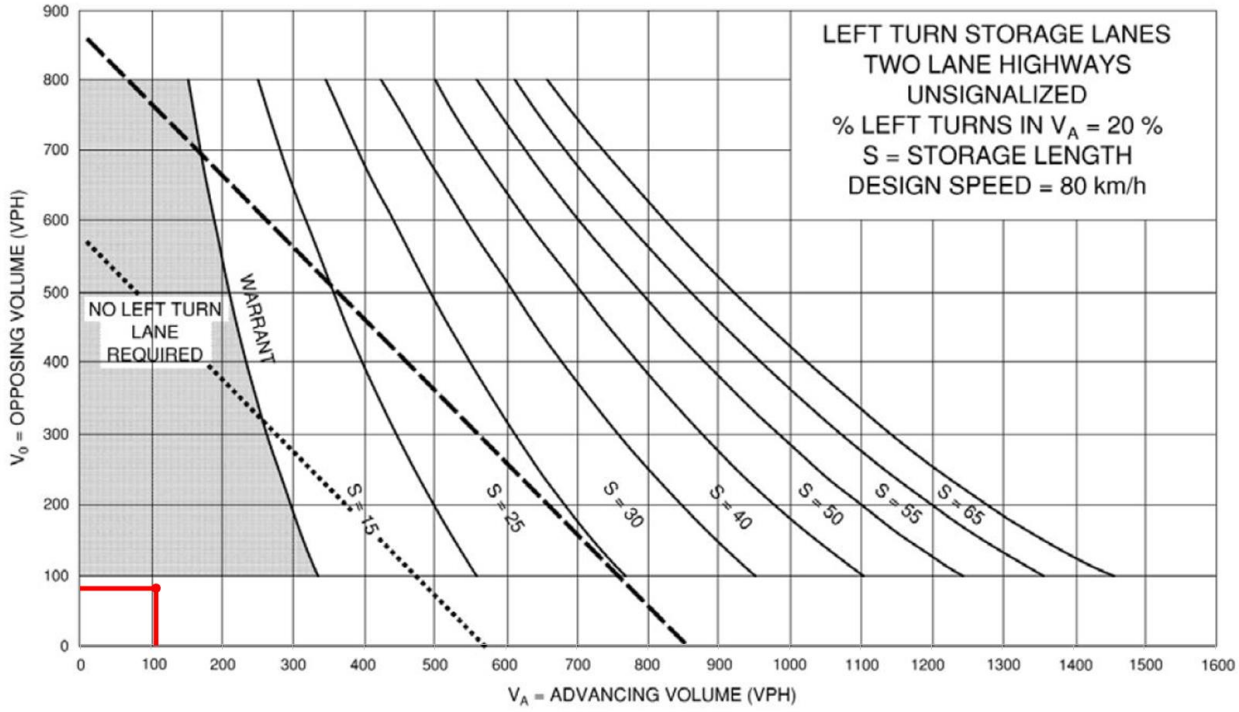


Left Turn Lane Warrant Analysis

Eastbound left at Street A and County Road 10

AM Peak Hour

2029 Total Future

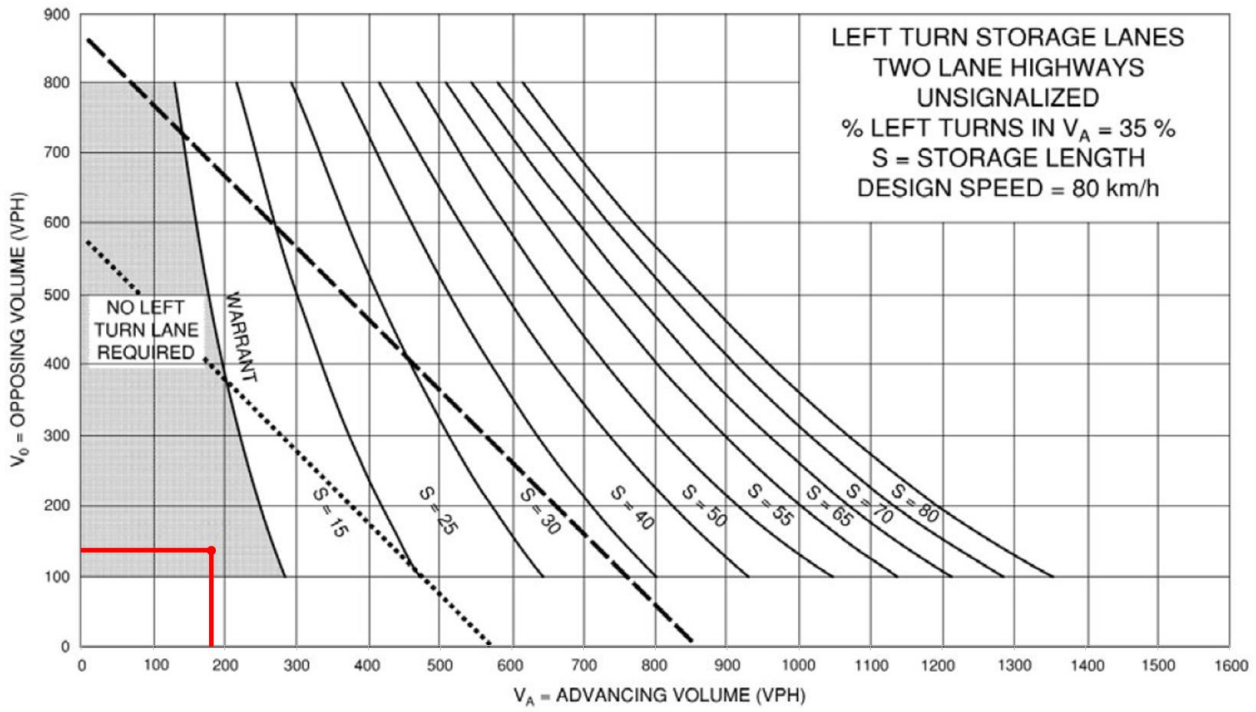


Left Turn Lane Warrant Analysis

Eastbound left at Street A and County Road 10

PM Peak Hour

2029 Total Future

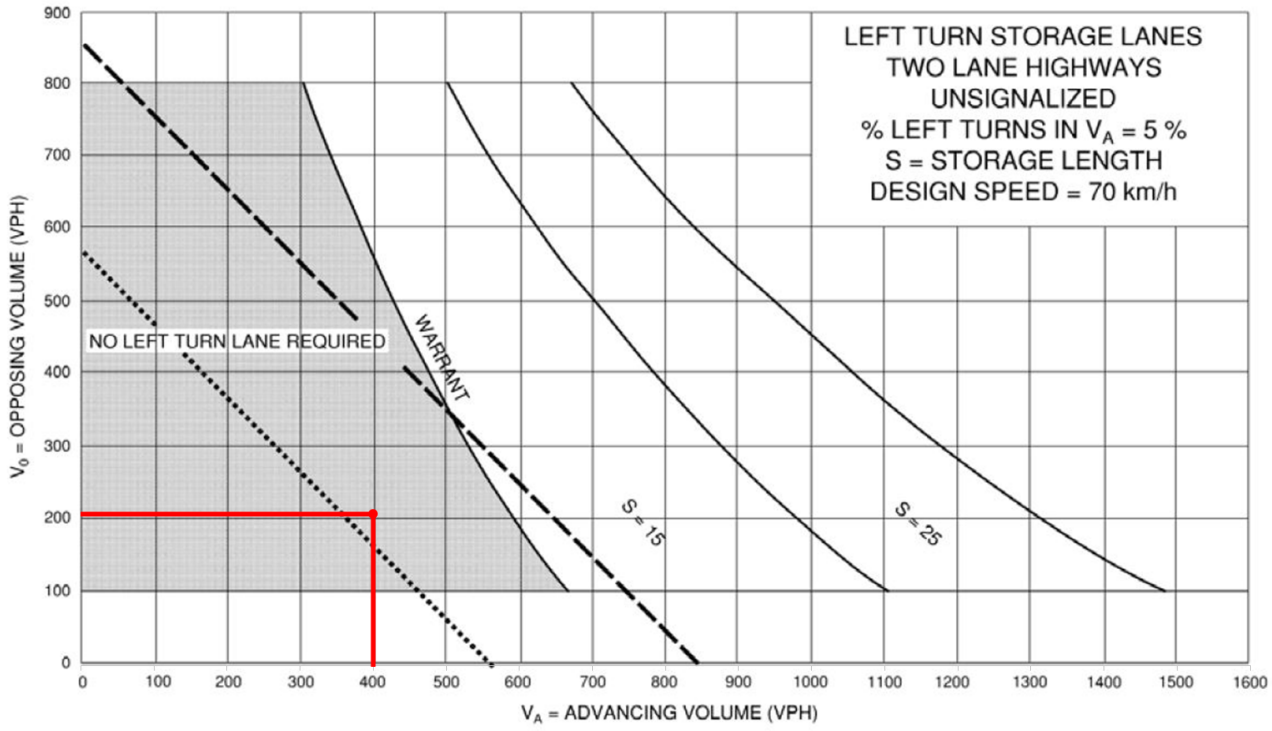


Left Turn Lane Warrant Analysis

Northbound left at Street A and County Road 11

AM Peak Hour

2024 Total Future

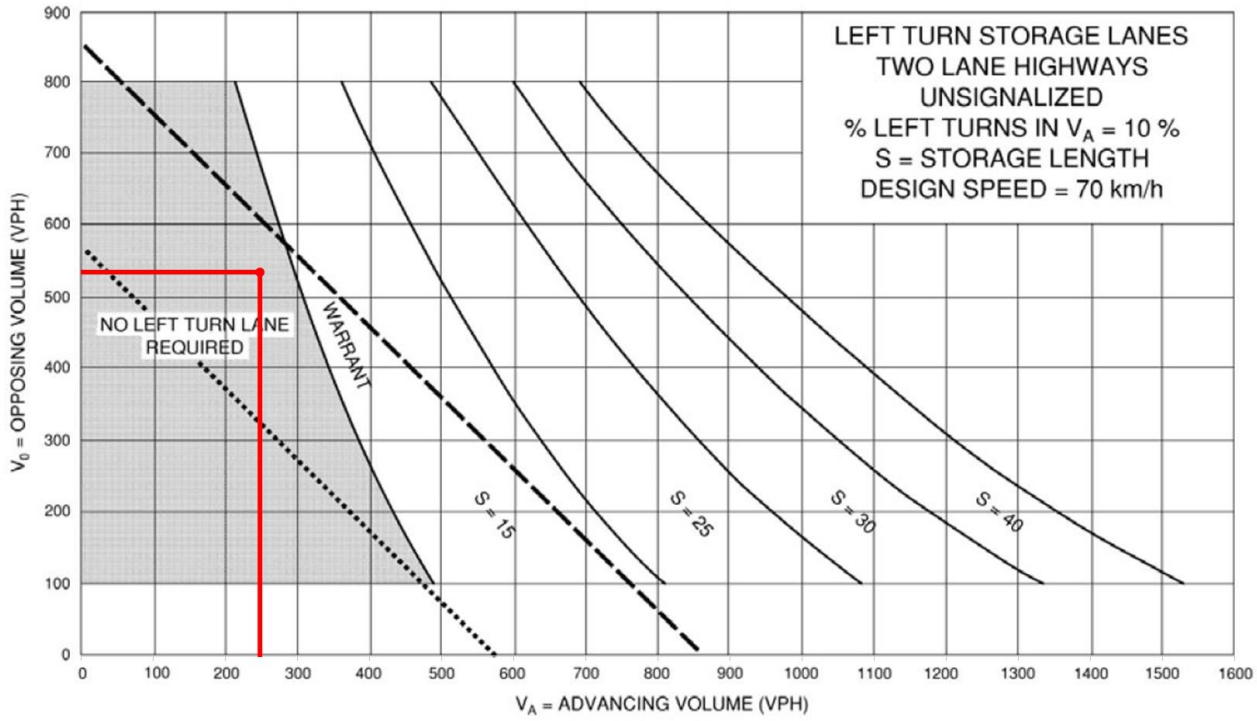


Left Turn Lane Warrant Analysis

Northbound left at Street A and County Road 11

PM Peak Hour

2024 Total Future

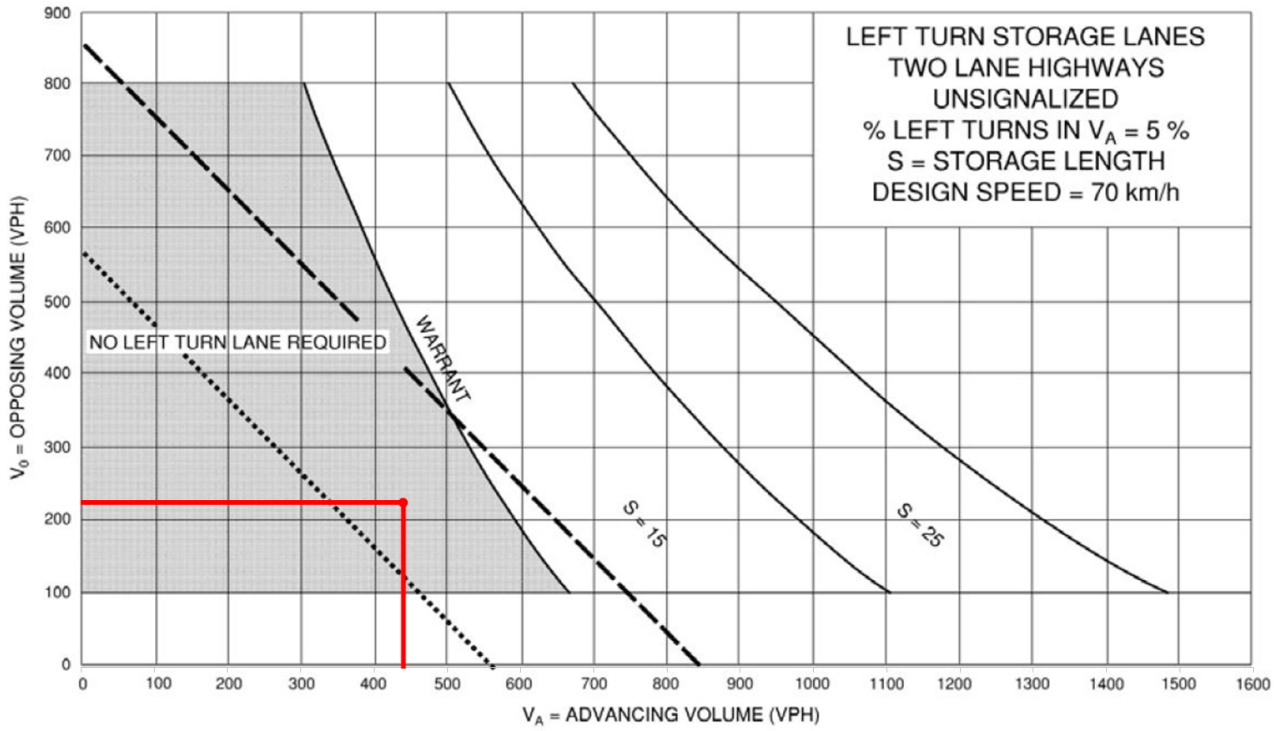


Left Turn Lane Warrant Analysis

Northbound left at Street A and County Road 11

AM Peak Hour

2029 Total Future

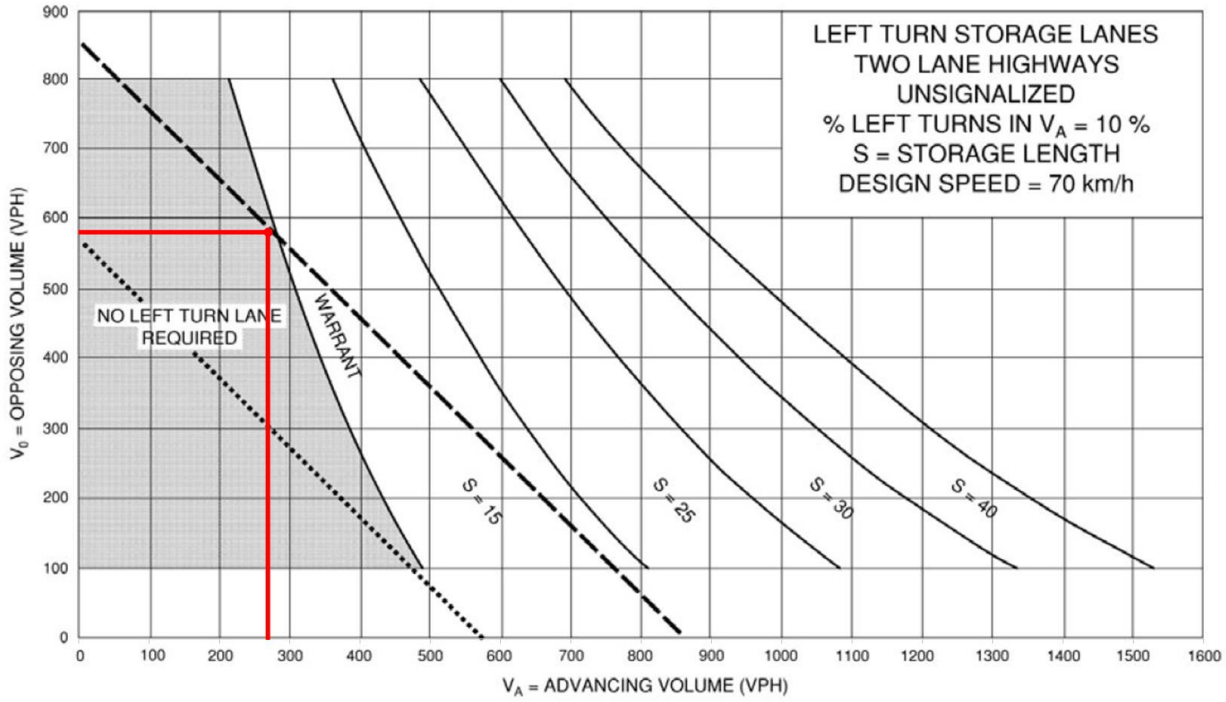


Left Turn Lane Warrant Analysis

Northbound left at Street A and County Road 11

PM Peak Hour

2029 Total Future



9538 Walker Road, Proposed Draft Plan of Subdivision Approval		
20-2669 Comment Summary Matrix 25-Apr-22 McGregor Woodland Trails Subdivision - Application No. 325-22		
	COMMENTS	DILLON RESPONSE
Essex Region Conservation Authority - Contact: Tian Martin		
1	Will flows from Phase 2 undeveloped during the interim scenario be directed towards the pond? Currently the pump rate is based on the allowable release rate calculated for the entire area of the subdivision (Phase 1 and 2), so if the undeveloped portion is not directed towards the pond, flows from Phase 2 may be double counted in overland flow and pump rate to the drain in the interim scenario.	Swales will be graded in Phase 2 to direct runoff to the proposed SWM pond. Text has been added to section 5.2 of the report to identify this.
2	Further to the above comment, please explain how Phase 2 flows are directed towards the pond if that is the case. Does preliminary grading allow for flows from Phase 2 to enter overland into Phase 1? Will swales and catch basins be required in Phase 2 to connect into Phase 1? Etc.	Swales will be graded in Phase 2 to direct runoff to the proposed SWM pond. Further detail of the swale grading and connection to the pond will be developed as part of detailed design. Text has been added to section 5.2 of the report to identify this.
3	Please clarify what the proposed pond provides for Phase 3. Section 2.0 notes that the pond provides quality control for Phase 3, but only quantity control for the full build out of Phase 1 and 2. However, the next point states that the facility is designed to accommodate flows for all developments.	Based on local topography and the Dufour Drain Report, it is understood that much of the phase 3 area does not contribute to the site outlet (Dufour Drain Branch A). As the site outlet primarily receives runoff from phase 1 & 2 areas under existing conditions, the allowable release rate is based on the phase 1 & 2 area. Once developed, Phase 3 will be directed to the same outlet as phase 1 & 2, and will be controlled to this allowable release rate (i.e. the allowable release rate will not change with the addition of phase 3, rather additional storage will be provided for the increased volume). Sections 1.1 and 2.0 of the report have been revised to clarify this.
4	Please prescribe the allowable flows out of Phase 3 into Phase 1 for the 5 year, 100 year and stress test events in the report.	In the attached storm sewer sizing sheet, lines "Street A from MH4 to MH5" and "Street A from MH14 to MH15" account for the proposed phase 3 area. As the storm sewer sizing has accounted for phase 3, and the stormwater pond will provide quantity control for this area, prescribed release rates for phase 3 are not required.
5	Please provide the storm sewer design sheet as part of the SWM report. The storm sewer design sheet is only provided in the FSR and is dated 2021 so it is unclear if this is still inline with the 2022 SWM brief.	The storm sewer design sheet has been updated and attached to these comment responses for reference.
6	The report references a proposed culvert crossing at the southwest corner of the site to provide road access to Middle Sideroad. Per further information provided in the meeting on March 29, please clarify in the report that it is currently in the process of going through the Drainage Act and state at what stage it is currently at.	It is our understanding that the Town of Amherstburg has begun the Drainage Act process. Please contact the Town directly for more information.
7	Please show on a concept drawing that adequate setback (8m+depth) is provided from the Dufour Drain to the top of bank of the SWM facility.	A concept drawing has been attached to these comment responses for reference. This drawing has been updated to include the setback limit and preliminary grading as requested.
8	The report notes that freeboard of 1.21m is provided in the 1:100 year storm event in the emergency scenario of pump failure. Table 5 shows that with a functioning pump, the freeboard provided in the 1:100 year event is 1.13m (183.20-182.07). How is more freeboard provided when the pump is off than when the pump is functioning?	In the report, the zero release simulation was provided for the 4 hour Chicago distribution, and the Table 5 value was provided using the 24 hour SCSII distribution. The report and appendix have been updated to represent the emergency scenario of pump failure with the 1:100 year, 24 hour simulation. The updated freeboard during the emergency scenario of pump failure is 0.39 m.

COMMENTS		DILLON RESPONSE
9	Per the meeting on March 29, please confirm in the report that the Major Knapp Drain and the John Knapp D&W do not currently exist and have no legal status. Please confirm both of these points for both drains as ERCA's regulation applies to watercourses in general.	A small ditch has been observed for a small portion of the Major Knapp Drain connecting to the Walker Road storm sewer. Other portions of the mapped drainage features were not found on site during the topographic survey. The Town has confirmed in an email dated April 20, 2021 that the Major Knapp Drain and John Knapp D&W Drain have no legal status, and are not maintained by the town.
10	Please provide further information in the conclusion including what the pond provides to what phases (quantity/quality), clarification on interim, ultimate, future scenarios, the overall LOE of the site (elevation, how it was calculated, confirmation that this is achievable based on preliminary grading etc.).	A statement has been included in the conclusion section to note that the proposed pond will provide quantity and quality control during interim and final development conditions.
11	Please provide preliminary grading on a concept plan demonstrating that an adequate overland flow route can be provided to the pond and that the proposed lots can be graded to achieve appropriate freeboard. This plan should also include any information regarding how Phase 2 is directed towards the pond (if applicable).	A concept drawing has been attached to these comment responses for reference. This drawing has been updated to show preliminary grading of Phase 1, and drainage plan for Phase 2. Lot grading will be prepared during the detailed design phase, however, Section 5.2 of the report has been updated with a statement that the lowest FFE elevation will be set to be 0.3m above high water level on the site.

DILLON CONSULTING

Rice, Dean <drice@dillon.ca>

9358 Walker Rd Development - Drainage Form and Reports

Shane McVitty <smcvitty@amherstburg.ca> Tue, Apr 20, 2021 at 8:14 AM
To: "drice@dillon.ca" <drice@dillon.ca>
Cc: Todd Hewitt <thewitt@amherstburg.ca>

Good Morning Dean,

Please find attached a copy of the most recent engineering report for the Dufour Drain and Branches. This report was completed by Tim Oliver from Dillon. As we discussed at our April 8 meeting, Tim should serve as a good resource for you when discussing the affects of your proposed development on the Dufour Drain. I have also included a drainage improvement request form that will need to be filled out by the owner of the property and then submitted to the Town. This will get the drainage process started, beginning with the appointment of an engineer. It is my expectation that a new drainage report for the Dufour Drain will address a new access crossing, drain maintenance provisions, and updates to the schedule of assessment. Additionally, the appointed engineer will be instructed to look at any physical affects that the proposed development will have on the drain and corresponding design mitigation measures.

I have also had a good look through all of our drainage files and have been unable to find any reports or bylaws relating to the John Knapp D&W Drain or the Major Knapp Drain. I cannot be entirely sure as to the status of these drains, or whether they are drains at all. I believe that both of these drains may be private drains that have shown up on our mapping system as Municipal Drains. In the absence of any drainage reports or other documentation that verifies their status, the Town takes no responsibility for either of these drains. With that said, it will be up to your client to ensure that neigbouring lands that may be using these drains are not adversely affected by any development.

Regards,

Shane

Shane McVitty
Drainage Superintendent / Engineering Coordinator
Town of Amherstburg
512 Sandwich St. South, Amherstburg, ON, N9V 3R2
Tel: 519-736-3664 x2318 Fax: 519-736-7080 TTY: 519-736-9860

3 attachments

Repair or Improvement of Municipal Drain Form - 2019.pdf
67K

Dufour Drain report amended as per Tribunal Order Oct 4 2016.pdf

9538 WALKER ROAD
STORM SEWER DESIGN SHEET

Project Name: 9538 Walker Road
Project Number: 20-2669

Based on 1:5 Year Storm Event
Amherstburg, Ontario

Intensity Option # 1

1) Intensity (i) = a/(t+b)^c
a= 1259.000
b= 8.800
c= 0.838

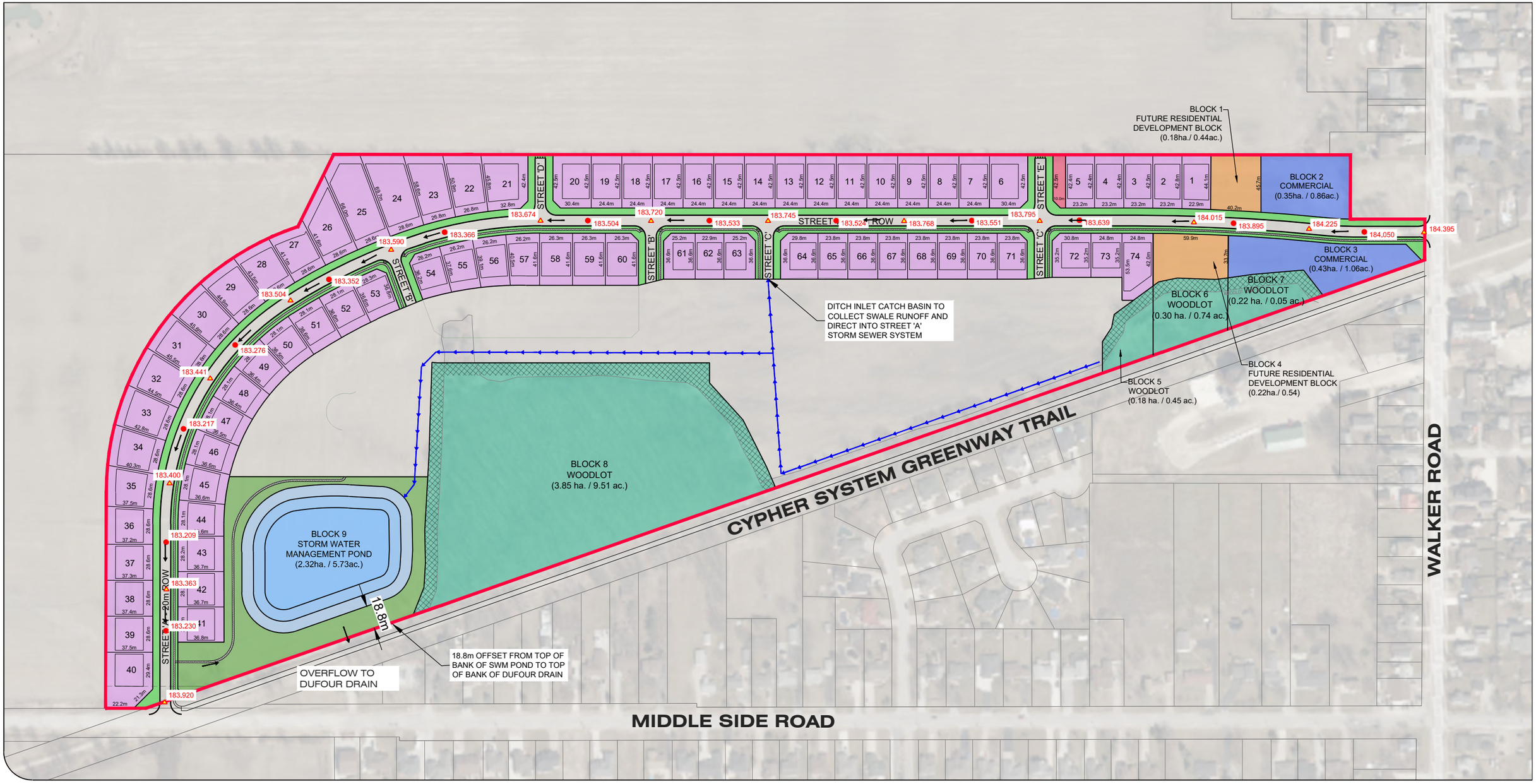
2) Intensity (i) = a*t^b
a=
b=

3) Insert Intensity
i=

Manning's n = 0.013

Total Area (ha)= 39.0901 Outlet Invert Elevation= 179.500 Ground Elevation @ Outlet = 183.18 High Water Level at Outlet= 182.00

Location			Sewer Design / Profile																		Cover		Hydraulic Grade Line	
Road /Stations	From MH	To MH	Area (ha)	Run. Coef.	2.78AC	Accum. 2.78AC	T of In (min)	T of F (min)	T of Conc. (min)	Intensity (mm/hr)	Exp. Flow (L/s)	Capacity (L/s)	Velocity (m/s)	Wall Thickness (mm)	Length (m)	Pipe Dia. (mm)	Slope (%)	Invert Up MH	Invert Low MH	Fall (m)	Drop Across Low MH (m)	Ground Elev Up MH	Cover @ Up MH (m)	Cover @ Low MH (m)	HGL Elevation at Upstream MH	HGL Elev vs. Grnd Elev @ Up MH
Street A	1	2	1.50	0.90	3.75	3.75	15.0	1.06	15.00	88.40	**331.77**	**431.17**	0.98	108	62.2	750	0.15	181.762	181.668	0.09	0.150	184.073	1.45	1.24	183.03	Okay
Street A	2	3	1.26	0.75	2.63	6.38	15.0	1.38	16.06	85.22	**543.74**	**652.72**	1.03	121	84.7	900	0.13	181.518	181.408	0.11	0.150	183.770	1.23	1.31	182.98	Okay
Street A	3	4	0.97	0.60	1.62	8.00	15.0	1.42	17.44	81.46	**651.55**	**819.22**	0.95	133	80.7	1050	0.09	181.258	181.186	0.07	0.000	183.735	1.29	1.43	182.90	Okay
Street C	6	4	0.45	0.60	0.75	0.75	15.0	1.98	15.00	88.40	**66.35**	**127.50**	0.80	64	95.1	450	0.20	181.876	181.686	0.19	0.500	183.850	1.46	1.60	182.91	Okay
Street A	4	5	7.46	0.60	12.44	21.19	15.0	1.44	18.86	77.94	**1651.69**	**1848.93**	1.29	133	111.8	1350	0.12	181.186	181.051	0.13	0.000	183.800	1.13	1.22	182.85	Okay
Street A	5	12	1.06	0.60	1.77	22.96	15.0	1.45	20.30	74.69	**1714.85**	**1848.93**	1.29	133	112.6	1350	0.12	181.051	180.916	0.14	0.400	183.750	1.22	1.30	182.75	Okay
Street C	6	7	1.14	0.60	1.90	1.90	15.0	1.63	15.00	88.40	**168.10**	**215.03**	0.99	89	96.9	525	0.25	181.757	181.515	0.24	0.225	183.850	1.48	1.71	182.93	Okay
Street C	7	8	1.12	0.60	1.87	3.77	15.0	1.52	16.63	83.64	**315.29**	**431.17**	0.98	108	89.0	750	0.15	181.290	181.157	0.13	0.000	183.842	1.69	1.63	182.78	Okay
Street C	8	9	0.51	0.60	0.85	4.62	15.0	0.65	18.15	79.67	**368.09**	**512.03**	0.80	121	31.5	900	0.08	181.157	181.131	0.03	0.000	183.645	1.47	1.60	182.71	Okay
Street C	9	10	0.24	0.60	0.40	5.02	15.0	0.47	18.80	78.09	**392.04**	**543.09**	0.85	121	24.3	900	0.09	181.131	181.109	0.02	0.125	183.750	1.60	1.51	182.70	Okay
Street C	10	11	0.38	0.60	0.63	5.65	15.0	0.89	19.27	76.98	**435.27**	**572.47**	0.90	121	48.3	900	0.10	180.984	180.936	0.05	0.000	183.645	1.64	1.68	182.68	Okay
Street C	11	12	0.08	0.60	0.13	5.79	15.0	0.83	20.17	74.98	**433.99**	**572.47**	0.90	121	44.8	900	0.10	180.936	180.891	0.04	0.375	183.640	1.68	1.79	182.66	Okay
Street A	12	13	0.85	0.60	1.42	30.17	15.0	1.11	21.76	71.70	**2162.92**	**2448.73**	1.39	158	92.0	1500	0.12	180.516	180.406	0.11	0.000	183.700	1.53	1.59	182.63	Okay
Street A	13	14	1.17	0.60	1.95	32.72	15.0	1.34	22.86	69.60	**2277.00**	**2448.73**	1.39	158	111.5	1500	0.12	180.406	180.272	0.13	0.000	183.650	1.59	1.64	182.54	Okay
Street A	14	15	6.81	0.60	11.36	44.08	15.0	0.59	24.20	67.22	**2962.73**	**3251.21**	1.28	158	45.6	1800	0.08	180.272	180.235	0.04	0.000	183.570	1.34	1.18	182.43	Okay
Street B	16	13	0.36	0.60	0.60	0.60	15.0	2.15	15.00	88.40	**53.08**	**127.50**	0.80	64	103.4	450	0.20	181.362	181.156	0.21	0.750	183.700	1.82	1.98	182.58	Okay
Street B	16	17	2.41	0.60	4.02	4.02	15.0	1.48	15.00	88.40	**355.36**	**431.17**	0.98	108	86.8	750	0.15	180.991	180.861	0.13	0.150	183.700	1.85	1.93	182.57	Okay
Street B	17	18	2.56	0.60	4.27	8.29	15.0	1.26	16.48	84.04	**696.66**	**945.95**	1.09	133	82.6	1050	0.12	180.711	180.611	0.10	0.000	183.650	1.76	1.81	182.48	Okay
Street B	18	19	0.35	0.60	0.58	8.87	15.0	1.28	17.74	80.68	**715.93**	**984.58**	1.14	133	87.0	1050	0.13	180.611	180.498	0.11	0.600	183.600	1.81	1.87	182.43	Okay
Street A	15	19	0.61	0.60	1.02	45.09	15.0	0.60	24.80	66.22	**2986.08**	**3251.21**	1.28	158	46.2	1800	0.08	180.235	180.198	0.04	0.300	183.370	1.18	1.39	182.40	Okay
Street A	19	20	0.97	0.60	1.62	55.59	15.0	1.10	25.40	65.24	**3626.39**	**3634.96**	1.43	196	94.6	1800	0.10	179.898	179.804	0.09	0.000	183.550	1.66	1.62	182.37	Okay
Street A	20	21	0.43	0.60	0.72	56.30	15.0	0.51	26.50	63.53	**3576.70**	**3634.96**	1.43	196	43.9	1800	0.10	179.804	179.760	0.04	0.000	183.420	1.62	1.64	182.27	Okay
Street A	21	22	1.00	0.60	1.67	57.97	15.0	1.09	27.02	62.76	**3638.48**	**4024.80**	1.35	196	88.4	1950	0.08	179.760	179.689	0.07	0.000	183.395	1.49	1.62	182.23	Okay
Street A	22	23	1.90	0.60	3.17	61.14	15.0	0.72	28.11	61.20	**3741.91**	**4024.80**	1.35	196	58.3	1950	0.08	179.689	179.642	0.05	0.000	183.450	1.62	1.61	182.17	Okay
Street A	23	24	1.79	0.60	2.99	64.13	15.0	1.14	28.83	60.22	**3861.53**	**4024.80**	1.35	196	92.1	1950	0.08	179.642	179.568	0.07	0.000	183.400	1.61	1.51	182.13	Okay
Street A	25	24	1.71	0.60	2.85	2.85	15.0	1.30	15.00	88.40	**252.14**	**431.17**	0.98	108	76.2	750	0.15	180.432	180.318	0.11	0.750	183.900	2.61	2.05	182.10	Okay
Street A	24	POND	0.00	0.60	0.00	66.98	15.0	1.05	29.97	58.73	**3933.76**	**4024.80**	1.35	196	85.1	1950	0.08	179.568	179.500	0.07	0.000	183.225	1.51	1.53	182.07	Okay



2551424 ONTARIO LIMITED
9538 WALKER ROAD
CONCESSION ROAD 11 AND WALKER ROAD

PHASE 1 OVERLAND FLOW ROUTE AND GRADING FIGURE

SUBJECT AREA (± 26.29ha / 64.96ac)
PROPOSED LOTS
PROPOSED PARKLAND
EXISTING WOODLOT
PROPOSED PAVEMENT
PROPOSED SIDEWALK/ MULTI USE TRAIL
HIGH POINT
LOW POINT
PROPOSED SWM POND
OVERLAND FLOW ROUTE
PROPOSED COMMERCIAL
PROPOSED BOULEVARD
10m WOODLOT BUFFER
SWALE SYSTEM TO COLLECT OVERLAND FLOW FROM UNDEVELOPED LANDS

File Location:
c:\pw working directory\projects 2020\32sef\dms21799\202669 - 02 - grd fig.dwg
May, 25, 2022 3:28 PM

SOURCE: COUNTY OF ESSEX AERIAL (2019)

MAP/DRAWING INFORMATION
THIS DRAWING IS FOR INFORMATION PURPOSES ONLY. ALL DIMENSIONS AND BOUNDARY INFORMATION SHOULD BE VERIFIED BY AN O.L.S PRIOR TO CONSTRUCTION.
CREATED BY: SEF
CHECKED BY: SEF/DCR
DESIGNED BY: SEF

SCALE : 1:3000

DILLON CONSULTING

PROJECT: 20-2669
STATUS: FINAL
DATE: 05/25/2022

DILLON CONSULTING

2439478 ONTARIO LIMITED

9538 Walker Road, Proposed Draft Plan of Subdivision Approval

Stormwater Management Brief

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Figures

Tables

Appendices

1.0 Introduction

Dillon Consulting Limited (Dillon) was retained by 2551424 Ontario Inc., to complete a dynamic model analysis to confirm the stormwater management strategy for the proposed subdivision located at 9538 Walker Road, in the Town of Amherstburg.

The proposed development land will be constructed in 2 phases and is approximately 26.29 ha which includes 4.55 ha of woodlots and is bounded on the east by Walker Road, on the north and west by agricultural uses, and on the south by the Cypher System Greenway Trail and Middle Sideroad. The woodlots will not be developed; therefore, 21.74 ha are developable. A future northern development is also proposed as phase 3 and is a total of 12 ha. The subject site is currently utilized for agricultural uses. The proposed phase 1 and 2 development areas includes single detached residential dwellings, commercial uses and a stormwater management facility area. Phase 3 is currently assumed to be townhomes. The minor system will outlet into the existing Dufour Drain Branch A, at the southwest corner of the site. The site boundaries are shown in Figure 1.

This report describes the previously approved storm drainage outlets for the site, the hydrologic modelling results and the proposed stormwater management plan for the development.

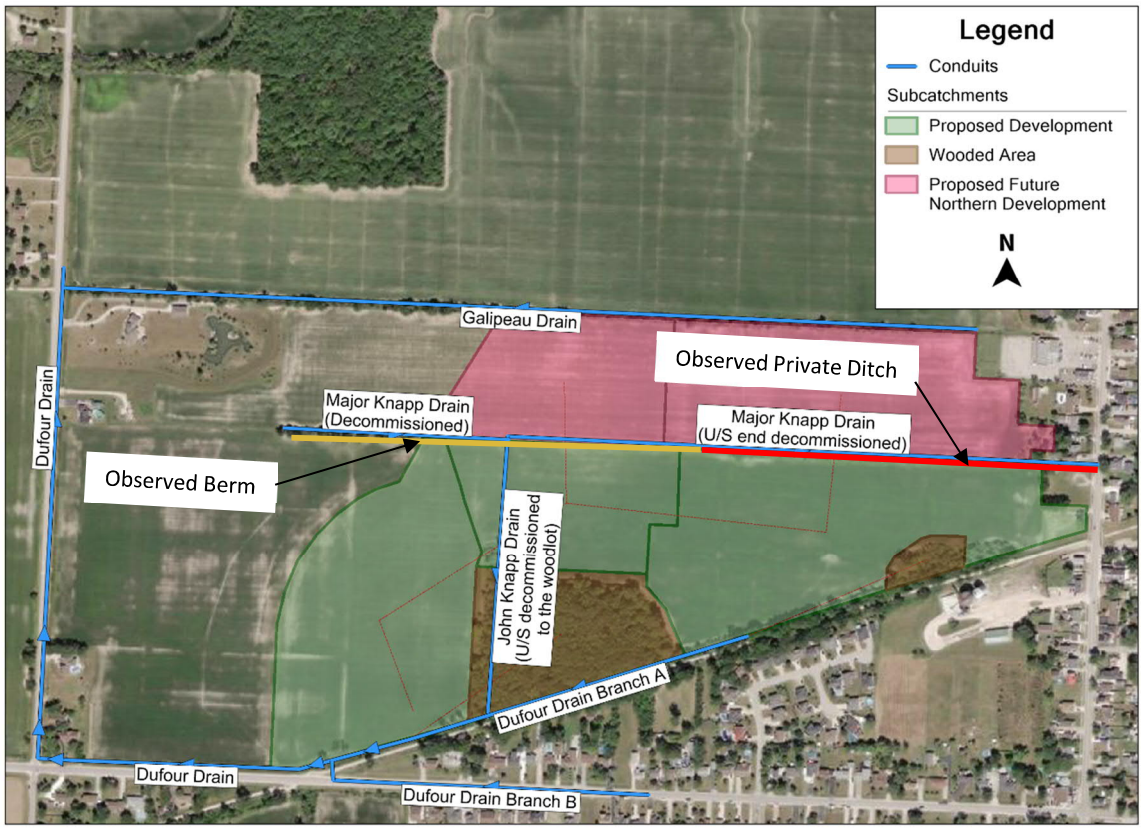


Figure 1: **Development Site Location**

1.1 Background Investigation

Relevant available background reports and the site topographic mapping were reviewed to characterize the existing drainage pattern. The results of this review, and confirmation from the Town of Amherstburg in an email dated April 20, 2021, indicate that the Major Knapp Drain and John Knapp D&W Drain have no legal status, and are not maintained by the Town. Much of the Major Knapp Drain and John Knapp Drain were not found in the field during the topographic survey, however, a small ditch of 470 m length was found along the eastern portion of the Major Knapp Drain which connects to the Walker Road storm sewer. This ditch provides drainage for a portion of the phase 3 area, and does not appear to service any additional lands. A small berm was surveyed along the west portion of where mapping shows the Major Knapp Drain. The Reconsidered Drainage report for the Dufour Drain and Branches A & B Drain, Town of Amherstburg, County of Essex (Dillon, 2016) was reviewed and the corresponding delineated watershed was used for the outlet capacity assessment analysis. Different names are used by ERCA (Dufour Drain) and the drainage report (Dufour Drain Branch A) for the 5.6 km long upstream northeast branch of the drain. It is hereafter referred to as the Dufour Drain Branch A.

2.0 Stormwater Management Design Criteria

The site stormwater management design criteria were developed based on the guidance presented in the following documents:

- Stormwater Management Planning and Design Manual (Ministry of the Environment (MOE, 2003);
- Corporation of the Town of Amherstburg – Development Manual (Amherstburg, 2009);
- County of Essex – Interactive Mapping (Amherstburg);
- Town of Amherstburg - Interactive Mapping (Amherstburg);
- Design Guidelines for Sewage Works (MOE, 2008); and
- Windsor/Essex Region Stormwater Management Standards Manual (ERCA SWM Standards, 2018).

The site stormwater management strategy was developed in accordance with the following criteria:

Minor System Conveyance:

- Storm sewers are designed to accommodate the peak flows from the 1:5 year storm event.

Stormwater Management:

- Quality Control: The proposed stormwater management (SWM) facility is designed to provide Normal Protection Level water quality treatment (70% total suspended solids [TSS] removal) for phase 1, 2 &3;
- Quantity Control: The allowable release rate will be established from the area of the site assessed to the Dufour Drain, which consists of phases 1 and 2. Much of the phase 3 area is not assessed to the Dufour Drain, and therefore the phase 3 area will not be considered in establishing the allowable release rate. The proposed development conditions of phase 1, 2, and 3 will be controlled to this allowable release rate; and
- The SWM facility is designed to accommodate flows for all events up to and including the Urban Stress Test design storm event and has a minimum freeboard of 300 mm from the top of the pond to the maximum calculated water level for the 1:100 year 4 hour event for all developments.

Climate Change Resiliency Assessment:

- Review of the stormwater management system's performance is to be examined using the Urban Stress Test design storm event as identified within the Windsor/Essex Region Stormwater Management Standards Manual (December, 2018) to assess potential impacts of climate change and the facility's resiliency.

3.0 Modelling Methodology and Development

Assessment of hydrologic and hydraulic conditions for both existing and proposed conditions was undertaken using the PCSWMM 2019 software distributed by CHI.

The stormwater assessment for this development was completed using the Green-Ampt infiltration method for the hydrologic calculations, and the dynamic wave routing method for the hydraulic calculations.

3.1 Pre-Development

Based on the soil survey ERCA soil mapping data (ERCA), the soil characteristics for the 9538 Walker Road, DPS Development site is composed of Brookston Clay which has a hydrologic soil group (HSG) D classification (Table A-3.7.7, ERCA SWM Manual, 2008).

Provided in Table 1 below are the subcatchment parameters used. Full breakdowns for each subcatchment of the proposed development are provided in the PCSWMM input reports in Appendix C. Infiltration parameters were determined using the ERCA SWM Manual (Table - 3.7.7.3, ERCA SWM Manual, 2008) based on the hydrologic oil group classification.

Table 1: Pre-Development Subcatchment Parameters

Attribute		Value	
		Development (Phase 1 & 2)	Wooded Area in Development
Land Use		Agriculture	Wooded Area
Area (ha)		21.74	4.55
Flow Length* (m)		290-527	180-300
Imperviousness (%)		0	0
Slope (%)		0.5	0.5
Manning's n Pervious		0.17	0.4
Depression Storage Pervious (mm)		10	10
Infiltration	Suction Head (mm)	180	180
	Conductivity (mm/hr)	0.5	0.5
	Initial Deficit (fraction)	0.1	0.1

*Maximum flow path to outlet

3.2 Post-Development

Subcatchment attributes for the proposed development were selected based on the ERCA SWM standard and are summarized in Table 2 below. Details for the weighted imperviousness of each subcatchment can be found in Appendix C.

Table 2: Post-Development - Subcatchment Parameters

Attribute		Development (Phase 1 & 2)	Future North Development (Phase 3)
Land Use		Residential	Residential (assumed townhomes)
Area (ha)		21.74	12.00
Flow Length* (m)		290-527	300-360
Imperviousness** (%)		51-66	80
Slope (%)		0.5	
Manning's n Impervious		0.013	
Manning's n Pervious		0.24	
Depression Storage Impervious (mm)		Paved area/ flat roofs: 2.5	
Depression Storage Pervious (mm)		Lawn: 7.5	
Infiltration	Suction Head (mm)	180	
	Conductivity (mm/hr)	0.5	
	Initial Deficit (fraction)	0.1	

*Maximum flow path to outlet

**Based on proposed land use

4.0 Pre-Development Conditions Analysis

Runoff from the existing phase 1 & 2 sites currently drains southward to the Dufour Drain Branch A, which drains into the main branch of the Dufour Drain approximately 95 m west of the site. The wooded areas shown in Figure 1 are approximately 4.55 ha in size, and will not be developed. As these wooded areas will not be developed, they have not been included in the allowable release rate calculation for the site. Flows from the two woodlots drain directly into the Dufour Drain Branch A.

4.1 Dufour Drain Existing Conditions Assessment

Reconsidered Drainage Report for the Dufour Drain and Branches A & B (Dillon, 2015), was reviewed and the corresponding drainage area was used to complete an outlet capacity assessment of the drain. The Dufour Drain and the Dufour Drain Branch B, were included in the pre-development PCSWMM model and the peak Dufour Drain Branch A hydraulic grade line (HGL) was evaluated during the 1:2, 1:5 and 1:100 year Chicago 4 hour storm distributions. The existing conditions HGL is used to assess the drain capacity, and as a comparison for proposed conditions.

Pre-development profiles and calculated HGLs for the Dufour and Dufour Drain Branch A reaches located south of the subject site are provided in Appendix A.

4.2 Allowable Release Rate

The pre-development 1:2 year peak flow from the proposed phase 1 and 2 development limits was developed for both the SCS Type II 24 hour and the Chicago 4 hour storm distributions. The analysis results summarized in Table 3 show that the Chicago storm distribution results in a lower calculated peak flow than the SCS storm. As this value is more conservative, it was selected as the design maximum release rate for the proposed SWM strategy. The allowable release rate is based on the site area assessed to the Dufour Drain, and therefore this rate will be maintained even with the addition of the phase 3 future northern development.

Table 3: Release Rates

Design Storm	Release Rate (L/s)
SCS Type II 1:2 Year	96
Chicago 1:2 Year	93

The proposed maximum allowable release rate from the proposed development to the Dufour Drain is 93 L/s.

5.0 Proposed Development Conditions Analysis

A proposed conditions stormwater model for the 9538 Walker Road, DPS Development was created using PCSWMM to assess the performance of the proposed SWM facility and Dufour Drain Branch A, under the required design storm events. The model accounts for infiltration, surface and subsurface storage, and flow routing. The concept plan for phase 1 & 2 of the proposed development is shown on Figure 2. Phase 2 is shown in grey. Phase 3, the future northern development is not shown in this concept plan.

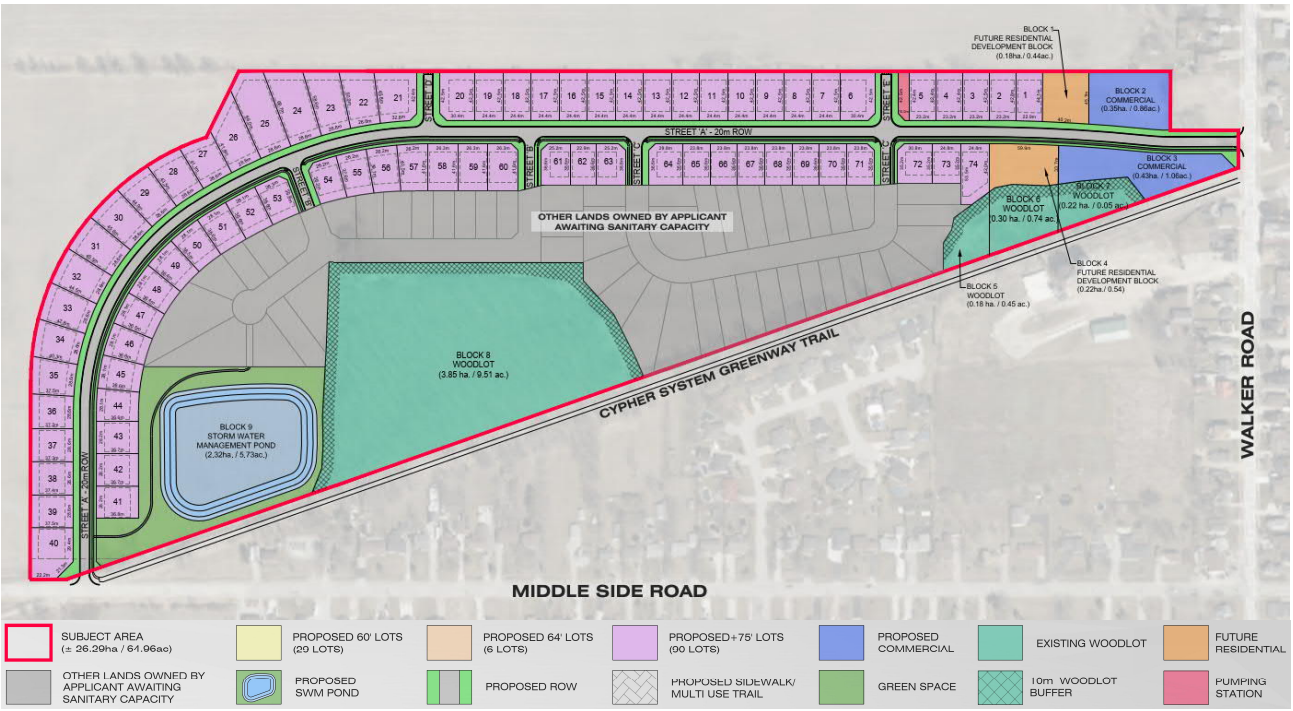


Figure 2: Concept Plan

The results of the analysis were used to:

- Evaluate storage requirements for the site, within the SWM facility; and
- Analyze the outlet flows from the site compared to the maximum allowable release rate.

5.1 Storm Sewer Design

The storm sewers were sized using the Rational Method and Manning's Equation and are described in the FSR.

5.2 Major System Conveyance

The grading of the proposed development overland flow routes will be developed during detailed design. Ponding will not occur at road sags during storms less severe than and including the 1:5 year design event.

During larger events, flows exceeding the capacity of the minor system will be conveyed by the proposed roads to the SWM pond. The maximum design flow depth is 0.3 m on the road surfaces. The roadways will be "saw-toothed" with a maximum elevation difference of 0.25 m between each sag and the downstream high point (i.e. sag spill point).

During interim conditions, prior to the build out of phase 2 of the development, swales will be incorporated to direct flow from the phase 2 development area towards the phase 1 storm sewer and the proposed SWM pond. Placement and sizing of these swales will be completed during detailed design. Figure 3 below shows the proposed overland flow route during interim conditions. Proposed lot finished floor elevations will be set 0.3 m above the high water level on the site.

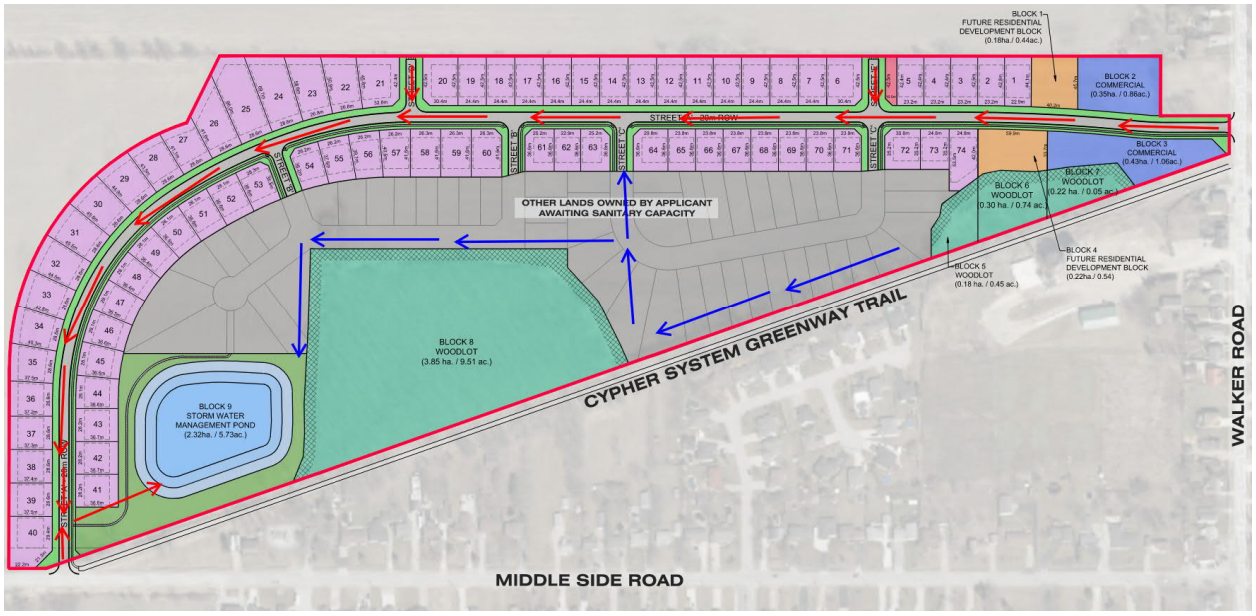


Figure 3: Overland Flow Route

The existing private ditch (previously referred to as the Major Knapp Drain) that connects to the Walker Road storm sewer will maintain the phase 3 existing conditions drainage pattern. Once phase 3 is developed this existing ditch will no longer be required and will be decommissioned.

5.3 Dufour Drain Capacity Assessment

To assess the impact on the Dufour drain as a result of the proposed development, the HGL was used as an indication of capacity for comparison under both existing and proposed conditions. A comparison of existing and proposed condition peak calculated HGL elevations at key locations in the downstream municipal drain is presented in Table 4. For the 1:2 Year storm event, there is no increase in the HGL elevation under the proposed conditions. For all other evaluated storm events, the proposed conditions calculated HGL elevations are between 0.01 m greater to 0.1 m lower than existing conditions. The existing condition model results suggest that flooding occurs in the Dufour Drain along the 8th Concession during

the 1:100 year event. The drain surcharges and floods the fields located west of the proposed development. The model results show that the proposed SWM strategy does not exacerbate this existing flooding.

Table 4: Drain HGL

Node	Design Storm	HGL (m) Existing	HGL (m) Proposed	HGL Difference (m)
J1 Dufour Drain Branch A	1:2 Year	182.58	182.59	0.01
	1:5 Year	182.78	182.75	-0.04
	1:100 Year	183.15	183.06	-0.09
J2 Dufour Drain (south of site)	1:2 Year	182.53	182.54	0.01
	1:5 Year	182.74	182.70	-0.04
	1:100 Year	183.11	183.02	-0.09
J4 Dufour Drain (west of site)	1:2 Year	182.29	181.29	0.00
	1:5 Year	182.48	182.46	-0.02
	1:100 Year	182.73	182.70	-0.03

The post-development model was used to assess the impact on the downstream drains caused by the proposed Walker Road, DPS Development. The analysis results show that the controlled outflow rate of the development mitigates negative impacts on the calculated HGLs in the downstream drains. A culvert crossing will be required at the southwest corner of the site to provide road access to Middle Sideroad. The proposed culvert will be sized during detailed design and will convey flows with 0.3 m of freeboard. A corresponding assessment report will need to be completed during detailed design.

Post-development profiles and calculated HGLs for the Dufour and Dufour Drain Branch A reaches located south of the subject site are provided in Appendix A.

5.4 Stormwater Management Design

The stormwater management (SWM) facility will be located near the southwest corner of the development adjacent to the Dufour Drain Branch A. The facility will take up approximately 1.36 ha of the development site. The proposed SWM facility has been designed to accommodate post development runoff from the phase 1, 2, and 3 development areas.

The proposed SWM facility provides a total active storage depth of 3.7 metres at 5:1 side slopes and permanent pool depth of 1 metre with 3:1 side slopes. The total depth of the pond is 4.7 m. The stormwater facility has a single pump station outlet with a peak release rate of 93 L/s into the Dufour Drain Branch A.

5.4.1 Quantity Control Design

The proposed SWM facility was designed to control post-development flows up to and including the 1:100 year event with a minimum of 300 mm of freeboard during the 1:100 year storm for all phases. The 1:100

year storm event was analyzed using the SCS Type II 24 hour and Chicago 4 hour distributions to estimate the critical storage volume in the pond. It was found that the SCS Type II 24 hour 100 year governs as it requires a larger volume.

To assess the resiliency of the proposed SWM facility, an additional modelling scenario was performed using the UST design storm event provided in the Windsor/Essex Region Stormwater Management Standards Manual (December, 2018).

Based on the post-development modelling analysis, the following water quantity control volumes for all developments are required to control flows to 93 L/s:

- Required active storage volume of 25,338 m^3 during the 1:100 year event; and
- Required active storage volume of 37,950 m^3 during the UST.

The stage storage values are provided below in Table 5.

Zero release simulations were also analysed to evaluate the pond performance in the event of a pump failure. The corresponding calculated freeboard depth for the 1:100 year storm event is 0.39 m.

5.4.2 Quality Control Design

The proposed SWM facility services all phases with a catchment area of approximately 33.74 ha. The facility provides a Normal Protection Level (70% TSS removal) water quality treatment. The facility is designed in accordance with the SWM Planning and Design Manual (MOE, 2003). The water quality flows were estimated using PCSWMM for the water quality design storm, which is equivalent to a 1:2 year, 4 hour Chicago design storm with a 15 minute time interval and a total rainfall depth of 32 mm.

Based on the proposed development for 9538 Walker Road, DPS Development the following water quality controls requirements are required:

- Minimum permanent pool volume of 3,024 m^3; and
- Minimum forebay length of 33 m (governed by dispersion length).

In comparison, the proposed SWM facility is designed to:

- Provide a permanent pool volume of 6,744 m^3; and
- Provide a forebay length of 33 m.

Calculations in support of the water quality design are provided in Appendix B.

5.4.3 Stormwater Management Facility Design

The SWM facility was designed in accordance with the requirements presented above. The proposed facility design water surface elevations (WSEL) and corresponding volumes are summarized in Table 5.

Table 5: Proposed SWM Facility Design

Description	Design Elevation (m)	Cumulative Volume (m^3)	Active Storage Volume (m^3)
Pond Bottom	178.50	0	0
Normal Water Level (NWL)	179.50	6,744	0
	180.50	15,177	8,433
1:5 Year WSEL	180.81	18,154	11,410
	181.50	25,416	18,672
1:100 Year WSEL	182.07	32,082	25,338
	182.50	37,616	27,938
UST WSEL	183.01	44,694	37,950
Top of Pond	183.20	47,404	40,660

Based on the SWM facility design above, the facility provides sufficient water quality and quantity control treatment to meet the stormwater requirements for the 9538 Walker Road, DPS Development for all design storm events up to and including the 1:100 year and UST.

As this pond has been sized under the preliminary design process, it has been oversized to provide some buffer during the detailed design analysis.

6.0 Conclusion

The stormwater management servicing design for the proposed development for all phases meets the established SWM criteria for the overall site and no negative impacts due to the site development are anticipated in the downstream the Dufour Drain Branch A.

The conclusions are based on the results of the stormwater management analysis as follows:

- A SWM facility will control phases 1, 2,and 3 to a maximum allowable release rate of 93 L/s into the Dufour Drain Branch A, with a total provided active storage of 47,404 m^3 including freeboard;
- Quality control of stormwater discharge from phases 1, 2, and 3 will be achieved using a wet pond achieving 70% removal of TSS with a permanent pool volume of 6,744 m^3;
- Under interim conditions, the existing phase 2 area will be directed to the phase 1 storm sewers and SWM pond using swales, which will be graded during the detailed design phase. The existing drainage pattern of phase 3 will be maintained during interim conditions; and
- Finished floor elevations of proposed lots will be set 0.3 m higher than the high water level of the site.

Further site grading details will be developed as part of detailed design. This report is respectfully submitted for review and approval, please contact the undersigned should you have questions or require additional information.

Yours truly,

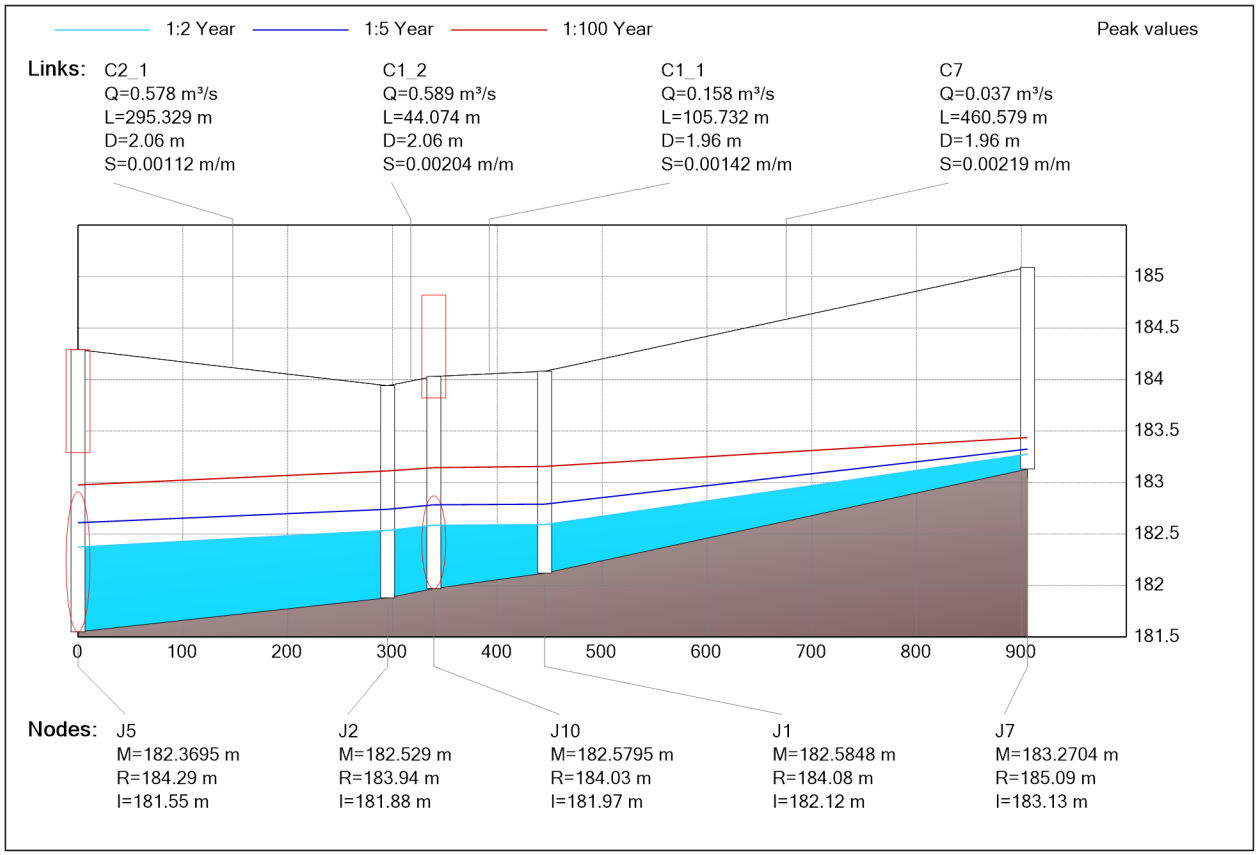
DILLON CONSULTING LIMITED

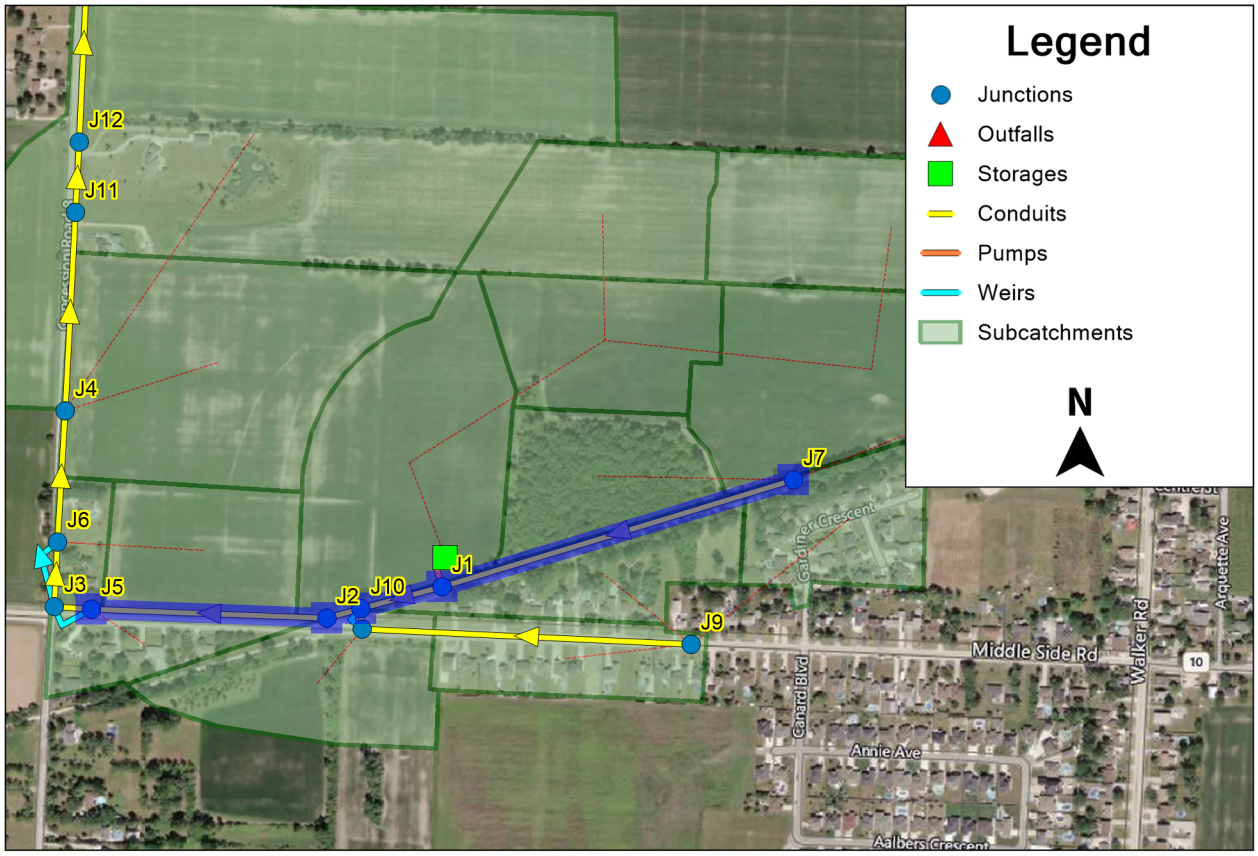
James Michener, P.Eng.
Water Resources Engineer

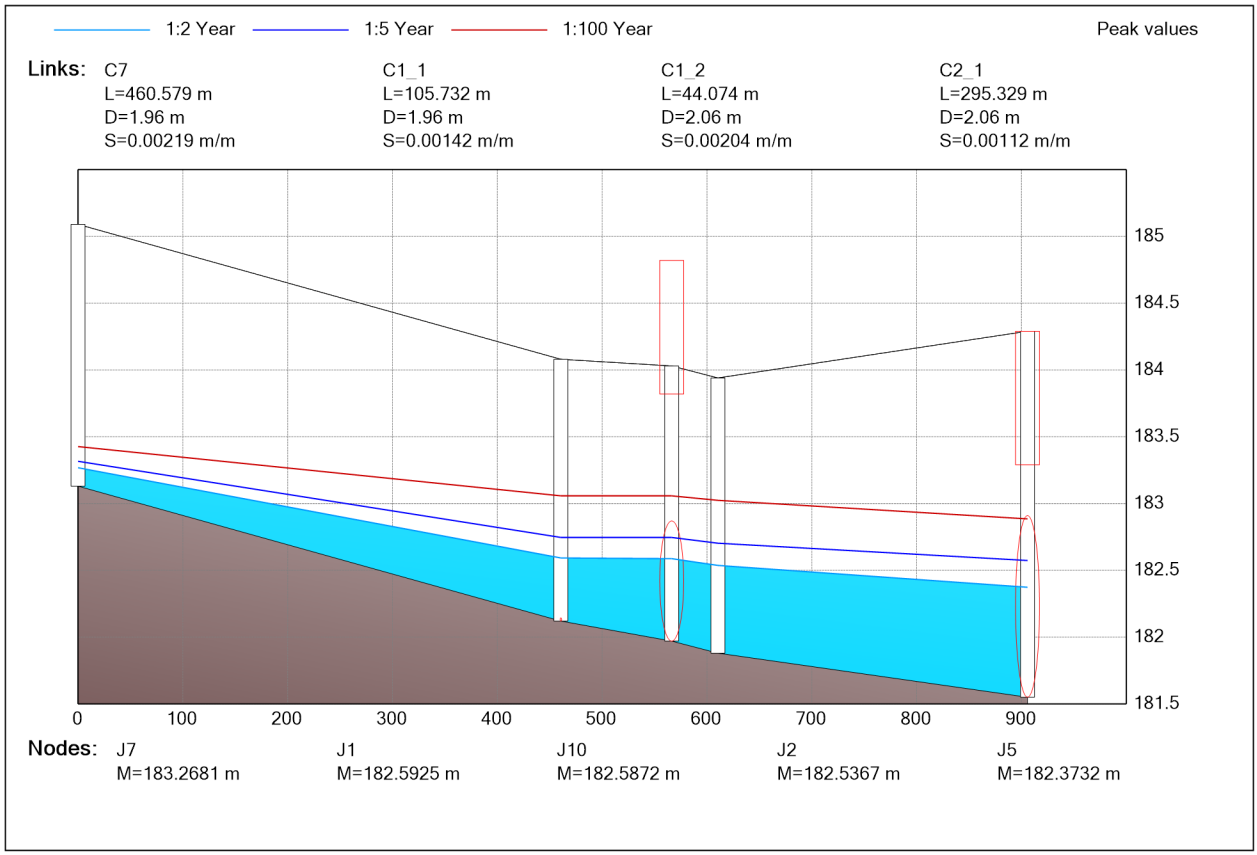
Appendix A

Pre and Post Development Drain Profiles

Pre Development Flows




Legend
Junctions
Outfalls
Storages
Conduits
Pumps
Weirs
Subcatchments
N
J12
J11
J4
J6
J3
J5
J2
J10
J1
J7
J9
Middle Side Rd
Walker Rd
Annie Ave
Gardiner Crescent
Canard Blvd
Arquette Ave
Aalbers Crescent
10


1:2 Year
1:5 Year
1:100 Year
Peak values
Links: C7
L=460.579 m
D=1.96 m
S=0.00219 m/m
C1_1
L=105.732 m
D=1.96 m
S=0.00142 m/m
C1_2
L=44.074 m
D=2.06 m
S=0.00204 m/m
C2_1
L=295.329 m
D=2.06 m
S=0.00112 m/m
185
184.5
184
183.5
183
182.5
182
181.5
0
100
200
300
400
500
600
700
800
900
Nodes: J7
M=183.2681 m
J1
M=182.5925 m
J10
M=182.5872 m
J2
M=182.5367 m
J5
M=182.3732 m

Appendix B

Water Quality Design

SWMF - Water Quality Requirements

Drainage Area	33.7	ha
Qp=0.0011m3/s/ha		
% Impervious:	69.80	
Level 2 protection (70%TSS):		
Treatment Volume	129.73	m^3/ha
Active Storage:	40	m^3/ha
	1,348	m^3
Perm Storage:	89.73	m^3/ha required
	3,024	m^3
Extended Detention Outlet Rate:	15.6	L/s average
	37	L/s max (2.4 x avg)
Erosion Control (14 L/s/ha for 5yr storm)		
	472	L/s
Erosion Control (8 L/s/ha for 5yr storm)		
	270	L/s

Notes:

Input

Output

SWMF - Required Forebay Length

Length to width ratio of forebay, r = 3.0:1

Peak outflow (30 mm storm), Q_p = 0.093 m^3/s (24hr ext. det)

Target particle size = 150 mm

0.0003 m/s

Forebay Settling Length, Dist 1

$$Dist = \sqrt{\frac{rQ_P}{V_S}}$$

30 m

Forebay Dispersion Length, Dist 2

Desired velocity in forebay, V_f = 0.5 m/s

Peak inlet flowrate , Q5 = 2.040 m^3/s

Depth in forebay, d = 1.0 m

$$Dist_2 = \frac{8Q}{dV_f}$$

33 m

Therefore, the dispersion length of 33 m governs the design.

Provided Length: 33 **m**

Appendix C

Composite Impervious Calculations and PCSWMM Modelling Files

Phase	Subcatchment ID	Land Use	Area (ha)	Impervious %
1 &2	S3_10	Residential	7.0	60.0%
		Pond Footprint	1.4	100.0%
		Total Area / Composite % Imp	8.4	66.5%
	S3_9	Residential / Total Area	4.5	60.0%
	S3_15	Commercial/Res Block	1.2	90.0%
		Residential	7.7	60.0%
		Total Area / Composite % Imp	8.9	64.0%
3	S2	Townhomes / Total Area	4.5	80.0%
	S1	Townhomes / Total Area	7.5	80.0%
Total Development			33.7	69.8%

Existing Conditions PCSWMM Input Report

```
[TITLE]

[OPTIONS]
;;Options             Value
;;------------------- ------------
FLOW_UNITS           CMS
INFILTRATION         GREEN_AMPT
FLOW_ROUTING         DYNWAVE
LINK_OFFSETS         DEPTH
MIN_SLOPE            0
ALLOW_PONDING        NO
SKIP_STEADY_STATE    NO

START_DATE           04/16/2020
START_TIME           00:00:00
REPORT_START_DATE    04/16/2020
REPORT_START_TIME    00:00:00
END_DATE             04/19/2020
END_TIME             00:00:00
SWEEP_START          01/01
SWEEP_END            12/31
DRY_DAYS             0
REPORT_STEP          00:01:00
WET_STEP             00:05:00
DRY_STEP             00:05:00
ROUTING_STEP         5
RULE_STEP            00:00:00

INERTIAL_DAMPING     PARTIAL
NORMAL_FLOW_LIMITED  BOTH
FORCE_MAIN_EQUATION  H-W
VARIABLE_STEP        0.75
LENGTHENING_STEP     0
MIN_SURFAREA         0
MAX_TRIALS           8
HEAD_TOLERANCE       0.0015
SYS_FLOW_TOL         5
LAT_FLOW_TOL         5
MINIMUM_STEP         0.5
THREADS              4

[EVAPORATION]
;;Type          Parameters
;;------------- ----------
CONSTANT         0.0
DRY_ONLY         NO

[RAINGAGES]
;;               Rain      Time     Snow     Data
;;Name           Type      Intrvl   Catch    Source
;;-------------- --------- -------- -------- ----------
Raingage1        INTENSITY 0:15     1.0      TIMESERIES 2yr_4hr_Chicago

[SUBCATCHMENTS]
;;                                            Total    Pcnt.             Pcnt.    Curb     Snow
;;Name           Raingage         Outlet           Area     Imperv   Width    Slope    Length   Pack
;;-------------- ---------------- ---------------- -------- -------- -------- -------- -------- --------
```

```
S3_1             Raingage1        J9               3.7704   60       107.726  0.5      0
S3_10            Raingage1        J1               8.36     0        208.999  0.5      0
S3_11            Raingage1        J7               3.8533   0        214.072  0.5      0
S3_12            Raingage1        J6               3.8193   0        254.62   0.5      0
S3_13            Raingage1        J4               29.6214  0        429.296  0.5      0
S3_14            Raingage1        J6               1.0952   20       199.127  0.5      0
S3_15            Raingage1        S3_9             8.87     0        168.311  0.5      0
S3_2             Raingage1        J9               3.2053   52       493.123  0.5      0
S3_3             Raingage1        J8               4.5462   0        454.62   0.5      0
S3_4             Raingage1        J9               3.4789   15       395.33   0.5      0
S3_5             Raingage1        J4               10.4204  0        416.816  0.5      0
S3_7             Raingage1        J5               2.1467   21       214.67   0.5      0
S3_8             Raingage1        J7               0.7003   0        23.343   0.5      0
S3_9             Raingage1        S3_10            4.49     0        154.828  0.5      0

[SUBAREAS]
;;Subcatchment   N-Imperv   N-Perv     S-Imperv   S-Perv     PctZero    RouteTo    PctRouted
;;-------------- ---------- ---------- ---------- ---------- ---------- ---------- ----------
S3_1             0.013      0.24       2.5        7.5        25         OUTLET
S3_10            0.013      0.17       2.5        10         25         OUTLET
S3_11            0.013      0.4        2.5        10         25         OUTLET
S3_12            0.013      0.17       2.5        10         25         OUTLET
S3_13            0.013      0.17       2.5        10         25         OUTLET
S3_14            0.013      0.24       2.5        10         25         OUTLET
S3_15            0.013      0.17       2.5        10         25         OUTLET
S3_2             0.013      0.24       2.5        7.5        25         OUTLET
S3_3             0.013      0.17       2.5        10         25         OUTLET
S3_4             0.013      0.24       2.5        7.5        25         OUTLET
S3_5             0.013      0.17       2.5        10         25         OUTLET
S3_7             0.013      0.24       2.5        10         25         OUTLET
S3_8             0.013      0.4        2.5        10         25         OUTLET
S3_9             0.013      0.17       2.5        10         25         OUTLET

[INFILTRATION]
;;Subcatchment   Suction    HydCon     IMDmax
;;-------------- ---------- ---------- ----------
S3_1             180        0.5        0.1
S3_10            180        0.5        0.1
S3_11            180        0.5        0.1
S3_12            180        0.5        0.1
S3_13            180        0.5        0.1
S3_14            180        0.5        0.1
S3_15            180        0.5        0.1
S3_2             180        0.5        0.1
S3_3             180        0.5        0.1
S3_4             180        0.5        0.1
S3_5             180        0.5        0.1
S3_7             180        0.5        0.1
S3_8             180        0.5        0.1
S3_9             180        0.5        0.1

[JUNCTIONS]
;;               Invert     Max.       Init.      Surcharge  Ponded
;;Name           Elev.      Depth      Depth      Depth      Area
;;-------------- ---------- ---------- ---------- ---------- ----------
J1               182.12     0.8        0          0          0
J10              181.97     0.95       0          0          0
```

```
J2               181.88     1.04       0          0          0
J3               181.525    1.765      0          0          0
J4               181.62     1.67       0          3          0
J5               181.55     1.85       0          0          0
J6               181.5      1.79       0          0          0
J7               183.13     1.24       0          0          0
J8               183.1      0.72       0          0          0
J9               183.13     0.69       0          0          0

[OUTFALLS]
;;               Invert     Outfall    Stage/Table      Tide
;;Name           Elev.      Type       Time Series      Gate     Route To
;;-------------- ---------- ---------- ---------------- -------- ----------------
OF1              181.22     FREE                        NO
OF2              182.12     FREE                        NO

[CONDUITS]
;;               Inlet            Outlet                      Manning    Inlet      Outlet     Init.      Max.
;;Name           Node             Node             Length     N          Offset     Offset     Flow       Flow
;;-------------- ---------------- ---------------- ---------- ---------- ---------- ---------- ---------- ----------
C1               J4               OF1              395.654    0.013      0          0          0          0
C1_1             J1               J10              105.732    0.013      0          0          0          0
C1_2             J10              J2               44.074     0.013      0          0          0          0
C2               J9               J8               412.919    0.013      0          0          0          0
C2_1             J2               J5               295.329    0.013      0          0          0          0
C2_2             J5               J3               48         0.013      0          0          0          0
C3               J8               J10              24         0.013      0          0          0          0
C3_1             J3               J6               85.7       0.013      0          0          0          0
C3_2             J6               J4               164.046    0.013      0          0          0          0
C7               J7               J1               460.579    0.013      0          0          0          0

[WEIRS]
;;               Inlet            Outlet           Weir         Crest      Disch.     Flap     End      End
;;Name           Node             Node             Type         Height     Coeff.     Gate     Con.     Coeff.     Surcharge  RoadWidth  RoadSurf   Coeff. Curve
;;-------------- ---------------- ---------------- ------------ ---------- ---------- -------- -------- ---------- ---------- ---------- ---------- ----------------
W1               J5               J3               TRANSVERSE   1.74       1.7        NO       0        0          YES
W2               J3               J6               TRANSVERSE   1.765      1.7        NO       0        0          YES
W3               J8               J10              ROADWAY      0.72       1.7        NO       0        0          YES        0          PAVED

[XSECTIONS]
;;Link            Shape        Geom1            Geom2      Geom3      Geom4      Barrels
;;-------------- ------------ ---------------- ---------- ---------- ---------- ----------
C1               IRREGULAR    Dufour_W         0          0          0          1
C1_1             IRREGULAR    BranchA          0          0          0          1
C1_2             IRREGULAR    Dufour_S         0          0          0          1
C2               TRAPEZOIDAL  1                10         0.4        0.55       1
C2_1             IRREGULAR    Dufour_S         0          0          0          1
C2_2             ARCH         1.36             1.78       0          0          1
C3               CIRCULAR     0.9              0          0          0          1
C3_1             ARCH         1.36             1.78       0          0          1
C3_2             IRREGULAR    Dufour_W         0          0          0          1
C7               IRREGULAR    BranchA          0          0          0          1
W1               RECT_OPEN    1                1          0          0
W2               RECT_OPEN    1                1          0          0
W3               RECT_OPEN    1                1          0          0

[TRANSECTS]
```

```
;;Transect Data in HEC-2 format
;
NC 0.06     0.06     0.035
X1 BranchA           8        -4.6     2.7      0.0      0.0      0.0      0.0      0.0
GR 184.03   -9.5     184.08   -6.6     183.83   -4.6     182.26   -0.94    182.12   0
GR 182.22   0.9      183.1    2.7      183.12   4.9
;
NC 0.06     0.06     0.035
X1 Dufour_S          9        -3.6     2.6      0.0      0.0      0.0      0.0      0.0
GR 183.71   -7.4     183.54   -5.3     183.03   -3.6     181.98   -1       181.65   0
GR 181.88   1        182.89   2.6      183.08   3.85     183.01   6.9
;
NC 0.06     0.06     0.035
X1 Dufour_W          10       -5       10       0.0      0.0      0.0      0.0      0.0
GR 183.4    -15      183.25   -5       182.39   -2.5     182.06   0        182.3    2.5
GR 182.6    5        182.72   10       182.78   15       182.8    50       182.78   100
;
NC 0.01     0.01     0.01
X1 Transect2         7        0.0      0.0      0.0      0.0      0.0      0.0      0.0
GR 182.3    -9.2     182.02   -3.8     180.06   -1       179.89   0        180.01   1.2
GR 182.08   4.6      182.05   9

[LOSSES]
;;Link           Inlet      Outlet     Average    Flap Gate  SeepageRate
;;-------------- ---------- ---------- ---------- ---------- ----------
C2_2             0.5        0.5        0          NO         0
C3               0.5        0.5        0          NO         0
C3_1             0.5        0.5        0          NO         0
[CURVES]
;;Name           Type       X-Value    Y-Value
;;-------------- ---------- ---------- ----------
Curve1           Pump2      0          0
Curve1                      0.01       0.099999999
Curve1                      3.7        0.1

;Original Pond Design
Pond             Storage    0          11614.85
Pond                        0.2        12052.93
Pond                        0.45       12609.4
Pond                        0.7        13175.6
Pond                        1.7        15538.8
Pond                        2.2        16779.3
Pond                        2.7        18059
Pond                        3.7        20736.5

;Reduced Pond Size
PondTest         Storage    0          5436.18
PondTest                    1          7591.19
PondTest                    2          9903.28
PondTest                    3          12372.45
PondTest                    3.7        14194.32

;Reduced Pond Size 2
PondTest2        Storage    0          5179.8
PondTest2                   1          7155.9
PondTest2                   2          9289.19
```

```
PondTest2                  3          11579.63
PondTest2                  3.7        13276.44

[TIMESERIES]
;;Name           Date       Time       Value
;;-------------- ---------- ---------- ----------
100yr_4hr_Chicago            0:00       3.95
100yr_4hr_Chicago            0:15       4.87
100yr_4hr_Chicago            0:30       6.36
100yr_4hr_Chicago            0:45       9.19
100yr_4hr_Chicago            1:00       16.45
100yr_4hr_Chicago            1:15       46.45
100yr_4hr_Chicago            1:30       143.67
100yr_4hr_Chicago            1:45       32.45
100yr_4hr_Chicago            2:00       17.25
100yr_4hr_Chicago            2:15       11.53
100yr_4hr_Chicago            2:30       8.62
100yr_4hr_Chicago            2:45       6.87
100yr_4hr_Chicago            3:00       5.71
100yr_4hr_Chicago            3:15       4.89
100yr_4hr_Chicago            3:30       4.28
100yr_4hr_Chicago            3:45       3.81
100yr_4hr_Chicago            4:00       0

2yr_4hr_Chicago              0:00       2.1
2yr_4hr_Chicago              0:15       2.52
2yr_4hr_Chicago              0:30       3.18
2yr_4hr_Chicago              0:45       4.38
2yr_4hr_Chicago              1:00       7.31
2yr_4hr_Chicago              1:15       19.33
2yr_4hr_Chicago              1:30       68.13
2yr_4hr_Chicago              1:45       13.64
2yr_4hr_Chicago              2:00       7.63
2yr_4hr_Chicago              2:15       5.34
2yr_4hr_Chicago              2:30       4.14
2yr_4hr_Chicago              2:45       3.4
2yr_4hr_Chicago              3:00       2.89
2yr_4hr_Chicago              3:15       2.53
2yr_4hr_Chicago              3:30       2.25
2yr_4hr_Chicago              3:45       2.03
2yr_4hr_Chicago              4:00       0

5yr_4hr_Chicago              0:00       2.58
5yr_4hr_Chicago              0:15       3.13
5yr_4hr_Chicago              0:30       4.02
5yr_4hr_Chicago              0:45       5.66
5yr_4hr_Chicago              1:00       9.76
5yr_4hr_Chicago              1:15       26.72
5yr_4hr_Chicago              1:30       88.4
5yr_4hr_Chicago              1:45       18.73
5yr_4hr_Chicago              2:00       10.21
5yr_4hr_Chicago              2:15       6.99
5yr_4hr_Chicago              2:30       5.33
5yr_4hr_Chicago              2:45       4.31
5yr_4hr_Chicago              3:00       3.64
5yr_4hr_Chicago              3:15       3.15
5yr_4hr_Chicago              3:30       2.78
```

```
5yr_4hr_Chicago             3:45       2.49
5yr_4hr_Chicago             4:00       0

;Total rainfall = 46.2 mm, rain interval = 6 minutes
SCS_2yr_12hr_Type_II            0:00       0.99432
SCS_2yr_12hr_Type_II            0:06       1.0053
SCS_2yr_12hr_Type_II            0:12       1.01629
SCS_2yr_12hr_Type_II            0:18       1.02728
SCS_2yr_12hr_Type_II            0:24       1.03826
SCS_2yr_12hr_Type_II            0:30       1.04925
SCS_2yr_12hr_Type_II            0:36       1.06024
SCS_2yr_12hr_Type_II            0:42       1.07122
SCS_2yr_12hr_Type_II            0:48       1.08221
SCS_2yr_12hr_Type_II            0:54       1.0932
SCS_2yr_12hr_Type_II            1:00       1.10419
SCS_2yr_12hr_Type_II            1:06       1.11517
SCS_2yr_12hr_Type_II            1:12       1.12616
SCS_2yr_12hr_Type_II            1:18       1.13715
SCS_2yr_12hr_Type_II            1:24       1.14813
SCS_2yr_12hr_Type_II            1:30       1.15912
SCS_2yr_12hr_Type_II            1:36       1.17011
SCS_2yr_12hr_Type_II            1:42       1.18109
SCS_2yr_12hr_Type_II            1:48       1.19208
SCS_2yr_12hr_Type_II            1:54       1.20307
SCS_2yr_12hr_Type_II            2:00       1.23603
SCS_2yr_12hr_Type_II            2:06       1.29096
SCS_2yr_12hr_Type_II            2:12       1.3459
SCS_2yr_12hr_Type_II            2:18       1.40083
SCS_2yr_12hr_Type_II            2:24       1.45577
SCS_2yr_12hr_Type_II            2:30       1.5107
SCS_2yr_12hr_Type_II            2:36       1.56564
SCS_2yr_12hr_Type_II            2:42       1.62057
SCS_2yr_12hr_Type_II            2:48       1.67551
SCS_2yr_12hr_Type_II            2:54       1.73044
SCS_2yr_12hr_Type_II            3:00       1.75791
SCS_2yr_12hr_Type_II            3:06       1.75791
SCS_2yr_12hr_Type_II            3:12       1.75791
SCS_2yr_12hr_Type_II            3:18       1.75791
SCS_2yr_12hr_Type_II            3:24       1.75791
SCS_2yr_12hr_Type_II            3:30       1.80185
SCS_2yr_12hr_Type_II            3:36       1.88975
SCS_2yr_12hr_Type_II            3:42       1.97765
SCS_2yr_12hr_Type_II            3:48       2.06554
SCS_2yr_12hr_Type_II            3:54       2.15344
SCS_2yr_12hr_Type_II            4:00       2.26331
SCS_2yr_12hr_Type_II            4:06       2.39515
SCS_2yr_12hr_Type_II            4:12       2.52699
SCS_2yr_12hr_Type_II            4:18       2.65883
SCS_2yr_12hr_Type_II            4:24       2.79068
SCS_2yr_12hr_Type_II            4:30       2.96647
SCS_2yr_12hr_Type_II            4:36       3.18621
SCS_2yr_12hr_Type_II            4:42       3.40595
SCS_2yr_12hr_Type_II            4:48       3.62568
SCS_2yr_12hr_Type_II            4:54       3.84542
SCS_2yr_12hr_Type_II            5:00       4.21898
SCS_2yr_12hr_Type_II            5:06       4.74635
SCS_2yr_12hr_Type_II            5:12       5.27372
```

SCS_2yr_12hr_Type_II	5:18	5.80109
SCS_2yr_12hr_Type_II	5:24	6.32847
SCS_2yr_12hr_Type_II	5:30	13.09641
SCS_2yr_12hr_Type_II	5:36	26.10492
SCS_2yr_12hr_Type_II	5:42	41.98652
SCS_2yr_12hr_Type_II	5:48	75.29886
SCS_2yr_12hr_Type_II	5:54	52.26478
SCS_2yr_12hr_Type_II	6:00	10.4156
SCS_2yr_12hr_Type_II	6:06	9.16309
SCS_2yr_12hr_Type_II	6:12	7.91058
SCS_2yr_12hr_Type_II	6:18	6.65807
SCS_2yr_12hr_Type_II	6:24	5.40556
SCS_2yr_12hr_Type_II	6:30	4.63648
SCS_2yr_12hr_Type_II	6:36	4.35082
SCS_2yr_12hr_Type_II	6:42	4.06516
SCS_2yr_12hr_Type_II	6:48	3.7795
SCS_2yr_12hr_Type_II	6:54	3.49384
SCS_2yr_12hr_Type_II	7:00	3.2741
SCS_2yr_12hr_Type_II	7:06	3.12029
SCS_2yr_12hr_Type_II	7:12	2.96647
SCS_2yr_12hr_Type_II	7:18	2.81265
SCS_2yr_12hr_Type_II	7:24	2.65883
SCS_2yr_12hr_Type_II	7:30	2.52699
SCS_2yr_12hr_Type_II	7:36	2.41712
SCS_2yr_12hr_Type_II	7:42	2.30725
SCS_2yr_12hr_Type_II	7:48	2.19738
SCS_2yr_12hr_Type_II	7:54	2.08751
SCS_2yr_12hr_Type_II	8:00	2.0161
SCS_2yr_12hr_Type_II	8:06	1.97215
SCS_2yr_12hr_Type_II	8:12	1.93919
SCS_2yr_12hr_Type_II	8:18	1.89524
SCS_2yr_12hr_Type_II	8:24	1.86228
SCS_2yr_12hr_Type_II	8:30	1.81834
SCS_2yr_12hr_Type_II	8:36	1.78537
SCS_2yr_12hr_Type_II	8:42	1.74143
SCS_2yr_12hr_Type_II	8:48	1.70847
SCS_2yr_12hr_Type_II	8:54	1.66452
SCS_2yr_12hr_Type_II	9:00	1.63156
SCS_2yr_12hr_Type_II	9:06	1.58761
SCS_2yr_12hr_Type_II	9:12	1.55465
SCS_2yr_12hr_Type_II	9:18	1.5107
SCS_2yr_12hr_Type_II	9:24	1.47774
SCS_2yr_12hr_Type_II	9:30	1.43379
SCS_2yr_12hr_Type_II	9:36	1.40083
SCS_2yr_12hr_Type_II	9:42	1.35688
SCS_2yr_12hr_Type_II	9:48	1.32392
SCS_2yr_12hr_Type_II	9:54	1.27998
SCS_2yr_12hr_Type_II	10:00	1.258
SCS_2yr_12hr_Type_II	10:06	1.24152
SCS_2yr_12hr_Type_II	10:12	1.23054
SCS_2yr_12hr_Type_II	10:18	1.21405
SCS_2yr_12hr_Type_II	10:24	1.20307
SCS_2yr_12hr_Type_II	10:30	1.18659
SCS_2yr_12hr_Type_II	10:36	1.1756
SCS_2yr_12hr_Type_II	10:42	1.15912
SCS_2yr_12hr_Type_II	10:48	1.14813
SCS_2yr_12hr_Type_II	10:54	1.13165

```
SCS_2yr_12hr_Type_II            11:00      1.12067
SCS_2yr_12hr_Type_II            11:06      1.10419
SCS_2yr_12hr_Type_II            11:12      1.0932
SCS_2yr_12hr_Type_II            11:18      1.07672
SCS_2yr_12hr_Type_II            11:24      1.06573
SCS_2yr_12hr_Type_II            11:30      1.04925
SCS_2yr_12hr_Type_II            11:36      1.03826
SCS_2yr_12hr_Type_II            11:42      1.02178
SCS_2yr_12hr_Type_II            11:48      1.0108
SCS_2yr_12hr_Type_II            11:54      0.99432

;total rainfall = 53.4 mm
SCS_2yr_24hr_Type_II            0:00       0.587
SCS_2yr_24hr_Type_II            0:15       0.587
SCS_2yr_24hr_Type_II            0:30       0.587
SCS_2yr_24hr_Type_II            0:45       0.587
SCS_2yr_24hr_Type_II            1:00       0.587
SCS_2yr_24hr_Type_II            1:15       0.587
SCS_2yr_24hr_Type_II            1:30       0.587
SCS_2yr_24hr_Type_II            1:45       0.587
SCS_2yr_24hr_Type_II            2:00       0.694
SCS_2yr_24hr_Type_II            2:15       0.694
SCS_2yr_24hr_Type_II            2:30       0.694
SCS_2yr_24hr_Type_II            2:45       0.694
SCS_2yr_24hr_Type_II            3:00       0.694
SCS_2yr_24hr_Type_II            3:15       0.694
SCS_2yr_24hr_Type_II            3:30       0.694
SCS_2yr_24hr_Type_II            3:45       0.694
SCS_2yr_24hr_Type_II            4:00       0.854
SCS_2yr_24hr_Type_II            4:15       0.854
SCS_2yr_24hr_Type_II            4:30       0.854
SCS_2yr_24hr_Type_II            4:45       0.854
SCS_2yr_24hr_Type_II            5:00       0.854
SCS_2yr_24hr_Type_II            5:15       0.854
SCS_2yr_24hr_Type_II            5:30       0.854
SCS_2yr_24hr_Type_II            5:45       0.854
SCS_2yr_24hr_Type_II            6:00       0.961
SCS_2yr_24hr_Type_II            6:15       0.961
SCS_2yr_24hr_Type_II            6:30       0.961
SCS_2yr_24hr_Type_II            6:45       0.961
SCS_2yr_24hr_Type_II            7:00       1.175
SCS_2yr_24hr_Type_II            7:15       1.175
SCS_2yr_24hr_Type_II            7:30       1.175
SCS_2yr_24hr_Type_II            7:45       1.175
SCS_2yr_24hr_Type_II            8:00       1.388
SCS_2yr_24hr_Type_II            8:15       1.388
SCS_2yr_24hr_Type_II            8:30       1.495
SCS_2yr_24hr_Type_II            8:45       1.495
SCS_2yr_24hr_Type_II            9:00       1.709
SCS_2yr_24hr_Type_II            9:15       1.709
SCS_2yr_24hr_Type_II            9:30       1.922
SCS_2yr_24hr_Type_II            9:45       1.922
SCS_2yr_24hr_Type_II            10:00      2.456
SCS_2yr_24hr_Type_II            10:15      2.456
SCS_2yr_24hr_Type_II            10:30      3.311
SCS_2yr_24hr_Type_II            10:45      3.311
SCS_2yr_24hr_Type_II            11:00      5.126
```

SCS_2yr_24hr_Type_II	11:15	5.126
SCS_2yr_24hr_Type_II	11:30	15.806
SCS_2yr_24hr_Type_II	11:45	65.362
SCS_2yr_24hr_Type_II	12:00	7.69
SCS_2yr_24hr_Type_II	12:15	7.69
SCS_2yr_24hr_Type_II	12:30	3.952
SCS_2yr_24hr_Type_II	12:45	3.952
SCS_2yr_24hr_Type_II	13:00	2.884
SCS_2yr_24hr_Type_II	13:15	2.884
SCS_2yr_24hr_Type_II	13:30	2.243
SCS_2yr_24hr_Type_II	13:45	2.243
SCS_2yr_24hr_Type_II	14:00	1.602
SCS_2yr_24hr_Type_II	14:15	1.602
SCS_2yr_24hr_Type_II	14:30	1.602
SCS_2yr_24hr_Type_II	14:45	1.602
SCS_2yr_24hr_Type_II	15:00	1.602
SCS_2yr_24hr_Type_II	15:15	1.602
SCS_2yr_24hr_Type_II	15:30	1.602
SCS_2yr_24hr_Type_II	15:45	1.602
SCS_2yr_24hr_Type_II	16:00	0.961
SCS_2yr_24hr_Type_II	16:15	0.961
SCS_2yr_24hr_Type_II	16:30	0.961
SCS_2yr_24hr_Type_II	16:45	0.961
SCS_2yr_24hr_Type_II	17:00	0.961
SCS_2yr_24hr_Type_II	17:15	0.961
SCS_2yr_24hr_Type_II	17:30	0.961
SCS_2yr_24hr_Type_II	17:45	0.961
SCS_2yr_24hr_Type_II	18:00	0.961
SCS_2yr_24hr_Type_II	18:15	0.961
SCS_2yr_24hr_Type_II	18:30	0.961
SCS_2yr_24hr_Type_II	18:45	0.961
SCS_2yr_24hr_Type_II	19:00	0.961
SCS_2yr_24hr_Type_II	19:15	0.961
SCS_2yr_24hr_Type_II	19:30	0.961
SCS_2yr_24hr_Type_II	19:45	0.961
SCS_2yr_24hr_Type_II	20:00	0.641
SCS_2yr_24hr_Type_II	20:15	0.641
SCS_2yr_24hr_Type_II	20:30	0.641
SCS_2yr_24hr_Type_II	20:45	0.641
SCS_2yr_24hr_Type_II	21:00	0.641
SCS_2yr_24hr_Type_II	21:15	0.641
SCS_2yr_24hr_Type_II	21:30	0.641
SCS_2yr_24hr_Type_II	21:45	0.641
SCS_2yr_24hr_Type_II	22:00	0.641
SCS_2yr_24hr_Type_II	22:15	0.641
SCS_2yr_24hr_Type_II	22:30	0.641
SCS_2yr_24hr_Type_II	22:45	0.641
SCS_2yr_24hr_Type_II	23:00	0.641
SCS_2yr_24hr_Type_II	23:15	0.641
SCS_2yr_24hr_Type_II	23:30	0.641
SCS_2yr_24hr_Type_II	23:45	0.641

UST	0:00	2.41
UST	0:15	2.43
UST	0:30	2.45
UST	0:45	2.46
UST	1:00	2.48

UST	1:15	2.51
UST	1:30	2.53
UST	1:45	2.55
UST	2:00	2.58
UST	2:15	2.61
UST	2:30	2.64
UST	2:45	2.67
UST	3:00	2.71
UST	3:15	2.74
UST	3:30	2.79
UST	3:45	2.83
UST	4:00	2.88
UST	4:15	2.94
UST	4:30	3
UST	4:45	3.07
UST	5:00	3.15
UST	5:15	3.23
UST	5:30	3.33
UST	5:45	3.45
UST	6:00	3.59
UST	6:15	3.75
UST	6:30	3.94
UST	6:45	4.18
UST	7:00	4.49
UST	7:15	4.89
UST	7:30	5.43
UST	7:45	6.2
UST	8:00	7.41
UST	8:15	9.56
UST	8:30	14.29
UST	8:45	32.01
UST	9:00	145.13
UST	9:15	48.51
UST	9:30	23.13
UST	9:45	15.08
UST	10:00	11.35
UST	10:15	9.23
UST	10:30	7.88
UST	10:45	6.94
UST	11:00	6.25
UST	11:15	5.73
UST	11:30	5.32
UST	11:45	4.99
UST	12:00	4.72
UST	12:15	4.49
UST	12:30	4.29
UST	12:45	4.12
UST	13:00	3.98
UST	13:15	3.85
UST	13:30	3.74
UST	13:45	3.63
UST	14:00	3.54
UST	14:15	3.46
UST	14:30	3.39
UST	14:45	3.32
UST	15:00	3.26
UST	15:15	3.2

```
UST                     15:30      3.15
UST                     15:45      3.1
UST                     16:00      3.05
UST                     16:15      3.01
UST                     16:30      2.97
UST                     16:45      2.93
UST                     17:00      2.9
UST                     17:15      2.87
UST                     17:30      2.84
UST                     17:45      2.81
UST                     18:00      2.78
UST                     18:15      2.76
UST                     18:30      2.73
UST                     18:45      2.71
UST                     19:00      2.69
UST                     19:15      2.67
UST                     19:30      2.65
UST                     19:45      2.63
UST                     20:00      2.61
UST                     20:15      2.59
UST                     20:30      2.57
UST                     20:45      2.56
UST                     21:00      2.54
UST                     21:15      2.53
UST                     21:30      2.51
UST                     21:45      2.5
UST                     22:00      2.49
UST                     22:15      2.47
UST                     22:30      2.46
UST                     22:45      2.45
UST                     23:00      2.44
UST                     23:15      2.43
UST                     23:30      2.42
UST                     23:45      2.41

[REPORT]
;;Reporting Options
INPUT      YES
CONTROLS   NO
SUBCATCHMENTS ALL
NODES ALL
LINKS ALL

[TAGS]
Subcatch   S3_10           Develp\\
Subcatch   S3_15           Develp\\
Subcatch   S3_9            Develp\\

[MAP]
DIMENSIONS       335625.28325     4666996.99015    337284.23175     4668241.65885
UNITS            Meters

[COORDINATES]
;;Node           X-Coord          Y-Coord
;;-------------- ---------------- ----------------
J1               336317.6         4667255.807
J10              336214.88        4667230.787
```

```
J2               336172.061       4667220.349
J3               335830.782       4667242.452
J4               335849.998       4667486.872
J5               335877.306       4667238.391
J6               335837.14        4667323.333
J7               336761.228       4667379.476
J8               336216.029       4667205.094
J9               336627.922       4667176.37
OF1              335879.817       4667881.382
OF2              336359.266       4667066.374

[VERTICES]
;;Link           X-Coord          Y-Coord
;;-------------- ---------------- ----------------
W1               335840.065       4667219.137
W2               335815.782       4667306.497
W3               336201.81        4667217.421

[POLYGONS]
;;Subcatchment   X-Coord          Y-Coord
;;-------------- ---------------- ----------------
S3_1             336701.369       4667362.739
S3_1             337021.956       4667459
S3_1             337018.8         4667427.155
S3_1             336927.528       4667400.662
S3_1             336922.296       4667239.701
S3_1             336782.019       4667250.473
S3_1             336776.827       4667221.989
S3_1             336758.599       4667217.894
S3_1             336754.73        4667246.588
S3_1             336691.511       4667249.182
S3_1             336701.369       4667362.739
S3_10            336372.655       4667646.903
S3_10            336392.297       4667582.422
S3_10            336396.088       4667564.963
S3_10            336410.879       4667517.649
S3_10            336417.459       4667497.728
S3_10            336411.81        4667478.154
S3_10            336393.179       4667299.427
S3_10            336383.185       4667278.215
S3_10            336165.821       4667218.272
S3_10            336133.887       4667220.287
S3_10            336142.125       4667324.525
S3_10            336143.655       4667352.328
S3_10            336145.311       4667378.108
S3_10            336146.26        4667395.884
S3_10            336147.765       4667410.286
S3_10            336149.982       4667422.53
S3_10            336153.803       4667437.667
S3_10            336158.371       4667451.848
S3_10            336162.553       4667462.647
S3_10            336176.84        4667491.412
S3_10            336190.106       4667510.946
S3_10            336196.597       4667519.399
S3_10            336202.526       4667526.047
S3_10            336212.242       4667536.191
S3_10            336218.012       4667541.961
```

S3_10	336225.15	4667547.952
S3_10	336233.09	4667554.363
S3_10	336256.87	4667570.837
S3_10	336280.688	4667582.428
S3_10	336297.581	4667588.637
S3_10	336312.352	4667592.995
S3_10	336344.603	4667648.242
S3_10	336372.655	4667646.903
S3_11	336644.914	4667429.981
S3_11	336656.039	4667416.559
S3_11	336664.778	4667394.226
S3_11	336678.388	4667360.017
S3_11	336383.185	4667278.215
S3_11	336393.179	4667299.427
S3_11	336411.81	4667478.154
S3_11	336454.667	4667474.44
S3_11	336537.951	4667469.392
S3_11	336632.002	4667463.005
S3_11	336631.754	4667446.617
S3_11	336644.914	4667429.981
S3_12	335891.333	4667236.984
S3_12	335910.208	4667398.134
S3_12	336145.311	4667378.117
S3_12	336143.655	4667352.337
S3_12	336142.126	4667324.534
S3_12	336134.585	4667222.386
S3_12	335891.333	4667236.984
S3_13	335865.608	4667683.955
S3_13	335846.704	4667488.204
S3_13	335728.745	4667495.706
S3_13	335700.69	4667632.872
S3_13	335712.505	4667675.706
S3_13	335755.299	4667758.531
S3_13	335804.769	4667818.449
S3_13	335860.944	4667856.656
S3_13	335887.809	4668185.083
S3_13	335985.32	4668118.517
S3_13	336051.32	4668058.405
S3_13	336124.222	4667986.703
S3_13	336569.696	4667964.936
S3_13	336564.721	4667633.664
S3_13	336416.121	4667644.013
S3_13	336372.655	4667646.903
S3_13	336344.603	4667648.242
S3_13	335865.608	4667683.955
S3_14	335910.208	4667398.134
S3_14	335891.333	4667236.984
S3_14	335826.933	4667240.849
S3_14	335840.547	4667404.065
S3_14	335910.208	4667398.134
S3_15	336944.2	4667434.55
S3_15	336700.577	4667366.282
S3_15	336698.665	4667365.755
S3_15	336678.388	4667360.017
S3_15	336664.778	4667394.226
S3_15	336656.039	4667416.559
S3_15	336644.914	4667429.981

S3_15	336631.754	4667446.617
S3_15	336632.002	4667463.005
S3_15	336637.311	4667528.533
S3_15	336673.912	4667525.991
S3_15	336679.118	4667626.141
S3_15	337136.513	4667595.994
S3_15	337152.281	4667593.982
S3_15	337149.482	4667543.037
S3_15	337208.825	4667539.118
S3_15	337207.271	4667507.187
S3_15	337161.902	4667495.449
S3_15	337124.457	4667484.149
S3_15	337106.892	4667506.191
S3_15	337049.689	4667503.045
S3_15	337038.672	4667502.337
S3_15	337021.528	4667504.259
S3_15	337008.463	4667505.623
S3_15	337004.495	4667505.137
S3_15	336993.673	4667503.643
S3_15	336956.376	4667480.049
S3_15	336953.799	4667469.723
S3_15	336945.852	4667458.989
S3_15	336944.2	4667434.55
S3_2	336299.344	4667128.151
S3_2	336308.847	4667222.067
S3_2	336598.119	4667202.448
S3_2	336597.678	4667192.766
S3_2	336648.613	4667188.241
S3_2	336641.292	4667104.105
S3_2	336310.723	4667126.488
S3_2	336310.721	4667126.466
S3_2	336299.344	4667128.151
S3_3	335918.693	4667142.54
S3_3	336171.903	4667220.136
S3_3	336171.903	4667220.145
S3_3	336209.268	4667229.676
S3_3	336308.847	4667222.067
S3_3	336299.344	4667128.151
S3_3	336310.721	4667126.466
S3_3	336306.228	4667053.566
S3_3	336180.197	4667061.282
S3_3	336034.161	4667087.429
S3_3	335951.88	4667115.688
S3_3	335918.693	4667142.54
S3_4	336209.268	4667229.685
S3_4	336701.168	4667360.431
S3_4	336691.511	4667249.182
S3_4	336600.415	4667252.921
S3_4	336598.119	4667202.448
S3_4	336209.268	4667229.685
S3_5	335865.608	4667683.955
S3_5	336344.603	4667648.242
S3_5	336311.643	4667591.781
S3_5	336280.688	4667582.437
S3_5	336256.87	4667570.846
S3_5	336230.13	4667551.574
S3_5	336202.259	4667524.699

```
S3_5            336176.84       4667491.421
S3_5            336159.331      4667452.926
S3_5            336147.765      4667410.295
S3_5            336146.26       4667395.893
S3_5            336145.311      4667378.117
S3_5            336137.171      4667378.612
S3_5            335840.547      4667404.065
S3_5            335847.561      4667488.15
S3_5            335846.704      4667488.204
S3_5            335865.608      4667683.955
S3_7            335826.933      4667240.849
S3_7            336171.903      4667220.127
S3_7            335918.693      4667142.54
S3_7            335915.307      4667145.28
S3_7            335817.552      4667128.393
S3_7            335826.933      4667240.849
S3_8            336944.2        4667434.55
S3_8            336945.852      4667458.989
S3_8            336953.799      4667469.723
S3_8            336956.376      4667480.049
S3_8            336993.673      4667503.643
S3_8            337004.495      4667505.137
S3_8            337008.463      4667505.623
S3_8            337021.528      4667504.259
S3_8            337038.672      4667502.337
S3_8            337049.689      4667503.045
S3_8            337106.892      4667506.191
S3_8            337124.457      4667484.149
S3_8            337046.688      4667462.707
S3_8            337021.753      4667455.621
S3_8            336944.2        4667434.55
S3_9            336411.81       4667478.154
S3_9            336417.459      4667497.728
S3_9            336410.879      4667517.649
S3_9            336396.088      4667564.963
S3_9            336392.297      4667582.422
S3_9            336372.655      4667646.903
S3_9            336416.121      4667644.013
S3_9            336564.721      4667633.664
S3_9            336662.337      4667627.172
S3_9            336679.118      4667626.141
S3_9            336673.912      4667525.991
S3_9            336637.311      4667528.533
S3_9            336632.002      4667463.005
S3_9            336537.951      4667469.392
S3_9            336454.667      4667474.44
S3_9            336411.81       4667478.154

[SYMBOLS]
;;Gage           X-Coord         Y-Coord
;;-------------- --------------- ----------------
```

Existing 1:2 Year Chicago PCSWMM Output Report

```
EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.013)
--------------------------------------------------------------

WARNING 02: maximum depth increased for Node J1
WARNING 02: maximum depth increased for Node J10
WARNING 02: maximum depth increased for Node J2
WARNING 02: maximum depth increased for Node J3
WARNING 02: maximum depth increased for Node J5
WARNING 02: maximum depth increased for Node J7
WARNING 02: maximum depth increased for Node J8
WARNING 02: maximum depth increased for Node J9

*************
Element Count
*************
Number of rain gages ...... 1
Number of subcatchments ... 14
Number of nodes ........... 12
Number of links ........... 13
Number of pollutants ...... 0
Number of land uses ....... 0


****************
Raingage Summary
****************
                                                 Data       Recording
Name                 Data Source                 Type       Interval
----------------------------------------------------------------------
Raingage1            2yr_4hr_Chicago             INTENSITY   15 min.


********************
Subcatchment Summary
********************
Name                         Area     Width   %Imperv    %Slope Rain Gage            Outlet
-----------------------------------------------------------------------------------------------
S3_1                         3.77    107.73     60.00    0.5000 Raingage1            J9
S3_10                        8.36    209.00      0.00    0.5000 Raingage1            J1
S3_11                        3.85    214.07      0.00    0.5000 Raingage1            J7
S3_12                        3.82    254.62      0.00    0.5000 Raingage1            J6
S3_13                       29.62    429.30      0.00    0.5000 Raingage1            J4
S3_14                        1.10    199.13     20.00    0.5000 Raingage1            J6
S3_15                        8.87    168.31      0.00    0.5000 Raingage1            S3_9
S3_2                         3.21    493.12     52.00    0.5000 Raingage1            J9
S3_3                         4.55    454.62      0.00    0.5000 Raingage1            J8
S3_4                         3.48    395.33     15.00    0.5000 Raingage1            J9
S3_5                        10.42    416.82      0.00    0.5000 Raingage1            J4
S3_7                         2.15    214.67     21.00    0.5000 Raingage1            J5
S3_8                         0.70     23.34      0.00    0.5000 Raingage1            J7
S3_9                         4.49    154.83      0.00    0.5000 Raingage1            S3_10


************
Node Summary
************
```

Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
J1	JUNCTION	182.12	1.96	0.0	
J10	JUNCTION	181.97	2.06	0.0	
J2	JUNCTION	181.88	2.06	0.0	
J3	JUNCTION	181.52	2.76	0.0	
J4	JUNCTION	181.62	1.67	0.0	
J5	JUNCTION	181.55	2.74	0.0	
J6	JUNCTION	181.50	1.79	0.0	
J7	JUNCTION	183.13	1.96	0.0	
J8	JUNCTION	183.10	1.72	0.0	
J9	JUNCTION	183.13	1.00	0.0	
OF1	OUTFALL	181.22	1.34	0.0	
OF2	OUTFALL	182.12	0.00	0.0	

****
Link Summary
****

Name	From Node	To Node	Type	Length	%Slope	Roughness
C1	J4	OF1	CONDUIT	395.7	0.1011	0.0350
C1_1	J1	J10	CONDUIT	105.7	0.1419	0.0350
C1_2	J10	J2	CONDUIT	44.1	0.2042	0.0350
C2	J9	J8	CONDUIT	412.9	0.0073	0.0130
C2_1	J2	J5	CONDUIT	295.3	0.1117	0.0350
C2_2	J5	J3	CONDUIT	48.0	0.0521	0.0130
C3	J8	J10	CONDUIT	24.0	4.7136	0.0130
C3_1	J3	J6	CONDUIT	85.7	0.0292	0.0130
C3_2	J6	J4	CONDUIT	164.0	-0.0732	0.0350
C7	J7	J1	CONDUIT	460.6	0.2193	0.0350
W1	J5	J3	WEIR			
W2	J3	J6	WEIR			
W3	J8	J10	WEIR			

****
Cross Section Summary
****

Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
C1	Dufour_W	1.34	69.36	0.37	115.00	1	32.39
C1_1	BranchA	1.96	12.30	1.05	14.40	1	13.64
C1_2	Dufour_S	2.06	12.93	0.96	14.30	1	16.21
C2	TRAPEZOIDAL	1.00	10.47	0.86	10.95	1	6.20
C2_1	Dufour_S	2.06	12.93	0.96	14.30	1	11.99
C2_2	ARCH	1.36	1.91	0.41	1.78	1	1.84
C3	CIRCULAR	0.90	0.64	0.23	0.90	1	3.93
C3_1	ARCH	1.36	1.91	0.41	1.78	1	1.38
C3_2	Dufour_W	1.34	69.36	0.37	115.00	1	27.55
C7	BranchA	1.96	12.30	1.05	14.40	1	16.96

****

Transect Summary
****

Transect BranchA
Area:

0.0010	0.0039	0.0087	0.0147	0.0214
0.0286	0.0363	0.0446	0.0534	0.0628
0.0727	0.0831	0.0941	0.1057	0.1178
0.1305	0.1437	0.1574	0.1717	0.1865
0.2019	0.2179	0.2343	0.2514	0.2689
0.2921	0.3174	0.3430	0.3689	0.3951
0.4216	0.4483	0.4754	0.5027	0.5303
0.5582	0.5864	0.6149	0.6437	0.6728
0.7022	0.7319	0.7618	0.7921	0.8233
0.8555	0.8886	0.9228	0.9582	1.0000

Hrad:

0.0185	0.0370	0.0587	0.0851	0.1129
0.1390	0.1638	0.1875	0.2103	0.2325
0.2540	0.2751	0.2958	0.3161	0.3361
0.3558	0.3753	0.3946	0.4137	0.4326
0.4515	0.4701	0.4887	0.5072	0.5255
0.5380	0.5487	0.5615	0.5759	0.5915
0.6080	0.6251	0.6428	0.6609	0.6793
0.6981	0.7171	0.7363	0.7556	0.7750
0.7946	0.8142	0.8339	0.8573	0.8856
0.9126	0.9382	0.9627	0.9857	1.0000

Width:

0.0428	0.0856	0.1198	0.1386	0.1505
0.1624	0.1743	0.1862	0.1981	0.2101
0.2220	0.2339	0.2458	0.2577	0.2696
0.2815	0.2935	0.3054	0.3173	0.3292
0.3411	0.3530	0.3649	0.3769	0.3888
0.5479	0.5542	0.5606	0.5669	0.5733
0.5796	0.5860	0.5923	0.5987	0.6050
0.6113	0.6177	0.6240	0.6304	0.6367
0.6431	0.6494	0.6558	0.6679	0.6897
0.7115	0.7333	0.7551	0.8203	1.0000

Transect Dufour_S
Area:

0.0005	0.0019	0.0044	0.0077	0.0121
0.0174	0.0234	0.0299	0.0371	0.0448
0.0530	0.0617	0.0710	0.0808	0.0911
0.1020	0.1134	0.1253	0.1378	0.1508
0.1643	0.1784	0.1930	0.2081	0.2238
0.2400	0.2568	0.2740	0.2918	0.3102
0.3293	0.3496	0.3711	0.3966	0.4289
0.4632	0.4980	0.5332	0.5689	0.6050
0.6415	0.6784	0.7159	0.7537	0.7920
0.8307	0.8706	0.9121	0.9552	1.0000

Hrad:

0.0207	0.0414	0.0620	0.0827	0.1034
0.1268	0.1530	0.1780	0.2035	0.2282
0.2522	0.2756	0.2984	0.3209	0.3430
0.3649	0.3864	0.4078	0.4289	0.4499
0.4708	0.4915	0.5121	0.5326	0.5531
0.5734	0.5936	0.6138	0.6340	0.6540

```
            0.6801     0.7043     0.7264     0.7449     0.7539
            0.7637     0.7761     0.7904     0.8061     0.8229
            0.8406     0.8589     0.8778     0.8970     0.9166
            0.9362     0.9536     0.9701     0.9855     1.0000
Width:
            0.0213     0.0425     0.0638     0.0850     0.1063
            0.1242     0.1375     0.1508     0.1625     0.1742
            0.1859     0.1976     0.2093     0.2210     0.2327
            0.2444     0.2561     0.2678     0.2795     0.2912
            0.3029     0.3146     0.3263     0.3380     0.3497
            0.3614     0.3731     0.3848     0.3965     0.4082
            0.4329     0.4590     0.4851     0.6367     0.7487
            0.7583     0.7679     0.7775     0.7871     0.7967
            0.8063     0.8159     0.8255     0.8352     0.8448
            0.8576     0.8932     0.9288     0.9644     1.0000

Transect Dufour_W
Area:
            0.0001     0.0004     0.0008     0.0015     0.0023
            0.0034     0.0046     0.0060     0.0075     0.0093
            0.0112     0.0133     0.0156     0.0179     0.0204
            0.0230     0.0257     0.0285     0.0315     0.0345
            0.0378     0.0416     0.0458     0.0505     0.0556
            0.0616     0.0689     0.1007     0.1408     0.1809
            0.2211     0.2613     0.3015     0.3417     0.3820
            0.4223     0.4626     0.5030     0.5434     0.5838
            0.6242     0.6647     0.7052     0.7458     0.7865
            0.8278     0.8698     0.9125     0.9559     1.0000
Hrad:
            0.0360     0.0720     0.1080     0.1440     0.1800
            0.2159     0.2519     0.2879     0.3241     0.3638
            0.4029     0.4415     0.4861     0.5325     0.5780
            0.6225     0.6663     0.7094     0.7520     0.7940
            0.7692     0.7483     0.7391     0.7384     0.7652
            0.8184     0.8492     0.6095     0.4948     0.4574
            0.4504     0.4582     0.4744     0.4957     0.5203
            0.5473     0.5759     0.6058     0.6366     0.6682
            0.7004     0.7330     0.7661     0.7994     0.8339
            0.8684     0.9021     0.9353     0.9679     1.0000
Width:
            0.0042     0.0084     0.0126     0.0168     0.0210
            0.0252     0.0294     0.0335     0.0377     0.0414
            0.0451     0.0488     0.0518     0.0544     0.0570
            0.0597     0.0623     0.0649     0.0675     0.0701
            0.0794     0.0898     0.1001     0.1105     0.1245
            0.1446     0.2952     0.9019     0.9026     0.9033
            0.9040     0.9046     0.9053     0.9060     0.9067
            0.9074     0.9080     0.9087     0.9094     0.9101
            0.9107     0.9114     0.9121     0.9128     0.9223
            0.9379     0.9534     0.9689     0.9845     1.0000

Transect Transect2
Area:
            0.0013     0.0050     0.0111     0.0185     0.0264
            0.0348     0.0437     0.0531     0.0630     0.0734
            0.0842     0.0955     0.1073     0.1196     0.1324
            0.1457     0.1594     0.1737     0.1884     0.2036
```

```
              0.2193     0.2355     0.2521     0.2693     0.2869
              0.3050     0.3236     0.3427     0.3622     0.3823
              0.4028     0.4238     0.4453     0.4673     0.4898
              0.5128     0.5362     0.5601     0.5845     0.6094
              0.6348     0.6607     0.6870     0.7138     0.7425
              0.7861     0.8350     0.8870     0.9420     1.0000
  Hrad:
              0.0315     0.0630     0.1019     0.1494     0.1990
              0.2457     0.2899     0.3321     0.3727     0.4118
              0.4497     0.4866     0.5225     0.5577     0.5922
              0.6260     0.6593     0.6922     0.7246     0.7566
              0.7882     0.8196     0.8506     0.8814     0.9119
              0.9422     0.9723     1.0023     1.0320     1.0616
              1.0911     1.1204     1.1496     1.1787     1.2076
              1.2365     1.2653     1.2939     1.3225     1.3510
              1.3795     1.4078     1.4361     1.4644     1.3942
              0.9725     0.9752     0.9810     0.9894     1.0000
  Width:
              0.0421     0.0841     0.1149     0.1292     0.1374
              0.1455     0.1536     0.1618     0.1699     0.1780
              0.1862     0.1943     0.2024     0.2106     0.2187
              0.2268     0.2350     0.2431     0.2512     0.2594
              0.2675     0.2756     0.2838     0.2919     0.3000
              0.3082     0.3163     0.3244     0.3326     0.3407
              0.3488     0.3570     0.3651     0.3732     0.3814
              0.3895     0.3976     0.4058     0.4139     0.4220
              0.4302     0.4383     0.4464     0.4546     0.5735
              0.7957     0.8468     0.8978     0.9489     1.0000

  ***********************************************************
  NOTE: The summary statistics displayed in this report are
  based on results found at every computational time step,
  not just on results from each reporting time step.
  ***********************************************************

  ****************
  Analysis Options
  ****************
  Flow Units ............... CMS
  Process Models:
    Rainfall/Runoff ........ YES
    RDII ................... NO
    Snowmelt ............... NO
    Groundwater ............ NO
    Flow Routing ........... YES
    Ponding Allowed ........ NO
    Water Quality .......... NO
  Infiltration Method ...... GREEN_AMPT
  Flow Routing Method ...... DYNWAVE
  Surcharge Method ......... EXTRAN
  Starting Date ............ 04/16/2020 00:00:00
  Ending Date .............. 04/19/2020 00:00:00
  Antecedent Dry Days ...... 0.0
  Report Time Step ......... 00:01:00
  Wet Time Step ............ 00:05:00
  Dry Time Step ............ 00:05:00
```

```
Routing Time Step ........ 5.00 sec
Variable Time Step ....... YES
Maximum Trials ........... 8
Number of Threads ........ 1
Head Tolerance ........... 0.001500 m


*************************        Volume         Depth
Runoff Quantity Continuity     hectare-m            mm
*************************     ---------       -------
Total Precipitation ......         3.332        37.700
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         2.292        25.935
Surface Runoff ...........         1.033        11.684
Final Storage ............         0.010         0.109
Continuity Error (%) .....        -0.074


*************************        Volume        Volume
Flow Routing Continuity        hectare-m      10^6 ltr
*************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         1.033        10.326
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........         1.029        10.285
Flooding Loss ............         0.000         0.000
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         0.004         0.041
Continuity Error (%) .....        -0.001


**************************
Time-Step Critical Elements
**************************
None


*******************************
Highest Flow Instability Indexes
*******************************
All links are stable.


************************
Routing Time Step Summary
************************
Minimum Time Step           :     2.35 sec
Average Time Step           :     5.00 sec
Maximum Time Step           :     5.00 sec
Percent in Steady State     :     0.00
Average Iterations per Step :     2.00
Percent Not Converging      :     0.00
```

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Total Runoff mm	Total Runoff 10^6 ltr	Peak Runoff CMS	Runoff Coeff
S3_1	37.70	0.00	0.00	9.01	21.57	6.08	27.66	1.04	0.39	0.734
S3_10	37.70	13.98	0.00	31.39	0.00	20.31	20.31	1.70	0.09	0.393
S3_11	37.70	0.00	0.00	27.55	0.00	10.16	10.16	0.39	0.03	0.270
S3_12	37.70	0.00	0.00	24.03	0.00	13.70	13.70	0.52	0.07	0.363
S3_13	37.70	0.00	0.00	29.38	0.00	8.32	8.32	2.47	0.17	0.221
S3_14	37.70	0.00	0.00	17.48	7.20	12.73	19.93	0.22	0.07	0.529
S3_15	37.70	0.00	0.00	28.37	0.00	9.34	9.34	0.83	0.06	0.248
S3_2	37.70	0.00	0.00	8.99	18.75	9.16	27.92	0.89	0.41	0.741
S3_3	37.70	0.00	0.00	22.92	0.00	14.82	14.82	0.67	0.11	0.393
S3_4	37.70	0.00	0.00	17.52	5.40	14.57	19.98	0.70	0.19	0.530
S3_5	37.70	0.00	0.00	25.66	0.00	12.06	12.06	1.26	0.13	0.320
S3_7	37.70	0.00	0.00	18.33	7.57	11.48	19.06	0.41	0.12	0.506
S3_8	37.70	0.00	0.00	29.47	0.00	8.24	8.24	0.06	0.00	0.218
S3_9	37.70	18.46	0.00	30.14	0.00	26.03	26.03	1.17	0.07	0.464

****
Node Depth Summary
****

Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days	Time of Max Occurrence hr:min	Reported Max Depth Meters
J1	JUNCTION	0.04	0.45	182.57	0	02:30	0.45
J10	JUNCTION	0.06	0.60	182.57	0	02:29	0.60
J2	JUNCTION	0.07	0.63	182.51	0	02:29	0.63
J3	JUNCTION	0.19	0.75	182.28	0	02:53	0.75
J4	JUNCTION	0.09	0.62	182.24	0	03:01	0.62
J5	JUNCTION	0.17	0.74	182.29	0	02:48	0.74
J6	JUNCTION	0.21	0.76	182.26	0	02:59	0.76
J7	JUNCTION	0.02	0.14	183.27	0	02:49	0.14
J8	JUNCTION	0.01	0.25	183.35	0	01:57	0.25
J9	JUNCTION	0.01	0.24	183.37	0	01:47	0.24
OF1	OUTFALL	0.03	0.28	181.50	0	03:01	0.28
OF2	OUTFALL	0.00	0.00	182.12	0	00:00	0.00

****
Node Inflow Summary
****

Maximum Lateral Inflow	Maximum Total Inflow	Time of Max Occurrence	Lateral Inflow Volume	Total Inflow Volume	Flow Balance Error

Node	Type	CMS	CMS	days	hr:min	10^6 ltr	10^6 ltr	Percent
J1	JUNCTION	0.093	0.223	0	01:51	1.7	2.25	0.199
J10	JUNCTION	0.000	0.571	0	02:23	0	5.56	-0.124
J2	JUNCTION	0.000	0.569	0	02:25	0	5.45	-0.047
J3	JUNCTION	0.000	0.584	0	02:32	0	5.85	0.145
J4	JUNCTION	0.295	0.839	0	02:45	3.72	10.3	0.107
J5	JUNCTION	0.121	0.603	0	02:29	0.409	5.87	0.223
J6	JUNCTION	0.133	0.662	0	02:32	0.742	6.59	0.178
J7	JUNCTION	0.036	0.036	0	02:30	0.449	0.449	0.179
J8	JUNCTION	0.115	0.927	0	01:47	0.674	3.31	0.068
J9	JUNCTION	0.986	0.986	0	01:45	2.63	2.63	-0.053
OF1	OUTFALL	0.000	0.819	0	03:01	0	10.3	0.000
OF2	OUTFALL	0.000	0.000	0	00:00	0	0	0.000 ltr

****
Node Surcharge Summary
****

No nodes were surcharged.

****
Node Flooding Summary
****

No nodes were flooded.

****
Outfall Loading Summary
****

Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
OF1	97.78	0.041	0.819	10.285
OF2	0.00	0.000	0.000	0.000
System	48.89	0.041	0.000	10.285

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CMS	Time of Max Occurrence days	hr:min	Maximum |Veloc| m/sec	Max/ Full Flow	Max/ Full Depth
C1	CHANNEL	0.819	0	03:01	0.47	0.03	0.34
C1_1	CHANNEL	0.156	0	01:51	0.28	0.01	0.27
C1_2	CHANNEL	0.569	0	02:25	0.66	0.04	0.30

C2	CONDUIT	0.821	0	01:47	0.39	0.13	0.24
C2_1	CHANNEL	0.565	0	02:30	0.44	0.05	0.33
C2_2	CONDUIT	0.584	0	02:32	0.50	0.32	0.55
C3	CONDUIT	0.521	0	01:58	2.24	0.13	0.45
C3_1	CONDUIT	0.581	0	02:32	0.49	0.42	0.56
C3_2	CHANNEL	0.554	0	02:50	0.16	0.02	0.52
C7	CHANNEL	0.035	0	02:49	0.09	0.00	0.15
W1	WEIR	0.000	0	00:00			0.00
W2	WEIR	0.000	0	00:00			0.00
W3	WEIR	0.000	0	00:00			0.00

****
Flow Classification Summary
****

	Adjusted	Fraction of Time in Flow Class								
Conduit	/Actual Length	Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
C1	1.00	0.02	0.00	0.00	0.98	0.00	0.00	0.00	0.00	0.00
C1_1	1.00	0.01	0.01	0.00	0.98	0.00	0.00	0.00	0.92	0.00
C1_2	1.00	0.01	0.00	0.00	0.99	0.00	0.00	0.00	0.89	0.00
C2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.91	0.00
C2_1	1.00	0.00	0.02	0.00	0.98	0.00	0.00	0.00	0.96	0.00
C2_2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
C3	1.00	0.01	0.00	0.00	0.97	0.02	0.00	0.00	0.97	0.00
C3_1	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.01	0.00
C3_2	1.00	0.00	0.02	0.00	0.98	0.00	0.00	0.00	0.00	0.00
C7	1.00	0.02	0.00	0.00	0.98	0.00	0.00	0.00	0.98	0.00

****
Conduit Surcharge Summary
****

No conduits were surcharged.

Analysis begun on: Thu Feb 3 01:55:25 2022
Analysis ended on: Thu Feb 3 01:55:26 2022
Total elapsed time: 00:00:01

Existing 1:2 Year SCS PCSWMM Output Report

```
EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.013)
--------------------------------------------------------------

WARNING 02: maximum depth increased for Node J1
WARNING 02: maximum depth increased for Node J10
WARNING 02: maximum depth increased for Node J2
WARNING 02: maximum depth increased for Node J3
WARNING 02: maximum depth increased for Node J5
WARNING 02: maximum depth increased for Node J7
WARNING 02: maximum depth increased for Node J8
WARNING 02: maximum depth increased for Node J9

*************
Element Count
*************
Number of rain gages ...... 1
Number of subcatchments ... 14
Number of nodes ........... 12
Number of links ........... 13
Number of pollutants ...... 0
Number of land uses ....... 0


****************
Raingage Summary
****************
                                                 Data       Recording
Name                 Data Source                 Type       Interval
----------------------------------------------------------------------
Raingage1            SCS_2yr_12hr_Type_II        INTENSITY    6 min.


********************
Subcatchment Summary
********************
Name                            Area     Width   %Imperv    %Slope Rain Gage            Outlet
-----------------------------------------------------------------------------------------------
S3_1                            3.77    107.73     60.00    0.5000 Raingage1            J9
S3_10                           8.36    209.00      0.00    0.5000 Raingage1            J1
S3_11                           3.85    214.07      0.00    0.5000 Raingage1            J7
S3_12                           3.82    254.62      0.00    0.5000 Raingage1            J6
S3_13                          29.62    429.30      0.00    0.5000 Raingage1            J4
S3_14                           1.10    199.13     20.00    0.5000 Raingage1            J6
S3_15                           8.87    168.31      0.00    0.5000 Raingage1            S3_9
S3_2                            3.21    493.12     52.00    0.5000 Raingage1            J9
S3_3                            4.55    454.62      0.00    0.5000 Raingage1            J8
S3_4                            3.48    395.33     15.00    0.5000 Raingage1            J9
S3_5                           10.42    416.82      0.00    0.5000 Raingage1            J4
S3_7                            2.15    214.67     21.00    0.5000 Raingage1            J5
S3_8                            0.70     23.34      0.00    0.5000 Raingage1            J7
S3_9                            4.49    154.83      0.00    0.5000 Raingage1            S3_10


************
Node Summary
************
```

Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
J1	JUNCTION	182.12	1.96	0.0	
J10	JUNCTION	181.97	2.06	0.0	
J2	JUNCTION	181.88	2.06	0.0	
J3	JUNCTION	181.52	2.76	0.0	
J4	JUNCTION	181.62	1.67	0.0	
J5	JUNCTION	181.55	2.74	0.0	
J6	JUNCTION	181.50	1.79	0.0	
J7	JUNCTION	183.13	1.96	0.0	
J8	JUNCTION	183.10	1.72	0.0	
J9	JUNCTION	183.13	1.00	0.0	
OF1	OUTFALL	181.22	1.34	0.0	
OF2	OUTFALL	182.12	0.00	0.0	

****
Link Summary
****

Name	From Node	To Node	Type	Length	%Slope	Roughness
C1	J4	OF1	CONDUIT	395.7	0.1011	0.0350
C1_1	J1	J10	CONDUIT	105.7	0.1419	0.0350
C1_2	J10	J2	CONDUIT	44.1	0.2042	0.0350
C2	J9	J8	CONDUIT	412.9	0.0073	0.0130
C2_1	J2	J5	CONDUIT	295.3	0.1117	0.0350
C2_2	J5	J3	CONDUIT	48.0	0.0521	0.0130
C3	J8	J10	CONDUIT	24.0	4.7136	0.0130
C3_1	J3	J6	CONDUIT	85.7	0.0292	0.0130
C3_2	J6	J4	CONDUIT	164.0	-0.0732	0.0350
C7	J7	J1	CONDUIT	460.6	0.2193	0.0350
W1	J5	J3	WEIR			
W2	J3	J6	WEIR			
W3	J8	J10	WEIR			

****
Cross Section Summary
****

Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
C1	Dufour_W	1.34	69.36	0.37	115.00	1	32.39
C1_1	BranchA	1.96	12.30	1.05	14.40	1	13.64
C1_2	Dufour_S	2.06	12.93	0.96	14.30	1	16.21
C2	TRAPEZOIDAL	1.00	10.47	0.86	10.95	1	6.20
C2_1	Dufour_S	2.06	12.93	0.96	14.30	1	11.99
C2_2	ARCH	1.36	1.91	0.41	1.78	1	1.84
C3	CIRCULAR	0.90	0.64	0.23	0.90	1	3.93
C3_1	ARCH	1.36	1.91	0.41	1.78	1	1.38
C3_2	Dufour_W	1.34	69.36	0.37	115.00	1	27.55
C7	BranchA	1.96	12.30	1.05	14.40	1	16.96

****

Transect Summary
****

Transect BranchA
Area:

0.0010	0.0039	0.0087	0.0147	0.0214
0.0286	0.0363	0.0446	0.0534	0.0628
0.0727	0.0831	0.0941	0.1057	0.1178
0.1305	0.1437	0.1574	0.1717	0.1865
0.2019	0.2179	0.2343	0.2514	0.2689
0.2921	0.3174	0.3430	0.3689	0.3951
0.4216	0.4483	0.4754	0.5027	0.5303
0.5582	0.5864	0.6149	0.6437	0.6728
0.7022	0.7319	0.7618	0.7921	0.8233
0.8555	0.8886	0.9228	0.9582	1.0000

Hrad:

0.0185	0.0370	0.0587	0.0851	0.1129
0.1390	0.1638	0.1875	0.2103	0.2325
0.2540	0.2751	0.2958	0.3161	0.3361
0.3558	0.3753	0.3946	0.4137	0.4326
0.4515	0.4701	0.4887	0.5072	0.5255
0.5380	0.5487	0.5615	0.5759	0.5915
0.6080	0.6251	0.6428	0.6609	0.6793
0.6981	0.7171	0.7363	0.7556	0.7750
0.7946	0.8142	0.8339	0.8573	0.8856
0.9126	0.9382	0.9627	0.9857	1.0000

Width:

0.0428	0.0856	0.1198	0.1386	0.1505
0.1624	0.1743	0.1862	0.1981	0.2101
0.2220	0.2339	0.2458	0.2577	0.2696
0.2815	0.2935	0.3054	0.3173	0.3292
0.3411	0.3530	0.3649	0.3769	0.3888
0.5479	0.5542	0.5606	0.5669	0.5733
0.5796	0.5860	0.5923	0.5987	0.6050
0.6113	0.6177	0.6240	0.6304	0.6367
0.6431	0.6494	0.6558	0.6679	0.6897
0.7115	0.7333	0.7551	0.8203	1.0000

Transect Dufour_S
Area:

0.0005	0.0019	0.0044	0.0077	0.0121
0.0174	0.0234	0.0299	0.0371	0.0448
0.0530	0.0617	0.0710	0.0808	0.0911
0.1020	0.1134	0.1253	0.1378	0.1508
0.1643	0.1784	0.1930	0.2081	0.2238
0.2400	0.2568	0.2740	0.2918	0.3102
0.3293	0.3496	0.3711	0.3966	0.4289
0.4632	0.4980	0.5332	0.5689	0.6050
0.6415	0.6784	0.7159	0.7537	0.7920
0.8307	0.8706	0.9121	0.9552	1.0000

Hrad:

0.0207	0.0414	0.0620	0.0827	0.1034
0.1268	0.1530	0.1780	0.2035	0.2282
0.2522	0.2756	0.2984	0.3209	0.3430
0.3649	0.3864	0.4078	0.4289	0.4499
0.4708	0.4915	0.5121	0.5326	0.5531
0.5734	0.5936	0.6138	0.6340	0.6540

```
            0.6801     0.7043     0.7264     0.7449     0.7539
            0.7637     0.7761     0.7904     0.8061     0.8229
            0.8406     0.8589     0.8778     0.8970     0.9166
            0.9362     0.9536     0.9701     0.9855     1.0000
Width:
            0.0213     0.0425     0.0638     0.0850     0.1063
            0.1242     0.1375     0.1508     0.1625     0.1742
            0.1859     0.1976     0.2093     0.2210     0.2327
            0.2444     0.2561     0.2678     0.2795     0.2912
            0.3029     0.3146     0.3263     0.3380     0.3497
            0.3614     0.3731     0.3848     0.3965     0.4082
            0.4329     0.4590     0.4851     0.6367     0.7487
            0.7583     0.7679     0.7775     0.7871     0.7967
            0.8063     0.8159     0.8255     0.8352     0.8448
            0.8576     0.8932     0.9288     0.9644     1.0000

Transect Dufour_W
Area:
            0.0001     0.0004     0.0008     0.0015     0.0023
            0.0034     0.0046     0.0060     0.0075     0.0093
            0.0112     0.0133     0.0156     0.0179     0.0204
            0.0230     0.0257     0.0285     0.0315     0.0345
            0.0378     0.0416     0.0458     0.0505     0.0556
            0.0616     0.0689     0.1007     0.1408     0.1809
            0.2211     0.2613     0.3015     0.3417     0.3820
            0.4223     0.4626     0.5030     0.5434     0.5838
            0.6242     0.6647     0.7052     0.7458     0.7865
            0.8278     0.8698     0.9125     0.9559     1.0000
Hrad:
            0.0360     0.0720     0.1080     0.1440     0.1800
            0.2159     0.2519     0.2879     0.3241     0.3638
            0.4029     0.4415     0.4861     0.5325     0.5780
            0.6225     0.6663     0.7094     0.7520     0.7940
            0.7692     0.7483     0.7391     0.7384     0.7652
            0.8184     0.8492     0.6095     0.4948     0.4574
            0.4504     0.4582     0.4744     0.4957     0.5203
            0.5473     0.5759     0.6058     0.6366     0.6682
            0.7004     0.7330     0.7661     0.7994     0.8339
            0.8684     0.9021     0.9353     0.9679     1.0000
Width:
            0.0042     0.0084     0.0126     0.0168     0.0210
            0.0252     0.0294     0.0335     0.0377     0.0414
            0.0451     0.0488     0.0518     0.0544     0.0570
            0.0597     0.0623     0.0649     0.0675     0.0701
            0.0794     0.0898     0.1001     0.1105     0.1245
            0.1446     0.2952     0.9019     0.9026     0.9033
            0.9040     0.9046     0.9053     0.9060     0.9067
            0.9074     0.9080     0.9087     0.9094     0.9101
            0.9107     0.9114     0.9121     0.9128     0.9223
            0.9379     0.9534     0.9689     0.9845     1.0000

Transect Transect2
Area:
            0.0013     0.0050     0.0111     0.0185     0.0264
            0.0348     0.0437     0.0531     0.0630     0.0734
            0.0842     0.0955     0.1073     0.1196     0.1324
            0.1457     0.1594     0.1737     0.1884     0.2036
```

```
              0.2193     0.2355     0.2521     0.2693     0.2869
              0.3050     0.3236     0.3427     0.3622     0.3823
              0.4028     0.4238     0.4453     0.4673     0.4898
              0.5128     0.5362     0.5601     0.5845     0.6094
              0.6348     0.6607     0.6870     0.7138     0.7425
              0.7861     0.8350     0.8870     0.9420     1.0000
  Hrad:
              0.0315     0.0630     0.1019     0.1494     0.1990
              0.2457     0.2899     0.3321     0.3727     0.4118
              0.4497     0.4866     0.5225     0.5577     0.5922
              0.6260     0.6593     0.6922     0.7246     0.7566
              0.7882     0.8196     0.8506     0.8814     0.9119
              0.9422     0.9723     1.0023     1.0320     1.0616
              1.0911     1.1204     1.1496     1.1787     1.2076
              1.2365     1.2653     1.2939     1.3225     1.3510
              1.3795     1.4078     1.4361     1.4644     1.3942
              0.9725     0.9752     0.9810     0.9894     1.0000
  Width:
              0.0421     0.0841     0.1149     0.1292     0.1374
              0.1455     0.1536     0.1618     0.1699     0.1780
              0.1862     0.1943     0.2024     0.2106     0.2187
              0.2268     0.2350     0.2431     0.2512     0.2594
              0.2675     0.2756     0.2838     0.2919     0.3000
              0.3082     0.3163     0.3244     0.3326     0.3407
              0.3488     0.3570     0.3651     0.3732     0.3814
              0.3895     0.3976     0.4058     0.4139     0.4220
              0.4302     0.4383     0.4464     0.4546     0.5735
              0.7957     0.8468     0.8978     0.9489     1.0000

  ***********************************************************
  NOTE: The summary statistics displayed in this report are
  based on results found at every computational time step,
  not just on results from each reporting time step.
  ***********************************************************

  ****************
  Analysis Options
  ****************
  Flow Units ............... CMS
  Process Models:
    Rainfall/Runoff ........ YES
    RDII ................... NO
    Snowmelt ............... NO
    Groundwater ............ NO
    Flow Routing ........... YES
    Ponding Allowed ........ NO
    Water Quality .......... NO
  Infiltration Method ...... GREEN_AMPT
  Flow Routing Method ...... DYNWAVE
  Surcharge Method ......... EXTRAN
  Starting Date ............ 04/16/2020 00:00:00
  Ending Date .............. 04/19/2020 00:00:00
  Antecedent Dry Days ...... 0.0
  Report Time Step ......... 00:01:00
  Wet Time Step ............ 00:05:00
  Dry Time Step ............ 00:05:00
```

```
Routing Time Step ........ 5.00 sec
Variable Time Step ....... YES
Maximum Trials ........... 8
Number of Threads ........ 1
Head Tolerance ........... 0.001500 m


*************************        Volume         Depth
Runoff Quantity Continuity     hectare-m            mm
*************************     ---------       -------
Total Precipitation ......         4.083        46.200
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         2.707        30.628
Surface Runoff ...........         1.368        15.476
Final Storage ............         0.010         0.109
Continuity Error (%) .....        -0.028


*************************        Volume        Volume
Flow Routing Continuity        hectare-m      10^6 ltr
*************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         1.369        13.688
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........         1.365        13.645
Flooding Loss ............         0.000         0.000
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         0.004         0.043
Continuity Error (%) .....         0.001


**************************
Time-Step Critical Elements
**************************
None


*******************************
Highest Flow Instability Indexes
*******************************
All links are stable.


************************
Routing Time Step Summary
************************
Minimum Time Step           :     4.55 sec
Average Time Step           :     5.00 sec
Maximum Time Step           :     5.00 sec
Percent in Steady State     :     0.00
Average Iterations per Step :     2.00
Percent Not Converging      :     0.00
```

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Total Runoff mm	Total Runoff 10^6 ltr	Peak Runoff CMS	Runoff Coeff
S3_1	46.20	0.00	0.00	10.95	26.63	7.53	34.17	1.29	0.35	0.740
S3_10	46.20	19.89	0.00	36.23	0.00	29.86	29.86	2.50	0.10	0.452
S3_11	46.20	0.00	0.00	32.36	0.00	13.84	13.84	0.53	0.03	0.300
S3_12	46.20	0.00	0.00	29.14	0.00	17.07	17.07	0.65	0.07	0.369
S3_13	46.20	0.00	0.00	34.33	0.00	11.86	11.86	3.51	0.17	0.257
S3_14	46.20	0.00	0.00	22.13	8.89	14.86	23.75	0.26	0.07	0.514
S3_15	46.20	0.00	0.00	33.22	0.00	12.98	12.98	1.15	0.06	0.281
S3_2	46.20	0.00	0.00	11.90	23.13	10.30	33.43	1.07	0.40	0.724
S3_3	46.20	0.00	0.00	28.33	0.00	17.89	17.89	0.81	0.12	0.387
S3_4	46.20	0.00	0.00	22.02	6.67	17.27	23.94	0.83	0.17	0.518
S3_5	46.20	0.00	0.00	30.53	0.00	15.67	15.67	1.63	0.13	0.339
S3_7	46.20	0.00	0.00	22.53	9.34	13.98	23.32	0.50	0.11	0.505
S3_8	46.20	0.00	0.00	34.43	0.00	11.77	11.77	0.08	0.00	0.255
S3_9	46.20	25.68	0.00	34.88	0.00	36.99	36.99	1.66	0.07	0.515

****
Node Depth Summary
****

Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days	Time of Max Occurrence hr:min	Reported Max Depth Meters
J1	JUNCTION	0.05	0.45	182.57	0	06:41	0.45
J10	JUNCTION	0.08	0.60	182.57	0	06:40	0.60
J2	JUNCTION	0.09	0.63	182.51	0	06:41	0.63
J3	JUNCTION	0.20	0.75	182.28	0	07:03	0.75
J4	JUNCTION	0.11	0.62	182.24	0	07:12	0.62
J5	JUNCTION	0.18	0.74	182.29	0	06:59	0.74
J6	JUNCTION	0.23	0.76	182.26	0	07:09	0.76
J7	JUNCTION	0.02	0.14	183.27	0	07:03	0.14
J8	JUNCTION	0.02	0.25	183.35	0	06:09	0.25
J9	JUNCTION	0.01	0.23	183.36	0	06:04	0.23
OF1	OUTFALL	0.04	0.28	181.50	0	07:12	0.28
OF2	OUTFALL	0.00	0.00	182.12	0	00:00	0.00

****
Node Inflow Summary
****

	Maximum Lateral Inflow	Maximum Total Inflow	Time of Max Occurrence	Lateral Inflow Volume	Total Inflow Volume	Flow Balance Error

Node	Type	CMS	CMS	days	hr:min	10^6 ltr	10^6 ltr	Percent	
J1	JUNCTION	0.096	0.204	0	06:06	2.5	3.22	0.061	
J10	JUNCTION	0.000	0.575	0	06:34	0	7.23	-0.063	
J2	JUNCTION	0.000	0.572	0	06:37	0	7.12	-0.191	
J3	JUNCTION	0.000	0.588	0	06:43	0	7.61	0.113	
J4	JUNCTION	0.298	0.850	0	06:56	5.15	13.7	0.076	
J5	JUNCTION	0.112	0.606	0	06:40	0.501	7.64	0.292	
J6	JUNCTION	0.137	0.667	0	06:42	0.913	8.52	0.153	
J7	JUNCTION	0.036	0.036	0	06:36	0.616	0.616	0.536	
J8	JUNCTION	0.120	0.849	0	06:01	0.814	4.01	0.048	
J9	JUNCTION	0.890	0.890	0	05:54	3.2	3.2	-0.020	
OF1	OUTFALL	0.000	0.831	0	07:12	0	13.6	0.000	
OF2	OUTFALL	0.000	0.000	0	00:00	0	0	0.000	ltr

****
Node Surcharge Summary
****

No nodes were surcharged.

****
Node Flooding Summary
****

No nodes were flooded.

****
Outfall Loading Summary
****

Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
OF1	93.34	0.056	0.831	13.645
OF2	0.00	0.000	0.000	0.000
System	46.67	0.056	0.000	13.645

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CMS	Time of Max Occurrence days	hr:min	Maximum |Veloc| m/sec	Max/ Full Flow	Max/ Full Depth
C1	CHANNEL	0.831	0	07:12	0.47	0.03	0.34
C1_1	CHANNEL	0.157	0	07:02	0.22	0.01	0.27
C1_2	CHANNEL	0.572	0	06:37	0.55	0.04	0.30

C2	CONDUIT	0.729	0	06:01	0.34	0.12	0.24
C2_1	CHANNEL	0.568	0	06:41	0.42	0.05	0.33
C2_2	CONDUIT	0.588	0	06:43	0.50	0.32	0.55
C3	CONDUIT	0.538	0	06:10	2.26	0.14	0.46
C3_1	CONDUIT	0.585	0	06:43	0.49	0.43	0.56
C3_2	CHANNEL	0.561	0	07:00	0.15	0.02	0.52
C7	CHANNEL	0.035	0	07:03	0.09	0.00	0.15
W1	WEIR	0.000	0	00:00			0.00
W2	WEIR	0.000	0	00:00			0.00
W3	WEIR	0.000	0	00:00			0.00

****
Flow Classification Summary
****

	Adjusted	Fraction of Time in Flow Class								
Conduit	/Actual Length	Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
C1	1.00	0.06	0.00	0.00	0.94	0.00	0.00	0.00	0.00	0.00
C1_1	1.00	0.02	0.05	0.00	0.93	0.00	0.00	0.00	0.83	0.00
C1_2	1.00	0.02	0.00	0.00	0.97	0.01	0.00	0.00	0.81	0.00
C2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.82	0.00
C2_1	1.00	0.00	0.04	0.00	0.96	0.00	0.00	0.00	0.93	0.00
C2_2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.03	0.00
C3	1.00	0.01	0.00	0.00	0.95	0.04	0.00	0.00	0.96	0.00
C3_1	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.02	0.00
C3_2	1.00	0.00	0.06	0.00	0.94	0.00	0.00	0.00	0.00	0.00
C7	1.00	0.07	0.01	0.00	0.92	0.00	0.00	0.00	0.92	0.00

****
Conduit Surcharge Summary
****

No conduits were surcharged.

Analysis begun on: Thu Feb 3 01:59:01 2022
Analysis ended on: Thu Feb 3 01:59:02 2022
Total elapsed time: 00:00:01

Proposed PCSWMM Input Report

```
[TITLE]
;;Project Title/Notes

[OPTIONS]
;;Option             Value
FLOW_UNITS           CMS
INFILTRATION         GREEN_AMPT
FLOW_ROUTING         DYNWAVE
LINK_OFFSETS         DEPTH
MIN_SLOPE            0
ALLOW_PONDING        NO
SKIP_STEADY_STATE    NO

START_DATE           04/16/2020
START_TIME           00:00:00
REPORT_START_DATE    04/16/2020
REPORT_START_TIME    00:00:00
END_DATE             04/18/2020
END_TIME             22:00:00
SWEEP_START          01/01
SWEEP_END            12/31
DRY_DAYS             0
REPORT_STEP          00:01:00
WET_STEP             00:05:00
DRY_STEP             00:05:00
ROUTING_STEP         5
RULE_STEP            00:00:00

INERTIAL_DAMPING     PARTIAL
NORMAL_FLOW_LIMITED  BOTH
FORCE_MAIN_EQUATION  H-W
VARIABLE_STEP        0.75
LENGTHENING_STEP     0
MIN_SURFAREA         0
MAX_TRIALS           8
HEAD_TOLERANCE       0.0015
SYS_FLOW_TOL         5
LAT_FLOW_TOL         5
MINIMUM_STEP         0.5
THREADS              4

[EVAPORATION]
;;Data Source    Parameters
;;-------------- ----------------
CONSTANT         0.0
DRY_ONLY         NO

[RAINGAGES]
;;Name           Format    Interval SCF      Source
;;-------------- --------- -------- -------- ----------
Raingage1        INTENSITY 0:15     1.0      TIMESERIES 100yr_4hr_Chicago

[SUBCATCHMENTS]
;;Name           Rain Gage        Outlet           Area     %Imperv  Width    %Slope   CurbLen  SnowPack
;;-------------- ---------------- ---------------- -------- -------- -------- -------- -------- ----------------
S1               Raingage1        S3_15            7.5044   80       208.456  0.5      0
S2               Raingage1        S3_9             4.4911   80       149.703  0.5      0
```

```
;Drainage Area
S3_1             Raingage1        J9              3.784    60       108.114  0.5      0
S3_10            Raingage1        SU1             8.36     66.5     209      0.5      0
S3_11            Raingage1        J7              3.8533   0        214.072  0.5      0
;Drainage Area
S3_12            Raingage1        J6              3.8193   0        254.62   0.5      0
;Drainage Area
S3_13            Raingage1        J4              26.5277  0        384.46   0.5      0
;Drainage Area
S3_14            Raingage1        J6              1.0952   20       199.127  0.5      0
S3_15            Raingage1        S3_9            8.87     64       168.311  0.5      0
;Drainage Area
S3_2             Raingage1        J9              3.2053   52       493.123  0.5      0
;Drainage Area
S3_3             Raingage1        J8              4.5462   0        454.62   0.5      0
;Drainage Area
S3_4             Raingage1        J9              3.6295   15       412.443  0.5      0
;Drainage Area
S3_5             Raingage1        J4              10.4204  0        416.816  0.5      0
;Drainage Area
S3_7             Raingage1        J5              2.1467   21       214.67   0.5      0
S3_8             Raingage1        J7              0.7003   0        23.343   0.5      0
S3_9             Raingage1        S3_10           4.49     60       154.828  0.5      0

[SUBAREAS]
;;Subcatchment   N-Imperv   N-Perv     S-Imperv   S-Perv     PctZero    RouteTo    PctRouted
;;-------------- ---------- ---------- ---------- ---------- ---------- ---------- ----------
S1               0.013      0.24       2.5        7.5        25         OUTLET
S2               0.013      0.24       2.5        7.5        25         OUTLET
S3_1             0.013      0.17       2.5        7.5        25         OUTLET
S3_10            0.013      0.24       2.5        7.5        25         OUTLET
S3_11            0.013      0.4        2.5        10         25         OUTLET
S3_12            0.013      0.17       2.5        10         25         OUTLET
S3_13            0.013      0.17       2.5        10         25         OUTLET
S3_14            0.013      0.17       2.5        10         25         OUTLET
S3_15            0.013      0.24       2.5        7.5        25         OUTLET
S3_2             0.013      0.17       2.5        7.5        25         OUTLET
S3_3             0.013      0.17       2.5        10         25         OUTLET
S3_4             0.013      0.17       2.5        7.5        25         OUTLET
S3_5             0.013      0.17       2.5        10         25         OUTLET
S3_7             0.013      0.17       2.5        10         25         OUTLET
S3_8             0.013      0.4        2.5        10         25         OUTLET
S3_9             0.013      0.24       2.5        7.5        25         OUTLET

[INFILTRATION]
;;Subcatchment   Param1     Param2     Param3     Param4     Param5
;;-------------- ---------- ---------- ---------- ---------- ----------
S1               180        0.5        0.1        0          0
S2               180        0.5        0.1        0          0
S3_1             180        0.5        0.1        0          0
S3_10            180        0.5        0.1        0          0
S3_11            180        0.5        0.1        0          0
S3_12            180        0.5        0.1        0          0
S3_13            180        0.5        0.1        0          0
S3_14            180        0.5        0.1        0          0
S3_15            180        0.5        0.1        0          0
S3_2             180        0.5        0.1        0          0
```

```
S3_3             180        0.5        0.1        0          0
S3_4             180        0.5        0.1        0          0
S3_5             180        0.5        0.1        0          0
S3_7             180        0.5        0.1        0          0
S3_8             180        0.5        0.1        0          0
S3_9             180        0.5        0.1        0          0

[JUNCTIONS]
;;Name           Elevation  MaxDepth   InitDepth  SurDepth   Aponded
;;-------------- ---------- ---------- ---------- ---------- ----------
J1               182.12     0.8        0          0          0
J10              181.97     0.95       0          0          0
J11              181.335    1.842      0          3          0
J12              181.2      1.937      0          0          0
J2               181.88     1.04       0          0          0
J3               181.525    1.765      0          0          0
J4               181.435    1.855      0          3          0
J5               181.55     1.85       0          0          0
J6               181.5      1.79       0          0          0
J7               183.13     1.24       0          0          0
J8               183.1      0.72       0          0          0
J9               183.13     0.69       0          0          0

[OUTFALLS]
;;Name           Elevation  Type       Stage Data       Gated    Route To
;;-------------- ---------- ---------- ---------------- -------- ----------------
OF1              180.2      FREE                        NO

[STORAGE]
;;Name           Elev.    MaxDepth   InitDepth  Shape      Curve Name/Params            N/A      Fevap    Psi      Ksat     IMD
;;-------------- -------- ---------- ---------- ---------- ---------------------------- -------- -------- -------- -------- --------
SU1              179.5    3.7        0          TABULAR    DPSpond                      0        0

[CONDUITS]
;;Name           From Node        To Node          Length     Roughness  InOffset   OutOffset  InitFlow   MaxFlow
;;-------------- ---------------- ---------------- ---------- ---------- ---------- ---------- ---------- ----------
C1_1             J1               J10              105.732    0.013      0          0          0          0
C1_2             J10              J2               44.074     0.013      0          0          0          0
C1_3             J4               J11              247.855    0.013      0          0          0          0
C1_5             J11              J12              87.976     0.013      0          0          0          0
C1_6             J12              OF1              249.343    0.013      0          0          0          0
C2               J9               J8               412.919    0.013      0          0          0          0
C2_1             J2               J5               295.329    0.013      0          0          0          0
C2_2             J5               J3               48         0.013      0          0          0          0
C3               J8               J10              24         0.013      0          0          0          0
C3_1             J3               J6               85.7       0.013      0          0          0          0
C3_2             J6               J4               164.046    0.013      0          0          0          0
C7               J7               J1               460.579    0.013      0          0          0          0

[PUMPS]
;;Name           From Node        To Node          Pump Curve       Status   Startup  Shutoff
;;-------------- ---------------- ---------------- ---------------- -------- -------- --------
P1               SU1              J1               Curve1           OFF      0.1      0

[WEIRS]
;;Name           From Node        To Node          Type         CrestHt    Qcoeff     Gated    EndCon   EndCoeff   Surcharge  RoadWidth  RoadSurf   Coeff. Curve
;;-------------- ---------------- ---------------- ------------ ---------- ---------- -------- -------- ---------- ---------- ---------- ---------- ----------------
```

```
W1               J5               J3               TRANSVERSE   1.74       1.7        NO       0        0          YES
W2               J3               J6               TRANSVERSE   1.765      1.7        NO       0        0          YES
W3               J8               J10              ROADWAY      0.72       1.7        NO       0        0          YES        0          PAVED

[XSECTIONS]
;;Link           Shape        Geom1            Geom2      Geom3      Geom4      Barrels    Culvert
;;-------------- ------------ ---------------- ---------- ---------- ---------- ---------- ----------
C1_1             IRREGULAR    BranchA          0          0          0          1
C1_2             IRREGULAR    Dufour_S         0          0          0          1
C1_3             IRREGULAR    Dufour_W         0          0          0          1
C1_5             IRREGULAR    Dufour_W         0          0          0          1
C1_6             IRREGULAR    Dufour_W         0          0          0          1
C2               TRAPEZOIDAL  1                10         0.4        0.55       1
C2_1             IRREGULAR    Dufour_S         0          0          0          1
C2_2             ARCH         1.36             1.78       0          0          1
C3               CIRCULAR     0.9              0          0          0          1
C3_1             ARCH         1.36             1.78       0          0          1
C3_2             IRREGULAR    Dufour_W         0          0          0          1
C7               IRREGULAR    BranchA          0          0          0          1
W1               RECT_OPEN    1                1          0          0
W2               RECT_OPEN    1                1          0          0
W3               RECT_OPEN    1                1          0          0

[TRANSECTS]
;;Transect Data in HEC-2 format
;
NC 0.06     0.06     0.035
X1 BranchA           8        -4.6     2.7      0.0      0.0      0.0      0.0      0.0
GR 184.03   -9.5     184.08   -6.6     183.83   -4.6     182.26   -0.94    182.12   0
GR 182.22   0.9      183.1    2.7      183.12   4.9
;
NC 0.06     0.06     0.035
X1 Dufour_S          9        -3.6     2.6      0.0      0.0      0.0      0.0      0.0
GR 183.71   -7.4     183.54   -5.3     183.03   -3.6     181.98   -1       181.65   0
GR 181.88   1        182.89   2.6      183.08   3.85     183.01   6.9
;
NC 0.06     0.06     0.035
X1 Dufour_W          11       -5       10       0.0      0.0      0.0      0.0      0.0
GR 183.5    -15      183.25   -5       182.39   -2.5     181.62   0        182.3    2.5
GR 182.6    5        182.72   10       182.78   15       182.8    50       182.78   100
GR 182.84   350
;
NC 0.01     0.01     0.01
X1 Transect2         7        0.0      0.0      0.0      0.0      0.0      0.0      0.0
GR 182.3    -9.2     182.02   -3.8     180.06   -1       179.89   0        180.01   1.2
GR 182.08   4.6      182.05   9

[LOSSES]
;;Link           Kentry     Kexit      Kavg       Flap Gate  Seepage
;;-------------- ---------- ---------- ---------- ---------- ----------
C2_2             0.5        0.5        0          NO         0
C3               0.5        0.5        0          NO         0
C3_1             0.5        0.5        0          NO         0

[CURVES]
;;Name           Type       X-Value    Y-Value
;;-------------- ---------- ---------- ----------
```

```
Curve1           Pump2      0          0
Curve1                      0.01       0.089999999
Curve1                      3.7        0.093

;Reverted to larger pond for DPS submission - not to be used for dual drainage model
DPSpond          Storage    0          7569.842
DPSpond                     1          9296.538
DPSpond                     2          11180.317
DPSpond                     3          13221.177
DPSpond                     3.7        14743.243

[TIMESERIES]
;;Name           Date       Time       Value
;;-------------- ---------- ---------- ----------
100yr_4hr_Chicago            0:00       3.95
100yr_4hr_Chicago            0:15       4.87
100yr_4hr_Chicago            0:30       6.36
100yr_4hr_Chicago            0:45       9.19
100yr_4hr_Chicago            1:00       16.45
100yr_4hr_Chicago            1:15       46.45
100yr_4hr_Chicago            1:30       143.67
100yr_4hr_Chicago            1:45       32.45
100yr_4hr_Chicago            2:00       17.25
100yr_4hr_Chicago            2:15       11.53
100yr_4hr_Chicago            2:30       8.62
100yr_4hr_Chicago            2:45       6.87
100yr_4hr_Chicago            3:00       5.71
100yr_4hr_Chicago            3:15       4.89
100yr_4hr_Chicago            3:30       4.28
100yr_4hr_Chicago            3:45       3.81
100yr_4hr_Chicago            4:00       0

2yr_4hr_Chicago              0:00       2.1
2yr_4hr_Chicago              0:15       2.52
2yr_4hr_Chicago              0:30       3.18
2yr_4hr_Chicago              0:45       4.38
2yr_4hr_Chicago              1:00       7.31
2yr_4hr_Chicago              1:15       19.33
2yr_4hr_Chicago              1:30       68.13
2yr_4hr_Chicago              1:45       13.64
2yr_4hr_Chicago              2:00       7.63
2yr_4hr_Chicago              2:15       5.34
2yr_4hr_Chicago              2:30       4.14
2yr_4hr_Chicago              2:45       3.4
2yr_4hr_Chicago              3:00       2.89
2yr_4hr_Chicago              3:15       2.53
2yr_4hr_Chicago              3:30       2.25
2yr_4hr_Chicago              3:45       2.03
2yr_4hr_Chicago              4:00       0

5yr_4hr_Chicago              0:00       2.58
5yr_4hr_Chicago              0:15       3.13
5yr_4hr_Chicago              0:30       4.02
5yr_4hr_Chicago              0:45       5.66
5yr_4hr_Chicago              1:00       9.76
5yr_4hr_Chicago              1:15       26.72
5yr_4hr_Chicago              1:30       88.4
```

```
5yr_4hr_Chicago             1:45       18.73
5yr_4hr_Chicago             2:00       10.21
5yr_4hr_Chicago             2:15       6.99
5yr_4hr_Chicago             2:30       5.33
5yr_4hr_Chicago             2:45       4.31
5yr_4hr_Chicago             3:00       3.64
5yr_4hr_Chicago             3:15       3.15
5yr_4hr_Chicago             3:30       2.78
5yr_4hr_Chicago             3:45       2.49
5yr_4hr_Chicago             4:00       0

ERCA_Quality_Storm            0:00       1.78
ERCA_Quality_Storm            0:15       2.13
ERCA_Quality_Storm            0:30       2.7
ERCA_Quality_Storm            0:45       3.72
ERCA_Quality_Storm            1:00       6.21
ERCA_Quality_Storm            1:15       16.41
ERCA_Quality_Storm            1:30       57.83
ERCA_Quality_Storm            1:45       11.58
ERCA_Quality_Storm            2:00       6.48
ERCA_Quality_Storm            2:15       4.53
ERCA_Quality_Storm            2:30       3.51
ERCA_Quality_Storm            2:45       2.88
ERCA_Quality_Storm            3:00       2.45
ERCA_Quality_Storm            3:15       2.14
ERCA_Quality_Storm            3:30       1.91
ERCA_Quality_Storm            3:45       1.72
ERCA_Quality_Storm            4:00       0
;Total rainfall = 46.2 mm, rain interval = 6 minutes
SCS_2yr_12hr_Type_II          0:00       0.99432
SCS_2yr_12hr_Type_II          0:06       1.0053
SCS_2yr_12hr_Type_II          0:12       1.01629
SCS_2yr_12hr_Type_II          0:18       1.02728
SCS_2yr_12hr_Type_II          0:24       1.03826
SCS_2yr_12hr_Type_II          0:30       1.04925
SCS_2yr_12hr_Type_II          0:36       1.06024
SCS_2yr_12hr_Type_II          0:42       1.07122
SCS_2yr_12hr_Type_II          0:48       1.08221
SCS_2yr_12hr_Type_II          0:54       1.0932
SCS_2yr_12hr_Type_II          1:00       1.10419
SCS_2yr_12hr_Type_II          1:06       1.11517
SCS_2yr_12hr_Type_II          1:12       1.12616
SCS_2yr_12hr_Type_II          1:18       1.13715
SCS_2yr_12hr_Type_II          1:24       1.14813
SCS_2yr_12hr_Type_II          1:30       1.15912
SCS_2yr_12hr_Type_II          1:36       1.17011
SCS_2yr_12hr_Type_II          1:42       1.18109
SCS_2yr_12hr_Type_II          1:48       1.19208
SCS_2yr_12hr_Type_II          1:54       1.20307
SCS_2yr_12hr_Type_II          2:00       1.23603
SCS_2yr_12hr_Type_II          2:06       1.29096
SCS_2yr_12hr_Type_II          2:12       1.3459
SCS_2yr_12hr_Type_II          2:18       1.40083
SCS_2yr_12hr_Type_II          2:24       1.45577
SCS_2yr_12hr_Type_II          2:30       1.5107
SCS_2yr_12hr_Type_II          2:36       1.56564
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SCS_2yr_12hr_Type_II	2:42	1.62057
SCS_2yr_12hr_Type_II	2:48	1.67551
SCS_2yr_12hr_Type_II	2:54	1.73044
SCS_2yr_12hr_Type_II	3:00	1.75791
SCS_2yr_12hr_Type_II	3:06	1.75791
SCS_2yr_12hr_Type_II	3:12	1.75791
SCS_2yr_12hr_Type_II	3:18	1.75791
SCS_2yr_12hr_Type_II	3:24	1.75791
SCS_2yr_12hr_Type_II	3:30	1.80185
SCS_2yr_12hr_Type_II	3:36	1.88975
SCS_2yr_12hr_Type_II	3:42	1.97765
SCS_2yr_12hr_Type_II	3:48	2.06554
SCS_2yr_12hr_Type_II	3:54	2.15344
SCS_2yr_12hr_Type_II	4:00	2.26331
SCS_2yr_12hr_Type_II	4:06	2.39515
SCS_2yr_12hr_Type_II	4:12	2.52699
SCS_2yr_12hr_Type_II	4:18	2.65883
SCS_2yr_12hr_Type_II	4:24	2.79068
SCS_2yr_12hr_Type_II	4:30	2.96647
SCS_2yr_12hr_Type_II	4:36	3.18621
SCS_2yr_12hr_Type_II	4:42	3.40595
SCS_2yr_12hr_Type_II	4:48	3.62568
SCS_2yr_12hr_Type_II	4:54	3.84542
SCS_2yr_12hr_Type_II	5:00	4.21898
SCS_2yr_12hr_Type_II	5:06	4.74635
SCS_2yr_12hr_Type_II	5:12	5.27372
SCS_2yr_12hr_Type_II	5:18	5.80109
SCS_2yr_12hr_Type_II	5:24	6.32847
SCS_2yr_12hr_Type_II	5:30	13.09641
SCS_2yr_12hr_Type_II	5:36	26.10492
SCS_2yr_12hr_Type_II	5:42	41.98652
SCS_2yr_12hr_Type_II	5:48	75.29886
SCS_2yr_12hr_Type_II	5:54	52.26478
SCS_2yr_12hr_Type_II	6:00	10.4156
SCS_2yr_12hr_Type_II	6:06	9.16309
SCS_2yr_12hr_Type_II	6:12	7.91058
SCS_2yr_12hr_Type_II	6:18	6.65807
SCS_2yr_12hr_Type_II	6:24	5.40556
SCS_2yr_12hr_Type_II	6:30	4.63648
SCS_2yr_12hr_Type_II	6:36	4.35082
SCS_2yr_12hr_Type_II	6:42	4.06516
SCS_2yr_12hr_Type_II	6:48	3.7795
SCS_2yr_12hr_Type_II	6:54	3.49384
SCS_2yr_12hr_Type_II	7:00	3.2741
SCS_2yr_12hr_Type_II	7:06	3.12029
SCS_2yr_12hr_Type_II	7:12	2.96647
SCS_2yr_12hr_Type_II	7:18	2.81265
SCS_2yr_12hr_Type_II	7:24	2.65883
SCS_2yr_12hr_Type_II	7:30	2.52699
SCS_2yr_12hr_Type_II	7:36	2.41712
SCS_2yr_12hr_Type_II	7:42	2.30725
SCS_2yr_12hr_Type_II	7:48	2.19738
SCS_2yr_12hr_Type_II	7:54	2.08751
SCS_2yr_12hr_Type_II	8:00	2.0161
SCS_2yr_12hr_Type_II	8:06	1.97215
SCS_2yr_12hr_Type_II	8:12	1.93919
SCS_2yr_12hr_Type_II	8:18	1.89524

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SCS_2yr_12hr_Type_II             8:24       1.86228
SCS_2yr_12hr_Type_II             8:30       1.81834
SCS_2yr_12hr_Type_II             8:36       1.78537
SCS_2yr_12hr_Type_II             8:42       1.74143
SCS_2yr_12hr_Type_II             8:48       1.70847
SCS_2yr_12hr_Type_II             8:54       1.66452
SCS_2yr_12hr_Type_II             9:00       1.63156
SCS_2yr_12hr_Type_II             9:06       1.58761
SCS_2yr_12hr_Type_II             9:12       1.55465
SCS_2yr_12hr_Type_II             9:18       1.5107
SCS_2yr_12hr_Type_II             9:24       1.47774
SCS_2yr_12hr_Type_II             9:30       1.43379
SCS_2yr_12hr_Type_II             9:36       1.40083
SCS_2yr_12hr_Type_II             9:42       1.35688
SCS_2yr_12hr_Type_II             9:48       1.32392
SCS_2yr_12hr_Type_II             9:54       1.27998
SCS_2yr_12hr_Type_II             10:00      1.258
SCS_2yr_12hr_Type_II             10:06      1.24152
SCS_2yr_12hr_Type_II             10:12      1.23054
SCS_2yr_12hr_Type_II             10:18      1.21405
SCS_2yr_12hr_Type_II             10:24      1.20307
SCS_2yr_12hr_Type_II             10:30      1.18659
SCS_2yr_12hr_Type_II             10:36      1.1756
SCS_2yr_12hr_Type_II             10:42      1.15912
SCS_2yr_12hr_Type_II             10:48      1.14813
SCS_2yr_12hr_Type_II             10:54      1.13165
SCS_2yr_12hr_Type_II             11:00      1.12067
SCS_2yr_12hr_Type_II             11:06      1.10419
SCS_2yr_12hr_Type_II             11:12      1.0932
SCS_2yr_12hr_Type_II             11:18      1.07672
SCS_2yr_12hr_Type_II             11:24      1.06573
SCS_2yr_12hr_Type_II             11:30      1.04925
SCS_2yr_12hr_Type_II             11:36      1.03826
SCS_2yr_12hr_Type_II             11:42      1.02178
SCS_2yr_12hr_Type_II             11:48      1.0108
SCS_2yr_12hr_Type_II             11:54      0.99432

;total rainfall = 53.4 mm
SCS_2yr_24hr_Type_II             0:00       0.587
SCS_2yr_24hr_Type_II             0:15       0.587
SCS_2yr_24hr_Type_II             0:30       0.587
SCS_2yr_24hr_Type_II             0:45       0.587
SCS_2yr_24hr_Type_II             1:00       0.587
SCS_2yr_24hr_Type_II             1:15       0.587
SCS_2yr_24hr_Type_II             1:30       0.587
SCS_2yr_24hr_Type_II             1:45       0.587
SCS_2yr_24hr_Type_II             2:00       0.694
SCS_2yr_24hr_Type_II             2:15       0.694
SCS_2yr_24hr_Type_II             2:30       0.694
SCS_2yr_24hr_Type_II             2:45       0.694
SCS_2yr_24hr_Type_II             3:00       0.694
SCS_2yr_24hr_Type_II             3:15       0.694
SCS_2yr_24hr_Type_II             3:30       0.694
SCS_2yr_24hr_Type_II             3:45       0.694
SCS_2yr_24hr_Type_II             4:00       0.854
SCS_2yr_24hr_Type_II             4:15       0.854
SCS_2yr_24hr_Type_II             4:30       0.854
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SCS_2yr_24hr_Type_II	4:45	0.854
SCS_2yr_24hr_Type_II	5:00	0.854
SCS_2yr_24hr_Type_II	5:15	0.854
SCS_2yr_24hr_Type_II	5:30	0.854
SCS_2yr_24hr_Type_II	5:45	0.854
SCS_2yr_24hr_Type_II	6:00	0.961
SCS_2yr_24hr_Type_II	6:15	0.961
SCS_2yr_24hr_Type_II	6:30	0.961
SCS_2yr_24hr_Type_II	6:45	0.961
SCS_2yr_24hr_Type_II	7:00	1.175
SCS_2yr_24hr_Type_II	7:15	1.175
SCS_2yr_24hr_Type_II	7:30	1.175
SCS_2yr_24hr_Type_II	7:45	1.175
SCS_2yr_24hr_Type_II	8:00	1.388
SCS_2yr_24hr_Type_II	8:15	1.388
SCS_2yr_24hr_Type_II	8:30	1.495
SCS_2yr_24hr_Type_II	8:45	1.495
SCS_2yr_24hr_Type_II	9:00	1.709
SCS_2yr_24hr_Type_II	9:15	1.709
SCS_2yr_24hr_Type_II	9:30	1.922
SCS_2yr_24hr_Type_II	9:45	1.922
SCS_2yr_24hr_Type_II	10:00	2.456
SCS_2yr_24hr_Type_II	10:15	2.456
SCS_2yr_24hr_Type_II	10:30	3.311
SCS_2yr_24hr_Type_II	10:45	3.311
SCS_2yr_24hr_Type_II	11:00	5.126
SCS_2yr_24hr_Type_II	11:15	5.126
SCS_2yr_24hr_Type_II	11:30	15.806
SCS_2yr_24hr_Type_II	11:45	65.362
SCS_2yr_24hr_Type_II	12:00	7.69
SCS_2yr_24hr_Type_II	12:15	7.69
SCS_2yr_24hr_Type_II	12:30	3.952
SCS_2yr_24hr_Type_II	12:45	3.952
SCS_2yr_24hr_Type_II	13:00	2.884
SCS_2yr_24hr_Type_II	13:15	2.884
SCS_2yr_24hr_Type_II	13:30	2.243
SCS_2yr_24hr_Type_II	13:45	2.243
SCS_2yr_24hr_Type_II	14:00	1.602
SCS_2yr_24hr_Type_II	14:15	1.602
SCS_2yr_24hr_Type_II	14:30	1.602
SCS_2yr_24hr_Type_II	14:45	1.602
SCS_2yr_24hr_Type_II	15:00	1.602
SCS_2yr_24hr_Type_II	15:15	1.602
SCS_2yr_24hr_Type_II	15:30	1.602
SCS_2yr_24hr_Type_II	15:45	1.602
SCS_2yr_24hr_Type_II	16:00	0.961
SCS_2yr_24hr_Type_II	16:15	0.961
SCS_2yr_24hr_Type_II	16:30	0.961
SCS_2yr_24hr_Type_II	16:45	0.961
SCS_2yr_24hr_Type_II	17:00	0.961
SCS_2yr_24hr_Type_II	17:15	0.961
SCS_2yr_24hr_Type_II	17:30	0.961
SCS_2yr_24hr_Type_II	17:45	0.961
SCS_2yr_24hr_Type_II	18:00	0.961
SCS_2yr_24hr_Type_II	18:15	0.961
SCS_2yr_24hr_Type_II	18:30	0.961
SCS_2yr_24hr_Type_II	18:45	0.961

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SCS_2yr_24hr_Type_II            19:00      0.961
SCS_2yr_24hr_Type_II            19:15      0.961
SCS_2yr_24hr_Type_II            19:30      0.961
SCS_2yr_24hr_Type_II            19:45      0.961
SCS_2yr_24hr_Type_II            20:00      0.641
SCS_2yr_24hr_Type_II            20:15      0.641
SCS_2yr_24hr_Type_II            20:30      0.641
SCS_2yr_24hr_Type_II            20:45      0.641
SCS_2yr_24hr_Type_II            21:00      0.641
SCS_2yr_24hr_Type_II            21:15      0.641
SCS_2yr_24hr_Type_II            21:30      0.641
SCS_2yr_24hr_Type_II            21:45      0.641
SCS_2yr_24hr_Type_II            22:00      0.641
SCS_2yr_24hr_Type_II            22:15      0.641
SCS_2yr_24hr_Type_II            22:30      0.641
SCS_2yr_24hr_Type_II            22:45      0.641
SCS_2yr_24hr_Type_II            23:00      0.641
SCS_2yr_24hr_Type_II            23:15      0.641
SCS_2yr_24hr_Type_II            23:30      0.641
SCS_2yr_24hr_Type_II            23:45      0.641

;SCS_Type_II_108mm design storm, total rainfall = 108 mm, rain interval = 6 minutes, rain units = mm/hr.
SCS_Type_II_108mm_100yr_24hour          0:00       1.0908
SCS_Type_II_108mm_100yr_24hour          0:06       1.0908
SCS_Type_II_108mm_100yr_24hour          0:12       1.1124
SCS_Type_II_108mm_100yr_24hour          0:18       1.1124
SCS_Type_II_108mm_100yr_24hour          0:24       1.134
SCS_Type_II_108mm_100yr_24hour          0:30       1.134
SCS_Type_II_108mm_100yr_24hour          0:36       1.1556
SCS_Type_II_108mm_100yr_24hour          0:42       1.1556
SCS_Type_II_108mm_100yr_24hour          0:48       1.1772
SCS_Type_II_108mm_100yr_24hour          0:54       1.1772
SCS_Type_II_108mm_100yr_24hour          1:00       1.1988
SCS_Type_II_108mm_100yr_24hour          1:06       1.1988
SCS_Type_II_108mm_100yr_24hour          1:12       1.2204
SCS_Type_II_108mm_100yr_24hour          1:18       1.2204
SCS_Type_II_108mm_100yr_24hour          1:24       1.242
SCS_Type_II_108mm_100yr_24hour          1:30       1.242
SCS_Type_II_108mm_100yr_24hour          1:36       1.2636
SCS_Type_II_108mm_100yr_24hour          1:42       1.2636
SCS_Type_II_108mm_100yr_24hour          1:48       1.2852
SCS_Type_II_108mm_100yr_24hour          1:54       1.2852
SCS_Type_II_108mm_100yr_24hour          2:00       1.3068
SCS_Type_II_108mm_100yr_24hour          2:06       1.3068
SCS_Type_II_108mm_100yr_24hour          2:12       1.3284
SCS_Type_II_108mm_100yr_24hour          2:18       1.3284
SCS_Type_II_108mm_100yr_24hour          2:24       1.35
SCS_Type_II_108mm_100yr_24hour          2:30       1.35
SCS_Type_II_108mm_100yr_24hour          2:36       1.3716
SCS_Type_II_108mm_100yr_24hour          2:42       1.3716
SCS_Type_II_108mm_100yr_24hour          2:48       1.3932
SCS_Type_II_108mm_100yr_24hour          2:54       1.3932
SCS_Type_II_108mm_100yr_24hour          3:00       1.4148
SCS_Type_II_108mm_100yr_24hour          3:06       1.4148
SCS_Type_II_108mm_100yr_24hour          3:12       1.4364
SCS_Type_II_108mm_100yr_24hour          3:18       1.4364
SCS_Type_II_108mm_100yr_24hour          3:24       1.458
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SCS_Type_II_108mm_100yr_24hour	3:30	1.458
SCS_Type_II_108mm_100yr_24hour	3:36	1.4796
SCS_Type_II_108mm_100yr_24hour	3:42	1.4796
SCS_Type_II_108mm_100yr_24hour	3:48	1.5012
SCS_Type_II_108mm_100yr_24hour	3:54	1.5012
SCS_Type_II_108mm_100yr_24hour	4:00	1.5228
SCS_Type_II_108mm_100yr_24hour	4:06	1.5444
SCS_Type_II_108mm_100yr_24hour	4:12	1.566
SCS_Type_II_108mm_100yr_24hour	4:18	1.5876
SCS_Type_II_108mm_100yr_24hour	4:24	1.6092
SCS_Type_II_108mm_100yr_24hour	4:30	1.6308
SCS_Type_II_108mm_100yr_24hour	4:36	1.6524
SCS_Type_II_108mm_100yr_24hour	4:42	1.674
SCS_Type_II_108mm_100yr_24hour	4:48	1.6956
SCS_Type_II_108mm_100yr_24hour	4:54	1.7172
SCS_Type_II_108mm_100yr_24hour	5:00	1.7388
SCS_Type_II_108mm_100yr_24hour	5:06	1.7604
SCS_Type_II_108mm_100yr_24hour	5:12	1.782
SCS_Type_II_108mm_100yr_24hour	5:18	1.8036
SCS_Type_II_108mm_100yr_24hour	5:24	1.8252
SCS_Type_II_108mm_100yr_24hour	5:30	1.8468
SCS_Type_II_108mm_100yr_24hour	5:36	1.8684
SCS_Type_II_108mm_100yr_24hour	5:42	1.89
SCS_Type_II_108mm_100yr_24hour	5:48	1.9116
SCS_Type_II_108mm_100yr_24hour	5:54	1.9332
SCS_Type_II_108mm_100yr_24hour	6:00	1.9548
SCS_Type_II_108mm_100yr_24hour	6:06	1.9764
SCS_Type_II_108mm_100yr_24hour	6:12	1.998
SCS_Type_II_108mm_100yr_24hour	6:18	2.0196
SCS_Type_II_108mm_100yr_24hour	6:24	2.0412
SCS_Type_II_108mm_100yr_24hour	6:30	2.0628
SCS_Type_II_108mm_100yr_24hour	6:36	2.0844
SCS_Type_II_108mm_100yr_24hour	6:42	2.106
SCS_Type_II_108mm_100yr_24hour	6:48	2.1276
SCS_Type_II_108mm_100yr_24hour	6:54	2.1492
SCS_Type_II_108mm_100yr_24hour	7:00	2.1708
SCS_Type_II_108mm_100yr_24hour	7:06	2.1924
SCS_Type_II_108mm_100yr_24hour	7:12	2.214
SCS_Type_II_108mm_100yr_24hour	7:18	2.2356
SCS_Type_II_108mm_100yr_24hour	7:24	2.2572
SCS_Type_II_108mm_100yr_24hour	7:30	2.2788
SCS_Type_II_108mm_100yr_24hour	7:36	2.3004
SCS_Type_II_108mm_100yr_24hour	7:42	2.322
SCS_Type_II_108mm_100yr_24hour	7:48	2.3436
SCS_Type_II_108mm_100yr_24hour	7:54	2.3652
SCS_Type_II_108mm_100yr_24hour	8:00	2.43
SCS_Type_II_108mm_100yr_24hour	8:06	2.538
SCS_Type_II_108mm_100yr_24hour	8:12	2.646
SCS_Type_II_108mm_100yr_24hour	8:18	2.754
SCS_Type_II_108mm_100yr_24hour	8:24	2.862
SCS_Type_II_108mm_100yr_24hour	8:30	2.97
SCS_Type_II_108mm_100yr_24hour	8:36	3.078
SCS_Type_II_108mm_100yr_24hour	8:42	3.186
SCS_Type_II_108mm_100yr_24hour	8:48	3.294
SCS_Type_II_108mm_100yr_24hour	8:54	3.402
SCS_Type_II_108mm_100yr_24hour	9:00	3.456
SCS_Type_II_108mm_100yr_24hour	9:06	3.456

SCS_Type_II_108mm_100yr_24hour	9:12	3.456
SCS_Type_II_108mm_100yr_24hour	9:18	3.456
SCS_Type_II_108mm_100yr_24hour	9:24	3.456
SCS_Type_II_108mm_100yr_24hour	9:30	3.5424
SCS_Type_II_108mm_100yr_24hour	9:36	3.7152
SCS_Type_II_108mm_100yr_24hour	9:42	3.888
SCS_Type_II_108mm_100yr_24hour	9:48	4.0608
SCS_Type_II_108mm_100yr_24hour	9:54	4.2336
SCS_Type_II_108mm_100yr_24hour	10:00	4.4496
SCS_Type_II_108mm_100yr_24hour	10:06	4.7088
SCS_Type_II_108mm_100yr_24hour	10:12	4.968
SCS_Type_II_108mm_100yr_24hour	10:18	5.2272
SCS_Type_II_108mm_100yr_24hour	10:24	5.4864
SCS_Type_II_108mm_100yr_24hour	10:30	5.832
SCS_Type_II_108mm_100yr_24hour	10:36	6.264
SCS_Type_II_108mm_100yr_24hour	10:42	6.696
SCS_Type_II_108mm_100yr_24hour	10:48	7.128
SCS_Type_II_108mm_100yr_24hour	10:54	7.56
SCS_Type_II_108mm_100yr_24hour	11:00	8.2944
SCS_Type_II_108mm_100yr_24hour	11:06	9.3312
SCS_Type_II_108mm_100yr_24hour	11:12	10.368
SCS_Type_II_108mm_100yr_24hour	11:18	11.4048
SCS_Type_II_108mm_100yr_24hour	11:24	12.4416
SCS_Type_II_108mm_100yr_24hour	11:30	25.7472
SCS_Type_II_108mm_100yr_24hour	11:36	51.3216
SCS_Type_II_108mm_100yr_24hour	11:42	82.5444
SCS_Type_II_108mm_100yr_24hour	11:48	148.0356
SCS_Type_II_108mm_100yr_24hour	11:54	102.7512
SCS_Type_II_108mm_100yr_24hour	12:00	20.4768
SCS_Type_II_108mm_100yr_24hour	12:06	18.0144
SCS_Type_II_108mm_100yr_24hour	12:12	15.552
SCS_Type_II_108mm_100yr_24hour	12:18	13.0896
SCS_Type_II_108mm_100yr_24hour	12:24	10.6272
SCS_Type_II_108mm_100yr_24hour	12:30	9.1152
SCS_Type_II_108mm_100yr_24hour	12:36	8.5536
SCS_Type_II_108mm_100yr_24hour	12:42	7.992
SCS_Type_II_108mm_100yr_24hour	12:48	7.4304
SCS_Type_II_108mm_100yr_24hour	12:54	6.8688
SCS_Type_II_108mm_100yr_24hour	13:00	6.4368
SCS_Type_II_108mm_100yr_24hour	13:06	6.1344
SCS_Type_II_108mm_100yr_24hour	13:12	5.832
SCS_Type_II_108mm_100yr_24hour	13:18	5.5296
SCS_Type_II_108mm_100yr_24hour	13:24	5.2272
SCS_Type_II_108mm_100yr_24hour	13:30	4.968
SCS_Type_II_108mm_100yr_24hour	13:36	4.752
SCS_Type_II_108mm_100yr_24hour	13:42	4.536
SCS_Type_II_108mm_100yr_24hour	13:48	4.32
SCS_Type_II_108mm_100yr_24hour	13:54	4.104
SCS_Type_II_108mm_100yr_24hour	14:00	3.9636
SCS_Type_II_108mm_100yr_24hour	14:06	3.8772
SCS_Type_II_108mm_100yr_24hour	14:12	3.8124
SCS_Type_II_108mm_100yr_24hour	14:18	3.726
SCS_Type_II_108mm_100yr_24hour	14:24	3.6612
SCS_Type_II_108mm_100yr_24hour	14:30	3.5748
SCS_Type_II_108mm_100yr_24hour	14:36	3.51
SCS_Type_II_108mm_100yr_24hour	14:42	3.4236
SCS_Type_II_108mm_100yr_24hour	14:48	3.3588

SCS_Type_II_108mm_100yr_24hour	14:54	3.2724
SCS_Type_II_108mm_100yr_24hour	15:00	3.2076
SCS_Type_II_108mm_100yr_24hour	15:06	3.1212
SCS_Type_II_108mm_100yr_24hour	15:12	3.0564
SCS_Type_II_108mm_100yr_24hour	15:18	2.97
SCS_Type_II_108mm_100yr_24hour	15:24	2.9052
SCS_Type_II_108mm_100yr_24hour	15:30	2.8188
SCS_Type_II_108mm_100yr_24hour	15:36	2.754
SCS_Type_II_108mm_100yr_24hour	15:42	2.6676
SCS_Type_II_108mm_100yr_24hour	15:48	2.6028
SCS_Type_II_108mm_100yr_24hour	15:54	2.5164
SCS_Type_II_108mm_100yr_24hour	16:00	2.4732
SCS_Type_II_108mm_100yr_24hour	16:06	2.4408
SCS_Type_II_108mm_100yr_24hour	16:12	2.4192
SCS_Type_II_108mm_100yr_24hour	16:18	2.3868
SCS_Type_II_108mm_100yr_24hour	16:24	2.3652
SCS_Type_II_108mm_100yr_24hour	16:30	2.3328
SCS_Type_II_108mm_100yr_24hour	16:36	2.3112
SCS_Type_II_108mm_100yr_24hour	16:42	2.2788
SCS_Type_II_108mm_100yr_24hour	16:48	2.2572
SCS_Type_II_108mm_100yr_24hour	16:54	2.2248
SCS_Type_II_108mm_100yr_24hour	17:00	2.2032
SCS_Type_II_108mm_100yr_24hour	17:06	2.1708
SCS_Type_II_108mm_100yr_24hour	17:12	2.1492
SCS_Type_II_108mm_100yr_24hour	17:18	2.1168
SCS_Type_II_108mm_100yr_24hour	17:24	2.0952
SCS_Type_II_108mm_100yr_24hour	17:30	2.0628
SCS_Type_II_108mm_100yr_24hour	17:36	2.0412
SCS_Type_II_108mm_100yr_24hour	17:42	2.0088
SCS_Type_II_108mm_100yr_24hour	17:48	1.9872
SCS_Type_II_108mm_100yr_24hour	17:54	1.9548
SCS_Type_II_108mm_100yr_24hour	18:00	1.9332
SCS_Type_II_108mm_100yr_24hour	18:06	1.9008
SCS_Type_II_108mm_100yr_24hour	18:12	1.8792
SCS_Type_II_108mm_100yr_24hour	18:18	1.8468
SCS_Type_II_108mm_100yr_24hour	18:24	1.8252
SCS_Type_II_108mm_100yr_24hour	18:30	1.7928
SCS_Type_II_108mm_100yr_24hour	18:36	1.7712
SCS_Type_II_108mm_100yr_24hour	18:42	1.7388
SCS_Type_II_108mm_100yr_24hour	18:48	1.7172
SCS_Type_II_108mm_100yr_24hour	18:54	1.6848
SCS_Type_II_108mm_100yr_24hour	19:00	1.6632
SCS_Type_II_108mm_100yr_24hour	19:06	1.6308
SCS_Type_II_108mm_100yr_24hour	19:12	1.6092
SCS_Type_II_108mm_100yr_24hour	19:18	1.5768
SCS_Type_II_108mm_100yr_24hour	19:24	1.5552
SCS_Type_II_108mm_100yr_24hour	19:30	1.5228
SCS_Type_II_108mm_100yr_24hour	19:36	1.5012
SCS_Type_II_108mm_100yr_24hour	19:42	1.4688
SCS_Type_II_108mm_100yr_24hour	19:48	1.4472
SCS_Type_II_108mm_100yr_24hour	19:54	1.4148
SCS_Type_II_108mm_100yr_24hour	20:00	1.404
SCS_Type_II_108mm_100yr_24hour	20:06	1.3932
SCS_Type_II_108mm_100yr_24hour	20:12	1.3932
SCS_Type_II_108mm_100yr_24hour	20:18	1.3824
SCS_Type_II_108mm_100yr_24hour	20:24	1.3824
SCS_Type_II_108mm_100yr_24hour	20:30	1.3716

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SCS_Type_II_108mm_100yr_24hour          20:36     1.3716
SCS_Type_II_108mm_100yr_24hour          20:42     1.3608
SCS_Type_II_108mm_100yr_24hour          20:48     1.3608
SCS_Type_II_108mm_100yr_24hour          20:54     1.35
SCS_Type_II_108mm_100yr_24hour          21:00     1.35
SCS_Type_II_108mm_100yr_24hour          21:06     1.3392
SCS_Type_II_108mm_100yr_24hour          21:12     1.3392
SCS_Type_II_108mm_100yr_24hour          21:18     1.3284
SCS_Type_II_108mm_100yr_24hour          21:24     1.3284
SCS_Type_II_108mm_100yr_24hour          21:30     1.3176
SCS_Type_II_108mm_100yr_24hour          21:36     1.3176
SCS_Type_II_108mm_100yr_24hour          21:42     1.3068
SCS_Type_II_108mm_100yr_24hour          21:48     1.3068
SCS_Type_II_108mm_100yr_24hour          21:54     1.296
SCS_Type_II_108mm_100yr_24hour          22:00     1.296
SCS_Type_II_108mm_100yr_24hour          22:06     1.2852
SCS_Type_II_108mm_100yr_24hour          22:12     1.2852
SCS_Type_II_108mm_100yr_24hour          22:18     1.2744
SCS_Type_II_108mm_100yr_24hour          22:24     1.2744
SCS_Type_II_108mm_100yr_24hour          22:30     1.2636
SCS_Type_II_108mm_100yr_24hour          22:36     1.2636
SCS_Type_II_108mm_100yr_24hour          22:42     1.2528
SCS_Type_II_108mm_100yr_24hour          22:48     1.2528
SCS_Type_II_108mm_100yr_24hour          22:54     1.242
SCS_Type_II_108mm_100yr_24hour          23:00     1.242
SCS_Type_II_108mm_100yr_24hour          23:06     1.2312
SCS_Type_II_108mm_100yr_24hour          23:12     1.2312
SCS_Type_II_108mm_100yr_24hour          23:18     1.2204
SCS_Type_II_108mm_100yr_24hour          23:24     1.2204
SCS_Type_II_108mm_100yr_24hour          23:30     1.2096
SCS_Type_II_108mm_100yr_24hour          23:36     1.2096
SCS_Type_II_108mm_100yr_24hour          23:42     1.1988
SCS_Type_II_108mm_100yr_24hour          23:48     1.1988
SCS_Type_II_108mm_100yr_24hour          23:54     1.188

Timeseries1                0:00      0
Timeseries1                2:00      1.08
Timeseries1                4:00      1.62
Timeseries1                6:00      1.62
Timeseries1                8:00      2.16
Timeseries1                10:00     3.24
Timeseries1                12:00     25.92
Timeseries1                14:00     8.64
Timeseries1                16:00     3.24
Timeseries1                18:00     2.16
Timeseries1                20:00     1.62
Timeseries1                22:00     1.62
Timeseries1                24:00     1.08

UST                        0:00      2.41
UST                        0:15      2.43
UST                        0:30      2.45
UST                        0:45      2.46
UST                        1:00      2.48
UST                        1:15      2.51
UST                        1:30      2.53
UST                        1:45      2.55
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UST	2:00	2.58
UST	2:15	2.61
UST	2:30	2.64
UST	2:45	2.67
UST	3:00	2.71
UST	3:15	2.74
UST	3:30	2.79
UST	3:45	2.83
UST	4:00	2.88
UST	4:15	2.94
UST	4:30	3
UST	4:45	3.07
UST	5:00	3.15
UST	5:15	3.23
UST	5:30	3.33
UST	5:45	3.45
UST	6:00	3.59
UST	6:15	3.75
UST	6:30	3.94
UST	6:45	4.18
UST	7:00	4.49
UST	7:15	4.89
UST	7:30	5.43
UST	7:45	6.2
UST	8:00	7.41
UST	8:15	9.56
UST	8:30	14.29
UST	8:45	32.01
UST	9:00	145.13
UST	9:15	48.51
UST	9:30	23.13
UST	9:45	15.08
UST	10:00	11.35
UST	10:15	9.23
UST	10:30	7.88
UST	10:45	6.94
UST	11:00	6.25
UST	11:15	5.73
UST	11:30	5.32
UST	11:45	4.99
UST	12:00	4.72
UST	12:15	4.49
UST	12:30	4.29
UST	12:45	4.12
UST	13:00	3.98
UST	13:15	3.85
UST	13:30	3.74
UST	13:45	3.63
UST	14:00	3.54
UST	14:15	3.46
UST	14:30	3.39
UST	14:45	3.32
UST	15:00	3.26
UST	15:15	3.2
UST	15:30	3.15
UST	15:45	3.1
UST	16:00	3.05

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UST                     16:15     3.01
UST                     16:30     2.97
UST                     16:45     2.93
UST                     17:00     2.9
UST                     17:15     2.87
UST                     17:30     2.84
UST                     17:45     2.81
UST                     18:00     2.78
UST                     18:15     2.76
UST                     18:30     2.73
UST                     18:45     2.71
UST                     19:00     2.69
UST                     19:15     2.67
UST                     19:30     2.65
UST                     19:45     2.63
UST                     20:00     2.61
UST                     20:15     2.59
UST                     20:30     2.57
UST                     20:45     2.56
UST                     21:00     2.54
UST                     21:15     2.53
UST                     21:30     2.51
UST                     21:45     2.5
UST                     22:00     2.49
UST                     22:15     2.47
UST                     22:30     2.46
UST                     22:45     2.45
UST                     23:00     2.44
UST                     23:15     2.43
UST                     23:30     2.42
UST                     23:45     2.41

[REPORT]
;;Reporting Options
INPUT      YES
CONTROLS   NO
SUBCATCHMENTS ALL
NODES ALL
LINKS ALL

[TAGS]
Subcatch   S1               Proposed-North
Subcatch   S2               Proposed-North
Subcatch   S3_10            Develp\\
Subcatch   S3_15            Develp\\
Subcatch   S3_9             Develp\\

[MAP]
DIMENSIONS       335625.28325     4666996.99015    337284.23175     4668241.65885
UNITS            Meters

[COORDINATES]
;;Node           X-Coord            Y-Coord
;;-------------- ------------------ ------------------
J1               336317.6           4667255.807
J10              336214.88          4667230.787
J11              335868.678         4667734.014
```

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J12              335875.308         4667821.743
J2               336172.061         4667220.349
J3               335830.782         4667242.452
J4               335849.998         4667486.872
J5               335877.306         4667238.391
J6               335837.14          4667323.333
J7               336761.228         4667379.476
J8               336216.029         4667205.094
J9               336627.922         4667176.37
OF1              335893.117         4668070.523
SU1              336322.716         4667291.995

[VERTICES]
;;Link           X-Coord            Y-Coord
;;-------------- ------------------ ------------------
P1               336312.113         4667277.819
W1               335840.065         4667219.137
W2               335815.782         4667306.497
W3               336201.81          4667217.421

[POLYGONS]
;;Subcatchment   X-Coord            Y-Coord
;;-------------- ------------------ ------------------
S1               337121.498         4667647.42
S1               337169.515         4667643.445
S1               337167.381         4667611.655
S1               337137.371         4667613.665
S1               337136.513         4667595.994
S1               336896.161         4667611.668
S1               336657.821         4667627.71
S1               336664.825         4667732.268
S1               336673.474         4667751.458
S1               336676.332         4667794.032
S1               336855.964         4667781.975
S1               337069.404         4667767.649
S1               337065.439         4667708.572
S1               337125.35          4667704.55
S1               337121.498         4667647.42
S2               336657.815         4667627.617
S2               336344.603         4667648.242
S2               336451.635         4667809.113
S2               336580.071         4667800.493
S2               336676.332         4667794.032
S2               336673.474         4667751.458
S2               336664.825         4667732.268
S2               336657.815         4667627.617
S3_1             336701.369         4667362.739
S3_1             336700.577         4667366.282
S3_1             336982.321         4667445.036
S3_1             337021.753         4667455.621
S3_1             337018.8           4667427.155
S3_1             336927.528         4667400.662
S3_1             336922.296         4667239.701
S3_1             336782.019         4667250.473
S3_1             336776.827         4667221.989
S3_1             336758.599         4667217.894
S3_1             336754.73          4667246.588
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S3_1	336691.511	4667249.182
S3_1	336701.369	4667362.739
S3_10	336372.655	4667646.903
S3_10	336392.297	4667582.422
S3_10	336396.088	4667564.963
S3_10	336410.879	4667517.649
S3_10	336417.459	4667497.728
S3_10	336411.81	4667478.154
S3_10	336393.179	4667299.427
S3_10	336383.185	4667278.215
S3_10	336165.821	4667218.272
S3_10	336133.887	4667220.287
S3_10	336142.125	4667324.525
S3_10	336143.655	4667352.328
S3_10	336145.311	4667378.108
S3_10	336146.26	4667395.884
S3_10	336147.765	4667410.286
S3_10	336149.982	4667422.53
S3_10	336153.803	4667437.667
S3_10	336158.371	4667451.848
S3_10	336162.553	4667462.647
S3_10	336176.84	4667491.412
S3_10	336190.106	4667510.946
S3_10	336196.597	4667519.399
S3_10	336202.526	4667526.047
S3_10	336212.242	4667536.191
S3_10	336218.012	4667541.961
S3_10	336225.15	4667547.952
S3_10	336233.09	4667554.363
S3_10	336256.87	4667570.837
S3_10	336280.688	4667582.428
S3_10	336297.581	4667588.637
S3_10	336312.352	4667592.995
S3_10	336344.603	4667648.242
S3_10	336372.655	4667646.903
S3_11	336644.914	4667429.981
S3_11	336656.039	4667416.559
S3_11	336664.778	4667394.226
S3_11	336678.388	4667360.017
S3_11	336383.185	4667278.215
S3_11	336393.179	4667299.427
S3_11	336411.81	4667478.154
S3_11	336454.667	4667474.44
S3_11	336537.951	4667469.392
S3_11	336632.002	4667463.005
S3_11	336631.754	4667446.617
S3_11	336644.914	4667429.981
S3_12	335891.333	4667236.984
S3_12	335910.208	4667398.134
S3_12	336145.311	4667378.117
S3_12	336143.655	4667352.337
S3_12	336142.126	4667324.534
S3_12	336134.585	4667222.386
S3_12	335891.333	4667236.984
S3_13	335865.608	4667683.955
S3_13	335846.704	4667488.204
S3_13	335728.745	4667495.706

S3_13	335700.69	4667632.872
S3_13	335712.505	4667675.706
S3_13	335755.299	4667758.531
S3_13	335804.769	4667818.449
S3_13	335860.944	4667856.656
S3_13	335887.809	4668185.083
S3_13	335985.32	4668118.517
S3_13	336051.32	4668058.405
S3_13	336124.222	4667986.703
S3_13	336552.438	4667965.359
S3_13	336551.206	4667802.43
S3_13	336451.635	4667809.113
S3_13	336344.603	4667648.242
S3_13	335865.608	4667683.955
S3_14	335910.208	4667398.134
S3_14	335891.333	4667236.984
S3_14	335826.933	4667240.849
S3_14	335840.547	4667404.065
S3_14	335910.208	4667398.134
S3_15	336944.2	4667434.55
S3_15	336700.577	4667366.282
S3_15	336698.665	4667365.755
S3_15	336678.388	4667360.017
S3_15	336664.778	4667394.226
S3_15	336656.039	4667416.559
S3_15	336644.914	4667429.981
S3_15	336631.754	4667446.617
S3_15	336632.002	4667463.005
S3_15	336637.311	4667528.533
S3_15	336673.912	4667525.991
S3_15	336679.118	4667626.141
S3_15	337136.513	4667595.994
S3_15	337152.281	4667593.982
S3_15	337149.482	4667543.037
S3_15	337208.825	4667539.118
S3_15	337207.271	4667507.187
S3_15	337161.902	4667495.449
S3_15	337124.457	4667484.149
S3_15	337106.892	4667506.191
S3_15	337049.689	4667503.045
S3_15	337038.672	4667502.337
S3_15	337021.528	4667504.259
S3_15	337008.463	4667505.623
S3_15	337004.495	4667505.137
S3_15	336993.673	4667503.643
S3_15	336956.376	4667480.049
S3_15	336953.799	4667469.723
S3_15	336945.852	4667458.989
S3_15	336944.2	4667434.55
S3_2	336299.344	4667128.151
S3_2	336308.847	4667222.067
S3_2	336598.119	4667202.448
S3_2	336597.678	4667192.766
S3_2	336648.613	4667188.241
S3_2	336641.292	4667104.105
S3_2	336310.723	4667126.488
S3_2	336310.721	4667126.466

S3_2	336299.344	4667128.151
S3_3	335918.693	4667142.54
S3_3	336171.903	4667220.136
S3_3	336171.903	4667220.145
S3_3	336209.268	4667229.676
S3_3	336308.847	4667222.067
S3_3	336299.344	4667128.151
S3_3	336310.721	4667126.466
S3_3	336306.228	4667053.566
S3_3	336180.197	4667061.282
S3_3	336034.161	4667087.429
S3_3	335951.88	4667115.688
S3_3	335918.693	4667142.54
S3_4	336209.268	4667229.685
S3_4	336383.185	4667278.215
S3_4	336678.388	4667360.017
S3_4	336700.577	4667366.282
S3_4	336701.168	4667360.431
S3_4	336691.511	4667249.182
S3_4	336600.415	4667252.921
S3_4	336598.119	4667202.448
S3_4	336209.268	4667229.685
S3_5	335865.608	4667683.955
S3_5	336344.603	4667648.242
S3_5	336311.643	4667591.781
S3_5	336280.688	4667582.437
S3_5	336256.87	4667570.846
S3_5	336230.13	4667551.574
S3_5	336202.259	4667524.699
S3_5	336176.84	4667491.421
S3_5	336159.331	4667452.926
S3_5	336147.765	4667410.295
S3_5	336146.26	4667395.893
S3_5	336145.311	4667378.117
S3_5	336137.171	4667378.612
S3_5	335840.547	4667404.065
S3_5	335847.561	4667488.15
S3_5	335846.704	4667488.204
S3_5	335865.608	4667683.955
S3_7	335826.933	4667240.849
S3_7	336171.903	4667220.127
S3_7	335918.693	4667142.54
S3_7	335915.307	4667145.28
S3_7	335817.552	4667128.393
S3_7	335826.933	4667240.849
S3_8	336944.2	4667434.55
S3_8	336945.852	4667458.989
S3_8	336953.799	4667469.723
S3_8	336956.376	4667480.049
S3_8	336993.673	4667503.643
S3_8	337004.495	4667505.137
S3_8	337008.463	4667505.623
S3_8	337021.528	4667504.259
S3_8	337038.672	4667502.337
S3_8	337049.689	4667503.045
S3_8	337106.892	4667506.191
S3_8	337124.457	4667484.149

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S3_8             337046.688         4667462.707
S3_8             337021.753         4667455.621
S3_8             336944.2           4667434.55
S3_9             336411.81          4667478.154
S3_9             336417.459         4667497.728
S3_9             336410.879         4667517.649
S3_9             336396.088         4667564.963
S3_9             336392.297         4667582.422
S3_9             336372.655         4667646.903
S3_9             336416.121         4667644.013
S3_9             336564.721         4667633.664
S3_9             336662.337         4667627.172
S3_9             336679.118         4667626.141
S3_9             336673.912         4667525.991
S3_9             336637.311         4667528.533
S3_9             336632.002         4667463.005
S3_9             336537.951         4667469.392
S3_9             336454.667         4667474.44
S3_9             336411.81          4667478.154

[SYMBOLS]
;;Gage           X-Coord            Y-Coord
;;-------------- ------------------ ------------------
```

Proposed 1:2 Year Chicago PCSWMM Output Report

```
EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)
---------------------------------------------------------------

WARNING 02: maximum depth increased for Node J1
WARNING 02: maximum depth increased for Node J10
WARNING 02: maximum depth increased for Node J11
WARNING 02: maximum depth increased for Node J2
WARNING 02: maximum depth increased for Node J3
WARNING 02: maximum depth increased for Node J4
WARNING 02: maximum depth increased for Node J5
WARNING 02: maximum depth increased for Node J6
WARNING 02: maximum depth increased for Node J7
WARNING 02: maximum depth increased for Node J8
WARNING 02: maximum depth increased for Node J9

*************
Element Count
*************
Number of rain gages ...... 1
Number of subcatchments ... 16
Number of nodes ........... 14
Number of links ........... 16
Number of pollutants ...... 0
Number of land uses ....... 0


****************
Raingage Summary
****************
                                            Data       Recording
Name                Data Source             Type       Interval
-----------------------------------------------------------------
Raingage1           2yr_4hr_Chicago         INTENSITY   15 min.


********************
Subcatchment Summary
********************
Name                         Area     Width   %Imperv    %Slope Rain Gage            Outlet
-------------------------------------------------------------------------------------------------
S1                           7.50    208.46     80.00    0.5000 Raingage1            S3_15
S2                           4.49    149.70     80.00    0.5000 Raingage1            S3_9
S3_1                         3.78    108.11     60.00    0.5000 Raingage1            J9
S3_10                        8.36    209.00     66.50    0.5000 Raingage1            SU1
S3_11                        3.85    214.07      0.00    0.5000 Raingage1            J7
S3_12                        3.82    254.62      0.00    0.5000 Raingage1            J6
S3_13                       26.53    384.46      0.00    0.5000 Raingage1            J4
S3_14                        1.10    199.13     20.00    0.5000 Raingage1            J6
S3_15                        8.87    168.31     64.00    0.5000 Raingage1            S3_9
S3_2                         3.21    493.12     52.00    0.5000 Raingage1            J9
S3_3                         4.55    454.62      0.00    0.5000 Raingage1            J8
S3_4                         3.63    412.44     15.00    0.5000 Raingage1            J9
S3_5                        10.42    416.82      0.00    0.5000 Raingage1            J4
S3_7                         2.15    214.67     21.00    0.5000 Raingage1            J5
S3_8                         0.70     23.34      0.00    0.5000 Raingage1            J7
S3_9                         4.49    154.83     60.00    0.5000 Raingage1            S3_10
```

****
Node Summary
****

Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
J1	JUNCTION	182.12	1.96	0.0	
J10	JUNCTION	181.97	2.06	0.0	
J11	JUNCTION	181.34	1.88	0.0	
J12	JUNCTION	181.20	1.94	0.0	
J2	JUNCTION	181.88	2.06	0.0	
J3	JUNCTION	181.53	2.77	0.0	
J4	JUNCTION	181.44	1.88	0.0	
J5	JUNCTION	181.55	2.74	0.0	
J6	JUNCTION	181.50	1.88	0.0	
J7	JUNCTION	183.13	1.96	0.0	
J8	JUNCTION	183.10	1.72	0.0	
J9	JUNCTION	183.13	1.00	0.0	
OF1	OUTFALL	180.20	1.88	0.0	
SU1	STORAGE	179.50	3.70	0.0	

****
Link Summary
****

Name	From Node	To Node	Type	Length	%Slope	Roughness
C1_1	J1	J10	CONDUIT	105.7	0.1419	0.0350
C1_2	J10	J2	CONDUIT	44.1	0.2042	0.0350
C1_3	J4	J11	CONDUIT	247.9	0.0403	0.0350
C1_5	J11	J12	CONDUIT	88.0	0.1535	0.0350
C1_6	J12	OF1	CONDUIT	249.3	0.4011	0.0350
C2	J9	J8	CONDUIT	412.9	0.0073	0.0130
C2_1	J2	J5	CONDUIT	295.3	0.1117	0.0350
C2_2	J5	J3	CONDUIT	48.0	0.0521	0.0130
C3	J8	J10	CONDUIT	24.0	4.7136	0.0130
C3_1	J3	J6	CONDUIT	85.7	0.0292	0.0130
C3_2	J6	J4	CONDUIT	164.0	0.0396	0.0350
C7	J7	J1	CONDUIT	460.6	0.2193	0.0350
P1	SU1	J1	TYPE2 PUMP			
W1	J5	J3	WEIR			
W2	J3	J6	WEIR			
W3	J8	J10	WEIR			

****
Cross Section Summary
****

Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
C1_1	BranchA	1.96	12.30	1.05	14.40	1	13.64
C1_2	Dufour_S	2.06	12.93	0.96	14.30	1	16.21
C1_3	Dufour_W	1.88	253.96	0.34	365.00	1	71.67
C1_5	Dufour_W	1.88	253.96	0.34	365.00	1	139.76

C1_6	Dufour_W	1.88	253.96	0.34	365.00	1	225.95
C2	TRAPEZOIDAL	1.00	10.48	0.86	10.95	1	6.20
C2_1	Dufour_S	2.06	12.93	0.96	14.30	1	11.99
C2_2	ARCH	1.36	1.91	0.41	1.78	1	1.84
C3	CIRCULAR	0.90	0.64	0.23	0.90	1	3.93
C3_1	ARCH	1.36	1.91	0.41	1.78	1	1.38
C3_2	Dufour_W	1.88	253.96	0.34	365.00	1	71.02
C7	BranchA	1.96	12.30	1.05	14.40	1	16.96

****
Transect Summary
****

Transect BranchA
Area:

0.0010	0.0039	0.0087	0.0147	0.0214
0.0286	0.0363	0.0446	0.0534	0.0628
0.0727	0.0831	0.0941	0.1057	0.1178
0.1305	0.1437	0.1574	0.1717	0.1865
0.2019	0.2179	0.2343	0.2514	0.2689
0.2921	0.3174	0.3430	0.3689	0.3951
0.4216	0.4483	0.4754	0.5027	0.5303
0.5582	0.5864	0.6149	0.6437	0.6728
0.7022	0.7319	0.7618	0.7921	0.8233
0.8555	0.8886	0.9228	0.9582	1.0000

Hrad:

0.0185	0.0370	0.0587	0.0851	0.1129
0.1390	0.1638	0.1875	0.2103	0.2325
0.2540	0.2751	0.2958	0.3161	0.3361
0.3558	0.3753	0.3946	0.4137	0.4326
0.4515	0.4701	0.4887	0.5072	0.5255
0.5380	0.5487	0.5615	0.5759	0.5915
0.6080	0.6251	0.6428	0.6609	0.6793
0.6981	0.7171	0.7363	0.7556	0.7750
0.7946	0.8142	0.8339	0.8573	0.8856
0.9126	0.9382	0.9627	0.9857	1.0000

Width:

0.0428	0.0856	0.1198	0.1386	0.1505
0.1624	0.1743	0.1862	0.1981	0.2101
0.2220	0.2339	0.2458	0.2577	0.2696
0.2815	0.2935	0.3054	0.3173	0.3292
0.3411	0.3530	0.3649	0.3769	0.3888
0.5479	0.5542	0.5606	0.5669	0.5733
0.5796	0.5860	0.5923	0.5987	0.6050
0.6113	0.6177	0.6240	0.6304	0.6367
0.6431	0.6494	0.6558	0.6679	0.6897
0.7115	0.7333	0.7551	0.8203	1.0000

Transect Dufour_S
Area:

0.0005	0.0019	0.0044	0.0077	0.0121
0.0174	0.0234	0.0299	0.0371	0.0448
0.0530	0.0617	0.0710	0.0808	0.0911
0.1020	0.1134	0.1253	0.1378	0.1508
0.1643	0.1784	0.1930	0.2081	0.2238

```
            0.2400     0.2568     0.2740     0.2918     0.3102
            0.3293     0.3496     0.3711     0.3966     0.4289
            0.4632     0.4980     0.5332     0.5689     0.6050
            0.6415     0.6784     0.7159     0.7537     0.7920
            0.8307     0.8706     0.9121     0.9552     1.0000
Hrad:
            0.0207     0.0414     0.0620     0.0827     0.1034
            0.1268     0.1530     0.1780     0.2035     0.2282
            0.2522     0.2756     0.2984     0.3209     0.3430
            0.3649     0.3864     0.4078     0.4289     0.4499
            0.4708     0.4915     0.5121     0.5326     0.5531
            0.5734     0.5936     0.6138     0.6340     0.6540
            0.6801     0.7043     0.7264     0.7449     0.7539
            0.7637     0.7761     0.7904     0.8061     0.8229
            0.8406     0.8589     0.8778     0.8970     0.9166
            0.9362     0.9536     0.9701     0.9855     1.0000
Width:
            0.0213     0.0425     0.0638     0.0850     0.1063
            0.1242     0.1375     0.1508     0.1625     0.1742
            0.1859     0.1976     0.2093     0.2210     0.2327
            0.2444     0.2561     0.2678     0.2795     0.2912
            0.3029     0.3146     0.3263     0.3380     0.3497
            0.3614     0.3731     0.3848     0.3965     0.4082
            0.4329     0.4590     0.4851     0.6367     0.7487
            0.7583     0.7679     0.7775     0.7871     0.7967
            0.8063     0.8159     0.8255     0.8352     0.8448
            0.8576     0.8932     0.9288     0.9644     1.0000

Transect Dufour W
Area:
            0.0000     0.0001     0.0002     0.0003     0.0005
            0.0007     0.0009     0.0012     0.0016     0.0019
            0.0023     0.0028     0.0033     0.0038     0.0043
            0.0049     0.0056     0.0062     0.0070     0.0078
            0.0086     0.0095     0.0105     0.0115     0.0126
            0.0138     0.0151     0.0167     0.0185     0.0206
            0.0237     0.0524     0.1024     0.1548     0.2073
            0.2597     0.3121     0.3646     0.4171     0.4696
            0.5221     0.5746     0.6272     0.6798     0.7326
            0.7856     0.8389     0.8924     0.9461     1.0000
Hrad:
            0.0522     0.1044     0.1565     0.2087     0.2609
            0.3131     0.3652     0.4174     0.4696     0.5218
            0.5740     0.6261     0.6783     0.7305     0.7827
            0.8348     0.8870     0.9392     0.9634     0.9897
            1.0209     1.0559     1.0931     1.1321     1.1727
            1.2146     1.1155     1.0523     1.0188     1.0769
            1.0973     0.4731     0.3018     0.2906     0.3127
            0.3466     0.3861     0.4286     0.4731     0.5187
            0.5653     0.6124     0.6600     0.7085     0.7572
            0.8059     0.8545     0.9031     0.9516     1.0000
Width:
            0.0007     0.0014     0.0021     0.0029     0.0036
            0.0043     0.0050     0.0057     0.0064     0.0071
            0.0078     0.0086     0.0093     0.0100     0.0107
            0.0114     0.0121     0.0128     0.0140     0.0152
            0.0164     0.0175     0.0187     0.0198     0.0210
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            0.0221     0.0265     0.0311     0.0357     0.0435
            0.1802     0.7774     0.9695     0.9698     0.9701
            0.9704     0.9707     0.9710     0.9713     0.9716
            0.9719     0.9722     0.9725     0.9753     0.9794
            0.9835     0.9876     0.9918     0.9959     1.0000

Transect Transect2
Area:
            0.0013     0.0050     0.0111     0.0185     0.0264
            0.0348     0.0437     0.0531     0.0630     0.0734
            0.0842     0.0955     0.1073     0.1196     0.1324
            0.1457     0.1594     0.1737     0.1884     0.2036
            0.2193     0.2355     0.2521     0.2693     0.2869
            0.3050     0.3236     0.3427     0.3622     0.3823
            0.4028     0.4238     0.4453     0.4673     0.4898
            0.5128     0.5362     0.5601     0.5845     0.6094
            0.6348     0.6607     0.6870     0.7138     0.7425
            0.7861     0.8350     0.8870     0.9420     1.0000
Hrad:
            0.0315     0.0630     0.1019     0.1494     0.1990
            0.2457     0.2899     0.3321     0.3727     0.4118
            0.4497     0.4866     0.5225     0.5577     0.5922
            0.6260     0.6593     0.6922     0.7246     0.7566
            0.7882     0.8196     0.8506     0.8814     0.9119
            0.9422     0.9723     1.0023     1.0320     1.0616
            1.0911     1.1204     1.1496     1.1787     1.2076
            1.2365     1.2653     1.2939     1.3225     1.3510
            1.3795     1.4078     1.4361     1.4644     1.3942
            0.9725     0.9752     0.9810     0.9894     1.0000
Width:
            0.0421     0.0841     0.1149     0.1292     0.1374
            0.1455     0.1536     0.1618     0.1699     0.1780
            0.1862     0.1943     0.2024     0.2106     0.2187
            0.2268     0.2350     0.2431     0.2512     0.2594
            0.2675     0.2756     0.2838     0.2919     0.3000
            0.3082     0.3163     0.3244     0.3326     0.3407
            0.3488     0.3570     0.3651     0.3732     0.3814
            0.3895     0.3976     0.4058     0.4139     0.4220
            0.4302     0.4383     0.4464     0.4546     0.5735
            0.7957     0.8468     0.8978     0.9489     1.0000


*********************************************************
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
*********************************************************

****************
Analysis Options
****************
Flow Units ..... CMS
Process Models:
  Rainfall/Runoff ........ YES
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
```

```
  Flow Routing ..... YES
  Ponding Allowed ..... NO
  Water Quality ..... NO
Infiltration Method ..... GREEN_AMPT
Flow Routing Method ..... DYNWAVE
Surcharge Method ..... EXTRAN
Starting Date ..... 04/16/2020 00:00:00
Ending Date ..... 04/18/2020 22:00:00
Antecedent Dry Days ..... 0.0
Report Time Step ..... 00:01:00
Wet Time Step ..... 00:05:00
Dry Time Step ..... 00:05:00
Routing Time Step ..... 5.00 sec
Variable Time Step ..... YES
Maximum Trials ..... 8
Number of Threads ..... 4
Head Tolerance ..... 0.001500 m


**************************        Volume         Depth
Runoff Quantity Continuity     hectare-m            mm
**************************     ---------       -------
Total Precipitation ......         3.674        37.700
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         1.807        18.549
Surface Runoff ...........         1.819        18.663
Final Storage ............         0.054         0.554
Continuity Error (%) .....        -0.174


**************************        Volume        Volume
Flow Routing Continuity        hectare-m      10^6 ltr
**************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         1.819        18.186
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........         1.818        18.178
Flooding Loss ............         0.000         0.000
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         0.000         0.004
Continuity Error (%) .....         0.025


***************************
Time-Step Critical Elements
***************************
None


*******************************
Highest Flow Instability Indexes
*******************************
All links are stable.
```

****
Routing Time Step Summary
****
Minimum Time Step : 0.75 sec
Average Time Step : 5.00 sec
Maximum Time Step : 5.00 sec
Percent in Steady State : -0.00
Average Iterations per Step : 2.00
Percent Not Converging : 0.00
Time Step Frequencies :
5.000 - 3.155 sec : 100.00 %
3.155 - 1.991 sec : 0.00 %
1.991 - 1.256 sec : 0.00 %
1.256 - 0.792 sec : 0.00 %
0.792 - 0.500 sec : 0.00 %

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Total Runoff mm	Total Runoff 10^6 ltr	Peak Runoff CMS	Runoff Coeff
S1	37.70	0.00	0.00	4.10	28.75	3.45	32.20	2.42	0.94	0.854
S2	37.70	0.00	0.00	4.01	28.76	3.54	32.30	1.45	0.59	0.857
S3_1	37.70	0.00	0.00	8.57	21.57	6.53	28.11	1.06	0.40	0.746
S3_10	37.70	88.90	0.00	9.32	83.02	33.11	116.13	9.71	1.33	0.917
S3_11	37.70	0.00	0.00	27.55	0.00	10.16	10.16	0.39	0.03	0.270
S3_12	37.70	0.00	0.00	24.03	0.00	13.70	13.70	0.52	0.07	0.363
S3_13	37.70	0.00	0.00	29.38	0.00	8.32	8.32	2.21	0.15	0.221
S3_14	37.70	0.00	0.00	16.99	7.20	13.24	20.44	0.22	0.08	0.542
S3_15	37.70	27.24	0.00	9.39	40.44	14.00	54.44	4.83	1.18	0.838
S3_2	37.70	0.00	0.00	8.75	18.75	9.42	28.17	0.90	0.44	0.747
S3_3	37.70	0.00	0.00	22.92	0.00	14.82	14.82	0.67	0.11	0.393
S3_4	37.70	0.00	0.00	16.79	5.40	15.32	20.72	0.75	0.23	0.550
S3_5	37.70	0.00	0.00	25.66	0.00	12.06	12.06	1.26	0.13	0.320
S3_7	37.70	0.00	0.00	17.66	7.57	12.16	19.73	0.42	0.13	0.523
S3_8	37.70	0.00	0.00	29.47	0.00	8.24	8.24	0.06	0.00	0.218
S3_9	37.70	139.86	0.00	11.11	105.55	59.97	165.52	7.43	1.39	0.932

****
Node Depth Summary
****

Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
J1	JUNCTION	0.11	0.47	182.59	0 02:30	0.47
J10	JUNCTION	0.14	0.62	182.59	0 02:29	0.62

J11	JUNCTION	0.17	0.71	182.04	0	02:48	0.71
J12	JUNCTION	0.18	0.71	181.91	0	02:51	0.71
J2	JUNCTION	0.16	0.66	182.54	0	02:30	0.66
J3	JUNCTION	0.19	0.83	182.36	0	02:39	0.83
J4	JUNCTION	0.22	0.85	182.29	0	02:43	0.85
J5	JUNCTION	0.17	0.82	182.37	0	02:38	0.82
J6	JUNCTION	0.21	0.84	182.34	0	02:40	0.84
J7	JUNCTION	0.02	0.14	183.27	0	02:49	0.14
J8	JUNCTION	0.01	0.26	183.36	0	01:57	0.26
J9	JUNCTION	0.01	0.25	183.38	0	01:47	0.25
OF1	OUTFALL	0.09	0.43	180.63	0	02:51	0.43
SU1	STORAGE	0.22	0.91	180.41	0	06:07	0.91

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CMS	Maximum Total Inflow CMS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Flow Balance Error Percent
J1	JUNCTION	0.000	0.263	0	01:51	0	10.3	0.120
J10	JUNCTION	0.000	0.614	0	02:19	0	13.6	-0.060
J11	JUNCTION	0.000	0.940	0	02:42	0	18.2	0.091
J12	JUNCTION	0.000	0.932	0	02:47	0	18.2	0.046
J2	JUNCTION	0.000	0.608	0	02:21	0	13.6	0.071
J3	JUNCTION	0.000	0.616	0	02:32	0	14	0.001
J4	JUNCTION	0.277	0.956	0	02:34	3.46	18.2	-0.083
J5	JUNCTION	0.134	0.639	0	02:25	0.424	14	-0.035
J6	JUNCTION	0.143	0.695	0	02:31	0.747	14.7	-0.043
J7	JUNCTION	0.036	0.036	0	02:30	0.449	0.449	-1.154
J8	JUNCTION	0.115	0.990	0	01:47	0.674	3.39	0.071
J9	JUNCTION	1.064	1.064	0	01:45	2.72	2.72	-0.054
OF1	OUTFALL	0.000	0.929	0	02:51	0	18.2	0.000
SU1	STORAGE	1.327	1.327	0	02:00	9.71	9.71	-0.002

****
Node Surcharge Summary
****

No nodes were surcharged.

****
Node Flooding Summary
****

No nodes were flooded.

****
Storage Volume Summary
****

Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow CMS
SU1	1.801	4	0	0	7.624	19	0 06:07	0.093

****
Outfall Loading Summary
****

Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
OF1	97.36	0.074	0.929	18.178
System	97.36	0.074	0.929	18.178

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CMS	Time of Max Occurrence days hr:min	Maximum |Veloc| m/sec	Max/ Full Flow	Max/ Full Depth
C1_1	CHANNEL	0.163	0 01:51	0.28	0.01	0.28
C1_2	CHANNEL	0.608	0 02:21	0.90	0.04	0.31
C1_3	CHANNEL	0.940	0 02:42	0.45	0.01	0.41
C1_5	CHANNEL	0.932	0 02:47	0.54	0.01	0.38
C1_6	CHANNEL	0.929	0 02:51	0.83	0.00	0.30
C2	CONDUIT	0.883	0 01:47	0.41	0.14	0.25
C2_1	CHANNEL	0.596	0 02:27	0.40	0.05	0.36
C2_2	CONDUIT	0.616	0 02:32	0.47	0.34	0.61
C3	CONDUIT	0.557	0 01:58	2.29	0.14	0.47
C3_1	CONDUIT	0.614	0 02:33	0.46	0.45	0.62
C3_2	CHANNEL	0.681	0 02:35	0.28	0.01	0.45
C7	CHANNEL	0.035	0 02:49	0.11	0.00	0.16
P1	PUMP	0.093	0 01:44		1.00	
W1	WEIR	0.000	0 00:00			0.00
W2	WEIR	0.000	0 00:00			0.00
W3	WEIR	0.000	0 00:00			0.00

****
Flow Classification Summary
****

	Adjusted /Actual	Fraction of Time in Flow Class							
		Up	Down	Sub	Sup	Up	Down	Norm	Inlet

Conduit	Length	Dry	Dry	Dry	Crit	Crit	Crit	Crit	Ltd	Ctrl
C1_1	1.00	0.01	0.01	0.00	0.98	0.00	0.00	0.00	0.91	0.00
C1_2	1.00	0.01	0.00	0.00	0.99	0.00	0.00	0.00	0.55	0.00
C1_3	1.00	0.01	0.00	0.00	0.99	0.00	0.00	0.00	0.00	0.00
C1_5	1.00	0.02	0.00	0.00	0.98	0.00	0.00	0.00	0.89	0.00
C1_6	1.00	0.02	0.00	0.00	0.98	0.00	0.00	0.00	0.00	0.00
C2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.91	0.00
C2_1	1.00	0.00	0.02	0.00	0.98	0.00	0.00	0.00	0.45	0.00
C2_2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.47	0.00
C3	1.00	0.01	0.00	0.00	0.97	0.02	0.00	0.00	0.97	0.00
C3_1	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.31	0.00
C3_2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.52	0.00
C7	1.00	0.02	0.00	0.00	0.98	0.00	0.00	0.00	0.98	0.00

****
Conduit Surcharge Summary
****

No conduits were surcharged.

****
Pumping Summary
****

Pump	Percent Utilized	Number of Start-Ups	Min Flow CMS	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr	Power Usage Kw-hr	% Time Off Pump Curve Low	% Time Off Pump Curve High
P1	61.64	1	0.00	0.06	0.09	9.708	61.52	0.0	0.0

Analysis begun on: Fri Feb 4 07:54:20 2022
Analysis ended on: Fri Feb 4 07:54:23 2022
Total elapsed time: 00:00:03

Proposed 1:5 Year Chicago PCSWMM Output Report

```
EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)
--------------------------------------------------------------

WARNING 02: maximum depth increased for Node J1
WARNING 02: maximum depth increased for Node J10
WARNING 02: maximum depth increased for Node J11
WARNING 02: maximum depth increased for Node J2
WARNING 02: maximum depth increased for Node J3
WARNING 02: maximum depth increased for Node J4
WARNING 02: maximum depth increased for Node J5
WARNING 02: maximum depth increased for Node J6
WARNING 02: maximum depth increased for Node J7
WARNING 02: maximum depth increased for Node J8
WARNING 02: maximum depth increased for Node J9

*************
Element Count
*************
Number of rain gages ...... 1
Number of subcatchments ... 16
Number of nodes ........... 14
Number of links ........... 16
Number of pollutants ...... 0
Number of land uses ....... 0


****************
Raingage Summary
****************
                                            Data       Recording
Name                Data Source             Type       Interval
-----------------------------------------------------------------
Raingage1           5yr_4hr_Chicago         INTENSITY   15 min.


********************
Subcatchment Summary
********************
Name                         Area     Width   %Imperv    %Slope Rain Gage            Outlet
-------------------------------------------------------------------------------------------------
S1                           7.50    208.46     80.00    0.5000 Raingage1            S3_15
S2                           4.49    149.70     80.00    0.5000 Raingage1            S3_9
S3_1                         3.78    108.11     60.00    0.5000 Raingage1            J9
S3_10                        8.36    209.00     66.50    0.5000 Raingage1            SU1
S3_11                        3.85    214.07      0.00    0.5000 Raingage1            J7
S3_12                        3.82    254.62      0.00    0.5000 Raingage1            J6
S3_13                       26.53    384.46      0.00    0.5000 Raingage1            J4
S3_14                        1.10    199.13     20.00    0.5000 Raingage1            J6
S3_15                        8.87    168.31     64.00    0.5000 Raingage1            S3_9
S3_2                         3.21    493.12     52.00    0.5000 Raingage1            J9
S3_3                         4.55    454.62      0.00    0.5000 Raingage1            J8
S3_4                         3.63    412.44     15.00    0.5000 Raingage1            J9
S3_5                        10.42    416.82      0.00    0.5000 Raingage1            J4
S3_7                         2.15    214.67     21.00    0.5000 Raingage1            J5
S3_8                         0.70     23.34      0.00    0.5000 Raingage1            J7
S3_9                         4.49    154.83     60.00    0.5000 Raingage1            S3_10
```

****
Node Summary
****

Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
J1	JUNCTION	182.12	1.96	0.0	
J10	JUNCTION	181.97	2.06	0.0	
J11	JUNCTION	181.34	1.88	0.0	
J12	JUNCTION	181.20	1.94	0.0	
J2	JUNCTION	181.88	2.06	0.0	
J3	JUNCTION	181.53	2.77	0.0	
J4	JUNCTION	181.44	1.88	0.0	
J5	JUNCTION	181.55	2.74	0.0	
J6	JUNCTION	181.50	1.88	0.0	
J7	JUNCTION	183.13	1.96	0.0	
J8	JUNCTION	183.10	1.72	0.0	
J9	JUNCTION	183.13	1.00	0.0	
OF1	OUTFALL	180.20	1.88	0.0	
SU1	STORAGE	179.50	3.70	0.0	

****
Link Summary
****

Name	From Node	To Node	Type	Length	%Slope	Roughness
C1_1	J1	J10	CONDUIT	105.7	0.1419	0.0350
C1_2	J10	J2	CONDUIT	44.1	0.2042	0.0350
C1_3	J4	J11	CONDUIT	247.9	0.0403	0.0350
C1_5	J11	J12	CONDUIT	88.0	0.1535	0.0350
C1_6	J12	OF1	CONDUIT	249.3	0.4011	0.0350
C2	J9	J8	CONDUIT	412.9	0.0073	0.0130
C2_1	J2	J5	CONDUIT	295.3	0.1117	0.0350
C2_2	J5	J3	CONDUIT	48.0	0.0521	0.0130
C3	J8	J10	CONDUIT	24.0	4.7136	0.0130
C3_1	J3	J6	CONDUIT	85.7	0.0292	0.0130
C3_2	J6	J4	CONDUIT	164.0	0.0396	0.0350
C7	J7	J1	CONDUIT	460.6	0.2193	0.0350
P1	SU1	J1	TYPE2 PUMP			
W1	J5	J3	WEIR			
W2	J3	J6	WEIR			
W3	J8	J10	WEIR			

****
Cross Section Summary
****

Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
C1_1	BranchA	1.96	12.30	1.05	14.40	1	13.64
C1_2	Dufour_S	2.06	12.93	0.96	14.30	1	16.21
C1_3	Dufour_W	1.88	253.96	0.34	365.00	1	71.67
C1_5	Dufour_W	1.88	253.96	0.34	365.00	1	139.76

C1_6	Dufour_W	1.88	253.96	0.34	365.00	1	225.95
C2	TRAPEZOIDAL	1.00	10.48	0.86	10.95	1	6.20
C2_1	Dufour_S	2.06	12.93	0.96	14.30	1	11.99
C2_2	ARCH	1.36	1.91	0.41	1.78	1	1.84
C3	CIRCULAR	0.90	0.64	0.23	0.90	1	3.93
C3_1	ARCH	1.36	1.91	0.41	1.78	1	1.38
C3_2	Dufour_W	1.88	253.96	0.34	365.00	1	71.02
C7	BranchA	1.96	12.30	1.05	14.40	1	16.96

****
Transect Summary
****

Transect BranchA
Area:

0.0010	0.0039	0.0087	0.0147	0.0214
0.0286	0.0363	0.0446	0.0534	0.0628
0.0727	0.0831	0.0941	0.1057	0.1178
0.1305	0.1437	0.1574	0.1717	0.1865
0.2019	0.2179	0.2343	0.2514	0.2689
0.2921	0.3174	0.3430	0.3689	0.3951
0.4216	0.4483	0.4754	0.5027	0.5303
0.5582	0.5864	0.6149	0.6437	0.6728
0.7022	0.7319	0.7618	0.7921	0.8233
0.8555	0.8886	0.9228	0.9582	1.0000

Hrad:

0.0185	0.0370	0.0587	0.0851	0.1129
0.1390	0.1638	0.1875	0.2103	0.2325
0.2540	0.2751	0.2958	0.3161	0.3361
0.3558	0.3753	0.3946	0.4137	0.4326
0.4515	0.4701	0.4887	0.5072	0.5255
0.5380	0.5487	0.5615	0.5759	0.5915
0.6080	0.6251	0.6428	0.6609	0.6793
0.6981	0.7171	0.7363	0.7556	0.7750
0.7946	0.8142	0.8339	0.8573	0.8856
0.9126	0.9382	0.9627	0.9857	1.0000

Width:

0.0428	0.0856	0.1198	0.1386	0.1505
0.1624	0.1743	0.1862	0.1981	0.2101
0.2220	0.2339	0.2458	0.2577	0.2696
0.2815	0.2935	0.3054	0.3173	0.3292
0.3411	0.3530	0.3649	0.3769	0.3888
0.5479	0.5542	0.5606	0.5669	0.5733
0.5796	0.5860	0.5923	0.5987	0.6050
0.6113	0.6177	0.6240	0.6304	0.6367
0.6431	0.6494	0.6558	0.6679	0.6897
0.7115	0.7333	0.7551	0.8203	1.0000

Transect Dufour_S
Area:

0.0005	0.0019	0.0044	0.0077	0.0121
0.0174	0.0234	0.0299	0.0371	0.0448
0.0530	0.0617	0.0710	0.0808	0.0911
0.1020	0.1134	0.1253	0.1378	0.1508
0.1643	0.1784	0.1930	0.2081	0.2238

```
            0.2400     0.2568     0.2740     0.2918     0.3102
            0.3293     0.3496     0.3711     0.3966     0.4289
            0.4632     0.4980     0.5332     0.5689     0.6050
            0.6415     0.6784     0.7159     0.7537     0.7920
            0.8307     0.8706     0.9121     0.9552     1.0000
Hrad:
            0.0207     0.0414     0.0620     0.0827     0.1034
            0.1268     0.1530     0.1780     0.2035     0.2282
            0.2522     0.2756     0.2984     0.3209     0.3430
            0.3649     0.3864     0.4078     0.4289     0.4499
            0.4708     0.4915     0.5121     0.5326     0.5531
            0.5734     0.5936     0.6138     0.6340     0.6540
            0.6801     0.7043     0.7264     0.7449     0.7539
            0.7637     0.7761     0.7904     0.8061     0.8229
            0.8406     0.8589     0.8778     0.8970     0.9166
            0.9362     0.9536     0.9701     0.9855     1.0000
Width:
            0.0213     0.0425     0.0638     0.0850     0.1063
            0.1242     0.1375     0.1508     0.1625     0.1742
            0.1859     0.1976     0.2093     0.2210     0.2327
            0.2444     0.2561     0.2678     0.2795     0.2912
            0.3029     0.3146     0.3263     0.3380     0.3497
            0.3614     0.3731     0.3848     0.3965     0.4082
            0.4329     0.4590     0.4851     0.6367     0.7487
            0.7583     0.7679     0.7775     0.7871     0.7967
            0.8063     0.8159     0.8255     0.8352     0.8448
            0.8576     0.8932     0.9288     0.9644     1.0000

Transect Dufour W
Area:
            0.0000     0.0001     0.0002     0.0003     0.0005
            0.0007     0.0009     0.0012     0.0016     0.0019
            0.0023     0.0028     0.0033     0.0038     0.0043
            0.0049     0.0056     0.0062     0.0070     0.0078
            0.0086     0.0095     0.0105     0.0115     0.0126
            0.0138     0.0151     0.0167     0.0185     0.0206
            0.0237     0.0524     0.1024     0.1548     0.2073
            0.2597     0.3121     0.3646     0.4171     0.4696
            0.5221     0.5746     0.6272     0.6798     0.7326
            0.7856     0.8389     0.8924     0.9461     1.0000
Hrad:
            0.0522     0.1044     0.1565     0.2087     0.2609
            0.3131     0.3652     0.4174     0.4696     0.5218
            0.5740     0.6261     0.6783     0.7305     0.7827
            0.8348     0.8870     0.9392     0.9634     0.9897
            1.0209     1.0559     1.0931     1.1321     1.1727
            1.2146     1.1155     1.0523     1.0188     1.0769
            1.0973     0.4731     0.3018     0.2906     0.3127
            0.3466     0.3861     0.4286     0.4731     0.5187
            0.5653     0.6124     0.6600     0.7085     0.7572
            0.8059     0.8545     0.9031     0.9516     1.0000
Width:
            0.0007     0.0014     0.0021     0.0029     0.0036
            0.0043     0.0050     0.0057     0.0064     0.0071
            0.0078     0.0086     0.0093     0.0100     0.0107
            0.0114     0.0121     0.0128     0.0140     0.0152
            0.0164     0.0175     0.0187     0.0198     0.0210
```

```
            0.0221     0.0265     0.0311     0.0357     0.0435
            0.1802     0.7774     0.9695     0.9698     0.9701
            0.9704     0.9707     0.9710     0.9713     0.9716
            0.9719     0.9722     0.9725     0.9753     0.9794
            0.9835     0.9876     0.9918     0.9959     1.0000

Transect Transect2
Area:
            0.0013     0.0050     0.0111     0.0185     0.0264
            0.0348     0.0437     0.0531     0.0630     0.0734
            0.0842     0.0955     0.1073     0.1196     0.1324
            0.1457     0.1594     0.1737     0.1884     0.2036
            0.2193     0.2355     0.2521     0.2693     0.2869
            0.3050     0.3236     0.3427     0.3622     0.3823
            0.4028     0.4238     0.4453     0.4673     0.4898
            0.5128     0.5362     0.5601     0.5845     0.6094
            0.6348     0.6607     0.6870     0.7138     0.7425
            0.7861     0.8350     0.8870     0.9420     1.0000
Hrad:
            0.0315     0.0630     0.1019     0.1494     0.1990
            0.2457     0.2899     0.3321     0.3727     0.4118
            0.4497     0.4866     0.5225     0.5577     0.5922
            0.6260     0.6593     0.6922     0.7246     0.7566
            0.7882     0.8196     0.8506     0.8814     0.9119
            0.9422     0.9723     1.0023     1.0320     1.0616
            1.0911     1.1204     1.1496     1.1787     1.2076
            1.2365     1.2653     1.2939     1.3225     1.3510
            1.3795     1.4078     1.4361     1.4644     1.3942
            0.9725     0.9752     0.9810     0.9894     1.0000
Width:
            0.0421     0.0841     0.1149     0.1292     0.1374
            0.1455     0.1536     0.1618     0.1699     0.1780
            0.1862     0.1943     0.2024     0.2106     0.2187
            0.2268     0.2350     0.2431     0.2512     0.2594
            0.2675     0.2756     0.2838     0.2919     0.3000
            0.3082     0.3163     0.3244     0.3326     0.3407
            0.3488     0.3570     0.3651     0.3732     0.3814
            0.3895     0.3976     0.4058     0.4139     0.4220
            0.4302     0.4383     0.4464     0.4546     0.5735
            0.7957     0.8468     0.8978     0.9489     1.0000


**********************************************************
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
**********************************************************

****************
Analysis Options
****************
Flow Units ............... CMS
Process Models:
  Rainfall/Runoff ........ YES
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
```

```
  Flow Routing ..... YES
  Ponding Allowed ..... NO
  Water Quality ..... NO
Infiltration Method ..... GREEN_AMPT
Flow Routing Method ..... DYNWAVE
Surcharge Method ..... EXTRAN
Starting Date ..... 04/16/2020 00:00:00
Ending Date ..... 04/18/2020 22:00:00
Antecedent Dry Days ..... 0.0
Report Time Step ..... 00:01:00
Wet Time Step ..... 00:05:00
Dry Time Step ..... 00:05:00
Routing Time Step ..... 5.00 sec
Variable Time Step ..... YES
Maximum Trials ..... 8
Number of Threads ..... 4
Head Tolerance ..... 0.001500 m


**************************        Volume         Depth
Runoff Quantity Continuity     hectare-m            mm
**************************     ---------       -------
Total Precipitation ......         4.821        49.475
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         1.911        19.609
Surface Runoff ...........         2.866        29.409
Final Storage ............         0.054         0.554
Continuity Error (%) .....        -0.196

**************************        Volume        Volume
Flow Routing Continuity        hectare-m      10^6 ltr
**************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         2.866        28.656
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........         2.865        28.647
Flooding Loss ............         0.000         0.000
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         0.000         0.004
Continuity Error (%) .....         0.016


***************************
Time-Step Critical Elements
***************************
Link C3 (1.69%)


*******************************
Highest Flow Instability Indexes
*******************************
All links are stable.
```

****
Routing Time Step Summary
****
Minimum Time Step : 0.90 sec
Average Time Step : 4.99 sec
Maximum Time Step : 5.00 sec
Percent in Steady State : 0.00
Average Iterations per Step : 2.00
Percent Not Converging : 0.00
Time Step Frequencies :
5.000 - 3.155 sec : 100.00 %
3.155 - 1.991 sec : 0.00 %
1.991 - 1.256 sec : 0.00 %
1.256 - 0.792 sec : 0.00 %
0.792 - 0.500 sec : 0.00 %

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Total Runoff mm	Total Runoff 10^6 ltr	Peak Runoff CMS	Runoff Coeff
S1	49.47	0.00	0.00	4.22	38.20	5.69	43.89	3.29	1.32	0.887
S2	49.48	0.00	0.00	4.12	38.22	5.80	44.01	1.98	0.83	0.890
S3_1	49.47	0.00	0.00	8.85	28.67	10.97	39.63	1.50	0.57	0.801
S3_10	49.47	124.20	0.00	9.53	114.36	48.68	163.04	13.63	2.04	0.939
S3_11	49.48	0.00	0.00	29.28	0.00	20.21	20.21	0.78	0.07	0.409
S3_12	49.47	0.00	0.00	24.84	0.00	24.70	24.70	0.94	0.15	0.499
S3_13	49.48	0.00	0.00	31.86	0.00	17.63	17.63	4.68	0.32	0.356
S3_14	49.48	0.00	0.00	17.34	9.56	22.39	31.96	0.35	0.14	0.646
S3_15	49.48	37.14	0.00	9.65	54.34	21.55	75.89	6.73	1.75	0.876
S3_2	49.48	0.00	0.00	8.94	24.91	14.91	39.82	1.28	0.62	0.805
S3_3	49.48	0.00	0.00	23.54	0.00	26.02	26.02	1.18	0.24	0.526
S3_4	49.47	0.00	0.00	17.22	7.17	24.92	32.10	1.16	0.37	0.649
S3_5	49.48	0.00	0.00	26.83	0.00	22.68	22.68	2.36	0.28	0.458
S3_7	49.48	0.00	0.00	18.10	10.06	21.08	31.13	0.67	0.22	0.629
S3_8	49.48	0.00	0.00	31.99	0.00	17.50	17.50	0.12	0.01	0.354
S3_9	49.47	193.95	0.00	11.35	145.13	86.11	231.24	10.38	2.11	0.950

****
Node Depth Summary
****

Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
J1	JUNCTION	0.15	0.62	182.74	0 02:28	0.62
J10	JUNCTION	0.19	0.77	182.74	0 02:28	0.77

J11	JUNCTION	0.22	0.87	182.20	0	02:42	0.87
J12	JUNCTION	0.24	0.85	182.05	0	02:44	0.85
J2	JUNCTION	0.21	0.82	182.70	0	02:30	0.82
J3	JUNCTION	0.26	1.02	182.55	0	02:34	1.02
J4	JUNCTION	0.29	1.03	182.46	0	02:36	1.03
J5	JUNCTION	0.24	1.02	182.57	0	02:33	1.02
J6	JUNCTION	0.28	1.02	182.52	0	02:35	1.02
J7	JUNCTION	0.02	0.18	183.31	0	02:33	0.18
J8	JUNCTION	0.02	0.36	183.46	0	02:03	0.36
J9	JUNCTION	0.01	0.35	183.48	0	01:59	0.35
OF1	OUTFALL	0.13	0.54	180.74	0	02:44	0.54
SU1	STORAGE	0.44	1.31	180.81	0	06:25	1.31

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CMS	Maximum Total Inflow CMS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Flow Balance Error Percent
J1	JUNCTION	0.000	0.354	0	01:48	0	14.7	0.098
J10	JUNCTION	0.000	0.937	0	02:16	0	19.8	-0.049
J11	JUNCTION	0.000	1.625	0	02:36	0	28.7	0.088
J12	JUNCTION	0.000	1.617	0	02:40	0	28.7	0.040
J2	JUNCTION	0.000	0.925	0	02:19	0	19.7	0.066
J3	JUNCTION	0.000	0.954	0	02:30	0	20.3	0.001
J4	JUNCTION	0.580	1.644	0	02:30	7.04	28.7	-0.093
J5	JUNCTION	0.218	0.975	0	02:22	0.668	20.3	-0.037
J6	JUNCTION	0.279	1.098	0	02:26	1.29	21.6	-0.030
J7	JUNCTION	0.076	0.076	0	02:15	0.901	0.901	-0.691
J8	JUNCTION	0.235	1.481	0	01:45	1.18	5.13	0.059
J9	JUNCTION	1.564	1.564	0	01:45	3.94	3.94	-0.052
OF1	OUTFALL	0.000	1.613	0	02:44	0	28.6	0.000
SU1	STORAGE	2.044	2.044	0	02:00	13.6	13.6	-0.002

****
Node Surcharge Summary
****

No nodes were surcharged.

****
Node Flooding Summary
****

No nodes were flooded.

****
Storage Volume Summary
****

Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow CMS
SU1	3.680	9	0	0	11.411	28	0 06:25	0.093

****
Outfall Loading Summary
****

Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
OF1	97.49	0.118	1.613	28.647
System	97.49	0.118	1.613	28.647

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CMS	Time of Max Occurrence days hr:min	Maximum |Veloc| m/sec	Max/ Full Flow	Max/ Full Depth
C1_1	CHANNEL	0.241	0 01:48	0.32	0.02	0.36
C1_2	CHANNEL	0.925	0 02:19	0.85	0.06	0.39
C1_3	CHANNEL	1.625	0 02:36	0.51	0.02	0.50
C1_5	CHANNEL	1.617	0 02:40	0.62	0.01	0.46
C1_6	CHANNEL	1.613	0 02:44	0.97	0.01	0.37
C2	CONDUIT	1.246	0 01:46	0.44	0.20	0.35
C2_1	CHANNEL	0.905	0 02:25	0.41	0.08	0.45
C2_2	CONDUIT	0.954	0 02:30	0.59	0.52	0.75
C3	CONDUIT	0.894	0 01:54	2.72	0.23	0.61
C3_1	CONDUIT	0.952	0 02:30	0.59	0.69	0.75
C3_2	CHANNEL	1.083	0 02:32	0.29	0.02	0.54
C7	CHANNEL	0.073	0 02:33	0.12	0.00	0.21
P1	PUMP	0.093	0 01:39		1.00	
W1	WEIR	0.000	0 00:00			0.00
W2	WEIR	0.000	0 00:00			0.00
W3	WEIR	0.000	0 00:00			0.00

****
Flow Classification Summary
****

	Adjusted /Actual	Fraction of Time in Flow Class							
		Up	Down	Sub	Sup	Up	Down	Norm	Inlet

Conduit	Length	Dry	Dry	Dry	Crit	Crit	Crit	Crit	Ltd	Ctrl
C1_1	1.00	0.01	0.01	0.00	0.98	0.00	0.00	0.00	0.90	0.00
C1_2	1.00	0.01	0.00	0.00	0.99	0.00	0.00	0.00	0.39	0.00
C1_3	1.00	0.01	0.00	0.00	0.99	0.00	0.00	0.00	0.00	0.00
C1_5	1.00	0.02	0.00	0.00	0.98	0.00	0.00	0.00	0.87	0.00
C1_6	1.00	0.02	0.00	0.00	0.98	0.00	0.00	0.00	0.00	0.00
C2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.90	0.00
C2_1	1.00	0.00	0.02	0.00	0.98	0.00	0.00	0.00	0.61	0.00
C2_2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.31	0.00
C3	1.00	0.01	0.00	0.00	0.97	0.02	0.00	0.00	0.97	0.00
C3_1	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.22	0.00
C3_2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.35	0.00
C7	1.00	0.02	0.00	0.00	0.98	0.00	0.00	0.00	0.98	0.00

****
Conduit Surcharge Summary
****

No conduits were surcharged.

****
Pumping Summary
****

Pump	Percent Utilized	Number of Start-Ups	Min Flow CMS	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr	Power Usage Kw-hr	% Time Off Pump Curve Low	% Time Off Pump Curve High
P1	61.94	1	0.00	0.09	0.09	13.629	78.35	0.0	0.0

Analysis begun on: Fri Feb 4 07:54:02 2022
Analysis ended on: Fri Feb 4 07:54:04 2022
Total elapsed time: 00:00:02

Proposed 1:100 Year Chicago PCSWMM Output Report

```
EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)
--------------------------------------------------------------

WARNING 02: maximum depth increased for Node J1
WARNING 02: maximum depth increased for Node J10
WARNING 02: maximum depth increased for Node J11
WARNING 02: maximum depth increased for Node J2
WARNING 02: maximum depth increased for Node J3
WARNING 02: maximum depth increased for Node J4
WARNING 02: maximum depth increased for Node J5
WARNING 02: maximum depth increased for Node J6
WARNING 02: maximum depth increased for Node J7
WARNING 02: maximum depth increased for Node J8
WARNING 02: maximum depth increased for Node J9

*************
Element Count
*************
Number of rain gages ...... 1
Number of subcatchments ... 16
Number of nodes ........... 14
Number of links ........... 16
Number of pollutants ...... 0
Number of land uses ....... 0


****************
Raingage Summary
****************
                                            Data       Recording
Name                 Data Source            Type       Interval
----------------------------------------------------------------
Raingage1            100yr_4hr_Chicago      INTENSITY   15 min.


********************
Subcatchment Summary
********************
Name                         Area     Width   %Imperv    %Slope Rain Gage            Outlet
-----------------------------------------------------------------------------------------------
S1                           7.50    208.46     80.00    0.5000 Raingage1            S3_15
S2                           4.49    149.70     80.00    0.5000 Raingage1            S3_9
S3_1                         3.78    108.11     60.00    0.5000 Raingage1            J9
S3_10                        8.36    209.00     66.50    0.5000 Raingage1            SU1
S3_11                        3.85    214.07      0.00    0.5000 Raingage1            J7
S3_12                        3.82    254.62      0.00    0.5000 Raingage1            J6
S3_13                       26.53    384.46      0.00    0.5000 Raingage1            J4
S3_14                        1.10    199.13     20.00    0.5000 Raingage1            J6
S3_15                        8.87    168.31     64.00    0.5000 Raingage1            S3_9
S3_2                         3.21    493.12     52.00    0.5000 Raingage1            J9
S3_3                         4.55    454.62      0.00    0.5000 Raingage1            J8
S3_4                         3.63    412.44     15.00    0.5000 Raingage1            J9
S3_5                        10.42    416.82      0.00    0.5000 Raingage1            J4
S3_7                         2.15    214.67     21.00    0.5000 Raingage1            J5
S3_8                         0.70     23.34      0.00    0.5000 Raingage1            J7
S3_9                         4.49    154.83     60.00    0.5000 Raingage1            S3_10
```

****
Node Summary
****

Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
J1	JUNCTION	182.12	1.96	0.0	
J10	JUNCTION	181.97	2.06	0.0	
J11	JUNCTION	181.34	1.88	0.0	
J12	JUNCTION	181.20	1.94	0.0	
J2	JUNCTION	181.88	2.06	0.0	
J3	JUNCTION	181.53	2.77	0.0	
J4	JUNCTION	181.44	1.88	0.0	
J5	JUNCTION	181.55	2.74	0.0	
J6	JUNCTION	181.50	1.88	0.0	
J7	JUNCTION	183.13	1.96	0.0	
J8	JUNCTION	183.10	1.72	0.0	
J9	JUNCTION	183.13	1.00	0.0	
OF1	OUTFALL	180.20	1.88	0.0	
SU1	STORAGE	179.50	3.70	0.0	

****
Link Summary
****

Name	From Node	To Node	Type	Length	%Slope	Roughness
C1_1	J1	J10	CONDUIT	105.7	0.1419	0.0350
C1_2	J10	J2	CONDUIT	44.1	0.2042	0.0350
C1_3	J4	J11	CONDUIT	247.9	0.0403	0.0350
C1_5	J11	J12	CONDUIT	88.0	0.1535	0.0350
C1_6	J12	OF1	CONDUIT	249.3	0.4011	0.0350
C2	J9	J8	CONDUIT	412.9	0.0073	0.0130
C2_1	J2	J5	CONDUIT	295.3	0.1117	0.0350
C2_2	J5	J3	CONDUIT	48.0	0.0521	0.0130
C3	J8	J10	CONDUIT	24.0	4.7136	0.0130
C3_1	J3	J6	CONDUIT	85.7	0.0292	0.0130
C3_2	J6	J4	CONDUIT	164.0	0.0396	0.0350
C7	J7	J1	CONDUIT	460.6	0.2193	0.0350
P1	SU1	J1	TYPE2 PUMP			
W1	J5	J3	WEIR			
W2	J3	J6	WEIR			
W3	J8	J10	WEIR			

****
Cross Section Summary
****

Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
C1_1	BranchA	1.96	12.30	1.05	14.40	1	13.64
C1_2	Dufour_S	2.06	12.93	0.96	14.30	1	16.21
C1_3	Dufour_W	1.88	253.96	0.34	365.00	1	71.67
C1_5	Dufour_W	1.88	253.96	0.34	365.00	1	139.76

C1_6	Dufour_W	1.88	253.96	0.34	365.00	1	225.95
C2	TRAPEZOIDAL	1.00	10.48	0.86	10.95	1	6.20
C2_1	Dufour_S	2.06	12.93	0.96	14.30	1	11.99
C2_2	ARCH	1.36	1.91	0.41	1.78	1	1.84
C3	CIRCULAR	0.90	0.64	0.23	0.90	1	3.93
C3_1	ARCH	1.36	1.91	0.41	1.78	1	1.38
C3_2	Dufour_W	1.88	253.96	0.34	365.00	1	71.02
C7	BranchA	1.96	12.30	1.05	14.40	1	16.96

****
Transect Summary
****

Transect BranchA
Area:

0.0010	0.0039	0.0087	0.0147	0.0214
0.0286	0.0363	0.0446	0.0534	0.0628
0.0727	0.0831	0.0941	0.1057	0.1178
0.1305	0.1437	0.1574	0.1717	0.1865
0.2019	0.2179	0.2343	0.2514	0.2689
0.2921	0.3174	0.3430	0.3689	0.3951
0.4216	0.4483	0.4754	0.5027	0.5303
0.5582	0.5864	0.6149	0.6437	0.6728
0.7022	0.7319	0.7618	0.7921	0.8233
0.8555	0.8886	0.9228	0.9582	1.0000

Hrad:

0.0185	0.0370	0.0587	0.0851	0.1129
0.1390	0.1638	0.1875	0.2103	0.2325
0.2540	0.2751	0.2958	0.3161	0.3361
0.3558	0.3753	0.3946	0.4137	0.4326
0.4515	0.4701	0.4887	0.5072	0.5255
0.5380	0.5487	0.5615	0.5759	0.5915
0.6080	0.6251	0.6428	0.6609	0.6793
0.6981	0.7171	0.7363	0.7556	0.7750
0.7946	0.8142	0.8339	0.8573	0.8856
0.9126	0.9382	0.9627	0.9857	1.0000

Width:

0.0428	0.0856	0.1198	0.1386	0.1505
0.1624	0.1743	0.1862	0.1981	0.2101
0.2220	0.2339	0.2458	0.2577	0.2696
0.2815	0.2935	0.3054	0.3173	0.3292
0.3411	0.3530	0.3649	0.3769	0.3888
0.5479	0.5542	0.5606	0.5669	0.5733
0.5796	0.5860	0.5923	0.5987	0.6050
0.6113	0.6177	0.6240	0.6304	0.6367
0.6431	0.6494	0.6558	0.6679	0.6897
0.7115	0.7333	0.7551	0.8203	1.0000

Transect Dufour_S
Area:

0.0005	0.0019	0.0044	0.0077	0.0121
0.0174	0.0234	0.0299	0.0371	0.0448
0.0530	0.0617	0.0710	0.0808	0.0911
0.1020	0.1134	0.1253	0.1378	0.1508
0.1643	0.1784	0.1930	0.2081	0.2238

```
            0.2400     0.2568     0.2740     0.2918     0.3102
            0.3293     0.3496     0.3711     0.3966     0.4289
            0.4632     0.4980     0.5332     0.5689     0.6050
            0.6415     0.6784     0.7159     0.7537     0.7920
            0.8307     0.8706     0.9121     0.9552     1.0000
Hrad:
            0.0207     0.0414     0.0620     0.0827     0.1034
            0.1268     0.1530     0.1780     0.2035     0.2282
            0.2522     0.2756     0.2984     0.3209     0.3430
            0.3649     0.3864     0.4078     0.4289     0.4499
            0.4708     0.4915     0.5121     0.5326     0.5531
            0.5734     0.5936     0.6138     0.6340     0.6540
            0.6801     0.7043     0.7264     0.7449     0.7539
            0.7637     0.7761     0.7904     0.8061     0.8229
            0.8406     0.8589     0.8778     0.8970     0.9166
            0.9362     0.9536     0.9701     0.9855     1.0000
Width:
            0.0213     0.0425     0.0638     0.0850     0.1063
            0.1242     0.1375     0.1508     0.1625     0.1742
            0.1859     0.1976     0.2093     0.2210     0.2327
            0.2444     0.2561     0.2678     0.2795     0.2912
            0.3029     0.3146     0.3263     0.3380     0.3497
            0.3614     0.3731     0.3848     0.3965     0.4082
            0.4329     0.4590     0.4851     0.6367     0.7487
            0.7583     0.7679     0.7775     0.7871     0.7967
            0.8063     0.8159     0.8255     0.8352     0.8448
            0.8576     0.8932     0.9288     0.9644     1.0000

Transect Dufour W
Area:
            0.0000     0.0001     0.0002     0.0003     0.0005
            0.0007     0.0009     0.0012     0.0016     0.0019
            0.0023     0.0028     0.0033     0.0038     0.0043
            0.0049     0.0056     0.0062     0.0070     0.0078
            0.0086     0.0095     0.0105     0.0115     0.0126
            0.0138     0.0151     0.0167     0.0185     0.0206
            0.0237     0.0524     0.1024     0.1548     0.2073
            0.2597     0.3121     0.3646     0.4171     0.4696
            0.5221     0.5746     0.6272     0.6798     0.7326
            0.7856     0.8389     0.8924     0.9461     1.0000
Hrad:
            0.0522     0.1044     0.1565     0.2087     0.2609
            0.3131     0.3652     0.4174     0.4696     0.5218
            0.5740     0.6261     0.6783     0.7305     0.7827
            0.8348     0.8870     0.9392     0.9634     0.9897
            1.0209     1.0559     1.0931     1.1321     1.1727
            1.2146     1.1155     1.0523     1.0188     1.0769
            1.0973     0.4731     0.3018     0.2906     0.3127
            0.3466     0.3861     0.4286     0.4731     0.5187
            0.5653     0.6124     0.6600     0.7085     0.7572
            0.8059     0.8545     0.9031     0.9516     1.0000
Width:
            0.0007     0.0014     0.0021     0.0029     0.0036
            0.0043     0.0050     0.0057     0.0064     0.0071
            0.0078     0.0086     0.0093     0.0100     0.0107
            0.0114     0.0121     0.0128     0.0140     0.0152
            0.0164     0.0175     0.0187     0.0198     0.0210
```

```
            0.0221     0.0265     0.0311     0.0357     0.0435
            0.1802     0.7774     0.9695     0.9698     0.9701
            0.9704     0.9707     0.9710     0.9713     0.9716
            0.9719     0.9722     0.9725     0.9753     0.9794
            0.9835     0.9876     0.9918     0.9959     1.0000

Transect Transect2
Area:
            0.0013     0.0050     0.0111     0.0185     0.0264
            0.0348     0.0437     0.0531     0.0630     0.0734
            0.0842     0.0955     0.1073     0.1196     0.1324
            0.1457     0.1594     0.1737     0.1884     0.2036
            0.2193     0.2355     0.2521     0.2693     0.2869
            0.3050     0.3236     0.3427     0.3622     0.3823
            0.4028     0.4238     0.4453     0.4673     0.4898
            0.5128     0.5362     0.5601     0.5845     0.6094
            0.6348     0.6607     0.6870     0.7138     0.7425
            0.7861     0.8350     0.8870     0.9420     1.0000
Hrad:
            0.0315     0.0630     0.1019     0.1494     0.1990
            0.2457     0.2899     0.3321     0.3727     0.4118
            0.4497     0.4866     0.5225     0.5577     0.5922
            0.6260     0.6593     0.6922     0.7246     0.7566
            0.7882     0.8196     0.8506     0.8814     0.9119
            0.9422     0.9723     1.0023     1.0320     1.0616
            1.0911     1.1204     1.1496     1.1787     1.2076
            1.2365     1.2653     1.2939     1.3225     1.3510
            1.3795     1.4078     1.4361     1.4644     1.3942
            0.9725     0.9752     0.9810     0.9894     1.0000
Width:
            0.0421     0.0841     0.1149     0.1292     0.1374
            0.1455     0.1536     0.1618     0.1699     0.1780
            0.1862     0.1943     0.2024     0.2106     0.2187
            0.2268     0.2350     0.2431     0.2512     0.2594
            0.2675     0.2756     0.2838     0.2919     0.3000
            0.3082     0.3163     0.3244     0.3326     0.3407
            0.3488     0.3570     0.3651     0.3732     0.3814
            0.3895     0.3976     0.4058     0.4139     0.4220
            0.4302     0.4383     0.4464     0.4546     0.5735
            0.7957     0.8468     0.8978     0.9489     1.0000


**********************************************************
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
**********************************************************

****************
Analysis Options
****************
Flow Units ..... CMS
Process Models:
  Rainfall/Runoff ........ YES
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
```

```
  Flow Routing ..... YES
  Ponding Allowed ..... NO
  Water Quality ..... NO
Infiltration Method ..... GREEN_AMPT
Flow Routing Method ..... DYNWAVE
Surcharge Method ..... EXTRAN
Starting Date ..... 04/16/2020 00:00:00
Ending Date ..... 04/18/2020 22:00:00
Antecedent Dry Days ..... 0.0
Report Time Step ..... 00:01:00
Wet Time Step ..... 00:05:00
Dry Time Step ..... 00:05:00
Routing Time Step ..... 5.00 sec
Variable Time Step ..... YES
Maximum Trials ..... 8
Number of Threads ..... 4
Head Tolerance ..... 0.001500 m


**************************        Volume         Depth
Runoff Quantity Continuity     hectare-m            mm
**************************     ---------       -------
Total Precipitation ......         7.950        81.588
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         2.043        20.970
Surface Runoff ...........         5.870        60.239
Final Storage ............         0.054         0.554
Continuity Error (%) .....        -0.215

**************************        Volume        Volume
Flow Routing Continuity        hectare-m      10^6 ltr
**************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         5.869        58.692
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........         5.666        56.656
Flooding Loss ............         0.000         0.000
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         0.206         2.059
Continuity Error (%) .....        -0.039


***************************
Time-Step Critical Elements
***************************
Link C3 (3.64%)


*******************************
Highest Flow Instability Indexes
*******************************
All links are stable.
```

****
Routing Time Step Summary
****
Minimum Time Step   :   2.45 sec
Average Time Step   :   4.94 sec
Maximum Time Step   :   5.00 sec
Percent in Steady State   :   0.00
Average Iterations per Step :   2.00
Percent Not Converging   :   0.00
Time Step Frequencies   :
    5.000 - 3.155 sec   :   98.60 %
    3.155 - 1.991 sec   :   1.40 %
    1.991 - 1.256 sec   :   0.00 %
    1.256 - 0.792 sec   :   0.00 %
    0.792 - 0.500 sec   :   0.00 %

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Total Runoff mm	Total Runoff 10^6 ltr	Peak Runoff CMS	Runoff Coeff
S1	81.59	0.00	0.00	4.39	63.99	11.95	75.95	5.70	2.40	0.931
S2	81.59	0.00	0.00	4.28	64.01	12.07	76.09	3.42	1.49	0.933
S3_1	81.59	0.00	0.00	9.25	48.02	23.43	71.45	2.70	1.05	0.876
S3_10	81.59	221.18	0.00	9.86	200.31	91.64	291.95	24.41	4.31	0.964
S3_11	81.59	0.00	0.00	31.43	0.00	50.21	50.21	1.93	0.20	0.615
S3_12	81.59	0.00	0.00	25.93	0.00	55.77	55.77	2.13	0.43	0.684
S3_13	81.59	0.00	0.00	34.94	0.00	46.68	46.68	12.38	0.94	0.572
S3_14	81.59	0.00	0.00	17.90	15.99	47.60	63.59	0.70	0.31	0.779
S3_15	81.59	64.26	0.00	10.03	92.35	42.52	134.87	11.96	3.46	0.925
S3_2	81.59	0.00	0.00	9.25	41.68	30.07	71.75	2.30	1.14	0.879
S3_3	81.59	0.00	0.00	24.44	0.00	57.31	57.31	2.61	0.71	0.702
S3_4	81.59	0.00	0.00	17.89	12.00	51.62	63.62	2.31	0.84	0.780
S3_5	81.59	0.00	0.00	28.31	0.00	53.35	53.35	5.56	0.80	0.654
S3_7	81.59	0.00	0.00	18.75	16.82	45.86	62.68	1.35	0.49	0.768
S3_8	81.59	0.00	0.00	35.12	0.00	46.50	46.50	0.33	0.02	0.570
S3_9	81.59	342.53	0.00	11.73	253.71	158.10	411.81	18.49	4.39	0.971

****
Node Depth Summary
****

Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
J1	JUNCTION	0.25	0.94	183.06	0 02:17	0.94
J10	JUNCTION	0.31	1.08	183.05	0 02:16	1.08

J11	JUNCTION	0.35	1.02	182.36	0	03:35	1.02
J12	JUNCTION	0.36	0.99	182.19	0	03:36	0.99
J2	JUNCTION	0.34	1.14	183.02	0	02:17	1.14
J3	JUNCTION	0.42	1.28	182.80	0	02:21	1.28
J4	JUNCTION	0.45	1.27	182.70	0	03:14	1.27
J5	JUNCTION	0.40	1.33	182.88	0	02:19	1.33
J6	JUNCTION	0.44	1.21	182.71	0	03:07	1.21
J7	JUNCTION	0.03	0.30	183.43	0	02:16	0.30
J8	JUNCTION	0.03	0.68	183.78	0	01:58	0.68
J9	JUNCTION	0.02	0.65	183.78	0	02:02	0.65
OF1	OUTFALL	0.20	0.64	180.84	0	03:36	0.64
SU1	STORAGE	1.35	2.29	181.79	0	06:52	2.29

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CMS	Maximum Total Inflow CMS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Flow Balance Error Percent
J1	JUNCTION	0.000	0.667	0	01:48	0	25.6	0.378
J10	JUNCTION	0.000	1.906	0	02:07	0	35.4	0.054
J11	JUNCTION	0.000	2.510	0	03:22	0	56.8	0.209
J12	JUNCTION	0.000	2.497	0	03:33	0	56.7	0.122
J2	JUNCTION	0.000	1.875	0	02:09	0	35	0.204
J3	JUNCTION	0.000	1.996	0	02:16	0	36.2	0.101
J4	JUNCTION	1.721	3.702	0	02:03	17.9	57.1	0.487
J5	JUNCTION	0.490	2.023	0	02:12	1.34	36.3	0.176
J6	JUNCTION	0.747	2.394	0	02:12	2.83	39	-0.482
J7	JUNCTION	0.225	0.225	0	02:00	2.26	2.26	-0.283
J8	JUNCTION	0.705	2.801	0	01:46	2.6	9.92	0.043
J9	JUNCTION	3.022	3.022	0	01:45	7.31	7.31	-0.040
OF1	OUTFALL	0.000	2.496	0	03:36	0	56.7	0.000
SU1	STORAGE	4.312	4.312	0	01:55	24.4	24.4	0.001

****
Node Surcharge Summary
****

No nodes were surcharged.

****
Node Flooding Summary
****

No nodes were flooded.

****
Storage Volume Summary
****

Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow CMS
SU1	12.156	30	0	0	21.980	54	0 06:52	0.093

****
Outfall Loading Summary
****

Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
OF1	97.69	0.249	2.496	56.656
System	97.69	0.249	2.496	56.656

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CMS	Time of Max Occurrence days hr:min	Maximum |Veloc| m/sec	Max/ Full Flow	Max/ Full Depth
C1_1	CHANNEL	0.461	0 01:48	0.34	0.03	0.51
C1_2	CHANNEL	1.875	0 02:09	0.77	0.12	0.54
C1_3	CHANNEL	2.510	0 03:22	0.59	0.04	0.61
C1_5	CHANNEL	2.497	0 03:33	0.77	0.02	0.53
C1_6	CHANNEL	2.496	0 03:36	1.07	0.01	0.43
C2	CONDUIT	2.110	0 01:46	0.49	0.34	0.66
C2_1	CHANNEL	1.849	0 02:15	0.46	0.15	0.60
C2_2	CONDUIT	1.996	0 02:16	1.05	1.09	0.96
C3	CONDUIT	1.860	0 01:50	3.42	0.47	0.88
C3_1	CONDUIT	1.995	0 02:16	1.07	1.45	0.91
C3_2	CHANNEL	2.028	0 02:24	0.27	0.03	0.66
C7	CHANNEL	0.217	0 02:16	0.14	0.01	0.31
P1	PUMP	0.093	0 01:30		1.00	
W1	WEIR	0.000	0 00:00			0.00
W2	WEIR	0.000	0 00:00			0.00
W3	WEIR	0.000	0 00:00			0.00

****
Flow Classification Summary
****

	Adjusted /Actual	Fraction of Time in Flow Class							
		Up	Down	Sub	Sup	Up	Down	Norm	Inlet

Conduit	Length	Dry	Dry	Dry	Crit	Crit	Crit	Crit	Ltd	Ctrl
C1_1	1.00	0.01	0.01	0.00	0.98	0.00	0.00	0.00	0.89	0.00
C1_2	1.00	0.01	0.00	0.00	0.99	0.00	0.00	0.00	0.00	0.00
C1_3	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
C1_5	1.00	0.01	0.00	0.00	0.98	0.00	0.00	0.00	0.84	0.00
C1_6	1.00	0.02	0.00	0.00	0.98	0.00	0.00	0.00	0.00	0.00
C2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.90	0.00
C2_1	1.00	0.00	0.02	0.00	0.98	0.00	0.00	0.00	0.92	0.00
C2_2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
C3	1.00	0.01	0.00	0.00	0.97	0.02	0.00	0.00	0.96	0.00
C3_1	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.01	0.00
C3_2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
C7	1.00	0.02	0.00	0.00	0.98	0.00	0.00	0.00	0.98	0.00

****
Conduit Surcharge Summary
****

Conduit	Hours Full Both Ends	Hours Full Upstream	Hours Full Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
C2_2	0.01	0.01	0.01	0.49	0.01
C3	0.01	0.01	1.35	0.01	0.01
C3_1	0.01	0.01	0.01	1.07	0.01

****
Pumping Summary
****

Pump	Percent Utilized	Number of Start-Ups	Min Flow CMS	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr	Power Usage Kw-hr	% Time Off Pump Curve Low	% Time Off Pump Curve High
P1	97.84	1	0.00	0.09	0.09	22.928	93.23	0.0	0.0

Analysis begun on: Fri Feb 4 07:53:43 2022
Analysis ended on: Fri Feb 4 07:53:45 2022
Total elapsed time: 00:00:02

Proposed 1:100 Year 24hr SCS PCSWMM Output Report

```
EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)
--------------------------------------------------------------

WARNING 02: maximum depth increased for Node J1
WARNING 02: maximum depth increased for Node J10
WARNING 02: maximum depth increased for Node J11
WARNING 02: maximum depth increased for Node J2
WARNING 02: maximum depth increased for Node J3
WARNING 02: maximum depth increased for Node J4
WARNING 02: maximum depth increased for Node J5
WARNING 02: maximum depth increased for Node J6
WARNING 02: maximum depth increased for Node J7
WARNING 02: maximum depth increased for Node J8
WARNING 02: maximum depth increased for Node J9

*************
Element Count
*************
Number of rain gages ...... 1
Number of subcatchments ... 16
Number of nodes ........... 14
Number of links ........... 16
Number of pollutants ...... 0
Number of land uses ....... 0


****************
Raingage Summary
****************
                                                 Data       Recording
Name                 Data Source                 Type       Interval
------------------------------------------------------------------------
Raingage1            SCS_Type_II_108mm_100yr_24hour INTENSITY    6 min.


********************
Subcatchment Summary
********************
Name                            Area     Width   %Imperv    %Slope Rain Gage            Outlet
-----------------------------------------------------------------------------------------------
S1                              7.50    208.46     80.00    0.5000 Raingage1            S3_15
S2                              4.49    149.70     80.00    0.5000 Raingage1            S3_9
S3_1                            3.78    108.11     60.00    0.5000 Raingage1            J9
S3_10                           8.36    209.00     66.50    0.5000 Raingage1            SU1
S3_11                           3.85    214.07      0.00    0.5000 Raingage1            J7
S3_12                           3.82    254.62      0.00    0.5000 Raingage1            J6
S3_13                          26.53    384.46      0.00    0.5000 Raingage1            J4
S3_14                           1.10    199.13     20.00    0.5000 Raingage1            J6
S3_15                           8.87    168.31     64.00    0.5000 Raingage1            S3_9
S3_2                            3.21    493.12     52.00    0.5000 Raingage1            J9
S3_3                            4.55    454.62      0.00    0.5000 Raingage1            J8
S3_4                            3.63    412.44     15.00    0.5000 Raingage1            J9
S3_5                           10.42    416.82      0.00    0.5000 Raingage1            J4
S3_7                            2.15    214.67     21.00    0.5000 Raingage1            J5
S3_8                            0.70     23.34      0.00    0.5000 Raingage1            J7
S3_9                            4.49    154.83     60.00    0.5000 Raingage1            S3_10
```

****
Node Summary
****

Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
J1	JUNCTION	182.12	1.96	0.0	
J10	JUNCTION	181.97	2.06	0.0	
J11	JUNCTION	181.34	1.88	0.0	
J12	JUNCTION	181.20	1.94	0.0	
J2	JUNCTION	181.88	2.06	0.0	
J3	JUNCTION	181.53	2.77	0.0	
J4	JUNCTION	181.44	1.88	0.0	
J5	JUNCTION	181.55	2.74	0.0	
J6	JUNCTION	181.50	1.88	0.0	
J7	JUNCTION	183.13	1.96	0.0	
J8	JUNCTION	183.10	1.72	0.0	
J9	JUNCTION	183.13	1.00	0.0	
OF1	OUTFALL	180.20	1.88	0.0	
SU1	STORAGE	179.50	3.70	0.0	

****
Link Summary
****

Name	From Node	To Node	Type	Length	%Slope	Roughness
C1_1	J1	J10	CONDUIT	105.7	0.1419	0.0350
C1_2	J10	J2	CONDUIT	44.1	0.2042	0.0350
C1_3	J4	J11	CONDUIT	247.9	0.0403	0.0350
C1_5	J11	J12	CONDUIT	88.0	0.1535	0.0350
C1_6	J12	OF1	CONDUIT	249.3	0.4011	0.0350
C2	J9	J8	CONDUIT	412.9	0.0073	0.0130
C2_1	J2	J5	CONDUIT	295.3	0.1117	0.0350
C2_2	J5	J3	CONDUIT	48.0	0.0521	0.0130
C3	J8	J10	CONDUIT	24.0	4.7136	0.0130
C3_1	J3	J6	CONDUIT	85.7	0.0292	0.0130
C3_2	J6	J4	CONDUIT	164.0	0.0396	0.0350
C7	J7	J1	CONDUIT	460.6	0.2193	0.0350
P1	SU1	J1	TYPE2 PUMP			
W1	J5	J3	WEIR			
W2	J3	J6	WEIR			
W3	J8	J10	WEIR			

****
Cross Section Summary
****

Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
C1_1	BranchA	1.96	12.30	1.05	14.40	1	13.64
C1_2	Dufour_S	2.06	12.93	0.96	14.30	1	16.21
C1_3	Dufour_W	1.88	253.96	0.34	365.00	1	71.67
C1_5	Dufour_W	1.88	253.96	0.34	365.00	1	139.76

C1_6	Dufour_W	1.88	253.96	0.34	365.00	1	225.95
C2	TRAPEZOIDAL	1.00	10.48	0.86	10.95	1	6.20
C2_1	Dufour_S	2.06	12.93	0.96	14.30	1	11.99
C2_2	ARCH	1.36	1.91	0.41	1.78	1	1.84
C3	CIRCULAR	0.90	0.64	0.23	0.90	1	3.93
C3_1	ARCH	1.36	1.91	0.41	1.78	1	1.38
C3_2	Dufour_W	1.88	253.96	0.34	365.00	1	71.02
C7	BranchA	1.96	12.30	1.05	14.40	1	16.96

****
Transect Summary
****

Transect BranchA
Area:

0.0010	0.0039	0.0087	0.0147	0.0214
0.0286	0.0363	0.0446	0.0534	0.0628
0.0727	0.0831	0.0941	0.1057	0.1178
0.1305	0.1437	0.1574	0.1717	0.1865
0.2019	0.2179	0.2343	0.2514	0.2689
0.2921	0.3174	0.3430	0.3689	0.3951
0.4216	0.4483	0.4754	0.5027	0.5303
0.5582	0.5864	0.6149	0.6437	0.6728
0.7022	0.7319	0.7618	0.7921	0.8233
0.8555	0.8886	0.9228	0.9582	1.0000

Hrad:

0.0185	0.0370	0.0587	0.0851	0.1129
0.1390	0.1638	0.1875	0.2103	0.2325
0.2540	0.2751	0.2958	0.3161	0.3361
0.3558	0.3753	0.3946	0.4137	0.4326
0.4515	0.4701	0.4887	0.5072	0.5255
0.5380	0.5487	0.5615	0.5759	0.5915
0.6080	0.6251	0.6428	0.6609	0.6793
0.6981	0.7171	0.7363	0.7556	0.7750
0.7946	0.8142	0.8339	0.8573	0.8856
0.9126	0.9382	0.9627	0.9857	1.0000

Width:

0.0428	0.0856	0.1198	0.1386	0.1505
0.1624	0.1743	0.1862	0.1981	0.2101
0.2220	0.2339	0.2458	0.2577	0.2696
0.2815	0.2935	0.3054	0.3173	0.3292
0.3411	0.3530	0.3649	0.3769	0.3888
0.5479	0.5542	0.5606	0.5669	0.5733
0.5796	0.5860	0.5923	0.5987	0.6050
0.6113	0.6177	0.6240	0.6304	0.6367
0.6431	0.6494	0.6558	0.6679	0.6897
0.7115	0.7333	0.7551	0.8203	1.0000

Transect Dufour_S
Area:

0.0005	0.0019	0.0044	0.0077	0.0121
0.0174	0.0234	0.0299	0.0371	0.0448
0.0530	0.0617	0.0710	0.0808	0.0911
0.1020	0.1134	0.1253	0.1378	0.1508
0.1643	0.1784	0.1930	0.2081	0.2238

```
            0.2400     0.2568     0.2740     0.2918     0.3102
            0.3293     0.3496     0.3711     0.3966     0.4289
            0.4632     0.4980     0.5332     0.5689     0.6050
            0.6415     0.6784     0.7159     0.7537     0.7920
            0.8307     0.8706     0.9121     0.9552     1.0000
Hrad:
            0.0207     0.0414     0.0620     0.0827     0.1034
            0.1268     0.1530     0.1780     0.2035     0.2282
            0.2522     0.2756     0.2984     0.3209     0.3430
            0.3649     0.3864     0.4078     0.4289     0.4499
            0.4708     0.4915     0.5121     0.5326     0.5531
            0.5734     0.5936     0.6138     0.6340     0.6540
            0.6801     0.7043     0.7264     0.7449     0.7539
            0.7637     0.7761     0.7904     0.8061     0.8229
            0.8406     0.8589     0.8778     0.8970     0.9166
            0.9362     0.9536     0.9701     0.9855     1.0000
Width:
            0.0213     0.0425     0.0638     0.0850     0.1063
            0.1242     0.1375     0.1508     0.1625     0.1742
            0.1859     0.1976     0.2093     0.2210     0.2327
            0.2444     0.2561     0.2678     0.2795     0.2912
            0.3029     0.3146     0.3263     0.3380     0.3497
            0.3614     0.3731     0.3848     0.3965     0.4082
            0.4329     0.4590     0.4851     0.6367     0.7487
            0.7583     0.7679     0.7775     0.7871     0.7967
            0.8063     0.8159     0.8255     0.8352     0.8448
            0.8576     0.8932     0.9288     0.9644     1.0000

Transect Dufour W
Area:
            0.0000     0.0001     0.0002     0.0003     0.0005
            0.0007     0.0009     0.0012     0.0016     0.0019
            0.0023     0.0028     0.0033     0.0038     0.0043
            0.0049     0.0056     0.0062     0.0070     0.0078
            0.0086     0.0095     0.0105     0.0115     0.0126
            0.0138     0.0151     0.0167     0.0185     0.0206
            0.0237     0.0524     0.1024     0.1548     0.2073
            0.2597     0.3121     0.3646     0.4171     0.4696
            0.5221     0.5746     0.6272     0.6798     0.7326
            0.7856     0.8389     0.8924     0.9461     1.0000
Hrad:
            0.0522     0.1044     0.1565     0.2087     0.2609
            0.3131     0.3652     0.4174     0.4696     0.5218
            0.5740     0.6261     0.6783     0.7305     0.7827
            0.8348     0.8870     0.9392     0.9634     0.9897
            1.0209     1.0559     1.0931     1.1321     1.1727
            1.2146     1.1155     1.0523     1.0188     1.0769
            1.0973     0.4731     0.3018     0.2906     0.3127
            0.3466     0.3861     0.4286     0.4731     0.5187
            0.5653     0.6124     0.6600     0.7085     0.7572
            0.8059     0.8545     0.9031     0.9516     1.0000
Width:
            0.0007     0.0014     0.0021     0.0029     0.0036
            0.0043     0.0050     0.0057     0.0064     0.0071
            0.0078     0.0086     0.0093     0.0100     0.0107
            0.0114     0.0121     0.0128     0.0140     0.0152
            0.0164     0.0175     0.0187     0.0198     0.0210
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            0.0221     0.0265     0.0311     0.0357     0.0435
            0.1802     0.7774     0.9695     0.9698     0.9701
            0.9704     0.9707     0.9710     0.9713     0.9716
            0.9719     0.9722     0.9725     0.9753     0.9794
            0.9835     0.9876     0.9918     0.9959     1.0000

Transect Transect2
Area:
            0.0013     0.0050     0.0111     0.0185     0.0264
            0.0348     0.0437     0.0531     0.0630     0.0734
            0.0842     0.0955     0.1073     0.1196     0.1324
            0.1457     0.1594     0.1737     0.1884     0.2036
            0.2193     0.2355     0.2521     0.2693     0.2869
            0.3050     0.3236     0.3427     0.3622     0.3823
            0.4028     0.4238     0.4453     0.4673     0.4898
            0.5128     0.5362     0.5601     0.5845     0.6094
            0.6348     0.6607     0.6870     0.7138     0.7425
            0.7861     0.8350     0.8870     0.9420     1.0000
Hrad:
            0.0315     0.0630     0.1019     0.1494     0.1990
            0.2457     0.2899     0.3321     0.3727     0.4118
            0.4497     0.4866     0.5225     0.5577     0.5922
            0.6260     0.6593     0.6922     0.7246     0.7566
            0.7882     0.8196     0.8506     0.8814     0.9119
            0.9422     0.9723     1.0023     1.0320     1.0616
            1.0911     1.1204     1.1496     1.1787     1.2076
            1.2365     1.2653     1.2939     1.3225     1.3510
            1.3795     1.4078     1.4361     1.4644     1.3942
            0.9725     0.9752     0.9810     0.9894     1.0000
Width:
            0.0421     0.0841     0.1149     0.1292     0.1374
            0.1455     0.1536     0.1618     0.1699     0.1780
            0.1862     0.1943     0.2024     0.2106     0.2187
            0.2268     0.2350     0.2431     0.2512     0.2594
            0.2675     0.2756     0.2838     0.2919     0.3000
            0.3082     0.3163     0.3244     0.3326     0.3407
            0.3488     0.3570     0.3651     0.3732     0.3814
            0.3895     0.3976     0.4058     0.4139     0.4220
            0.4302     0.4383     0.4464     0.4546     0.5735
            0.7957     0.8468     0.8978     0.9489     1.0000


*****************************************************
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
*****************************************************

****************
Analysis Options
****************
Flow Units ..... CMS
Process Models:
  Rainfall/Runoff ........ YES
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
```

```
  Flow Routing ..... YES
  Ponding Allowed ........ NO
  Water Quality ..... NO
Infiltration Method ...... GREEN_AMPT
Flow Routing Method ...... DYNWAVE
Surcharge Method ......... EXTRAN
Starting Date ............ 04/16/2020 00:00:00
Ending Date .............. 04/18/2020 22:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:01:00
Wet Time Step ............ 00:05:00
Dry Time Step ............ 00:05:00
Routing Time Step ........ 5.00 sec
Variable Time Step ....... YES
Maximum Trials ........... 8
Number of Threads ........ 4
Head Tolerance ........... 0.001500 m


**************************        Volume         Depth
Runoff Quantity Continuity     hectare-m            mm
**************************     ---------       -------
Total Precipitation ......        10.524       108.000
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         2.921        29.975
Surface Runoff ...........         7.559        77.575
Final Storage ............         0.054         0.556
Continuity Error (%) .....        -0.098

**************************        Volume        Volume
Flow Routing Continuity        hectare-m      10^6 ltr
**************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         7.561        75.610
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........         6.431        64.309
Flooding Loss ............         0.000         0.000
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         1.132        11.323
Continuity Error (%) .....        -0.029


***************************
Time-Step Critical Elements
***************************
Link C3 (3.36%)


*******************************
Highest Flow Instability Indexes
*******************************
All links are stable.
```

****
Routing Time Step Summary
****
Minimum Time Step   :   2.23 sec
Average Time Step   :   4.95 sec
Maximum Time Step   :   5.00 sec
Percent in Steady State   :   0.00
Average Iterations per Step :   2.00
Percent Not Converging   :   0.00
Time Step Frequencies   :
    5.000 - 3.155 sec   :   98.97 %
    3.155 - 1.991 sec   :   1.03 %
    1.991 - 1.256 sec   :   0.00 %
    1.256 - 0.792 sec   :   0.00 %
    0.792 - 0.500 sec   :   0.00 %

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Total Runoff mm	Total Runoff 10^6 ltr	Peak Runoff CMS	Runoff Coeff
S1	108.00	0.00	0.00	7.35	85.01	14.26	99.27	7.45	1.96	0.919
S2	108.00	0.00	0.00	7.30	85.03	14.31	99.34	4.46	1.22	0.920
S3_1	108.00	0.00	0.00	14.91	63.78	28.31	92.09	3.48	0.87	0.853
S3_10	108.00	288.51	0.00	14.54	262.49	118.31	380.80	31.83	4.09	0.960
S3_11	108.00	0.00	0.00	43.19	0.00	64.82	64.82	2.50	0.20	0.600
S3_12	108.00	0.00	0.00	39.95	0.00	68.09	68.09	2.60	0.45	0.630
S3_13	108.00	0.00	0.00	45.89	0.00	62.11	62.11	16.48	0.91	0.575
S3_14	108.00	0.00	0.00	30.77	21.26	55.71	76.97	0.84	0.27	0.713
S3_15	108.00	84.10	0.00	14.96	121.83	54.21	176.04	15.62	3.06	0.916
S3_2	108.00	0.00	0.00	17.13	55.35	34.77	90.12	2.89	1.05	0.834
S3_3	108.00	0.00	0.00	39.29	0.00	68.77	68.77	3.13	0.71	0.637
S3_4	108.00	0.00	0.00	30.92	15.95	60.94	76.88	2.79	0.74	0.712
S3_5	108.00	0.00	0.00	41.20	0.00	66.82	66.82	6.96	0.83	0.619
S3_7	108.00	0.00	0.00	30.80	22.34	54.57	76.91	1.65	0.43	0.712
S3_8	108.00	0.00	0.00	46.04	0.00	61.96	61.96	0.43	0.02	0.574
S3_9	108.00	447.50	0.00	17.57	332.35	204.71	537.06	24.11	3.94	0.967

****
Node Depth Summary
****

Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
J1	JUNCTION	0.24	0.91	183.03	0 12:26	0.91
J10	JUNCTION	0.31	1.06	183.03	0 12:26	1.06

J11	JUNCTION	0.35	1.01	182.34	0	13:37	1.01
J12	JUNCTION	0.36	0.98	182.18	0	13:39	0.98
J2	JUNCTION	0.34	1.12	183.00	0	12:27	1.12
J3	JUNCTION	0.42	1.26	182.79	0	12:32	1.26
J4	JUNCTION	0.45	1.26	182.69	0	13:23	1.26
J5	JUNCTION	0.40	1.31	182.86	0	12:30	1.31
J6	JUNCTION	0.44	1.21	182.71	0	13:15	1.21
J7	JUNCTION	0.04	0.29	183.42	0	12:25	0.29
J8	JUNCTION	0.04	0.64	183.74	0	12:12	0.64
J9	JUNCTION	0.03	0.61	183.74	0	12:09	0.61
OF1	OUTFALL	0.21	0.63	180.83	0	13:39	0.63
SU1	STORAGE	1.70	2.57	182.07	1	00:13	2.57

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CMS	Maximum Total Inflow CMS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Flow Balance Error Percent
J1	JUNCTION	0.000	0.570	0	12:01	0	24.3	0.335
J10	JUNCTION	0.000	1.806	0	12:19	0	36.5	0.073
J11	JUNCTION	0.000	2.443	0	13:29	0	64.4	0.131
J12	JUNCTION	0.000	2.437	0	13:36	0	64.4	0.088
J2	JUNCTION	0.000	1.785	0	12:22	0	36.2	0.139
J3	JUNCTION	0.000	1.898	0	12:26	0	37.7	0.096
J4	JUNCTION	1.696	3.577	0	12:15	23.4	64.7	0.449
J5	JUNCTION	0.432	1.922	0	12:23	1.65	37.8	0.216
J6	JUNCTION	0.720	2.275	0	12:22	3.44	41.1	-0.373
J7	JUNCTION	0.219	0.219	0	12:06	2.93	2.93	0.164
J8	JUNCTION	0.707	2.464	0	11:55	3.13	12.3	0.034
J9	JUNCTION	2.611	2.611	0	11:54	9.17	9.17	-0.016
OF1	OUTFALL	0.000	2.437	0	13:39	0	64.3	0.000
SU1	STORAGE	4.087	4.087	0	12:00	31.8	31.8	0.004

****
Node Surcharge Summary
****

No nodes were surcharged.

****
Node Flooding Summary
****

No nodes were flooded.

****
Storage Volume Summary
****

Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow CMS
SU1	15.991	39	0	0	25.338	62	1 00:13	0.093

****
Outfall Loading Summary
****

Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
OF1	93.12	0.292	2.437	64.309
System	93.12	0.292	2.437	64.309

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CMS	Time of Max Occurrence days hr:min	Maximum |Veloc| m/sec	Max/ Full Flow	Max/ Full Depth
C1_1	CHANNEL	0.359	0 12:46	0.24	0.03	0.50
C1_2	CHANNEL	1.785	0 12:22	0.63	0.11	0.53
C1_3	CHANNEL	2.443	0 13:29	0.59	0.03	0.60
C1_5	CHANNEL	2.437	0 13:36	0.70	0.02	0.53
C1_6	CHANNEL	2.437	0 13:39	1.07	0.01	0.43
C2	CONDUIT	1.872	0 11:55	0.42	0.30	0.62
C2_1	CHANNEL	1.762	0 12:25	0.46	0.15	0.59
C2_2	CONDUIT	1.898	0 12:26	1.00	1.03	0.95
C3	CONDUIT	1.750	0 12:05	3.17	0.45	0.85
C3_1	CONDUIT	1.897	0 12:26	1.02	1.38	0.90
C3_2	CHANNEL	1.929	0 12:36	0.26	0.03	0.66
C7	CHANNEL	0.210	0 12:25	0.15	0.01	0.31
P1	PUMP	0.093	0 06:58		1.00	
W1	WEIR	0.000	0 00:00			0.00
W2	WEIR	0.000	0 00:00			0.00
W3	WEIR	0.000	0 00:00			0.00

****
Flow Classification Summary
****

	Adjusted /Actual	Fraction of Time in Flow Class							
		Up	Down	Sub	Sup	Up	Down	Norm	Inlet

Conduit	Length	Dry	Dry	Dry	Crit	Crit	Crit	Crit	Ltd	Ctrl
C1_1	1.00	0.02	0.07	0.00	0.92	0.00	0.00	0.00	0.66	0.00
C1_2	1.00	0.02	0.00	0.00	0.97	0.01	0.00	0.00	0.04	0.00
C1_3	1.00	0.01	0.00	0.00	0.99	0.00	0.00	0.00	0.00	0.00
C1_5	1.00	0.04	0.00	0.00	0.96	0.01	0.00	0.00	0.68	0.00
C1_6	1.00	0.05	0.00	0.00	0.94	0.00	0.00	0.00	0.00	0.00
C2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.67	0.00
C2_1	1.00	0.00	0.04	0.00	0.96	0.00	0.00	0.00	0.83	0.00
C2_2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.03	0.00
C3	1.00	0.01	0.00	0.00	0.95	0.03	0.00	0.00	0.95	0.00
C3_1	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.02	0.00
C3_2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.01	0.00
C7	1.00	0.09	0.07	0.00	0.84	0.00	0.00	0.00	0.84	0.00

****
Conduit Surcharge Summary
****

Conduit	Hours Full: Both Ends	Hours Full: Upstream	Hours Full: Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
C2_2	0.01	0.01	0.01	0.29	0.01
C3	0.01	0.01	1.24	0.01	0.01
C3_1	0.01	0.01	0.01	0.97	0.01

****
Pumping Summary
****

Pump	Percent Utilized	Number of Start-Ups	Min Flow CMS	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr	Power Usage Kw-hr	% Time Off Pump Curve: Low	% Time Off Pump Curve: High
P1	90.05	1	0.00	0.09	0.09	21.101	57.10	0.0	0.0

Analysis begun on: Fri Feb 4 07:54:39 2022
Analysis ended on: Fri Feb 4 07:54:41 2022
Total elapsed time: 00:00:02

Proposed 1:100 Year 24hr SCS Zero Release PCSWMM Output Report

```
EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.013)
--------------------------------------------------------------

WARNING 02: maximum depth increased for Node J1
WARNING 02: maximum depth increased for Node J10
WARNING 02: maximum depth increased for Node J11
WARNING 02: maximum depth increased for Node J2
WARNING 02: maximum depth increased for Node J3
WARNING 02: maximum depth increased for Node J4
WARNING 02: maximum depth increased for Node J5
WARNING 02: maximum depth increased for Node J6
WARNING 02: maximum depth increased for Node J7
WARNING 02: maximum depth increased for Node J8
WARNING 02: maximum depth increased for Node J9

*************
Element Count
*************
Number of rain gages ...... 1
Number of subcatchments ... 16
Number of nodes ........... 14
Number of links ........... 16
Number of pollutants ...... 0
Number of land uses ....... 0


****************
Raingage Summary
****************
                                                 Data       Recording
Name                 Data Source                 Type       Interval
------------------------------------------------------------------------
Raingage1            SCS_Type_II_108mm_100yr_24hour INTENSITY    6 min.


********************
Subcatchment Summary
********************
Name                         Area     Width   %Imperv    %Slope Rain Gage            Outlet
-----------------------------------------------------------------------------------------------
S1                           7.50    208.46     80.00    0.5000 Raingage1            S3_15
S2                           4.49    149.70     80.00    0.5000 Raingage1            S3_9
S3_1                         3.78    108.11     60.00    0.5000 Raingage1            J9
S3_10                        8.36    209.00     66.50    0.5000 Raingage1            SU1
S3_11                        3.85    214.07      0.00    0.5000 Raingage1            J7
S3_12                        3.82    254.62      0.00    0.5000 Raingage1            J6
S3_13                       26.53    384.46      0.00    0.5000 Raingage1            J4
S3_14                        1.10    199.13     20.00    0.5000 Raingage1            J6
S3_15                        8.87    168.31     64.00    0.5000 Raingage1            S3_9
S3_2                         3.21    493.12     52.00    0.5000 Raingage1            J9
S3_3                         4.55    454.62      0.00    0.5000 Raingage1            J8
S3_4                         3.63    412.44     15.00    0.5000 Raingage1            J9
S3_5                        10.42    416.82      0.00    0.5000 Raingage1            J4
S3_7                         2.15    214.67     21.00    0.5000 Raingage1            J5
S3_8                         0.70     23.34      0.00    0.5000 Raingage1            J7
S3_9                         4.49    154.83     60.00    0.5000 Raingage1            S3_10
```

****
Node Summary
****

Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
J1	JUNCTION	182.12	1.96	0.0	
J10	JUNCTION	181.97	2.06	0.0	
J11	JUNCTION	181.34	1.88	0.0	
J12	JUNCTION	181.20	1.94	0.0	
J2	JUNCTION	181.88	2.06	0.0	
J3	JUNCTION	181.52	2.76	0.0	
J4	JUNCTION	181.44	1.88	0.0	
J5	JUNCTION	181.55	2.74	0.0	
J6	JUNCTION	181.50	1.88	0.0	
J7	JUNCTION	183.13	1.96	0.0	
J8	JUNCTION	183.10	1.72	0.0	
J9	JUNCTION	183.13	1.00	0.0	
OF1	OUTFALL	180.20	1.88	0.0	
SU1	STORAGE	179.50	3.70	0.0	

****
Link Summary
****

Name	From Node	To Node	Type	Length	%Slope	Roughness
C1_1	J1	J10	CONDUIT	105.7	0.1419	0.0350
C1_2	J10	J2	CONDUIT	44.1	0.2042	0.0350
C1_3	J4	J11	CONDUIT	247.9	0.0403	0.0350
C1_5	J11	J12	CONDUIT	88.0	0.1535	0.0350
C1_6	J12	OF1	CONDUIT	249.3	0.4011	0.0350
C2	J9	J8	CONDUIT	412.9	0.0073	0.0130
C2_1	J2	J5	CONDUIT	295.3	0.1117	0.0350
C2_2	J5	J3	CONDUIT	48.0	0.0521	0.0130
C3	J8	J10	CONDUIT	24.0	4.7136	0.0130
C3_1	J3	J6	CONDUIT	85.7	0.0292	0.0130
C3_2	J6	J4	CONDUIT	164.0	0.0396	0.0350
C7	J7	J1	CONDUIT	460.6	0.2193	0.0350
P1	SU1	J1	TYPE2 PUMP			
W1	J5	J3	WEIR			
W2	J3	J6	WEIR			
W3	J8	J10	WEIR			

****
Cross Section Summary
****

Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
C1_1	BranchA	1.96	12.30	1.05	14.40	1	13.64
C1_2	Dufour_S	2.06	12.93	0.96	14.30	1	16.21
C1_3	Dufour_W	1.88	253.96	0.34	365.00	1	71.67
C1_5	Dufour_W	1.88	253.96	0.34	365.00	1	139.76

C1_6	Dufour_W	1.88	253.96	0.34	365.00	1	225.95
C2	TRAPEZOIDAL	1.00	10.47	0.86	10.95	1	6.20
C2_1	Dufour_S	2.06	12.93	0.96	14.30	1	11.99
C2_2	ARCH	1.36	1.91	0.41	1.78	1	1.84
C3	CIRCULAR	0.90	0.64	0.23	0.90	1	3.93
C3_1	ARCH	1.36	1.91	0.41	1.78	1	1.38
C3_2	Dufour_W	1.88	253.96	0.34	365.00	1	71.02
C7	BranchA	1.96	12.30	1.05	14.40	1	16.96

****
Transect Summary
****

Transect BranchA
Area:

0.0010	0.0039	0.0087	0.0147	0.0214
0.0286	0.0363	0.0446	0.0534	0.0628
0.0727	0.0831	0.0941	0.1057	0.1178
0.1305	0.1437	0.1574	0.1717	0.1865
0.2019	0.2179	0.2343	0.2514	0.2689
0.2921	0.3174	0.3430	0.3689	0.3951
0.4216	0.4483	0.4754	0.5027	0.5303
0.5582	0.5864	0.6149	0.6437	0.6728
0.7022	0.7319	0.7618	0.7921	0.8233
0.8555	0.8886	0.9228	0.9582	1.0000

Hrad:

0.0185	0.0370	0.0587	0.0851	0.1129
0.1390	0.1638	0.1875	0.2103	0.2325
0.2540	0.2751	0.2958	0.3161	0.3361
0.3558	0.3753	0.3946	0.4137	0.4326
0.4515	0.4701	0.4887	0.5072	0.5255
0.5380	0.5487	0.5615	0.5759	0.5915
0.6080	0.6251	0.6428	0.6609	0.6793
0.6981	0.7171	0.7363	0.7556	0.7750
0.7946	0.8142	0.8339	0.8573	0.8856
0.9126	0.9382	0.9627	0.9857	1.0000

Width:

0.0428	0.0856	0.1198	0.1386	0.1505
0.1624	0.1743	0.1862	0.1981	0.2101
0.2220	0.2339	0.2458	0.2577	0.2696
0.2815	0.2935	0.3054	0.3173	0.3292
0.3411	0.3530	0.3649	0.3769	0.3888
0.5479	0.5542	0.5606	0.5669	0.5733
0.5796	0.5860	0.5923	0.5987	0.6050
0.6113	0.6177	0.6240	0.6304	0.6367
0.6431	0.6494	0.6558	0.6679	0.6897
0.7115	0.7333	0.7551	0.8203	1.0000

Transect Dufour_S
Area:

0.0005	0.0019	0.0044	0.0077	0.0121
0.0174	0.0234	0.0299	0.0371	0.0448
0.0530	0.0617	0.0710	0.0808	0.0911
0.1020	0.1134	0.1253	0.1378	0.1508
0.1643	0.1784	0.1930	0.2081	0.2238

```
            0.2400    0.2568    0.2740    0.2918    0.3102
            0.3293    0.3496    0.3711    0.3966    0.4289
            0.4632    0.4980    0.5332    0.5689    0.6050
            0.6415    0.6784    0.7159    0.7537    0.7920
            0.8307    0.8706    0.9121    0.9552    1.0000
Hrad:
            0.0207    0.0414    0.0620    0.0827    0.1034
            0.1268    0.1530    0.1780    0.2035    0.2282
            0.2522    0.2756    0.2984    0.3209    0.3430
            0.3649    0.3864    0.4078    0.4289    0.4499
            0.4708    0.4915    0.5121    0.5326    0.5531
            0.5734    0.5936    0.6138    0.6340    0.6540
            0.6801    0.7043    0.7264    0.7449    0.7539
            0.7637    0.7761    0.7904    0.8061    0.8229
            0.8406    0.8589    0.8778    0.8970    0.9166
            0.9362    0.9536    0.9701    0.9855    1.0000
Width:
            0.0213    0.0425    0.0638    0.0850    0.1063
            0.1242    0.1375    0.1508    0.1625    0.1742
            0.1859    0.1976    0.2093    0.2210    0.2327
            0.2444    0.2561    0.2678    0.2795    0.2912
            0.3029    0.3146    0.3263    0.3380    0.3497
            0.3614    0.3731    0.3848    0.3965    0.4082
            0.4329    0.4590    0.4851    0.6367    0.7487
            0.7583    0.7679    0.7775    0.7871    0.7967
            0.8063    0.8159    0.8255    0.8352    0.8448
            0.8576    0.8932    0.9288    0.9644    1.0000

Transect Dufour_W
Area:
            0.0000    0.0001    0.0002    0.0003    0.0005
            0.0007    0.0009    0.0012    0.0016    0.0019
            0.0023    0.0028    0.0033    0.0038    0.0043
            0.0049    0.0056    0.0062    0.0070    0.0078
            0.0086    0.0095    0.0105    0.0115    0.0126
            0.0138    0.0151    0.0167    0.0185    0.0206
            0.0237    0.0524    0.1024    0.1548    0.2073
            0.2597    0.3121    0.3646    0.4171    0.4696
            0.5221    0.5746    0.6272    0.6798    0.7326
            0.7856    0.8389    0.8924    0.9461    1.0000
Hrad:
            0.0522    0.1044    0.1565    0.2087    0.2609
            0.3131    0.3652    0.4174    0.4696    0.5218
            0.5740    0.6261    0.6783    0.7305    0.7827
            0.8348    0.8870    0.9392    0.9634    0.9897
            1.0209    1.0559    1.0931    1.1321    1.1727
            1.2146    1.1155    1.0523    1.0188    1.0769
            1.0973    0.4731    0.3018    0.2906    0.3127
            0.3466    0.3861    0.4286    0.4731    0.5187
            0.5653    0.6124    0.6600    0.7085    0.7572
            0.8059    0.8545    0.9031    0.9516    1.0000
Width:
            0.0007    0.0014    0.0021    0.0029    0.0036
            0.0043    0.0050    0.0057    0.0064    0.0071
            0.0078    0.0086    0.0093    0.0100    0.0107
            0.0114    0.0121    0.0128    0.0140    0.0152
            0.0164    0.0175    0.0187    0.0198    0.0210
```

```
            0.0221     0.0265     0.0311     0.0357     0.0435
            0.1802     0.7774     0.9695     0.9698     0.9701
            0.9704     0.9707     0.9710     0.9713     0.9716
            0.9719     0.9722     0.9725     0.9753     0.9794
            0.9835     0.9876     0.9918     0.9959     1.0000

Transect Transect2
Area:
            0.0013     0.0050     0.0111     0.0185     0.0264
            0.0348     0.0437     0.0531     0.0630     0.0734
            0.0842     0.0955     0.1073     0.1196     0.1324
            0.1457     0.1594     0.1737     0.1884     0.2036
            0.2193     0.2355     0.2521     0.2693     0.2869
            0.3050     0.3236     0.3427     0.3622     0.3823
            0.4028     0.4238     0.4453     0.4673     0.4898
            0.5128     0.5362     0.5601     0.5845     0.6094
            0.6348     0.6607     0.6870     0.7138     0.7425
            0.7861     0.8350     0.8870     0.9420     1.0000
Hrad:
            0.0315     0.0630     0.1019     0.1494     0.1990
            0.2457     0.2899     0.3321     0.3727     0.4118
            0.4497     0.4866     0.5225     0.5577     0.5922
            0.6260     0.6593     0.6922     0.7246     0.7566
            0.7882     0.8196     0.8506     0.8814     0.9119
            0.9422     0.9723     1.0023     1.0320     1.0616
            1.0911     1.1204     1.1496     1.1787     1.2076
            1.2365     1.2653     1.2939     1.3225     1.3510
            1.3795     1.4078     1.4361     1.4644     1.3942
            0.9725     0.9752     0.9810     0.9894     1.0000
Width:
            0.0421     0.0841     0.1149     0.1292     0.1374
            0.1455     0.1536     0.1618     0.1699     0.1780
            0.1862     0.1943     0.2024     0.2106     0.2187
            0.2268     0.2350     0.2431     0.2512     0.2594
            0.2675     0.2756     0.2838     0.2919     0.3000
            0.3082     0.3163     0.3244     0.3326     0.3407
            0.3488     0.3570     0.3651     0.3732     0.3814
            0.3895     0.3976     0.4058     0.4139     0.4220
            0.4302     0.4383     0.4464     0.4546     0.5735
            0.7957     0.8468     0.8978     0.9489     1.0000


************************************************************
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
************************************************************

****************
Analysis Options
****************
Flow Units ..... CMS
Process Models:
  Rainfall/Runoff ........ YES
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
```

```
  Flow Routing ..... YES
  Ponding Allowed ..... NO
  Water Quality ..... NO
Infiltration Method ..... GREEN_AMPT
Flow Routing Method ..... DYNWAVE
Surcharge Method ..... EXTRAN
Starting Date ..... 04/16/2020 00:00:00
Ending Date ..... 04/18/2020 22:00:00
Antecedent Dry Days ..... 0.0
Report Time Step ..... 00:01:00
Wet Time Step ..... 00:05:00
Dry Time Step ..... 00:05:00
Routing Time Step ..... 5.00 sec
Variable Time Step ..... YES
Maximum Trials ..... 8
Number of Threads ..... 4
Head Tolerance ..... 0.001500 m


**************************        Volume         Depth
Runoff Quantity Continuity     hectare-m            mm
**************************     ---------       -------
Total Precipitation ......        10.524       108.000
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         2.921        29.975
Surface Runoff ...........         7.559        77.575
Final Storage ............         0.054         0.556
Continuity Error (%) .....        -0.098

**************************        Volume         Volume
Flow Routing Continuity        hectare-m       10^6 ltr
**************************     ---------      ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         7.561        75.611
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........         4.376        43.758
Flooding Loss ............         0.000         0.000
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         3.184        31.844
Continuity Error (%) .....         0.011


************************
Highest Continuity Errors
************************
Node J6 (-1.03%)


**************************
Time-Step Critical Elements
**************************
Link C3 (3.34%)
```

```
*******************************
Highest Flow Instability Indexes
*******************************
All links are stable.


************************
Routing Time Step Summary
************************
Minimum Time Step           :     2.42 sec
Average Time Step           :     4.95 sec
Maximum Time Step           :     5.00 sec
Percent in Steady State     :     0.00
Average Iterations per Step :     2.00
Percent Not Converging      :     0.00


**************************
Subcatchment Runoff Summary
**************************
```

Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Total Runoff mm	Total Runoff 10^6 ltr	Peak Runoff CMS	Runoff Coeff
S1	108.00	0.00	0.00	7.35	85.01	14.26	99.27	7.45	1.96	0.919
S2	108.00	0.00	0.00	7.30	85.03	14.31	99.34	4.46	1.22	0.920
S3_1	108.00	0.00	0.00	14.91	63.78	28.31	92.09	3.48	0.87	0.853
S3_10	108.00	288.51	0.00	14.54	262.49	118.31	380.80	31.83	4.09	0.960
S3_11	108.00	0.00	0.00	43.19	0.00	64.82	64.82	2.50	0.20	0.600
S3_12	108.00	0.00	0.00	39.95	0.00	68.09	68.09	2.60	0.45	0.630
S3_13	108.00	0.00	0.00	45.89	0.00	62.11	62.11	16.48	0.91	0.575
S3_14	108.00	0.00	0.00	30.77	21.26	55.71	76.97	0.84	0.27	0.713
S3_15	108.00	84.10	0.00	14.96	121.83	54.21	176.04	15.62	3.06	0.916
S3_2	108.00	0.00	0.00	17.13	55.35	34.77	90.12	2.89	1.05	0.834
S3_3	108.00	0.00	0.00	39.29	0.00	68.77	68.77	3.13	0.71	0.637
S3_4	108.00	0.00	0.00	30.92	15.95	60.94	76.88	2.79	0.74	0.712
S3_5	108.00	0.00	0.00	41.20	0.00	66.82	66.82	6.96	0.83	0.619
S3_7	108.00	0.00	0.00	30.80	22.34	54.57	76.91	1.65	0.43	0.712
S3_8	108.00	0.00	0.00	46.04	0.00	61.96	61.96	0.43	0.02	0.574
S3_9	108.00	447.50	0.00	17.57	332.35	204.71	537.06	24.11	3.94	0.967

```
******************
Node Depth Summary
******************
```

Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
J1	JUNCTION	0.08	0.89	183.01	0 12:26	0.89
J10	JUNCTION	0.13	1.04	183.01	0 12:26	1.04

J11	JUNCTION	0.19	1.00	182.33	0	13:31	1.00
J12	JUNCTION	0.19	0.97	182.17	0	13:33	0.97
J2	JUNCTION	0.16	1.09	182.97	0	12:27	1.09
J3	JUNCTION	0.20	1.25	182.78	0	12:33	1.25
J4	JUNCTION	0.24	1.25	182.69	0	13:21	1.25
J5	JUNCTION	0.19	1.29	182.84	0	12:30	1.29
J6	JUNCTION	0.22	1.20	182.70	0	13:10	1.20
J7	JUNCTION	0.04	0.29	183.42	0	12:24	0.29
J8	JUNCTION	0.04	0.63	183.73	0	12:11	0.63
J9	JUNCTION	0.03	0.61	183.74	0	12:09	0.61
OF1	OUTFALL	0.11	0.63	180.83	0	13:33	0.63
SU1	STORAGE	2.67	3.31	182.81	2	21:59	3.31

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CMS	Maximum Total Inflow CMS	Time of Max Occurrence days hr:min		Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Flow Balance Error Percent
J1	JUNCTION	0.000	0.626	0	12:02	0	3.42	-0.041
J10	JUNCTION	0.000	1.773	0	12:05	0	15.7	-0.038
J11	JUNCTION	0.000	2.401	0	13:24	0	43.8	0.073
J12	JUNCTION	0.000	2.398	0	13:30	0	43.8	0.015
J2	JUNCTION	0.000	1.693	0	12:22	0	15.2	-0.053
J3	JUNCTION	0.000	1.808	0	12:26	0	16.9	0.001
J4	JUNCTION	1.696	3.523	0	12:17	23.4	44	0.401
J5	JUNCTION	0.432	1.830	0	12:24	1.65	16.9	0.066
J6	JUNCTION	0.720	2.183	0	12:23	3.44	20.3	-1.021
J7	JUNCTION	0.219	0.219	0	12:06	2.93	2.93	0.253
J8	JUNCTION	0.707	2.467	0	11:59	3.13	12.3	0.034
J9	JUNCTION	2.611	2.611	0	11:54	9.17	9.17	-0.015
OF1	OUTFALL	0.000	2.398	0	13:33	0	43.8	0.000
SU1	STORAGE	4.087	4.087	0	12:00	31.8	31.8	0.011

****
Node Surcharge Summary
****

Surcharging occurs when water rises above the top of the highest conduit.

Node	Type	Hours Surcharged	Max. Height Above Crown Meters	Min. Depth Below Rim Meters
SU1	STORAGE	70.00	3.313	0.387

****
Node Flooding Summary
****

No nodes were flooded.

****
Storage Volume Summary
****

Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow CMS
SU1	25.415	69	0	0	31.842	86	2 21:59	0.000

****
Outfall Loading Summary
****

Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
OF1	93.12	0.205	2.398	43.758
System	93.12	0.205	2.398	43.758

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CMS	Time of Max Occurrence days hr:min	Maximum |Veloc| m/sec	Max/ Full Flow	Max/ Full Depth
C1_1	CHANNEL	0.490	0 12:01	0.33	0.04	0.49
C1_2	CHANNEL	1.693	0 12:22	0.65	0.10	0.52
C1_3	CHANNEL	2.401	0 13:24	0.59	0.03	0.60
C1_5	CHANNEL	2.398	0 13:30	0.70	0.02	0.52
C1_6	CHANNEL	2.398	0 13:33	1.06	0.01	0.43
C2	CONDUIT	1.873	0 11:55	0.42	0.30	0.62
C2_1	CHANNEL	1.671	0 12:26	0.45	0.14	0.58
C2_2	CONDUIT	1.808	0 12:26	0.96	0.98	0.93
C3	CONDUIT	1.773	0 12:05	3.30	0.45	0.85
C3_1	CONDUIT	1.807	0 12:26	0.98	1.31	0.90
C3_2	CHANNEL	1.880	0 12:17	0.25	0.03	0.65
C7	CHANNEL	0.211	0 12:24	0.20	0.01	0.30
P1	PUMP	0.000	0 00:00			
W1	WEIR	0.000	0 00:00			0.00
W2	WEIR	0.000	0 00:00			0.00
W3	WEIR	0.000	0 00:00			0.00

****

Flow Classification Summary
****

Conduit	Adjusted /Actual Length	Fraction of Time in Flow Class: Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
C1_1	1.00	0.02	0.07	0.00	0.92	0.00	0.00	0.00	0.72	0.00
C1_2	1.00	0.02	0.00	0.00	0.97	0.01	0.00	0.00	0.76	0.00
C1_3	1.00	0.01	0.00	0.00	0.99	0.00	0.00	0.00	0.00	0.00
C1_5	1.00	0.04	0.00	0.00	0.96	0.01	0.00	0.00	0.72	0.00
C1_6	1.00	0.05	0.00	0.00	0.94	0.00	0.00	0.00	0.00	0.00
C2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.67	0.00
C2_1	1.00	0.00	0.04	0.00	0.96	0.00	0.00	0.00	0.30	0.00
C2_2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.47	0.00
C3	1.00	0.01	0.00	0.00	0.95	0.04	0.00	0.00	0.95	0.00
C3_1	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.17	0.00
C3_2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.54	0.00
C7	1.00	0.09	0.07	0.00	0.85	0.00	0.00	0.00	0.84	0.00

****
Conduit Surcharge Summary
****

Conduit	Hours Full: Both Ends	Upstream	Dnstream	Hours Above Full: Normal Flow	Hours Capacity Limited
C3	0.01	0.01	1.10	0.01	0.01
C3_1	0.01	0.01	0.01	0.83	0.01

****
Pumping Summary
****

Pump	Percent Utilized	Number of Start-Ups	Min Flow CMS	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr	Power Usage Kw-hr	% Time Off Pump Curve: Low	High
P1	0.00	0	0.00	0.00	0.00	0.000	0.00	0.0	0.0

Analysis begun on: Tue May 24 10:03:08 2022
Analysis ended on: Tue May 24 10:03:10 2022
Total elapsed time: 00:00:02

Proposed UST PCSWMM Output Report

```
EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)
---------------------------------------------------------------

WARNING 02: maximum depth increased for Node J1
WARNING 02: maximum depth increased for Node J10
WARNING 02: maximum depth increased for Node J11
WARNING 02: maximum depth increased for Node J2
WARNING 02: maximum depth increased for Node J3
WARNING 02: maximum depth increased for Node J4
WARNING 02: maximum depth increased for Node J5
WARNING 02: maximum depth increased for Node J6
WARNING 02: maximum depth increased for Node J7
WARNING 02: maximum depth increased for Node J8
WARNING 02: maximum depth increased for Node J9

*************
Element Count
*************
Number of rain gages ...... 1
Number of subcatchments ... 16
Number of nodes ........... 14
Number of links ........... 16
Number of pollutants ...... 0
Number of land uses ....... 0


****************
Raingage Summary
****************
                                          Data       Recording
Name                 Data Source          Type       Interval
----------------------------------------------------------------
Raingage1            UST                  INTENSITY   15 min.


********************
Subcatchment Summary
********************
Name                         Area     Width   %Imperv    %Slope Rain Gage            Outlet
-----------------------------------------------------------------------------------------------
S1                           7.50    208.46     80.00    0.5000 Raingage1            S3_15
S2                           4.49    149.70     80.00    0.5000 Raingage1            S3_9
S3_1                         3.78    108.11     60.00    0.5000 Raingage1            J9
S3_10                        8.36    209.00     66.50    0.5000 Raingage1            SU1
S3_11                        3.85    214.07      0.00    0.5000 Raingage1            J7
S3_12                        3.82    254.62      0.00    0.5000 Raingage1            J6
S3_13                       26.53    384.46      0.00    0.5000 Raingage1            J4
S3_14                        1.10    199.13     20.00    0.5000 Raingage1            J6
S3_15                        8.87    168.31     64.00    0.5000 Raingage1            S3_9
S3_2                         3.21    493.12     52.00    0.5000 Raingage1            J9
S3_3                         4.55    454.62      0.00    0.5000 Raingage1            J8
S3_4                         3.63    412.44     15.00    0.5000 Raingage1            J9
S3_5                        10.42    416.82      0.00    0.5000 Raingage1            J4
S3_7                         2.15    214.67     21.00    0.5000 Raingage1            J5
S3_8                         0.70     23.34      0.00    0.5000 Raingage1            J7
S3_9                         4.49    154.83     60.00    0.5000 Raingage1            S3_10
```

****
Node Summary
****

Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
J1	JUNCTION	182.12	1.96	0.0	
J10	JUNCTION	181.97	2.06	0.0	
J11	JUNCTION	181.34	1.88	0.0	
J12	JUNCTION	181.20	1.94	0.0	
J2	JUNCTION	181.88	2.06	0.0	
J3	JUNCTION	181.53	2.77	0.0	
J4	JUNCTION	181.44	1.88	0.0	
J5	JUNCTION	181.55	2.74	0.0	
J6	JUNCTION	181.50	1.88	0.0	
J7	JUNCTION	183.13	1.96	0.0	
J8	JUNCTION	183.10	1.72	0.0	
J9	JUNCTION	183.13	1.00	0.0	
OF1	OUTFALL	180.20	1.88	0.0	
SU1	STORAGE	179.50	3.70	0.0	

****
Link Summary
****

Name	From Node	To Node	Type	Length	%Slope	Roughness
C1_1	J1	J10	CONDUIT	105.7	0.1419	0.0350
C1_2	J10	J2	CONDUIT	44.1	0.2042	0.0350
C1_3	J4	J11	CONDUIT	247.9	0.0403	0.0350
C1_5	J11	J12	CONDUIT	88.0	0.1535	0.0350
C1_6	J12	OF1	CONDUIT	249.3	0.4011	0.0350
C2	J9	J8	CONDUIT	412.9	0.0073	0.0130
C2_1	J2	J5	CONDUIT	295.3	0.1117	0.0350
C2_2	J5	J3	CONDUIT	48.0	0.0521	0.0130
C3	J8	J10	CONDUIT	24.0	4.7136	0.0130
C3_1	J3	J6	CONDUIT	85.7	0.0292	0.0130
C3_2	J6	J4	CONDUIT	164.0	0.0396	0.0350
C7	J7	J1	CONDUIT	460.6	0.2193	0.0350
P1	SU1	J1	TYPE2 PUMP			
W1	J5	J3	WEIR			
W2	J3	J6	WEIR			
W3	J8	J10	WEIR			

****
Cross Section Summary
****

Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
C1_1	BranchA	1.96	12.30	1.05	14.40	1	13.64
C1_2	Dufour_S	2.06	12.93	0.96	14.30	1	16.21
C1_3	Dufour_W	1.88	253.96	0.34	365.00	1	71.67
C1_5	Dufour_W	1.88	253.96	0.34	365.00	1	139.76

C1_6	Dufour_W	1.88	253.96	0.34	365.00	1	225.95
C2	TRAPEZOIDAL	1.00	10.48	0.86	10.95	1	6.20
C2_1	Dufour_S	2.06	12.93	0.96	14.30	1	11.99
C2_2	ARCH	1.36	1.91	0.41	1.78	1	1.84
C3	CIRCULAR	0.90	0.64	0.23	0.90	1	3.93
C3_1	ARCH	1.36	1.91	0.41	1.78	1	1.38
C3_2	Dufour_W	1.88	253.96	0.34	365.00	1	71.02
C7	BranchA	1.96	12.30	1.05	14.40	1	16.96

****
Transect Summary
****

Transect BranchA
Area:

0.0010	0.0039	0.0087	0.0147	0.0214
0.0286	0.0363	0.0446	0.0534	0.0628
0.0727	0.0831	0.0941	0.1057	0.1178
0.1305	0.1437	0.1574	0.1717	0.1865
0.2019	0.2179	0.2343	0.2514	0.2689
0.2921	0.3174	0.3430	0.3689	0.3951
0.4216	0.4483	0.4754	0.5027	0.5303
0.5582	0.5864	0.6149	0.6437	0.6728
0.7022	0.7319	0.7618	0.7921	0.8233
0.8555	0.8886	0.9228	0.9582	1.0000

Hrad:

0.0185	0.0370	0.0587	0.0851	0.1129
0.1390	0.1638	0.1875	0.2103	0.2325
0.2540	0.2751	0.2958	0.3161	0.3361
0.3558	0.3753	0.3946	0.4137	0.4326
0.4515	0.4701	0.4887	0.5072	0.5255
0.5380	0.5487	0.5615	0.5759	0.5915
0.6080	0.6251	0.6428	0.6609	0.6793
0.6981	0.7171	0.7363	0.7556	0.7750
0.7946	0.8142	0.8339	0.8573	0.8856
0.9126	0.9382	0.9627	0.9857	1.0000

Width:

0.0428	0.0856	0.1198	0.1386	0.1505
0.1624	0.1743	0.1862	0.1981	0.2101
0.2220	0.2339	0.2458	0.2577	0.2696
0.2815	0.2935	0.3054	0.3173	0.3292
0.3411	0.3530	0.3649	0.3769	0.3888
0.5479	0.5542	0.5606	0.5669	0.5733
0.5796	0.5860	0.5923	0.5987	0.6050
0.6113	0.6177	0.6240	0.6304	0.6367
0.6431	0.6494	0.6558	0.6679	0.6897
0.7115	0.7333	0.7551	0.8203	1.0000

Transect Dufour_S
Area:

0.0005	0.0019	0.0044	0.0077	0.0121
0.0174	0.0234	0.0299	0.0371	0.0448
0.0530	0.0617	0.0710	0.0808	0.0911
0.1020	0.1134	0.1253	0.1378	0.1508
0.1643	0.1784	0.1930	0.2081	0.2238

```
            0.2400     0.2568     0.2740     0.2918     0.3102
            0.3293     0.3496     0.3711     0.3966     0.4289
            0.4632     0.4980     0.5332     0.5689     0.6050
            0.6415     0.6784     0.7159     0.7537     0.7920
            0.8307     0.8706     0.9121     0.9552     1.0000
Hrad:
            0.0207     0.0414     0.0620     0.0827     0.1034
            0.1268     0.1530     0.1780     0.2035     0.2282
            0.2522     0.2756     0.2984     0.3209     0.3430
            0.3649     0.3864     0.4078     0.4289     0.4499
            0.4708     0.4915     0.5121     0.5326     0.5531
            0.5734     0.5936     0.6138     0.6340     0.6540
            0.6801     0.7043     0.7264     0.7449     0.7539
            0.7637     0.7761     0.7904     0.8061     0.8229
            0.8406     0.8589     0.8778     0.8970     0.9166
            0.9362     0.9536     0.9701     0.9855     1.0000
Width:
            0.0213     0.0425     0.0638     0.0850     0.1063
            0.1242     0.1375     0.1508     0.1625     0.1742
            0.1859     0.1976     0.2093     0.2210     0.2327
            0.2444     0.2561     0.2678     0.2795     0.2912
            0.3029     0.3146     0.3263     0.3380     0.3497
            0.3614     0.3731     0.3848     0.3965     0.4082
            0.4329     0.4590     0.4851     0.6367     0.7487
            0.7583     0.7679     0.7775     0.7871     0.7967
            0.8063     0.8159     0.8255     0.8352     0.8448
            0.8576     0.8932     0.9288     0.9644     1.0000

Transect Dufour W
Area:
            0.0000     0.0001     0.0002     0.0003     0.0005
            0.0007     0.0009     0.0012     0.0016     0.0019
            0.0023     0.0028     0.0033     0.0038     0.0043
            0.0049     0.0056     0.0062     0.0070     0.0078
            0.0086     0.0095     0.0105     0.0115     0.0126
            0.0138     0.0151     0.0167     0.0185     0.0206
            0.0237     0.0524     0.1024     0.1548     0.2073
            0.2597     0.3121     0.3646     0.4171     0.4696
            0.5221     0.5746     0.6272     0.6798     0.7326
            0.7856     0.8389     0.8924     0.9461     1.0000
Hrad:
            0.0522     0.1044     0.1565     0.2087     0.2609
            0.3131     0.3652     0.4174     0.4696     0.5218
            0.5740     0.6261     0.6783     0.7305     0.7827
            0.8348     0.8870     0.9392     0.9634     0.9897
            1.0209     1.0559     1.0931     1.1321     1.1727
            1.2146     1.1155     1.0523     1.0188     1.0769
            1.0973     0.4731     0.3018     0.2906     0.3127
            0.3466     0.3861     0.4286     0.4731     0.5187
            0.5653     0.6124     0.6600     0.7085     0.7572
            0.8059     0.8545     0.9031     0.9516     1.0000
Width:
            0.0007     0.0014     0.0021     0.0029     0.0036
            0.0043     0.0050     0.0057     0.0064     0.0071
            0.0078     0.0086     0.0093     0.0100     0.0107
            0.0114     0.0121     0.0128     0.0140     0.0152
            0.0164     0.0175     0.0187     0.0198     0.0210
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            0.0221     0.0265     0.0311     0.0357     0.0435
            0.1802     0.7774     0.9695     0.9698     0.9701
            0.9704     0.9707     0.9710     0.9713     0.9716
            0.9719     0.9722     0.9725     0.9753     0.9794
            0.9835     0.9876     0.9918     0.9959     1.0000

Transect Transect2
Area:
            0.0013     0.0050     0.0111     0.0185     0.0264
            0.0348     0.0437     0.0531     0.0630     0.0734
            0.0842     0.0955     0.1073     0.1196     0.1324
            0.1457     0.1594     0.1737     0.1884     0.2036
            0.2193     0.2355     0.2521     0.2693     0.2869
            0.3050     0.3236     0.3427     0.3622     0.3823
            0.4028     0.4238     0.4453     0.4673     0.4898
            0.5128     0.5362     0.5601     0.5845     0.6094
            0.6348     0.6607     0.6870     0.7138     0.7425
            0.7861     0.8350     0.8870     0.9420     1.0000
Hrad:
            0.0315     0.0630     0.1019     0.1494     0.1990
            0.2457     0.2899     0.3321     0.3727     0.4118
            0.4497     0.4866     0.5225     0.5577     0.5922
            0.6260     0.6593     0.6922     0.7246     0.7566
            0.7882     0.8196     0.8506     0.8814     0.9119
            0.9422     0.9723     1.0023     1.0320     1.0616
            1.0911     1.1204     1.1496     1.1787     1.2076
            1.2365     1.2653     1.2939     1.3225     1.3510
            1.3795     1.4078     1.4361     1.4644     1.3942
            0.9725     0.9752     0.9810     0.9894     1.0000
Width:
            0.0421     0.0841     0.1149     0.1292     0.1374
            0.1455     0.1536     0.1618     0.1699     0.1780
            0.1862     0.1943     0.2024     0.2106     0.2187
            0.2268     0.2350     0.2431     0.2512     0.2594
            0.2675     0.2756     0.2838     0.2919     0.3000
            0.3082     0.3163     0.3244     0.3326     0.3407
            0.3488     0.3570     0.3651     0.3732     0.3814
            0.3895     0.3976     0.4058     0.4139     0.4220
            0.4302     0.4383     0.4464     0.4546     0.5735
            0.7957     0.8468     0.8978     0.9489     1.0000


*****************************************************
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
*****************************************************

****************
Analysis Options
****************
Flow Units ..... CMS
Process Models:
  Rainfall/Runoff ........ YES
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
```

```
  Flow Routing ..... YES
  Ponding Allowed ........ NO
  Water Quality ..... NO
Infiltration Method ...... GREEN_AMPT
Flow Routing Method ...... DYNWAVE
Surcharge Method ......... EXTRAN
Starting Date ............ 04/16/2020 00:00:00
Ending Date .............. 04/18/2020 22:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:01:00
Wet Time Step ............ 00:05:00
Dry Time Step ............ 00:05:00
Routing Time Step ........ 5.00 sec
Variable Time Step ....... YES
Maximum Trials ........... 8
Number of Threads ........ 4
Head Tolerance ........... 0.001500 m


**************************        Volume         Depth
Runoff Quantity Continuity     hectare-m            mm
**************************     ---------       -------
Total Precipitation ......        14.615       149.985
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         3.130        32.121
Surface Runoff ...........        11.446       117.461
Final Storage ............         0.054         0.556
Continuity Error (%) .....        -0.102


**************************        Volume        Volume
Flow Routing Continuity        hectare-m      10^6 ltr
**************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......        11.444       114.445
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........         9.013        90.129
Flooding Loss ............         0.000         0.000
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         2.434        24.337
Continuity Error (%) .....        -0.018


************************
Highest Continuity Errors
************************
Node J11 (1.49%)
Node J4 (-1.15%)


**************************
Time-Step Critical Elements
**************************
```

Link C3 (2.96%)
Link C2_2 (2.57%)

****
Highest Flow Instability Indexes
****
All links are stable.

****
Routing Time Step Summary
****
Minimum Time Step   :   1.30 sec
Average Time Step   :   4.87 sec
Maximum Time Step   :   5.00 sec
Percent in Steady State   :   0.00
Average Iterations per Step :   2.00
Percent Not Converging   :   0.00
Time Step Frequencies   :
    5.000 - 3.155 sec   :   96.33 %
    3.155 - 1.991 sec   :   1.99 %
    1.991 - 1.256 sec   :   1.69 %
    1.256 - 0.792 sec   :   0.00 %
    0.792 - 0.500 sec   :   0.00 %

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Total Runoff mm	Total Runoff 10^6 ltr	Peak Runoff CMS	Runoff Coeff
S1	149.98	0.00	0.00	7.92	118.71	22.10	140.80	10.57	2.42	0.939
S2	149.99	0.00	0.00	7.86	118.73	22.17	140.89	6.33	1.51	0.939
S3_1	149.99	0.00	0.00	16.10	89.06	43.93	132.99	5.03	1.09	0.887
S3_10	149.98	413.64	0.00	15.34	373.75	173.53	547.28	45.75	5.09	0.971
S3_11	149.99	0.00	0.00	46.46	0.00	103.56	103.56	3.99	0.29	0.690
S3_12	149.99	0.00	0.00	42.98	0.00	107.09	107.09	4.09	0.55	0.714
S3_13	149.99	0.00	0.00	49.19	0.00	100.82	100.82	26.75	1.40	0.672
S3_14	149.99	0.00	0.00	32.79	29.66	87.36	117.02	1.28	0.34	0.780
S3_15	149.98	119.13	0.00	15.88	171.22	81.03	252.25	22.37	3.54	0.937
S3_2	149.98	0.00	0.00	18.27	77.25	53.84	131.08	4.20	1.17	0.874
S3_3	149.98	0.00	0.00	42.15	0.00	107.96	107.96	4.91	0.86	0.720
S3_4	149.98	0.00	0.00	33.23	22.25	94.38	116.63	4.23	0.92	0.778
S3_5	149.99	0.00	0.00	44.39	0.00	105.65	105.65	11.01	1.12	0.704
S3_7	149.98	0.00	0.00	32.99	31.18	85.61	116.79	2.51	0.55	0.779
S3_8	149.99	0.00	0.00	49.34	0.00	100.67	100.67	0.71	0.04	0.671
S3_9	149.98	639.24	0.00	18.40	472.73	297.43	770.16	34.58	4.69	0.976

****
Node Depth Summary
****

Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days	hr:min	Reported Max Depth Meters
J1	JUNCTION	0.27	1.04	183.16	0	09:49	1.04
J10	JUNCTION	0.35	1.18	183.15	0	09:49	1.18
J11	JUNCTION	0.40	1.19	182.52	0	10:59	1.19
J12	JUNCTION	0.41	1.18	182.38	0	11:20	1.18
J2	JUNCTION	0.38	1.24	183.12	0	09:49	1.24
J3	JUNCTION	0.48	1.35	182.88	0	09:56	1.35
J4	JUNCTION	0.51	1.30	182.74	0	10:09	1.30
J5	JUNCTION	0.46	1.45	183.00	0	09:52	1.45
J6	JUNCTION	0.49	1.25	182.75	0	10:13	1.25
J7	JUNCTION	0.06	0.35	183.48	0	09:45	0.35
J8	JUNCTION	0.06	0.80	183.90	0	09:34	0.80
J9	JUNCTION	0.06	0.77	183.90	0	09:32	0.77
OF1	OUTFALL	0.24	0.80	181.00	0	11:20	0.80
SU1	STORAGE	2.63	3.51	183.01	1	01:29	3.51

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CMS	Maximum Total Inflow CMS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Flow Balance Error Percent
J1	JUNCTION	0.000	0.675	0	09:17	0	27	0.305
J10	JUNCTION	0.000	2.283	0	09:38	0	45.2	0.057
J11	JUNCTION	0.000	5.615	0	10:11	0	91.6	1.513
J12	JUNCTION	0.000	4.510	0	11:08	0	90.2	0.120
J2	JUNCTION	0.000	2.257	0	09:42	0	44.9	0.113
J3	JUNCTION	0.000	2.395	0	09:47	0	47.3	0.077
J4	JUNCTION	2.496	4.610	0	09:39	37.8	90.6	-1.139
J5	JUNCTION	0.551	2.446	0	09:43	2.51	47.4	0.172
J6	JUNCTION	0.894	2.917	0	09:42	5.37	52.6	-0.292
J7	JUNCTION	0.328	0.328	0	09:30	4.7	4.7	0.091
J8	JUNCTION	0.863	2.981	0	09:15	4.91	18.4	0.024
J9	JUNCTION	3.177	3.177	0	09:15	13.5	13.5	-0.013
OF1	OUTFALL	0.000	4.266	0	11:20	0	90.1	0.000
SU1	STORAGE	5.094	5.094	0	09:30	45.7	45.7	0.006

****
Node Surcharge Summary
****

No nodes were surcharged.

****
Node Flooding Summary
****

****

No nodes were flooded.

****
Storage Volume Summary
****

Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow CMS
SU1	27.155	67	0	0	37.950	93	1 01:29	0.093

****
Outfall Loading Summary
****

Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
OF1	95.40	0.431	4.266	90.128
System	95.40	0.431	4.266	90.128

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CMS	Time of Max Occurrence days hr:min	Maximum |Veloc| m/sec	Max/ Full Flow	Max/ Full Depth
C1_1	CHANNEL	0.475	0 10:05	0.24	0.03	0.57
C1_2	CHANNEL	2.257	0 09:42	0.62	0.14	0.59
C1_3	CHANNEL	5.615	0 10:11	0.73	0.08	0.66
C1_5	CHANNEL	4.510	0 11:08	0.70	0.03	0.63
C1_6	CHANNEL	4.266	0 11:20	1.18	0.02	0.53
C2	CONDUIT	2.125	0 09:15	0.45	0.34	0.78
C2_1	CHANNEL	2.224	0 09:45	0.48	0.19	0.65
C2_2	CONDUIT	2.395	0 09:47	1.26	1.30	1.00
C3	CONDUIT	2.043	0 09:27	3.31	0.52	0.95
C3_1	CONDUIT	2.394	0 09:47	1.27	1.74	0.95
C3_2	CHANNEL	2.450	0 10:14	0.25	0.03	0.68
C7	CHANNEL	0.317	0 09:45	0.17	0.02	0.35
P1	PUMP	0.093	0 04:18		1.00	
W1	WEIR	0.000	0 00:00			0.00
W2	WEIR	0.000	0 00:00			0.00
W3	WEIR	0.040	0 09:34			0.08

****
Flow Classification Summary
****

Conduit	Adjusted /Actual Length	Fraction of Time in Flow Class: Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
C1_1	1.00	0.01	0.03	0.00	0.96	0.00	0.00	0.00	0.63	0.00
C1_2	1.00	0.01	0.00	0.00	0.98	0.01	0.00	0.00	0.02	0.00
C1_3	1.00	0.01	0.00	0.00	0.99	0.00	0.00	0.00	0.00	0.00
C1_5	1.00	0.02	0.00	0.00	0.97	0.00	0.00	0.00	0.64	0.00
C1_6	1.00	0.03	0.00	0.00	0.96	0.00	0.00	0.00	0.00	0.00
C2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.63	0.00
C2_1	1.00	0.00	0.03	0.00	0.97	0.00	0.00	0.00	0.82	0.00
C2_2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.01	0.00
C3	1.00	0.01	0.00	0.00	0.97	0.03	0.00	0.00	0.95	0.00
C3_1	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.01	0.00
C3_2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
C7	1.00	0.04	0.06	0.00	0.89	0.00	0.00	0.00	0.89	0.00

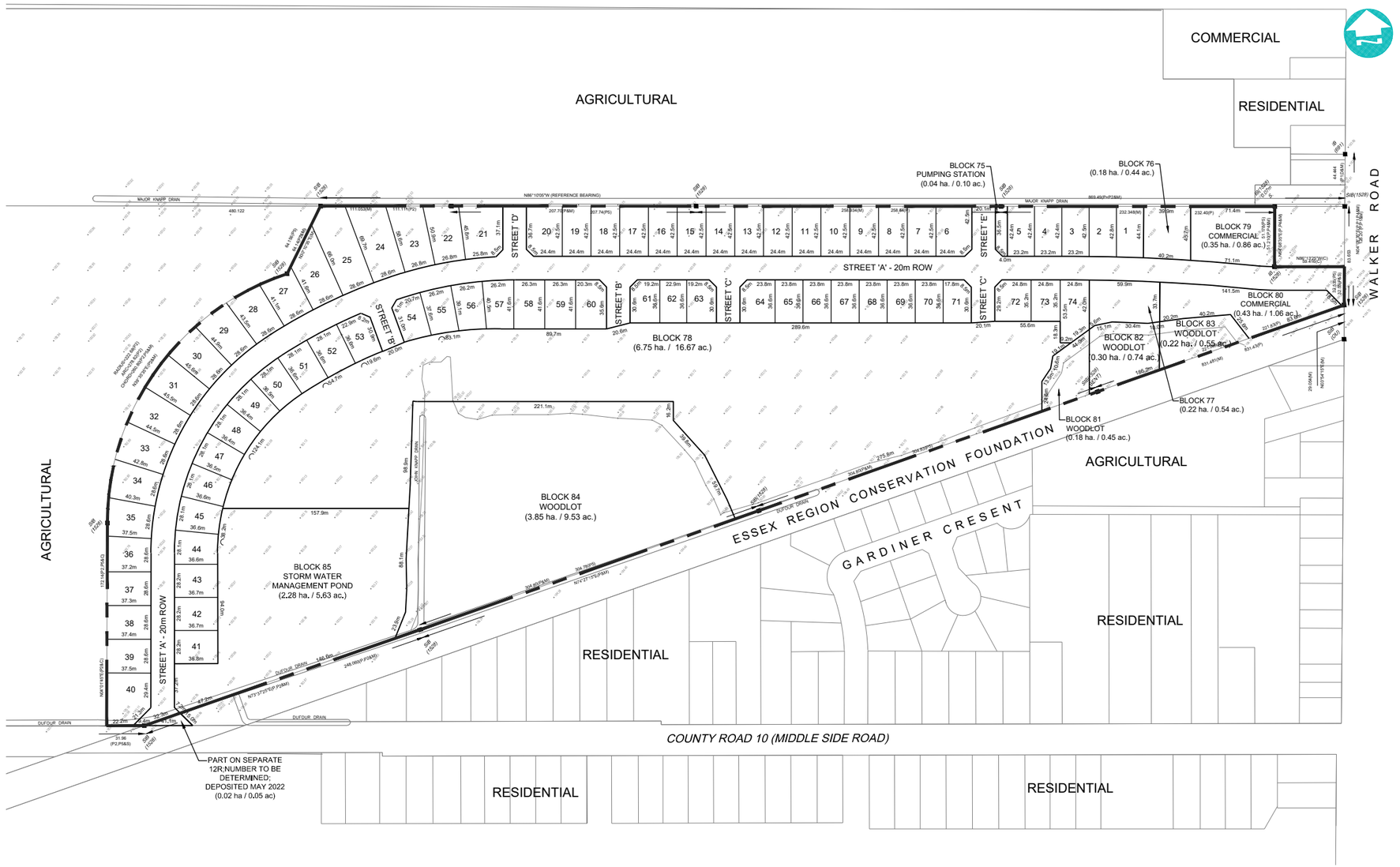
****
Conduit Surcharge Summary
****

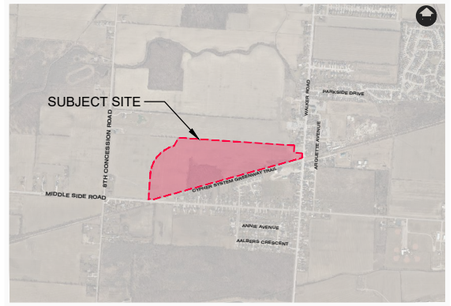
Conduit	Hours Full: Both Ends	Upstream	Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
C2_2	0.01	0.92	0.01	1.02	0.01
C3	0.01	0.01	1.81	0.01	0.01
C3_1	0.01	0.01	0.01	1.54	0.01

****
Pumping Summary
****

Pump	Percent Utilized	Number of Start-Ups	Min Flow CMS	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr	Power Usage Kw-hr	% Time Off Pump Curve: Low	High
P1	93.85	1	0.00	0.09	0.09	21.992	32.36	0.0	0.0

Analysis begun on: Thu Feb 3 16:02:51 2022
Analysis ended on: Thu Feb 3 16:02:52 2022
Total elapsed time: 00:00:01





KEY PLAN
N.T.S.
SOURCE: COUNTY OF ESSEX INTERACTIVE MAPPING (2019)

LEGEND AND NOTES

BEARINGS ARE UTM GRID, DERIVED FROM THE OBSERVED REFERENCE POINTS A AND B, BY REAL TIME NETWORK (RTN) OBSERVATIONS, NAD83 UTM ZONE 17, (CSRS), (2010), BEARING OF N86°10'05"W
DISTANCES ON THIS PLAN ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF **0.999900688**

POINT ID	NORTHING	EASTING
ORP-A	4667649.46	336346.05
ORP-B	4667591.36	337213.52
ORP-C	4667219.37	336167.36

COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.

■	DENOTES	FOUND
□	DENOTES	SET
IB	DENOTES	IRON BAR
SSIB	DENOTES	SHORT STANDARD IRON BAR
PB	DENOTES	PLASTIC BAR
SIB	DENOTES	STANDARD IRON BAR
M	DENOTES	MEASURED
Inst	DENOTES	INSTRUMENT
S	DENOTES	SET
RCP	DENOTES	REGISTRAR'S COMPILED PLAN
RP	DENOTES	REGISTERED PLAN
WIT	DENOTES	WITNESS
PIN	DENOTES	PROPERTY IDENTIFIER NUMBER
1815	DENOTES	S.D. HOOK, O.L.S.
1007	DENOTES	G.S. HOOK, O.L.S.
653	DENOTES	E.C. BRISCO, O.L.S.
CLF	DENOTES	CHAIN LINK FENCE
BF	DENOTES	BOARD FENCE
P	DENOTES	PLAN 24R-1633
P2	DENOTES	REGISTERED PLAN 448
P3	DENOTES	REGISTERED PLAN 529
D1	DENOTES	INST No RA9213
D2	DENOTES	INST No 256218
ORP	DENOTES	OBSERVED REFERENCE POINT

4.50m × 4.50m — 4.5m CORNER CUTOFF AT ALL NON COUNTY ROAD CORNERS

15.0m × 15.0m — 15m CORNER CUTOFF AT COUNTY ROAD CORNERS

"METRIC" DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

DILLON CONSULTING

JUNE 07, 2022
Project No. 20-2669

Draft Plan of Subdivision

PART OF LOT 7, CONCESSION 8
TOWN OF AMHERSTBURG
COUNTY OF ESSEX, ONTARIO

Scale: 1:4000 (11x17)

OWNER'S CERTIFICATE

I CERTIFY THAT:
I HEREBY CONSENT TO THE FILING OF THIS PLAN FOR DRAFT APPROVAL.

DATE: JUNE 07, 2022 SIGNED

MGV Developments INC.

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN ON THIS PLAN.

DATE: JUNE 07, 2022 SIGNED

BLOSS J. SUTHERLAND
ONTARIO LAND SURVEYOR

ADDITIONAL INFORMATION REQUIRED UNDER S. 51(17) OF THE PLANNING ACT

(a) SHOWN ON PLAN
(b) SHOWN ON PLAN
(c) SHOWN ON PLAN
(d) RESIDENTIAL
(e) SHOWN ON PLAN
(f) SHOWN ON PLAN
(g) SHOWN ON PLAN
(h) PIPED WATER TO BE INSTALLED BY DEVELOPER
(i) BROOKSTON CLAY
(j) SHOWN ON PLAN
(k) SANITARY & STORM SEWERS TO BE INSTALLED BY DEVELOPER
(l) SHOWN ON PLAN

STATISTICS

DETACHED RESIDENTIAL	=	LOTS	1 TO 74 (INCL.)
PUMPING STATION	=	BLOCK	75
BLOCK 76, 77 & 78	=	BLOCK	76 TO 78
COMMERCIAL	=	BLOCK	79 & 80
WOODLOT	=	BLOCK	81 TO 84
STORMWATER MANAGEMENT POND	=	BLOCK	85

AREAS

DETACHED RESIDENTIAL	=	8.17 ha	(20.19 acres)	= 31.40%
PUMPING STATION	=	0.04 ha	(0.10 acres)	= 0.16%
COMMERCIAL	=	0.77 ha	(1.92 acres)	= 2.96%
BLOCK 76, 77 & 78	=	7.14 ha	(17.65 acres)	= 27.44%
WOODLOT	=	4.56 ha	(11.26 acres)	= 17.52%
STORMWATER MANAGEMENT POND	=	2.28 ha	(5.64 acres)	= 8.76%
RIGHT-OF-WAY	=	3.06 ha	(7.55 acres)	= 11.76%
TOTAL AREA	=	26.02 ha	(64.31 acres)	

Jun 07, 2022 - 3:25pm C:\pw working directory\projects 2020\dillon_32rnru\dms24321\202669 - DPS - JUNE 2022(1).dwg

Woodland Trails (McGregor) Proposed Subdivision

Statutory Public Meeting

July 11, 2022

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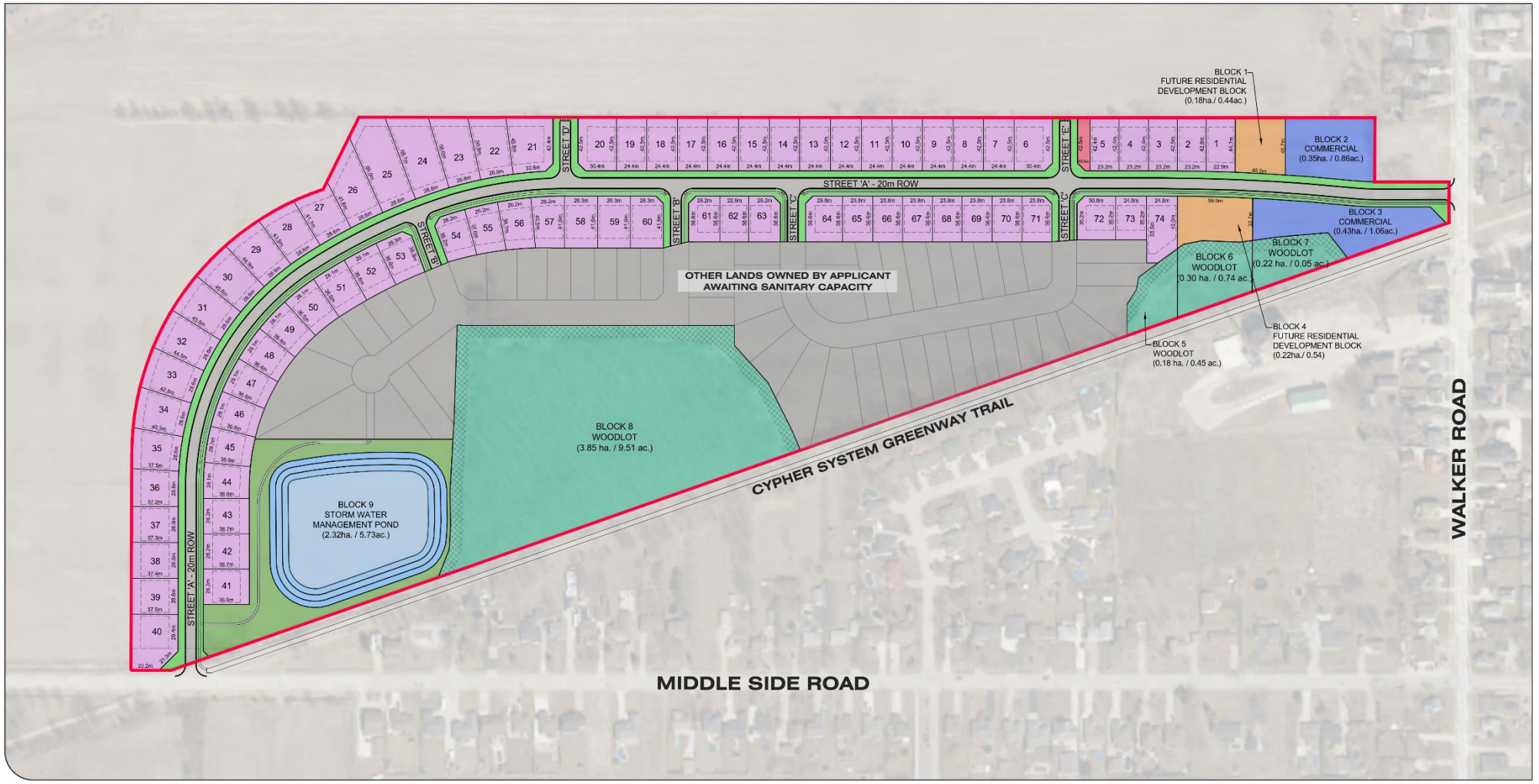
Purpose

- The lands subject to the draft plan of subdivision include the first phase of the development, which is 9.09 hectares in area. The lands have a total area of 26.02 hectares.

- Proposed Draft Plan of Subdivision for 74 single detaches lots and 2 commercial lots.

Conceptual Development Plan



WOODLAND TRAILS
MIDDLE SIDE ROAD AND WALKER ROAD

- SUBJECT AREA (± 26.29ha / 64.96ac)
- OTHER LANDS OWNED BY APPLICANT AWAITING SANITARY CAPACITY
- PROPOSED 60' LOTS (29 LOTS)
- PROPOSED SWM POND
- PROPOSED 64' LOTS (6 LOTS)
- PROPOSED ROW
- PROPOSED+75' LOTS (90 LOTS)
- PROPOSED SIDEWALK/ MULTI USE TRAIL
- PROPOSED COMMERCIAL
- GREEN SPACE
- EXISTING WOODLOT
- 10m WOODLOT BUFFER
- FUTURE RESIDENTIAL
- PUMPING STATION

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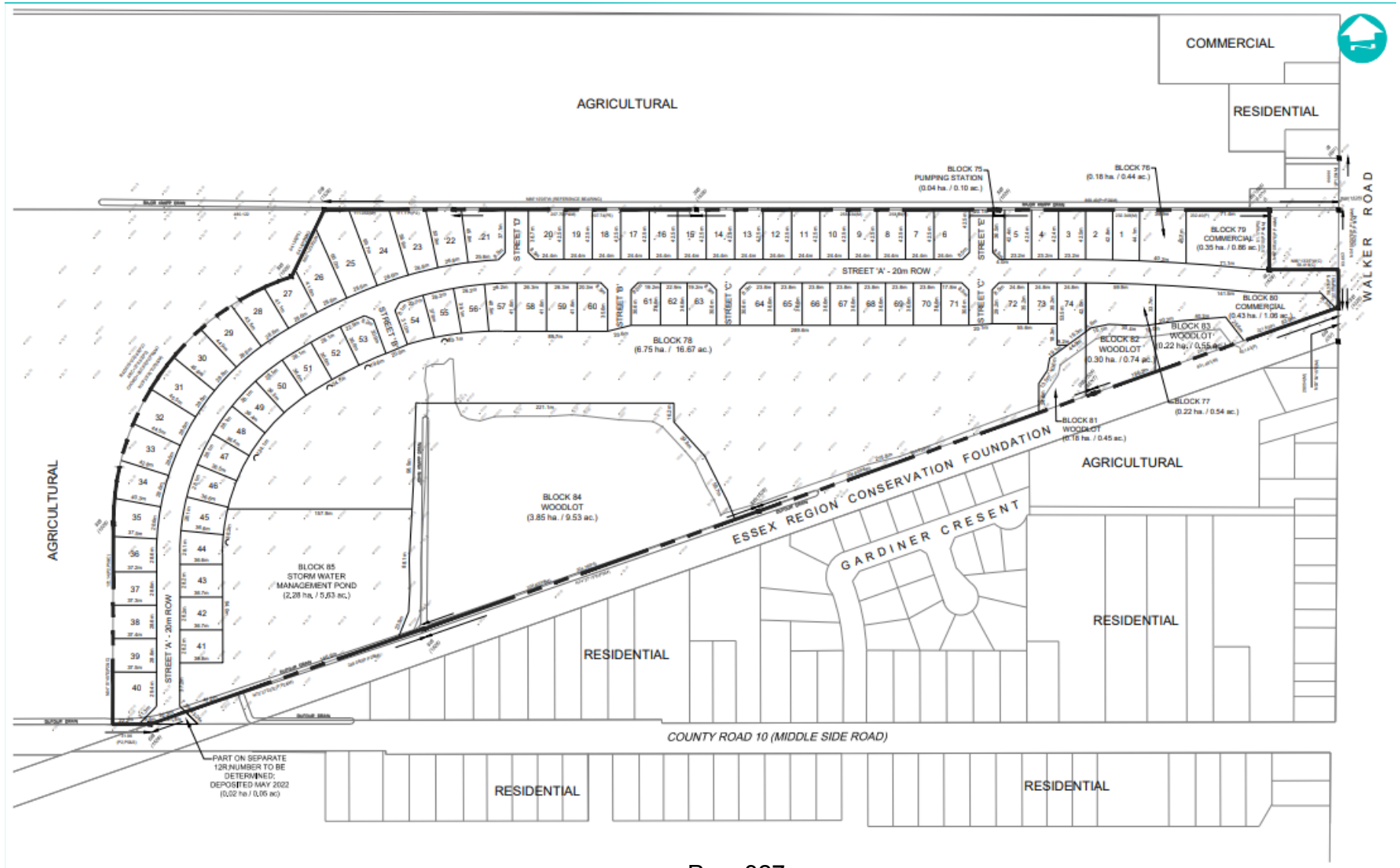
Proposed Draft Plan of Subdivision



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Background Studies and Reports Completed

- Planning Justification Report (PJR)
- Stormwater Management Report (SWM)
- Functional Servicing Report (FSR)
- Transportation Impact Study (TIS)
- Stage 1&2 Archaeological Assessment
- Draft Plan of Subdivision
- Conceptual Development Plan

DILLON CONSULTING

Conclusion

- The proposed development:
  - is consistent with the Provincial Policy Statement, County Official Plan, Town of Amherstburg Official Plan and Zoning By-law;
  - is physically suitable and well located to support the proposed residential and future commercial uses;
  - respects land use compatibility and site suitability directives which support healthy, complete neighbourhoods;
  - is designed in accordance with the Zoning By-law provisions;
  - adds to the vitality of the area while supporting the efficient use of land and existing infrastructure; and
  - contributes to additional housing supply needed in the County and Town.

DILLON CONSULTING

Thank You

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Karl Tanner, MCIP RPP
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