SOLLI ENGINEERING

September 24, 2020

Mr. Michael Glidden
Director of Planning and Community Development
Town of Simsbury Planning and Land Use Department
933 Hopmeadow Street
Simsbury, CT 06070

RE: Site Plan Application Cover Letter
9-15 Albany Turnpike (Route 44 & Route 202)
Canton & Simsbury, Connecticut
Project Number: 1904501

Dear Mr. Glidden:

On behalf of the Applicant, 9-15 Albany Turnpike, LLC, please find enclosed a site plan application package for development of the subject parcel. The proposed development includes an approximately 23,500 square foot electric vehicle showroom over two stories with electric vehicle service component, and associated parking. The site will be accessed from Canton via a primary full-movement driveway with proposed traffic signal on Albany Turnpike (Route 44 & 202) at the western property frontage. A second proposed site access consisting of a right-in/right-out only drive also located in Canton, is proposed along the midpoint of the property frontage with Albany Turnpike (Route 44 & 202).

Please let us know if you have any questions or comments regarding the application and associated submitted materials. We look forward to working with you in the processing of this application.

Respectfully,
Solli Engineering, LLC

Kevin Solli, PE
Principal

Enclosures:

- Application Package
  - Site Plan Application
  - Supplemental Materials and Correspondence
- 9-15 Albany Turnpike Civil Plan Set
- Engineering Report
- Traffic Impact Study

X:\SE Files\Project Data\2019\1904501 - Albany Turnpike, Simsbury\Office Data\Correspondence\2020-09-24 - Town of Simsbury - Site Plan Application Cover Letter.docx

Town of Simsbury

Office of Community Planning and Development - Zoning Commission Application

DATE: 08/31/2020 FEE: $900.00 CK #: _____ APP #: _____

PROPERTY ADDRESS: 9-15 Albany Turnpike

NAME OF OWNER: 9-15 Albany Turnpike, LLC.

MAILING ADDRESS: 184 Fern Avenue Litchfield, CT 06759

EMAIL ADDRESS: mark@markgreenbergrealestate.com TELEPHONE #: 860-491-1404 x102

NAME OF AGENT: Kevin Solli

MAILING ADDRESS: 501 Main Street Monroe, CT 06468

EMAIL ADDRESS: kevin@sollillc.com TELEPHONE #: 203-880-5455

ZONING DISTRICT: B-3 LOT AREA: 25 acres (18 acres within Simsbury) SQ FT/ACRES

Does this site have wetlands? ■YES ☐NO Have you applied for a wetlands permit? ☐YES ☒NO

REQUESTED ACTION (PLEASE CHECK APPROPRIATE BOX):

☐ **ZONE CHANGE**: The applicant hereby requests that said premises be changed from zone _____ to zone _____.
☐ **TEXT AMENDMENT:** Please attach proposed changes, including Articles and Sections, and purposes.
☐ **SPECIAL EXCEPTION:** The applicant hereby requests a public hearing pursuant to Article _____, Section _____.
☒ **SITE PLAN APPROVAL**: The applicant hereby requests
☐PRELIMINARY ☒FINAL ☐SITE PLAN AMENDMENT pursuant to Article 5, Section J
☐ **SIGN PERMIT**
☐ **OTHER (PLEASE EXPLAIN)**: _____

NOTE: Each application must fully comply with the requirements of the Zoning Regulations prior to receipt by the Commission. ***Each application for zone change and/or special exception shall include a list of names and addresses of abutting property owners and all property owners within 100 feet of the subject site.***

A check payable to the Town of Simsbury must accompany this **original signed and dated** application. **Six (6) complete (folded) sets of plans and eleven (11) copies of the completed application and correspondence** must also be included. If you have a PDF of your plans, we would appreciate a copy of that sent to lbarkowski@simsbury-ct.gov, as well.

8/26/20 9/25/2020

Signature of Owner *Date* *Signature of Agent* *Date*

Telephone (860) 658-3245 www.simsbury-ct.gov 933 Hopmeadow Street
Facsimile (860) 658-3206 Simsbury, CT 06070

ENGINEERING REPORT

For the Proposed:

9-15 ALBANY TURNPIKE

Located At:
9 & 15 Albany Turnpike
Canton & Simsbury, Connecticut

Prepared On:
August 11, 2020
Revised On:
September 24, 2020

Prepared By:

SOLLI ENGINEERING

501 Main Street
Monroe, Connecticut 06468
T: (203) 880-5455 F: (203) 880-9695

Prepared For:

9-15 Albany Turnpike, LLC

184 Fern Avenue
Litchfield, Connecticut 06759

Kevin M. Solli, P.E.
Connecticut License No. 25759

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INTRODUCTION

Solli Engineering (Solli) has prepared this engineering report to provide an analysis of the stormwater drainage, trip generation, earthwork, utilities and soil erosion and sediment control measures associated with the development of an 8,384 square-foot gas station/convenience store and a 23,500 square-foot electric vehicle showroom/service shop at 9-15 Albany Turnpike in Canton & Simsbury, Connecticut. The design has been completed in compliance with all applicable Town of Canton & Simsbury codes and regulations as well as all other applicable state and federal requirements and regulations.

PROJECT DESCRIPTION

EXISTING CONDITIONS

The site is located at 9-15 Albany Turnpike in the Canton Business District (B) and the Simsbury Designed Business Development Zone (B-3). The overall site totals approximately 26.0 acres and is bounded by Brass Lantern Road, industrial and commercial properties to the west, residential properties to the north, commercial properties to the east, and Albany Turnpike to the south. The site is currently accessed from a residential driveway at the intersection of Brass Lantern Road and Albany Turnpike. The property is owned by 9-15 Albany Turnpike, LLC and is currently occupied by a single-family residential dwelling.

According to FEMA Flood Insurance Rate Map, Map Numbers 09003C0309F and 09003C0328. The project site is not within a special flood hazard area subject to inundation by the 1% annual chance flood (100-year flood), also known as the base flood. (See Appendix A, Figure 2, FEMA Flood Map)

PROPOSED CONDITIONS

The proposed development consists of the construction of an 8,384± square-foot footprint of a gas station and convenience store on the western portion of the property along Albany Turnpike. The eastern portion of the property along Albany Turnpike is an Electric Vehicle Showroom with an 23,500± square-foot footprint. The development will have shared driveways, parking lots, drainage, and utilities. The proposed development will be accessed via a right-in only driveway on Albany Turnpike as well as a full-movement signalized intersection further north along Albany Turnpike. The site will include new concrete sidewalks and a total of 116 parking spaces.

For each building, an enclosed dumpster pad has been provided to the rear of each building. If trash compaction or similar operations is to be conducted on-site, the operations will be completed between 7:00am and 6:00pm.

The proposed development results in an increase in impervious area of approximately 1.7± acres when compared to existing conditions. To attenuate the peak flows produced by the increase in impervious area the project has been designed with one detention basin and one sub-surface detention basin. The underground detention systems consist of plastic chambers, with associated catch basin, drainage pipes, pretreatment facilities and outlet protection. Refer to the *Stormwater Management* section of this report for more details regarding the proposed drainage system.

STORMWATER MANAGEMENT

The stormwater management plan and design for the proposed industrial facility is intended to be in compliance with the Town of Canton Zoning Regulations Article 7, Section 13, Town of Simsbury Stormwater Management and the 2004 Connecticut Stormwater Quality Manual, while taking prevailing site conditions and practical considerations into account.

METHODOLOGY

Stormwater runoff analysis, for both existing and proposed conditions, was performed using the software package HydroCAD 10.00-22. This software uses the dimensionless unit hydrographs method developed by SCS – TR-55 to compute volumes and rates of runoff. The watershed area, rainfall depths and intensity, curve number and time of concentration are factors that influence the computed results.

Rainfall depths for this area were used for calculating the volumes and rates of runoff for this particular project. The depths were taken from the NOAA Atlas 14 documents (41.8206°, -72.8714°) and are listed in Table 1 below.

Table 1: Rainfall Data

Return Period	24-hr Rainfall Depth (in)
2-year	3.46
5-year	4.62
10-year	5.58
25-year	6.91
50-year	7.87
100-year	8.95

HydroCAD computes the rainfall intensity from IDF curves when the rainfall intensity data is provided. Table 2 shows the data that was used to generate the IDF curves. This information was taken from the from the NOAA Atlas 14 documents (Latitude: 41.8206º, Longitude: -72.8714º) and are listed in Table 2 below.

Table 2: IDF Table

Intermediate Intensity Values (in/hr)				
Return Period	**5-Minute**	**15-Minute**	**30-Minute**	**60-Minute**
2-yr	5.11	2.84	1.92	1.22
5-yr	6.48	3.60	2.44	1.54
10-yr	7.62	4.23	2.87	1.81
25-yr	9.18	5.10	3.46	2.19
50-yr	10.30	5.75	3.91	2.47
100-yr	11.60	6.43	4.37	2.76

SCS uses the runoff curve number (CN) method to estimate runoff from storm rainfall. The major factors that determine CN are the watershed's soil and cover conditions, cover type, treatment and hydrologic condition. The higher percentage of impervious cover within a watershed will result in a higher curve number. A composite curve number was calculated for each analyzed watershed. Refer to Appendix C for the calculations used in determining the existing and proposed curve numbers, for the individual drainage areas.

The time of concentration is the time it takes for runoff to travel from the hydraulically most distant point of the watershed to a point of interest within the watershed. The time of concentration is calculated by adding the travel times of sheet flow, shallow concentrated flow and open channel flow, or some combination of these depending of

the watershed and its features. Refer to Appendix C for the calculations used in determining the existing and proposed time of concentrations, for the individual drainage areas.

EXISTING HYDROLOGY

Slopes on site range from approximately 1 to 50 percent, with a high elevation of approximately 436 feet and a low elevation of approximate 277 feet. According to the NRCS Soil Survey Geographic database for the State of Connecticut, the majority of the site in which the project is proposed is comprised of Cheshire-Holyoke complex and Holyoke-Rock outcrop complex. These soils have a hydrologic soil group rating of B and D. A breakdown of all the soils, located within the property limits, as well as the NRCS Soil Survey Map for the site can be found in Appendix A, Figure 3.

Approximately 16.2 acres of the 26.0-acre site was analyzed for stormwater management purposes. This portion of the site evaluated contains the contributing areas directly impacted by the development. The remaining area flows to the north of the proposed development and would be undisturbed. Based on existing drainage patterns, the 16.2-acres of disturbance was divided into five contributing drainage areas, labeled: Existing Drainage Area 1 (EDA-1), Existing Drainage Area 2 (EDA-2), Existing Drainage Area 3 (EDA-3), Existing Drainage Area 4 (EDA-4) and Existing Drainage Area 5 (EDA-5). The approximate location and delineation of these drainage areas can be seen on Sheet EDA-1, Existing Drainage Area Map, found in Appendix F.

EDA-1 has a contributing area of approximately 5.90 acres. The area is occupied by open space, woods, and impervious ground coverage. This area encompasses the southern portion of the site. The majority of runoff is collected in a swale adjacent to Albany Turnpike. The swale discharges into the headwall and storm culvert the runs onto the property of Best Buy and Hoffman Auto.

EDA-2 has a contributing area of approximately 6.25 acres. The area is occupied by woods. This area encompasses the eastern portion of the site. The majority of runoff from EDA-2 flows northeast before entering the rear of Hoffman Auto.

EDA-3 has a contributing area of approximately 0.29 acres. The area is occupied by impervious ground coverage. This area encompasses the southeastern portion of the site closest to Albany Turnpike. The majority of runoff from EDA-3 flows towards the southeast before draining into the wooded area to the west of Albany Turnpike.

EDA-4 has a contributing area of approximately 2.41 acres. The area is occupied by open space, woods, and impervious ground coverage. The area encompasses the southwestern portion of the site. The majority of runoff from EDA-4 flows towards the southwest into wetlands

EDA-5 has a contributing area of approximately 1.35 acres. The area is occupied by woods. The area encompasses the northwestern portion of the site. The majority of runoff from EDA-5 flows towards the west into wetlands.

Characteristics of these drainage areas are summarized in Table 3. A map depicting existing drainage areas and their characteristics, entitled "Existing Drainage Area Map (EDA-1)", can be found in Appendix F.

Table 3: Existing Drainage Area Characteristics

Drainage Area	Area (Acres)	Curve Number (CN)	Time of Concentration (Minutes)
EDA-1	5.76	68	14.9
EDA-2	6.39	52	18.1
EDA-3	0.29	98	6.0
EDA-4	2.41	81	16.6
EDA-5	1.35	74	17.1

Existing peak flows for all analyzed storm-events are summarized in Table 4. Calculations for the existing hydrology can be found in Appendix C.

Table 4: Existing Peak Flows

Drainage Area	Peak Flow (cfs)					
	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
EDA-1	3.70	7.62	11.28	16.76	20.91	25.70
EDA-2	0.52	2.23	4.48	8.33	11.51	15.34
EDA-1+2	3.85	9.40	15.28	24.51	31.71	40.21
EDA-3	0.95	1.28	1.55	1.92	2.19	2.49
EDA-4	3.36	5.36	7.08	9.52	11.28	13.26
EDA-5	1.37	2.42	3.35	4.71	5.70	6.84

PROPOSED HYROLOGY & HYDRAULICS

The proposed development consists of drainage areas that are of similar patterns to existing contributing areas, within the 16.2± acres analyzed. Based on the proposed drainage patterns, the 16.2-acre area was divided into seven (7) contributing drainage areas, labeled Proposed Drainage Area 1a (PDA-1a), Proposed Drainage Area 1b (PDA-1b), Proposed Drainage Area 1c (PDA-1c), Proposed Drainage Area 2 (PDA-2), Proposed Drainage Area 3 (PDA-3), Proposed Drainage Area 4 (PDA-4),and Proposed Drainage Area 5 (PDA-5). The approximate location and delineation of these drainage areas can be seen on Sheet PDA-1, Drainage Area Map, found in Appendix F.

PDA-1a has a contributing area of approximately 2.29 acres. This area encompasses the southwestern portion of the proposed development and consists of open space and impervious ground coverage. The majority of runoff from PDA-1a flows south before entering a detention basin. The basin discharges southeast into a swale associated with drainage area PDA-1c.

PDA-1b has a contributing area of approximately 1.56 acres. This area is comprised of the southeastern portion of the proposed development and consists of open space and impervious ground coverage. Runoff from PDA-1b will travel east. The basin discharges into a swale associated with drainage area PDA-1c.

PDA-1c has a contributing area of approximately 2.69 acres. This area is comprised of the southeast portion of the site and consists of grass, impervious ground coverage and Albany Turnpike. Runoff from PDA-1c will travel along the swale adjacent to Albany Turnpike and discharges into a swale that is associated with headwall and storm culvert the runs onto the property of Best Buy and Hoffman Auto.

PDA-2 has a contributing area of approximately 5.66 acres. This area is comprised of the eastern portion of the site and consists of woods. Runoff from PDA-2 will travel northeast. The basin discharges into wooded area behind the site.

PDA-3 has a contributing area of approximately 0.29 acres. This area is comprised of the southeastern portion of the site closest to Albany Turnpike and consists of impervious ground coverage. Runoff from PDA-3 will travel southeast. The basin discharges into wooded area to the west of Albany Turnpike.

PDA-4 has a contributing area of approximately 2.32 acres. This area is comprised of the southwestern portion of the site and consists of woods and impervious ground coverage. Runoff from PDA-4 will travel southwest. The basin discharges into wetlands.

PDA-5 has a contributing area of approximately 1.35 acres. This area is comprised of the northwestern portion if the site and consist of woods. Runoff from PDA-5 will travel west. The basin discharges into wooded area to the northwest of the site.

Characteristics of these drainage areas are summarized in Table 5. A map depicting proposed drainage areas can be found in Appendix F.

Table 5: Proposed Drainage Area Characteristics

Drainage Area	Area (Acres)	Curve Number (CN)	Time of Concentration (Minutes)
PDA-1a	2.29	85	14.5
PDA-1b	1.56	93	8.4
PDA-1c	2.69	59	28.1
PDA-2	5.66	52	18.1
PDA-3	0.29	98	6.0
PDA-4	2.32	80	16.6
PDA-5	1.35	74	17.1

Proposed peak flows and volumes for all analyzed storms are summarized in Table 6. Calculations for the proposed hydrology can be found in Appendix C.

Table 6: Proposed Peak Flows

Drainage Area	Peak Flow (cfs)					
	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
PDA- 1* (1a+1b+1c)	2.914	5.76	9.42	14.88	18.49	22.03
PDA-2	0.47	2.01	4.05	7.53	10.41	13.88
PDA-1+2** (1a+1b+1c+2)	3.38	7.66	13.45	22.41	28.89	35.90
PDA-3	0.95	1.28	1.55	1.92	2.19	2.49
PDA-4	3.11	5.01	6.65	8.97	10.69	12.59
PDA-5	1.37	2.42	3.35	4.71	5.70	6.84

*PDA-1 is comprised of contributing areas Basin-1a, Basin-1b, and Basin -1c.
**PDA-1+2 is comprised of contributing areas PDA-1 and PDA-2.

In an effort to improve the quality of the stormwater discharged from the site, the project will include a hydrodynamic separator up-gradient of each basin and hooded catch basins with two-foot sumps. These stormwater quality measures are intended to provide removal of suspended solids before runoff reaches the on-site wetlands.

A proposed stormwater conveyance system, consisting of a series of pipes and catch basins, will collect the majority of the runoff from the proposed impervious areas. These areas include the proposed roof, driveways and parking fields.

The catch basins will include hooded outlets and two-foot sumps to provide additional stormwater treatment. The system also includes one open detention basin and one sub-surface detention basins detention basins, labeled Basin-1a and Basin-1b, with hydrodynamic separators up-gradient of each basin.

Basin-1a is a surface detention that provide approximately 9,950cubic feet of storage. Basin-1a is 6feet deep, with an emergency spillway and outlet control structure that empties to the western portion of the site. The discharge is collected in a swale that runs adjacent to Albany Turnpike. Refer to the Grading & Drainage Plan in Appendix F for details regarding the layout and additional drainage features of the detention system.

Basin-1b is an underground detention system that consist of a series of interconnected plastic chambers surrounded by clean, crushed, angular stone. The chambers and voids between the stone provide approximately 27,791 cubic feet. The chambers are arch shaped with a base of 78 inches and a height of 48 inches. The rows of chambers are spaced 9 inches apart and rest on a 9inch bed of crushed stone. The systems are wrapped in a geotextile fabric to further protect surrounding soils from potential sediment exposure. Basin-1b are designed to attenuate the proposed peak flows for the 2-, 5-, 10-, 25-, 50- and 100-year storm events to result in an overall peak discharge rate less than that of overall existing conditions. Refer to the Grading & Drainage Plan in Appendix F for details regarding the layout and additional drainage features of the underground detention systems.

STORMWATER CONCLUSION

The proposed development results in an increase in impervious area of approximately 2.6 acres when compared to existing conditions. To manage the increase in runoff associated with the increase in impervious area, the project includes the construction of one detention basin and one sub-surface detention basins. These basins are designed to attenuate the proposed rate of runoff for the 2-, 5-, 10-, 25-, 50- and 100-year storm events to result in an overall peak runoff discharge rate to be less than that of overall existing conditions.

Table 7: Peak Flow Comparison Table

Drainage Area	Peak Flow (cfs)					
	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
EDA-1 | **PDA-1a+1b+1c**	3.70 | **2.91**	7.62 | **5.76**	11.28 | **9.42**	16.76 | **14.88**	20.91 | **18.49**	25.70 | **22.03**
EDA-2 | **PDA-2**	0.52 | **0.47**	2.23 | **2.01**	4.48 | **4.05**	8.33 | **7.53**	11.51 | **10.41**	15.34 | **13.88**
EDA-1+2 | **PDA-1a+1b+1c+2**	3.85 | **3.38**	9.40 | **7.66**	15.28 | **13.45**	24.51 | **22.41**	31.71 | **28.89**	40.21 | **35.90**
EDA-3 | **PDA-3**	0.95 | **0.95**	1.28 | **1.28**	1.55 | **1.55**	1.92 | **1.92**	2.19 | **2.19**	2.49 | **2.49**
EDA-4 | **PDA-4**	3.36 | **3.11**	5.36 | **5.01**	7.08 | **6.65**	9.52 | **8.97**	11.28 | **10.69**	13.26 | **12.59**
EDA-5 | **PDA-5**	1.37 | **1.37**	2.42 | **2.42**	3.35 | **3.35**	4.71 | **4.71**	5.70 | **5.70**	6.84 | **6.84**

In an effort to improve the quality of the stormwater discharged from the site, the project will include a hydrodynamic separator up-gradient of each basin and hooded catch basins with two-foot sumps. These stormwater quality measures are intended to provide removal of suspended solids before runoff reaches the off-site drainage features and wetlands.

The hydrodynamic separators will capture and retain 100% of floatables; effectively removing sediment. The unit has been designed to remove more than 80% of the average annual post-construction load of TSS from the stormwater runoff prior to entering the stormwater basin. This hydrodynamic separator has been sized based on the 1" water quality volume

SOIL EROSION AND SEDIMENT CONTROL

The proposed plans for soil erosion and sediment control prepared for this project have been developed in accordance with the Town of Canton Zoning Regulations, Article 7.13, effective date May 12, 2014, the Town of Simsbury Zoning Regulations, Section 11.1.D, effective date June 15, 2020, as well as the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, prepared by the Connecticut Council on Soil and Water Conservation in cooperation with the Connecticut Department of Environmental Protection.

The soil erosion and sediment control measures that will be proposed as part of this project include geotextile silt fences, temporary sediment traps, temporary diversion swales, construction entrance, dust control measures, riprap stabilization, stone check dams, and inlet protection for existing and proposed drainage features.

The temporary sediment traps will be excavated to detain sediment-laden runoff from contributing drainage areas located within the project's limits of disturbance. The sediment traps are proposed in the low-lying areas of each contributing drainage area and have been sized to provide a minimum storage volume of 134 cubic yards per acre of drainage area, per 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.

For more detail regarding layout and design of the soil erosion and sediment control measures implemented as part of this project see Soil Erosion & Sediment Control Plan (Sheet 2.31) and Sediment Control Notes & Details (Sheet 2.41), in Appendix F.

SITE UTILITIES

WATER

An existing water main is located at the northern intersection of Albany Turnpike and Brass Lantern Road. The water main is proposed to be extended along Albany Turnpike and into the property. The 8" water main will be extended through the signalized intersection and provide service to both buildings. The main will also contain a stub for future expansion to the remaining undeveloped portion of the property.

TELEPHONE AND ELECTRIC

Existing telephone and electrical services are located within Albany Turnpike and are provided by Eversource Energy and Frontier Communications, respectively. According to Eversource Energy and Frontier Communications, existing telecommunication and electrical service exists along Albany Turnpike via utility poles and overhead lines. A utility pole will be relocated along Albany Turnpike for the proposed signalized intersection and will provide the proposed services to the project site via underground conduits. Refer to the Utility Plan, in Appendix F, for more detail regarding the layout of the proposed site utilities.

GAS

Gas service is provided by Connecticut Natural Gas Company. According to Connecticut Natural Gas Company an existing gas main is located in Albany Turnpike. A gas main will be extended onto the property and provide service to the project. For more information regarding the layout of proposed gas line see Appendix F for the Utility Plan, Sheet 2.51.

SANITARY SEWER

Public sewage service will be provided by Canton WPCA. According to Canton WPCA, an existing main is located at the intersection of Albany Turnpike and Brass Lantern Road. The existing main is proposed to be extended along Albany Turnpike and onto the property through the signalized intersection. The Gas Station/Convenience store will have a grease trap for kitchen waste and connect to the proposed main extension. The Electric Vehicle Showroom will have a private main extended through the site, between the Gas Station and Gas Pumps to provide service. For more information regarding the layout of proposed gas line see Appendix F for the Utility Plan, Sheet 2.51.

PARKING DEMAND

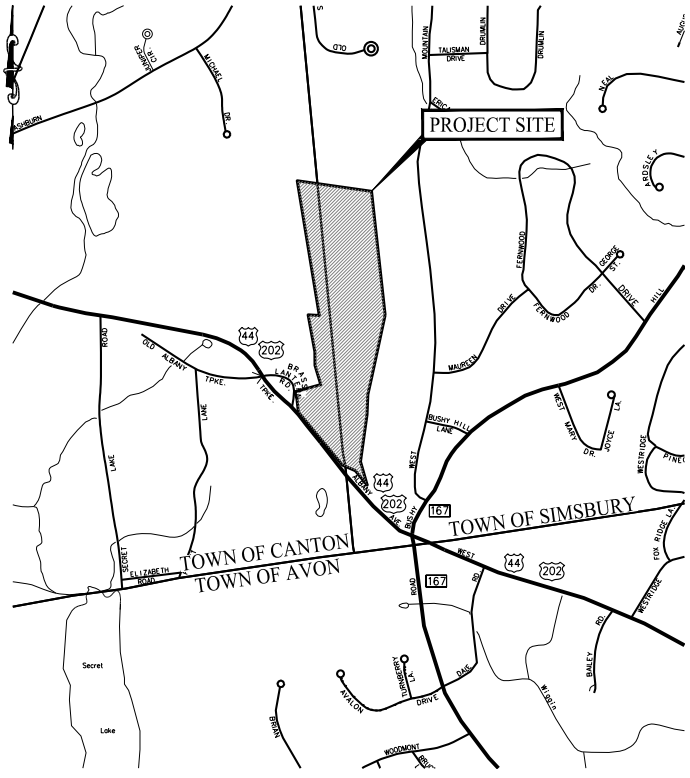
The proposed EV showroom is located within both the Town of Canton and the Town of Simsbury. In accordance with section 10.2 of the Town of Simsbury Regulations, a comparable use is not provided therefore, parking demand was estimated based on the proposed use and operations of the facility. A parking ratio of 1.5 spaces per 1,000 square-feet of gross floor area was applied which results in a parking requirement of 36 spaces, which has been provided.

TRAFFIC & CIRCULATION

A review of traffic operations was conducted to determine any potential traffic impacts associated with the proposed development of the Gas Station/Convince Store and Electric Vehicle Showroom. For more detailed information refer to the Traffic Impact Study.

APPENDIX A
FIGURES

Site Location Map (Figure 1)
FEMA Flood Map (Figure 2)
Soil Survey Map (Figure 3)
Natural Diversity Database Map (Figure 4)
USGS Map (Figure 5)
Aquifer Protection Area Map (Figure 6)
Inland Wetland Map (Figure 7)
Watershed Protection Map (Figure 8)
Impaired Waterbodies Map (Figure 9)



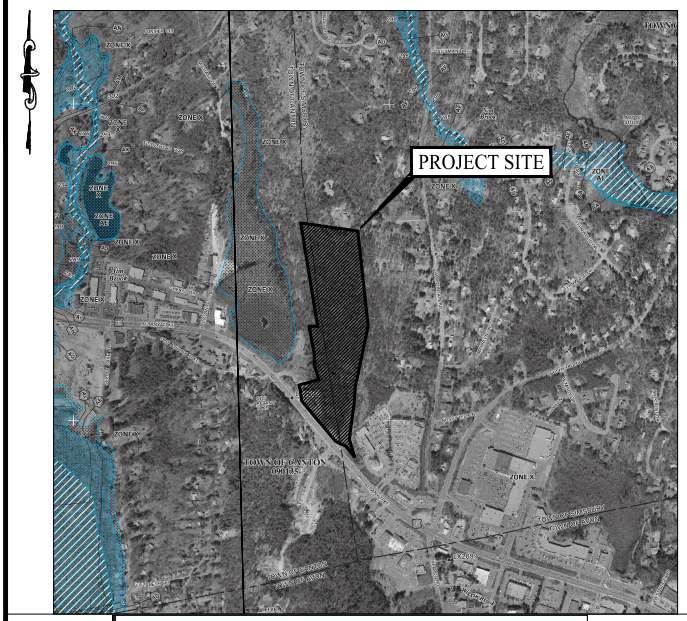
NOTE: BASE MAP INFORMATION TAKEN FROM THE CONNDOT TOWN ROAD MAPS (TRU), MAP NUMBER 004, 023, AND 128

1,000 0 500 1,000

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468
T: (203) 880-5455 F: (203) 880-9695

SITE LOCATION MAP
9-15 ALBANY TURNPIKE
CANTON AND SIMSBURY, CONNECTICUT

Project #:	1904501
Plan Date:	07/13/20
Scale:	1" = 1,000'
Figure:	1



FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

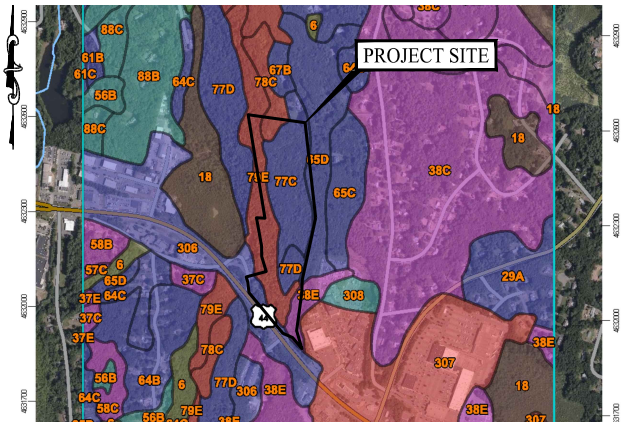
NOTE: BASE MAP INFORMATION TAKEN FROM FIRM FLOOD INSURANCE MAP, PANELS 309 AND 328 OF 626, MAP NUMBERS 09003C0309F AND 09003C0328, EFFECTIVE DATE SEPTEMBER 26, 2008

1,000 0 500 1,000

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468
T: (203) 880-5455 F: (203) 880-9695

FEMA FLOOD INSURANCE MAP
9-15 ALBANY TURNPIKE
CANTON AND SIMSBURY, CONNECTICUT

Project #:	1904501
Plan Date:	07/13/20
Scale:	1" = 1,000'
Figure:	2



Map unit symbol	Map unit name	Rating
38E	Hinckley loamy sand, 15 to 45 percent slopes	A
65D	Cheshire fine sandy loam, 15 to 35 percent slopes, extremely stony	B
77C	Cheshire-Holyoke complex, 3 to 15 percent slopes, very rocky	B
77D	Cheshire-Holyoke complex, 15 to 35 percent slopes, very rocky	B
78C	Holyoke-Rock outcrop complex, 3 to 15 percent slopes	D
79E	Rock outcrop-Holyoke complex, 3 to 45 percent slopes	D
308	Udorthents-Urban land complex	B
307	Urban land	D

NOTE:BASE MAP INFORMATION TAKEN FROM THE
NATURAL RESOURCES CONSERVATION SERVICE, URL:
HTTPS://WEBSOILSURVEY.SC.EGOV.USDA.GOV
DATE OF SURVEY AREA DATA: JUNE 9, 2020

1,000 0 500 1,000

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468
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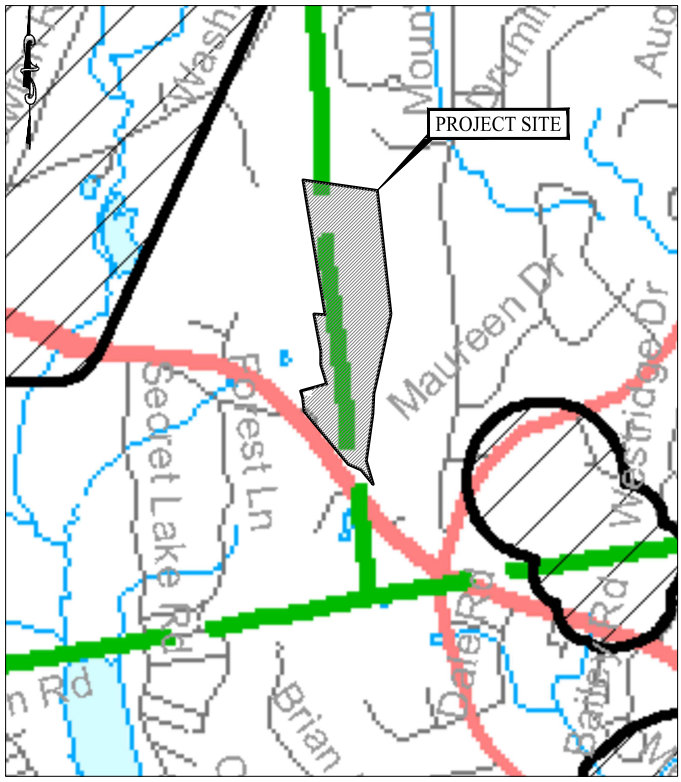
SOIL SURVEY MAP
9-15 ALBANY TURNPIKE
CANTON AND SIMSBURY, CONNECTICUT

Project #:	1904501
Plan Date:	07/13/20
Scale:	1" = 1,000'
Figure:	3



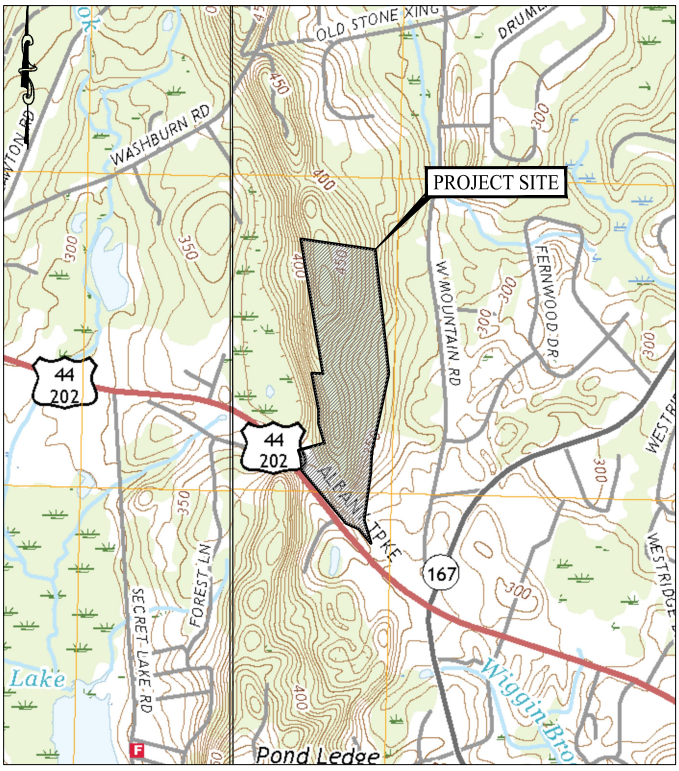
NOTE: BASE MAP INFORMATION TAKEN FROM
CT DEEP NATURAL DIVERSITY DATA BASE
AREAS, CANTON, CT, DATED: DECEMBER 2019

1,000 0 500 1,000

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468
T: (203) 880-5455 F: (203) 880-9695

NATURAL DIVERSITY MAP
9-15 ALBANY TURNPIKE
CANTON AND SIMSBURY, CONNECTICUT

Project #:	1904501
Plan Date:	07/07/20
Scale:	1" = 1,000'
Figure:	4



NOTE: BASE MAP INFORMATION TAKEN FROM USGS AVON AND
COLLINSVILLE CONNECTICUT QUADRANGLES 7.5-MINUTE SERIES.
NGA REF. NO. USGSX24K72664 AND USGSX24K9613

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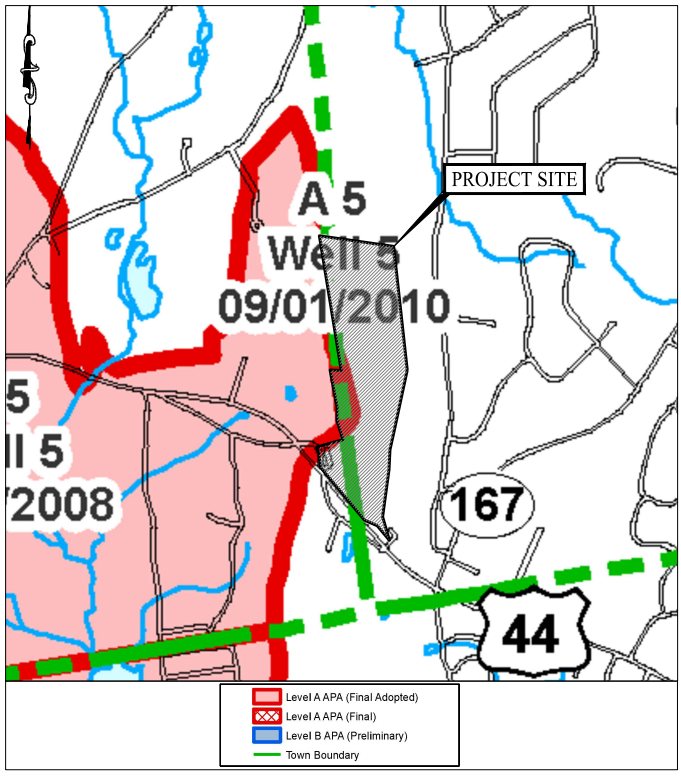
SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468
T: (203) 880-5455 F: (203) 880-9695

USGS MAP
9-15 ALBANY TURNPIKE
CANTON AND SIMSBURY, CONNECTICUT

Project #:	1904501
Plan Date:	07/07/20
Scale:	1" = 1,000'
Figure:	5



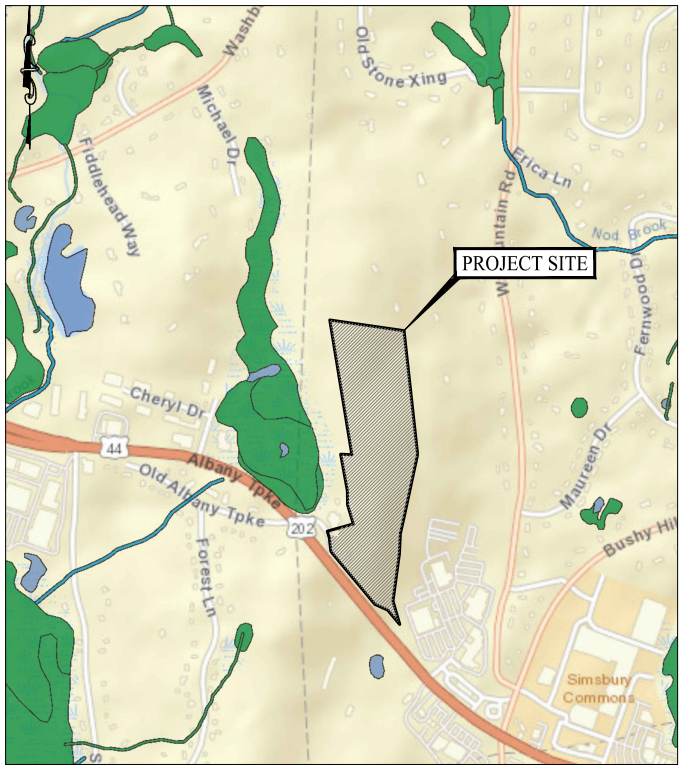
NOTE: BASE MAP INFORMATION TAKEN
FROM CT DEEP AQUIFER PROTECTION AREA
MAP AVON, CT, DATED: AUGUST 26, 2019

1,000 0 500 1,000

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468
T: (203) 880-5455 F: (203) 880-9695

WATERSHED PROTECTION MAP
9-15 ALBANY TURNPIKE
CANTON AND SIMSBURY, CONNECTICUT

Project #:	1904501
Plan Date:	07/07/20
Scale:	1" = 1,000'
Figure:	6



NOTE: BASE MAP INFORMATION TAKEN FROM U.S FISH AND WILDLIFE SERVICES NATIONAL WETLAND INVENTORY

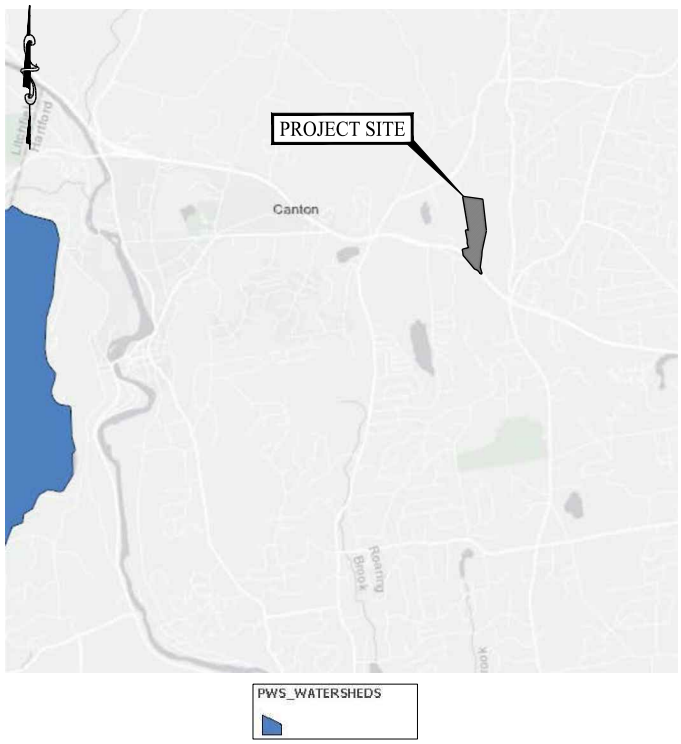
1,000 0 500 1,000

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468
T: (203) 880-5455 F: (203) 880-9695

INLAND WETLAND MAP

9-15 ALBANY TURNPIKE
CANTON AND SIMSBURY, CONNECTICUT

Project #:	1904501
Plan Date:	07/07/20
Scale:	1" = 1,000'
Figure:	7



NOTE:MAP INFORMATION TAKEN FROM ARCGIS.COM PUBLIC WATER SUPPLY WATERSHEDS

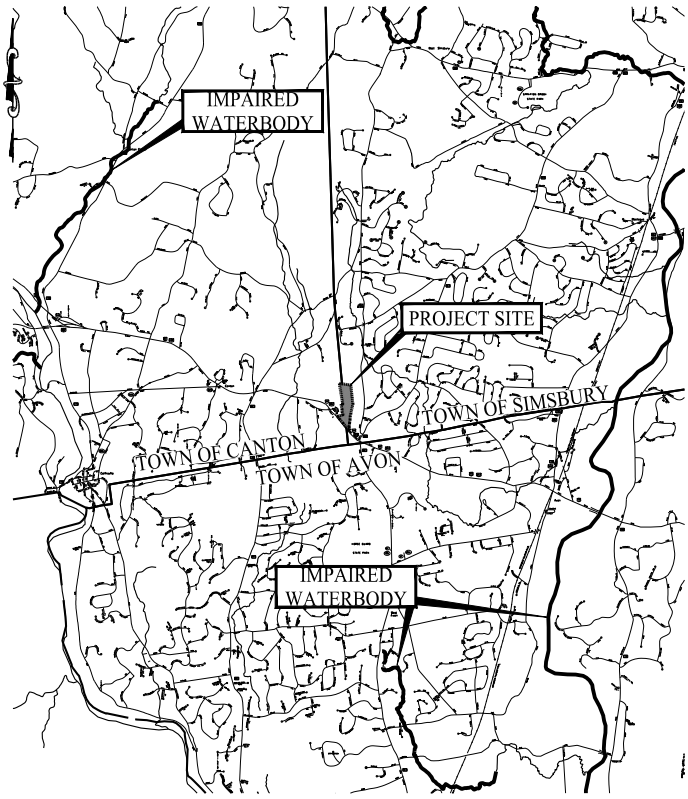
4,000 0 2,000 4,000

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468
T: (203) 880-5455 F: (203) 880-9695

WATERSHED PROTECTION MAP

9-15 ALBANY TURNPIKE
CANTON AND SIMSBURY, CONNECTICUT

Project #:	1904501
Plan Date:	08/11/20
Scale:	1" = 4,000'
Figure:	8



NOTE: BASE MAP INFORMATION TAKEN FROM THE CT ECO ADVANCE VIEWER - WATER QUALITY / IMPAIRED WATERBODIES

5,000 0 2,500 5,000

SOLLI ENGINEERING
501 Main Street, Monroe, CT 06468
T: (203) 880-5455 F: (203) 880-9695

IMPAIRED WATER BODIES MAP

9-15 ALBANY TURNPIKE
CANTON AND SIMSBURY, CONNECTICUT

Project #:	1904501
Plan Date:	08/11/20
Scale:	1" =5,000'
Figure:	9

APPENDIX B
WETLANDS ASSESSMENT

REMA ECOLOGICAL SERVICES, LLC
164 East Center Street, Suite 8
Manchester, CT 06040
860.649.REMA (7362)

ON-SITE SOIL INVESTIGATION & WETLAND DELINEATION REPORT

PROJECT NAME & SITE LOCATION:
9-15 Albany Turnpike (Route 44)
& 15 Colonial Road
Canton & Simsbury, CT

REMA Job No.: 20-2305-CNT46
Field Investigation Date(s): 7/15/20
Field Investigation Method(s):
- ☒ Spade and Auger
- ☐ Backhoe Test Pits
- ☐ Other:

REPORT PREPARED FOR:
Solli Engineering, LLC
501 Main Street
Ste G
Monroe, CT 06468

Field Conditions:
Weather: Partly cloudy, 80s
Soil Moisture: moderate
Snow Depth: N/A
Frost Depth: 0"

Purpose of Investigation:
- ☒ Wetland Delineation/Flagging in Field
- ☐ Wetland Mapping on Sketch Plan or Topographic Plan
- ☐ High Intensity Soil Mapping by Soil Scientist
- ☒ Medium Intensity Soil Mapping from *The Soil Survey of Connecticut* Maps (USDA-NRCS)
- ☐ Other:

Base Map Source: CT Soil Survey web; USDA-NRCS) (attached); Figure A (attached)

Wetland Boundary Marker Series: RES-A-1 to RES-A-37, RES-B-1 to RES-B-7

General Site Description/Comments: The "site" consists of adjacent parcels in both Canton and Simsbury, encompassing +/- 48.94 acres, accessible from Albany Turnpike (Route 44). Landuses surrounding the site include moderate to high-density residential and commercial development, with mostly undeveloped, forested land north and south of the site, along a ridgeline. The on-site soils are derived predominately from glacial till deposits in the uplands (i.e., un stratified sand, silt & rock), but also from glaciofluvial deposits (i.e. stratified sand & gravel), and in the wetlands mostly from organic deposits (i.e., peat & muck). The undisturbed upland soils include the excessively drained Hinckley (38) loamy sand, the well-drained Cheshire-Holyoke (77) and the well-drained Rock outcrop-Holyoke (79) soil series complexes. The undisturbed wetland soils are the very poorly-drained Catden & Freetown (18) soils. The disturbed uplands, where past grading and/or filling has occurred, were mapped as Udorthents (308). Disturbed wetland soils were mapped as Aquents (308w), considered a previously disturbed wetland soils mapping unit. The regulated on-site resources consist of a large organic swamp with forested and scrub-shrub cover types on the Canton parcel. The regulated resource on the Simsbury parcel includes a small elongated depression that receives stormwater from the Best Buy parking lot to the east, and Route 44 from the west. Dominant or common vegetation includes red maple, black locust, tulip, black cherry, gray birch, red oak, cottonwood, hemlock, spice bush, white pine, silky dogwood, Morrow's honeysuckle, multiflora rose, witch hazel, Japanese knotweed, periwinkle, jack-in-the-pulpit, Japanese stilt grass, skunk cabbage, goldenrods, asters, cinnamon fern, Christmas fern, Virginia creeper, poison ivy, fox grape, and others.

SOIL MAP UNITS

Upland Soils

Hinckley loamy sand (38). This series consists of very deep, excessively drained soils formed in a shallow, loamy sand mantle underlain by gravelly sand, and water deposited glacial outwash materials. They are level to very steep soils on outwash plains, terraces, deltas, kames and eskers. The soils formed in loamy over stratified sandy and gravelly glacial outwash derived mainly from crystalline rocks. Typically, these soils have a very dark grayish brown loamy sand surface layer 7 inches thick. The subsoil layers from 7 to 15 inches are strong brown and yellowish brown gravelly loamy sand. From 15 to 18 inches the subsoil is yellowish brown gravelly sand. The substratum from 18 to 60 inches is light olive brown stratified sand, gravel and cobblestones.

Cheshire fine sandy loam (77). The Cheshire series consists of reddish, well-drained soils that have developed on glacial till. The till was derived mainly from reddish-brown Triassic sandstone and conglomerate that contained basalt and other rocks in various amounts. It ranges from gravelly sandy loam to gravelly loamy sand and is firm to very friable. Cheshire soils occur on gently sloping or undulating to hilly till plains.

Holyoke rocky silt loam (77). The Holyoke series consists of shallow, well and somewhat excessively drained, loamy soils formed in a thin mantle of friable glacial till from Triassic materials over bedrock. Depth to bedrock ranges from 10 to 20 inches. The soils developed in glacial till derived mainly from reddish Triassic sandstone, conglomerate and shale with some basalt. Typically, these soils have a very dark grayish brown silt loam surface layer 2 inches thick. The subsoil from 2 to 13 inches is dark reddish-brown, silt loam. Hard, unweathered bedrock lies under the subsoil.

Udorthents (308). This soil mapping unit consists of well drained to moderately well drained soils that have been altered by cutting, filling, or grading. The areas either have had two feet or more of the upper part of the original soil removed or have more than two feet of fill material on top of the original soil. Udorthents or Made Land soils can be found on any soil parent material but are typically fluvial on glacial till plains and outwash plains and stream terraces.

Wetland Soils

Catden & Freetown mucks (18). This series, formerly known as Carlisle, consists of very poorly drained soils formed in organic materials more than 51 inches thick. Carlisle soils are found within lake till plains, lake plains, outwash plains and glacial moraines. The size of these areas ranges from small, isolated depressions (e.g. kettle-holes) to wetlands several hundred acres in size. Slope gradients are less than 2 percent. One of the regions unique wetland communities, bogs, has formed on these materials. Typically, this soil has a black muck layer to a depth of 51 inches or more. The Freetown series is very similar to the Catden series, but these soils have a somewhat higher saturated hydraulic conductivity, and have a dysic reaction class, that is, they are more acidic. By definition to meet the dysic reaction class criterion, the pH must be less than 4.5 (in 0.01M CaCl2) in all parts of the control section of the Histosol.

SOIL MAP UNITS

Aquents (308w). This soil map unit consists of poorly drained and very poorly drained, disturbed land areas. They are most often found on landscapes which have been subject to prior filling and/or excavation activities. In general, this soil map unit occurs where two or more feet of the original soil surface has been filled over, graded or excavated. The Aquents are characterized by a seasonal to prolonged high ground water table and either support or are capable of supporting wetland vegetation. Aquents are recently formed soils which have an aquic moisture regime. An aquic moisture regime is associated with a reducing soil environment that is virtually free of dissolved oxygen because the soil is saturated by groundwater or by water of the capillary fringe. The key feature is the presence of a ground water table at or very near to the soil surface for a period of fourteen days or longer during the growing season.

Any accompanying soil logs and soil maps, and the on-site soil investigation narrative are in accordance with the taxonomic classification of the National Cooperative Soil Survey of the USDA Natural Resource Conservation Service, and with the Connecticut Soil Legend (DEP Bulletin No.5, 1983), as amended by USDA-NRCS. Jurisdictional wetland boundaries were delineated pursuant to the Connecticut General Statutes (CGS Sections 22a-36 to 22a-45), as amended. The site investigation was conducted and/or reviewed by the undersigned Registered Soil Scientist(s) [registered with the Society of Soil Scientists of Southern New England (SSSSNE) in accordance with the standards of the Federal Office of Personnel Management].

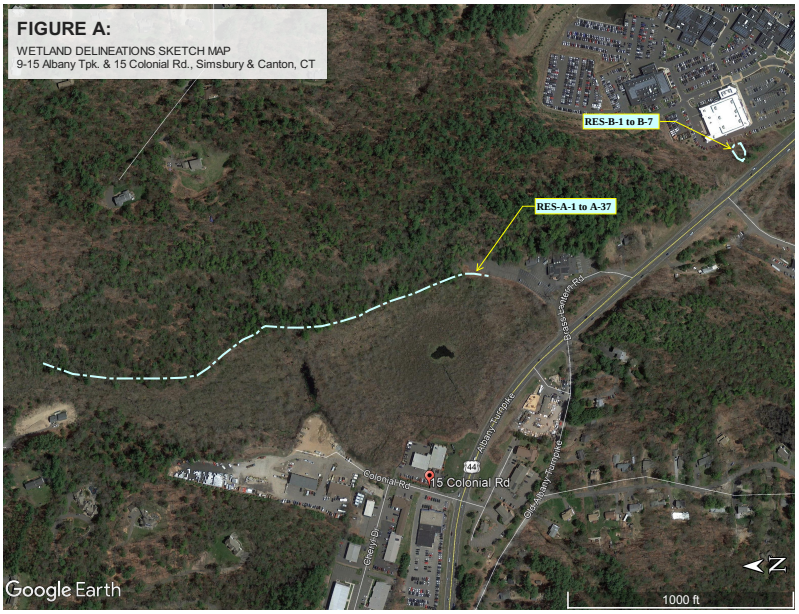
Respectfully submitted,

REMA ECOLOGICAL SERVICES, LLC

George T. Logan

George T. Logan, MS, PWS, CSE
Registered Soil Scientist
Field Investigator/Senior Reviewer

FIGURE A:
WETLAND DELINEATIONS SKETCH MAP
9-15 Albany Tpk. & 15 Colonial Rd., Simsbury & Canton, CT



Soil Map—State of Connecticut
(15 Colonial Road & 9-15 Albany Turnpike, Canton & Simsbury)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut
Survey Area Data: Version 19, Sep 13, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 15, 2019—Aug 29, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
6	Wilbraham and Menlo soils, 0 to 8 percent slopes, extremely stony	2.6	1.3%
18	Catden and Freetown soils, 0 to 2 percent slopes	18.7	9.6%
37C	Manchester gravelly sandy loam, 3 to 15 percent slopes	2.4	1.2%
38C	Hinckley loamy sand, 3 to 15 percent slopes	1.9	1.0%
38E	Hinckley loamy sand, 15 to 45 percent slopes	6.2	3.2%
58B	Gloucester gravelly sandy loam, 3 to 8 percent slopes, very stony	0.0	0.0%
64B	Cheshire fine sandy loam, 3 to 8 percent slopes, very stony	12.4	6.3%
64C	Cheshire fine sandy loam, 8 to 15 percent slopes, very stony	7.8	4.0%
65C	Cheshire fine sandy loam, 3 to 15 percent slopes, extremely stony	9.8	5.0%
65D	Cheshire fine sandy loam, 15 to 35 percent slopes, extremely stony	19.5	10.0%
67B	Narragansett silt loam, 3 to 8 percent slopes, very stony	2.6	1.3%
77C	Cheshire-Holyoke complex, 3 to 15 percent slopes, very rocky	13.5	6.9%
77D	Cheshire-Holyoke complex, 15 to 35 percent slopes, very rocky	19.7	10.1%
78C	Holyoke-Rock outcrop complex, 3 to 15 percent slopes	7.2	3.7%
78E	Holyoke-Rock outcrop complex, 15 to 45 percent slopes	0.7	0.4%
79E	Rock outcrop-Holyoke complex, 3 to 45 percent slopes	19.0	9.7%
88B	Wethersfield loam, 3 to 8 percent slopes, very stony	14.2	7.3%
306	Udorthents-Urban land complex	26.5	13.5%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
307	Urban land	8.4	4.3%
308	Udorthents, smoothed	2.2	1.1%
Totals for Area of Interest		**195.3**	**100.0%**

APPENDIX C
EXISTING & PROPOSED HYDROLOGY CALCULATIONS

NOAA Atlas Precipitation Data
Watershed Model Schematic
Hydrograph Return Period Recap
Hydrograph Summary Report
Existing Curve Number Calculations
Existing Time of Concentration Calculations
Proposed Curve Number Calculations
Proposed Time of Concentration Calculations

NOAA Atlas 14, Volume 10, Version 3
Location name: West Simsbury, Connecticut, USA*
Latitude: 41.8206°, Longitude: -72.8714°
Elevation: 348.66 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite
NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.356 (0.274-0.457)	0.426 (0.327-0.547)	0.540 (0.413-0.695)	0.635 (0.484-0.823)	0.765 (0.564-1.04)	0.863 (0.625-1.20)	0.965 (0.680-1.40)	1.08 (0.723-1.60)	1.24 (0.801-1.91)	1.37 (0.865-2.16)
10-min	0.505 (0.388-0.647)	0.604 (0.463-0.774)	0.765 (0.585-0.985)	0.899 (0.684-1.17)	1.08 (0.800-1.47)	1.22 (0.885-1.70)	1.37 (0.963-1.98)	1.53 (1.02-2.27)	1.75 (1.14-2.71)	1.94 (1.23-3.08)
15-min	0.594 (0.456-0.761)	0.710 (0.545-0.911)	0.900 (0.689-1.16)	1.06 (0.805-1.37)	1.27 (0.941-1.73)	1.44 (1.04-2.00)	1.61 (1.13-2.33)	1.80 (1.21-2.67)	2.06 (1.33-3.19)	2.28 (1.44-3.60)
30-min	0.804 (0.618-1.03)	0.962 (0.739-1.24)	1.22 (0.934-1.57)	1.44 (1.09-1.86)	1.73 (1.28-2.35)	1.95 (1.41-2.72)	2.19 (1.54-3.16)	2.44 (1.64-3.63)	2.81 (1.82-4.33)	3.10 (1.96-4.90)
60-min	1.01 (0.779-1.30)	1.22 (0.932-1.56)	1.54 (1.18-1.99)	1.81 (1.38-2.35)	2.19 (1.62-2.97)	2.47 (1.79-3.43)	2.76 (1.95-4.00)	3.09 (2.07-4.59)	3.55 (2.30-5.48)	3.92 (2.46-6.19)
2-hr	1.32 (1.02-1.67)	1.57 (1.21-2.00)	1.98 (1.53-2.54)	2.33 (1.78-3.00)	2.80 (2.09-3.80)	3.15 (2.31-4.39)	3.53 (2.52-5.13)	3.98 (2.68-5.89)	4.64 (3.01-7.15)	5.21 (3.31-8.20)
3-hr	1.52 (1.18-1.93)	1.82 (1.41-2.31)	2.30 (1.78-2.93)	2.70 (2.08-3.47)	3.26 (2.44-4.41)	3.67 (2.70-5.10)	4.11 (2.95-5.98)	4.65 (3.14-6.88)	5.48 (3.58-8.42)	6.19 (3.94-9.72)
6-hr	1.92 (1.50-2.41)	2.32 (1.81-2.92)	2.97 (2.31-3.76)	3.51 (2.72-4.47)	4.25 (3.21-5.74)	4.80 (3.56-6.66)	5.40 (3.92-7.87)	6.16 (4.17-9.07)	7.34 (4.79-11.2)	8.37 (5.34-13.1)
12-hr	2.36 (1.86-2.95)	2.90 (2.28-3.63)	3.79 (2.97-4.77)	4.53 (3.53-5.73)	5.54 (4.21-7.45)	6.29 (4.70-8.69)	7.11 (5.20-10.3)	8.15 (5.54-12.0)	9.80 (6.41-15.0)	11.2 (7.19-17.5)
24-hr	2.75 (2.19-3.42)	3.46 (2.74-4.31)	4.62 (3.65-5.77)	5.58 (4.39-7.02)	6.91 (5.29-9.26)	7.87 (5.93-10.9)	8.95 (6.61-13.0)	10.3 (7.06-15.1)	12.6 (8.28-19.2)	14.6 (9.39-22.7)
2-day	3.08 (2.47-3.81)	3.95 (3.16-4.89)	5.37 (4.28-6.67)	6.55 (5.18-8.18)	8.17 (6.31-10.9)	9.34 (7.11-12.9)	10.7 (7.98-15.6)	12.5 (8.53-18.2)	15.5 (10.2-23.5)	18.2 (11.7-28.2)
3-day	3.36 (2.70-4.13)	4.32 (3.46-5.31)	5.88 (4.70-7.27)	7.17 (5.70-8.93)	8.96 (6.95-12.0)	10.2 (7.83-14.1)	11.7 (8.81-17.1)	13.7 (9.41-20.0)	17.1 (11.3-25.9)	20.2 (13.0-31.2)
4-day	3.61 (2.91-4.43)	4.63 (3.73-5.69)	6.30 (5.05-7.77)	7.69 (6.12-9.54)	9.59 (7.46-12.8)	11.0 (8.40-15.1)	12.5 (9.44-18.3)	14.7 (10.1-21.3)	18.3 (12.1-27.6)	21.6 (13.9-33.3)
7-day	4.31 (3.50-5.26)	5.46 (4.42-6.67)	7.34 (5.92-9.00)	8.90 (7.13-11.0)	11.0 (8.63-14.6)	12.6 (9.68-17.2)	14.4 (10.8-20.6)	16.7 (11.5-24.2)	20.7 (13.7-31.2)	24.3 (15.7-37.3)
10-day	5.02 (4.08-6.10)	6.23 (5.06-7.58)	8.21 (6.65-10.0)	9.85 (7.93-12.1)	12.1 (9.49-15.9)	13.8 (10.6-18.7)	15.6 (11.8-22.4)	18.1 (12.5-26.0)	22.1 (14.7-33.2)	25.8 (16.7-39.6)
20-day	7.24 (5.94-8.74)	8.50 (6.96-10.3)	10.6 (8.61-12.8)	12.3 (9.94-15.0)	14.6 (11.5-19.0)	16.3 (12.6-21.9)	18.2 (13.7-25.7)	20.7 (14.4-29.6)	24.6 (16.4-36.7)	28.0 (18.2-42.8)
30-day	9.11 (7.59-10.9)	10.4 (8.53-12.5)	12.5 (10.2-15.1)	14.2 (11.5-17.3)	16.5 (13.0-21.3)	18.3 (14.1-24.2)	20.2 (15.1-28.1)	22.5 (15.7-32.1)	26.1 (17.5-38.6)	29.2 (19.0-44.5)
45-day	11.4 (9.44-13.7)	12.7 (10.5-15.2)	14.8 (12.2-17.9)	16.6 (13.6-20.1)	19.0 (15.0-24.3)	20.9 (16.1-27.3)	22.8 (16.9-31.2)	24.9 (17.5-35.3)	28.0 (18.8-41.5)	30.5 (19.9-46.4)
60-day	13.3 (11.0-15.9)	14.7 (12.1-17.5)	16.9 (13.9-20.2)	18.7 (15.3-22.6)	21.2 (16.7-26.9)	23.1 (17.8-30.1)	25.1 (18.6-33.9)	27.1 (19.1-38.3)	29.7 (20.0-43.9)	31.7 (20.7-48.2)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
Please refer to NOAA Atlas 14 document for more information.

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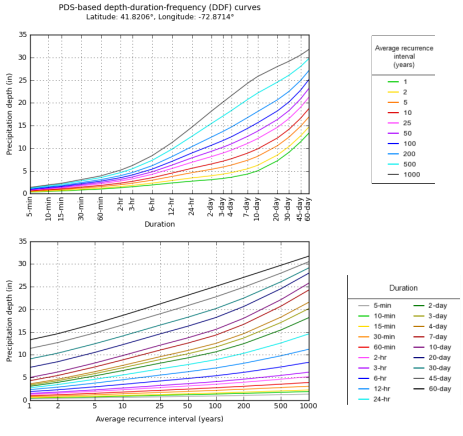
PF graphical



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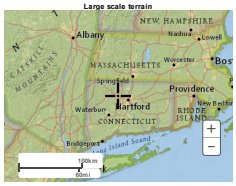
Large scale terrain



Large scale map

NOAA Atlas 14, Volume 10, Version 3
Location name: West Simsbury, Connecticut, USA*
Latitude: 41.8206°, Longitude: -72.8714°
Elevation: 348.66 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite
NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	4.27 (3.29-5.48)	5.11 (3.92-6.56)	6.48 (4.96-8.34)	7.62 (5.81-9.88)	9.18 (6.77-12.5)	10.4 (7.50-14.4)	11.6 (8.16-16.7)	12.9 (8.66-19.2)	14.8 (9.61-22.9)	16.4 (10.4-25.9)
10-min	3.03 (2.33-3.88)	3.62 (2.78-4.64)	4.59 (3.51-5.91)	5.39 (4.10-6.99)	6.50 (4.80-8.83)	7.33 (5.31-10.2)	8.20 (5.78-11.9)	9.16 (6.14-13.6)	10.5 (6.81-16.2)	11.6 (7.35-18.3)
15-min	2.38 (1.82-3.04)	2.84 (2.18-3.64)	3.60 (2.76-4.64)	4.23 (3.22-5.48)	5.10 (3.76-6.92)	5.75 (4.17-7.99)	6.43 (4.53-9.30)	7.18 (4.82-10.7)	8.25 (5.34-12.7)	9.11 (5.76-14.4)
30-min	1.61 (1.24-2.06)	1.92 (1.48-2.47)	2.44 (1.87-3.14)	2.87 (2.19-3.72)	3.46 (2.56-4.70)	3.91 (2.83-5.43)	4.37 (3.08-6.32)	4.88 (3.28-7.26)	5.61 (3.63-8.67)	6.20 (3.92-9.79)
60-min	1.01 (0.779-1.30)	1.22 (0.932-1.56)	1.54 (1.18-1.99)	1.81 (1.38-2.35)	2.19 (1.62-2.97)	2.47 (1.79-3.43)	2.76 (1.95-4.00)	3.09 (2.07-4.59)	3.55 (2.30-5.48)	3.92 (2.46-6.19)
2-hr	0.658 (0.508-0.837)	0.784 (0.606-1.00)	0.992 (0.764-1.27)	1.16 (0.892-1.50)	1.40 (1.04-1.90)	1.58 (1.15-2.19)	1.77 (1.26-2.56)	1.99 (1.34-2.95)	2.32 (1.51-3.59)	2.60 (1.65-4.10)
3-hr	0.506 (0.393-0.641)	0.604 (0.469-0.768)	0.766 (0.592-0.976)	0.900 (0.692-1.15)	1.08 (0.812-1.47)	1.22 (0.898-1.70)	1.37 (0.984-1.99)	1.55 (1.05-2.29)	1.82 (1.19-2.80)	2.06 (1.31-3.24)
6-hr	0.320 (0.250-0.403)	0.387 (0.302-0.488)	0.495 (0.386-0.628)	0.586 (0.454-0.747)	0.710 (0.536-0.958)	0.802 (0.595-1.11)	0.902 (0.655-1.31)	1.03 (0.696-1.52)	1.23 (0.799-1.88)	1.40 (0.891-2.19)
12-hr	0.195 (0.154-0.245)	0.241 (0.189-0.302)	0.314 (0.247-0.396)	0.376 (0.293-0.476)	0.460 (0.350-0.618)	0.522 (0.390-0.722)	0.590 (0.431-0.858)	0.677 (0.460-0.993)	0.813 (0.532-1.24)	0.933 (0.597-1.46)
24-hr	0.115 (0.091-0.143)	0.144 (0.114-0.179)	0.193 (0.152-0.241)	0.233 (0.183-0.293)	0.288 (0.220-0.386)	0.328 (0.247-0.453)	0.373 (0.275-0.543)	0.431 (0.294-0.630)	0.526 (0.345-0.799)	0.609 (0.391-0.947)
2-day	0.064 (0.051-0.079)	0.082 (0.066-0.102)	0.112 (0.089-0.139)	0.136 (0.106-0.170)	0.170 (0.131-0.228)	0.195 (0.146-0.269)	0.222 (0.166-0.325)	0.260 (0.178-0.379)	0.322 (0.212-0.489)	0.379 (0.244-0.587)
3-day	0.047 (0.037-0.057)	0.060 (0.048-0.074)	0.082 (0.065-0.101)	0.100 (0.079-0.124)	0.124 (0.097-0.166)	0.142 (0.109-0.196)	0.163 (0.122-0.238)	0.191 (0.131-0.277)	0.238 (0.157-0.360)	0.280 (0.181-0.433)
4-day	0.038 (0.030-0.046)	0.048 (0.039-0.059)	0.066 (0.053-0.081)	0.080 (0.064-0.099)	0.100 (0.079-0.133)	0.114 (0.087-0.157)	0.131 (0.098-0.191)	0.153 (0.105-0.222)	0.191 (0.126-0.288)	0.225 (0.145-0.347)
7-day	0.026 (0.021-0.031)	0.033 (0.026-0.040)	0.044 (0.035-0.054)	0.053 (0.042-0.065)	0.066 (0.051-0.087)	0.075 (0.058-0.102)	0.085 (0.064-0.124)	0.100 (0.069-0.144)	0.123 (0.082-0.185)	0.145 (0.094-0.222)
10-day	0.021 (0.017-0.025)	0.026 (0.021-0.032)	0.034 (0.028-0.042)	0.041 (0.033-0.051)	0.050 (0.040-0.066)	0.057 (0.044-0.078)	0.065 (0.049-0.094)	0.075 (0.052-0.108)	0.092 (0.061-0.139)	0.107 (0.070-0.165)
20-day	0.015 (0.012-0.018)	0.018 (0.014-0.021)	0.022 (0.018-0.027)	0.026 (0.021-0.031)	0.030 (0.024-0.040)	0.034 (0.026-0.046)	0.038 (0.029-0.054)	0.043 (0.030-0.062)	0.051 (0.034-0.076)	0.058 (0.038-0.089)
30-day	0.013 (0.010-0.015)	0.014 (0.012-0.017)	0.017 (0.014-0.021)	0.020 (0.016-0.024)	0.023 (0.018-0.030)	0.025 (0.020-0.034)	0.028 (0.021-0.039)	0.031 (0.022-0.045)	0.036 (0.024-0.054)	0.040 (0.026-0.062)
45-day	0.011 (0.009-0.013)	0.012 (0.010-0.014)	0.014 (0.011-0.017)	0.015 (0.013-0.019)	0.018 (0.014-0.022)	0.019 (0.015-0.025)	0.021 (0.016-0.029)	0.023 (0.016-0.033)	0.026 (0.017-0.038)	0.028 (0.019-0.043)
60-day	0.009 (0.008-0.011)	0.010 (0.008-0.012)	0.012 (0.010-0.014)	0.013 (0.011-0.016)	0.015 (0.012-0.019)	0.016 (0.012-0.021)	0.017 (0.013-0.024)	0.019 (0.013-0.027)	0.021 (0.014-0.030)	0.022 (0.014-0.033)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
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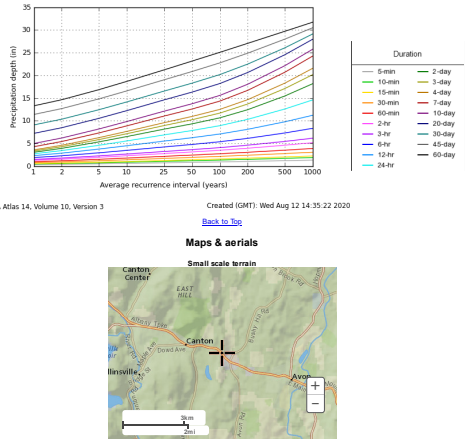
PF graphical



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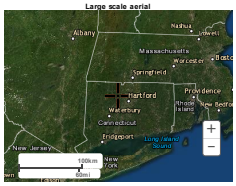
Large scale terrain

Large scale map

Large scale aerial



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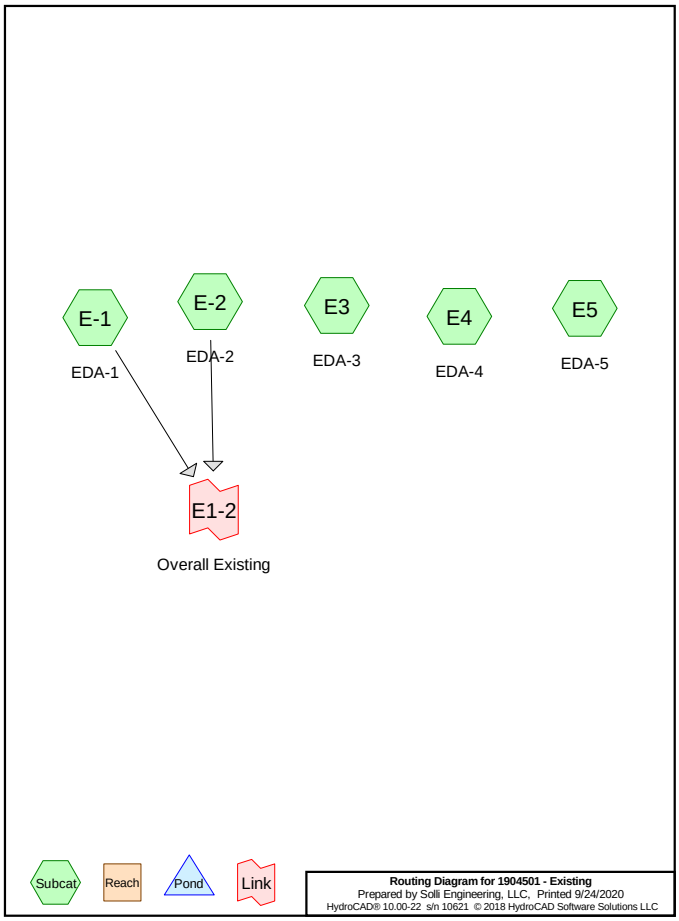
US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E-1: EDA-1 Runoff Area=5.904 ac 7.99% Impervious Runoff Depth>0.82"
Tc=14.9 min CN=67 Runoff=3.70 cfs 0.404 af

Subcatchment E-2: EDA-2 Runoff Area=6.250 ac 0.00% Impervious Runoff Depth>0.25"
Tc=18.1 min CN=52 Runoff=0.52 cfs 0.129 af

Subcatchment E3: EDA-3 Runoff Area=0.290 ac 100.00% Impervious Runoff Depth>3.22"
Tc=6.0 min CN=98 Runoff=0.95 cfs 0.078 af

Subcatchment E4: EDA-4 Runoff Area=2.408 ac 40.49% Impervious Runoff Depth>1.65"
Tc=16.6 min CN=81 Runoff=3.36 cfs 0.331 af

Subcatchment E5: EDA-5 Runoff Area=1.350 ac 0.00% Impervious Runoff Depth>1.20"
Tc=15.1 min CN=74 Runoff=1.37 cfs 0.135 af

Link E1-2: Overall Existing Inflow=3.85 cfs 0.533 af
Primary=3.85 cfs 0.533 af

Summary for Subcatchment E-1: EDA-1

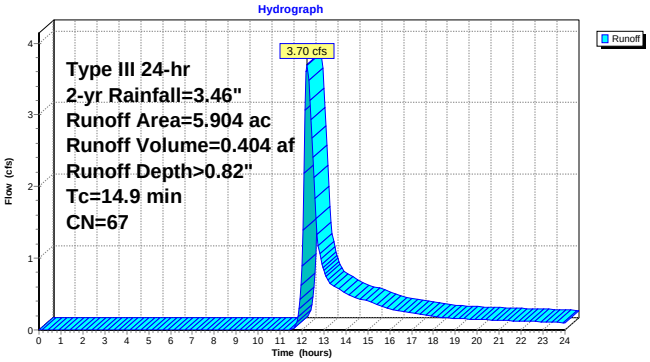
Runoff = 3.70 cfs @ 12.24 hrs, Volume= 0.404 af, Depth> 0.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.46"

	Area (ac)	CN	Description
*	0.743	30	Woods - A
*	0.175	45	Woods - A poor
*	0.511	55	Woods - B
*	0.432	55	Woods - B
*	0.018	66	Woods - B poor
*	2.005	77	Woods - D
*	0.040	83	Woods - D poor
*	0.054	49	Grass - A
*	1.082	69	Grass - B
*	0.120	79	Grass - B poor
*	0.096	84	Grass - D
*	0.024	89	Grass - D poor
*	0.132	84	Grass -D
*	0.472	98	Impervious
	5.904	67	Weighted Average
	5.432		92.01% Pervious Area
	0.472		7.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.9					**Direct Entry,**

Subcatchment E-1: EDA-1



Summary for Subcatchment E-2: EDA-2

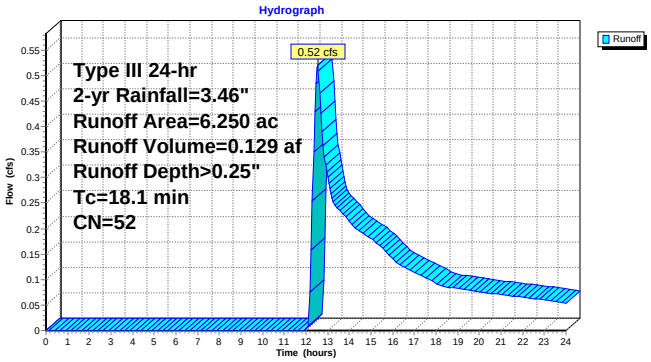
Runoff = 0.52 cfs @ 12.53 hrs, Volume= 0.129 af, Depth> 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.46"

	Area (ac)	CN	Description
*	1.210	30	Woods - A
*	0.180	45	Woods - A poor
*	4.180	55	Woods - B
*	0.620	77	Woods - D
*	0.060	84	Grass - D
	6.250	52	Weighted Average
	6.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1					Direct Entry,

Subcatchment E-2: EDA-2



Summary for Subcatchment E3: EDA-3

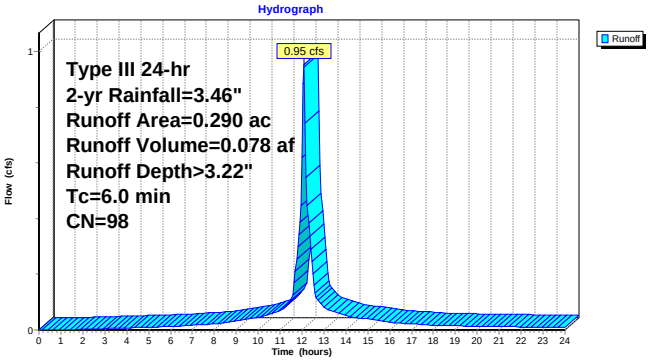
Runoff = 0.95 cfs @ 12.09 hrs, Volume= 0.078 af, Depth> 3.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.46"

	Area (ac)	CN	Description
*	0.290	98	Impervious
	0.290		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment E3: EDA-3



Summary for Subcatchment E4: EDA-4

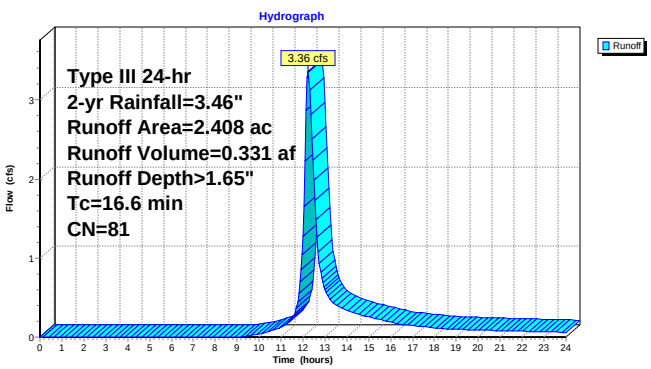
Runoff = 3.36 cfs @ 12.24 hrs, Volume= 0.331 af, Depth> 1.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.46"

	Area (ac)	CN	Description
*	0.060	55	Woods - B
*	0.330	55	Woods - B
*	0.630	77	Woods - D
*	0.390	69	Grass - B
*	0.023	84	Grass - D
*	0.975	98	Impervious
	2.408	81	Weighted Average
	1.433		59.51% Pervious Area
	0.975		40.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.6					Direct Entry,

Subcatchment E4: EDA-4



Summary for Subcatchment E5: EDA-5

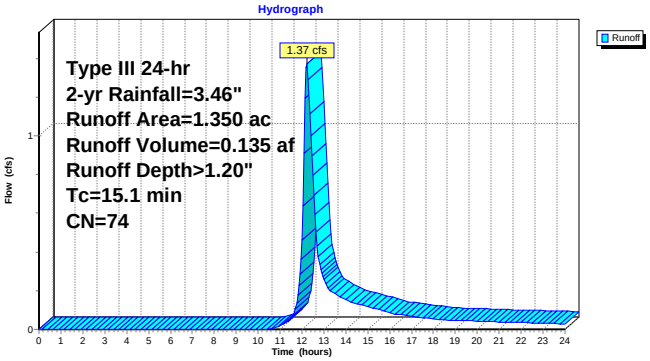
Runoff = 1.37 cfs @ 12.22 hrs, Volume= 0.135 af, Depth> 1.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.46"

	Area (ac)	CN	Description
*	0.190	55	Woods - B
*	1.160	77	Woods - D
	1.350	74	Weighted Average
	1.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1					**Direct Entry,**

Subcatchment E5: EDA-5

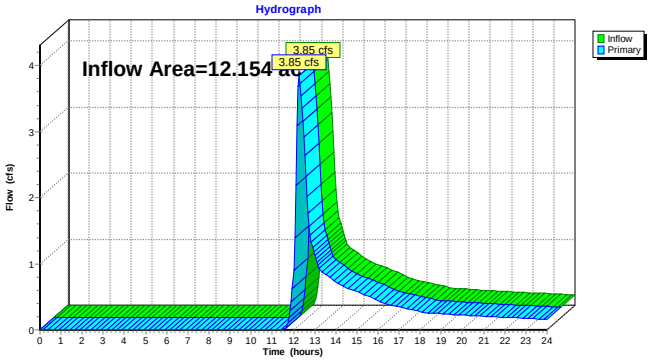


Summary for Link E1-2: Overall Existing

Inflow Area = 12.154 ac, 3.88% Impervious, Inflow Depth > 0.53" for 2-yr event
Inflow = 3.85 cfs @ 12.25 hrs, Volume= 0.533 af
Primary = 3.85 cfs @ 12.25 hrs, Volume= 0.533 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link E1-2: Overall Existing



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E-1: EDA-1 Runoff Area=5.904 ac 7.99% Impervious Runoff Depth>1.53"
Tc=14.9 min CN=67 Runoff=7.62 cfs 0.755 af

Subcatchment E-2: EDA-2 Runoff Area=6.250 ac 0.00% Impervious Runoff Depth>0.65"
Tc=18.1 min CN=52 Runoff=2.23 cfs 0.340 af

Subcatchment E3: EDA-3 Runoff Area=0.290 ac 100.00% Impervious Runoff Depth>4.38"
Tc=6.0 min CN=98 Runoff=1.28 cfs 0.106 af

Subcatchment E4: EDA-4 Runoff Area=2.408 ac 40.49% Impervious Runoff Depth>2.62"
Tc=16.6 min CN=81 Runoff=5.36 cfs 0.525 af

Subcatchment E5: EDA-5 Runoff Area=1.350 ac 0.00% Impervious Runoff Depth>2.05"
Tc=15.1 min CN=74 Runoff=2.42 cfs 0.231 af

Link E1-2: Overall Existing Inflow=9.40 cfs 1.095 af
Primary=9.40 cfs 1.095 af

Summary for Subcatchment E-1: EDA-1

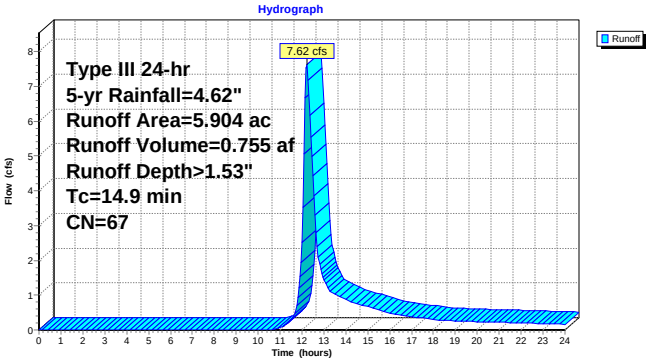
Runoff = 7.62 cfs @ 12.22 hrs, Volume= 0.755 af, Depth> 1.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.62"

	Area (ac)	CN	Description
*	0.743	30	Woods - A
*	0.175	45	Woods - A poor
*	0.511	55	Woods - B
*	0.432	55	Woods - B
*	0.018	66	Woods - B poor
*	2.005	77	Woods - D
*	0.040	83	Woods - D poor
*	0.054	49	Grass - A
*	1.082	69	Grass - B
*	0.120	79	Grass - B poor
*	0.096	84	Grass - D
*	0.024	89	Grass - D poor
*	0.132	84	Grass -D
*	0.472	98	Impervious
	5.904	67	Weighted Average
	5.432		92.01% Pervious Area
	0.472		7.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.9					**Direct Entry,**

Subcatchment E-1: EDA-1



Summary for Subcatchment E-2: EDA-2

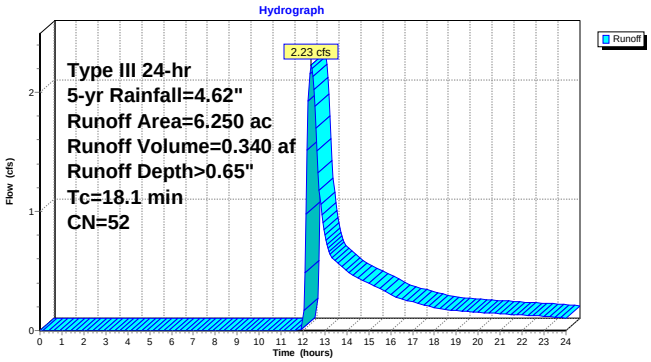
Runoff = 2.23 cfs @ 12.36 hrs, Volume= 0.340 af, Depth> 0.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.62"

	Area (ac)	CN	Description
*	1.210	30	Woods - A
*	0.180	45	Woods - A poor
*	4.180	55	Woods - B
*	0.620	77	Woods - D
*	0.060	84	Grass - D
	6.250	52	Weighted Average
	6.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1					Direct Entry,

Subcatchment E-2: EDA-2



Summary for Subcatchment E3: EDA-3

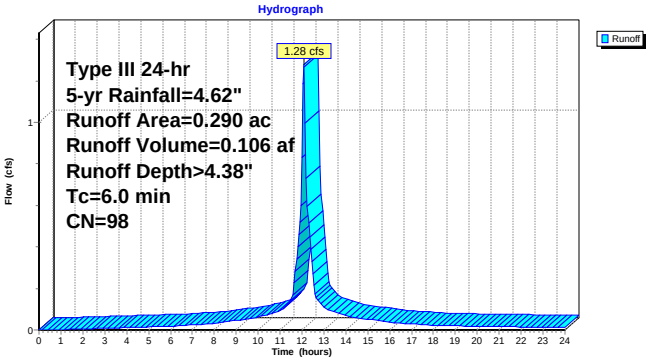
Runoff = 1.28 cfs @ 12.09 hrs, Volume= 0.106 af, Depth> 4.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.62"

	Area (ac)	CN	Description
*	0.290	98	Impervious
	0.290		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment E3: EDA-3



Summary for Subcatchment E4: EDA-4

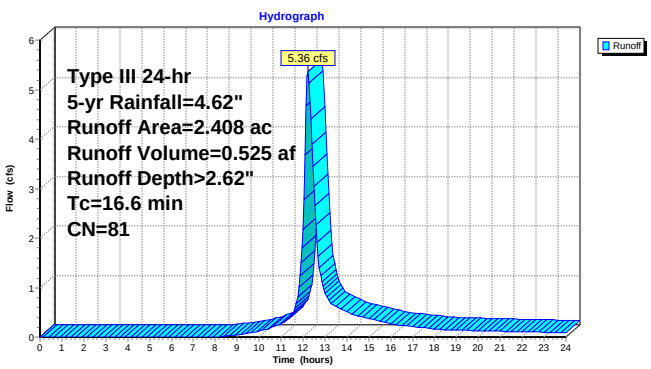
Runoff = 5.36 cfs @ 12.23 hrs, Volume= 0.525 af, Depth> 2.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.62"

	Area (ac)	CN	Description
*	0.060	55	Woods - B
*	0.330	55	Woods - B
*	0.630	77	Woods - D
*	0.390	69	Grass - B
*	0.023	84	Grass - D
*	0.975	98	Impervious
	2.408	81	Weighted Average
	1.433		59.51% Pervious Area
	0.975		40.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.6					Direct Entry,

Subcatchment E4: EDA-4



Summary for Subcatchment E5: EDA-5

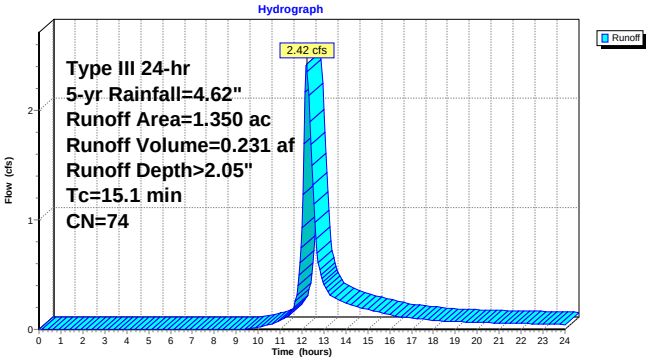
Runoff = 2.42 cfs @ 12.22 hrs, Volume= 0.231 af, Depth> 2.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.62"

	Area (ac)	CN	Description
*	0.190	55	Woods - B
*	1.160	77	Woods - D
	1.350	74	Weighted Average
	1.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1					**Direct Entry,**

Subcatchment E5: EDA-5

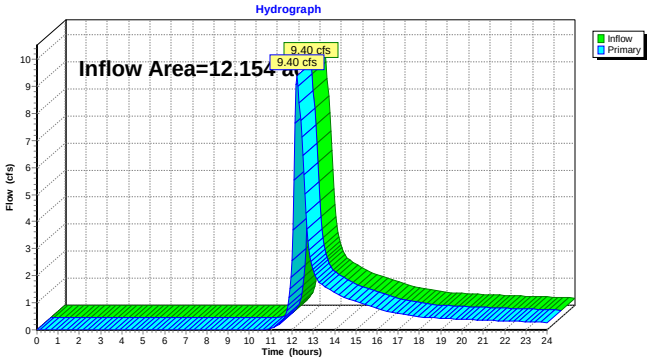


Summary for Link E1-2: Overall Existing

Inflow Area = 12.154 ac, 3.88% Impervious, Inflow Depth > 1.08" for 5-yr event
Inflow = 9.40 cfs @ 12.25 hrs, Volume= 1.095 af
Primary = 9.40 cfs @ 12.25 hrs, Volume= 1.095 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link E1-2: Overall Existing



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E-1: EDA-1 Runoff Area=5.904 ac 7.99% Impervious Runoff Depth>2.21"
Tc=14.9 min CN=67 Runoff=11.28 cfs 1.085 af

Subcatchment E-2: EDA-2 Runoff Area=6.250 ac 0.00% Impervious Runoff Depth>1.09"
Tc=18.1 min CN=52 Runoff=4.48 cfs 0.569 af

Subcatchment E3: EDA-3 Runoff Area=0.290 ac 100.00% Impervious Runoff Depth>5.34"
Tc=6.0 min CN=98 Runoff=1.55 cfs 0.129 af

Subcatchment E4: EDA-4 Runoff Area=2.408 ac 40.49% Impervious Runoff Depth>3.46"
Tc=16.6 min CN=81 Runoff=7.08 cfs 0.695 af

Subcatchment E5: EDA-5 Runoff Area=1.350 ac 0.00% Impervious Runoff Depth>2.82"
Tc=15.1 min CN=74 Runoff=3.35 cfs 0.317 af

Link E1-2: Overall Existing Inflow=15.28 cfs 1.654 af
Primary=15.28 cfs 1.654 af

Summary for Subcatchment E-1: EDA-1

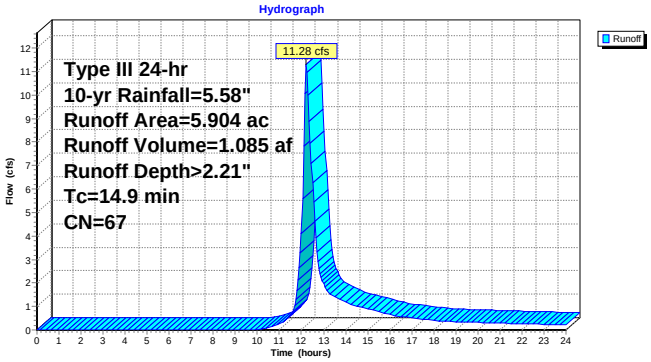
Runoff = 11.28 cfs @ 12.22 hrs, Volume= 1.085 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

	Area (ac)	CN	Description
*	0.743	30	Woods - A
*	0.175	45	Woods - A poor
*	0.511	55	Woods - B
*	0.432	55	Woods - B
*	0.018	66	Woods - B poor
*	2.005	77	Woods - D
*	0.040	83	Woods - D poor
*	0.054	49	Grass - A
*	1.082	69	Grass - B
*	0.120	79	Grass - B poor
*	0.096	84	Grass - D
*	0.024	89	Grass - D poor
*	0.132	84	Grass -D
*	0.472	98	Impervious
	5.904	67	Weighted Average
	5.432		92.01% Pervious Area
	0.472		7.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.9					**Direct Entry,**

Subcatchment E-1: EDA-1



Summary for Subcatchment E-2: EDA-2

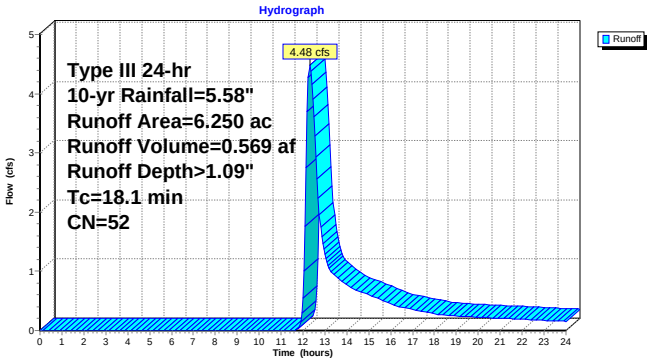
Runoff = 4.48 cfs @ 12.31 hrs, Volume= 0.569 af, Depth> 1.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

	Area (ac)	CN	Description
*	1.210	30	Woods - A
*	0.180	45	Woods - A poor
*	4.180	55	Woods - B
*	0.620	77	Woods - D
*	0.060	84	Grass - D
	6.250	52	Weighted Average
	6.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1					Direct Entry,

Subcatchment E-2: EDA-2



Summary for Subcatchment E3: EDA-3

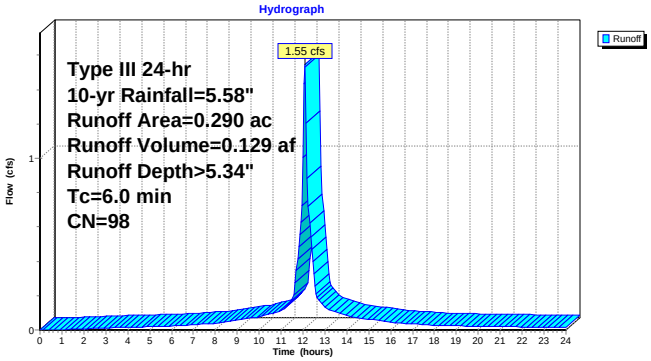
Runoff = 1.55 cfs @ 12.09 hrs, Volume= 0.129 af, Depth> 5.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

	Area (ac)	CN	Description
*	0.290	98	Impervious
	0.290		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment E3: EDA-3



Summary for Subcatchment E4: EDA-4

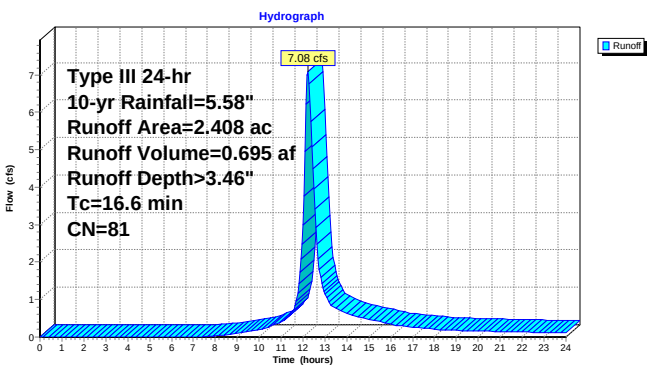
Runoff = 7.08 cfs @ 12.23 hrs, Volume= 0.695 af, Depth> 3.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

	Area (ac)	CN	Description
*	0.060	55	Woods - B
*	0.330	55	Woods - B
*	0.630	77	Woods - D
*	0.390	69	Grass - B
*	0.023	84	Grass - D
*	0.975	98	Impervious
	2.408	81	Weighted Average
	1.433		59.51% Pervious Area
	0.975		40.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.6					Direct Entry,

Subcatchment E4: EDA-4



Summary for Subcatchment E5: EDA-5

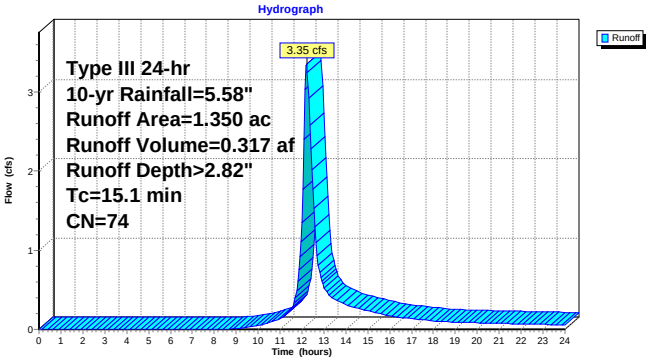
Runoff = 3.35 cfs @ 12.21 hrs, Volume= 0.317 af, Depth> 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

	Area (ac)	CN	Description
*	0.190	55	Woods - B
*	1.160	77	Woods - D
	1.350	74	Weighted Average
	1.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1					**Direct Entry,**

Subcatchment E5: EDA-5

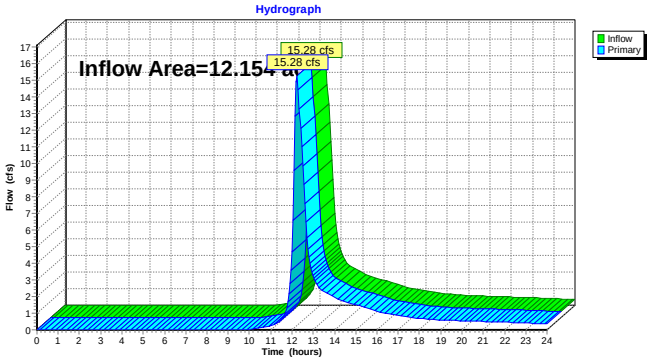


Summary for Link E1-2: Overall Existing

Inflow Area = 12.154 ac, 3.88% Impervious, Inflow Depth > 1.63" for 10-yr event
Inflow = 15.28 cfs @ 12.24 hrs, Volume= 1.654 af
Primary = 15.28 cfs @ 12.24 hrs, Volume= 1.654 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link E1-2: Overall Existing



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E-1: EDA-1 Runoff Area=5.904 ac 7.99% Impervious Runoff Depth>3.22"
Tc=14.9 min CN=67 Runoff=16.76 cfs 1.584 af

Subcatchment E-2: EDA-2 Runoff Area=6.250 ac 0.00% Impervious Runoff Depth>1.81"
Tc=18.1 min CN=52 Runoff=8.33 cfs 0.945 af

Subcatchment E3: EDA-3 Runoff Area=0.290 ac 100.00% Impervious Runoff Depth>6.67"
Tc=6.0 min CN=98 Runoff=1.92 cfs 0.161 af

Subcatchment E4: EDA-4 Runoff Area=2.408 ac 40.49% Impervious Runoff Depth>4.68"
Tc=16.6 min CN=81 Runoff=9.52 cfs 0.938 af

Subcatchment E5: EDA-5 Runoff Area=1.350 ac 0.00% Impervious Runoff Depth>3.94"
Tc=15.1 min CN=74 Runoff=4.71 cfs 0.444 af

Link E1-2: Overall Existing Inflow=24.51 cfs 2.529 af
Primary=24.51 cfs 2.529 af

Summary for Subcatchment E-1: EDA-1

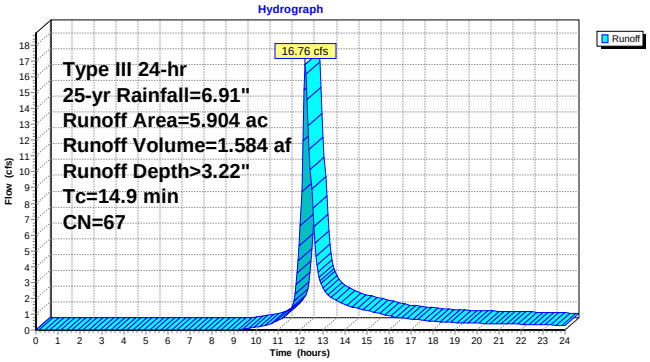
Runoff = 16.76 cfs @ 12.21 hrs, Volume= 1.584 af, Depth> 3.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.91"

	Area (ac)	CN	Description
*	0.743	30	Woods - A
*	0.175	45	Woods - A poor
*	0.511	55	Woods - B
*	0.432	55	Woods - B
*	0.018	66	Woods - B poor
*	2.005	77	Woods - D
*	0.040	83	Woods - D poor
*	0.054	49	Grass - A
*	1.082	69	Grass - B
*	0.120	79	Grass - B poor
*	0.096	84	Grass - D
*	0.024	89	Grass - D poor
*	0.132	84	Grass -D
*	0.472	98	Impervious
	5.904	67	Weighted Average
	5.432		92.01% Pervious Area
	0.472		7.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.9					**Direct Entry,**

Subcatchment E-1: EDA-1



Summary for Subcatchment E-2: EDA-2

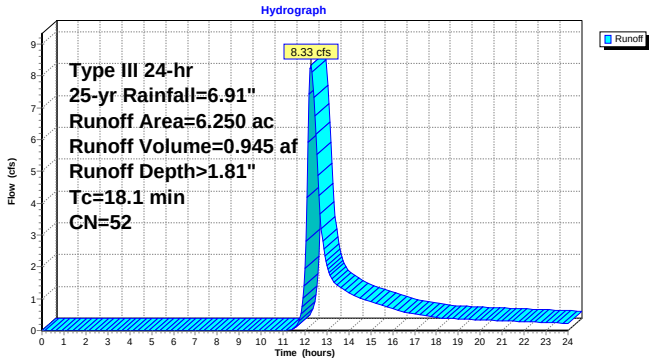
Runoff = 8.33 cfs @ 12.28 hrs, Volume= 0.945 af, Depth> 1.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.91"

	Area (ac)	CN	Description
*	1.210	30	Woods - A
*	0.180	45	Woods - A poor
*	4.180	55	Woods - B
*	0.620	77	Woods - D
*	0.060	84	Grass - D
	6.250	52	Weighted Average
	6.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1					Direct Entry,

Subcatchment E-2: EDA-2



Summary for Subcatchment E3: EDA-3

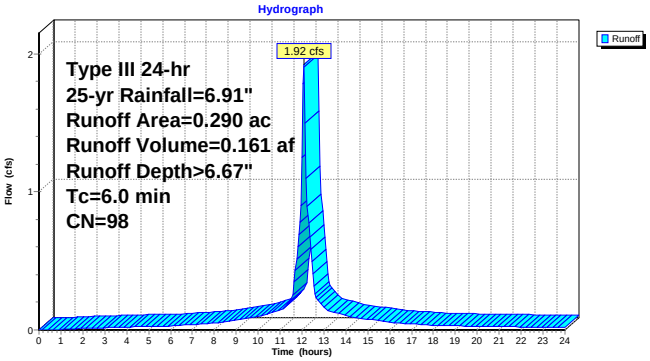
Runoff = 1.92 cfs @ 12.09 hrs, Volume= 0.161 af, Depth> 6.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.91"

	Area (ac)	CN	Description
*	0.290	98	Impervious
	0.290		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment E3: EDA-3



Summary for Subcatchment E4: EDA-4

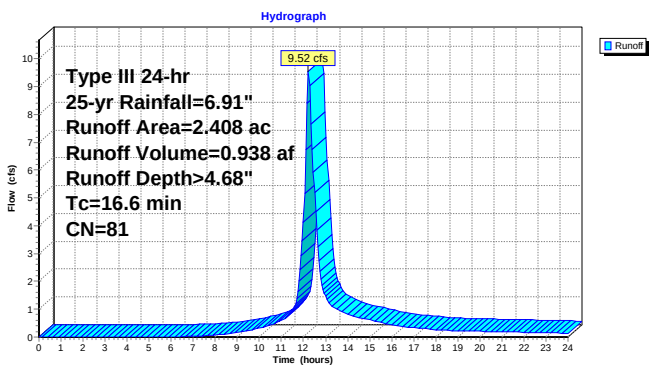
Runoff = 9.52 cfs @ 12.22 hrs, Volume= 0.938 af, Depth> 4.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.91"

	Area (ac)	CN	Description
*	0.060	55	Woods - B
*	0.330	55	Woods - B
*	0.630	77	Woods - D
*	0.390	69	Grass - B
*	0.023	84	Grass - D
*	0.975	98	Impervious
	2.408	81	Weighted Average
	1.433		59.51% Pervious Area
	0.975		40.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.6					Direct Entry,

Subcatchment E4: EDA-4



Summary for Subcatchment E5: EDA-5

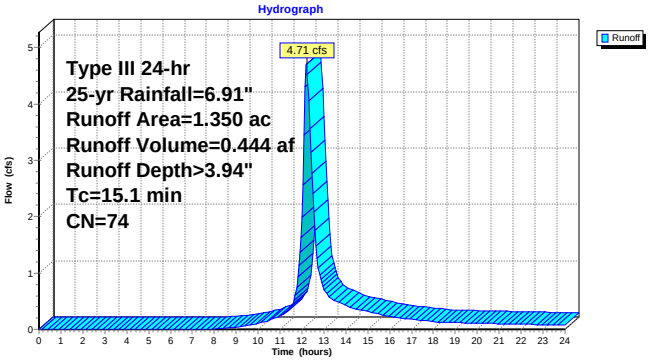
Runoff = 4.71 cfs @ 12.21 hrs, Volume= 0.444 af, Depth> 3.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.91"

	Area (ac)	CN	Description
*	0.190	55	Woods - B
*	1.160	77	Woods - D
	1.350	74	Weighted Average
	1.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1					**Direct Entry,**

Subcatchment E5: EDA-5

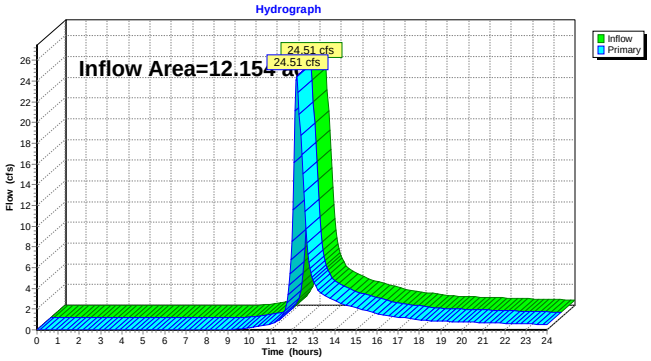


Summary for Link E1-2: Overall Existing

Inflow Area = 12.154 ac, 3.88% Impervious, Inflow Depth > 2.50" for 25-yr event
Inflow = 24.51 cfs @ 12.23 hrs, Volume= 2.529 af
Primary = 24.51 cfs @ 12.23 hrs, Volume= 2.529 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link E1-2: Overall Existing



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E-1: EDA-1 Runoff Area=5.904 ac 7.99% Impervious Runoff Depth>4.00"
Tc=14.9 min CN=67 Runoff=20.91 cfs 1.966 af

Subcatchment E-2: EDA-2 Runoff Area=6.250 ac 0.00% Impervious Runoff Depth>2.40"
Tc=18.1 min CN=52 Runoff=11.51 cfs 1.251 af

Subcatchment E3: EDA-3 Runoff Area=0.290 ac 100.00% Impervious Runoff Depth>7.63"
Tc=6.0 min CN=98 Runoff=2.19 cfs 0.184 af

Subcatchment E4: EDA-4 Runoff Area=2.408 ac 40.49% Impervious Runoff Depth>5.57"
Tc=16.6 min CN=81 Runoff=11.28 cfs 1.118 af

Subcatchment E5: EDA-5 Runoff Area=1.350 ac 0.00% Impervious Runoff Depth>4.79"
Tc=15.1 min CN=74 Runoff=5.70 cfs 0.538 af

Link E1-2: Overall Existing Inflow=31.71 cfs 3.217 af
Primary=31.71 cfs 3.217 af

Summary for Subcatchment E-1: EDA-1

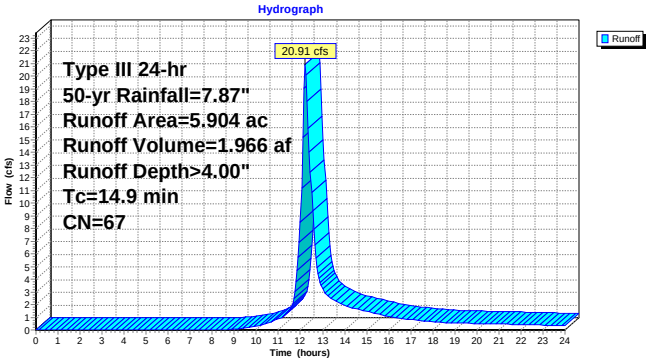
Runoff = 20.91 cfs @ 12.21 hrs, Volume= 1.966 af, Depth> 4.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=7.87"

	Area (ac)	CN	Description
*	0.743	30	Woods - A
*	0.175	45	Woods - A poor
*	0.511	55	Woods - B
*	0.432	55	Woods - B
*	0.018	66	Woods - B poor
*	2.005	77	Woods - D
*	0.040	83	Woods - D poor
*	0.054	49	Grass - A
*	1.082	69	Grass - B
*	0.120	79	Grass - B poor
*	0.096	84	Grass - D
*	0.024	89	Grass - D poor
*	0.132	84	Grass -D
*	0.472	98	Impervious
	5.904	67	Weighted Average
	5.432		92.01% Pervious Area
	0.472		7.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.9					**Direct Entry,**

Subcatchment E-1: EDA-1



Summary for Subcatchment E-2: EDA-2

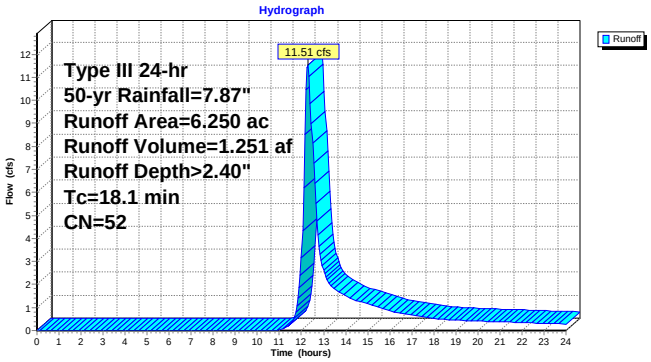
Runoff = 11.51 cfs @ 12.27 hrs, Volume= 1.251 af, Depth> 2.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=7.87"

	Area (ac)	CN	Description
*	1.210	30	Woods - A
*	0.180	45	Woods - A poor
*	4.180	55	Woods - B
*	0.620	77	Woods - D
*	0.060	84	Grass - D
	6.250	52	Weighted Average
	6.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1					Direct Entry,

Subcatchment E-2: EDA-2



Summary for Subcatchment E3: EDA-3

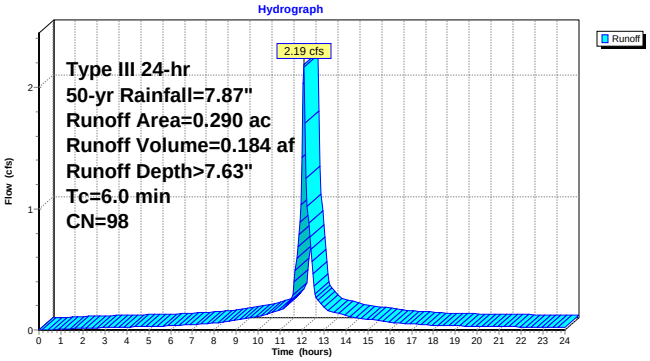
Runoff = 2.19 cfs @ 12.09 hrs, Volume= 0.184 af, Depth> 7.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=7.87"

	Area (ac)	CN	Description
*	0.290	98	Impervious
	0.290		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment E3: EDA-3



Summary for Subcatchment E4: EDA-4

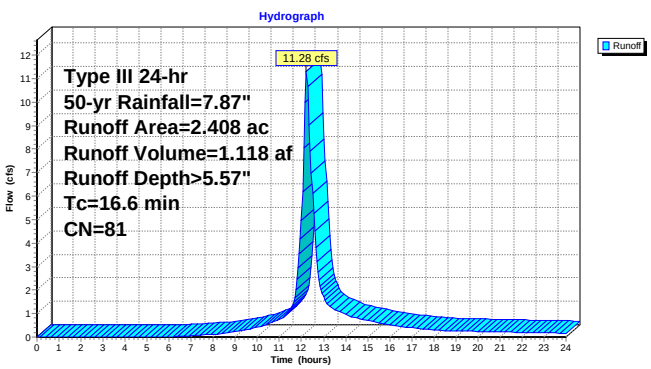
Runoff = 11.28 cfs @ 12.22 hrs, Volume= 1.118 af, Depth> 5.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=7.87"

	Area (ac)	CN	Description
*	0.060	55	Woods - B
*	0.330	55	Woods - B
*	0.630	77	Woods - D
*	0.390	69	Grass - B
*	0.023	84	Grass - D
*	0.975	98	Impervious
	2.408	81	Weighted Average
	1.433		59.51% Pervious Area
	0.975		40.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.6					Direct Entry,

Subcatchment E4: EDA-4



Summary for Subcatchment E5: EDA-5

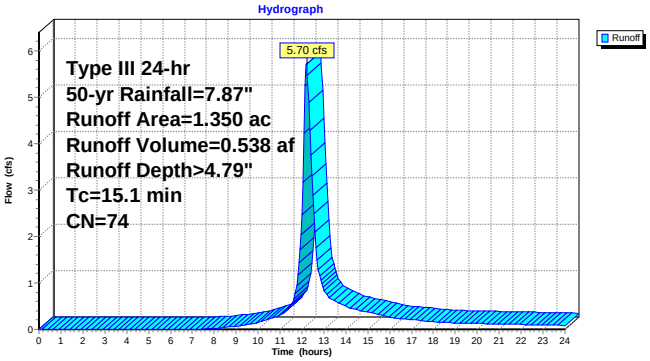
Runoff = 5.70 cfs @ 12.21 hrs, Volume= 0.538 af, Depth> 4.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=7.87"

	Area (ac)	CN	Description
*	0.190	55	Woods - B
*	1.160	77	Woods - D
	1.350	74	Weighted Average
	1.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1					**Direct Entry,**

Subcatchment E5: EDA-5

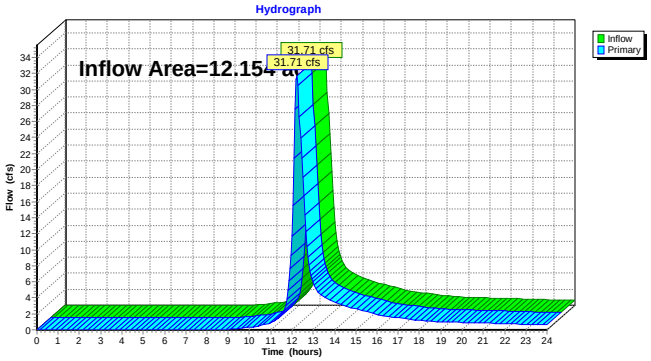


Summary for Link E1-2: Overall Existing

Inflow Area = 12.154 ac, 3.88% Impervious, Inflow Depth > 3.18" for 50-yr event
Inflow = 31.71 cfs @ 12.23 hrs, Volume= 3.217 af
Primary = 31.71 cfs @ 12.23 hrs, Volume= 3.217 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link E1-2: Overall Existing



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E-1: EDA-1 Runoff Area=5.904 ac 7.99% Impervious Runoff Depth>4.90"
Tc=14.9 min CN=67 Runoff=25.70 cfs 2.411 af

Subcatchment E-2: EDA-2 Runoff Area=6.250 ac 0.00% Impervious Runoff Depth>3.12"
Tc=18.1 min CN=52 Runoff=15.34 cfs 1.623 af

Subcatchment E3: EDA-3 Runoff Area=0.290 ac 100.00% Impervious Runoff Depth>8.70"
Tc=6.0 min CN=98 Runoff=2.49 cfs 0.210 af

Subcatchment E4: EDA-4 Runoff Area=2.408 ac 40.49% Impervious Runoff Depth>6.59"
Tc=16.6 min CN=81 Runoff=13.26 cfs 1.323 af

Subcatchment E5: EDA-5 Runoff Area=1.350 ac 0.00% Impervious Runoff Depth>5.76"
Tc=15.1 min CN=74 Runoff=6.84 cfs 0.648 af

Link E1-2: Overall Existing Inflow=40.21 cfs 4.034 af
Primary=40.21 cfs 4.034 af

Summary for Subcatchment E-1: EDA-1

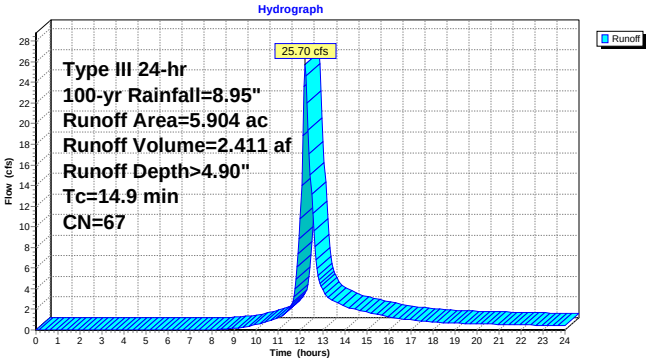
Runoff = 25.70 cfs @ 12.21 hrs, Volume= 2.411 af, Depth> 4.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.95"

	Area (ac)	CN	Description
*	0.743	30	Woods - A
*	0.175	45	Woods - A poor
*	0.511	55	Woods - B
*	0.432	55	Woods - B
*	0.018	66	Woods - B poor
*	2.005	77	Woods - D
*	0.040	83	Woods - D poor
*	0.054	49	Grass - A
*	1.082	69	Grass - B
*	0.120	79	Grass - B poor
*	0.096	84	Grass - D
*	0.024	89	Grass - D poor
*	0.132	84	Grass -D
*	0.472	98	Impervious
	5.904	67	Weighted Average
	5.432		92.01% Pervious Area
	0.472		7.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.9					**Direct Entry,**

Subcatchment E-1: EDA-1



Summary for Subcatchment E-2: EDA-2

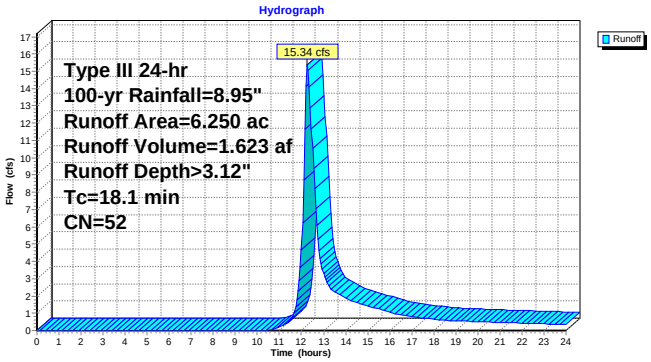
Runoff = 15.34 cfs @ 12.27 hrs, Volume= 1.623 af, Depth> 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.95"

	Area (ac)	CN	Description
*	1.210	30	Woods - A
*	0.180	45	Woods - A poor
*	4.180	55	Woods - B
*	0.620	77	Woods - D
*	0.060	84	Grass - D
	6.250	52	Weighted Average
	6.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1					Direct Entry,

Subcatchment E-2: EDA-2



Summary for Subcatchment E3: EDA-3

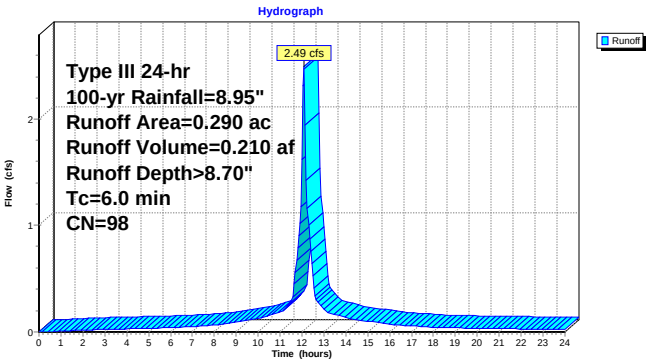
Runoff = 2.49 cfs @ 12.09 hrs, Volume= 0.210 af, Depth> 8.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.95"

	Area (ac)	CN	Description
*	0.290	98	Impervious
	0.290		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment E3: EDA-3



Summary for Subcatchment E4: EDA-4

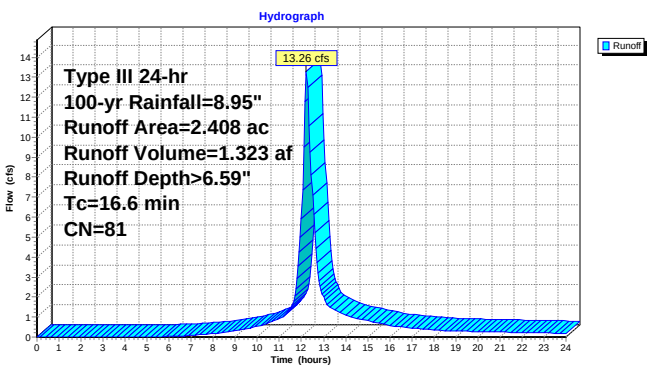
Runoff = 13.26 cfs @ 12.22 hrs, Volume= 1.323 af, Depth> 6.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.95"

	Area (ac)	CN	Description
*	0.060	55	Woods - B
*	0.330	55	Woods - B
*	0.630	77	Woods - D
*	0.390	69	Grass - B
*	0.023	84	Grass - D
*	0.975	98	Impervious
	2.408	81	Weighted Average
	1.433		59.51% Pervious Area
	0.975		40.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.6					Direct Entry,

Subcatchment E4: EDA-4



Summary for Subcatchment E5: EDA-5

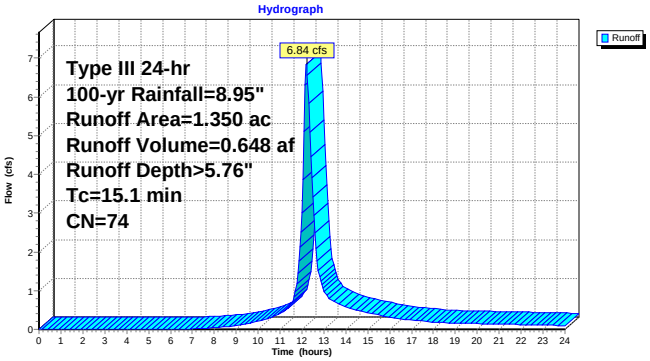
Runoff = 6.84 cfs @ 12.21 hrs, Volume= 0.648 af, Depth> 5.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.95"

	Area (ac)	CN	Description
*	0.190	55	Woods - B
*	1.160	77	Woods - D
	1.350	74	Weighted Average
	1.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1					**Direct Entry,**

Subcatchment E5: EDA-5

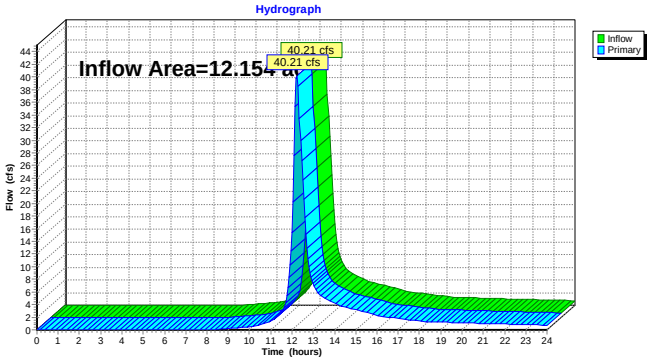


Summary for Link E1-2: Overall Existing

Inflow Area = 12.154 ac, 3.88% Impervious, Inflow Depth > 3.98" for 100-yr event
Inflow = 40.21 cfs @ 12.23 hrs, Volume= 4.034 af
Primary = 40.21 cfs @ 12.23 hrs, Volume= 4.034 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link E1-2: Overall Existing



Project **Proposed Development** By **MSL** Date **08/06/20**
Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date **09/03/20**
Bold One: **Present** Developed
Bold One: **T_c** T_t through subarea **Existing Drainage Area 1 (EDA-1)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.
Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)		Segment ID	AB				
1. Surface description (table 3-1)			Woods (Light Underbrush)				
2. Manning's roughness coeff., n (table 3-1)			0.40				
3. Flow Length, L (total L ≤ 150 ft)	ft		150				
4. Two-yr 24-hr rainfall, P_2	in		3.46				
5. Land slope, s	ft/ft		0.12				
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t	hr	0.230	+	0.000	=	0.230

Shallow concentrated flow		Segment ID	BC	CD	DE		
7. Surface description (paved or unpaved)			Unpaved	Unpaved	Unpaved		
8. Flow length, L	ft		105	146	367		
9. Watercourse slope, s	ft/ft		0.15	0.37	0.04		
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)	ft/s		6.26	9.81	3.37		
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.005	+ 0.004	+ 0.030	=	0.009

Channel flow		Segment ID	EF	FG			
12. Cross sectional flow area, a		ft^2	5.00	5.00			
13. Wetted perimeter, p_w		ft	7.47	7.47			
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r	ft	0.67	0.67			
15. Channel slope, s		ft/ft	0.04	0.18			
16. Manning's roughness coeff., n			0.025	0.03			
17. $V = \frac{1.49\ r^{2/3} s^{1/2}}{n}$	Compute V	ft/s	9.44	16.30			
18. Flow length, L		ft	210	250			
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.006	+ 0.004		=	0.010
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)					Hours	=	0.249
					Minutes	=	14.93

Project **Proposed Development** By **MSL** Date **08/06/20**
Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date **09/03/20**
Bold One: **Present** Developed
Bold One: **T_c** T_t through subarea **Existing Drainage Area 2 (EDA-2)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.
Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)		Segment ID	AB				
1. Surface description (table 3-1)			Woods (Light Underbrush)				
2. Manning's roughness coeff., n (table 3-1)			0.40				
3. Flow Length, L (total L ≤ 150 ft)	ft		150				
4. Two-yr 24-hr rainfall, P_2	in		3.46				
5. Land slope, s	ft/ft		0.07				
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t	hr	0.294	+ 0.000		=	0.294

Shallow concentrated flow		Segment ID	BC				
7. Surface description (paved or unpaved)			Unpaved				
8. Flow length, L	ft		215				
9. Watercourse slope, s	ft/ft		0.25				
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)	ft/s		8.09				
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.007	+		=	0.007

Channel flow		Segment ID					
12. Cross sectional flow area, a		ft^2					
13. Wetted perimeter, p_w		ft					
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r	ft					
15. Channel slope, s		ft/ft					
16. Manning's roughness coeff., n							
17. $V = \frac{1.49\ r^{2/3} s^{1/2}}{n}$	Compute V	ft/s					
18. Flow length, L		ft					
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr		+		=	0.000
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)					Hours	=	0.302
					Minutes	=	18.09

Project **Proposed Development** By **MSL** Date **08/06/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date **09/03/20**

Bold One: **Present** Developed

Bold One: **T_c** T_t through subarea **Existing Drainage Area 3 (EDA-3)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)		Segment ID	AB	
1. Surface description (table 3-1)			Pavement	
2. Manning's roughness coeff., n (table 3-1)			0.011	
3. Flow Length, L (total L ≤ 150 ft)		ft	50	
4. Two-yr 24-hr rainfall, P_2		in	3.46	
5. Land slope, s		ft/ft	0.03	
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t	hr	0.009 + 0.000	= 0.009

Shallow concentrated flow		Segment ID	BC	
7. Surface description (paved or unpaved)			Paved	
8. Flow length, L		ft	400	
9. Watercourse slope, s		ft/ft	0.05	
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)		ft/s	4.31	
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.026 +	= 0.026

Channel flow		Segment ID		
12. Cross sectional flow area, a		ft^2		
13. Wetted perimeter, p_w		ft		
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r	ft		
15. Channel slope, s		ft/ft		
16. Manning's roughness coeff., n				
17. $V = \frac{1.49\ r^{2/3}\ s^{1/2}}{n}$	Compute V	ft/s		
18. Flow length, L		ft		
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	+	= 0.000
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)			**Hours**	= 0.035
			Minutes	= 2.115

Use 6 Minutes (0.1 hrs)

Project **Proposed Development** By **MSL** Date **08/06/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date **09/03/20**

Bold One: **Present** Developed

Bold One: **T_c** T_t through subarea **Existing Drainage Area 4 (EDA-4)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)		Segment ID	AB	BC	CD	
1. Surface description (table 3-1)			Woods (Light Underbrush)	Woods (Light Underbrush)	Woods (Light Underbrush)	
2. Manning's roughness coeff., n (table 3-1)			0.40	0.40	0.40	
3. Flow Length, L (total L ≤ 150 ft)		ft	28	90	32	
4. Two-yr 24-hr rainfall, P_2		in	3.46	3.46	3.46	
5. Land slope, s		ft/ft	0.29	0.10	0.45	
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t	hr	0.043 +	0.166 +	0.040	= 0.249

Shallow concentrated flow		Segment ID	DE	EF	FG	
7. Surface description (paved or unpaved)			Unpaved	Unpaved	Paved	
8. Flow length, L		ft	142	40	176	
9. Watercourse slope, s		ft/ft	0.45	0.04	0.06	
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)		ft/s	10.82	3.23	5.08	
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.004 +	0.003 +	0.010	= 0.017

Channel flow		Segment ID	Along Curb		
12. Cross sectional flow area, a		ft^2			
13. Wetted perimeter, p_w		ft			
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r	ft			
15. Channel slope, s		ft/ft			
16. Manning's roughness coeff., n					
17. $V = \frac{1.49\ r^{2/3}\ s^{1/2}}{n}$	Compute V	ft/s	5.00		
18. Flow length, L		ft	200		
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.011 +		= 0.011
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)				**Hours**	= 0.276
				Minutes	= 16.59

Project **Proposed Development** By **MSL** Date **08/06/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date **09/03/20**

Bold One: **Present** Developed

Bold One: **T_c** T_t through subarea **Existing Drainage Area 5 (EDA-5)**

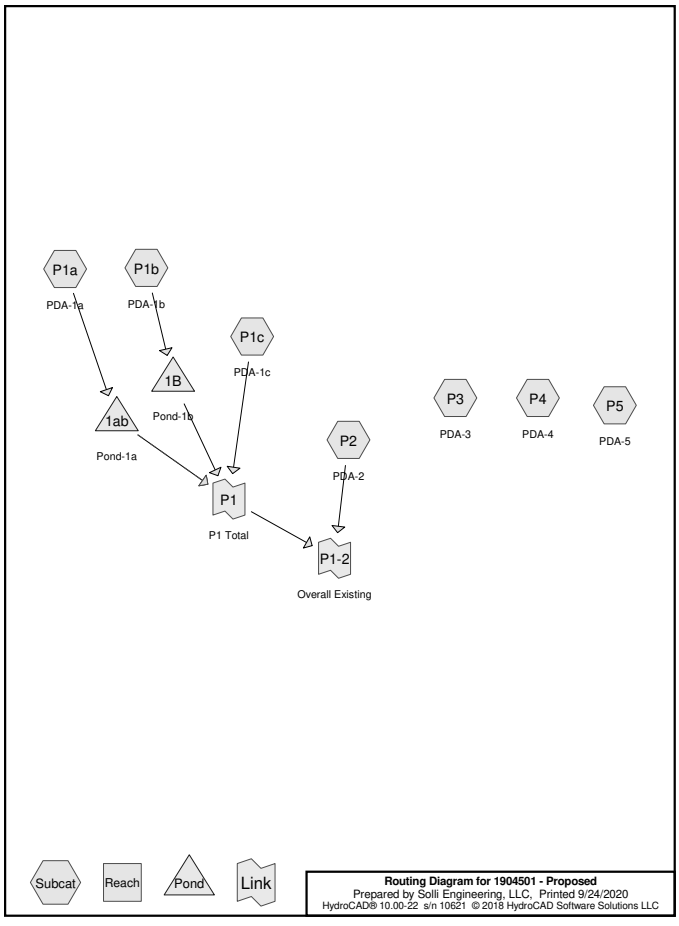
NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)		Segment ID	AB	
1. Surface description (table 3-1)			Woods (Light Underbrush)	
2. Manning's roughness coeff., n (table 3-1)			0.40	
3. Flow Length, L (total L ≤ 150 ft)		ft	150	
4. Two-yr 24-hr rainfall, P_2		in	3.46	
5. Land slope, s		ft/ft	0.10	
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t	hr	0.250 + 0.000	= 0.250

Shallow concentrated flow		Segment ID	BC	
7. Surface description (paved or unpaved)			Unpaved	
8. Flow length, L		ft	100	
9. Watercourse slope, s		ft/ft	0.52	
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)		ft/s	11.63	
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.002 +	= 0.002

Channel flow		Segment ID		
12. Cross sectional flow area, a		ft^2		
13. Wetted perimeter, p_w		ft		
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r	ft		
15. Channel slope, s		ft/ft		
16. Manning's roughness coeff., n				
17. $V = \frac{1.49\ r^{2/3}\ s^{1/2}}{n}$	Compute V	ft/s		
18. Flow length, L		ft		
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	+	= 0.000
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)			**Hours**	= 0.252
			Minutes	= 15.15



Routing Diagram for 1904501 - Proposed
Prepared by Solli Engineering, LLC, Printed 9/24/2020
HydroCAD® 10.00-22 s/n 10621 © 2018 HydroCAD Software Solutions LLC

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1a: PDA-1a Runoff Area=2.290 ac 59.83% Impervious Runoff Depth>1.98"
Tc=14.5 min CN=85 Runoff=4.06 cfs 0.377 af

Subcatchment P1b: PDA-1b Runoff Area=1.557 ac 83.11% Impervious Runoff Depth>2.67"
Tc=8.4 min CN=93 Runoff=4.28 cfs 0.346 af

Subcatchment P1c: PDA-1c Runoff Area=2.689 ac 18.41% Impervious Runoff Depth>0.48"
Tc=28.1 min CN=59 Runoff=0.61 cfs 0.108 af

Subcatchment P2: PDA-2 Runoff Area=5.664 ac 0.00% Impervious Runoff Depth>0.25"
Tc=18.1 min CN=52 Runoff=0.47 cfs 0.116 af

Subcatchment P3: PDA-3 Runoff Area=0.290 ac 100.00% Impervious Runoff Depth>3.22"
Tc=6.0 min CN=98 Runoff=0.95 cfs 0.078 af

Subcatchment P4: PDA-4 Runoff Area=2.315 ac 40.39% Impervious Runoff Depth>1.59"
Tc=16.6 min CN=80 Runoff=3.11 cfs 0.307 af

Subcatchment P5: PDA-5 Runoff Area=1.350 ac 0.00% Impervious Runoff Depth>1.20"
Tc=15.1 min CN=74 Runoff=1.37 cfs 0.135 af

Pond 1ab: Pond-1a Peak Elev=343.92' Storage=4,646 cf Inflow=4.06 cfs 0.377 af
Primary=1.27 cfs 0.375 af Secondary=0.00 cfs 0.000 af Outflow=1.27 cfs 0.375 af

Pond 1B: Pond-1b Peak Elev=336.47' Storage=0.113 af Inflow=4.28 cfs 0.346 af
Outflow=1.05 cfs 0.341 af

Link P1: P1 Total Inflow=2.91 cfs 0.823 af
Primary=2.91 cfs 0.823 af

Link P1-2: Overall Existing Inflow=3.38 cfs 0.940 af
Primary=3.38 cfs 0.940 af

Summary for Subcatchment P1a: PDA-1a

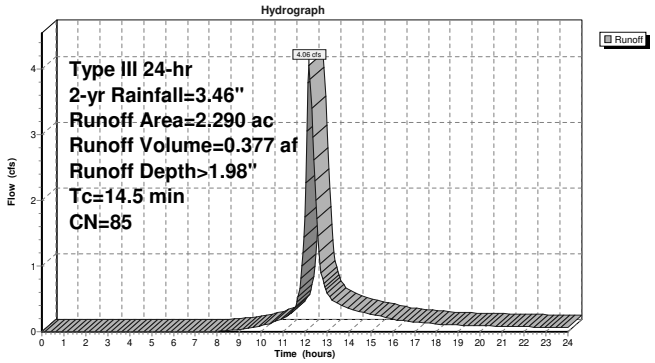
Runoff = 4.06 cfs @ 12.20 hrs, Volume= 0.377 af, Depth> 1.98"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.46"

	Area (ac)	CN	Description
*	0.280	55	Woods - B
*	0.160	77	Woods - D
*	0.140	61	Grass - B
*	0.160	61	Grass - B
*	0.180	80	Grass -D
*	1.370	98	Impervious
	2.290	85	Weighted Average
	0.920		40.17% Pervious Area
	1.370		59.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5					**Direct Entry,**

Subcatchment P1a: PDA-1a



Summary for Subcatchment P1b: PDA-1b

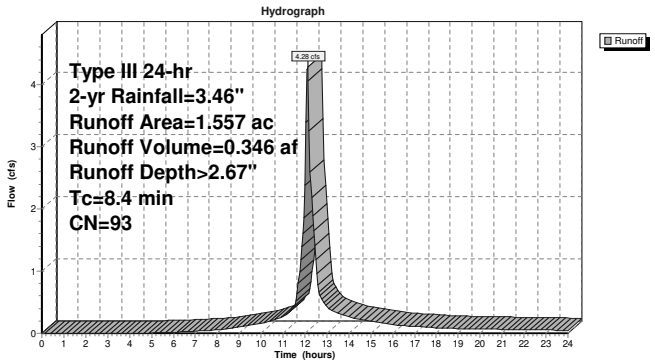
Runoff = 4.28 cfs @ 12.12 hrs, Volume= 0.346 af, Depth> 2.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.46"

	Area (ac)	CN	Description
*	0.064	39	Grass - A
*	0.045	61	Grass - B
*	0.154	80	Grass - D
*	1.294	98	Impervious
	1.557	93	Weighted Average
	0.263		16.89% Pervious Area
	1.294		83.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4					**Direct Entry,**

Subcatchment P1b: PDA-1b



Summary for Subcatchment P1c: PDA-1c

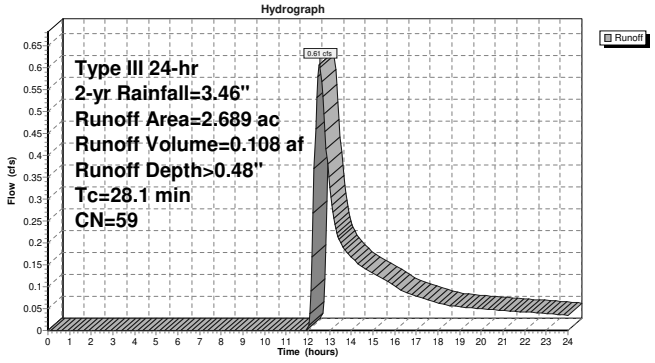
Runoff = 0.61 cfs @ 12.53 hrs, Volume= 0.108 af, Depth> 0.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.46"

	Area (ac)	CN	Description
*	0.631	30	Woods - A
*	0.164	55	Woods - B
*	0.275	39	Grass - A
*	0.932	61	Grass - B
*	0.060	80	Grass - D
*	0.132	80	Grass - D
*	0.495	98	Impervious
	2.689	59	Weighted Average
	2.194		81.59% Pervious Area
	0.495		18.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.1					**Direct Entry,**

Subcatchment P1c: PDA-1c



Summary for Subcatchment P2: PDA-2

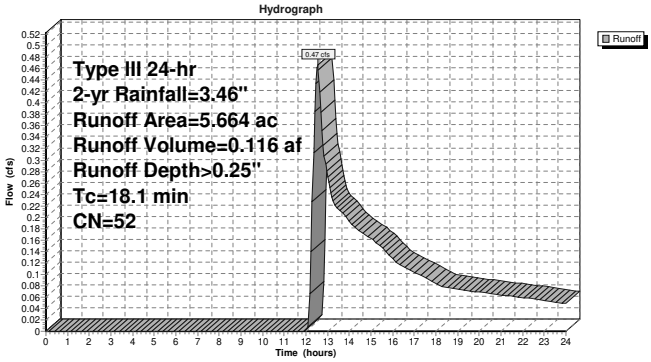
Runoff = 0.47 cfs @ 12.53 hrs, Volume= 0.116 af, Depth> 0.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.46"

	Area (ac)	CN	Description
*	0.946	30	Woods - A
*	4.180	55	Woods - B
*	0.338	77	Woods - D
*	0.100	39	Grass - A
*	0.100	80	Grass - D
	5.664	52	Weighted Average
	5.664		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1					**Direct Entry,**

Subcatchment P2: PDA-2



Summary for Subcatchment P3: PDA-3

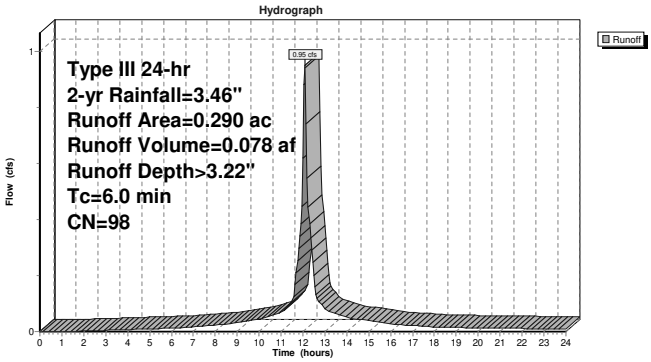
Runoff = 0.95 cfs @ 12.09 hrs, Volume= 0.078 af, Depth> 3.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.46"

	Area (ac)	CN	Description
*	0.290	98	Impervious
	0.290		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P3: PDA-3



Summary for Subcatchment P4: PDA-4

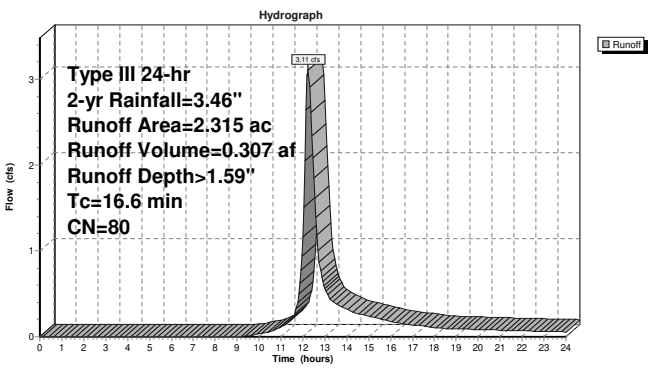
Runoff = 3.11 cfs @ 12.24 hrs, Volume= 0.307 af, Depth> 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.46"

	Area (ac)	CN	Description
*	0.060	55	Woods - B
*	0.280	55	Woods - B
*	0.640	77	Woods - D
*	0.350	61	Grass - B
*	0.050	80	Grass - D
*	0.935	98	Impervious
	2.315	80	Weighted Average
	1.380		59.61% Pervious Area
	0.935		40.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.6					**Direct Entry,**

Subcatchment P4: PDA-4



Summary for Subcatchment P5: PDA-5

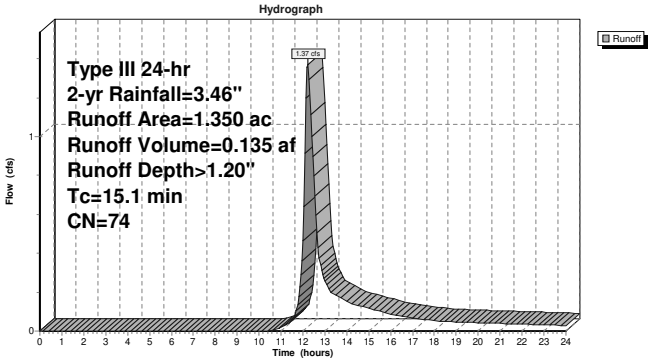
Runoff = 1.37 cfs @ 12.22 hrs, Volume= 0.135 af, Depth> 1.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.46"

	Area (ac)	CN	Description
*	0.190	55	Woods - B
*	1.160	77	Woods - D
	1.350	74	Weighted Average
	1.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1					**Direct Entry,**

Subcatchment P5: PDA-5



Summary for Pond 1ab: Pond-1a

Inflow Area = 2.290 ac, 59.83% Impervious, Inflow Depth > 1.98" for 2-yr event
Inflow = 4.06 cfs @ 12.20 hrs, Volume= 0.377 af
Outflow = 1.27 cfs @ 12.64 hrs, Volume= 0.375 af, Atten= 69%, Lag= 26.3 min
Primary = 1.27 cfs @ 12.64 hrs, Volume= 0.375 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 343.92' @ 12.64 hrs Surf.Area= 2,004 sf Storage= 4,646 cf

Plug-Flow detention time= 34.8 min calculated for 0.374 af (99% of inflow)
Center-of-Mass det. time= 31.1 min (860.0 - 828.9)

Volume	Invert	Avail.Storage	Storage Description
#1	340.00'	13,424 cf	**Detention Basin (Prismatic)** Listed below

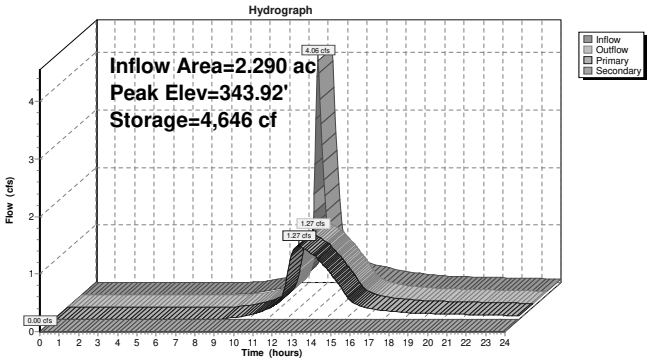
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
340.00	497	0	0
341.00	795	646	646
342.00	1,152	974	1,620
343.00	1,568	1,360	2,980
344.00	2,040	1,804	4,784
345.00	2,569	2,305	7,088
346.00	3,154	2,862	9,950
347.00	3,795	3,475	13,424

Device	Routing	Invert	Outlet Devices
#1	Primary	339.00'	**24.0" Round RCP_Round 24"** L= 169.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 339.00' / 337.31' S= 0.0100 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	340.00'	**5.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	344.00'	**8.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	345.00'	**20.4" x 37.2" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Secondary	345.50'	**20.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=1.27 cfs @ 12.64 hrs HW=343.92' (Free Discharge)
└**1=RCP_Round 24"** (Passes 1.27 cfs of 32.90 cfs potential flow)
  └**2=Orifice/Grate** (Orifice Controls 1.27 cfs @ 9.28 fps)
  └**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=340.00' (Free Discharge)
└**5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1ab: Pond-1a



Stage-Discharge for Pond 1ab: Pond-1a

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
340.00	0.00	0.00	0.00
340.10	0.03	0.03	0.00
340.20	0.10	0.10	0.00
340.30	0.20	0.20	0.00
340.40	0.29	0.29	0.00
340.50	0.35	0.35	0.00
340.60	0.41	0.41	0.00
340.70	0.46	0.46	0.00
340.80	0.51	0.51	0.00
340.90	0.55	0.55	0.00
341.00	0.58	0.58	0.00
341.10	0.62	0.62	0.00
341.20	0.65	0.65	0.00
341.30	0.69	0.69	0.00
341.40	0.72	0.72	0.00
341.50	0.75	0.75	0.00
341.60	0.77	0.77	0.00
341.70	0.80	0.80	0.00
341.80	0.83	0.83	0.00
341.90	0.85	0.85	0.00
342.00	0.88	0.88	0.00
342.10	0.90	0.90	0.00
342.20	0.93	0.93	0.00
342.30	0.95	0.95	0.00
342.40	0.97	0.97	0.00
342.50	0.99	0.99	0.00
342.60	1.02	1.02	0.00
342.70	1.04	1.04	0.00
342.80	1.06	1.06	0.00
342.90	1.08	1.08	0.00
343.00	1.10	1.10	0.00
343.10	1.12	1.12	0.00
343.20	1.14	1.14	0.00
343.30	1.15	1.15	0.00
343.40	1.17	1.17	0.00
343.50	1.19	1.19	0.00
343.60	1.21	1.21	0.00
343.70	1.23	1.23	0.00
343.80	1.24	1.24	0.00
343.90	1.26	1.26	0.00
344.00	1.28	1.28	0.00
344.10	1.51	1.51	0.00
344.20	1.92	1.92	0.00
344.30	2.25	2.25	0.00
344.40	2.41	2.41	0.00
344.50	2.55	2.55	0.00
344.60	2.68	2.68	0.00
344.70	2.80	2.80	0.00
344.80	2.91	2.91	0.00
344.90	3.02	3.02	0.00
345.00	3.12	3.12	0.00
345.10	4.21	4.21	0.00
345.20	6.12	6.12	0.00
345.30	8.56	8.56	0.00
345.40	11.43	11.43	0.00
345.50	14.67	14.67	0.00
345.60	19.85	18.24	1.61
345.70	26.66	22.12	4.54
345.80	34.73	26.27	8.46
345.90	41.16	27.96	13.21
346.00	47.79	29.33	18.46
346.10	54.90	30.64	24.26
346.20	62.41	31.90	30.51
346.30	70.31	33.10	37.21
346.40	79.17	34.26	44.91
346.50	88.58	35.38	53.20
346.60	98.30	36.47	61.84
346.70	108.50	37.52	70.98
346.80	119.62	38.54	81.08
346.90	131.31	39.54	91.77
347.00	**144.49**	**40.51**	**103.98**

Stage-Area-Storage for Pond 1ab: Pond-1a

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
340.00	497	0
340.10	527	65
340.20	557	129
340.30	586	194
340.40	616	258
340.50	646	323
340.60	676	388
340.70	706	452
340.80	735	517
340.90	765	581
341.00	795	646
341.10	831	743
341.20	866	841
341.30	902	938
341.40	938	1,035
341.50	974	1,133
341.60	1,009	1,230
341.70	1,045	1,327
341.80	1,081	1,425
341.90	1,116	1,522
342.00	1,152	1,620
342.10	1,194	1,756
342.20	1,235	1,891
342.30	1,277	2,028
342.40	1,318	2,163
342.50	1,360	2,300
342.60	1,402	2,436
342.70	1,443	2,571
342.80	1,485	2,708
342.90	1,526	2,843
343.00	1,568	2,980
343.10	1,615	3,160
343.20	1,662	3,340
343.30	1,710	3,521
343.40	1,757	3,701
343.50	1,804	3,882
343.60	1,851	4,062
343.70	1,898	4,242
343.80	1,946	4,423
343.90	1,993	4,603
344.00	2,040	4,784
344.10	2,093	5,014
344.20	2,146	5,244
344.30	2,199	5,475
344.40	2,252	5,705
344.50	2,305	5,936
344.60	2,357	6,166
344.70	2,410	6,397
344.80	2,463	6,627
344.90	2,516	6,858
345.00	2,569	7,088
345.10	2,628	7,374
345.20	2,686	7,660
345.30	2,745	7,946
345.40	2,803	8,233
345.50	2,862	8,519
345.60	2,920	8,805
345.70	2,978	9,091
345.80	3,037	9,377
345.90	3,095	9,663
346.00	3,154	9,950
346.10	3,218	10,297
346.20	3,282	10,644
346.30	3,346	10,992
346.40	3,410	11,339
346.50	3,475	11,687
346.60	3,539	12,034
346.70	3,603	12,382
346.80	3,667	12,729
346.90	3,731	13,077
347.00	**3,795**	**13,424**

Summary for Pond 1B: Pond-1b

Inflow Area = 1.557 ac, 83.11% Impervious, Inflow Depth > 2.67" for 2-yr event
Inflow = 4.28 cfs @ 12.12 hrs, Volume= 0.346 af
Outflow = 1.05 cfs @ 12.53 hrs, Volume= 0.341 af, Atten= 76%, Lag= 24.9 min
Primary = 1.05 cfs @ 12.53 hrs, Volume= 0.341 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 336.47' @ 12.53 hrs Surf.Area= 0.106 ac Storage= 0.113 af

Plug-Flow detention time= 57.2 min calculated for 0.340 af (98% of inflow)
Center-of-Mass det. time= 47.7 min (840.6 - 792.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	335.00'	0.021 af	**48.00'W x 96.00'L x 5.17'H Field A** 0.547 af Overall - 0.494 af Embedded = 0.053 af x 40.0% Voids
#2A	335.50'	0.375 af	**retain_it retain_it 4.0'** x 72 Inside #1 Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf 6 Rows adjusted for 271.8 cf perimeter wall
		0.397 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	335.00'	**15.0" Round Culvert** L= 43.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 335.00' / 331.00' S= 0.0930 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 1.23 sf
#2	Device 1	335.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	337.50'	**6.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	339.50'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.05 cfs @ 12.53 hrs HW=336.47' (Free Discharge)
- **1=Culvert** (Passes 1.05 cfs of 5.44 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 1.05 cfs @ 5.33 fps)
- **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1B: Pond-1b - Chamber Wizard Field A

Chamber Model = retain_it retain_it 4.0' (retain-it®)
Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf
Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf
6 Rows adjusted for 271.8 cf perimeter wall

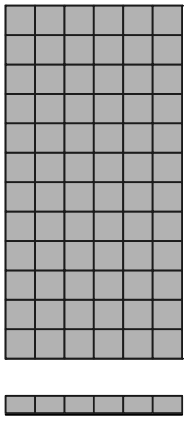
12 Chambers/Row x 8.00' Long = 96.00' Row Length
6 Rows x 96.0" Wide = 48.00' Base Width
6.0" Base + 56.0" Chamber Height = 5.17' Field Height

7.5 cf Sidewall x 12 x 2 + 7.5 cf Endwall x 6 x 2 = 271.8 cf Perimeter Wall
72 Chambers x 230.9 cf - 271.8 cf Perimeter wall = 16,355.9 cf Chamber Storage
72 Chambers x 298.7 cf = 21,504.0 cf Displacement

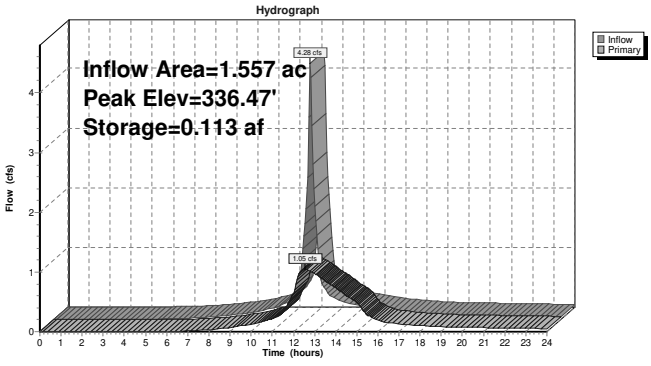
23,808.0 cf Field - 21,504.0 cf Chambers = 2,304.0 cf Stone x 40.0% Voids = 921.6 cf Stone Storage

Chamber Storage + Stone Storage = 17,277.5 cf = 0.397 af
Overall Storage Efficiency = 72.6%
Overall System Size = 96.00' x 48.00' x 5.17'

72 Chambers
881.8 cy Field
85.3 cy Stone



Pond 1B: Pond-1b



Stage-Discharge for Pond 1B: Pond-1b

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
335.00	0.00	337.08	1.28	339.16	2.99
335.04	0.01	337.12	1.29	339.20	3.02
335.08	0.02	337.16	1.31	339.24	3.04
335.12	0.04	337.20	1.32	339.28	3.07
335.16	0.07	337.24	1.33	339.32	3.09
335.20	0.11	337.28	1.35	339.36	3.12
335.24	0.16	337.32	1.36	339.40	3.14
335.28	0.20	337.36	1.37	339.44	3.16
335.32	0.26	337.40	1.39	339.48	3.19
335.36	0.31	337.44	1.40	339.52	3.26
335.40	0.36	337.48	1.41	339.56	3.47
335.44	0.41	337.52	1.43	339.60	3.77
335.48	0.46	337.56	1.45	339.64	4.13
335.52	0.49	337.60	1.48	339.68	4.54
335.56	0.53	337.64	1.52	339.72	5.00
335.60	0.56	337.68	1.57	339.76	5.49
335.64	0.59	337.72	1.62	339.80	6.02
335.68	0.62	337.76	1.68	339.84	6.59
335.72	0.65	337.80	1.74	339.88	7.19
335.76	0.68	337.84	1.80	339.92	7.81
335.80	0.70	337.88	1.87	339.96	8.46
335.84	0.73	337.92	1.93	340.00	9.14
335.88	0.75	337.96	1.99	340.04	9.85
335.92	0.77	338.00	2.04	340.08	10.58
335.96	0.80	338.04	2.09	340.12	11.33
336.00	0.82	338.08	2.13	340.16	**12.10**
336.04	0.84	338.12	2.18		
336.08	0.86	338.16	2.22		
336.12	0.88	338.20	2.26		
336.16	0.90	338.24	2.30		
336.20	0.92	338.28	2.33		
336.24	0.94	338.32	2.37		
336.28	0.96	338.36	2.41		
336.32	0.98	338.40	2.44		
336.36	1.00	338.44	2.47		
336.40	1.01	338.48	2.51		
336.44	1.03	338.52	2.54		
336.48	1.05	338.56	2.57		
336.52	1.07	338.60	2.60		
336.56	1.08	338.64	2.63		
336.60	1.10	338.68	2.66		
336.64	1.11	338.72	2.69		
336.68	1.13	338.76	2.72		
336.72	1.15	338.80	2.75		
336.76	1.16	338.84	2.78		
336.80	1.18	338.88	2.81		
336.84	1.19	338.92	2.83		
336.88	1.21	338.96	2.86		
336.92	1.22	339.00	2.89		
336.96	1.24	339.04	2.91		
337.00	1.25	339.08	2.94		
337.04	1.26	339.12	2.97		

Stage-Area-Storage for Pond 1B: Pond-1b

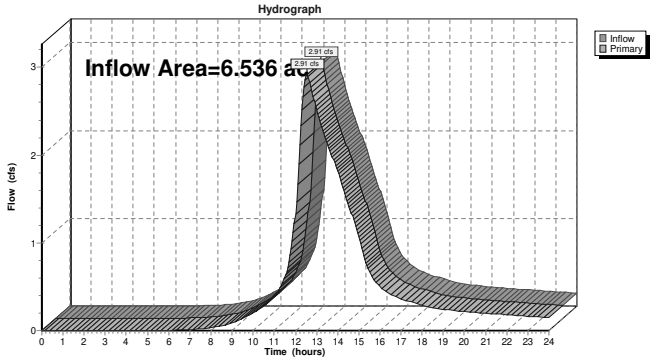
Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
335.00	0.000	337.08	0.169	339.16	0.365
335.04	0.002	337.12	0.173	339.20	0.368
335.08	0.003	337.16	0.177	339.24	0.372
335.12	0.005	337.20	0.181	339.28	0.376
335.16	0.007	337.24	0.184	339.32	0.380
335.20	0.008	337.28	0.188	339.36	0.383
335.24	0.010	337.32	0.192	339.40	0.387
335.28	0.012	337.36	0.196	339.44	0.391
335.32	0.014	337.40	0.200	339.48	**0.395**
335.36	0.015	337.44	0.203	339.52	**0.397**
335.40	0.017	337.48	0.207	339.56	0.397
335.44	0.019	337.52	0.211	339.60	0.397
335.48	0.020	337.56	0.215	339.64	0.397
335.52	0.023	337.60	0.218	339.68	0.397
335.56	0.027	337.64	0.222	339.72	0.397
335.60	0.031	337.68	0.226	339.76	0.397
335.64	0.034	337.72	0.230	339.80	0.397
335.68	0.038	337.76	0.233	339.84	0.397
335.72	0.042	337.80	0.237	339.88	0.397
335.76	0.046	337.84	0.241	339.92	0.397
335.80	0.049	337.88	0.245	339.96	0.397
335.84	0.053	337.92	0.248	340.00	0.397
335.88	0.057	337.96	0.252	340.04	0.397
335.92	0.061	338.00	0.256	340.08	0.397
335.96	0.064	338.04	0.260	340.12	0.397
336.00	0.068	338.08	0.263	340.16	0.397
336.04	0.072	338.12	0.267		
336.08	0.076	338.16	0.271		
336.12	0.079	338.20	0.275		
336.16	0.083	338.24	0.278		
336.20	0.087	338.28	0.282		
336.24	0.091	338.32	0.286		
336.28	0.094	338.36	0.290		
336.32	0.098	338.40	0.293		
336.36	0.102	338.44	0.297		
336.40	0.106	338.48	0.301		
336.44	0.109	338.52	0.305		
336.48	0.113	338.56	0.308		
336.52	0.117	338.60	0.312		
336.56	0.121	338.64	0.316		
336.60	0.124	338.68	0.320		
336.64	0.128	338.72	0.323		
336.68	0.132	338.76	0.327		
336.72	0.136	338.80	0.331		
336.76	0.139	338.84	0.335		
336.80	0.143	338.88	0.338		
336.84	0.147	338.92	0.342		
336.88	0.151	338.96	0.346		
336.92	0.154	339.00	0.350		
336.96	0.158	339.04	0.353		
337.00	0.162	339.08	0.357		
337.04	0.166	339.12	0.361		

Summary for Link P1: P1 Total

Inflow Area = 6.536 ac, 48.33% Impervious, Inflow Depth > 1.51" for 2-yr event
Inflow = 2.91 cfs @ 12.55 hrs, Volume= 0.823 af
Primary = 2.91 cfs @ 12.55 hrs, Volume= 0.823 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link P1: P1 Total

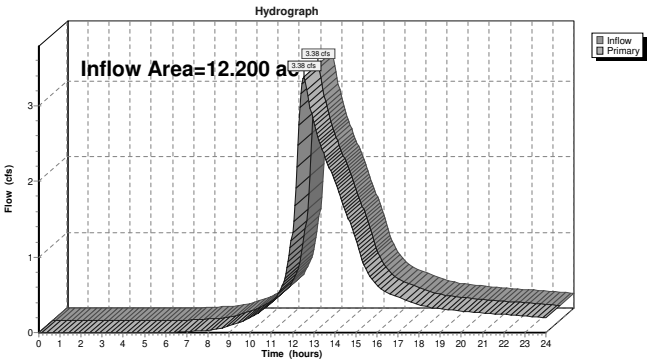


Summary for Link P1-2: Overall Existing

Inflow Area = 12.200 ac, 25.89% Impervious, Inflow Depth > 0.92" for 2-yr event
Inflow = 3.38 cfs @ 12.54 hrs, Volume= 0.940 af
Primary = 3.38 cfs @ 12.54 hrs, Volume= 0.940 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link P1-2: Overall Existing



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1a: PDA-1a Runoff Area=2.290 ac 59.83% Impervious Runoff Depth>3.01"
Tc=14.5 min CN=85 Runoff=6.15 cfs 0.575 af

Subcatchment P1b: PDA-1b Runoff Area=1.557 ac 83.11% Impervious Runoff Depth>3.79"
Tc=8.4 min CN=93 Runoff=5.98 cfs 0.492 af

Subcatchment P1c: PDA-1c Runoff Area=2.689 ac 18.41% Impervious Runoff Depth>1.03"
Tc=28.1 min CN=59 Runoff=1.63 cfs 0.231 af

Subcatchment P2: PDA-2 Runoff Area=5.664 ac 0.00% Impervious Runoff Depth>0.65"
Tc=18.1 min CN=52 Runoff=2.01 cfs 0.308 af

Subcatchment P3: PDA-3 Runoff Area=0.290 ac 100.00% Impervious Runoff Depth>4.38"
Tc=6.0 min CN=98 Runoff=1.28 cfs 0.106 af

Subcatchment P4: PDA-4 Runoff Area=2.315 ac 40.39% Impervious Runoff Depth>2.55"
Tc=16.6 min CN=80 Runoff=5.01 cfs 0.491 af

Subcatchment P5: PDA-5 Runoff Area=1.350 ac 0.00% Impervious Runoff Depth>2.05"
Tc=15.1 min CN=74 Runoff=2.42 cfs 0.231 af

Pond 1ab: Pond-1a Peak Elev=344.76' Storage=6,542 cf Inflow=6.15 cfs 0.575 af
Primary=2.87 cfs 0.572 af Secondary=0.00 cfs 0.000 af Outflow=2.87 cfs 0.572 af

Pond 1B: Pond-1b Peak Elev=337.06' Storage=0.168 af Inflow=5.98 cfs 0.492 af
Outflow=1.27 cfs 0.486 af

Link P1: P1 Total Inflow=5.76 cfs 1.289 af
Primary=5.76 cfs 1.289 af

Link P1-2: Overall Existing Inflow=7.66 cfs 1.597 af
Primary=7.66 cfs 1.597 af

Summary for Subcatchment P1a: PDA-1a

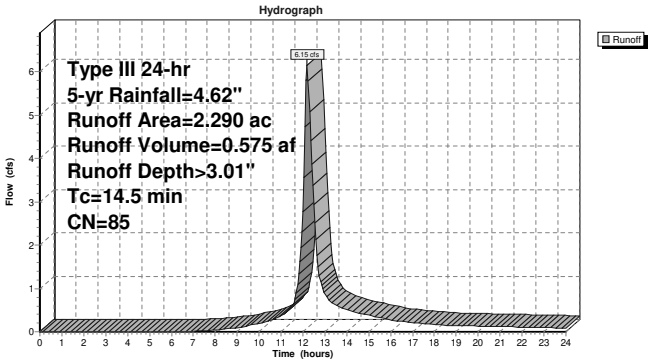
Runoff = 6.15 cfs @ 12.20 hrs, Volume= 0.575 af, Depth> 3.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.62"

	Area (ac)	CN	Description
*	0.280	55	Woods - B
*	0.160	77	Woods - D
*	0.140	61	Grass - B
*	0.160	61	Grass - B
*	0.180	80	Grass -D
*	1.370	98	Impervious
	2.290	85	Weighted Average
	0.920		40.17% Pervious Area
	1.370		59.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5					**Direct Entry,**

Subcatchment P1a: PDA-1a



Summary for Subcatchment P1b: PDA-1b

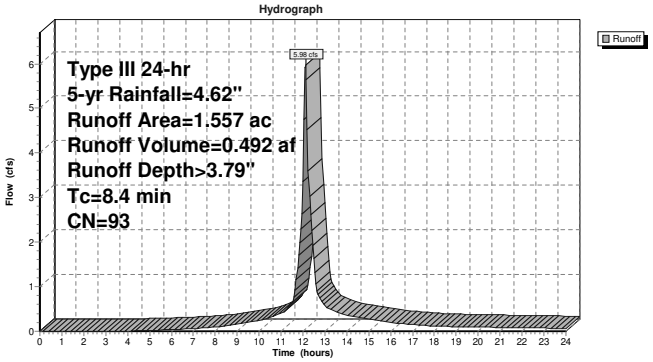
Runoff = 5.98 cfs @ 12.12 hrs, Volume= 0.492 af, Depth> 3.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.62"

	Area (ac)	CN	Description
*	0.064	39	Grass - A
*	0.045	61	Grass - B
*	0.154	80	Grass - D
*	1.294	98	Impervious
	1.557	93	Weighted Average
	0.263		16.89% Pervious Area
	1.294		83.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4					**Direct Entry,**

Subcatchment P1b: PDA-1b



Summary for Subcatchment P1c: PDA-1c

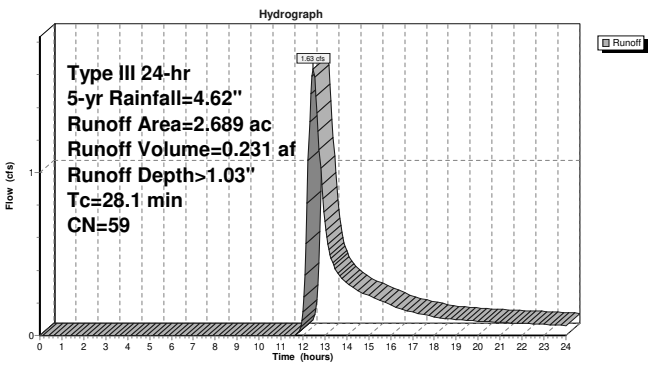
Runoff = 1.63 cfs @ 12.46 hrs, Volume= 0.231 af, Depth> 1.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.62"

	Area (ac)	CN	Description
*	0.631	30	Woods - A
*	0.164	55	Woods - B
*	0.275	39	Grass - A
*	0.932	61	Grass - B
*	0.060	80	Grass - D
*	0.132	80	Grass - D
*	0.495	98	Impervious
	2.689	59	Weighted Average
	2.194		81.59% Pervious Area
	0.495		18.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.1					**Direct Entry,**

Subcatchment P1c: PDA-1c



Summary for Subcatchment P2: PDA-2

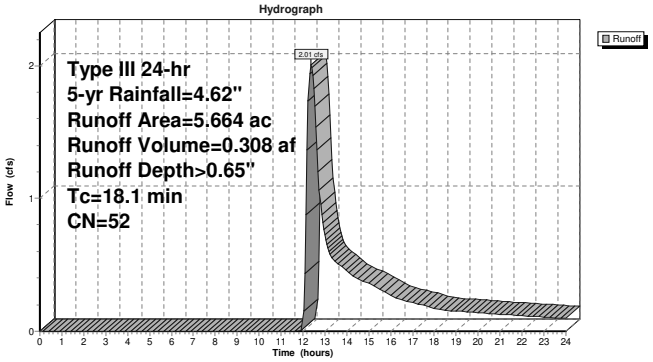
Runoff = 2.01 cfs @ 12.36 hrs, Volume= 0.308 af, Depth> 0.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.62"

	Area (ac)	CN	Description
*	0.946	30	Woods - A
*	4.180	55	Woods - B
*	0.338	77	Woods - D
*	0.100	39	Grass - A
*	0.100	80	Grass - D
	5.664	52	Weighted Average
	5.664		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1					**Direct Entry,**

Subcatchment P2: PDA-2



Summary for Subcatchment P3: PDA-3

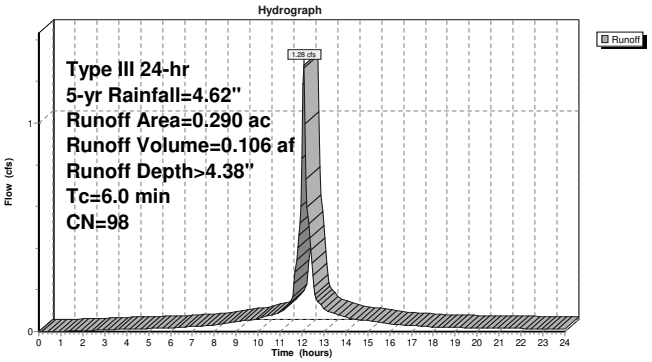
Runoff = 1.28 cfs @ 12.09 hrs, Volume= 0.106 af, Depth> 4.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.62"

	Area (ac)	CN	Description
*	0.290	98	Impervious
	0.290		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P3: PDA-3



Summary for Subcatchment P4: PDA-4

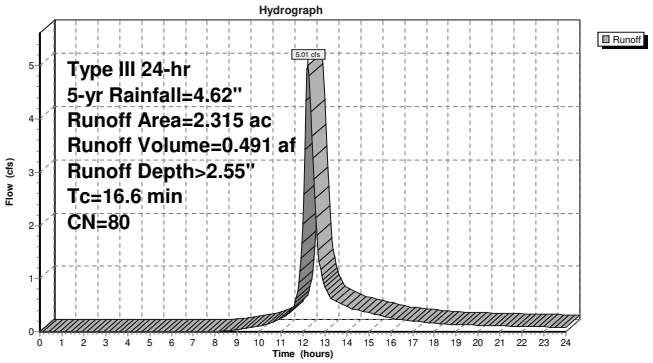
Runoff = 5.01 cfs @ 12.23 hrs, Volume= 0.491 af, Depth> 2.55"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.62"

	Area (ac)	CN	Description
*	0.060	55	Woods - B
*	0.280	55	Woods - B
*	0.640	77	Woods - D
*	0.350	61	Grass - B
*	0.050	80	Grass - D
*	0.935	98	Impervious
	2.315	80	Weighted Average
	1.380		59.61% Pervious Area
	0.935		40.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.6					**Direct Entry,**

Subcatchment P4: PDA-4



Summary for Subcatchment P5: PDA-5

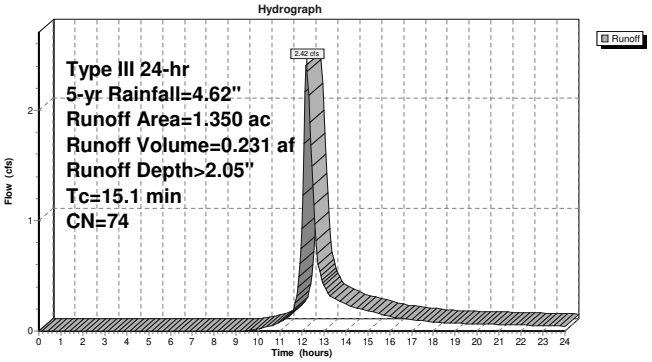
Runoff = 2.42 cfs @ 12.22 hrs, Volume= 0.231 af, Depth> 2.05"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 5-yr Rainfall=4.62"

	Area (ac)	CN	Description
*	0.190	55	Woods - B
*	1.160	77	Woods - D
	1.350	74	Weighted Average
	1.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1					**Direct Entry,**

Subcatchment P5: PDA-5



Summary for Pond 1ab: Pond-1a

Inflow Area = 2.290 ac, 59.83% Impervious, Inflow Depth > 3.01" for 5-yr event
Inflow = 6.15 cfs @ 12.20 hrs, Volume= 0.575 af
Outflow = 2.87 cfs @ 12.51 hrs, Volume= 0.572 af, Atten= 53%, Lag= 18.6 min
Primary = 2.87 cfs @ 12.51 hrs, Volume= 0.572 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 344.76' @ 12.51 hrs Surf.Area= 2,444 sf Storage= 6,542 cf

Plug-Flow detention time= 34.1 min calculated for 0.571 af (99% of inflow)
Center-of-Mass det. time= 31.2 min (848.1 - 817.0)

Volume	Invert	Avail.Storage	Storage Description
#1	340.00'	13,424 cf	**Detention Basin (Prismatic)** Listed below

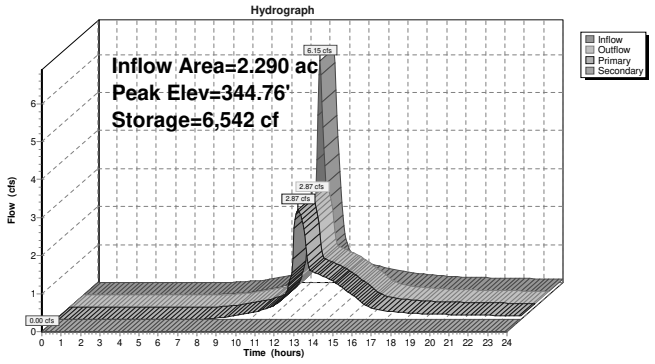
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
340.00	497	0	0
341.00	795	646	646
342.00	1,152	974	1,620
343.00	1,568	1,360	2,980
344.00	2,040	1,804	4,784
345.00	2,569	2,305	7,088
346.00	3,154	2,862	9,950
347.00	3,795	3,475	13,424

Device	Routing	Invert	Outlet Devices
#1	Primary	339.00'	**24.0" Round RCP_Round 24"** L= 169.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 339.00' / 337.31' S= 0.0100 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	340.00'	**5.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	344.00'	**8.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	345.00'	**20.4" x 37.2" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Secondary	345.50'	**20.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=2.87 cfs @ 12.51 hrs HW=344.76' (Free Discharge)
└**1=RCP_Round 24"** (Passes 2.87 cfs of 35.77 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 1.40 cfs @ 10.27 fps)
  ├**3=Orifice/Grate** (Orifice Controls 1.47 cfs @ 4.20 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=340.00' (Free Discharge)
└**5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1ab: Pond-1a



Stage-Discharge for Pond 1ab: Pond-1a

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
340.00	0.00	0.00	0.00	345.20	6.12	6.12	0.00
340.10	0.03	0.03	0.00	345.30	8.56	8.56	0.00
340.20	0.10	0.10	0.00	345.40	11.43	11.43	0.00
340.30	0.20	0.20	0.00	345.50	14.67	14.67	0.00
340.40	0.29	0.29	0.00	345.60	19.85	18.24	1.61
340.50	0.35	0.35	0.00	345.70	26.66	22.12	4.54
340.60	0.41	0.41	0.00	345.80	34.73	26.27	8.46
340.70	0.46	0.46	0.00	345.90	41.16	27.96	13.21
340.80	0.51	0.51	0.00	346.00	47.79	29.33	18.46
340.90	0.55	0.55	0.00	346.10	54.90	30.64	24.26
341.00	0.58	0.58	0.00	346.20	62.41	31.90	30.51
341.10	0.62	0.62	0.00	346.30	70.31	33.10	37.21
341.20	0.65	0.65	0.00	346.40	79.17	34.26	44.91
341.30	0.69	0.69	0.00	346.50	88.58	35.38	53.20
341.40	0.72	0.72	0.00	346.60	98.30	36.47	61.84
341.50	0.75	0.75	0.00	346.70	108.50	37.52	70.98
341.60	0.77	0.77	0.00	346.80	119.62	38.54	81.08
341.70	0.80	0.80	0.00	346.90	131.31	39.54	91.77
341.80	0.83	0.83	0.00	347.00	**144.49**	**40.51**	**103.98**
341.90	0.85	0.85	0.00				
342.00	0.88	0.88	0.00				
342.10	0.90	0.90	0.00				
342.20	0.93	0.93	0.00				
342.30	0.95	0.95	0.00				
342.40	0.97	0.97	0.00				
342.50	0.99	0.99	0.00				
342.60	1.02	1.02	0.00				
342.70	1.04	1.04	0.00				
342.80	1.06	1.06	0.00				
342.90	1.08	1.08	0.00				
343.00	1.10	1.10	0.00				
343.10	1.12	1.12	0.00				
343.20	1.14	1.14	0.00				
343.30	1.15	1.15	0.00				
343.40	1.17	1.17	0.00				
343.50	1.19	1.19	0.00				
343.60	1.21	1.21	0.00				
343.70	1.23	1.23	0.00				
343.80	1.24	1.24	0.00				
343.90	1.26	1.26	0.00				
344.00	1.28	1.28	0.00				
344.10	1.51	1.51	0.00				
344.20	1.92	1.92	0.00				
344.30	2.25	2.25	0.00				
344.40	2.41	2.41	0.00				
344.50	2.55	2.55	0.00				
344.60	2.68	2.68	0.00				
344.70	2.80	2.80	0.00				
344.80	2.91	2.91	0.00				
344.90	3.02	3.02	0.00				
345.00	3.12	3.12	0.00				
345.10	4.21	4.21	0.00				

Stage-Area-Storage for Pond 1ab: Pond-1a

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
340.00	497	0	345.20	2,686	7,660
340.10	527	65	345.30	2,745	7,946
340.20	557	129	345.40	2,803	8,233
340.30	586	194	345.50	2,862	8,519
340.40	616	258	345.60	2,920	8,805
340.50	646	323	345.70	2,978	9,091
340.60	676	388	345.80	3,037	9,377
340.70	706	452	345.90	3,095	9,663
340.80	735	517	346.00	3,154	9,950
340.90	765	581	346.10	3,218	10,297
341.00	795	646	346.20	3,282	10,644
341.10	831	743	346.30	3,346	10,992
341.20	866	841	346.40	3,410	11,339
341.30	902	938	346.50	3,475	11,687
341.40	938	1,035	346.60	3,539	12,034
341.50	974	1,133	346.70	3,603	12,382
341.60	1,009	1,230	346.80	3,667	12,729
341.70	1,045	1,327	346.90	3,731	13,077
341.80	1,081	1,425	347.00	**3,795**	**13,424**
341.90	1,116	1,522			
342.00	1,152	1,620			
342.10	1,194	1,756			
342.20	1,235	1,891			
342.30	1,277	2,028			
342.40	1,318	2,163			
342.50	1,360	2,300			
342.60	1,402	2,436			
342.70	1,443	2,571			
342.80	1,485	2,708			
342.90	1,526	2,843			
343.00	1,568	2,980			
343.10	1,615	3,160			
343.20	1,662	3,340			
343.30	1,710	3,521			
343.40	1,757	3,701			
343.50	1,804	3,882			
343.60	1,851	4,062			
343.70	1,898	4,242			
343.80	1,946	4,423			
343.90	1,993	4,603			
344.00	2,040	4,784			
344.10	2,093	5,014			
344.20	2,146	5,244			
344.30	2,199	5,475			
344.40	2,252	5,705			
344.50	2,305	5,936			
344.60	2,357	6,166			
344.70	2,410	6,397			
344.80	2,463	6,627			
344.90	2,516	6,858			
345.00	2,569	7,088			
345.10	2,628	7,374			

Summary for Pond 1B: Pond-1b

Inflow Area = 1.557 ac, 83.11% Impervious, Inflow Depth > 3.79" for 5-yr event
Inflow = 5.98 cfs @ 12.12 hrs, Volume= 0.492 af
Outflow = 1.27 cfs @ 12.56 hrs, Volume= 0.486 af, Atten= 79%, Lag= 26.7 min
Primary = 1.27 cfs @ 12.56 hrs, Volume= 0.486 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 337.06' @ 12.56 hrs Surf.Area= 0.106 ac Storage= 0.168 af

Plug-Flow detention time= 64.2 min calculated for 0.486 af (99% of inflow)
Center-of-Mass det. time= 56.1 min (839.6 - 783.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	335.00'	0.021 af	**48.00'W x 96.00'L x 5.17'H Field A** 0.547 af Overall - 0.494 af Embedded = 0.053 af x 40.0% Voids
#2A	335.50'	0.375 af	**retain_it retain_it 4.0'** x 72 Inside #1 Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf 6 Rows adjusted for 271.8 cf perimeter wall
		0.397 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	335.00'	**15.0" Round Culvert** L= 43.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 335.00' / 331.00' S= 0.0930 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 1.23 sf
#2	Device 1	335.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	337.50'	**6.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	339.50'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.27 cfs @ 12.56 hrs HW=337.06' (Free Discharge)
└**1=Culvert** (Passes 1.27 cfs of 7.09 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 1.27 cfs @ 6.48 fps)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1B: Pond-1b - Chamber Wizard Field A

Chamber Model = retain_it retain_it 4.0' (retain-it®)
Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf
Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf
6 Rows adjusted for 271.8 cf perimeter wall

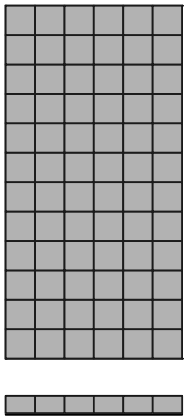
12 Chambers/Row x 8.00' Long = 96.00' Row Length
6 Rows x 96.0" Wide = 48.00' Base Width
6.0" Base + 56.0" Chamber Height = 5.17' Field Height

7.5 cf Sidewall x 12 x 2 + 7.5 cf Endwall x 6 x 2 = 271.8 cf Perimeter Wall
72 Chambers x 230.9 cf - 271.8 cf Perimeter wall = 16,355.9 cf Chamber Storage
72 Chambers x 298.7 cf = 21,504.0 cf Displacement

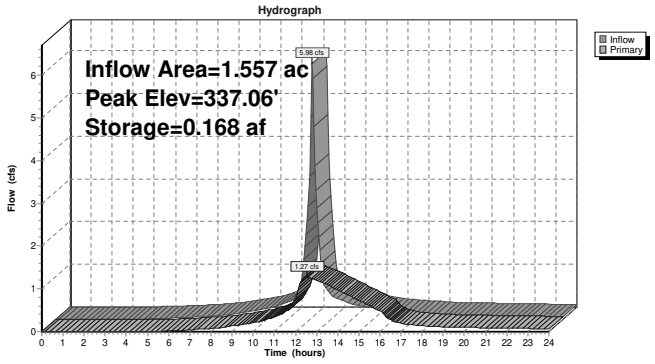
23,808.0 cf Field - 21,504.0 cf Chambers = 2,304.0 cf Stone x 40.0% Voids = 921.6 cf Stone Storage

Chamber Storage + Stone Storage = 17,277.5 cf = 0.397 af
Overall Storage Efficiency = 72.6%
Overall System Size = 96.00' x 48.00' x 5.17'

72 Chambers
881.8 cy Field
85.3 cy Stone



Pond 1B: Pond-1b



Stage-Discharge for Pond 1B: Pond-1b

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
335.00	0.00	337.08	1.28	339.16	2.99
335.04	0.01	337.12	1.29	339.20	3.02
335.08	0.02	337.16	1.31	339.24	3.04
335.12	0.04	337.20	1.32	339.28	3.07
335.16	0.07	337.24	1.33	339.32	3.09
335.20	0.11	337.28	1.35	339.36	3.12
335.24	0.16	337.32	1.36	339.40	3.14
335.28	0.20	337.36	1.37	339.44	3.16
335.32	0.26	337.40	1.39	339.48	3.19
335.36	0.31	337.44	1.40	339.52	3.26
335.40	0.36	337.48	1.41	339.56	3.47
335.44	0.41	337.52	1.43	339.60	3.77
335.48	0.46	337.56	1.45	339.64	4.13
335.52	0.49	337.60	1.48	339.68	4.54
335.56	0.53	337.64	1.52	339.72	5.00
335.60	0.56	337.68	1.57	339.76	5.49
335.64	0.59	337.72	1.62	339.80	6.02
335.68	0.62	337.76	1.68	339.84	6.59
335.72	0.65	337.80	1.74	339.88	7.19
335.76	0.68	337.84	1.80	339.92	7.81
335.80	0.70	337.88	1.87	339.96	8.46
335.84	0.73	337.92	1.93	340.00	9.14
335.88	0.75	337.96	1.99	340.04	9.85
335.92	0.77	338.00	2.04	340.08	10.58
335.96	0.80	338.04	2.09	340.12	11.33
336.00	0.82	338.08	2.13	340.16	**12.10**
336.04	0.84	338.12	2.18		
336.08	0.86	338.16	2.22		
336.12	0.88	338.20	2.26		
336.16	0.90	338.24	2.30		
336.20	0.92	338.28	2.33		
336.24	0.94	338.32	2.37		
336.28	0.96	338.36	2.41		
336.32	0.98	338.40	2.44		
336.36	1.00	338.44	2.47		
336.40	1.01	338.48	2.51		
336.44	1.03	338.52	2.54		
336.48	1.05	338.56	2.57		
336.52	1.07	338.60	2.60		
336.56	1.08	338.64	2.63		
336.60	1.10	338.68	2.66		
336.64	1.11	338.72	2.69		
336.68	1.13	338.76	2.72		
336.72	1.15	338.80	2.75		
336.76	1.16	338.84	2.78		
336.80	1.18	338.88	2.81		
336.84	1.19	338.92	2.83		
336.88	1.21	338.96	2.86		
336.92	1.22	339.00	2.89		
336.96	1.24	339.04	2.91		
337.00	1.25	339.08	2.94		
337.04	1.26	339.12	2.97		

Stage-Area-Storage for Pond 1B: Pond-1b

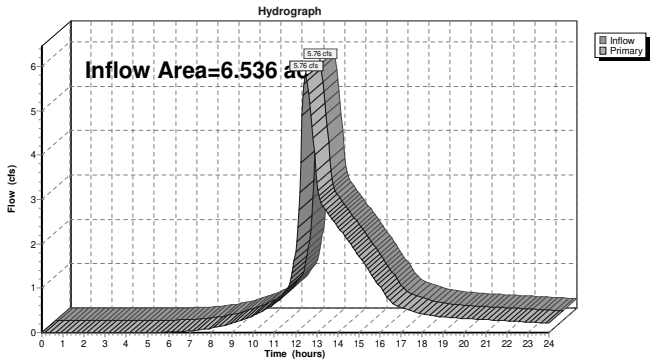
Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
335.00	0.000	337.08	0.169	339.16	0.365
335.04	0.002	337.12	0.173	339.20	0.368
335.08	0.003	337.16	0.177	339.24	0.372
335.12	0.005	337.20	0.181	339.28	0.376
335.16	0.007	337.24	0.184	339.32	0.380
335.20	0.008	337.28	0.188	339.36	0.383
335.24	0.010	337.32	0.192	339.40	0.387
335.28	0.012	337.36	0.196	339.44	0.391
335.32	0.014	337.40	0.200	339.48	**0.395**
335.36	0.015	337.44	0.203	339.52	**0.397**
335.40	0.017	337.48	0.207	339.56	0.397
335.44	0.019	337.52	0.211	339.60	0.397
335.48	0.020	337.56	0.215	339.64	0.397
335.52	0.023	337.60	0.218	339.68	0.397
335.56	0.027	337.64	0.222	339.72	0.397
335.60	0.031	337.68	0.226	339.76	0.397
335.64	0.034	337.72	0.230	339.80	0.397
335.68	0.038	337.76	0.233	339.84	0.397
335.72	0.042	337.80	0.237	339.88	0.397
335.76	0.046	337.84	0.241	339.92	0.397
335.80	0.049	337.88	0.245	339.96	0.397
335.84	0.053	337.92	0.248	340.00	0.397
335.88	0.057	337.96	0.252	340.04	0.397
335.92	0.061	338.00	0.256	340.08	0.397
335.96	0.064	338.04	0.260	340.12	0.397
336.00	0.068	338.08	0.263	340.16	0.397
336.04	0.072	338.12	0.267		
336.08	0.076	338.16	0.271		
336.12	0.079	338.20	0.275		
336.16	0.083	338.24	0.278		
336.20	0.087	338.28	0.282		
336.24	0.091	338.32	0.286		
336.28	0.094	338.36	0.290		
336.32	0.098	338.40	0.293		
336.36	0.102	338.44	0.297		
336.40	0.106	338.48	0.301		
336.44	0.109	338.52	0.305		
336.48	0.113	338.56	0.308		
336.52	0.117	338.60	0.312		
336.56	0.121	338.64	0.316		
336.60	0.124	338.68	0.320		
336.64	0.128	338.72	0.323		
336.68	0.132	338.76	0.327		
336.72	0.136	338.80	0.331		
336.76	0.139	338.84	0.335		
336.80	0.143	338.88	0.338		
336.84	0.147	338.92	0.342		
336.88	0.151	338.96	0.346		
336.92	0.154	339.00	0.350		
336.96	0.158	339.04	0.353		
337.00	0.162	339.08	0.357		
337.04	0.166	339.12	0.361		

Summary for Link P1: P1 Total

Inflow Area = 6.536 ac, 48.33% Impervious, Inflow Depth > 2.37" for 5-yr event
Inflow = 5.76 cfs @ 12.49 hrs, Volume= 1.289 af
Primary = 5.76 cfs @ 12.49 hrs, Volume= 1.289 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link P1: P1 Total

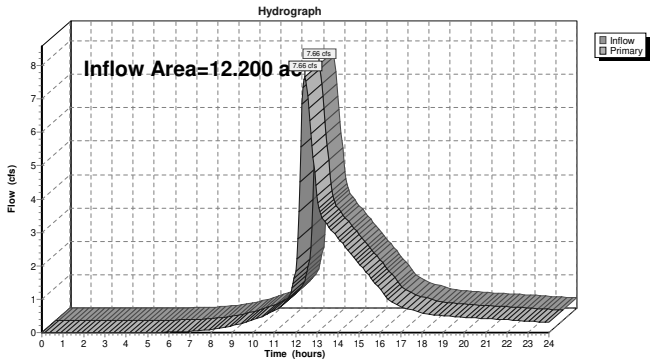


Summary for Link P1-2: Overall Existing

Inflow Area = 12.200 ac, 25.89% Impervious, Inflow Depth > 1.57" for 5-yr event
Inflow = 7.66 cfs @ 12.45 hrs, Volume= 1.597 af
Primary = 7.66 cfs @ 12.45 hrs, Volume= 1.597 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link P1-2: Overall Existing



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1a: PDA-1a Runoff Area=2.290 ac 59.83% Impervious Runoff Depth>3.90"
Tc=14.5 min CN=85 Runoff=7.90 cfs 0.744 af

Subcatchment P1b: PDA-1b Runoff Area=1.557 ac 83.11% Impervious Runoff Depth>4.73"
Tc=8.4 min CN=93 Runoff=7.37 cfs 0.614 af

Subcatchment P1c: PDA-1c Runoff Area=2.689 ac 18.41% Impervious Runoff Depth>1.58"
Tc=28.1 min CN=59 Runoff=2.69 cfs 0.355 af

Subcatchment P2: PDA-2 Runoff Area=5.664 ac 0.00% Impervious Runoff Depth>1.09"
Tc=18.1 min CN=52 Runoff=4.05 cfs 0.514 af

Subcatchment P3: PDA-3 Runoff Area=0.290 ac 100.00% Impervious Runoff Depth>5.34"
Tc=6.0 min CN=98 Runoff=1.55 cfs 0.129 af

Subcatchment P4: PDA-4 Runoff Area=2.315 ac 40.39% Impervious Runoff Depth>3.38"
Tc=16.6 min CN=80 Runoff=6.65 cfs 0.653 af

Subcatchment P5: PDA-5 Runoff Area=1.350 ac 0.00% Impervious Runoff Depth>2.82"
Tc=15.1 min CN=74 Runoff=3.35 cfs 0.317 af

Pond 1ab: Pond-1a Peak Elev=345.17' Storage=7,586 cf Inflow=7.90 cfs 0.744 af
Primary=5.55 cfs 0.741 af Secondary=0.00 cfs 0.000 af Outflow=5.55 cfs 0.741 af

Pond 1B: Pond-1b Peak Elev=337.58' Storage=0.216 af Inflow=7.37 cfs 0.614 af
Outflow=1.46 cfs 0.607 af

Link P1: P1 Total Inflow=9.42 cfs 1.703 af
Primary=9.42 cfs 1.703 af

Link P1-2: Overall Existing Inflow=13.45 cfs 2.217 af
Primary=13.45 cfs 2.217 af

Summary for Subcatchment P1a: PDA-1a

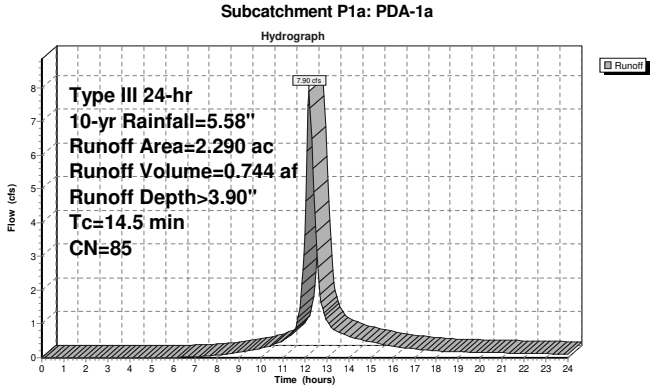
Runoff = 7.90 cfs @ 12.20 hrs, Volume= 0.744 af, Depth> 3.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

	Area (ac)	CN	Description
*	0.280	55	Woods - B
*	0.160	77	Woods - D
*	0.140	61	Grass - B
*	0.160	61	Grass - B
*	0.180	80	Grass -D
*	1.370	98	Impervious
	2.290	85	Weighted Average
	0.920		40.17% Pervious Area
	1.370		59.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5					Direct Entry,

Subcatchment P1a: PDA-1a



Summary for Subcatchment P1b: PDA-1b

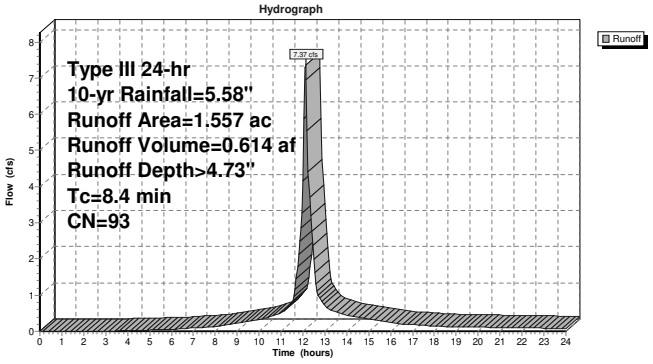
Runoff = 7.37 cfs @ 12.11 hrs, Volume= 0.614 af, Depth> 4.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

	Area (ac)	CN	Description
*	0.064	39	Grass - A
*	0.045	61	Grass - B
*	0.154	80	Grass - D
*	1.294	98	Impervious
	1.557	93	Weighted Average
	0.263		16.89% Pervious Area
	1.294		83.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4					Direct Entry,

Subcatchment P1b: PDA-1b



Summary for Subcatchment P1c: PDA-1c

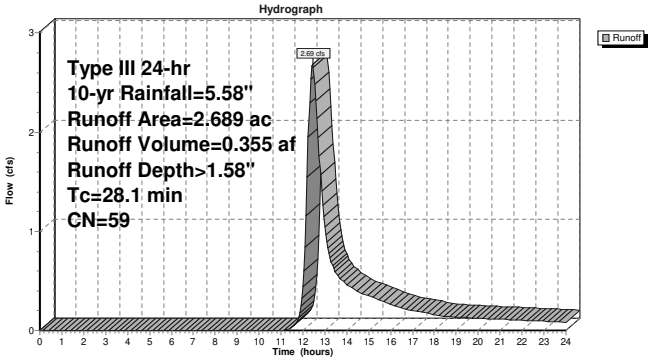
Runoff = 2.69 cfs @ 12.44 hrs, Volume= 0.355 af, Depth> 1.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

	Area (ac)	CN	Description
*	0.631	30	Woods - A
*	0.164	55	Woods - B
*	0.275	39	Grass - A
*	0.932	61	Grass - B
*	0.060	80	Grass - D
*	0.132	80	Grass - D
*	0.495	98	Impervious
	2.689	59	Weighted Average
	2.194		81.59% Pervious Area
	0.495		18.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.1					Direct Entry,

Subcatchment P1c: PDA-1c



Summary for Subcatchment P2: PDA-2

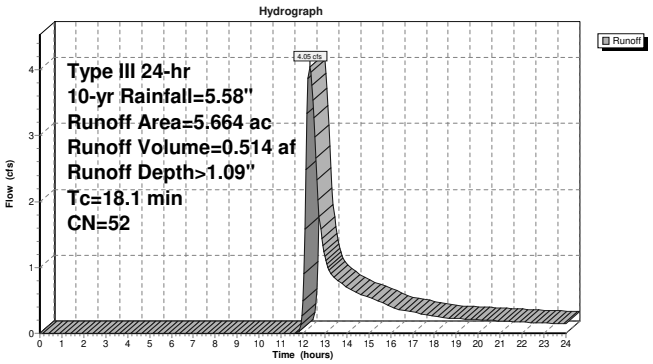
Runoff = 4.05 cfs @ 12.31 hrs, Volume= 0.514 af, Depth> 1.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

	Area (ac)	CN	Description
*	0.946	30	Woods - A
*	4.180	55	Woods - B
*	0.338	77	Woods - D
*	0.100	39	Grass - A
*	0.100	80	Grass - D
	5.664	52	Weighted Average
	5.664		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1					Direct Entry,

Subcatchment P2: PDA-2



Summary for Subcatchment P3: PDA-3

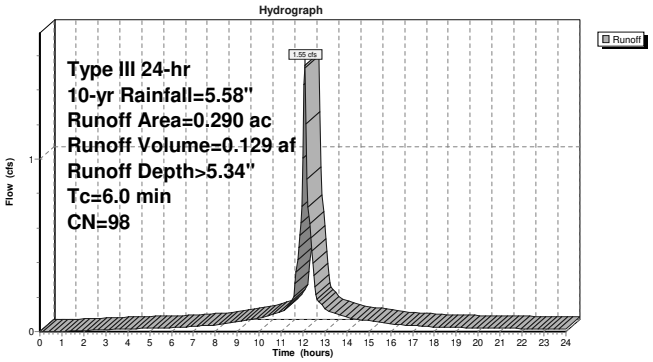
Runoff = 1.55 cfs @ 12.09 hrs, Volume= 0.129 af, Depth> 5.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

	Area (ac)	CN	Description
*	0.290	98	Impervious
	0.290		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment P3: PDA-3



Summary for Subcatchment P4: PDA-4

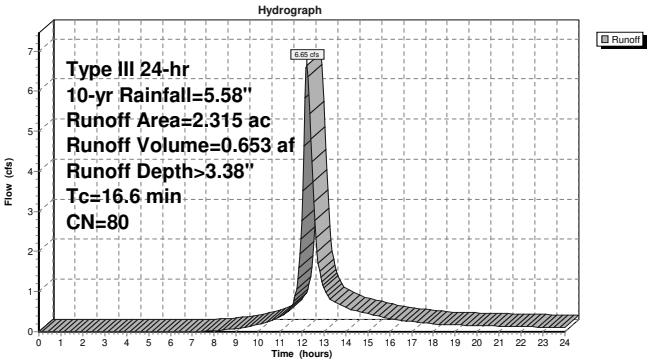
Runoff = 6.65 cfs @ 12.23 hrs, Volume= 0.653 af, Depth> 3.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

	Area (ac)	CN	Description
*	0.060	55	Woods - B
*	0.280	55	Woods - B
*	0.640	77	Woods - D
*	0.350	61	Grass - B
*	0.050	80	Grass - D
*	0.935	98	Impervious
	2.315	80	Weighted Average
	1.380		59.61% Pervious Area
	0.935		40.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.6					**Direct Entry,**

Subcatchment P4: PDA-4



Summary for Subcatchment P5: PDA-5

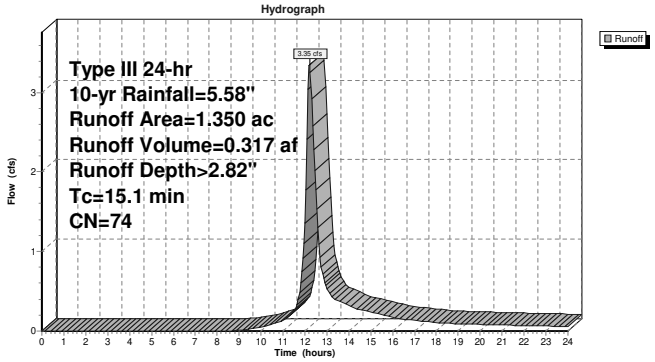
Runoff = 3.35 cfs @ 12.21 hrs, Volume= 0.317 af, Depth> 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=5.58"

	Area (ac)	CN	Description
*	0.190	55	Woods - B
*	1.160	77	Woods - D
	1.350	74	Weighted Average
	1.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1					**Direct Entry,**

Subcatchment P5: PDA-5



Summary for Pond 1ab: Pond-1a

Inflow Area = 2.290 ac, 59.83% Impervious, Inflow Depth > 3.90" for 10-yr event
Inflow = 7.90 cfs @ 12.20 hrs, Volume= 0.744 af
Outflow = 5.55 cfs @ 12.37 hrs, Volume= 0.741 af, Atten= 30%, Lag= 10.4 min
Primary = 5.55 cfs @ 12.37 hrs, Volume= 0.741 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 345.17' @ 12.37 hrs Surf.Area= 2,671 sf Storage= 7,586 cf

Plug-Flow detention time= 32.5 min calculated for 0.741 af (100% of inflow)
Center-of-Mass det. time= 29.9 min (839.6 - 809.7)

Volume	Invert	Avail.Storage	Storage Description
#1	340.00'	13,424 cf	**Detention Basin (Prismatic)** Listed below

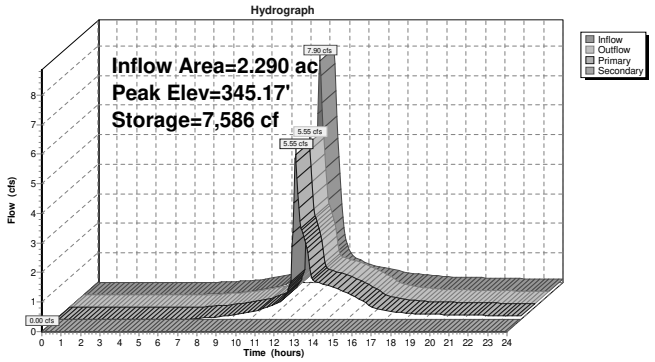
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
340.00	497	0	0
341.00	795	646	646
342.00	1,152	974	1,620
343.00	1,568	1,360	2,980
344.00	2,040	1,804	4,784
345.00	2,569	2,305	7,088
346.00	3,154	2,862	9,950
347.00	3,795	3,475	13,424

Device	Routing	Invert	Outlet Devices
#1	Primary	339.00'	**24.0" Round RCP_Round 24"** L= 169.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 339.00' / 337.31' S= 0.0100 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	340.00'	**5.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	344.00'	**8.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	345.00'	**20.4" x 37.2" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Secondary	345.50'	**20.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=5.33 cfs @ 12.37 hrs HW=345.16' (Free Discharge)
└**1=RCP_Round 24"** (Passes 5.33 cfs of 37.06 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 1.46 cfs @ 10.72 fps)
└**3=Orifice/Grate** (Orifice Controls 1.81 cfs @ 5.19 fps)
└**4=Orifice/Grate** (Weir Controls 2.06 cfs @ 1.32 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=340.00' (Free Discharge)
└**5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1ab: Pond-1a



Stage-Discharge for Pond 1ab: Pond-1a

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
340.00	0.00	0.00	0.00	345.20	6.12	6.12	0.00
340.10	0.03	0.03	0.00	345.30	8.56	8.56	0.00
340.20	0.10	0.10	0.00	345.40	11.43	11.43	0.00
340.30	0.20	0.20	0.00	345.50	14.67	14.67	0.00
340.40	0.29	0.29	0.00	345.60	19.85	18.24	1.61
340.50	0.35	0.35	0.00	345.70	26.66	22.12	4.54
340.60	0.41	0.41	0.00	345.80	34.73	26.27	8.46
340.70	0.46	0.46	0.00	345.90	41.16	27.96	13.21
340.80	0.51	0.51	0.00	346.00	47.79	29.33	18.46
340.90	0.55	0.55	0.00	346.10	54.90	30.64	24.26
341.00	0.58	0.58	0.00	346.20	62.41	31.90	30.51
341.10	0.62	0.62	0.00	346.30	70.31	33.10	37.21
341.20	0.65	0.65	0.00	346.40	79.17	34.26	44.91
341.30	0.69	0.69	0.00	346.50	88.58	35.38	53.20
341.40	0.72	0.72	0.00	346.60	98.30	36.47	61.84
341.50	0.75	0.75	0.00	346.70	108.50	37.52	70.98
341.60	0.77	0.77	0.00	346.80	119.62	38.54	81.08
341.70	0.80	0.80	0.00	346.90	131.31	39.54	91.77
341.80	0.83	0.83	0.00	347.00	**144.49**	**40.51**	**103.98**
341.90	0.85	0.85	0.00				
342.00	0.88	0.88	0.00				
342.10	0.90	0.90	0.00				
342.20	0.93	0.93	0.00				
342.30	0.95	0.95	0.00				
342.40	0.97	0.97	0.00				
342.50	0.99	0.99	0.00				
342.60	1.02	1.02	0.00				
342.70	1.04	1.04	0.00				
342.80	1.06	1.06	0.00				
342.90	1.08	1.08	0.00				
343.00	1.10	1.10	0.00				
343.10	1.12	1.12	0.00				
343.20	1.14	1.14	0.00				
343.30	1.15	1.15	0.00				
343.40	1.17	1.17	0.00				
343.50	1.19	1.19	0.00				
343.60	1.21	1.21	0.00				
343.70	1.23	1.23	0.00				
343.80	1.24	1.24	0.00				
343.90	1.26	1.26	0.00				
344.00	1.28	1.28	0.00				
344.10	1.51	1.51	0.00				
344.20	1.92	1.92	0.00				
344.30	2.25	2.25	0.00				
344.40	2.41	2.41	0.00				
344.50	2.55	2.55	0.00				
344.60	2.68	2.68	0.00				
344.70	2.80	2.80	0.00				
344.80	2.91	2.91	0.00				
344.90	3.02	3.02	0.00				
345.00	3.12	3.12	0.00				
345.10	4.21	4.21	0.00				

Stage-Area-Storage for Pond 1ab: Pond-1a

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
340.00	497	0	345.20	2,686	7,660
340.10	527	65	345.30	2,745	7,946
340.20	557	129	345.40	2,803	8,233
340.30	586	194	345.50	2,862	8,519
340.40	616	258	345.60	2,920	8,805
340.50	646	323	345.70	2,978	9,091
340.60	676	388	345.80	3,037	9,377
340.70	706	452	345.90	3,095	9,663
340.80	735	517	346.00	3,154	9,950
340.90	765	581	346.10	3,218	10,297
341.00	795	646	346.20	3,282	10,644
341.10	831	743	346.30	3,346	10,992
341.20	866	841	346.40	3,410	11,339
341.30	902	938	346.50	3,475	11,687
341.40	938	1,035	346.60	3,539	12,034
341.50	974	1,133	346.70	3,603	12,382
341.60	1,009	1,230	346.80	3,667	12,729
341.70	1,045	1,327	346.90	3,731	13,077
341.80	1,081	1,425	347.00	**3,795**	**13,424**
341.90	1,116	1,522			
342.00	1,152	1,620			
342.10	1,194	1,756			
342.20	1,235	1,891			
342.30	1,277	2,028			
342.40	1,318	2,163			
342.50	1,360	2,300			
342.60	1,402	2,436			
342.70	1,443	2,571			
342.80	1,485	2,708			
342.90	1,526	2,843			
343.00	1,568	2,980			
343.10	1,615	3,160			
343.20	1,662	3,340			
343.30	1,710	3,521			
343.40	1,757	3,701			
343.50	1,804	3,882			
343.60	1,851	4,062			
343.70	1,898	4,242			
343.80	1,946	4,423			
343.90	1,993	4,603			
344.00	2,040	4,784			
344.10	2,093	5,014			
344.20	2,146	5,244			
344.30	2,199	5,475			
344.40	2,252	5,705			
344.50	2,305	5,936			
344.60	2,357	6,166			
344.70	2,410	6,397			
344.80	2,463	6,627			
344.90	2,516	6,858			
345.00	2,569	7,088			
345.10	2,628	7,374			

Summary for Pond 1B: Pond-1b

Inflow Area = 1.557 ac, 83.11% Impervious, Inflow Depth > 4.73" for 10-yr event
Inflow = 7.37 cfs @ 12.11 hrs, Volume= 0.614 af
Outflow = 1.46 cfs @ 12.57 hrs, Volume= 0.607 af, Atten= 80%, Lag= 27.6 min
Primary = 1.46 cfs @ 12.57 hrs, Volume= 0.607 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 337.58' @ 12.57 hrs Surf.Area= 0.106 ac Storage= 0.216 af

Plug-Flow detention time= 70.2 min calculated for 0.607 af (99% of inflow)
Center-of-Mass det. time= 63.0 min (840.8 - 777.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	335.00'	0.021 af	**48.00'W x 96.00'L x 5.17'H Field A** 0.547 af Overall - 0.494 af Embedded = 0.053 af x 40.0% Voids
#2A	335.50'	0.375 af	**retain_it retain_it 4.0'** x 72 Inside #1 Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf 6 Rows adjusted for 271.8 cf perimeter wall
		0.397 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	335.00'	**15.0'' Round Culvert** L= 43.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 335.00' / 331.00' S= 0.0930 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 1.23 sf
#2	Device 1	335.00'	**6.0'' Vert. Orifice/Grate** C= 0.600
#3	Device 1	337.50'	**6.0'' Vert. Orifice/Grate** C= 0.600
#4	Device 1	339.50'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.46 cfs @ 12.57 hrs HW=337.57' (Free Discharge)
↑└**1=Culvert** (Passes 1.46 cfs of 8.25 cfs potential flow)
  ↑└**2=Orifice/Grate** (Orifice Controls 1.44 cfs @ 7.34 fps)
  └**3=Orifice/Grate** (Orifice Controls 0.02 cfs @ 0.93 fps)
  └**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1B: Pond-1b - Chamber Wizard Field A

Chamber Model = retain_it retain_it 4.0' (retain-it®)
Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf
Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf
6 Rows adjusted for 271.8 cf perimeter wall

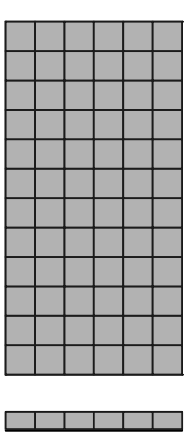
12 Chambers/Row x 8.00' Long = 96.00' Row Length
6 Rows x 96.0" Wide = 48.00' Base Width
6.0" Base + 56.0" Chamber Height = 5.17' Field Height

7.5 cf Sidewall x 12 x 2 + 7.5 cf Endwall x 6 x 2 = 271.8 cf Perimeter Wall
72 Chambers x 230.9 cf - 271.8 cf Perimeter wall = 16,355.9 cf Chamber Storage
72 Chambers x 298.7 cf = 21,504.0 cf Displacement

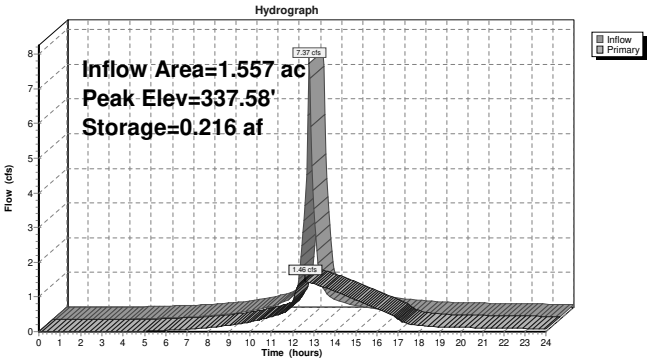
23,808.0 cf Field - 21,504.0 cf Chambers = 2,304.0 cf Stone x 40.0% Voids = 921.6 cf Stone Storage

Chamber Storage + Stone Storage = 17,277.5 cf = 0.397 af
Overall Storage Efficiency = 72.6%
Overall System Size = 96.00' x 48.00' x 5.17'

72 Chambers
881.8 cy Field
85.3 cy Stone



Pond 1B: Pond-1b



Stage-Discharge for Pond 1B: Pond-1b

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
335.00	0.00	337.08	1.28	339.16	2.99
335.04	0.01	337.12	1.29	339.20	3.02
335.08	0.02	337.16	1.31	339.24	3.04
335.12	0.04	337.20	1.32	339.28	3.07
335.16	0.07	337.24	1.33	339.32	3.09
335.20	0.11	337.28	1.35	339.36	3.12
335.24	0.16	337.32	1.36	339.40	3.14
335.28	0.20	337.36	1.37	339.44	3.16
335.32	0.26	337.40	1.39	339.48	3.19
335.36	0.31	337.44	1.40	339.52	3.26
335.40	0.36	337.48	1.41	339.56	3.47
335.44	0.41	337.52	1.43	339.60	3.77
335.48	0.46	337.56	1.45	339.64	4.13
335.52	0.49	337.60	1.48	339.68	4.54
335.56	0.53	337.64	1.52	339.72	5.00
335.60	0.56	337.68	1.57	339.76	5.49
335.64	0.59	337.72	1.62	339.80	6.02
335.68	0.62	337.76	1.68	339.84	6.59
335.72	0.65	337.80	1.74	339.88	7.19
335.76	0.68	337.84	1.80	339.92	7.81
335.80	0.70	337.88	1.87	339.96	8.46
335.84	0.73	337.92	1.93	340.00	9.14
335.88	0.75	337.96	1.99	340.04	9.85
335.92	0.77	338.00	2.04	340.08	10.58
335.96	0.80	338.04	2.09	340.12	11.33
336.00	0.82	338.08	2.13	340.16	**12.10**
336.04	0.84	338.12	2.18		
336.08	0.86	338.16	2.22		
336.12	0.88	338.20	2.26		
336.16	0.90	338.24	2.30		
336.20	0.92	338.28	2.33		
336.24	0.94	338.32	2.37		
336.28	0.96	338.36	2.41		
336.32	0.98	338.40	2.44		
336.36	1.00	338.44	2.47		
336.40	1.01	338.48	2.51		
336.44	1.03	338.52	2.54		
336.48	1.05	338.56	2.57		
336.52	1.07	338.60	2.60		
336.56	1.08	338.64	2.63		
336.60	1.10	338.68	2.66		
336.64	1.11	338.72	2.69		
336.68	1.13	338.76	2.72		
336.72	1.15	338.80	2.75		
336.76	1.16	338.84	2.78		
336.80	1.18	338.88	2.81		
336.84	1.19	338.92	2.83		
336.88	1.21	338.96	2.86		
336.92	1.22	339.00	2.89		
336.96	1.24	339.04	2.91		
337.00	1.25	339.08	2.94		
337.04	1.26	339.12	2.97		

Stage-Area-Storage for Pond 1B: Pond-1b

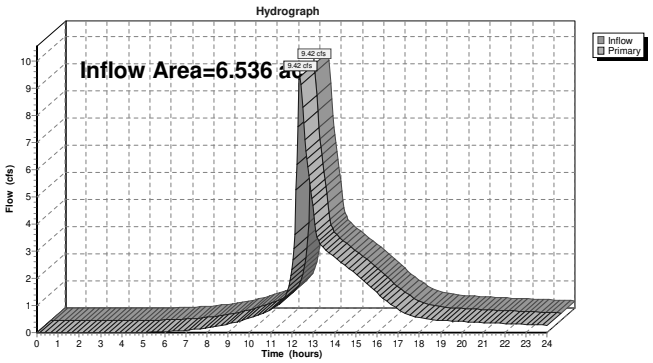
Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
335.00	0.000	337.08	0.169	339.16	0.365
335.04	0.002	337.12	0.173	339.20	0.368
335.08	0.003	337.16	0.177	339.24	0.372
335.12	0.005	337.20	0.181	339.28	0.376
335.16	0.007	337.24	0.184	339.32	0.380
335.20	0.008	337.28	0.188	339.36	0.383
335.24	0.010	337.32	0.192	339.40	0.387
335.28	0.012	337.36	0.196	339.44	0.391
335.32	0.014	337.40	0.200	339.48	**0.395**
335.36	0.015	337.44	0.203	339.52	**0.397**
335.40	0.017	337.48	0.207	339.56	0.397
335.44	0.019	337.52	0.211	339.60	0.397
335.48	0.020	337.56	0.215	339.64	0.397
335.52	0.023	337.60	0.218	339.68	0.397
335.56	0.027	337.64	0.222	339.72	0.397
335.60	0.031	337.68	0.226	339.76	0.397
335.64	0.034	337.72	0.230	339.80	0.397
335.68	0.038	337.76	0.233	339.84	0.397
335.72	0.042	337.80	0.237	339.88	0.397
335.76	0.046	337.84	0.241	339.92	0.397
335.80	0.049	337.88	0.245	339.96	0.397
335.84	0.053	337.92	0.248	340.00	0.397
335.88	0.057	337.96	0.252	340.04	0.397
335.92	0.061	338.00	0.256	340.08	0.397
335.96	0.064	338.04	0.260	340.12	0.397
336.00	0.068	338.08	0.263	340.16	0.397
336.04	0.072	338.12	0.267		
336.08	0.076	338.16	0.271		
336.12	0.079	338.20	0.275		
336.16	0.083	338.24	0.278		
336.20	0.087	338.28	0.282		
336.24	0.091	338.32	0.286		
336.28	0.094	338.36	0.290		
336.32	0.098	338.40	0.293		
336.36	0.102	338.44	0.297		
336.40	0.106	338.48	0.301		
336.44	0.109	338.52	0.305		
336.48	0.113	338.56	0.308		
336.52	0.117	338.60	0.312		
336.56	0.121	338.64	0.316		
336.60	0.124	338.68	0.320		
336.64	0.128	338.72	0.323		
336.68	0.132	338.76	0.327		
336.72	0.136	338.80	0.331		
336.76	0.139	338.84	0.335		
336.80	0.143	338.88	0.338		
336.84	0.147	338.92	0.342		
336.88	0.151	338.96	0.346		
336.92	0.154	339.00	0.350		
336.96	0.158	339.04	0.353		
337.00	0.162	339.08	0.357		
337.04	0.166	339.12	0.361		

Summary for Link P1: P1 Total

Inflow Area = 6.536 ac, 48.33% Impervious, Inflow Depth > 3.13" for 10-yr event
Inflow = 9.42 cfs @ 12.38 hrs, Volume= 1.703 af
Primary = 9.42 cfs @ 12.38 hrs, Volume= 1.703 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link P1: P1 Total

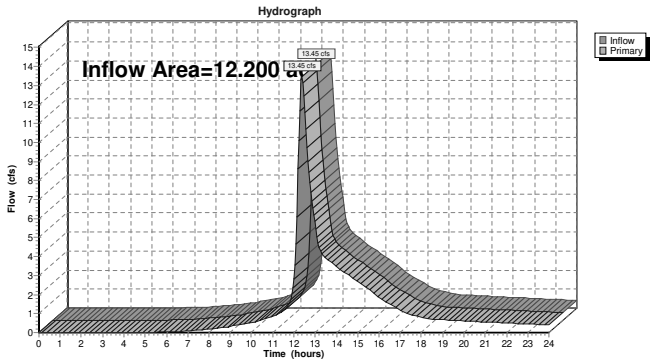


Summary for Link P1-2: Overall Existing

Inflow Area = 12.200 ac, 25.89% Impervious, Inflow Depth > 2.18" for 10-yr event
Inflow = 13.45 cfs @ 12.37 hrs, Volume= 2.217 af
Primary = 13.45 cfs @ 12.37 hrs, Volume= 2.217 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link P1-2: Overall Existing



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1a: PDA-1a Runoff Area=2.290 ac 59.83% Impervious Runoff Depth>5.16"
Tc=14.5 min CN=85 Runoff=10.34 cfs 0.984 af

Subcatchment P1b: PDA-1b Runoff Area=1.557 ac 83.11% Impervious Runoff Depth>6.04"
Tc=8.4 min CN=93 Runoff=9.28 cfs 0.784 af

Subcatchment P1c: PDA-1c Runoff Area=2.689 ac 18.41% Impervious Runoff Depth>2.45"
Tc=28.1 min CN=59 Runoff=4.36 cfs 0.550 af

Subcatchment P2: PDA-2 Runoff Area=5.664 ac 0.00% Impervious Runoff Depth>1.81"
Tc=18.1 min CN=52 Runoff=7.53 cfs 0.855 af

Subcatchment P3: PDA-3 Runoff Area=0.290 ac 100.00% Impervious Runoff Depth>6.67"
Tc=6.0 min CN=98 Runoff=1.92 cfs 0.161 af

Subcatchment P4: PDA-4 Runoff Area=2.315 ac 40.39% Impervious Runoff Depth>4.59"
Tc=16.6 min CN=80 Runoff=8.97 cfs 0.885 af

Subcatchment P5: PDA-5 Runoff Area=1.350 ac 0.00% Impervious Runoff Depth>3.94"
Tc=15.1 min CN=74 Runoff=4.71 cfs 0.444 af

Pond 1ab: Pond-1a Peak Elev=345.35' Storage=8,080 cf Inflow=10.34 cfs 0.984 af
Primary=9.79 cfs 0.981 af Secondary=0.00 cfs 0.000 af Outflow=9.79 cfs 0.981 af

Pond 1B: Pond-1b Peak Elev=338.18' Storage=0.272 af Inflow=9.28 cfs 0.784 af
Outflow=2.24 cfs 0.776 af

Link P1: P1 Total Inflow=14.88 cfs 2.307 af
Primary=14.88 cfs 2.307 af

Link P1-2: Overall Existing Inflow=22.41 cfs 3.162 af
Primary=22.41 cfs 3.162 af

Summary for Subcatchment P1a: PDA-1a

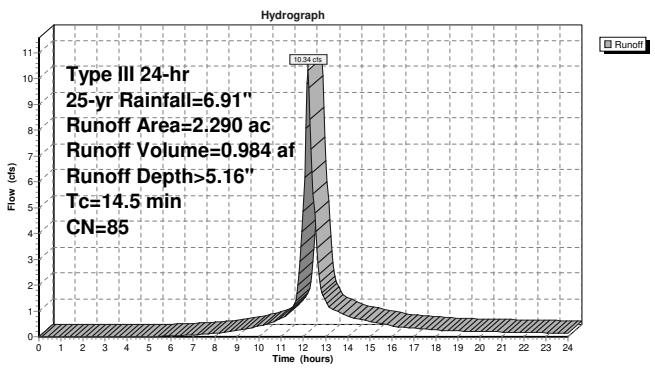
Runoff = 10.34 cfs @ 12.20 hrs, Volume= 0.984 af, Depth> 5.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.91"

	Area (ac)	CN	Description
*	0.280	55	Woods - B
*	0.160	77	Woods - D
*	0.140	61	Grass - B
*	0.160	61	Grass - B
*	0.180	80	Grass -D
*	1.370	98	Impervious
	2.290	85	Weighted Average
	0.920		40.17% Pervious Area
	1.370		59.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5					**Direct Entry,**

Subcatchment P1a: PDA-1a



Summary for Subcatchment P1b: PDA-1b

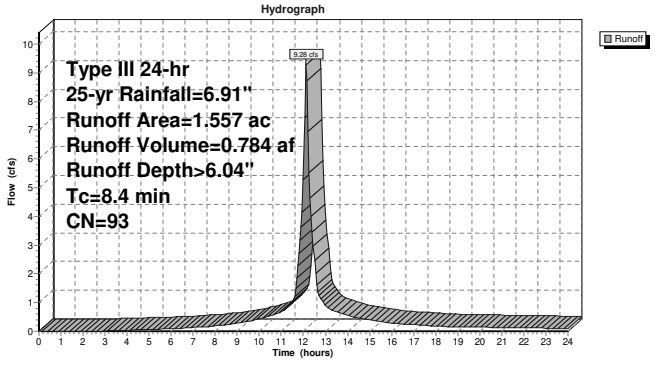
Runoff = 9.28 cfs @ 12.11 hrs, Volume= 0.784 af, Depth> 6.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.91"

	Area (ac)	CN	Description
*	0.064	39	Grass - A
*	0.045	61	Grass - B
*	0.154	80	Grass - D
*	1.294	98	Impervious
	1.557	93	Weighted Average
	0.263		16.89% Pervious Area
	1.294		83.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4					**Direct Entry,**

Subcatchment P1b: PDA-1b



Summary for Subcatchment P1c: PDA-1c

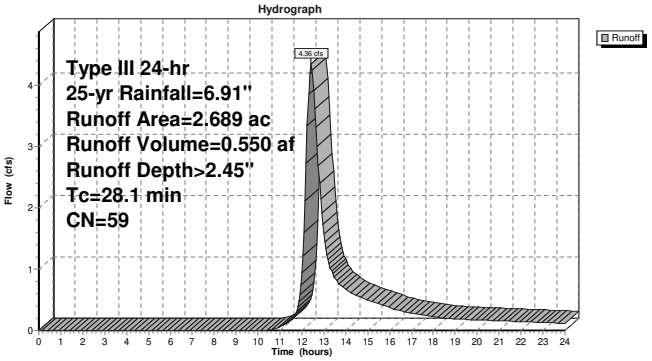
Runoff = 4.36 cfs @ 12.42 hrs, Volume= 0.550 af, Depth> 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.91"

	Area (ac)	CN	Description
*	0.631	30	Woods - A
*	0.164	55	Woods - B
*	0.275	39	Grass - A
*	0.932	61	Grass - B
*	0.060	80	Grass - D
*	0.132	80	Grass - D
*	0.495	98	Impervious
	2.689	59	Weighted Average
	2.194		81.59% Pervious Area
	0.495		18.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.1					**Direct Entry,**

Subcatchment P1c: PDA-1c



Summary for Subcatchment P2: PDA-2

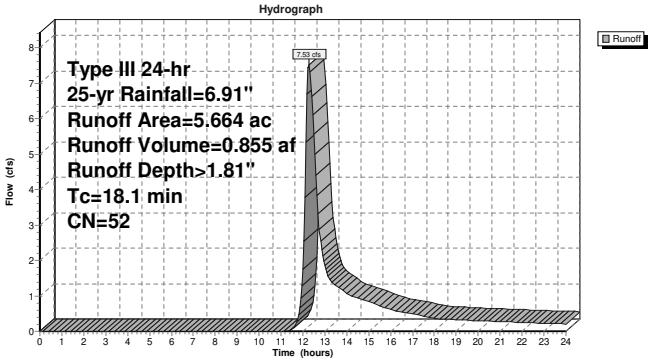
Runoff = 7.53 cfs @ 12.28 hrs, Volume= 0.855 af, Depth> 1.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.91"

	Area (ac)	CN	Description
*	0.946	30	Woods - A
*	4.180	55	Woods - B
*	0.338	77	Woods - D
*	0.100	39	Grass - A
*	0.100	80	Grass - D
	5.664	52	Weighted Average
	5.664		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1					**Direct Entry,**

Subcatchment P2: PDA-2



Summary for Subcatchment P3: PDA-3

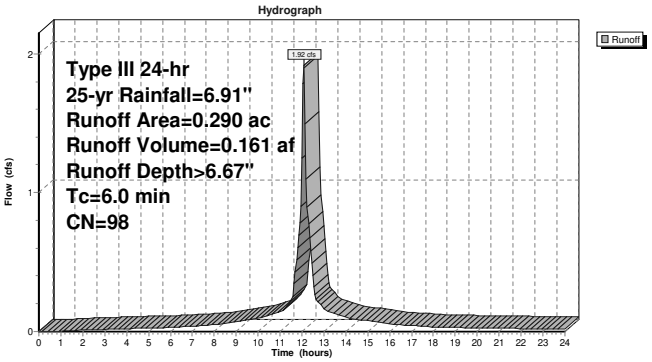
Runoff = 1.92 cfs @ 12.09 hrs, Volume= 0.161 af, Depth> 6.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.91"

	Area (ac)	CN	Description
*	0.290	98	Impervious
	0.290		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P3: PDA-3



Summary for Subcatchment P4: PDA-4

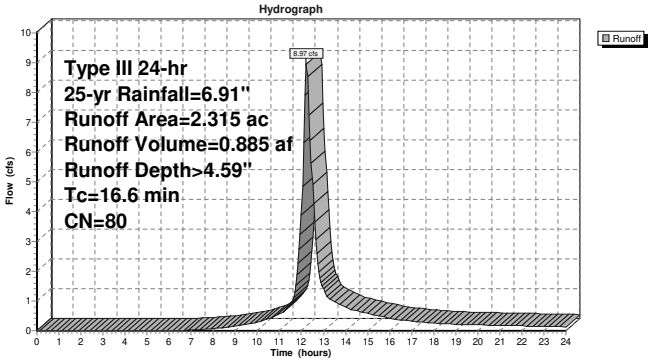
Runoff = 8.97 cfs @ 12.23 hrs, Volume= 0.885 af, Depth> 4.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.91"

	Area (ac)	CN	Description
*	0.060	55	Woods - B
*	0.280	55	Woods - B
*	0.640	77	Woods - D
*	0.350	61	Grass - B
*	0.050	80	Grass - D
*	0.935	98	Impervious
	2.315	80	Weighted Average
	1.380		59.61% Pervious Area
	0.935		40.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.6					**Direct Entry,**

Subcatchment P4: PDA-4



Summary for Subcatchment P5: PDA-5

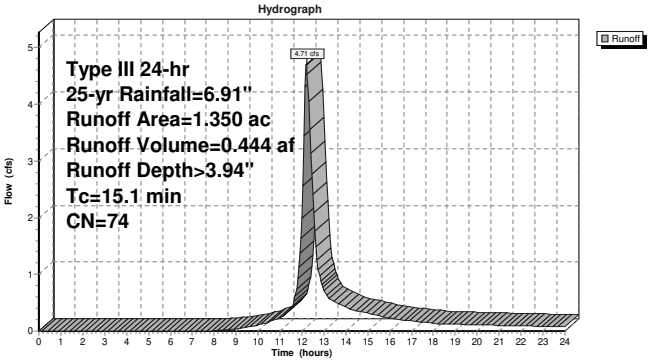
Runoff = 4.71 cfs @ 12.21 hrs, Volume= 0.444 af, Depth> 3.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.91"

	Area (ac)	CN	Description
*	0.190	55	Woods - B
*	1.160	77	Woods - D
	1.350	74	Weighted Average
	1.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1					**Direct Entry,**

Subcatchment P5: PDA-5



Summary for Pond 1ab: Pond-1a

Inflow Area = 2.290 ac, 59.83% Impervious, Inflow Depth > 5.16" for 25-yr event
Inflow = 10.34 cfs @ 12.20 hrs, Volume= 0.984 af
Outflow = 9.79 cfs @ 12.27 hrs, Volume= 0.981 af, Atten= 5%, Lag= 4.4 min
Primary = 9.79 cfs @ 12.27 hrs, Volume= 0.981 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 345.35' @ 12.27 hrs Surf.Area= 2,772 sf Storage= 8,080 cf

Plug-Flow detention time= 30.1 min calculated for 0.981 af (100% of inflow)
Center-of-Mass det. time= 27.9 min (829.8 - 802.0)

Volume	Invert	Avail.Storage	Storage Description
#1	340.00'	13,424 cf	**Detention Basin (Prismatic)** Listed below

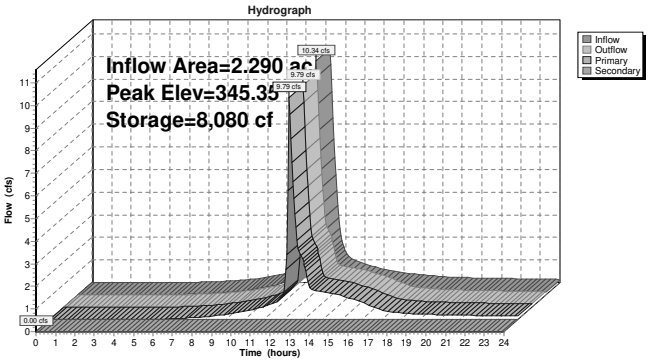
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
340.00	497	0	0
341.00	795	646	646
342.00	1,152	974	1,620
343.00	1,568	1,360	2,980
344.00	2,040	1,804	4,784
345.00	2,569	2,305	7,088
346.00	3,154	2,862	9,950
347.00	3,795	3,475	13,424

Device	Routing	Invert	Outlet Devices
#1	Primary	339.00'	**24.0" Round RCP_Round 24"** L= 169.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 339.00' / 337.31' S= 0.0100 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	340.00'	**5.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	344.00'	**8.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	345.00'	**20.4" x 37.2" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Secondary	345.50'	**20.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=9.28 cfs @ 12.27 hrs HW=345.33' (Free Discharge)
└**1=RCP_Round 24"** (Passes 9.28 cfs of 37.58 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 1.49 cfs @ 10.89 fps)
├**3=Orifice/Grate** (Orifice Controls 1.94 cfs @ 5.55 fps)
└**4=Orifice/Grate** (Weir Controls 5.86 cfs @ 1.87 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=340.00' (Free Discharge)
└**5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1ab: Pond-1a



Stage-Discharge for Pond 1ab: Pond-1a

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
340.00	0.00	0.00	0.00
340.10	0.03	0.03	0.00
340.20	0.10	0.10	0.00
340.30	0.20	0.20	0.00
340.40	0.29	0.29	0.00
340.50	0.35	0.35	0.00
340.60	0.41	0.41	0.00
340.70	0.46	0.46	0.00
340.80	0.51	0.51	0.00
340.90	0.55	0.55	0.00
341.00	0.58	0.58	0.00
341.10	0.62	0.62	0.00
341.20	0.65	0.65	0.00
341.30	0.69	0.69	0.00
341.40	0.72	0.72	0.00
341.50	0.75	0.75	0.00
341.60	0.77	0.77	0.00
341.70	0.80	0.80	0.00
341.80	0.83	0.83	0.00
341.90	0.85	0.85	0.00
342.00	0.88	0.88	0.00
342.10	0.90	0.90	0.00
342.20	0.93	0.93	0.00
342.30	0.95	0.95	0.00
342.40	0.97	0.97	0.00
342.50	0.99	0.99	0.00
342.60	1.02	1.02	0.00
342.70	1.04	1.04	0.00
342.80	1.06	1.06	0.00
342.90	1.08	1.08	0.00
343.00	1.10	1.10	0.00
343.10	1.12	1.12	0.00
343.20	1.14	1.14	0.00
343.30	1.15	1.15	0.00
343.40	1.17	1.17	0.00
343.50	1.19	1.19	0.00
343.60	1.21	1.21	0.00
343.70	1.23	1.23	0.00
343.80	1.24	1.24	0.00
343.90	1.26	1.26	0.00
344.00	1.28	1.28	0.00
344.10	1.51	1.51	0.00
344.20	1.92	1.92	0.00
344.30	2.25	2.25	0.00
344.40	2.41	2.41	0.00
344.50	2.55	2.55	0.00
344.60	2.68	2.68	0.00
344.70	2.80	2.80	0.00
344.80	2.91	2.91	0.00
344.90	3.02	3.02	0.00
345.00	3.12	3.12	0.00
345.10	4.21	4.21	0.00
345.20	6.12	6.12	0.00
345.30	8.56	8.56	0.00
345.40	11.43	11.43	0.00
345.50	14.67	14.67	0.00
345.60	19.85	18.24	1.61
345.70	26.66	22.12	4.54
345.80	34.73	26.27	8.46
345.90	41.16	27.96	13.21
346.00	47.79	29.33	18.46
346.10	54.90	30.64	24.26
346.20	62.41	31.90	30.51
346.30	70.31	33.10	37.21
346.40	79.17	34.26	44.91
346.50	88.58	35.38	53.20
346.60	98.30	36.47	61.84
346.70	108.50	37.52	70.98
346.80	119.62	38.54	81.08
346.90	131.31	39.54	91.77
347.00	**144.49**	**40.51**	**103.98**

Stage-Area-Storage for Pond 1ab: Pond-1a

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
340.00	497	0	345.20	2,686	7,660
340.10	527	65	345.30	2,745	7,946
340.20	557	129	345.40	2,803	8,233
340.30	586	194	345.50	2,862	8,519
340.40	616	258	345.60	2,920	8,805
340.50	646	323	345.70	2,978	9,091
340.60	676	388	345.80	3,037	9,377
340.70	706	452	345.90	3,095	9,663
340.80	735	517	346.00	3,154	9,950
340.90	765	581	346.10	3,218	10,297
341.00	795	646	346.20	3,282	10,644
341.10	831	743	346.30	3,346	10,992
341.20	866	841	346.40	3,410	11,339
341.30	902	938	346.50	3,475	11,687
341.40	938	1,035	346.60	3,539	12,034
341.50	974	1,133	346.70	3,603	12,382
341.60	1,009	1,230	346.80	3,667	12,729
341.70	1,045	1,327	346.90	3,731	13,077
341.80	1,081	1,425	347.00	**3,795**	**13,424**
341.90	1,116	1,522			
342.00	1,152	1,620			
342.10	1,194	1,756			
342.20	1,235	1,891			
342.30	1,277	2,028			
342.40	1,318	2,163			
342.50	1,360	2,300			
342.60	1,402	2,436			
342.70	1,443	2,571			
342.80	1,485	2,708			
342.90	1,526	2,843			
343.00	1,568	2,980			
343.10	1,615	3,160			
343.20	1,662	3,340			
343.30	1,710	3,521			
343.40	1,757	3,701			
343.50	1,804	3,882			
343.60	1,851	4,062			
343.70	1,898	4,242			
343.80	1,946	4,423			
343.90	1,993	4,603			
344.00	2,040	4,784			
344.10	2,093	5,014			
344.20	2,146	5,244			
344.30	2,199	5,475			
344.40	2,252	5,705			
344.50	2,305	5,936			
344.60	2,357	6,166			
344.70	2,410	6,397			
344.80	2,463	6,627			
344.90	2,516	6,858			
345.00	2,569	7,088			
345.10	2,628	7,374			

Summary for Pond 1B: Pond-1b

Inflow Area = 1.557 ac, 83.11% Impervious, Inflow Depth > 6.04" for 25-yr event
Inflow = 9.28 cfs @ 12.11 hrs, Volume= 0.784 af
Outflow = 2.24 cfs @ 12.53 hrs, Volume= 0.776 af, Atten= 76%, Lag= 24.7 min
Primary = 2.24 cfs @ 12.53 hrs, Volume= 0.776 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 338.18' @ 12.53 hrs Surf.Area= 0.106 ac Storage= 0.272 af

Plug-Flow detention time= 71.9 min calculated for 0.775 af (99% of inflow)
Center-of-Mass det. time= 65.4 min (837.2 - 771.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	335.00'	0.021 af	**48.00'W x 96.00'L x 5.17'H Field A** 0.547 af Overall - 0.494 af Embedded = 0.053 af x 40.0% Voids
#2A	335.50'	0.375 af	**retain_it retain_it 4.0'** x 72 Inside #1 Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf 6 Rows adjusted for 271.8 cf perimeter wall
		0.397 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	335.00'	**15.0" Round Culvert** L= 43.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 335.00' / 331.00' S= 0.0930 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 1.23 sf
#2	Device 1	335.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	337.50'	**6.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	339.50'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.23 cfs @ 12.53 hrs HW=338.18' (Free Discharge)
↑**1=Culvert** (Passes 2.23 cfs of 9.44 cfs potential flow)
↑**2=Orifice/Grate** (Orifice Controls 1.62 cfs @ 8.23 fps)
↑**3=Orifice/Grate** (Orifice Controls 0.62 cfs @ 3.14 fps)
↑**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1B: Pond-1b - Chamber Wizard Field A

Chamber Model = retain_it retain_it 4.0' (retain-it®)
Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf
Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf
6 Rows adjusted for 271.8 cf perimeter wall

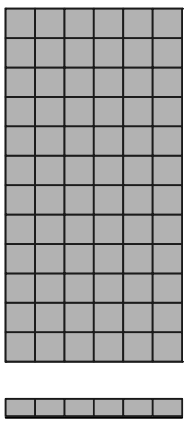
12 Chambers/Row x 8.00' Long = 96.00' Row Length
6 Rows x 96.0" Wide = 48.00' Base Width
6.0" Base + 56.0" Chamber Height = 5.17' Field Height

7.5 cf Sidewall x 12 x 2 + 7.5 cf Endwall x 6 x 2 = 271.8 cf Perimeter Wall
72 Chambers x 230.9 cf - 271.8 cf Perimeter wall = 16,355.9 cf Chamber Storage
72 Chambers x 298.7 cf = 21,504.0 cf Displacement

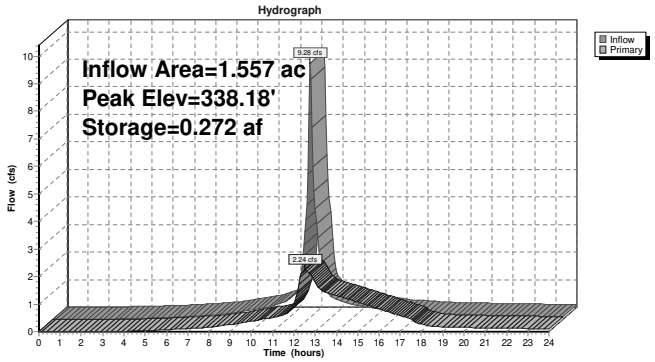
23,808.0 cf Field - 21,504.0 cf Chambers = 2,304.0 cf Stone x 40.0% Voids = 921.6 cf Stone Storage

Chamber Storage + Stone Storage = 17,277.5 cf = 0.397 af
Overall Storage Efficiency = 72.6%
Overall System Size = 96.00' x 48.00' x 5.17'

72 Chambers
881.8 cy Field
85.3 cy Stone



Pond 1B: Pond-1b



Stage-Discharge for Pond 1B: Pond-1b

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
335.00	0.00	337.08	1.28	339.16	2.99
335.04	0.01	337.12	1.29	339.20	3.02
335.08	0.02	337.16	1.31	339.24	3.04
335.12	0.04	337.20	1.32	339.28	3.07
335.16	0.07	337.24	1.33	339.32	3.09
335.20	0.11	337.28	1.35	339.36	3.12
335.24	0.16	337.32	1.36	339.40	3.14
335.28	0.20	337.36	1.37	339.44	3.16
335.32	0.26	337.40	1.39	339.48	3.19
335.36	0.31	337.44	1.40	339.52	3.26
335.40	0.36	337.48	1.41	339.56	3.47
335.44	0.41	337.52	1.43	339.60	3.77
335.48	0.46	337.56	1.45	339.64	4.13
335.52	0.49	337.60	1.48	339.68	4.54
335.56	0.53	337.64	1.52	339.72	5.00
335.60	0.56	337.68	1.57	339.76	5.49
335.64	0.59	337.72	1.62	339.80	6.02
335.68	0.62	337.76	1.68	339.84	6.59
335.72	0.65	337.80	1.74	339.88	7.19
335.76	0.68	337.84	1.80	339.92	7.81
335.80	0.70	337.88	1.87	339.96	8.46
335.84	0.73	337.92	1.93	340.00	9.14
335.88	0.75	337.96	1.99	340.04	9.85
335.92	0.77	338.00	2.04	340.08	10.58
335.96	0.80	338.04	2.09	340.12	11.33
336.00	0.82	338.08	2.13	340.16	**12.10**
336.04	0.84	338.12	2.18		
336.08	0.86	338.16	2.22		
336.12	0.88	338.20	2.26		
336.16	0.90	338.24	2.30		
336.20	0.92	338.28	2.33		
336.24	0.94	338.32	2.37		
336.28	0.96	338.36	2.41		
336.32	0.98	338.40	2.44		
336.36	1.00	338.44	2.47		
336.40	1.01	338.48	2.51		
336.44	1.03	338.52	2.54		
336.48	1.05	338.56	2.57		
336.52	1.07	338.60	2.60		
336.56	1.08	338.64	2.63		
336.60	1.10	338.68	2.66		
336.64	1.11	338.72	2.69		
336.68	1.13	338.76	2.72		
336.72	1.15	338.80	2.75		
336.76	1.16	338.84	2.78		
336.80	1.18	338.88	2.81		
336.84	1.19	338.92	2.83		
336.88	1.21	338.96	2.86		
336.92	1.22	339.00	2.89		
336.96	1.24	339.04	2.91		
337.00	1.25	339.08	2.94		
337.04	1.26	339.12	2.97		

Stage-Area-Storage for Pond 1B: Pond-1b

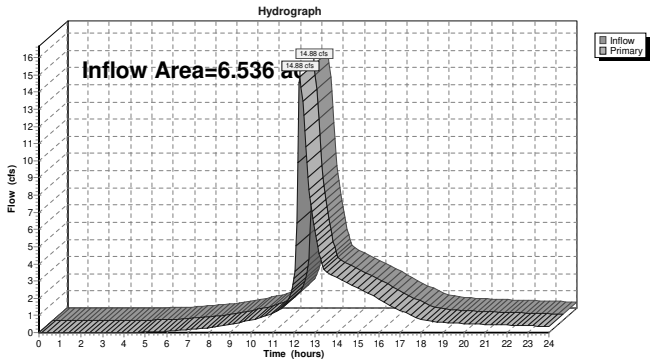
Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
335.00	0.000	337.08	0.169	339.16	0.365
335.04	0.002	337.12	0.173	339.20	0.368
335.08	0.003	337.16	0.177	339.24	0.372
335.12	0.005	337.20	0.181	339.28	0.376
335.16	0.007	337.24	0.184	339.32	0.380
335.20	0.008	337.28	0.188	339.36	0.383
335.24	0.010	337.32	0.192	339.40	0.387
335.28	0.012	337.36	0.196	339.44	0.391
335.32	0.014	337.40	0.200	339.48	**0.395**
335.36	0.015	337.44	0.203	339.52	**0.397**
335.40	0.017	337.48	0.207	339.56	0.397
335.44	0.019	337.52	0.211	339.60	0.397
335.48	0.020	337.56	0.215	339.64	0.397
335.52	0.023	337.60	0.218	339.68	0.397
335.56	0.027	337.64	0.222	339.72	0.397
335.60	0.031	337.68	0.226	339.76	0.397
335.64	0.034	337.72	0.230	339.80	0.397
335.68	0.038	337.76	0.233	339.84	0.397
335.72	0.042	337.80	0.237	339.88	0.397
335.76	0.046	337.84	0.241	339.92	0.397
335.80	0.049	337.88	0.245	339.96	0.397
335.84	0.053	337.92	0.248	340.00	0.397
335.88	0.057	337.96	0.252	340.04	0.397
335.92	0.061	338.00	0.256	340.08	0.397
335.96	0.064	338.04	0.260	340.12	0.397
336.00	0.068	338.08	0.263	340.16	0.397
336.04	0.072	338.12	0.267		
336.08	0.076	338.16	0.271		
336.12	0.079	338.20	0.275		
336.16	0.083	338.24	0.278		
336.20	0.087	338.28	0.282		
336.24	0.091	338.32	0.286		
336.28	0.094	338.36	0.290		
336.32	0.098	338.40	0.293		
336.36	0.102	338.44	0.297		
336.40	0.106	338.48	0.301		
336.44	0.109	338.52	0.305		
336.48	0.113	338.56	0.308		
336.52	0.117	338.60	0.312		
336.56	0.121	338.64	0.316		
336.60	0.124	338.68	0.320		
336.64	0.128	338.72	0.323		
336.68	0.132	338.76	0.327		
336.72	0.136	338.80	0.331		
336.76	0.139	338.84	0.335		
336.80	0.143	338.88	0.338		
336.84	0.147	338.92	0.342		
336.88	0.151	338.96	0.346		
336.92	0.154	339.00	0.350		
336.96	0.158	339.04	0.353		
337.00	0.162	339.08	0.357		
337.04	0.166	339.12	0.361		

Summary for Link P1: P1 Total

Inflow Area = 6.536 ac, 48.33% Impervious, Inflow Depth > 4.23" for 25-yr event
Inflow = 14.88 cfs @ 12.29 hrs, Volume= 2.307 af
Primary = 14.88 cfs @ 12.29 hrs, Volume= 2.307 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link P1: P1 Total

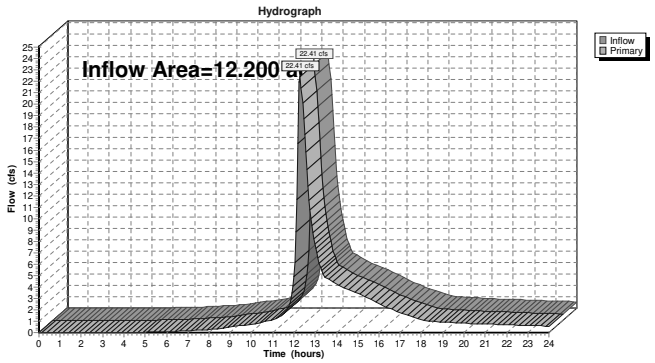


Summary for Link P1-2: Overall Existing

Inflow Area = 12.200 ac, 25.89% Impervious, Inflow Depth > 3.11" for 25-yr event
Inflow = 22.41 cfs @ 12.29 hrs, Volume= 3.162 af
Primary = 22.41 cfs @ 12.29 hrs, Volume= 3.162 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link P1-2: Overall Existing



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1a: PDA-1a Runoff Area=2.290 ac 59.83% Impervious Runoff Depth>6.08"
Tc=14.5 min CN=85 Runoff=12.09 cfs 1.160 af

Subcatchment P1b: PDA-1b Runoff Area=1.557 ac 83.11% Impervious Runoff Depth>6.99"
Tc=8.4 min CN=93 Runoff=10.66 cfs 0.907 af

Subcatchment P1c: PDA-1c Runoff Area=2.689 ac 18.41% Impervious Runoff Depth>3.14"
Tc=28.1 min CN=59 Runoff=5.66 cfs 0.703 af

Subcatchment P2: PDA-2 Runoff Area=5.664 ac 0.00% Impervious Runoff Depth>2.40"
Tc=18.1 min CN=52 Runoff=10.41 cfs 1.132 af

Subcatchment P3: PDA-3 Runoff Area=0.290 ac 100.00% Impervious Runoff Depth>7.63"
Tc=6.0 min CN=98 Runoff=2.19 cfs 0.184 af

Subcatchment P4: PDA-4 Runoff Area=2.315 ac 40.39% Impervious Runoff Depth>5.48"
Tc=16.6 min CN=80 Runoff=10.69 cfs 1.056 af

Subcatchment P5: PDA-5 Runoff Area=1.350 ac 0.00% Impervious Runoff Depth>4.79"
Tc=15.1 min CN=74 Runoff=5.70 cfs 0.538 af

Pond 1ab: Pond-1a Peak Elev=345.41' Storage=8,257 cf Inflow=12.09 cfs 1.160 af
Primary=11.71 cfs 1.156 af Secondary=0.00 cfs 0.000 af Outflow=11.71 cfs 1.156 af

Pond 1B: Pond-1b Peak Elev=338.62' Storage=0.314 af Inflow=10.66 cfs 0.907 af
Outflow=2.62 cfs 0.899 af

Link P1: P1 Total Inflow=18.49 cfs 2.758 af
Primary=18.49 cfs 2.758 af

Link P1-2: Overall Existing Inflow=28.89 cfs 3.890 af
Primary=28.89 cfs 3.890 af

Summary for Subcatchment P1a: PDA-1a

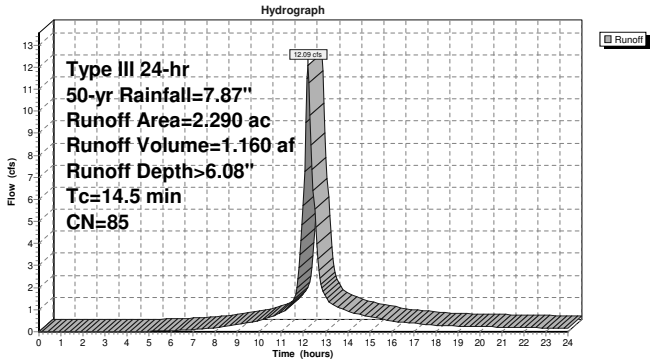
Runoff = 12.09 cfs @ 12.20 hrs, Volume= 1.160 af, Depth> 6.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=7.87"

	Area (ac)	CN	Description
*	0.280	55	Woods - B
*	0.160	77	Woods - D
*	0.140	61	Grass - B
*	0.160	61	Grass - B
*	0.180	80	Grass -D
*	1.370	98	Impervious
	2.290	85	Weighted Average
	0.920		40.17% Pervious Area
	1.370		59.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5					**Direct Entry,**

Subcatchment P1a: PDA-1a



Summary for Subcatchment P1b: PDA-1b

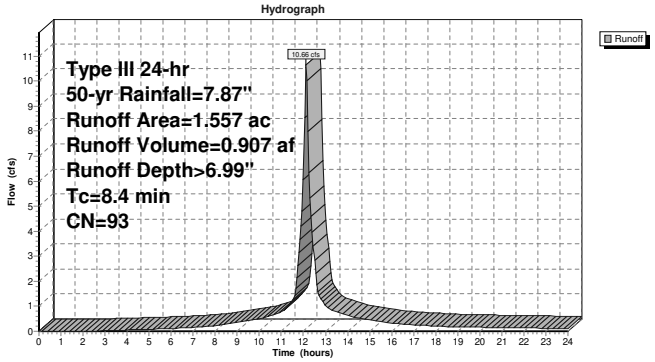
Runoff = 10.66 cfs @ 12.11 hrs, Volume= 0.907 af, Depth> 6.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=7.87"

	Area (ac)	CN	Description
*	0.064	39	Grass - A
*	0.045	61	Grass - B
*	0.154	80	Grass - D
*	1.294	98	Impervious
	1.557	93	Weighted Average
	0.263		16.89% Pervious Area
	1.294		83.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4					**Direct Entry,**

Subcatchment P1b: PDA-1b



Summary for Subcatchment P1c: PDA-1c

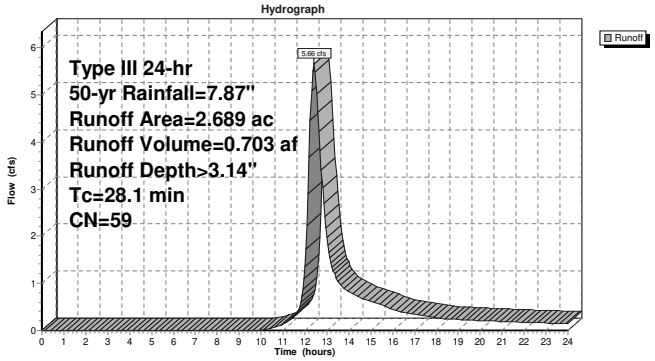
Runoff = 5.66 cfs @ 12.41 hrs, Volume= 0.703 af, Depth> 3.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=7.87"

	Area (ac)	CN	Description
*	0.631	30	Woods - A
*	0.164	55	Woods - B
*	0.275	39	Grass - A
*	0.932	61	Grass - B
*	0.060	80	Grass - D
*	0.132	80	Grass - D
*	0.495	98	Impervious
	2.689	59	Weighted Average
	2.194		81.59% Pervious Area
	0.495		18.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.1					**Direct Entry,**

Subcatchment P1c: PDA-1c



Summary for Subcatchment P2: PDA-2

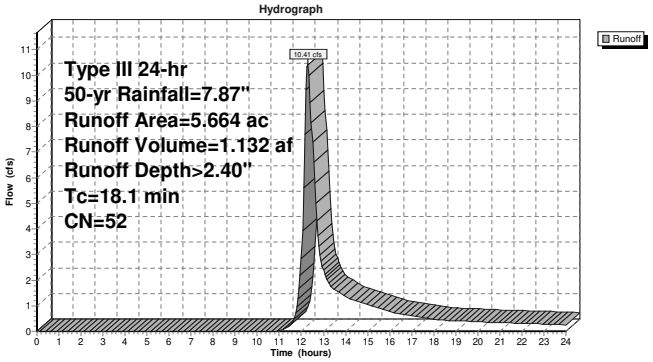
Runoff = 10.41 cfs @ 12.27 hrs, Volume= 1.132 af, Depth> 2.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=7.87"

	Area (ac)	CN	Description
*	0.946	30	Woods - A
*	4.180	55	Woods - B
*	0.338	77	Woods - D
*	0.100	39	Grass - A
*	0.100	80	Grass - D
	5.664	52	Weighted Average
	5.664		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1					**Direct Entry,**

Subcatchment P2: PDA-2



Summary for Subcatchment P3: PDA-3

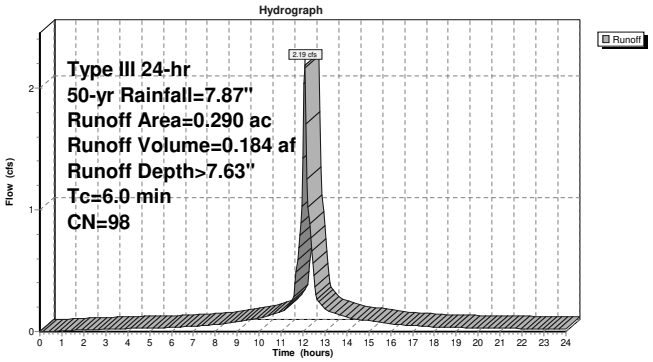
Runoff = 2.19 cfs @ 12.09 hrs, Volume= 0.184 af, Depth> 7.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=7.87"

	Area (ac)	CN	Description
*	0.290	98	Impervious
	0.290		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P3: PDA-3



Summary for Subcatchment P4: PDA-4

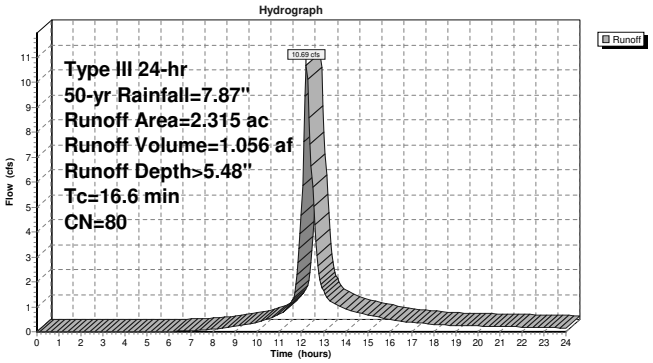
Runoff = 10.69 cfs @ 12.22 hrs, Volume= 1.056 af, Depth> 5.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=7.87"

	Area (ac)	CN	Description
*	0.060	55	Woods - B
*	0.280	55	Woods - B
*	0.640	77	Woods - D
*	0.350	61	Grass - B
*	0.050	80	Grass - D
*	0.935	98	Impervious
	2.315	80	Weighted Average
	1.380		59.61% Pervious Area
	0.935		40.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.6					**Direct Entry,**

Subcatchment P4: PDA-4



Summary for Subcatchment P5: PDA-5

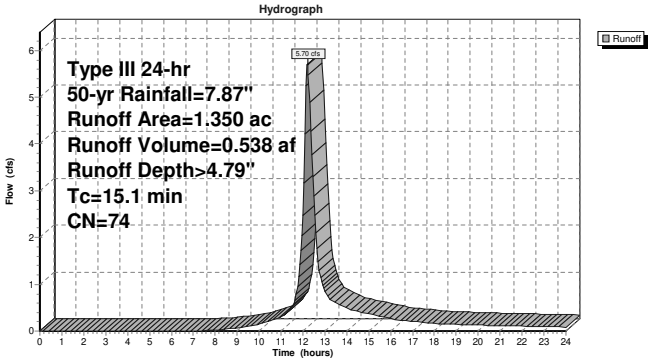
Runoff = 5.70 cfs @ 12.21 hrs, Volume= 0.538 af, Depth> 4.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-yr Rainfall=7.87"

	Area (ac)	CN	Description
*	0.190	55	Woods - B
*	1.160	77	Woods - D
	1.350	74	Weighted Average
	1.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1					**Direct Entry,**

Subcatchment P5: PDA-5



Summary for Pond 1ab: Pond-1a

Inflow Area = 2.290 ac, 59.83% Impervious, Inflow Depth > 6.08" for 50-yr event
Inflow = 12.09 cfs @ 12.20 hrs, Volume= 1.160 af
Outflow = 11.71 cfs @ 12.24 hrs, Volume= 1.156 af, Atten= 3%, Lag= 2.6 min
Primary = 11.71 cfs @ 12.24 hrs, Volume= 1.156 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 345.41' @ 12.24 hrs Surf.Area= 2,808 sf Storage= 8,257 cf

Plug-Flow detention time= 29.0 min calculated for 1.156 af (100% of inflow)
Center-of-Mass det. time= 27.0 min (824.4 - 797.5)

Volume	Invert	Avail.Storage	Storage Description
#1	340.00'	13,424 cf	**Detention Basin (Prismatic)** Listed below

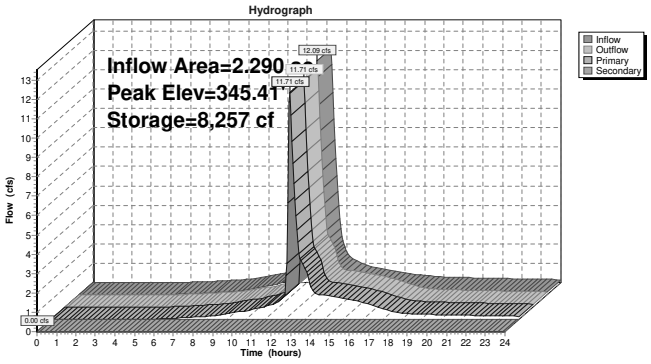
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
340.00	497	0	0
341.00	795	646	646
342.00	1,152	974	1,620
343.00	1,568	1,360	2,980
344.00	2,040	1,804	4,784
345.00	2,569	2,305	7,088
346.00	3,154	2,862	9,950
347.00	3,795	3,475	13,424

Device	Routing	Invert	Outlet Devices
#1	Primary	339.00'	**24.0" Round RCP_Round 24"** L= 169.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 339.00' / 337.31' S= 0.0100 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	340.00'	**5.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	344.00'	**8.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	345.00'	**20.4" x 37.2" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Secondary	345.50'	**20.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=11.56 cfs @ 12.24 hrs HW=345.40' (Free Discharge)
└**1=RCP_Round 24"** (Passes 11.56 cfs of 37.82 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 1.50 cfs @ 10.98 fps)
├**3=Orifice/Grate** (Orifice Controls 1.99 cfs @ 5.71 fps)
└**4=Orifice/Grate** (Weir Controls 8.07 cfs @ 2.08 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=340.00' (Free Discharge)
└**5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1ab: Pond-1a



Stage-Discharge for Pond 1ab: Pond-1a

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
340.00	0.00	0.00	0.00
340.10	0.03	0.03	0.00
340.20	0.10	0.10	0.00
340.30	0.20	0.20	0.00
340.40	0.29	0.29	0.00
340.50	0.35	0.35	0.00
340.60	0.41	0.41	0.00
340.70	0.46	0.46	0.00
340.80	0.51	0.51	0.00
340.90	0.55	0.55	0.00
341.00	0.58	0.58	0.00
341.10	0.62	0.62	0.00
341.20	0.65	0.65	0.00
341.30	0.69	0.69	0.00
341.40	0.72	0.72	0.00
341.50	0.75	0.75	0.00
341.60	0.77	0.77	0.00
341.70	0.80	0.80	0.00
341.80	0.83	0.83	0.00
341.90	0.85	0.85	0.00
342.00	0.88	0.88	0.00
342.10	0.90	0.90	0.00
342.20	0.93	0.93	0.00
342.30	0.95	0.95	0.00
342.40	0.97	0.97	0.00
342.50	0.99	0.99	0.00
342.60	1.02	1.02	0.00
342.70	1.04	1.04	0.00
342.80	1.06	1.06	0.00
342.90	1.08	1.08	0.00
343.00	1.10	1.10	0.00
343.10	1.12	1.12	0.00
343.20	1.14	1.14	0.00
343.30	1.15	1.15	0.00
343.40	1.17	1.17	0.00
343.50	1.19	1.19	0.00
343.60	1.21	1.21	0.00
343.70	1.23	1.23	0.00
343.80	1.24	1.24	0.00
343.90	1.26	1.26	0.00
344.00	1.28	1.28	0.00
344.10	1.51	1.51	0.00
344.20	1.92	1.92	0.00
344.30	2.25	2.25	0.00
344.40	2.41	2.41	0.00
344.50	2.55	2.55	0.00
344.60	2.68	2.68	0.00
344.70	2.80	2.80	0.00
344.80	2.91	2.91	0.00
344.90	3.02	3.02	0.00
345.00	3.12	3.12	0.00
345.10	4.21	4.21	0.00
345.20	6.12	6.12	0.00
345.30	8.56	8.56	0.00
345.40	11.43	11.43	0.00
345.50	14.67	14.67	0.00
345.60	19.85	18.24	1.61
345.70	26.66	22.12	4.54
345.80	34.73	26.27	8.46
345.90	41.16	27.96	13.21
346.00	47.79	29.33	18.46
346.10	54.90	30.64	24.26
346.20	62.41	31.90	30.51
346.30	70.31	33.10	37.21
346.40	79.17	34.26	44.91
346.50	88.58	35.38	53.20
346.60	98.30	36.47	61.84
346.70	108.50	37.52	70.98
346.80	119.62	38.54	81.08
346.90	131.31	39.54	91.77
347.00	**144.49**	**40.51**	**103.98**

Stage-Area-Storage for Pond 1ab: Pond-1a

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
340.00	497	0
340.10	527	65
340.20	557	129
340.30	586	194
340.40	616	258
340.50	646	323
340.60	676	388
340.70	706	452
340.80	735	517
340.90	765	581
341.00	795	646
341.10	831	743
341.20	866	841
341.30	902	938
341.40	938	1,035
341.50	974	1,133
341.60	1,009	1,230
341.70	1,045	1,327
341.80	1,081	1,425
341.90	1,116	1,522
342.00	1,152	1,620
342.10	1,194	1,756
342.20	1,235	1,891
342.30	1,277	2,028
342.40	1,318	2,163
342.50	1,360	2,300
342.60	1,402	2,436
342.70	1,443	2,571
342.80	1,485	2,708
342.90	1,526	2,843
343.00	1,568	2,980
343.10	1,615	3,160
343.20	1,662	3,340
343.30	1,710	3,521
343.40	1,757	3,701
343.50	1,804	3,882
343.60	1,851	4,062
343.70	1,898	4,242
343.80	1,946	4,423
343.90	1,993	4,603
344.00	2,040	4,784
344.10	2,093	5,014
344.20	2,146	5,244
344.30	2,199	5,475
344.40	2,252	5,705
344.50	2,305	5,936
344.60	2,357	6,166
344.70	2,410	6,397
344.80	2,463	6,627
344.90	2,516	6,858
345.00	2,569	7,088
345.10	2,628	7,374
345.20	2,686	7,660
345.30	2,745	7,946
345.40	2,803	8,233
345.50	2,862	8,519
345.60	2,920	8,805
345.70	2,978	9,091
345.80	3,037	9,377
345.90	3,095	9,663
346.00	3,154	9,950
346.10	3,218	10,297
346.20	3,282	10,644
346.30	3,346	10,992
346.40	3,410	11,339
346.50	3,475	11,687
346.60	3,539	12,034
346.70	3,603	12,382
346.80	3,667	12,729
346.90	3,731	13,077
347.00	**3,795**	**13,424**

Summary for Pond 1B: Pond-1b

Inflow Area = 1.557 ac, 83.11% Impervious, Inflow Depth > 6.99" for 50-yr event
Inflow = 10.66 cfs @ 12.11 hrs, Volume= 0.907 af
Outflow = 2.62 cfs @ 12.52 hrs, Volume= 0.899 af, Atten= 75%, Lag= 24.4 min
Primary = 2.62 cfs @ 12.52 hrs, Volume= 0.899 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 338.62' @ 12.52 hrs Surf.Area= 0.106 ac Storage= 0.314 af

Plug-Flow detention time= 72.4 min calculated for 0.897 af (99% of inflow)
Center-of-Mass det. time= 66.3 min (834.7 - 768.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	335.00'	0.021 af	**48.00'W x 96.00'L x 5.17'H Field A** 0.547 af Overall - 0.494 af Embedded = 0.053 af x 40.0% Voids
#2A	335.50'	0.375 af	**retain_it retain_it 4.0'** x 72 Inside #1 Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf 6 Rows adjusted for 271.8 cf perimeter wall
		0.397 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	335.00'	**15.0" Round Culvert** L= 43.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 335.00' / 331.00' S= 0.0930 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 1.23 sf
#2	Device 1	335.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	337.50'	**6.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	339.50'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.62 cfs @ 12.52 hrs HW=338.62' (Free Discharge)
└**1=Culvert** (Passes 2.62 cfs of 10.23 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 1.74 cfs @ 8.84 fps)
├**3=Orifice/Grate** (Orifice Controls 0.88 cfs @ 4.49 fps)
└**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1B: Pond-1b - Chamber Wizard Field A

Chamber Model = retain_it retain_it 4.0' (retain-it®)
Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf
Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf
6 Rows adjusted for 271.8 cf perimeter wall

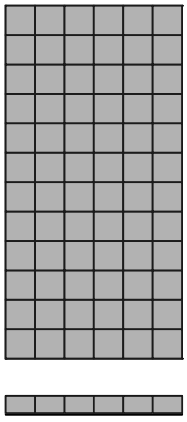
12 Chambers/Row x 8.00' Long = 96.00' Row Length
6 Rows x 96.0" Wide = 48.00' Base Width
6.0" Base + 56.0" Chamber Height = 5.17' Field Height

7.5 cf Sidewall x 12 x 2 + 7.5 cf Endwall x 6 x 2 = 271.8 cf Perimeter Wall
72 Chambers x 230.9 cf - 271.8 cf Perimeter wall = 16,355.9 cf Chamber Storage
72 Chambers x 298.7 cf = 21,504.0 cf Displacement

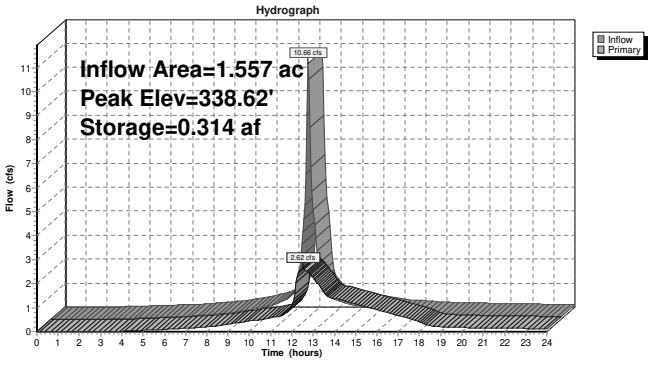
23,808.0 cf Field - 21,504.0 cf Chambers = 2,304.0 cf Stone x 40.0% Voids = 921.6 cf Stone Storage

Chamber Storage + Stone Storage = 17,277.5 cf = 0.397 af
Overall Storage Efficiency = 72.6%
Overall System Size = 96.00' x 48.00' x 5.17'

72 Chambers
881.8 cy Field
85.3 cy Stone



Pond 1B: Pond-1b



Stage-Discharge for Pond 1B: Pond-1b

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
335.00	0.00	337.08	1.28	339.16	2.99
335.04	0.01	337.12	1.29	339.20	3.02
335.08	0.02	337.16	1.31	339.24	3.04
335.12	0.04	337.20	1.32	339.28	3.07
335.16	0.07	337.24	1.33	339.32	3.09
335.20	0.11	337.28	1.35	339.36	3.12
335.24	0.16	337.32	1.36	339.40	3.14
335.28	0.20	337.36	1.37	339.44	3.16
335.32	0.26	337.40	1.39	339.48	3.19
335.36	0.31	337.44	1.40	339.52	3.26
335.40	0.36	337.48	1.41	339.56	3.47
335.44	0.41	337.52	1.43	339.60	3.77
335.48	0.46	337.56	1.45	339.64	4.13
335.52	0.49	337.60	1.48	339.68	4.54
335.56	0.53	337.64	1.52	339.72	5.00
335.60	0.56	337.68	1.57	339.76	5.49
335.64	0.59	337.72	1.62	339.80	6.02
335.68	0.62	337.76	1.68	339.84	6.59
335.72	0.65	337.80	1.74	339.88	7.19
335.76	0.68	337.84	1.80	339.92	7.81
335.80	0.70	337.88	1.87	339.96	8.46
335.84	0.73	337.92	1.93	340.00	9.14
335.88	0.75	337.96	1.99	340.04	9.85
335.92	0.77	338.00	2.04	340.08	10.58
335.96	0.80	338.04	2.09	340.12	11.33
336.00	0.82	338.08	2.13	340.16	**12.10**
336.04	0.84	338.12	2.18		
336.08	0.86	338.16	2.22		
336.12	0.88	338.20	2.26		
336.16	0.90	338.24	2.30		
336.20	0.92	338.28	2.33		
336.24	0.94	338.32	2.37		
336.28	0.96	338.36	2.41		
336.32	0.98	338.40	2.44		
336.36	1.00	338.44	2.47		
336.40	1.01	338.48	2.51		
336.44	1.03	338.52	2.54		
336.48	1.05	338.56	2.57		
336.52	1.07	338.60	2.60		
336.56	1.08	338.64	2.63		
336.60	1.10	338.68	2.66		
336.64	1.11	338.72	2.69		
336.68	1.13	338.76	2.72		
336.72	1.15	338.80	2.75		
336.76	1.16	338.84	2.78		
336.80	1.18	338.88	2.81		
336.84	1.19	338.92	2.83		
336.88	1.21	338.96	2.86		
336.92	1.22	339.00	2.89		
336.96	1.24	339.04	2.91		
337.00	1.25	339.08	2.94		
337.04	1.26	339.12	2.97		

Stage-Area-Storage for Pond 1B: Pond-1b

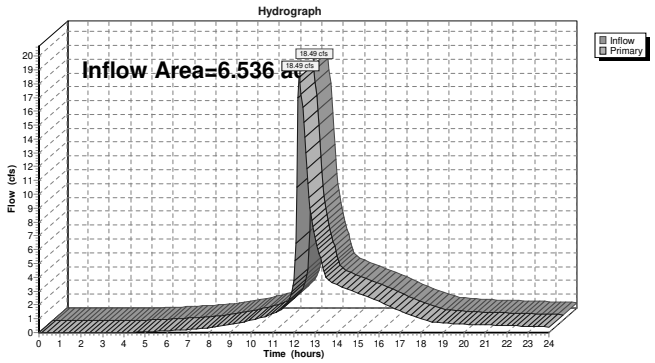
Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
335.00	0.000	337.08	0.169	339.16	0.365
335.04	0.002	337.12	0.173	339.20	0.368
335.08	0.003	337.16	0.177	339.24	0.372
335.12	0.005	337.20	0.181	339.28	0.376
335.16	0.007	337.24	0.184	339.32	0.380
335.20	0.008	337.28	0.188	339.36	0.383
335.24	0.010	337.32	0.192	339.40	0.387
335.28	0.012	337.36	0.196	339.44	0.391
335.32	0.014	337.40	0.200	339.48	**0.395**
335.36	0.015	337.44	0.203	339.52	**0.397**
335.40	0.017	337.48	0.207	339.56	0.397
335.44	0.019	337.52	0.211	339.60	0.397
335.48	0.020	337.56	0.215	339.64	0.397
335.52	0.023	337.60	0.218	339.68	0.397
335.56	0.027	337.64	0.222	339.72	0.397
335.60	0.031	337.68	0.226	339.76	0.397
335.64	0.034	337.72	0.230	339.80	0.397
335.68	0.038	337.76	0.233	339.84	0.397
335.72	0.042	337.80	0.237	339.88	0.397
335.76	0.046	337.84	0.241	339.92	0.397
335.80	0.049	337.88	0.245	339.96	0.397
335.84	0.053	337.92	0.248	340.00	0.397
335.88	0.057	337.96	0.252	340.04	0.397
335.92	0.061	338.00	0.256	340.08	0.397
335.96	0.064	338.04	0.260	340.12	0.397
336.00	0.068	338.08	0.263	340.16	0.397
336.04	0.072	338.12	0.267		
336.08	0.076	338.16	0.271		
336.12	0.079	338.20	0.275		
336.16	0.083	338.24	0.278		
336.20	0.087	338.28	0.282		
336.24	0.091	338.32	0.286		
336.28	0.094	338.36	0.290		
336.32	0.098	338.40	0.293		
336.36	0.102	338.44	0.297		
336.40	0.106	338.48	0.301		
336.44	0.109	338.52	0.305		
336.48	0.113	338.56	0.308		
336.52	0.117	338.60	0.312		
336.56	0.121	338.64	0.316		
336.60	0.124	338.68	0.320		
336.64	0.128	338.72	0.323		
336.68	0.132	338.76	0.327		
336.72	0.136	338.80	0.331		
336.76	0.139	338.84	0.335		
336.80	0.143	338.88	0.338		
336.84	0.147	338.92	0.342		
336.88	0.151	338.96	0.346		
336.92	0.154	339.00	0.350		
336.96	0.158	339.04	0.353		
337.00	0.162	339.08	0.357		
337.04	0.166	339.12	0.361		

Summary for Link P1: P1 Total

Inflow Area = 6.536 ac, 48.33% Impervious, Inflow Depth > 5.06" for 50-yr event
Inflow = 18.49 cfs @ 12.27 hrs, Volume= 2.758 af
Primary = 18.49 cfs @ 12.27 hrs, Volume= 2.758 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link P1: P1 Total

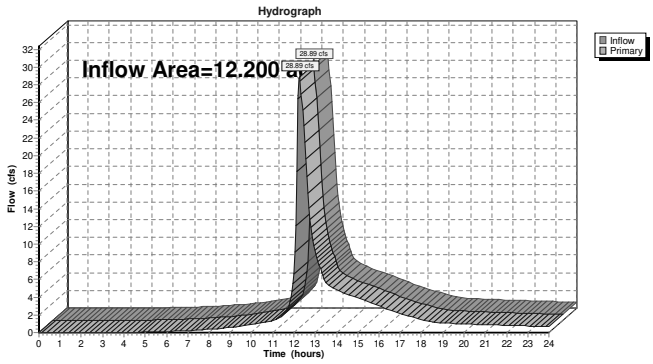


Summary for Link P1-2: Overall Existing

Inflow Area = 12.200 ac, 25.89% Impervious, Inflow Depth > 3.83" for 50-yr event
Inflow = 28.89 cfs @ 12.27 hrs, Volume= 3.890 af
Primary = 28.89 cfs @ 12.27 hrs, Volume= 3.890 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link P1-2: Overall Existing



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1a: PDA-1a Runoff Area=2.290 ac 59.83% Impervious Runoff Depth>7.12"
Tc=14.5 min CN=85 Runoff=14.05 cfs 1.359 af

Subcatchment P1b: PDA-1b Runoff Area=1.557 ac 83.11% Impervious Runoff Depth>8.06"
Tc=8.4 min CN=93 Runoff=12.20 cfs 1.046 af

Subcatchment P1c: PDA-1c Runoff Area=2.689 ac 18.41% Impervious Runoff Depth>3.95"
Tc=28.1 min CN=59 Runoff=7.20 cfs 0.885 af

Subcatchment P2: PDA-2 Runoff Area=5.664 ac 0.00% Impervious Runoff Depth>3.11"
Tc=18.1 min CN=52 Runoff=13.88 cfs 1.469 af

Subcatchment P3: PDA-3 Runoff Area=0.290 ac 100.00% Impervious Runoff Depth>8.70"
Tc=6.0 min CN=98 Runoff=2.49 cfs 0.210 af

Subcatchment P4: PDA-4 Runoff Area=2.315 ac 40.39% Impervious Runoff Depth>6.49"
Tc=16.6 min CN=80 Runoff=12.59 cfs 1.252 af

Subcatchment P5: PDA-5 Runoff Area=1.350 ac 0.00% Impervious Runoff Depth>5.76"
Tc=15.1 min CN=74 Runoff=6.84 cfs 0.648 af

Pond 1ab: Pond-1a Peak Elev=345.48' Storage=8,456 cf Inflow=14.05 cfs 1.359 af
Primary=13.92 cfs 1.354 af Secondary=0.00 cfs 0.000 af Outflow=13.92 cfs 1.354 af

Pond 1B: Pond-1b Peak Elev=339.15' Storage=0.364 af Inflow=12.20 cfs 1.046 af
Outflow=2.99 cfs 1.037 af

Link P1: P1 Total Inflow=22.03 cfs 3.277 af
Primary=22.03 cfs 3.277 af

Link P1-2: Overall Existing Inflow=35.90 cfs 4.745 af
Primary=35.90 cfs 4.745 af

Summary for Subcatchment P1a: PDA-1a

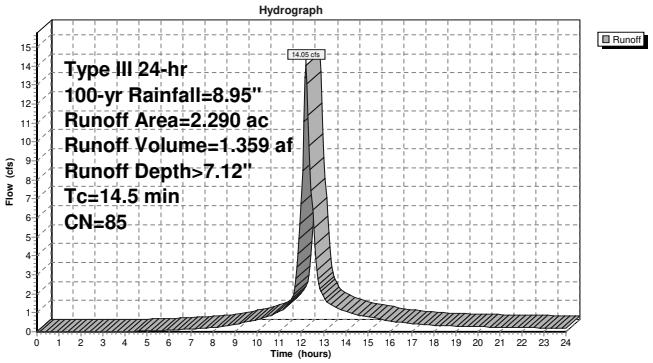
Runoff = 14.05 cfs @ 12.20 hrs, Volume= 1.359 af, Depth> 7.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.95"

	Area (ac)	CN	Description
*	0.280	55	Woods - B
*	0.160	77	Woods - D
*	0.140	61	Grass - B
*	0.160	61	Grass - B
*	0.180	80	Grass -D
*	1.370	98	Impervious
	2.290	85	Weighted Average
	0.920		40.17% Pervious Area
	1.370		59.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5					**Direct Entry,**

Subcatchment P1a: PDA-1a



Summary for Subcatchment P1b: PDA-1b

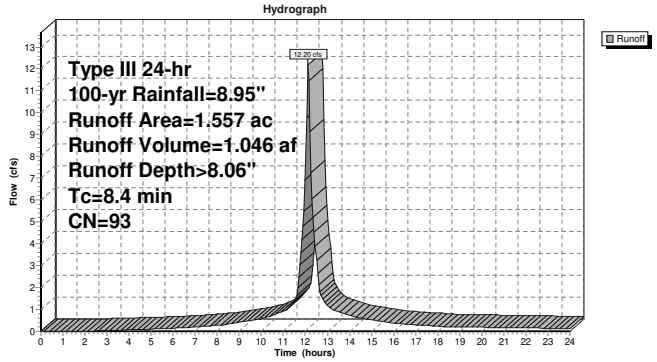
Runoff = 12.20 cfs @ 12.11 hrs, Volume= 1.046 af, Depth> 8.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.95"

	Area (ac)	CN	Description
*	0.064	39	Grass - A
*	0.045	61	Grass - B
*	0.154	80	Grass - D
*	1.294	98	Impervious
	1.557	93	Weighted Average
	0.263		16.89% Pervious Area
	1.294		83.11% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4					**Direct Entry,**

Subcatchment P1b: PDA-1b



Summary for Subcatchment P1c: PDA-1c

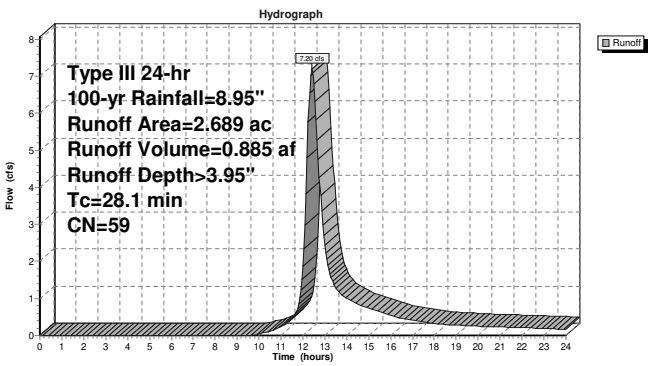
Runoff = 7.20 cfs @ 12.41 hrs, Volume= 0.885 af, Depth> 3.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.95"

	Area (ac)	CN	Description
*	0.631	30	Woods - A
*	0.164	55	Woods - B
*	0.275	39	Grass - A
*	0.932	61	Grass - B
*	0.060	80	Grass - D
*	0.132	80	Grass - D
*	0.495	98	Impervious
	2.689	59	Weighted Average
	2.194		81.59% Pervious Area
	0.495		18.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.1					**Direct Entry,**

Subcatchment P1c: PDA-1c



Summary for Subcatchment P2: PDA-2

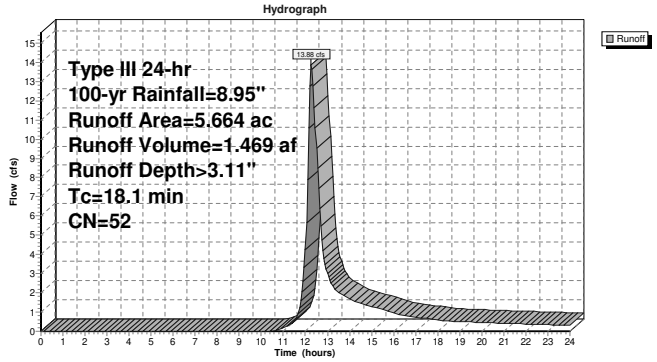
Runoff = 13.88 cfs @ 12.27 hrs, Volume= 1.469 af, Depth> 3.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.95"

	Area (ac)	CN	Description
*	0.946	30	Woods - A
*	4.180	55	Woods - B
*	0.338	77	Woods - D
*	0.100	39	Grass - A
*	0.100	80	Grass - D
	5.664	52	Weighted Average
	5.664		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.1					**Direct Entry,**

Subcatchment P2: PDA-2



Summary for Subcatchment P3: PDA-3

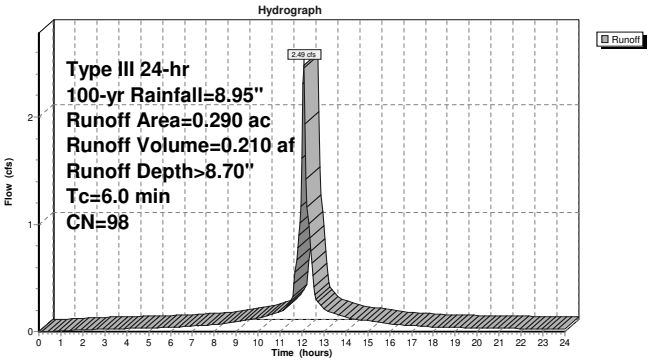
Runoff = 2.49 cfs @ 12.09 hrs, Volume= 0.210 af, Depth> 8.70"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.95"

	Area (ac)	CN	Description
*	0.290	98	Impervious
	0.290		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment P3: PDA-3



Summary for Subcatchment P4: PDA-4

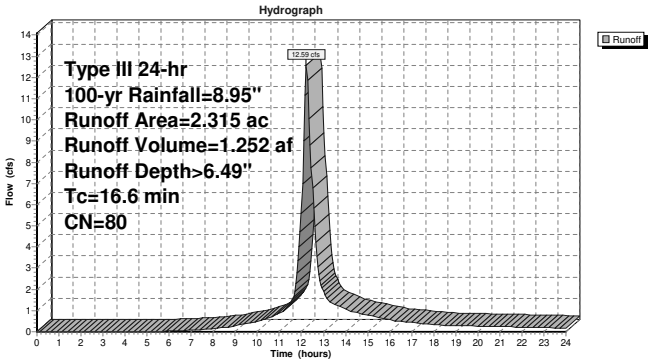
Runoff = 12.59 cfs @ 12.22 hrs, Volume= 1.252 af, Depth> 6.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.95"

	Area (ac)	CN	Description
*	0.060	55	Woods - B
*	0.280	55	Woods - B
*	0.640	77	Woods - D
*	0.350	61	Grass - B
*	0.050	80	Grass - D
*	0.935	98	Impervious
	2.315	80	Weighted Average
	1.380		59.61% Pervious Area
	0.935		40.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.6					**Direct Entry,**

Subcatchment P4: PDA-4



Summary for Subcatchment P5: PDA-5

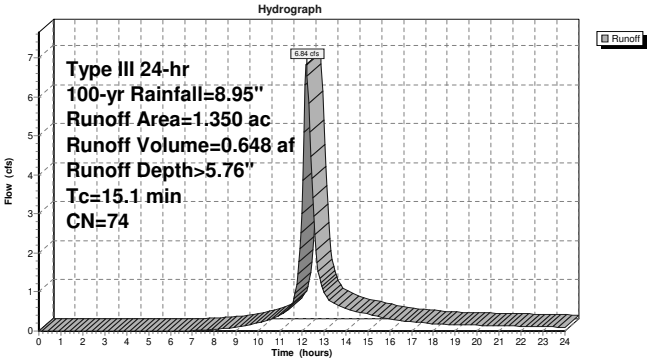
Runoff = 6.84 cfs @ 12.21 hrs, Volume= 0.648 af, Depth> 5.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.95"

	Area (ac)	CN	Description
*	0.190	55	Woods - B
*	1.160	77	Woods - D
	1.350	74	Weighted Average
	1.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1					**Direct Entry,**

Subcatchment P5: PDA-5



Summary for Pond 1ab: Pond-1a

Inflow Area = 2.290 ac, 59.83% Impervious, Inflow Depth > 7.12" for 100-yr event
Inflow = 14.05 cfs @ 12.20 hrs, Volume= 1.359 af
Outflow = 13.92 cfs @ 12.22 hrs, Volume= 1.354 af, Atten= 1%, Lag= 1.6 min
Primary = 13.92 cfs @ 12.22 hrs, Volume= 1.354 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 345.48' @ 12.22 hrs Surf.Area= 2,849 sf Storage= 8,456 cf

Plug-Flow detention time= 28.2 min calculated for 1.354 af (100% of inflow)
Center-of-Mass det. time= 26.2 min (819.4 - 793.2)

Volume	Invert	Avail.Storage	Storage Description
#1	340.00'	13,424 cf	**Detention Basin (Prismatic)** Listed below

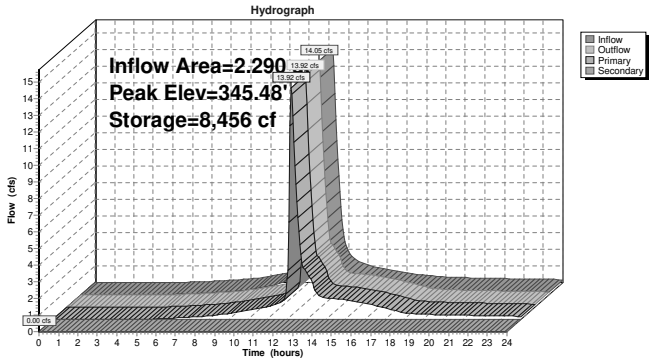
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
340.00	497	0	0
341.00	795	646	646
342.00	1,152	974	1,620
343.00	1,568	1,360	2,980
344.00	2,040	1,804	4,784
345.00	2,569	2,305	7,088
346.00	3,154	2,862	9,950
347.00	3,795	3,475	13,424

Device	Routing	Invert	Outlet Devices
#1	Primary	339.00'	**24.0" Round RCP_Round 24"** L= 169.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 339.00' / 337.31' S= 0.0100 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 3.14 sf
#2	Device 1	340.00'	**5.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	344.00'	**8.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	345.00'	**20.4" x 37.2" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#5	Secondary	345.50'	**20.0' long x 2.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Primary OutFlow Max=13.64 cfs @ 12.22 hrs HW=345.47' (Free Discharge)
└**1=RCP_Round 24"** (Passes 13.64 cfs of 38.02 cfs potential flow)
  ├**2=Orifice/Grate** (Orifice Controls 1.51 cfs @ 11.04 fps)
  ├**3=Orifice/Grate** (Orifice Controls 2.04 cfs @ 5.84 fps)
  └**4=Orifice/Grate** (Weir Controls 10.10 cfs @ 2.24 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=340.00' (Free Discharge)
└**5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1ab: Pond-1a



Stage-Discharge for Pond 1ab: Pond-1a

Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Discharge (cfs)	Primary (cfs)	Secondary (cfs)
340.00	0.00	0.00	0.00	345.20	6.12	6.12	0.00
340.10	0.03	0.03	0.00	345.30	8.56	8.56	0.00
340.20	0.10	0.10	0.00	345.40	11.43	11.43	0.00
340.30	0.20	0.20	0.00	345.50	14.67	14.67	0.00
340.40	0.29	0.29	0.00	345.60	19.85	18.24	1.61
340.50	0.35	0.35	0.00	345.70	26.66	22.12	4.54
340.60	0.41	0.41	0.00	345.80	34.73	26.27	8.46
340.70	0.46	0.46	0.00	345.90	41.16	27.96	13.21
340.80	0.51	0.51	0.00	346.00	47.79	29.33	18.46
340.90	0.55	0.55	0.00	346.10	54.90	30.64	24.26
341.00	0.58	0.58	0.00	346.20	62.41	31.90	30.51
341.10	0.62	0.62	0.00	346.30	70.31	33.10	37.21
341.20	0.65	0.65	0.00	346.40	79.17	34.26	44.91
341.30	0.69	0.69	0.00	346.50	88.58	35.38	53.20
341.40	0.72	0.72	0.00	346.60	98.30	36.47	61.84
341.50	0.75	0.75	0.00	346.70	108.50	37.52	70.98
341.60	0.77	0.77	0.00	346.80	119.62	38.54	81.08
341.70	0.80	0.80	0.00	346.90	131.31	39.54	91.77
341.80	0.83	0.83	0.00	347.00	**144.49**	**40.51**	**103.98**
341.90	0.85	0.85	0.00				
342.00	0.88	0.88	0.00				
342.10	0.90	0.90	0.00				
342.20	0.93	0.93	0.00				
342.30	0.95	0.95	0.00				
342.40	0.97	0.97	0.00				
342.50	0.99	0.99	0.00				
342.60	1.02	1.02	0.00				
342.70	1.04	1.04	0.00				
342.80	1.06	1.06	0.00				
342.90	1.08	1.08	0.00				
343.00	1.10	1.10	0.00				
343.10	1.12	1.12	0.00				
343.20	1.14	1.14	0.00				
343.30	1.15	1.15	0.00				
343.40	1.17	1.17	0.00				
343.50	1.19	1.19	0.00				
343.60	1.21	1.21	0.00				
343.70	1.23	1.23	0.00				
343.80	1.24	1.24	0.00				
343.90	1.26	1.26	0.00				
344.00	1.28	1.28	0.00				
344.10	1.51	1.51	0.00				
344.20	1.92	1.92	0.00				
344.30	2.25	2.25	0.00				
344.40	2.41	2.41	0.00				
344.50	2.55	2.55	0.00				
344.60	2.68	2.68	0.00				
344.70	2.80	2.80	0.00				
344.80	2.91	2.91	0.00				
344.90	3.02	3.02	0.00				
345.00	3.12	3.12	0.00				
345.10	4.21	4.21	0.00				

Stage-Area-Storage for Pond 1ab: Pond-1a

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
340.00	497	0	345.20	2,686	7,660
340.10	527	65	345.30	2,745	7,946
340.20	557	129	345.40	2,803	8,233
340.30	586	194	345.50	2,862	8,519
340.40	616	258	345.60	2,920	8,805
340.50	646	323	345.70	2,978	9,091
340.60	676	388	345.80	3,037	9,377
340.70	706	452	345.90	3,095	9,663
340.80	735	517	346.00	3,154	9,950
340.90	765	581	346.10	3,218	10,297
341.00	795	646	346.20	3,282	10,644
341.10	831	743	346.30	3,346	10,992
341.20	866	841	346.40	3,410	11,339
341.30	902	938	346.50	3,475	11,687
341.40	938	1,035	346.60	3,539	12,034
341.50	974	1,133	346.70	3,603	12,382
341.60	1,009	1,230	346.80	3,667	12,729
341.70	1,045	1,327	346.90	3,731	13,077
341.80	1,081	1,425	347.00	**3,795**	**13,424**
341.90	1,116	1,522			
342.00	1,152	1,620			
342.10	1,194	1,756			
342.20	1,235	1,891			
342.30	1,277	2,028			
342.40	1,318	2,163			
342.50	1,360	2,300			
342.60	1,402	2,436			
342.70	1,443	2,571			
342.80	1,485	2,708			
342.90	1,526	2,843			
343.00	1,568	2,980			
343.10	1,615	3,160			
343.20	1,662	3,340			
343.30	1,710	3,521			
343.40	1,757	3,701			
343.50	1,804	3,882			
343.60	1,851	4,062			
343.70	1,898	4,242			
343.80	1,946	4,423			
343.90	1,993	4,603			
344.00	2,040	4,784			
344.10	2,093	5,014			
344.20	2,146	5,244			
344.30	2,199	5,475			
344.40	2,252	5,705			
344.50	2,305	5,936			
344.60	2,357	6,166			
344.70	2,410	6,397			
344.80	2,463	6,627			
344.90	2,516	6,858			
345.00	2,569	7,088			
345.10	2,628	7,374			

Summary for Pond 1B: Pond-1b

Inflow Area = 1.557 ac, 83.11% Impervious, Inflow Depth > 8.06" for 100-yr event
Inflow = 12.20 cfs @ 12.11 hrs, Volume= 1.046 af
Outflow = 2.99 cfs @ 12.52 hrs, Volume= 1.037 af, Atten= 76%, Lag= 24.4 min
Primary = 2.99 cfs @ 12.52 hrs, Volume= 1.037 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 339.15' @ 12.52 hrs Surf.Area= 0.106 ac Storage= 0.364 af

Plug-Flow detention time= 73.2 min calculated for 1.037 af (99% of inflow)
Center-of-Mass det. time= 67.6 min (832.7 - 765.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	335.00'	0.021 af	**48.00'W x 96.00'L x 5.17'H Field A** 0.547 af Overall - 0.494 af Embedded = 0.053 af x 40.0% Voids
#2A	335.50'	0.375 af	**retain_it retain_it 4.0'** x 72 Inside #1 Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf 6 Rows adjusted for 271.8 cf perimeter wall
		0.397 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	335.00'	**15.0" Round Culvert** L= 43.0' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 335.00' / 331.00' S= 0.0930 '/' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 1.23 sf
#2	Device 1	335.00'	**6.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	337.50'	**6.0" Vert. Orifice/Grate** C= 0.600
#4	Device 1	339.50'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.99 cfs @ 12.52 hrs HW=339.15' (Free Discharge)
└**1=Culvert** (Passes 2.99 cfs of 11.09 cfs potential flow)
├**2=Orifice/Grate** (Orifice Controls 1.87 cfs @ 9.51 fps)
├**3=Orifice/Grate** (Orifice Controls 1.12 cfs @ 5.70 fps)
└**4=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1B: Pond-1b - Chamber Wizard Field A

Chamber Model = retain_it retain_it 4.0' (retain-it®)
Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf
Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf
6 Rows adjusted for 271.8 cf perimeter wall

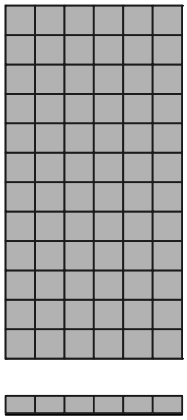
12 Chambers/Row x 8.00' Long = 96.00' Row Length
6 Rows x 96.0" Wide = 48.00' Base Width
6.0" Base + 56.0" Chamber Height = 5.17' Field Height

7.5 cf Sidewall x 12 x 2 + 7.5 cf Endwall x 6 x 2 = 271.8 cf Perimeter Wall
72 Chambers x 230.9 cf - 271.8 cf Perimeter wall = 16,355.9 cf Chamber Storage
72 Chambers x 298.7 cf = 21,504.0 cf Displacement

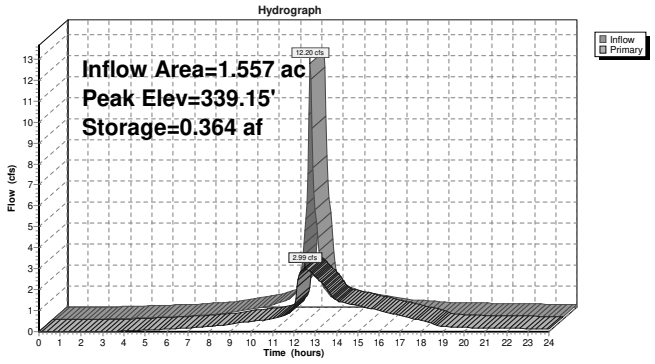
23,808.0 cf Field - 21,504.0 cf Chambers = 2,304.0 cf Stone x 40.0% Voids = 921.6 cf Stone Storage

Chamber Storage + Stone Storage = 17,277.5 cf = 0.397 af
Overall Storage Efficiency = 72.6%
Overall System Size = 96.00' x 48.00' x 5.17'

72 Chambers
881.8 cy Field
85.3 cy Stone



Pond 1B: Pond-1b



Stage-Discharge for Pond 1B: Pond-1b

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
335.00	0.00	337.08	1.28	339.16	2.99
335.04	0.01	337.12	1.29	339.20	3.02
335.08	0.02	337.16	1.31	339.24	3.04
335.12	0.04	337.20	1.32	339.28	3.07
335.16	0.07	337.24	1.33	339.32	3.09
335.20	0.11	337.28	1.35	339.36	3.12
335.24	0.16	337.32	1.36	339.40	3.14
335.28	0.20	337.36	1.37	339.44	3.16
335.32	0.26	337.40	1.39	339.48	3.19
335.36	0.31	337.44	1.40	339.52	3.26
335.40	0.36	337.48	1.41	339.56	3.47
335.44	0.41	337.52	1.43	339.60	3.77
335.48	0.46	337.56	1.45	339.64	4.13
335.52	0.49	337.60	1.48	339.68	4.54
335.56	0.53	337.64	1.52	339.72	5.00
335.60	0.56	337.68	1.57	339.76	5.49
335.64	0.59	337.72	1.62	339.80	6.02
335.68	0.62	337.76	1.68	339.84	6.59
335.72	0.65	337.80	1.74	339.88	7.19
335.76	0.68	337.84	1.80	339.92	7.81
335.80	0.70	337.88	1.87	339.96	8.46
335.84	0.73	337.92	1.93	340.00	9.14
335.88	0.75	337.96	1.99	340.04	9.85
335.92	0.77	338.00	2.04	340.08	10.58
335.96	0.80	338.04	2.09	340.12	11.33
336.00	0.82	338.08	2.13	340.16	**12.10**
336.04	0.84	338.12	2.18		
336.08	0.86	338.16	2.22		
336.12	0.88	338.20	2.26		
336.16	0.90	338.24	2.30		
336.20	0.92	338.28	2.33		
336.24	0.94	338.32	2.37		
336.28	0.96	338.36	2.41		
336.32	0.98	338.40	2.44		
336.36	1.00	338.44	2.47		
336.40	1.01	338.48	2.51		
336.44	1.03	338.52	2.54		
336.48	1.05	338.56	2.57		
336.52	1.07	338.60	2.60		
336.56	1.08	338.64	2.63		
336.60	1.10	338.68	2.66		
336.64	1.11	338.72	2.69		
336.68	1.13	338.76	2.72		
336.72	1.15	338.80	2.75		
336.76	1.16	338.84	2.78		
336.80	1.18	338.88	2.81		
336.84	1.19	338.92	2.83		
336.88	1.21	338.96	2.86		
336.92	1.22	339.00	2.89		
336.96	1.24	339.04	2.91		
337.00	1.25	339.08	2.94		
337.04	1.26	339.12	2.97		

Stage-Area-Storage for Pond 1B: Pond-1b

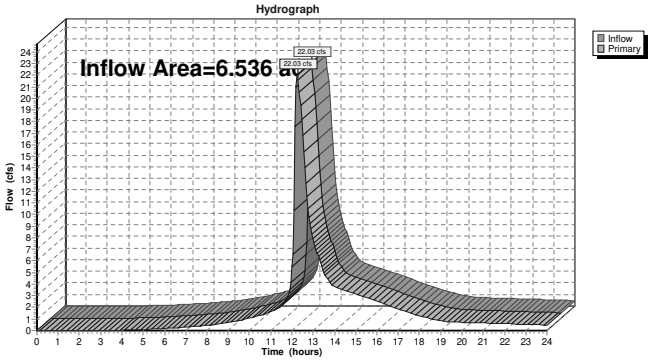
Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
335.00	0.000	337.08	0.169	339.16	0.365
335.04	0.002	337.12	0.173	339.20	0.368
335.08	0.003	337.16	0.177	339.24	0.372
335.12	0.005	337.20	0.181	339.28	0.376
335.16	0.007	337.24	0.184	339.32	0.380
335.20	0.008	337.28	0.188	339.36	0.383
335.24	0.010	337.32	0.192	339.40	0.387
335.28	0.012	337.36	0.196	339.44	0.391
335.32	0.014	337.40	0.200	339.48	**0.395**
335.36	0.015	337.44	0.203	339.52	**0.397**
335.40	0.017	337.48	0.207	339.56	0.397
335.44	0.019	337.52	0.211	339.60	0.397
335.48	0.020	337.56	0.215	339.64	0.397
335.52	0.023	337.60	0.218	339.68	0.397
335.56	0.027	337.64	0.222	339.72	0.397
335.60	0.031	337.68	0.226	339.76	0.397
335.64	0.034	337.72	0.230	339.80	0.397
335.68	0.038	337.76	0.233	339.84	0.397
335.72	0.042	337.80	0.237	339.88	0.397
335.76	0.046	337.84	0.241	339.92	0.397
335.80	0.049	337.88	0.245	339.96	0.397
335.84	0.053	337.92	0.248	340.00	0.397
335.88	0.057	337.96	0.252	340.04	0.397
335.92	0.061	338.00	0.256	340.08	0.397
335.96	0.064	338.04	0.260	340.12	0.397
336.00	0.068	338.08	0.263	340.16	0.397
336.04	0.072	338.12	0.267		
336.08	0.076	338.16	0.271		
336.12	0.079	338.20	0.275		
336.16	0.083	338.24	0.278		
336.20	0.087	338.28	0.282		
336.24	0.091	338.32	0.286		
336.28	0.094	338.36	0.290		
336.32	0.098	338.40	0.293		
336.36	0.102	338.44	0.297		
336.40	0.106	338.48	0.301		
336.44	0.109	338.52	0.305		
336.48	0.113	338.56	0.308		
336.52	0.117	338.60	0.312		
336.56	0.121	338.64	0.316		
336.60	0.124	338.68	0.320		
336.64	0.128	338.72	0.323		
336.68	0.132	338.76	0.327		
336.72	0.136	338.80	0.331		
336.76	0.139	338.84	0.335		
336.80	0.143	338.88	0.338		
336.84	0.147	338.92	0.342		
336.88	0.151	338.96	0.346		
336.92	0.154	339.00	0.350		
336.96	0.158	339.04	0.353		
337.00	0.162	339.08	0.357		
337.04	0.166	339.12	0.361		

Summary for Link P1: P1 Total

Inflow Area = 6.536 ac, 48.33% Impervious, Inflow Depth > 6.02" for 100-yr event
Inflow = 22.03 cfs @ 12.26 hrs, Volume= 3.277 af
Primary = 22.03 cfs @ 12.26 hrs, Volume= 3.277 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link P1: P1 Total

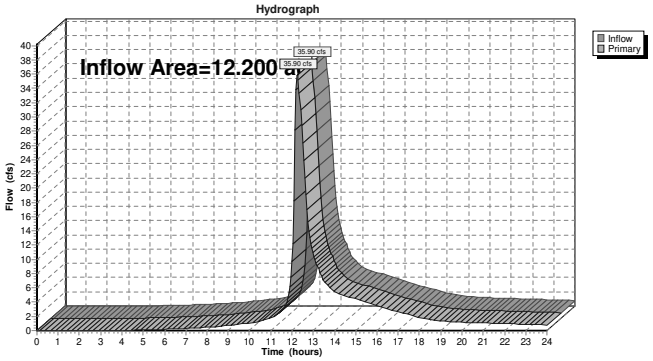


Summary for Link P1-2: Overall Existing

Inflow Area = 12.200 ac, 25.89% Impervious, Inflow Depth > 4.67" for 100-yr event
Inflow = 35.90 cfs @ 12.26 hrs, Volume= 4.745 af
Primary = 35.90 cfs @ 12.26 hrs, Volume= 4.745 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link P1-2: Overall Existing



Project **Proposed Development** By **MSL** Date **08/06/20**
Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date **09/03/20**
Bold One: Present **Developed**
Bold One: T_c T_t through subarea **Proposed Drainage Area 1a (PDA-1a)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)		Segment ID	AB		
1. Surface description (table 3-1)			Grass (Dense grasses)		
2. Manning's roughness coeff., n (table 3-1)			0.40		
3. Flow Length, L (total L ≤ 150 ft)		ft	150		
4. Two-yr 24-hr rainfall, P_2		in	3.46		
5. Land slope, s		ft/ft	0.12		
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t	hr	0.230	+ 0.000	= 0.230

Shallow concentrated flow		Segment ID	BC	CD	DE	
7. Surface description (paved or unpaved)			Unpaved	Unpaved	Paved	
8. Flow length, L		ft	105	200	62	
9. Watercourse slope, s		ft/ft	0.15	0.25	0.08	
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)		ft/s	6.26	8.07	5.77	
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.005	+ 0.007	+ 0.003	= 0.012

Channel flow		Segment ID			
12. Cross sectional flow area, a		ft^2			
13. Wetted perimeter, p_w		ft			
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r	ft			
15. Channel slope, s		ft/ft			
16. Manning's roughness coeff., n					
17. $V = \frac{1.49\ r^{2/3} s^{1/2}}{n}$	Compute V	ft/s			
18. Flow length, L		ft			
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr		+	= 0.000
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)				**Hours**	= 0.241
				Minutes	= 14.47

Project **Proposed Development** By **MSL** Date **08/06/20**
Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date **09/24/20**
Bold One: Present **Developed**
Bold One: T_c T_t through subarea **Proposed Drainage Area 1b (PDA-1b)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)		Segment ID	AB	BC	
1. Surface description (table 3-1)			Grass (Dense)	Smooth Surface	
2. Manning's roughness coeff., n (table 3-1)			0.240	0.011	
3. Flow Length, L (total L ≤ 150 ft)		ft	50	45	
4. Two-yr 24-hr rainfall, P_2		in	3.46	3.46	
5. Land slope, s		ft/ft	0.02	0.03	
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t	hr	0.131	+ 0.009	= 0.140

Shallow concentrated flow		Segment ID			
7. Surface description (paved or unpaved)					
8. Flow length, L		ft			
9. Watercourse slope, s		ft/ft			
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)		ft/s			
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr		+	=

Channel flow		Segment ID			
12. Cross sectional flow area, a		ft^2			
13. Wetted perimeter, p_w		ft			
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r	ft			
15. Channel slope, s		ft/ft			
16. Manning's roughness coeff., n					
17. $V = \frac{1.49\ r^{2/3} s^{1/2}}{n}$	Compute V	ft/s			
18. Flow length, L		ft			
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr		+	= 0.000
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)				**Hours**	= 0.140
				Minutes	= 8.398

Use 6 Minutes (0.1 hrs)

Project: **Proposed Development** By: **MSL** Date: **08/06/20**

Location: **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked: **CJB** Date: **09/03/20**

Bold One: Present **Developed**

Bold One: **T_c** T_t through subarea **Proposed Drainage Area 1c (PDA-1c)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)		Segment ID	AB		
1. Surface description (table 3-1)			Grass (Dense grasses)		
2. Manning's roughness coeff., n (table 3-1)			0.24		
3. Flow Length, L (total L ≤ 150 ft)		ft	150		
4. Two-yr 24-hr rainfall, P_2		in	3.46		
5. Land slope, s		ft/ft	0.01		
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t	hr	0.417	+ 0.000	= 0.417

Shallow concentrated flow		Segment ID	BC		
7. Surface description (paved or unpaved)			Unpaved		
8. Flow length, L		ft	135		
9. Watercourse slope, s		ft/ft	0.02		
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)		ft/s	2.20		
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.017	+ 0.000	= 0.017

Channel flow		Segment ID	BC	CD	DE	
12. Cross sectional flow area, a		ft^2	3.14	5.00	5.00	
13. Wetted perimeter, p_w		ft	6.28	7.47	7.47	
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r	ft	0.50	0.67	0.67	
15. Channel slope, s		ft/ft	0.01	0.04	0.18	
16. Manning's roughness coeff., n			0.025	0.025	0.03	
17. $V = \frac{1.49\ r^{2/3} s^{1/2}}{n}$	Compute V	ft/s	2.66	9.59	16.30	
18. Flow length, L		ft	210	260	250	
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.022	+ 0.008	+ 0.004	= 0.034
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)				Hours =	0.468	
				Minutes =	28.10	

Project: **Proposed Development** By: **MSL** Date: **08/06/20**

Location: **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked: **CJB** Date: **09/03/20**

Bold One: Present **Developed**

Bold One: **T_c** T_t through subarea **Proposed Drainage Area 2 (PDA-2)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)		Segment ID	AB		
1. Surface description (table 3-1)			Woods (Light Underbrush)		
2. Manning's roughness coeff., n (table 3-1)			0.40		
3. Flow Length, L (total L ≤ 150 ft)		ft	150		
4. Two-yr 24-hr rainfall, P_2		in	3.46		
5. Land slope, s		ft/ft	0.07		
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t	hr	0.294	+ 0.000	= 0.294

Shallow concentrated flow		Segment ID	BC		
7. Surface description (paved or unpaved)			Unpaved		
8. Flow length, L		ft	215		
9. Watercourse slope, s		ft/ft	0.25		
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)		ft/s	8.09		
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.007	+	= 0.007

Channel flow		Segment ID			
12. Cross sectional flow area, a		ft^2			
13. Wetted perimeter, p_w		ft			
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r	ft			
15. Channel slope, s		ft/ft			
16. Manning's roughness coeff., n					
17. $V = \frac{1.49\ r^{2/3} s^{1/2}}{n}$	Compute V	ft/s			
18. Flow length, L		ft			
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr		+	= 0.000
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)				Hours =	0.302	
				Minutes =	18.09	

Project: **Proposed Development** By: **MSL** Date: **08/06/20**

Location: **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked: **CJB** Date: **09/03/20**

Bold One: Present **Developed**

Bold One: **T_c** T_t through subarea **Proposed Drainage Area 3 (PDA-3)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)		Segment ID	AB	
1. Surface description (table 3-1)			Pavement	
2. Manning's roughness coeff., n (table 3-1)			0.011	
3. Flow Length, L (total L ≤ 150 ft)		ft	50	
4. Two-yr 24-hr rainfall, P_2		in	3.46	
5. Land slope, s		ft/ft	0.03	
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t	hr	0.009	+ 0.000 = 0.009

Shallow concentrated flow		Segment ID	BC	
7. Surface description (paved or unpaved)			Paved	
8. Flow length, L		ft	400	
9. Watercourse slope, s		ft/ft	0.05	
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)		ft/s	4.31	
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.026	+ = 0.026

Channel flow		Segment ID		
12. Cross sectional flow area, a		ft^2		
13. Wetted perimeter, p_w		ft		
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r	ft		
15. Channel slope, s		ft/ft		
16. Manning's roughness coeff., n				
17. $V = \frac{1.49\ r^{2/3} s^{1/2}}{n}$	Compute V	ft/s		
18. Flow length, L		ft		
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	+	= 0.000
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)			Hours =	0.035
			Minutes =	2.115

Use 6 Minutes (0.1 hrs)

Project: **Proposed Development** By: **MSL** Date: **08/06/20**

Location: **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked: **CJB** Date: **09/03/20**

Bold One: Present **Developed**

Bold One: **T_c** T_t through subarea **Proposed Drainage Area 4 (PDA-4)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)		Segment ID	AB	BC	
1. Surface description (table 3-1)			Woods (Light Underbrush)	Woods (Light Underbrush)	
2. Manning's roughness coeff., n (table 3-1)			0.40	0.40	
3. Flow Length, L (total L ≤ 150 ft)		ft	50	90	
4. Two-yr 24-hr rainfall, P_2		in	3.46	3.46	
5. Land slope, s		ft/ft	0.13	0.09	
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t	hr	0.094	+ 0.174	= 0.268

Shallow concentrated flow		Segment ID	CD	DE	EF	
7. Surface description (paved or unpaved)			Unpaved	Unpaved	Paved	
8. Flow length, L		ft	175	40	675	
9. Watercourse slope, s		ft/ft	0.40	0.05	0.02	
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)		ft/s	10.20	3.61	2.60	
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.005	+ 0.003	+ 0.072	= 0.008

Channel flow		Segment ID			
12. Cross sectional flow area, a		ft^2			
13. Wetted perimeter, p_w		ft			
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r	ft			
15. Channel slope, s		ft/ft			
16. Manning's roughness coeff., n					
17. $V = \frac{1.49\ r^{2/3} s^{1/2}}{n}$	Compute V	ft/s			
18. Flow length, L		ft			
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr		+	= 0.000
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)				Hours =	0.276
				Minutes =	16.57

Project	**Proposed Development**	By	**MSL**	Date	**08/06/20**
Location	**9-15 Albany Turnpike, Canton & Simsbury, CT**	Checked	**CJB**	Date	**09/03/20**

Bold One: Present **Developed**

Bold One: **T_c** T_t through subarea **Proposed Drainage Area 5 (PDA-5)**

NOTES: Space for as many as two segments per flow type can be used for each worksheet.

Include a map, schematic, or description of flow segments.

Sheet flow (Applicable to T_c Only)		Segment ID	AB		
1. Surface description (table 3-1)			Woods (Light Underbrush)		
2. Manning's roughness coeff., n (table 3-1)			0.40		
3. Flow Length, L (total L ≤ 150 ft)	ft		150		
4. Two-yr 24-hr rainfall, P_2	in		3.46		
5. Land slope, s	ft/ft		0.10		
6. $T_t = \frac{0.007(nL)^{0.8}}{P_2^{0.5} s^{0.4}}$	Compute T_t	hr	0.250	+ 0.000	= 0.250

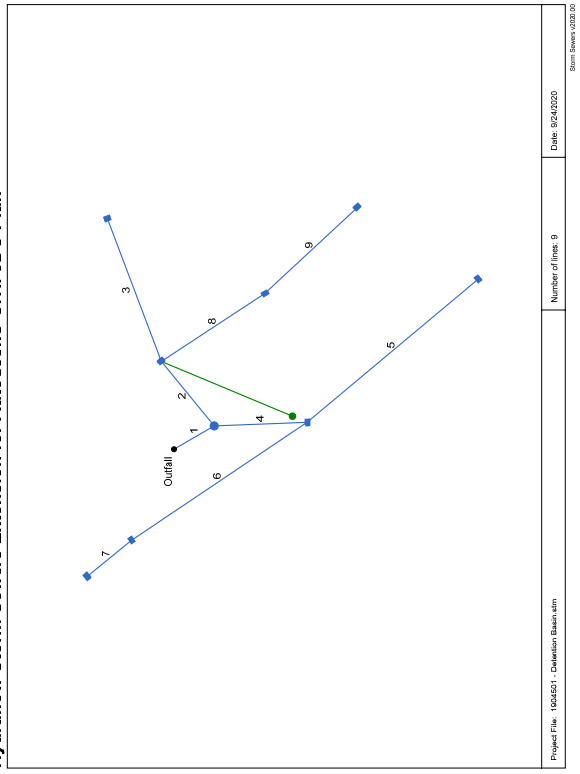
Shallow concentrated flow		Segment ID	BC		
7. Surface description (paved or unpaved)			Unpaved		
8. Flow length, L	ft		100		
9. Watercourse slope, s	ft/ft		0.52		
10. Average velocity, V (Conn DOT Equations 6.C.4 & C.C.5)	ft/s		11.63		
11. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr	0.002	+	= 0.002

Channel flow		Segment ID			
12. Cross sectional flow area, a	ft^2				
13. Wetted perimeter, p_w	ft				
14. Hydraulic radius, r $r = \frac{a}{p_w}$	Compute r	ft			
15. Channel slope, s	ft/ft				
16. Manning's roughness coeff., n					
17. $V = \frac{1.49\ r^{2/3} s^{1/2}}{n}$	Compute V	ft/s			
18. Flow length, L		ft			
19. $T_t = \frac{L}{3600\ V}$	Compute T_t	hr		+	= 0.000
20. Watershed or subarea T_c or T_t (add T_t in steps 6, 11, 19)				**Hours**	= 0.252
				Minutes	= 15.15

APPENDIX D
PROPOSED HYDRAULICS

Hydroflow Storm Sewer Schematic
Hydrflow Storm Sewer Tabular Reports
Hydroflow Storm Sewer Profile
Runoff Coefficient Calculations for Collection System
Time of Concentration Calculations
Hydrodynamic Separator Calculations and Details
Water Quality Volume Calculations

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Page 1

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	Pipe - (2)	10.26	18	Cir	29.000	340.65	340.95	1.035	341.88	342.18	1.19	342.18	End	Grate
2	Pipe - (7)	5.74	18	Cir	52.000	340.95	341.70	1.442	342.18	342.62	n/a	342.62 j	1	Combination
3	Pipe - (8)	2.41	18	Cir	95.000	341.70	342.20	0.526	342.62	342.79	n/a	342.79 j	2	Combination
4	Pipe - (3)	4.19	18	Cir	58.000	340.95	341.30	0.603	342.18	342.08	0.47	342.08	1	Combination
5	Pipe - (4)	1.41	12	Cir	139.009	341.30	342.00	0.504	342.08	342.50	0.29	342.70	4	Combination
6	Pipe - (5)	0.83	18	Cir	132.009	341.30	341.97	0.508	342.08	342.31	n/a	342.31	4	Combination
7	Pipe - (6)	0.52	18	Cir	36.000	341.97	342.22	0.694	342.31	342.49	n/a	342.49 j	6	Combination
8		1.97	15	Cir	77.000	341.70	342.33	0.818	342.62	342.89	n/a	342.89 j	2	Grate
9		1.11	15	Cir	79.000	342.33	342.81	0.698	342.89	343.23	n/a	343.23 j	8	Grate

Project File: 1904501 - Detention Basin.stm | Number of lines: 9 | Run Date: 9/24/2020

NOTES: Return period = 25 Yrs. ; j - Line contains hyd. jump.

Storm Sewers v2020.00

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
			Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf		Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf	Ave Sf	Enrgy loss		
(1)	(in) (2)	(cfs) (3)	(ft) (4)	(ft) (5)	(ft) (6)	(sqft) (7)	(ft/s) (8)	(ft) (9)	(ft) (10)	(%) (11)	(ft) (12)	(ft) (13)	(ft) (14)	(ft) (15)	(sqft) (16)	(ft/s) (17)	(ft) (18)	(ft) (19)	(%) (20)	(%) (21)	(ft) (22)	(K) (23)	(ft) (24)
1	18	10.26	340.65	341.88	1.23	1.55	6.60	0.68	342.56	0.954	29.000	340.95	342.18	1.23**	1.55	6.60	0.68	342.86	0.954	0.954	n/a	1.76	1.19
2	18	5.74	340.95	342.18	1.23	1.14	3.69	0.39	342.57	0.299	52.000	341.70	342.62 j	0.92**	1.14	5.03	0.39	343.02	0.299	0.299	n/a	1.50	n/a
3	18	2.41	341.70	342.62	0.92	0.64	2.11	0.22	342.84	0.053	95.000	342.20	342.79 j	0.59**	0.64	3.76	0.22	343.01	0.053	0.053	n/a	1.00	n/a
4	18	4.19	340.95	342.18	1.23	0.93	2.70	0.31	342.49	0.159	58.000	341.30	342.08	0.78**	0.93	4.49	0.31	342.40	0.159	0.159	n/a	1.50	0.47
5	12	1.41	341.30	342.08	0.78	0.40	2.14	0.07	342.15	0.171	139.000	342.00	342.50	0.50**	0.40	3.55	0.20	342.70	0.667	0.389	0.541	1.00	0.20
6	18	0.83	341.30	342.08	0.78	0.30	0.89	0.12	342.20	0.096	132.000	341.97	342.31	0.34**	0.30	2.77	0.12	342.43	0.096	0.096	n/a	0.50	n/a
7	18	0.52	341.97	342.31	0.34	0.21	1.74	0.09	342.40	0.002	36.000	342.22	342.49 j	0.27**	0.21	2.45	0.09	342.58	0.002	0.002	n/a	1.00	n/a
8	15	1.97	341.70	342.62	0.92	0.53	2.03	0.21	342.84	0.079	77.000	342.33	342.89 j	0.56**	0.53	3.71	0.21	343.10	0.079	0.079	n/a	0.50	0.11
9	15	1.11	342.33	342.89	0.56	0.36	2.10	0.15	343.04	0.025	79.000	342.81	343.23 j	0.42**	0.36	3.12	0.15	343.38	0.025	0.025	n/a	1.00	0.15

Project File: 1904501 - Detention Basin.stm | Number of lines: 9 | Run Date: 9/24/2020

Notes: ; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Dn	Up	Dn	Up	Dn	Up	
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
1	End	29.000	0.17	2.43	0.66	0.11	1.67	5.0	14.3	6.1	10.26	10.88	6.69	18	1.03	340.65	340.95	341.88	342.18	342.54	345.30	Pipe - (2)
2	1	52.000	0.89	1.56	0.43	0.38	0.93	14.0	14.0	6.2	5.74	12.61	4.36	18	1.44	340.95	341.70	342.18	342.62	345.30	347.00	Pipe - (7)
3	2	95.000	0.39	0.39	0.75	0.29	0.29	5.0	5.0	8.2	2.41	7.62	2.94	18	0.53	341.70	342.20	342.62	342.79	347.00	345.70	Pipe - (8)
4	1	58.000	0.39	0.70	0.90	0.35	0.63	5.0	11.4	6.7	4.19	8.16	3.59	18	0.60	340.95	341.30	342.18	342.08	345.30	344.51	Pipe - (3)
5	4	139.000	0.19	0.19	0.90	0.17	0.17	5.0	5.0	8.2	1.41	2.53	2.84	12	0.50	341.30	342.00	342.08	342.50	344.51	344.00	Pipe - (4)
6	4	132.000	0.05	0.12	0.90	0.05	0.11	5.0	7.0	7.7	0.83	7.48	1.83	18	0.51	341.30	341.97	342.08	342.31	344.51	345.48	Pipe - (5)
7	6	36.000	0.07	0.07	0.90	0.06	0.06	5.0	5.0	8.2	0.52	8.75	2.09	18	0.69	341.97	342.22	342.31	342.49	345.48	345.73	Pipe - (6)
8	2	77.000	0.13	0.28	0.90	0.12	0.25	5.0	6.5	7.8	1.97	6.33	2.87	15	0.82	341.70	342.33	342.62	342.89	347.00	346.00	
9	8	79.000	0.15	0.15	0.90	0.14	0.14	5.0	5.0	8.2	1.11	5.45	2.61	15	0.61	342.33	342.81	342.89	343.23	346.00	346.00	

Project File: 1904501 - Detention Basin.stm | Number of lines: 9 | Run Date: 9/24/2020

NOTES:Intensity = 102.61 / (Inlet time + 16.50) ^ 0.82 Return period =Yrs. 25 ; c = cir e = ellip b = box

Hydraflow HGL Computation Procedure

General Procedure:

Hydraflow computes the HGL using the Bernoulli energy equation. Manning's equation is used to determine energy losses due to pipe friction. In a standard step, iterative procedure, Hydraflow assumes upstream HGLs until the energy equation balances. If the energy equation cannot balance, supercritical flow exists and critical depth is temporarily assumed at the upstream end. A supercritical flow Profile is then computed using the same procedure in a downstream direction using momentum principles.

Col. 1 The line number being computed. Calculations begin at Line 1 and proceed upstream.

Col. 2 The line size. In the case of non-circular pipes, the line rise is printed above the span.

Col. 3 Total flow rate in the line.

Col. 4 The elevation of the downstream invert.

Col. 5 Elevation of the hydraulic grade line at the downstream end. This is computed as the upstream HGL + Minor loss of this line's downstream line.

Col. 6 The downstream depth of flow inside the pipe (HGL - Invert elevation) but not greater than the line size.

Col. 7 Cross-sectional area of the flow at the downstream end.

Col. 8 The velocity of the flow at the downstream end. (Col. 3 / Col. 7).

Col. 9 Velocity head (Velocity squared / 2g).

Col. 10 The elevation of the energy grade line at the downstream end, HGL + Velocity head, (Col. 5 + Col. 9).

Col. 11 The friction slope at the downstream end (the S or Slope term in Manning's equation).

Col. 12 The line length.

Col. 13 The elevation of the upstream invert.

Col. 14 Elevation of the hydraulic grade line at the upstream end.

Col. 15 The upstream depth of flow inside the pipe (HGL - Invert elevation) but not greater than the line size.

Col. 16 Cross-sectional area of the flow at the upstream end.

Col. 17 The velocity of the flow at the upstream end. (Col. 3 / Col. 16).

Col. 18 Velocity head (Velocity squared / 2g).

Col. 19 The elevation of the energy grade line at the upstream end, HGL + Velocity head, (Col. 14 + Col. 18) .

Col. 20 The friction slope at the upstream end (the S or Slope term in Manning's equation).

Col. 21 The average of the downstream and upstream friction slopes.

Col. 22 Energy loss. Average S6100 x Line Length (Col. 21/100 x Col. 12). Equals (EGL upstream - EGL downstream) +/- tolerance.

Col. 23 The junction loss coefficient (K).

Col. 24 Minor loss. (Col. 23 x Col. 18). Is added to upstream HGL and used as the starting HGL for the next upstream line(s).

Inlet Report

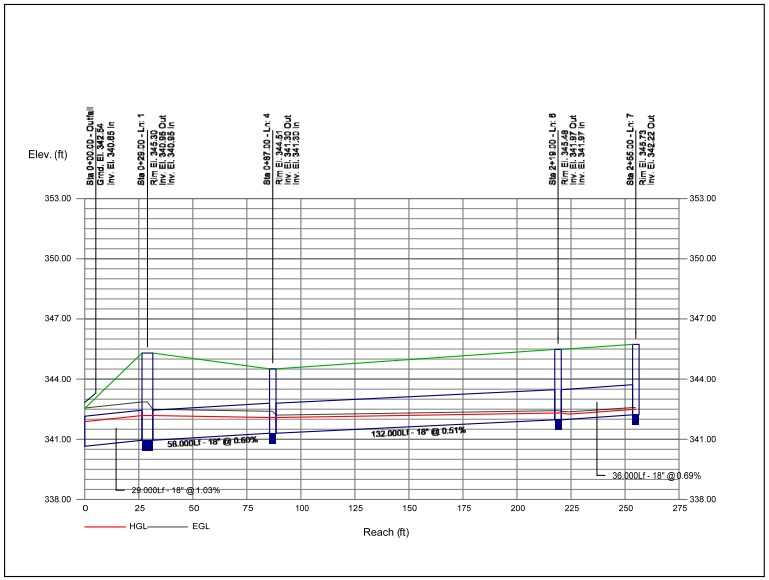
Line No	Inlet ID	Q = CIA	Q carry	Q capt	Q Byp	Junc Type	Curb Inlet		Grate Inlet			Gutter					Inlet			Byp Line No
							Ht	L	Area	L	W	So	W	Sw	Sx	n	Depth	Spread	Depth	Spread	Depr	
		(cfs)	(cfs)	(cfs)	(cfs)		(in)	(ft)	(sqft)	(ft)	(ft)	(ft/ft)	(ft)	(ft/ft)	(ft/ft)		(ft)	(ft)	(ft)	(ft)	(in)	
1	2	0.93	0.00	0.93	0.00	Grate	0.0	0.00	3.12	2.31	1.35	Sag	2.00	0.020	0.020	0.013	0.11	5.70	0.20	5.70	1.0	Off
2	3	2.37	0.00	1.47	0.90	Comb	3.5	2.31	0.00	2.31	1.35	0.010	2.00	0.050	0.050	0.013	0.26	5.20	0.26	3.62	1.0	4
3	4	2.41	0.00	2.41	0.00	Comb	3.5	2.31	3.12	2.31	1.35	Sag	2.00	0.030	0.030	0.000	0.28	9.46	0.37	9.46	1.0	Off
4	5	2.89	0.90	3.80	0.00	Comb	3.5	2.31	3.12	2.31	1.35	Sag	2.00	0.020	0.020	0.013	0.38	18.90	0.46	18.90	1.0	Off
5	6	1.41	0.00	1.41	0.00	Comb	3.5	2.31	3.12	2.31	1.35	Sag	2.00	0.020	0.020	0.013	0.18	9.24	0.27	9.24	1.0	Off
6	7	0.37	0.00	0.29	0.08	Comb	3.5	2.31	0.00	2.31	1.35	0.010	2.00	0.020	0.050	0.013	0.10	3.15	0.13	2.23	1.0	Off
7	8	0.52	0.00	0.43	0.09	Comb	3.5	2.31	0.00	2.31	1.35	0.010	2.00	0.050	0.050	0.013	0.15	2.94	0.16	1.51	1.0	Off
8	9	0.96	0.00	0.96	0.00	Grate	0.0	0.00	3.12	2.31	1.35	Sag	2.00	0.010	0.010	0.013	0.11	11.17	0.20	11.17	1.0	2
9	10	1.11	0.00	1.11	0.00	Grate	0.0	0.00	3.12	2.31	1.35	Sag	2.00	0.010	0.010	0.013	0.13	12.78	0.21	12.78	1.0	3

Project File: 1904501 - Detention Basin.stm | Number of lines: 9 | Run Date: 9/24/2020

NOTES: Inlet N-Values = 0.016; Intensity = 102.61 / (Inlet time + 16.50) ^ 0.82; Return period = 25 Yrs. ; * Indicates Known Q added. All curb inlets are throat.

Storm Sewer Profile

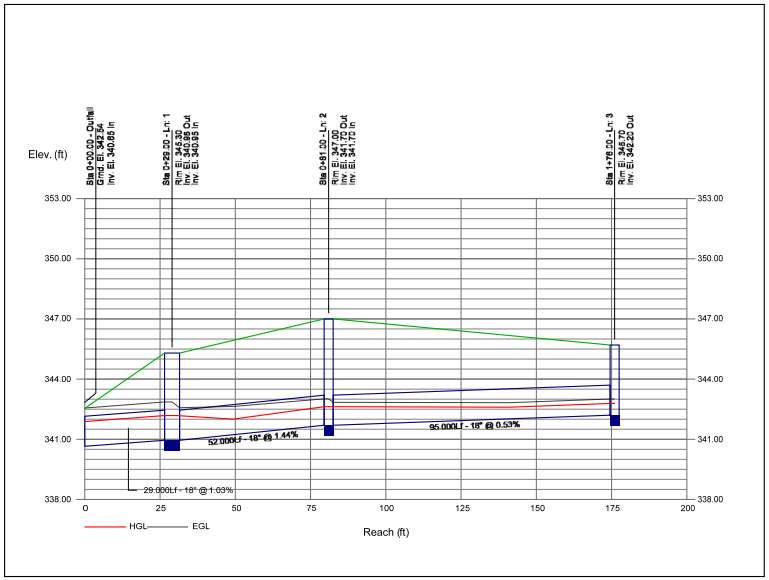
Proj. file: 1904501 - Detention Basin.stm



Storm Sewers

Storm Sewer Profile

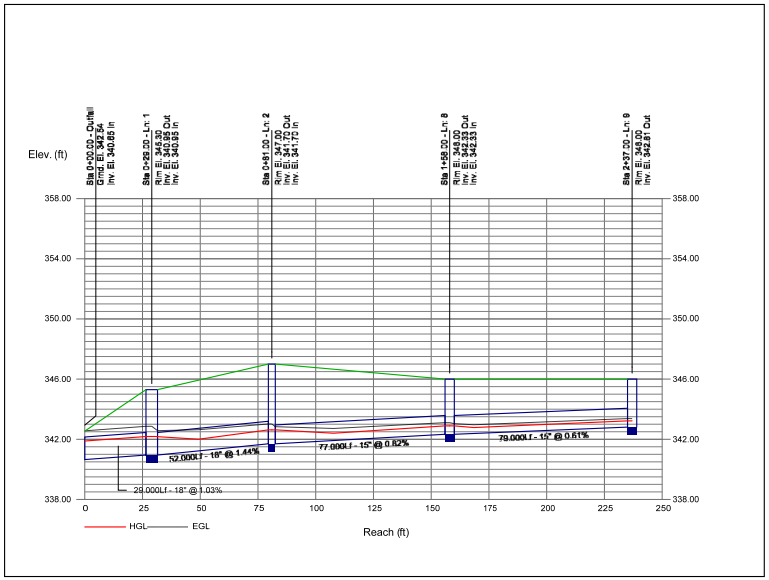
Proj. file: 1904501 - Detention Basin.stm



Storm Sewers

Storm Sewer Profile

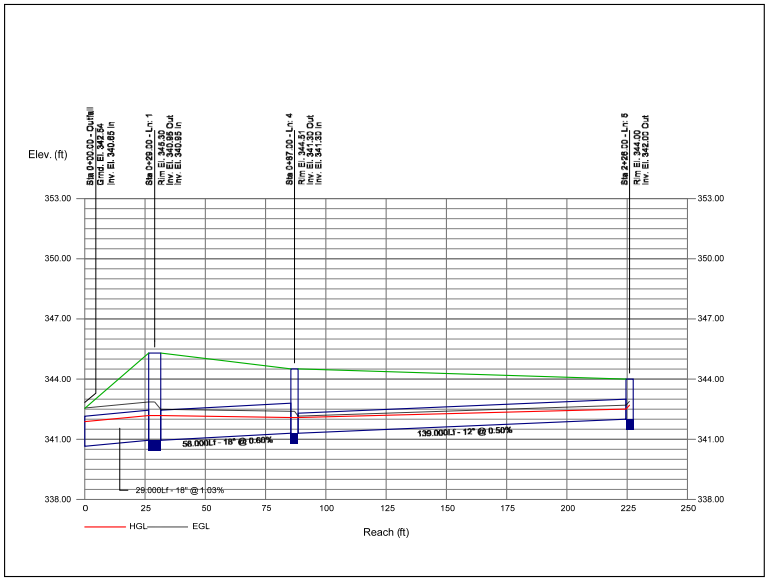
Proj. file: 1904501 - Detention Basin.stm



Storm Sewers

Storm Sewer Profile

Proj. file: 1904501 - Detention Basin.stm



Storm Sewers

Project **Proposed Development** By **MSL** Date **09/24/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date

Bold one: Present Developed **CB-2**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area [x] acres [ ] mi² [ ] %	Product of C x area
	Impervious	**0.90**			**0.10**	**0.09**
	Lawns, Flat Slope (0 to 2%)	**0.10**			**0.003**	**0.00**
	Lawns, Average Slope (2 to 7%)	**0.22**			**0.00**	**0.00**
	Lawns, Steep Slope (7% or greater)	**0.35**			**0.07**	**0.02**
	Forested Areas	**0.2**			**0.00**	**0.00**
						0.00
						0.00
						0.00
1 Use only one C source per line				Totals =	**0.17**	**0.11**

C (weighted) = total product / total area = 0.11 / 0.17 = 0.66 Use C = **0.66**

Note – Runoff Coefficients taken from Town of Canton Public Improvements Regulations – Rational Method Computations, Runoff Coefficients

Project **Proposed Development** By **MSL** Date **09/24/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date

Bold one: Present Developed **CB-3**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area [x] acres [ ] mi² [ ] %	Product of C x area
	Impervious	**0.90**			**0.23**	**0.21**
	Lawns, Flat Slope (0 to 2%)	**0.10**			**0.00**	**0.00**
	Lawns, Average Slope (2 to 7%)	**0.22**			**0.00**	**0.00**
	Lawns, Steep Slope (7% or greater)	**0.35**			**0.29**	**0.10**
	Forested Areas	**0.2**			**0.36**	**0.07**
						0.00
						0.00
						0.00
1 Use only one C source per line				Totals =	**0.89**	**0.39**

C (weighted) = total product / total area = 0.39 / 0.89 = 0.43 Use C = **0.43**

Note – Runoff Coefficients taken from Town of Canton Public Improvements Regulations – Rational Method Computations, Runoff Coefficients

Project **Proposed Development** By **MSL** Date **09/24/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date

Bold one: Present Developed **CB-4**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area [x] acres [ ] mi² [ ] %	Product of C x area
	Impervious	**0.90**			**0.30**	**0.27**
	Lawns, Flat Slope (0 to 2%)	**0.10**			**0.00**	**0.00**
	Lawns, Average Slope (2 to 7%)	**0.22**			**0.00**	**0.00**
	Lawns, Steep Slope (7% or greater)	**0.35**			**0.09**	**0.03**
	Forested Areas	**0.2**			**0.00**	**0.00**
						0.00
						0.00
						0.00
1 Use only one C source per line				Totals =	**0.39**	**0.30**

C (weighted) = total product / total area = 0.30 / 0.39 = 0.77 Use C = **0.77**

Note – Runoff Coefficients taken from Town of Canton Public Improvements Regulations – Rational Method Computations, Runoff Coefficients

Project **Proposed Development** By **MSL** Date **09/24/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date

Bold one: Present Developed **CB-5**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area [x] acres [ ] mi² [ ] %	Product of C x area
	Impervious	**0.90**			**0.12**	**0.11**
	Lawns, Flat Slope (0 to 2%)	**0.10**			**0.00**	**0.00**
	Lawns, Average Slope (2 to 7%)	**0.22**			**0.00**	**0.00**
	Lawns, Steep Slope (7% or greater)	**0.35**			**0.00**	**0.00**
	Forested Areas	**0.2**			**0.00**	**0.00**
						0.00
						0.00
						0.00
1 Use only one C source per line				Totals =	**0.12**	**0.11**

C (weighted) = total product / total area = 0.11 / 0.12 = 0.90 Use C = **0.90**

Note – Runoff Coefficients taken from Town of Canton Public Improvements Regulations – Rational Method Computations, Runoff Coefficients

Project **Proposed Development** By **MSL** Date **09/24/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date

Bold one: Present Developed **CB-6**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area [x] acres [ ] mi^2 [ ] %	Product of C x area
	Impervious	**0.90**			**0.19**	**0.17**
	Lawns, Flat Slope (0 to 2%)	**0.10**			**0.00**	**0.00**
	Lawns, Average Slope (2 to 7%)	**0.22**			**0.00**	**0.00**
	Lawns, Steep Slope (7% or greater)	**0.35**			**0.00**	**0.00**
	Forested Areas	**0.2**			**0.00**	**0.00**
						0.00
						0.00
						0.00
				Totals =	**0.19**	**0.17**

1 Use only one C source per line

C (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{0.17}{0.19} = 0.90$ Use C = **0.90**

Note - Runoff Coefficients taken from Town of Canton Public Improvements Regulations - Rational Method Computations, Runoff Coefficients

Project **Proposed Development** By **MSL** Date **09/24/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date

Bold one: Present Developed **CB-7**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area [x] acres [ ] mi^2 [ ] %	Product of C x area
	Impervious	**0.90**			**0.05**	**0.04**
	Lawns, Flat Slope (0 to 2%)	**0.10**			**0.00**	**0.00**
	Lawns, Average Slope (2 to 7%)	**0.22**			**0.00**	**0.00**
	Lawns, Steep Slope (7% or greater)	**0.35**			**0.00**	**0.00**
	Forested Areas	**0.2**			**0.00**	**0.00**
						0.00
						0.00
						0.00
				Totals =	**0.05**	**0.04**

1 Use only one C source per line

C (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{0.04}{0.05} = 0.90$ Use C = **0.90**

Note - Runoff Coefficients taken from Town of Canton Public Improvements Regulations - Rational Method Computations, Runoff Coefficients

Project **Proposed Development** By **MSL** Date **09/24/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date

Bold one: Present Developed **CB-8**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area [x] acres [ ] mi^2 [ ] %	Product of C x area
	Impervious	**0.90**			**0.07**	**0.06**
	Lawns, Flat Slope (0 to 2%)	**0.10**			**0.00**	**0.00**
	Lawns, Average Slope (2 to 7%)	**0.22**			**0.00**	**0.00**
	Lawns, Steep Slope (7% or greater)	**0.35**			**0.00**	**0.00**
	Forested Areas	**0.2**			**0.00**	**0.00**
						0.00
						0.00
						0.00
				Totals =	**0.07**	**0.06**

1 Use only one C source per line

C (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{0.06}{0.07} = 0.90$ Use C = **0.90**

Note - Runoff Coefficients taken from Town of Canton Public Improvements Regulations - Rational Method Computations, Runoff Coefficients

Project **Proposed Development** By **MSL** Date **09/24/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date

Bold one: Present Developed **CB-9**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area [x] acres [ ] mi^2 [ ] %	Product of C x area
	Impervious	**0.90**			**0.13**	**0.11**
	Lawns, Flat Slope (0 to 2%)	**0.10**			**0.00**	**0.00**
	Lawns, Average Slope (2 to 7%)	**0.22**			**0.00**	**0.00**
	Lawns, Steep Slope (7% or greater)	**0.35**			**0.00**	**0.00**
	Forested Areas	**0.2**			**0.00**	**0.00**
						0.00
						0.00
						0.00
				Totals =	**0.13**	**0.11**

1 Use only one C source per line

C (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{0.11}{0.13} = 0.90$ Use C = **0.90**

Note - Runoff Coefficients taken from Town of Canton Public Improvements Regulations - Rational Method Computations, Runoff Coefficients

Project **Proposed Development** By **MSL** Date **09/24/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date

Bold one: Present Developed **CB-10**

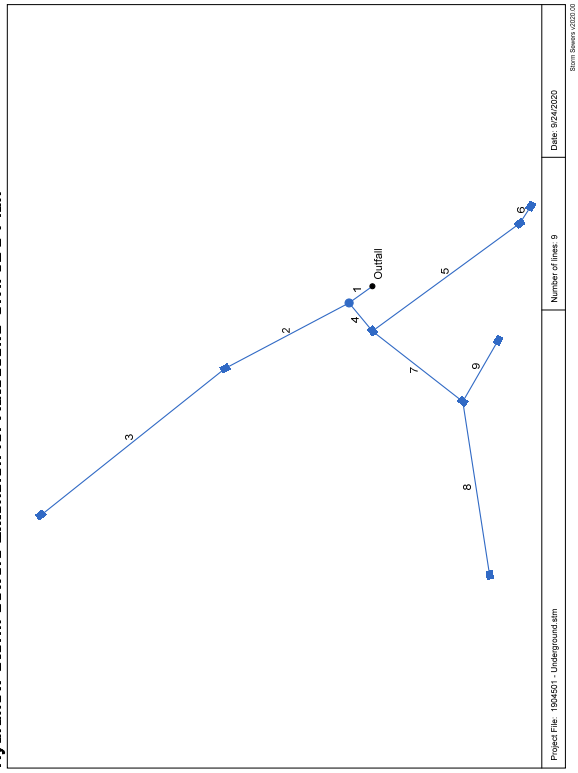
1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area [x] acres [ ] mi^2 [ ] %	Product of C x area
	Impervious	**0.90**			**0.15**	**0.13**
	Lawns, Flat Slope (0 to 2%)	**0.10**			**0.00**	**0.00**
	Lawns, Average Slope (2 to 7%)	**0.22**			**0.00**	**0.00**
	Lawns, Steep Slope (7% or greater)	**0.35**			**0.00**	**0.00**
	Forested Areas	**0.2**			**0.00**	**0.00**
						0.00
						0.00
						0.00
					Totals =	**0.15**	**0.13**

1 Use only one C source per line

C (weighted) = $\frac{\text{total product}}{\text{total area}} = \frac{0.13}{0.15} = 0.90$ Use C = **0.90**

Note - Runoff Coefficients taken from Town of Canton Public Improvements Regulations - Rational Method Computations, Runoff Coefficients



1904501 - Runoff Coefficient.xls

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Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert El. Dn (ft)	Invert El. Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	Pipe - (12)	8.43	18	Cir	14.000	335.50	337.25	12.500	338.62	338.37	0.55	338.37	End	Manhole
2	Pipe - (11)	1.23	18	Cir	68.000	337.25	341.79	6.676	338.37	342.20	n/a	342.20 j	1	Combination
3	Pipe - (9)	0.88	15	Cir	115.000	341.79	342.70	0.791	342.20	343.07	n/a	343.07 j	2	Combination
4	Pipe - (15)	7.55	18	Cir	18.000	337.25	337.66	2.278	338.37	338.72	n/a	338.72 j	1	Combination
5	Pipe - (14)	1.91	15	Cir	89.000	339.20	340.10	1.011	339.66	340.65	0.13	340.65 j	4	Combination
6	Pipe - (13)	0.59	15	Cir	10.000	340.10	340.39	2.900	340.65	340.69	n/a	340.69 j	5	Combination
7	Pipe - (17)	4.34	15	Cir	56.000	337.66	338.29	1.125	338.72	339.13	n/a	339.13 j	4	Combination
8	Pipe - (16)	0.76	15	Cir	88.000	338.29	338.90	0.693	339.13	339.24	n/a	339.24 j	7	Combination
9	Pipe - (27)	3.48	15	Cir	35.000	339.90	340.63	2.086	340.43	341.38	n/a	341.38	7	Combination

Project File: 1904501 - Underground.stm | Number of lines: 9 | Run Date: 9/24/2020

NOTES: Return period = 25 Yrs. ; j - Line contains hyd. jump

Storm Sewers v2020.00

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Storm Sewer Tabulation

Station Line	To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Runoff coeff Incr (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	14.000	0.00	1.50	0.00	0.00	1.18	0.0	9.2	7.1	8.43	37.13	5.94	18	12.50	335.50	337.25	338.62	338.37	346.00	346.00	Pipe - (12)
2	1	68.000	0.09	0.25	0.63	0.06	0.16	5.0	7.7	7.5	1.23	27.13	1.98	18	6.68	337.25	341.79	338.37	342.20	346.00	346.25	Pipe - (11)
3	2	115.000	0.16	0.16	0.67	0.11	0.11	5.0	5.0	8.2	0.88	5.74	2.71	15	0.79	341.79	342.70	342.20	343.07	346.25	346.21	Pipe - (9)
4	1	18.000	0.27	1.25	0.78	0.21	1.02	8.0	8.0	7.4	7.55	15.85	5.47	18	2.28	337.25	337.66	338.37	338.72	346.00	344.60	Pipe - (15)
5	4	89.000	0.23	0.32	0.71	0.16	0.23	5.0	5.3	8.1	1.91	6.49	4.13	15	1.01	339.20	340.10	339.66	340.65	344.60	344.64	Pipe - (14)
6	5	10.000	0.09	0.09	0.79	0.07	0.07	5.0	5.0	8.2	0.59	11.00	1.87	15	2.90	340.10	340.39	340.65	340.69	344.64	344.62	Pipe - (13)
7	4	56.000	0.07	0.66	0.84	0.06	0.57	5.0	7.4	7.6	4.34	6.85	4.42	15	1.13	337.66	338.29	338.72	339.13	344.60	344.35	Pipe - (17)
8	7	88.000	0.11	0.11	0.84	0.09	0.09	5.0	5.0	8.2	0.76	5.38	1.83	15	0.69	338.29	338.90	339.13	339.24	344.35	342.00	Pipe - (16)
9	7	35.000	0.48	0.48	0.88	0.42	0.42	5.0	5.0	8.2	3.48	9.33	5.78	15	2.09	339.90	340.63	340.43	341.38	344.35	344.63	Pipe - (27)

Project File: 1904501 - Underground.stm | Number of lines: 9 | Run Date: 9/24/2020

NOTES: Intensity = 102.61 / (Inlet time + 16.50) ^ 0.82. Return period =Yrs. 25 ; c = cir e = ellip b = box

Storm Sewers v2020.00

Hydraflow HGL Computation Procedure

General Procedure:

Hydraflow computes the HGL using the Bernoulli energy equation. Manning's equation is used to determine energy losses due to pipe friction. In a standard step, iterative procedure, Hydraflow assumes upstream HGLs until the energy equation balances. If the energy equation cannot balance, supercritical flow exists and critical depth is temporarily assumed at the upstream end. A supercritical flow Profile is then computed using the same procedure in a downstream direction using momentum principles.

Col. 1 The line number being computed. Calculations begin at Line 1 and proceed upstream.

Col. 2 The line size. In the case of non-circular pipes, the line rise is printed above the span.

Col. 3 Total flow rate in the line.

Col. 4 The elevation of the downstream invert.

Col. 5 Elevation of the hydraulic grade line at the downstream end. This is computed as the upstream HGL + Minor loss of this line's downstream line.

Col. 6 The downstream depth of flow inside the pipe (HGL - Invert elevation) but not greater than the line size.

Col. 7 Cross-sectional area of the flow at the downstream end.

Col. 8 The velocity of the flow at the downstream end, (Col. 3 / Col. 7).

Col. 9 Velocity head (Velocity squared / 2g).

Col. 10 The elevation of the energy grade line at the downstream end, HGL + Velocity head, (Col. 5 + Col. 9).

Col. 11 The friction slope at the downstream end (the S or Slope term in Manning's equation).

Col. 12 The line length.

Col. 13 The elevation of the upstream invert.

Col. 14 Elevation of the hydraulic grade line at the upstream end.

Col. 15 The upstream depth of flow inside the pipe (HGL - Invert elevation) but not greater than the line size.

Col. 16 Cross-sectional area of the flow at the upstream end.

Col. 17 The velocity of the flow at the upstream end, (Col. 3 / Col. 16).

Col. 18 Velocity head (Velocity squared / 2g).

Col. 19 The elevation of the energy grade line at the upstream end, HGL + Velocity head, (Col. 14 + Col. 18) .

Col. 20 The friction slope at the upstream end (the S or Slope term in Manning's equation).

Col. 21 The average of the downstream and upstream friction slopes.

Col. 22 Energy loss. Average Sf/100 x Line Length (Col. 21/100 x Col. 12). Equals (EGL upstream - EGL downstream) +/- tolerance.

Col. 23 The junction loss coefficient (K).

Col. 24 Minor loss. (Col. 23 x Col. 18). Is added to upstream HGL and used as the starting HGL for the next upstream line(s).

Inlet Report

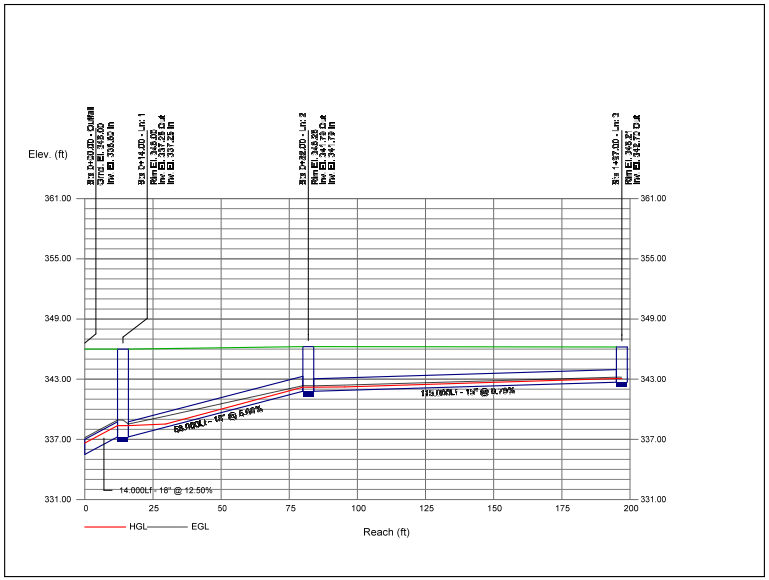
Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet Ht (in)	Curb Inlet L (ft)	Grate Inlet Area (sqft)	Grate Inlet L (ft)	Grate Inlet W (ft)	Gutter So (ft/ft)	Gutter W (ft)	Gutter Sw (ft/ft)	Gutter Sx (ft/ft)	Gutter n	Gutter Depth (ft)	Gutter Spread (ft)	Inlet Depth (ft)	Inlet Spread (ft)	Inlet Depr (in)	Byp Line No
1	p1b	0.00	0.00	0.00	0.00	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
2	3A	0.47	0.00	0.47	0.00	Comb	3.5	2.31	3.12	2.31	1.35	Sag	2.00	0.030	0.020	0.000	0.09	3.37	0.17	3.37	1.0	Off
3	4A	0.88	0.00	0.88	0.00	Comb	3.5	2.31	3.12	2.31	1.35	Sag	2.00	0.030	0.020	0.000	0.14	5.98	0.22	5.98	1.0	Off
4	5A	1.56	0.00	1.56	0.00	Comb	3.5	2.31	3.12	2.31	1.35	Sag	2.00	0.030	0.020	0.000	0.21	9.46	0.29	9.46	1.0	Off
5	6A	1.35	0.00	1.35	0.00	Comb	3.5	2.31	3.12	2.31	1.35	Sag	2.00	0.030	0.020	0.000	0.19	8.43	0.27	8.43	1.0	Off
6	7A	0.59	0.00	0.59	0.00	Comb	3.5	2.31	3.12	2.31	1.35	Sag	2.00	0.030	0.020	0.000	0.10	4.17	0.19	4.17	1.0	Off
7	8A	0.48	0.00	0.48	0.00	Comb	3.5	2.31	3.12	2.31	1.35	Sag	2.00	0.030	0.020	0.000	0.09	3.49	0.17	3.49	1.0	Off
8	9A	0.76	0.00	0.76	0.00	Comb	3.5	2.31	3.12	2.31	1.35	Sag	2.00	0.030	0.020	0.013	0.13	5.27	0.21	5.27	1.0	Off
9	11A	3.48	0.00	3.48	0.00	Comb	3.5	2.31	3.12	2.31	1.35	Sag	2.00	0.030	0.020	0.000	0.37	17.29	0.45	17.29	1.0	Off

Project File: 1904501 - Underground.stm | Number of lines: 9 | Run Date: 9/24/2020

NOTES: Inlet N-Values = 0.016; Intensity = 102.61 / (Inlet time + 16.50) ^ 0.82; Return period = 25 Yrs. ; *Indicates Known Q added.All curb inlets are throat.

Storm Sewer Profile

Proj. file: 1904501 - Underground.stm

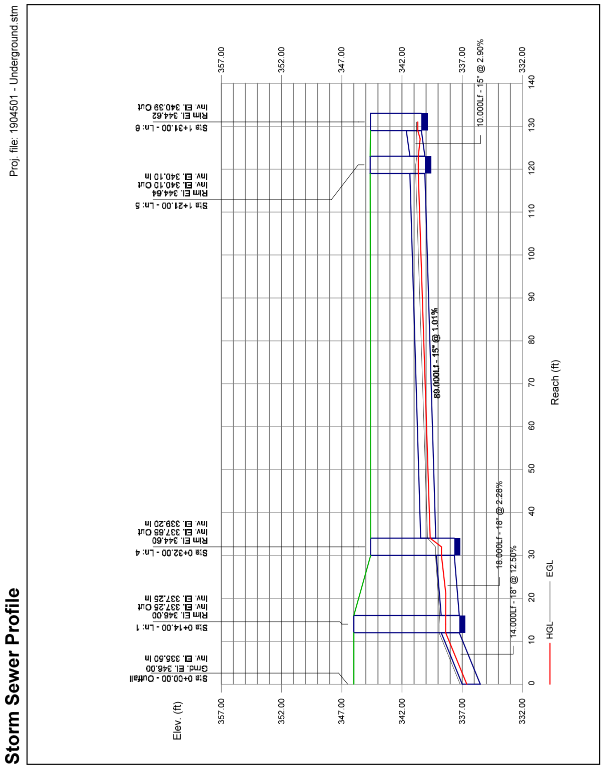


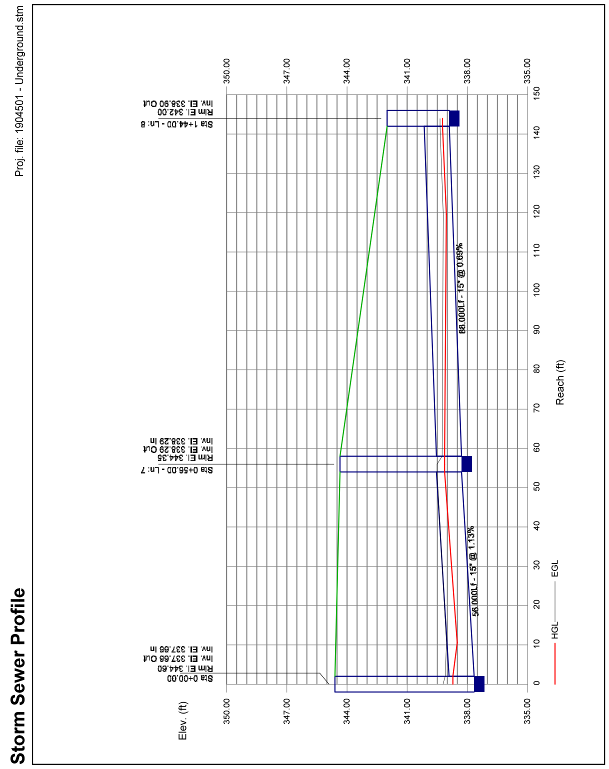
Hydraulic Grade Line Computations

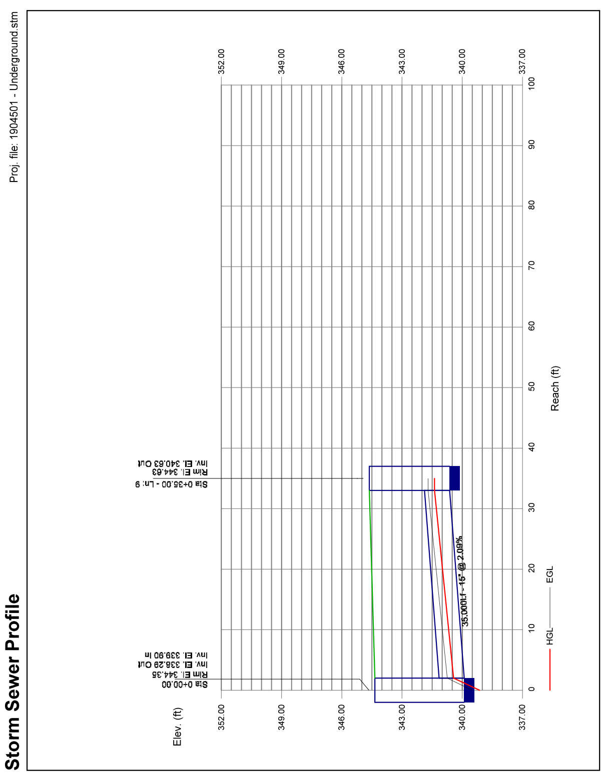
Line	Size	Q	Downstream Invert elev (ft)	Downstream HGL elev (ft)	Downstream Depth (ft)	Downstream Area (sqft)	Downstream Vel (ft/s)	Downstream Vel head (ft)	Downstream EGL elev (ft)	Downstream Sf (%)	Len (ft)	Upstream Invert elev (ft)	Upstream HGL elev (ft)	Upstream Depth (ft)	Upstream Area (sqft)	Upstream Vel (ft/s)	Upstream Vel head (ft)	Upstream EGL elev (ft)	Upstream Sf (%)	Check Ave Sf (%)	Check Enrgy loss (ft)	JL coeff (K)	Minor loss (ft)
(1)	(in) (2)	(cfs) (3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
1	18	8.43	335.50	336.62	1.12	1.42	5.94	0.55	337.17	0.000	14.000	337.25	338.37	1.12**	1.42	5.94	0.55	338.92	0.000	0.000	n/a	1.00	0.55
2	18	1.23	337.25	338.37	1.12	0.40	0.87	0.15	338.52	0.000	68.000	341.79	342.20 j	0.41**	0.40	3.09	0.15	342.35	0.000	0.000	n/a	0.50	n/a
3	15	0.88	341.79	342.20	0.41	0.30	2.49	0.13	342.34	0.000	115.000	342.70	343.07 j	0.37**	0.30	2.92	0.13	343.20	0.000	0.000	n/a	1.00	0.13
4	18	7.55	337.25	338.37	1.12	1.34	5.32	0.49	338.87	0.000	18.000	337.66	338.72 j	1.06**	1.34	5.63	0.49	339.22	0.000	0.000	n/a	1.50	0.74
5	15	1.91	339.20	339.66	0.46*	0.42	4.60	0.21	339.87	0.000	89.000	340.10	340.65	0.55**	0.52	3.67	0.21	340.86	0.000	0.000	n/a	0.62	0.13
6	15	0.59	340.10	340.65	0.55	0.22	1.13	0.11	340.76	0.000	10.000	340.39	340.69 j	0.30**	0.22	2.61	0.11	340.79	0.000	0.000	n/a	1.00	n/a
7	15	4.34	337.66	338.72	1.06	0.88	3.90	0.38	339.10	0.000	56.000	338.29	339.13 j	0.84**	0.88	4.93	0.38	339.51	0.000	0.000	n/a	1.50	n/a
8	15	0.76	338.29	339.13	0.84	0.27	0.86	0.12	339.26	0.000	88.000	338.90	339.24 j	0.34**	0.27	2.80	0.12	339.36	0.000	0.000	n/a	1.00	0.12
9	15	3.48	339.90	340.43	0.53*	0.49	7.05	0.32	340.75	0.000	35.000	340.63	341.38	0.75**	0.77	4.51	0.32	341.70	0.000	0.000	n/a	1.00	n/a

Project File: 1904501 - Underground.stm | Number of lines: 9 | Run Date: 9/24/2020

Notes: * depth assumed; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box







Project	**Proposed Development**	By	**MSL**	Date	**08/10/20**
Location	**9-15 Albany Turnpike, Canton & Simsbury, CT**	Checked	**CJB**	Date	
Bold one:	Present Developed		**CB-3a**		

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area ☒ acres ☐ mi^2 ☐ %	Product of C x area
	Impervious	**0.90**			**0.05**	**0.04**
	Lawns, Flat Slope (0 to 2%)	**0.10**			**0.00**	**0.00**
	Lawns, Average Slope (2 to 7%)	**0.22**			**0.00**	**0.00**
	Lawns, Steep Slope (7% or greater)	**0.35**			**0.04**	**0.01**
	Forested Areas	**0.2**			**0.00**	**0.00**
						0.00
						0.00
						0.00
				Totals =	**0.09**	**0.06**

1 Use only one C source per line

C (weighted) = total product / total area = 0.06 / 0.09 = 0.63 Use C = **0.63**

Note - Runoff Coefficients taken from Town of Canton Public Improvements Regulations - Rational Method Computations, Runoff Coefficients

Project **Proposed Development** By **MSL** Date **08/10/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date

Bold one: Present Developed **CB-4a**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area (x acres / mi² / %)	Product of C x area
	Impervious	**0.90**			**0.09**	**0.08**
	Lawns, Flat Slope (0 to 2%)	**0.10**			**0.00**	**0.00**
	Lawns, Average Slope (2 to 7%)	**0.22**			**0.00**	**0.00**
	Lawns, Steep Slope (7% or greater)	**0.35**			**0.07**	**0.02**
	Forested Areas	**0.2**			**0.00**	**0.00**
						0.00
						0.00
						0.00
				Totals =	**0.16**	**0.11**

1 Use only one C source per line

C (weighted) = total product / total area = 0.11 / 0.16 = 0.67 Use C = **0.67**

Note - Runoff Coefficients taken from Town of Canton Public Improvements Regulations - Rational Method Computations, Runoff Coefficients

Project **Proposed Development** By **MSL** Date **08/10/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date

Bold one: Present Developed **CB-5a**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area (x acres / mi² / %)	Product of C x area
	Impervious	**0.90**			**0.22**	**0.20**
	Lawns, Flat Slope (0 to 2%)	**0.10**			**0.03**	**0.00**
	Lawns, Average Slope (2 to 7%)	**0.22**			**0.00**	**0.00**
	Lawns, Steep Slope (7% or greater)	**0.35**			**0.02**	**0.01**
	Forested Areas	**0.2**			**0.00**	**0.00**
						0.00
						0.00
						0.00
				Totals =	**0.27**	**0.21**

1 Use only one C source per line

C (weighted) = total product / total area = 0.21 / 0.27 = 0.78 Use C = **0.78**

Note - Runoff Coefficients taken from Town of Canton Public Improvements Regulations - Rational Method Computations, Runoff Coefficients

Project **Proposed Development** By **MSL** Date **09/24/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date

Bold one: Present Developed **CB-6a**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area (x acres / mi² / %)	Product of C x area
	Impervious	**0.90**			**0.17**	**0.15**
	Lawns, Flat Slope (0 to 2%)	**0.10**			**0.03**	**0.00**
	Lawns, Average Slope (2 to 7%)	**0.22**			**0.00**	**0.00**
	Lawns, Steep Slope (7% or greater)	**0.35**			**0.04**	**0.01**
	Forested Areas	**0.2**			**0.00**	**0.00**
						0.00
						0.00
						0.00
				Totals =	**0.23**	**0.17**

1 Use only one C source per line

C (weighted) = total product / total area = 0.17 / 0.23 = 0.71 Use C = **0.71**

Note - Runoff Coefficients taken from Town of Canton Public Improvements Regulations - Rational Method Computations, Runoff Coefficients

Project **Proposed Development** By **MSL** Date **08/10/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date

Bold one: Present Developed **CB 7a**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area (x acres / mi² / %)	Product of C x area
	Impervious	**0.90**			**0.08**	**0.07**
	Lawns, Flat Slope (0 to 2%)	**0.10**			**0.01**	**0.00**
	Lawns, Average Slope (2 to 7%)	**0.22**			**0.00**	**0.00**
	Lawns, Steep Slope (7% or greater)	**0.35**			**0.00**	**0.00**
	Forested Areas	**0.2**			**0.00**	**0.00**
						0.00
						0.00
						0.00
				Totals =	**0.09**	**0.07**

1 Use only one C source per line

C (weighted) = total product / total area = 0.07 / 0.09 = 0.79 Use C = **0.79**

Note - Runoff Coefficients taken from Town of Canton Public Improvements Regulations - Rational Method Computations, Runoff Coefficients

Project **Proposed Development** By **MSL** Date **08/10/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date

Bold one: Present Developed **CB 8a**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area [x] acres [ ] mi² [ ] %	Product of C x area
	Impervious	**0.90**			**0.07**	**0.06**
	Lawns, Flat Slope (0 to 2%)	**0.10**			**0.01**	**0.00**
	Lawns, Average Slope (2 to 7%)	**0.22**			**0.00**	**0.00**
	Lawns, Steep Slope (7% or greater)	**0.35**			**0.00**	**0.00**
	Forested Areas	**0.2**			**0.00**	**0.00**
						0.00
						0.00
						0.00
1 Use only one C source per line				Totals =	**0.07**	**0.06**

C (weighted) = total product / total area = 0.06 / 0.07 = 0.84 Use C = **0.84**

Note - Runoff Coefficients taken from Town of Canton Public Improvements Regulations - Rational Method Computations, Runoff Coefficients

Project **Proposed Development** By **MSL** Date **09/24/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date

Bold one: Present Developed **CB-9a**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area [x] acres [ ] mi² [ ] %	Product of C x area
	Impervious	**0.90**			**0.10**	**0.09**
	Lawns, Flat Slope (0 to 2%)	**0.10**			**0.01**	**0.00**
	Lawns, Average Slope (2 to 7%)	**0.22**			**0.00**	**0.00**
	Lawns, Steep Slope (7% or greater)	**0.35**			**0.00**	**0.00**
	Forested Areas	**0.2**			**0.00**	**0.00**
						0.00
						0.00
						0.00
1 Use only one C source per line				Totals =	**0.11**	**0.09**

C (weighted) = total product / total area = 0.09 / 0.11 = 0.84 Use C = **0.84**

Note - Runoff Coefficients taken from Town of Canton Public Improvements Regulations - Rational Method Computations, Runoff Coefficients

Project **Proposed Development** By **MSL** Date **09/24/20**

Location **9-15 Albany Turnpike, Canton & Simsbury, CT** Checked **CJB** Date

Bold one: Present Developed **CB-10a**

1. Runoff Coefficient ©

Soil Name and hydrologic group (Appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	C [1]			Area [x] acres [ ] mi² [ ] %	Product of C x area
	Impervious	**0.90**			**0.47**	**0.42**
	Lawns, Flat Slope (0 to 2%)	**0.10**			**0.01**	**0.00**
	Lawns, Average Slope (2 to 7%)	**0.22**			**0.00**	**0.00**
	Lawns, Steep Slope (7% or greater)	**0.35**			**0.00**	**0.00**
	Forested Areas	**0.2**			**0.00**	**0.00**
						0.00
						0.00
						0.00
1 Use only one C source per line				Totals =	**0.48**	**0.42**

C (weighted) = total product / total area = 0.42 / 0.48 = 0.88 Use C = **0.88**

Note - Runoff Coefficients taken from Town of Canton Public Improvements Regulations - Rational Method Computations, Runoff Coefficients

CONTECH ENGINEERED SOLUTIONS

Hydrodynamic Separation Product Calculator

Canton/Simsbury

PDA-1a

CDS CDS2020-5-C

Project Information					
Project Name	Canton/Simsbury			Option #	A
Country	UNITED_STATES	State	Connecticut	City	West Simsbury

Contact Information			
First Name	Michael	Last Name	Lambert
Company	Solli Engineering LLC	Phone #	203-880-5455
Email	Mike@sollillc.com		

Design Criteria					
Site Designation	PDA-1a			Sizing Method	Treatment Flow Rate
Screening Required?	Yes	Treatment Flow Rate	0.39	Peak Flow (cfs)	12.43
Groundwater Depth (ft)	0 - 5	Pipe Invert Depth (ft)	0 - 5	Bedrock Depth (ft)	0 - 5
Multiple Inlets?	Yes	Grate Inlet Required?	Yes	Pipe Size (in)	18.00
Required Particle Size Distribution?	Yes	90° between two inlets?	No		

Treatment Selection				
Treatment Unit	CDS	System Model	CDS2020-5-C	
Target Removal	80%	Particle Size Distribution (PSD)	50	

CONTECH ENGINEERED SOLUTIONS

Hydrodynamic Separation Product Calculator

Canton/Simsbury

PDA-1a

CDS CDS2020-5-C

CDS ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION BASED ON THE RATIONAL RAINFALL METHOD								
Rainfall Intensity[1] (in/hr)	% Rainfall Volume[1]	Cumulative Rainfall Volume	Rainfall Volume Treated	Total Flowrate (cfs)	Treated Flowrate (cfs)	Operating Rate (%)	Removal Efficiency (%)	Incremental Removal (%)
							Removal Efficiency Adjustment[2] =	
							Predicted % Annual Rainfall Treated =	
							Predicted Net Annual Load Removal Efficiency =	
1 -								
2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.								

SECTION (_____)
STORM WATER TREATMENT DEVICE

1.0 GENERAL

1.1 This item shall govern the furnishing and installation of the CDS® by Contech Engineered Solutions LLC, complete and operable as shown and as specified herein, in accordance with the requirements of the plans and contract documents.

1.2 The Contractor shall furnish all labor, equipment and materials necessary to install the storm water treatment device(s) (SWTD) and appurtenances specified in the Drawings and these specifications.

1.3 The manufacturer of the SWTD shall be one that is regularly engaged in the engineering design and production of systems deployed for the treatment of storm water runoff for at least five (5) years and which have a history of successful production, acceptable to the Engineer. In accordance with the Drawings, the SWTD(s) shall be a CDS® device manufactured by:

Contech Engineered Solutions LLC
9025 Centre Pointe Drive
West Chester, OH, 45069
Tel: 1 800 338 1122

1.4 Related Sections

1.4.1 Section 02240: Dewatering
1.4.2 Section 02260: Excavation Support and Protection
1.4.3 Section 02315: Excavation and Fill
1.4.4 Section 02340: Soil Stabilization

1.5 All components shall be subject to inspection by the engineer at the place of manufacture and/or installation. All components are subject to being rejected or identified for repair if the quality of materials and manufacturing do not comply with the requirements of this specification. Components which have been identified as defective may be subject for repair where final acceptance of the component is contingent on the discretion of the Engineer.

1.6 The manufacturer shall guarantee the SWTD components against all manufacturer originated defects in materials or workmanship for a period of twelve (12) months from the date the components are delivered to the owner for installation. The manufacturer shall upon its determination repair, correct or replace any manufacturer originated defects advised in writing to the manufacturer within the referenced warranty period. The use of SWTD components shall be limited to the application for which it was specifically designed.

1.7 The SWTD manufacturer shall submit to the Engineer of Record a "Manufacturer's Performance Certification" certifying that each SWTD is capable of achieving the specified removal efficiencies listed in these specifications. The certification shall be supported by independent third-party research

1.8 No product substitutions shall be accepted unless submitted 10 days prior to project bid date, or as directed by the Engineer of Record. Submissions for substitutions require review and approval by the Engineer of Record, for hydraulic performance, impact to project designs, equivalent treatment performance, and any required project plan and report (hydrology/hydraulic, water quality, stormwater pollution) modifications that would be required by the approving jurisdictions/agencies. Contractor to coordinate with the Engineer of Record any applicable modifications to the project estimates of cost, bonding amount determinations, plan check fees for changes to approved documents, and/or any other regulatory requirements resulting from the product substitution.

2.0 MATERIALS

2.1 Housing unit of stormwater treatment device shall be constructed of pre-cast or cast-in-place concrete, no exceptions. Precast concrete components shall conform to applicable sections of ASTM C 478, ASTM C 857 and ASTM C 858 and the following:
2.1.1 Concrete shall achieve a minimum 28-day compressive strength of 4,000 pounds per square-inch (psi);
2.1.2 Unless otherwise noted, the precast concrete sections shall be designed to withstand lateral earth and AASHTO H-20 traffic loads;
2.1.3 Cement shall be Type III Portland Cement conforming to ASTM C 150;
2.1.4 Aggregates shall conform to ASTM C 33;
2.1.5 Reinforcing steel shall be deformed billet-steel bars, welded steel wire or deformed welded steel wire conforming to ASTM A 615, A 185, or A 497.
2.1.6 Joints shall be sealed with preformed joint sealing compound conforming to ASTM C 990.
2.1.7 Shipping of components shall not be initiated until a minimum compressive strength of 4,000 psi is attained or five (5) calendar days after fabrication has expired, whichever occurs first.

2.2 Internal Components and appurtenances shall conform to the following:
2.2.1 Screen and support structure shall be manufactured of Type 316 and 316L stainless steel conforming to ASTM F 1267-01;
2.2.2 Hardware shall be manufactured of Type 316 stainless steel conforming to ASTM A 320;
2.2.3 Fiberglass components shall conform to applicable sections of ASTM D-4097
2.2.4 Access system(s) conform to the following:
2.2.5 Manhole castings shall be designed to withstand AASHTO H-20 loadings and manufactured of cast-iron conforming to ASTM A 48 Class 30.

3.0 PERFORMANCE

3.1 The SWTD shall be sized to either achieve an 80 percent average annual reduction in the total suspended solid load with a particle size distribution having a mean particle size (d_{50}) of 125 microns unless otherwise stated.

3.2 The SWTD shall be capable of capturing and retaining 100 percent of pollutants greater than or equal to 2.4 millimeters (mm) regardless of the pollutant's specific gravity (i.e.: floatable and neutrally buoyant materials) for flows up to the device's rated-treatment capacity. The SWTD shall be designed to retain all previously captured pollutants addressed by this

subsection under all flow conditions. The SWTD shall be capable of capturing and retaining total petroleum hydrocarbons. The SWTD shall be capable of achieving a removal efficiency of 92 and 78 percent when the device is operating at 25 and 50 percent of its rated-treatment capacity. These removal efficiencies shall be based on independent third-party research for influent oil concentrations representative of storm water runoff (20 ± 5 mg/L). The SWTD shall be greater than 99 percent effective in controlling dry-weather accidental oil spills.

3.3 The SWTD shall be designed with a sump chamber for the storage of captured sediments and other negatively buoyant pollutants in between maintenance cycles. The minimum storage capacity provided by the sump chamber shall be in accordance with the volume listed in Table 1. The boundaries of the sump chamber shall be limited to that which do not degrade the SWTD's treatment efficiency as captured pollutants accumulate. The sump chamber shall be separate from the treatment processing portion(s) of the SWTD to minimize the probability of fine particle re-suspension. In order to not restrict the Owner's ability to maintain the SWTD, the minimum dimension providing access from the ground surface to the sump chamber shall be 16 inches in diameter.

3.4 The SWTD shall be designed to capture and retain Total Petroleum Hydrocarbons generated by wet-weather flow and dry-weather gross spills and have a capacity listed in Table 1 of the required unit.

3.5 The SWTD shall convey the flow from the peak storm event of the drainage network, in accordance with required hydraulic upstream conditions as defined by the Engineer. If a substitute SWTD is proposed, supporting documentation shall be submitted that demonstrates equal or better upstream hydraulic conditions compared to that specified herein. This documentation shall be signed and sealed by a Professional Engineer registered in the State of the work. All costs associated with preparing and certifying this documentation shall be born solely by the Contractor.

3.6 The SWTD shall have completed field tested following TARP Tier II protocol requirements

4.0 EXECUTION

4.1 The contractor shall exercise care in the storage and handling of the SWTD components prior to and during installation. Any repair or replacement costs associated with events occurring after delivery is accepted and unloading has commenced shall be borne by the contractor.

4.2 The SWTD shall be installed in accordance with the manufacturer's recommendations and related sections of the contract documents. The manufacturer shall provide the contractor installation instructions and offer on-site guidance during the important stages of the installation as identified by the manufacturer at no additional expense. A minimum of 72 hours notice shall be provided to the manufacturer prior to their performance of the services included under this subsection.

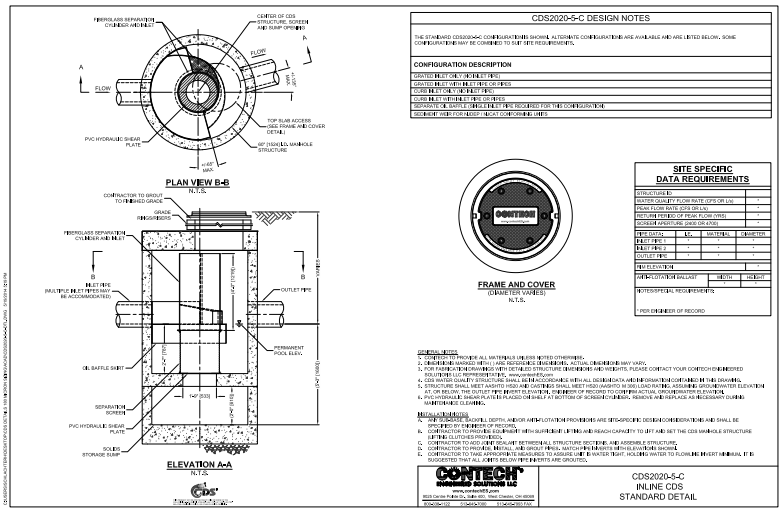
4.3 The contractor shall fill all voids associated with lifting provisions provided by the manufacturer. These voids shall be filled with non-shrinking grout providing a finished surface consistent with adjacent surfaces. The contractor shall trim all protruding lifting provisions flush with the adjacent concrete surface in a manner, which leaves no sharp points or edges.

4.4 The contractor shall removal all loose material and pooling water from the SWTD prior to the transfer of operational responsibility to the Owner.

TABLE 1
Storm Water Treatment Device
Storage Capacities

CDS Model	Minimum Sump Storage Capacity (yd^3)/(m^3)	Minimum Oil Storage Capacity (gal)/(L)
CDS2015-4	0.9(0.7)	61(232)
CDS2015-5	1.5(1.1)	83(313)
CDS2020-5	1.5(1.1)	99(376)
CDS2025-5	1.5(1.1)	116(439)
CDS3020-6	2.1 (1.6)	184(696)
CDS3025-6	2.1(1.6)	210(795)
CDS3030-6	2.1 (1.6)	236(895)
CDS3035-6	2.1 (1.6)	263(994)
CDS3535-7	2.9(2.2)	377(1426)
CDS4030-8	5.6(4.3)	426(1612)
CDS4040-8	5.6 (4.3)	520(1970)
CDS4045-8	5.6 (4.3)	568(2149)
CDS5640-10	8.7(6.7)	758(2869)
CDS5653-10	8.7(6.7)	965(3652)
CDS5668-10	8.7(6.7)	1172(4435)
CDS5678-10	8.7(6.7)	1309(4956)
CDS7070-DV	3.6(2.8)	914 (3459)
CDS10060-DV	5.0 (3.8)	792 (2997)
CDS10080-DV	5.0 (3.8)	1057 (4000)
CDS100100-DV	5.0 (3.8)	1320 (4996)

END OF SECTION



CONTECH ENGINEERED SOLUTIONS

Hydrodynamic Separation Product Calculator

Canton/Simsbury

PDA-1b

CDS CDS2025-5-C

Project Information					
Project Name	Canton/Simsbury			**Option #**	B
Country	UNITED_STATES	**State**	Connecticut	**City**	West Simsbury

Contact Information			
First Name	Michael	**Last Name**	Lambert
Company	Solli Engineering LLC	**Phone #**	203-880-5455
Email	Mike@sollillc.com		

Design Criteria					
Site Designation	PDA-1b			**Sizing Method**	Treatment Flow Rate
Screening Required?	Yes	**Treatment Flow Rate**	0.74	**Peak Flow (cfs)**	10.34
Groundwater Depth (ft)	0 - 5	**Pipe Invert Depth (ft)**	0 - 5	**Bedrock Depth (ft)**	0 - 5
Multiple Inlets?	Yes	**Grate Inlet Required?**	No	**Pipe Size (in)**	18.00
Required Particle Size Distribution?	Yes	**90° between two inlets?**	No		

Treatment Selection				
Treatment Unit	CDS	**System Model**	CDS2025-5-C	
Target Removal	80%	**Particle Size Distribution (PSD)**	50	

CONTECH ENGINEERED SOLUTIONS

Hydrodynamic Separation Product Calculator

Canton/Simsbury

PDA-1b

CDS CDS2025-5-C

CDS ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION BASED ON THE RATIONAL RAINFALL METHOD								
Rainfall Intensity[1] (in/hr)	**% Rainfall Volume[1]**	**Cumulative Rainfall Volume**	**Rainfall Volume Treated**	**Total Flowrate (cfs)**	**Treated Flowrate (cfs)**	**Operating Rate (%)**	**Removal Efficiency (%)**	**Incremental Removal (%)**
							Removal Efficiency Adjustment[2] =	
							Predicted % Annual Rainfall Treated =	
							Predicted Net Annual Load Removal Efficiency =	

1 -

2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.

SECTION (_____)
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1.4 Related Sections

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1.5 All components shall be subject to inspection by the engineer at the place of manufacture and/or installation. All components are subject to being rejected or identified for repair if the quality of materials and manufacturing do not comply with the requirements of this specification. Components which have been identified as defective may be subject for repair where final acceptance of the component is contingent on the discretion of the Engineer.

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4.0 EXECUTION

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CDS3020-6	2.1 (1.6)	184(696)
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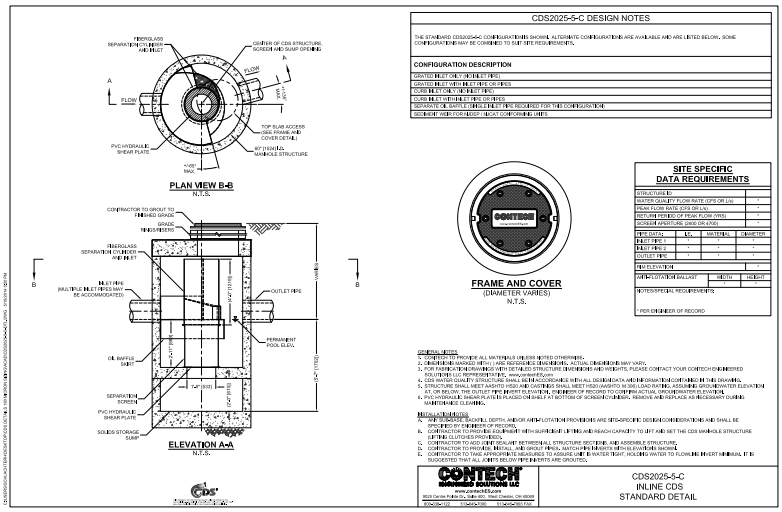
CDS3035-6	2.1 (1.6)	263(994)
CDS3535-7	2.9(2.2)	377(1426)
CDS4030-8	5.6(4.3)	426(1612)
CDS4040-8	5.6 (4.3)	520(1970)
CDS4045-8	5.6 (4.3)	568(2149)
CDS5640-10	8.7(6.7)	758(2869)
CDS5653-10	8.7(6.7)	965(3652)
CDS5668-10	8.7(6.7)	1172(4435)
CDS5678-10	8.7(6.7)	1309(4956)
CDS7070-DV	3.6(2.8)	914 (3459)
CDS10060-DV	5.0 (3.8)	792 (2997)
CDS10080-DV	5.0 (3.8)	1057 (4000)
CDS100100-DV	5.0 (3.8)	1320 (4996)

END OF SECTION



WATER QUALITY VOLUME (WQV) COMPUTATIONS FOR DRAINAGE BASIN PDA-1A

Project: 1904501
Location: Albany Turnpike, Simsbury/Canton
Date: 09/24/20

Water Quality Volume Calculations:

$$WQV = \frac{(1")(R)(A)}{12}$$

Where:
WQV = water quality volume (ac-ft)
R = volumetric runoff coefficient = 0.05+0.009(I)
I = percent impervious cover (see below)
A = site area in acres

$$I = \frac{A_{IMP}}{A_{TOT}} \times 100$$

Where:
I = percent impervious cover
A_{IMP} = area of impervious cover
A_{TOT} = total area of watershed

Watershed Description:	PDA-1A		
Area of impervious coverage, A_{IMP}	1.37	Acres	
Total area of watershed, A_{TOT}	2.73	Acres	
Percent impverious cover, I	50.83	%	
Volumentric runoff coefficient, R	0.55		
Water Quality Volume, WQV	0.113	ac-ft	4,891 cf
Town of Simsbury Adjustment (110%)			5,381 cf

Groundwater Recharge Volume Calculations:

GRv = (P) (D) (I) / 12 *Section 7, Table 7-1, Summary of Stormwater Treatment Practice Sizing Criteria per 2004 Connecticut Stormwater Quality Manual*

GRv = Groundwater Recharge Volume (acre-feet)
P = 1" (90% rainfall event)
D = Recharge Factor, see Table
I = Impervious Area (acres)

Hydrologic Soil Group	Recharge Factor
A	0.60
B	0.40
C	0.25
D	0.10

Total Proposed Impervious Area
59,677 sq.ft.
1.37 acres

HSG - B
Recharge Factor
0.40

GRv =	0.046	acre-feet
	1,989	ft³
Town of Simsbury Adjustment (110%)	2,188	ft³

Water Quality Flow Calculations:

WQf = (qu)(A)(Q)
WQf = Peak Discharge for water quality event (cfs)
qu = unit peak discharge (cfs/mi²/in)
A = drainage area (square miles)
Q = runoff volume (WQv/A) (watershed inches)

$$CN = 1000 / \{10 + 5*P + 10*Q - 10*(Q^2 + 1.25*Q*P)^{1/2}\}$$

Chapter 7 of 2004 Connecticut Stormwater Quality Manual

P=	1.2 inches
Q=	0.239 inches
WQv =	0.046 acre-ft
Total Drainage Area =	2.29 acre
CN =	83.74

Ia = 200/CN -2

Ia =	0.388

Compute Ia/P

P=	1.2 inches
Ia / P =	0.32

Tc= 14.5 min
0.242 hr

Exhibit 4-III

Tc=	0.242
Ia / P =	0.32
q_u =	460

WQf = (qu)(A)(Q)

qu =	460 csm/in
A =	0.004 mi² (acre/640)
Q =	0.239 inches
WQf =	0.39 cfs

WATER QUALITY VOLUME (WQV) COMPUTATIONS FOR DRAINAGE BASIN PDA-1B

Project: 1904501
Location: Albany Turnpike, Simsbury/Canton
Date: 09/24/20

Water Quality Volume Calculations:

$$WQV = \frac{(1")(R)(A)}{12}$$

Where:
WQV = water quality volume (ac-ft)
R = volumetric runoff coefficient = 0.05+0.009(I)
I = percent impervious cover (see below)
A = site area in acres

$$I = \frac{A_{IMP}}{A_{TOT}} \times 100$$

Where:
I = percent impervious cover
A_{IMP} = area of impervious cover
A_{TOT} = total area of watershed

Watershed Description:	PDA-1B		
Area of impervious coverage, A_{IMP}	1.29	Acres	
Total area of watershed, A_{TOT}	1.56	Acres	
Percent impverious cover, I	82.69	%	
Volumentric runoff coefficient, R	0.79		
Water Quality Volume, WQV	0.103	ac-ft	4,498 cf
Town of Simsbury Adjustment (110%)			4,947 cf

Groundwater Recharge Volume Calculations:

GRv = (P) (D) (I) / 12 *Section 7, Table 7-1, Summary of Stormwater Treatment Practice Sizing Criteria per 2004 Connecticut Stormwater Quality Manual*

GRv = Groundwater Recharge Volume (acre-feet)
P = 1" (90% rainfall event)
D = Recharge Factor, see Table
I = Impervious Area (acres)

Hydrologic Soil Group	Recharge Factor
A	0.60
B	0.40
C	0.25
D	0.10

Total Proposed Impervious Area
56,192 sq.ft.
1.29 acres

HSG - A
Recharge Factor
0.60

GRv =	0.065	acre-feet
	2,810	ft³
Town of Simsbury Adjustment (110%)	3,091	ft³

Water Quality Flow Calculations:

WQf = (qu)(A)(Q)
WQf = Peak Discharge for water quality event (cfs)
qu = unit peak discharge (cfs/mi²/in)
A = drainage area (square miles)
Q = runoff volume (WQv/A) (watershed inches)

$$CN = 1000 / \{10 + 5*P + 10*Q - 10*(Q^2 + 1.25*Q*P)^{1/2}\}$$

Chapter 7 of 2004 Connecticut Stormwater Quality Manual

P=	1.2 inches
Q=	0.496 inches
WQv =	0.065 acre-ft
Total Drainage Area =	1.56 acre
CN =	90.83

Ia = 200/CN -2

Ia =	0.202

Compute Ia/P

P=	1.2 inches
Ia / P =	0.17

Tc= 8.4 min
0.140 hr

Exhibit 4-III

Tc=	0.140
Ia / P =	0.17
q_u =	610

WQf = (qu)(A)(Q)

qu =	610 csm/in
A =	0.002 mi² (acre/640)
Q =	0.496 inches
WQf =	0.74 cfs

APPENDIX E
DEEP TEST PIT / LEDGE DEPTH ASSESSMENT

Test Pit Log Information

Location: 9-15 Albany Turnpike, Canton/Simsbury Connecticut
Project Number: 1904501
Exploration Date: 2019-10-08
Contractor: Talcott View Development (TVD)
Personnel Present: Chris Pawlowski/ TVD Operator

Test Pit Number	Depth To Ledge (FT)
100	4.5
101	7
102	2.5
103	4.5
104	6
105	2.5
106	6.5
107	10.5
108	7
109	0(Exposed)
110	5.67
111	11.5
112	3.33
113	3.33
114	5.5
115	7
116	10

Soil Comments: Soil consisted of a nice light brown/tan sand on the upper layer (1-2') with a glacial till below. As we moved towards the road the light brown/tan sand stratum started to contain loam.

APPENDIX F
DESIGN PLANS

Existing Drainage Area Map (EDA-1)
Proposed Drainage Area Map (PDA-1)
Subcatchment Drainage Area Map (CB-1)
Grading & Drainage Plan (2.21)
Soil Erosion & Sediment Control Plan (2.31)
Soil Erosion & Sediment Control Notes & Details (2.41)
Utility Plan (2.51)

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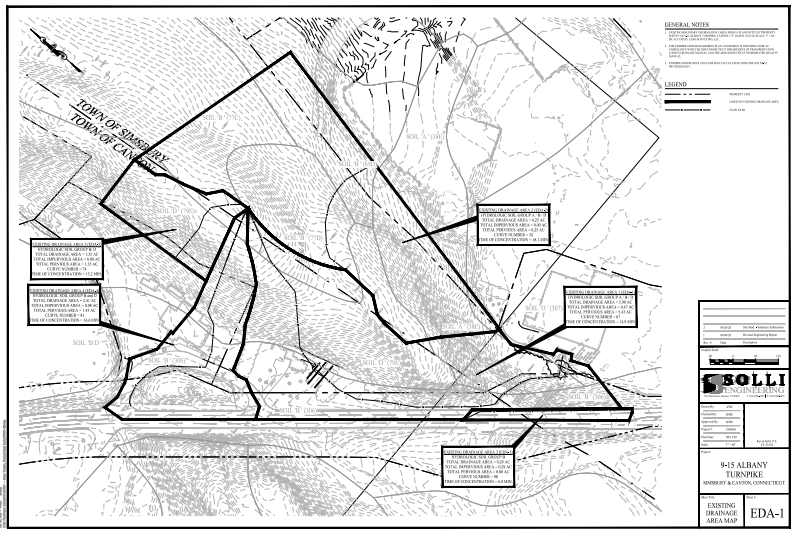
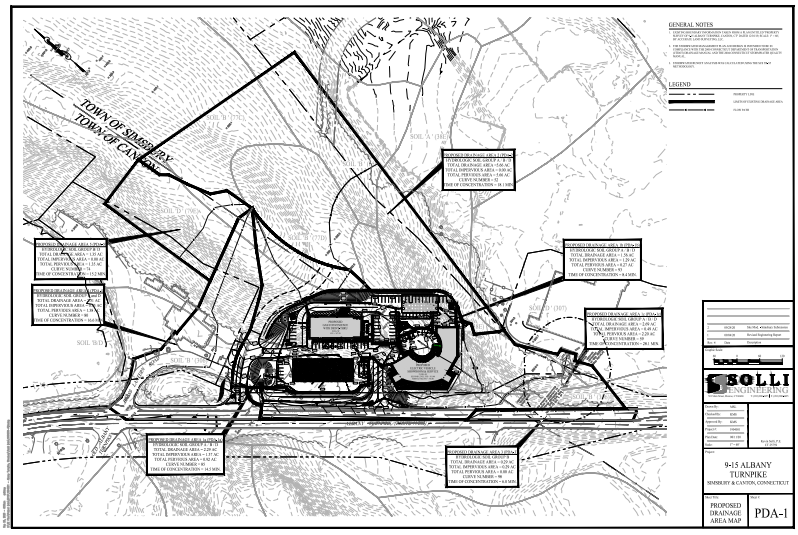
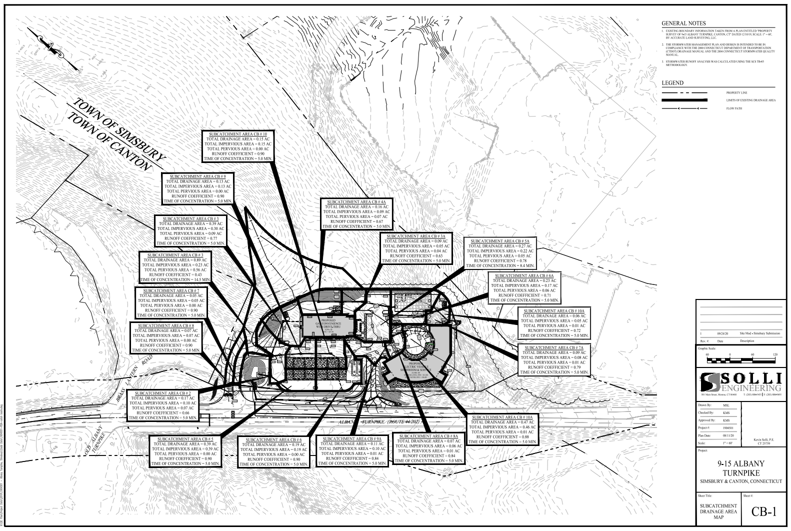
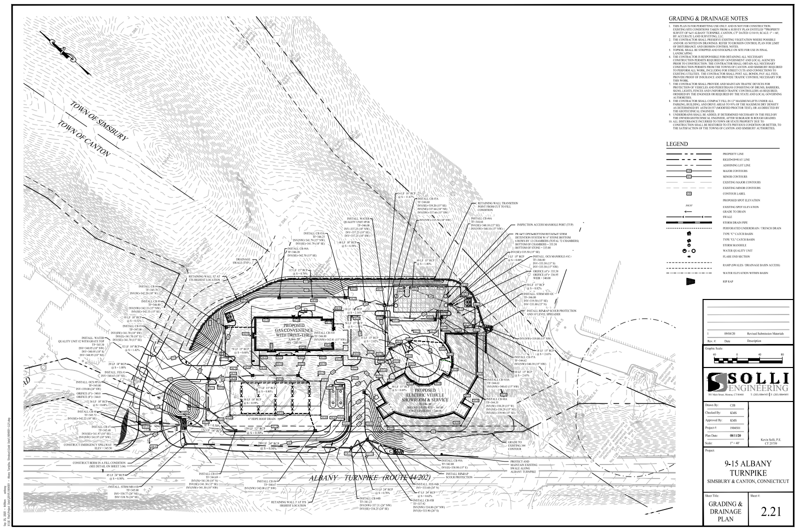
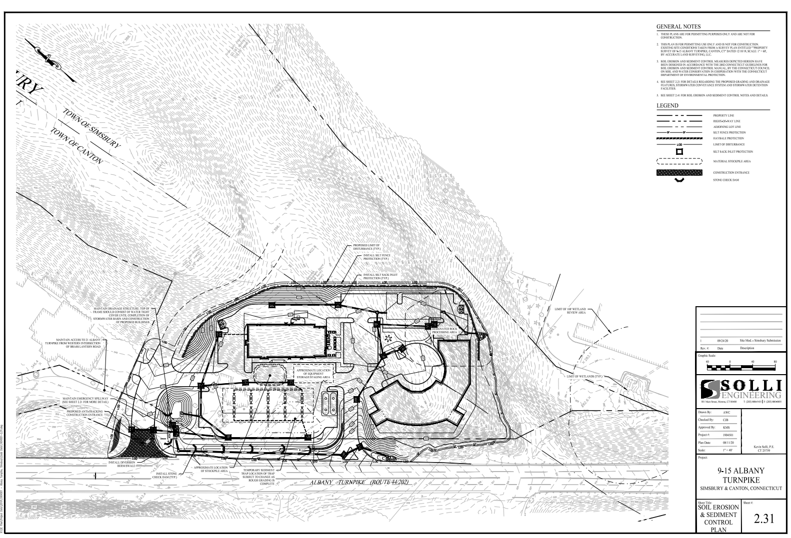
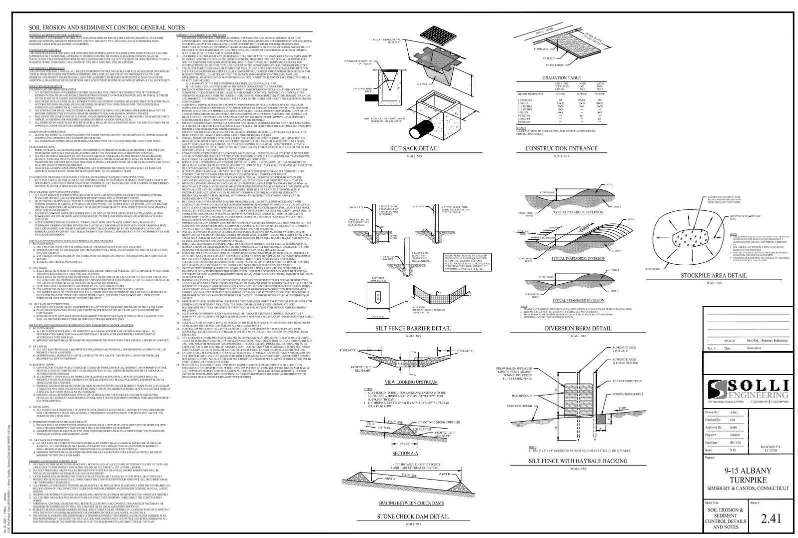





TOWN OF SIMSBURY
TOWN OF CANTON
GENERAL NOTES
LEGEND
1 09/24/20 Site Mod - Simsbury Submission
Rev. #: Date Description
Graphic Scale:
SOLLI ENGINEERING
Drawn By: MSL
Checked By: KMS
Approved By: KMS
Project #: 1904501
Plan Date: 08/11/20
Scale: 1" = 60'
Kevin Solli, P.E.
CT 25759
Project:
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
Sheet Title:
SUBCATCHMENT DRAINAGE AREA MAP
Sheet #:
CB-1


GRADING & DRAINAGE NOTES
LEGEND
TOWN OF SIMSBURY
TOWN OF CANTON
ALBANY TURNPIKE (ROUTE 44/202)
WATER QUALITY UNIT
FLARE END SECTION
RAMP (SWALES / DRAINAGE BASIN ACCESS)
WATER ELEVATION WITHIN BASIN
RIP RAP
1 09/04/20 Revised Submission Materials
Rev. #: Date Description
Graphic Scale:
SOLLI ENGINEERING
Drawn By: CJB
Checked By: KMS
Approved By: KMS
Project #: 1904501
Plan Date: 08/11/20
Scale: 1" = 40'
Kevin Solli, P.E.
CT 25759
Project:
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
Sheet Title:
GRADING & DRAINAGE PLAN
Sheet #:
2.21


GENERAL NOTES
LEGEND
TOWN OF SIMSBURY
TOWN OF CANTON
ALBANY TURNPIKE (ROUTE 44/202)
SOLLI ENGINEERING
Kevin Solli, P.E.
CT 25759
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
SOIL EROSION & SEDIMENT CONTROL PLAN
2.31


SOIL EROSION AND SEDIMENT CONTROL GENERAL NOTES
SILT SACK DETAIL
GRADATION TABLE
CONSTRUCTION ENTRANCE
SILT FENCE BARRIER DETAIL
STOCKPILE AREA DETAIL
DIVERSION BERM DETAIL
STONE CHECK DAM DETAIL
SILT FENCE WITH HAYBALE BACKING
SOLLI ENGINEERING
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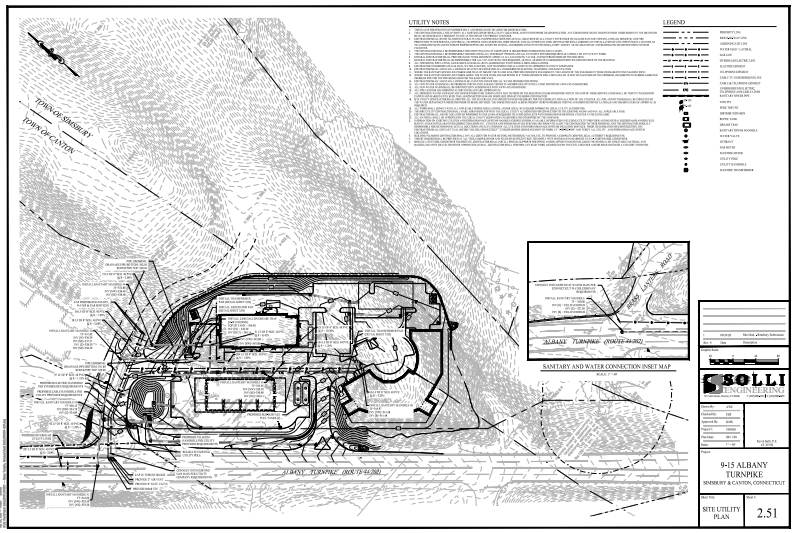
CT 25759
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
SOIL EROSION & SEDIMENT CONTROL DETAILS AND NOTES
2.41

TRAFFIC IMPACT STUDY:



For The Proposed:

Mixed-Use Development

Located At:

9-15 Albany Turnpike
Canton & Simsbury, Connecticut

Prepared For:

9-15 Albany Turnpike, LLC

184 Fern Avenue
Litchfield, Connecticut 06759

Project Number: 1904501
Prepared: August 11, 2020
Revised*: September 25, 2020*

Collene Byrne, Project Manager

Kevin M. Solli, Principal
CT PE #25759

SOLLI ENGINEERING

Solli Engineering, LLC ♦ 501 Main Street ♦ Monroe, CT 06468 ♦ (203) 880-5455 (Phone) ♦ (203) 880-9695 (Fax)

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LIST OF APPENDICES

PROJECT KEY FACTS SUMMARY SHEET

This summary sheet is provided as a reference to the various key pieces of information used throughout this report for the proposed project. This sheet is intended to be used as a guide for the reader although the full methodologies used in the analysis are included in the text of this report.

APPLICANT: 9-15 Albany Turnpike, LLC

PROJECT SITE SIZE: 26± acres

PROJECT SIZE & TYPE: 20,865± sf Automobile Sales and a 4,308± sf Convenience Market with a Gas Station, 2,836± sf Fast Food Restaurant without Drive-Thru Window (Ice Cream Shop & Sandwich Shop), 1,236± sf Coffee Shop w/ Drive Thru

ESTIMATED YEAR OF COMPLETION: 2023

ASSUMED BACKGROUND TRAFFIC GROWTH: 1.0 percent per year

PEAK HOURS ANALYIZED: Weekday AM Peak hour, Weekday PM Peak hour

STUDY AREA INTERSECTIONS:
Albany Turnpike (Route 44/202) & Lawton Road (CT-177) / Lovely Street (CT-177) / Trailsend Drive
Albany Turnpike (Route 44/202) & CVS Pharmacy Canton
Albany Turnpike (Route 44/202) & The Shops at Farmington Valley
Albany Turnpike (Route 44/202) & Secret Lake Road / Acura Dealership
Albany Turnpike (Route 44/202) & Proposed Site Driveway
Albany Turnpike (Route 44/202) & Proposed Right-In/Right-Out Site Driveway
Albany Turnpike (Route 44/202) & Hoffman Auto Park / Auto Spa Driveway
Albany Turnpike (Route 44/202) & W. Avon Road (CT-167) / Bushy Hill Road (CT-167)
Bushy Hill Road (CT-167) & Simsbury Commons / W. Mountain Road
Albany Turnpike (Route 44/202) & Simsbury Commons / Dale Road
Albany Turnpike (Route 44/202) & Fox Hollow / CVS

ANTICIPATED TRIP GENERATION:
Weekday AM Peak Hour – 702 Trips (366 entering, 337 exiting)
Weekday PM Peak Hour – 397 Trips (193 entering, 203 exiting)

CAPACITY ANALYSIS:
Methodology – HCM 6th Edition
Software - Trafficware Synchro, Version 10

POSTED SPEED LIMIT: 40mph
85TH PERCENTILE SPEED (EB/WB): 44mph / 51mph

ACCIDENT ANALYIS YEARS: 2017-2020

EXECUTIVE SUMMARY

Solli Engineering prepared this Traffic Impact Study to identify the potential impacts of the proposed mixed-use development to be located at 9-15 Albany Turnpike in Canton/Simsbury, Connecticut. The following summarizes our investigation and our recommendations for mitigating the impacts of the proposed traffic on the area roadway network.

The proposed project site consists of 26± acres of undeveloped land with frontage on Albany Turnpike (Route 44/202) in Canton/Simsbury, Connecticut. The proposed development includes the construction of 29,245± sf of mixed-use development along approximately 4 acres of the property frontage with Albany Turnpike (Route 44/202). Eleven (11) key intersections along the area roadway network were analyzed to evaluate the potential impacts of the proposed development and identify any improvements which may be necessary to mitigate the traffic impact associated with the proposed development. Based on our findings, the following improvements are recommended along the area roadway network:

- Geometric improvements & roadway widening at the proposed site driveway intersection of Albany Turnpike (Route 44/202) & Site Driveway
- Traffic Signal installation at the proposed intersection of Albany Turnpike (Route 44/202) & Site Driveway
- Proposed STOP-controlled right-in/right-out driveway along Albany Turnpike (Route 44/202)

In accordance with standard traffic engineering methodologies, we have included other proposed but not yet built developments as background generators in evaluating the potential impact to the area roadway network. A proposed commercial development at 101 & 107 Albany Turnpike is currently approved by the Connecticut Department of Transportation but not yet built. It is the professional opinion of Solli Engineering that the proposed development along with the recommended improvements will not have an adverse impact on the traffic operating conditions in the study area.

INTRODUCTION

Solli Engineering has prepared this assessment to provide an evaluation of the potential traffic impacts associated with the proposed development located at 9-15 Albany Turnpike in Canton/Simsbury, Connecticut. The evaluation has been completed in accordance with the Town of Canton and Town of Simsbury requirements, as well as, standard traffic engineering methodology. The proposed site layout was originally designed with a gas station consisting of 20 fueling stations with a convenience store (4,308± SF), coffee shop with drive-thru (1,236± SF), an ice cream shop (1,733± SF), and a sandwich shop (1,103± SF) on the west side of the site frontage along Albany Turnpike (Route 44/202) and an electric vehicle showroom (20,865± SF) along the east side of the site frontage with Albany Turnpike (Route 44/202), the proposed development has been revised to accommodate a 23,500 square foot electric vehicle showroom. The proposed change in square footage of the electric vehicle showroom will generate an additional 5 trips during the weekday AM peak hour, 6 trips during the weekday PM peak hour and 10 trips during the Saturday midday peak hour. The expected increase in trips associated with the revised electric vehicle showroom is considered negligible therefore, the original analysis is considered valid. The investigation indicates that the proposed development, with the recommended improvements at the site driveway, will not have an adverse impact on the traffic operations of the area roadway network.

PROJECT DESCRIPTION

The project is located at 9-15 Albany Turnpike (Route 44/202) in Canton/Simsbury, Connecticut and consists of a 26± acres of undeveloped land. The property is bounded by Brass Lantern Road and Albany Turnpike (Route 44/202) to the south, commercial development to the east, residential development to the north, and a restaurant and undeveloped land to the west. The project site is located along the Canton-Simsbury town line. Refer to Figure 1, Site Location Map, for more details on the site location.

Based on the most recent plan prepared by our office, the parcel is proposed to be developed with a gas station consisting of 20 fueling stations with a convenience store (4,308± SF), coffee shop with drive-thru (1,236± SF), an ice cream shop (1,733± SF), and a sandwich shop (1,103± SF) on the west side of the site frontage along Albany Turnpike (Route 44/202) and an electric vehicle showroom (20,865± SF) along the east side of the site frontage with Albany Turnpike (Route 44/202). The site is proposed to be accessed via two site driveways; a proposed full movement signalized intersection with Albany Turnpike (Route 44/202) at the west side of the property and a right-in/right-out only driveway approximately 375 feet east of the signalized intersection. Refer to Sheet 2.11, Site Layout Plan, for more details on the site layout.

STUDY AREA

The following study area intersections were analyzed for this study:

- Albany Turnpike (Route 44/202) & Lawton Road (CT-177) / Lovely Street (CT-177) / Trailsend Drive
- Albany Turnpike (Route 44/202) & CVS Pharmacy Canton
- Albany Turnpike (Route 44/202) & The Shops at Farmington Valley
- Albany Turnpike (Route 44/202) & Secret Lake Road / Acura Dealership
- Albany Turnpike (Route 44/202) & Proposed Site Driveway
- Albany Turnpike (Route 44/202) & Proposed Right-In/Right-Out Site Driveway
- Albany Turnpike (Route 44/202) & Hoffman Auto Park / Auto Spa Driveway

- Albany Turnpike (Route 44/202) & W. Avon Road (CT-167) / Bushy Hill Road (CT-167)
- Bushy Hill Road (CT-167) & Simsbury Commons / W. Mountain Road
- Albany Turnpike (Route 44/202) & Simsbury Commons / Dale Road
- Albany Turnpike (Route 44/202) & Fox Hollow / CVS

AREA ROADWAY NETWORK

Albany Turnpike (Route 44/202) is an east-west roadway located just south of the project site with a posted speed limit of 40 miles per hour (mph) in the vicinity of the project frontage. The roadway is classified as a principal arterial by the Connecticut Department of Transportation. Throughout the study area, Albany Turnpike (Route 44/202) is generally a four (4) lane bi-directional roadway with various additional turn lanes in each direction at major intersections. The area immediately surrounding the site contains a mix of uses including commercial, offices, and residential. There are no sidewalks along either side of Albany Turnpike (Route 44/202) in the vicinity of the project site.

Trailsend Drive is a north-south roadway at the western most extent of the study area with a posted speed limit of 25 mph. Trailsend Drive intersects Albany Turnpike (Route 44/202) at the signalized intersection with Lawton Road & Lovely Street (Route 177). Trailsend Drive is local roadway serving access to residential development.

Lovely Street (Route 177) is a north-south roadway west of the proposed development with a posted speed limit of 40 mph. The roadway is classified as a minor arterial by the Connecticut Department of Transportation. In the vicinity of the project site, Lovely Street (Route 167) is a two (2) lane bi-directional roadway which provides access to surrounding residences and regional access to the south to the Town of Farmington. There are no sidewalks along Lovely Street (Route 177) in the project vicinity.

Lawton Road is a north-south roadway west of the proposed development with a posted speed limit of 30 mph. The roadway is classified as a collector roadway by the Connecticut Department of Transportation. Lawton Road is a two (2) lane bi-directional roadway with widening at the intersection with Albany Turnpike (Route 44/202) to provide dual exclusive right turning lanes.

Secret Lake Road is a north-south roadway located west of the project site with a posted speed limit of 25 mph. Secret Lake Road is a two (2) lane, bi-directional roadway which provides access to surrounding residences. There are no sidewalks along Secret Lake Road.

Route-167 is a north-south roadway located east of the project site with a posted speed limit of 35 mph north of Albany Turnpike (Route 44/202) and 40 mph south of Albany Turnpike (Route 44/202). The roadway is classified as a minor arterial by the Connecticut Department of Transportation. North of Albany Turnpike (Route 44/202), Route 167 (Bushy Hill Road) is a two (2) lane, bi-directional roadway which provides access to surrounding residences in the Town of Simsbury. South of Albany Turnpike (Route 44/202), Route 167 (West Avon Road) is a two (2) lane, bi-directional roadway which provides access to surrounding residences in the Town of Avon. There are no sidewalks along this road.

West Mountain Road intersects with Bushy Hill Road east of the project site across from Simsbury Commons. West Mountain Road is a north-south roadway with a posted speed limit of 30 mph, providing

regional access to the north with residential development along the corridor. West Mountain Road is classified as a major collector by the Connecticut Department of Transportation. There are no sidewalks along West Mountain Road.

Dale Road intersects with Albany Turnpike (Route 44/202) east of the project site across from Simsbury Commons' south access point. Dale Road has a posted speed limit of 25 mph and provides access to surrounding residences. It is a two (2) lane, bi-directional roadway with no sidewalks. Dale Road is classified as a local roadway by the Connecticut Department of Transportation.

Fox Hollow intersects with Albany Turnpike (Route 44/202) across from the CVS east of the project site. Fox Hollow has a posted speed limit of 15 mph and provides access to a residential development. It is a two (2) lane, bi-directional local roadway with sidewalks along one side of the roadway.

The remaining portions of the study area include site driveways which service private developments including; Canton CVS, The Shops at Farmington Valley, Acura of Avon, Auto Spa Car Wash, Hoffman Auto Park, Simsbury Commons, CVS.

EXISTING TRAFFIC

As a result of the travel restrictions and social distancing practices associated with the outbreak of COVID-19, recent turning movement count data could not be collected. Per guidance provided by the Connecticut Department of Transportation, traffic volume data for traffic impact studies should not be collected at this time and historical data should be utilized. Available volume data collected by the Connecticut Department of Transportation was obtained for the study area intersections located east of the proposed development in the Town of Simsbury. The available volume data east of the proposed development was collected in October 2017 during the AM and PM weekday peak periods. Manual turning movement count data was obtained from the Connecticut Department of Transportation for the study area intersections west of the proposed development, from a traffic assessment letter prepared by F.A. Hesketh & Associates, Inc *RE: Proposed Commercial Development, 101 & 107 Albany Turnpike, Canton, Connecticut* dated May 7, 2018. Based on available data, it was determined that the weekday AM and weekday PM peak periods should be studied to evaluate the greatest potential for traffic impact on the study area network. The 2017 existing peak hour volumes for the weekday AM and weekday PM peak hours are illustrated on Figure 2.

Volume and speed data were collected during July 2020 using an automatic traffic recorder (ATR) that was installed on Albany Turnpike (Route 44/202) along the property frontage. This data determined the average daily traffic (ADT) to be 11,632 vehicles eastbound and 11,183 vehicles westbound. The 85th percentile speed to be 51 miles per hour eastbound and 44 miles per hour westbound. Historical ADT data published by the Connecticut Department of Transportation at count station SIMS-028 along Albany Turnpike (Route 44/202) in the vicinity of Bushy Hill Road (RT 167) reported ADT data in 2016 and 2019 as 33,800 and 26,400 vehicles, respectively.

BACKGROUND TRAFFIC

Background traffic growth is estimated to account for the traffic increase as a result of regional population and economic growth in the study area, in addition to other proposed developments. Based on previous ADT data, there has been a decrease in overall traffic volumes in the study area in recent years (as reported by the CT DOT). Existing traffic volumes were projected to the 2023 design year using a

conservative 1.0 percent per year growth factor.

The Connecticut Department of Transportation Office of the State Traffic Administration (OSTA) and the Towns of Canton, Simsbury, and Avon were contacted to identify any ongoing or proposed projects within the study area which may impact the analysis. One (1) project was identified along the study area, a proposed commercial development located at 101 & 107 Albany Turnpike in Canton, Connecticut. This development has been previously approved under OSTA certificate No. 1842 and subsequent Administrative Decision (AD) Request 206. The current proposal for this development, dated May 7, 2018, includes a 15,429sf pharmacy, 37,750sf of retail, 32,950sf of medical office, and 2,000sf fast food restaurant. The trips associated with this project have been included in the traffic impact analysis as a background generator. One additional development, Avon Village Center Master Plan, was identified in the Town of Avon east of the project site. The study area for the proposed development of Avon Village Center does not overlap the study area intersections for the proposed development, however, the conservative 1.0 percent per year growth rate which was utilized to project the 2017 existing traffic volumes to the 2023 build year, accounts for an increase in ambient street traffic which may occur as a result of this development.

The 2017 existing traffic volumes illustrated in Figure 2 were grown 1.0 percent per year and combined with the trips associated with the background generators to establish the 2023 background traffic volumes. The 2023 background traffic volumes are illustrated in Figure 6 in Appendix A of this report.

PROPOSED DEVELOPMENT

The proposed development includes a gas station with convenience store (4,308± SF) and 20 fueling positions, coffee shop with drive-thru (1,236± SF), ice cream shop (1,733± SF), sandwich shop (1,103± SF) and an electric vehicle showroom (20,865± SF), to be located on approximately 4 acres of the overall 26± acre parcel. The proposed development is located on the north side of Albany Turnpike (Route 44/202) on the town line of Canton and Simsbury, Connecticut. The main site driveway is proposed to be a full movement driveway with a traffic signal. The site will also incorporate a right-in/right-out only driveway approximately 375 feet east of the full movement signalized driveway. Geometric improvements are proposed to Albany Turnpike (Route 44/202) along with the proposed traffic signal, as discussed later in this report.

Intersection sight distance (ISD) at the proposed site driveway was reviewed and evaluated per guidance provided in the 2003 edition of ConnDOT's Highway Design Manual. Based on the 85th percentile speed of 51 miles per hour westbound on Albany Turnpike (Route 44/202), a minimum ISD of 563 feet is required for passenger cars looking to the left from the site driveways. For passenger cars looking to the right out from the site driveway, based on the 85th percentile speed of 44 miles per hour for vehicles traveling eastbound, a minimum ISD of 518 feet is required. Intersection sight distance looking to the left from the main site driveway exceeds 575 feet, which satisfies the minimum required sight distance. Intersection sight distance looking to the right from the main site driveway exceeds 525 feet, which satisfies the minimum required sight distance. Additionally the ISD looking to the left from the proposed right-out driveway exceeds the minimum required sight distance of 575 feet.

The anticipated number of trips that will be generated by proposed development was estimated using data from the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition. The trip generation was calculated for the weekday AM and weekday PM peak hour based on the proposed land uses. A twenty percent (20%) pass-by credit was applied to the fast food restaurants, coffee shop, and gas station trips as per ConnDOT and OSTA standards. The ITE trip generation rate sheets and detailed trip

generation worksheet are provided in Appendix B of this assessment. Table 1 below summarizes the anticipated trips to be generated by the proposed development during the weekday AM and weekday PM peak periods.

TABLE 1 - TRIP GENERATION SUMMARY

LAND USE	AM PEAK HOUR			PM PEAK HOUR		
	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
Automobile Sales (New) (LUC 840) 20.865±sf	28	11	39	20	30	51
Fast Food Restaurant Without Drive-Thru Window (LUC 933) 2,836±sf	43	28	71	40	40	80
Coffee Shop with Drive-Thru (LUC 937) 1,236±sf	200	200	400	27	27	54
Super Convenience Market/Gas Station (LUC 960) 4,308±sf	179	179	358	149	149	298
Total New Trips	**450**	**418**	**868**	**237**	**247**	**483**
20% Pass-By	*84*	*82*	*166*	*43*	*43*	*86*
Net Trips	**366**	**337**	**702**	**193**	**203**	**397**

The anticipated distribution of new traffic entering and exiting the site was developed based on existing traffic patterns and layout of the adjacent roadway network for the weekday AM and weekday PM peak periods. The anticipated distributions during the weekday AM peak period are expected to operate similarly to pass-by trips given breakdown of existing traffic volumes and heavy commuter route. The weekday AM peak period distributions are expected to be 70% from the west and 30% from the east, and 70% to the east and 30% to the west via Albany Turnpike (Route 44/202). The anticipated distributions during the weekday PM peak period are expected to be 40% to/from the west and 60% to/from the east via Albany Turnpike (Route 44/202). The anticipated percent distributions of the new site generated trips are illustrated in Figure 3. The new site generated trips were then assigned to the study intersections based on the anticipated percent distributions and the resulting trip assignment is illustrated in Figure 4.

The trip assignment volumes illustrated in Figure 4 were combined with the pass-by trips in Figure 5 and the 2023 background volumes illustrated in Figure 6 to develop the 2023 build traffic volumes illustrated in Figure 7.

CAPACITY ANALYSIS

To determine the impacts of the increase of traffic volumes on the operating conditions of the study area intersections, the network was analyzed using the Synchro 10 capacity analysis software for the existing, background, and build peak hour conditions.

The results of the Synchro analysis describe the traffic impact in terms of Level of Service (LOS). LOS describes the operational condition of study area intersections in terms of delay (in seconds per vehicle) and is expressed on a scale of A through F with LOS A being the best and LOS F being the worst. LOS A reflects intersection operations with little to no vehicle delay (less than 10 seconds per vehicle) and LOS F reflects intersection conditions that are over capacity and experience long delays (more than 80 seconds per vehicle at signalized intersections and more than 50 seconds of delay per vehicle at unsignalized intersections). For unsignalized intersections, only the delay on the STOP-controlled

approach is reported. Table 2 below summarizes the results of the analysis for the existing, background, and build conditions for the study area intersections during the weekday AM and PM peak hours.

To determine the traffic impact caused by the proposed development, the existing roadway network was first analyzed to determine operating conditions of each study area intersection during the 2017 existing conditions. The background conditions were analyzed to determine the operating conditions that would exist in 2023 without the proposed development, but with the background generator and conservative background growth rate applied. The build condition was then analyzed to determine the operating conditions that would exist if the proposed development is constructed in addition to the background generator and background growth rate applied. The results of the background conditions analysis were compared to the analysis of the build condition to determine any significant changes to the operating conditions of the area roadway network. The build analysis includes the recommended intersection geometric and signal improvements discussed later in this report. Table 2 below summarizes the results of the analysis for the existing, background and build scenarios. Additional detail regarding individual movements, as well as, detailed Synchro 10 Capacity Analysis worksheets are provided in Appendix C.

TABLE 2 - PEAK HOUR LEVEL OF SERVICE SUMMARY (AM/PM)

INTERSECTION	2017 Existing	2023 Background	2023 Build
Albany Turnpike (Route 44/202) & Lawton Road (CT-177) / Lovely Street (CT-177) / Trailsend Drive	D/F	F/E	F/E
Albany Turnpike (Route 44/202) & CVS Pharmacy Canton	B/A	B/B	B/B
Albany Turnpike (Route 44/202) & The Shops at Farmington Valley	B/B	B/B	C/B
Albany Turnpike (Route 44/202) & Secret Lake Road / Acura Dealership	A/A	A/A	A/A
Albany Turnpike (Route 44/202) & Proposed Site Driveway	-	-	B/B
Albany Turnpike (Route 44/202) & Proposed Right-In/Right-Out Site Driveway*	-	-	-
Albany Turnpike (Route 44/202) & Hoffman Auto Park / Auto Spa Driveway	A/B	A/B	A/B
Albany Turnpike (Route 44/202) & W. Avon Road (CT-167) / Bushy Hill Road (CT-167)	C/E	D/E	D/F
Bushy Hill Road (CT-167) & Simsbury Commons / W. Mountain Road	A/C	A/C	A/D
Albany Turnpike (Route 44/202) & Simsbury Commons / Dale Road	B/C	B/C	B/C
Albany Turnpike (Route 44/202) & Fox Hollow / CVS Driveway	A/A	A/A	A/A

*Unsignalized Intersection

INTERNAL CIRCULATION

The internal site circulation was analyzed to demonstrate truck turning movements for both a fueling truck and a WB-62 at the proposed signalized site driveway as illustrated in Figure TT-1 and TT-2 of Appendix A. The proposed project incorporates shared access to minimize access points to the State highway. Sidewalks are also proposed internal to the site which will allow for safe pedestrian interconnectivity between the two proposed buildings.

PROPOSED IMPROVEMENTS

Below is a summary of the proposed improvements to the site driveway intersections:

- Albany Turnpike (Route 44/202) & Proposed Site Driveway
  - Traffic signal installation at the proposed site driveway intersection
  - Geometric improvements & roadway widening along Albany Turnpike (Route 44/202) at the proposed site driveway intersection
- Proposed STOP-controlled right-in/right-out driveway along Albany Turnpike (Route 44/202)

Overall, the recommended improvements along the property frontage with Albany Turnpike (Route 44/202) will result in maintaining the current flow of traffic along the Albany Turnpike (Route 44/202) corridor while providing safe access to the proposed site. Refer to the Preliminary Off-Site Improvement Plan, sheet 4.11, for more details on the proposed improvements. Details of the proposed traffic signal operations are included in the Synchro capacity analysis worksheets in Appendix C of this report.

SIGNAL WARRANT ANALYSIS

To determine whether the installation of a traffic control signal is warranted at the proposed site driveway location, the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), 2009 edition, was utilized to evaluate the eight-hour, four-hour, and peak hour warrants for the proposed development.

Based on volume data collected in October 2019 on Albany Turnpike (Route 44/202) at count station SIMS-028 by the Connecticut Department of Transportation (CTDOT), speed data collected during July 2020 using an automatic traffic recorder (ATR) that was installed on Albany Turnpike (Route 44/202) in the vicinity of the proposed driveway location, and the anticipated trip generation for the proposed development, the traffic associated with the proposed development will warrant a traffic signal at this location. The Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, Hourly Distribution of Entering and Exiting Vehicle Trips by Land Use was utilized to determine the estimated hourly trips generated by the proposed development. Data was not available for the proposed LUC-937 Coffee Shop with Drive Thru therefore, hourly variation data from LUC-938 Coffee Shop without Drive-Thru was applied to the daily trip generation from LUC-937 Coffee Shop with Drive Thru.

Based on the 85th percentile speed determined by the ATR on Albany Turnpike (Route 44/202) of 44 mph eastbound and 51 mph westbound, the signal warrant analysis is based upon the 70% threshold. The major street approach volumes were established based on the ATR data provided by the DOT with the addition of the proposed development trips. Right turning vehicles exiting the site from the right-in/right-out driveway were excluded from the minor approach and accounted for at the major street westbound

approach for the signal warrant analysis. Additionally, the right-in vehicles were excluded from the westbound approach at the proposed signalized intersection. The signal warrant analysis satisfies the following warrants:

- Warrant 1: Eight-Hour Vehicular Volume, Condition B (70% Factor)
- Warrant 2: Four-Hour Vehicular Volume (70% Factor)
- Warrant 3: Peak Hour (70% Factor)

Detailed signal warrant worksheets and Table 4C-1, Figure 4C-2, and Figure 4C-4 are included in Appendix D of this report.

SAFETY ANALYSIS

Accident data was obtained from the Connecticut Crash Data Repository for the three most recent years of available data for the study area intersections and intermediate roadway segment. There was a total of 72 accidents identified along the corridor in the area of study. There were a total of twelve (12) crashes identified at the intersection of Albany Turnpike (Route 44/202) & Secret Lake Road consisting of eight (8) rear end, one (1) angle, two (2) fixed object and one (1) other accident over the three year period. There were a total of eight (8) crashes identified at the intersection of Albany Turnpike (Route 44/202) & Hoffman Autopark over the three year period, consisting of four (4) rear end, three (3) sideswipe in the same direction, and one (1) other accident. A total of fifty two (52) crashes were identified along Albany Turnpike (Route 44/202) on the roadway segment between Secret Lake Road and the Hoffman Autopark over the three year period, consisting of twenty three (23) rear end, six (6) angle, three (3) sideswipe in the opposite direction, eight (8) sideswipe in the same direction, three (3) fixed object, three (3) front to front, four (4) animal, one (1) spinout, and one (1) other accidents. Overall, the safety assessment showed that there are no accident patterns or geometric deficiencies identified that would warrant mitigation. Based on the review of the accident data, the main cause of the accidents was from operator error. A summary of the accident data is provided in Appendix B of this report.

ALTERNATIVE TRANSPORTATION

Alternative forms of transportation were also evaluated as part of this study. Given the mixed-use nature of the proposed development, sidewalks are provided on-site to aid in internal pedestrian circulation, however, Albany Turnpike (Route 44/202) is classified as a principal arterial roadway with no existing sidewalks in the project area, limiting the potential for pedestrian connectivity outside of the project site. There are no existing bike lanes provided along Albany Turnpike (Route 44/202) within the study area. Connecticut Transit (CTT) offers existing bus service on Albany Turnpike (Route 44/202) with the nearest existing stops being located within half of a mile in either direction of the project site.

Connecticut Transit (CTT) offers existing bus stops along Albany Turnpike (Route 44/202) that access bus routes 901, 926, and 927. The closest stops to the proposed project site are located along Albany Turnpike at McDonalds approximately 0.3 miles east at stop 8746 and near Secret Lake Road approximately 0.4 miles west at stop 9465. Ridership data provided by CTT shows low ridership at these stops. The land uses of the proposed development are next expected to increase ridership significantly. The existing transit system has adequate capacity to serve any increase in ridership by the proposed development.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This assessment identifies the potential impacts of the site traffic generated by the proposed mixed-use development located at 9-15 Albany Turnpike (Route 44/202) in Canton and Simsbury, Connecticut. The mixed-use development consists of a gas station with convenience store (4,308± SF) and 20 fueling positions, coffee shop with drive-thru (1,236± SF), ice cream shop (1,733± SF), sandwich shop (1,103± SF) and an electric vehicle showroom (20,865± SF), to be located on approximately 4 acres of the overall 26± acre parcel. This study determined that the proposed development is expected to generate 702 (366 entering, 337 exiting) new trips during the weekday AM peak hour and 397 (193 entering, 203 exiting) new trips during the weekday PM peak hour.

The capacity analysis evaluated eleven (11) key intersections and indicates that all study area intersections will generally operate at similar levels of service in the build conditions when compared to the background condition. The project proposes to include a signalized, full-movement site driveway which will require geometric improvements on the eastbound approach of Albany Turnpike (Route 44/202) to provide an exclusive left-turn lane with approximately 170 feet of storage. The site also proposes a right-in/right out only driveway at the midpoint of the property frontage along Albany Turnpike (Route 44/202).

It is the professional opinion of Solli Engineering that the traffic anticipated to be generated by the proposed development can be accommodated by the surrounding roadway network. The study area intersections are expected to maintain similar operating conditions when compared to the background condition.

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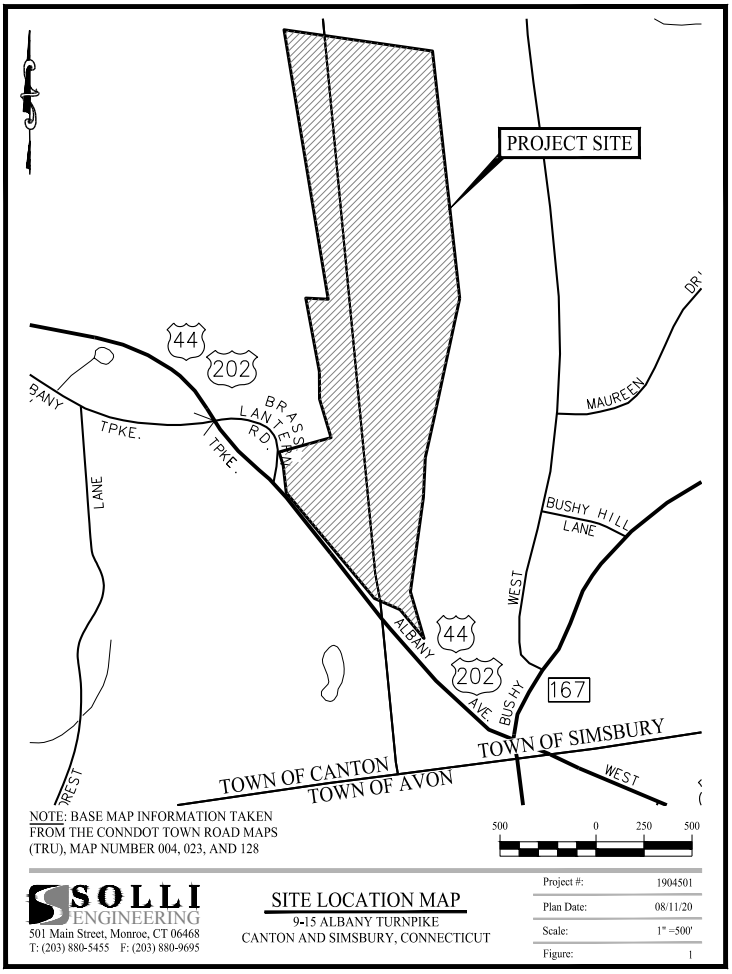
Appendix A

Figures



NOTE: BASE MAP INFORMATION TAKEN FROM THE CONNDOT TOWN ROAD MAPS (TRU), MAP NUMBER 004, 023, AND 128

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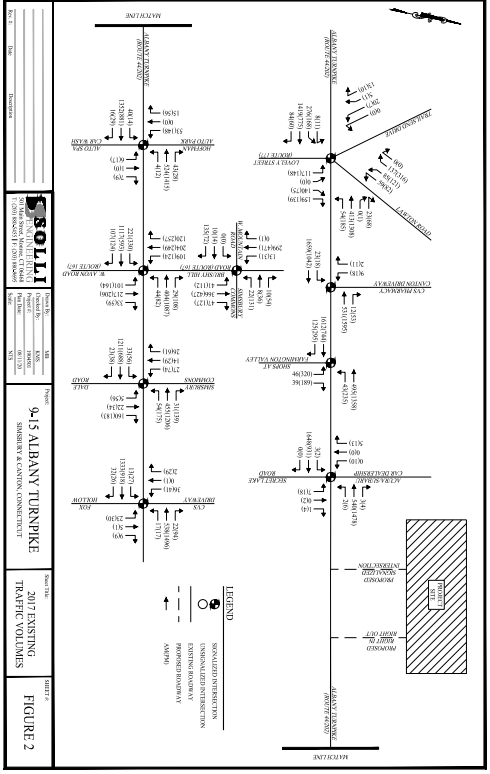
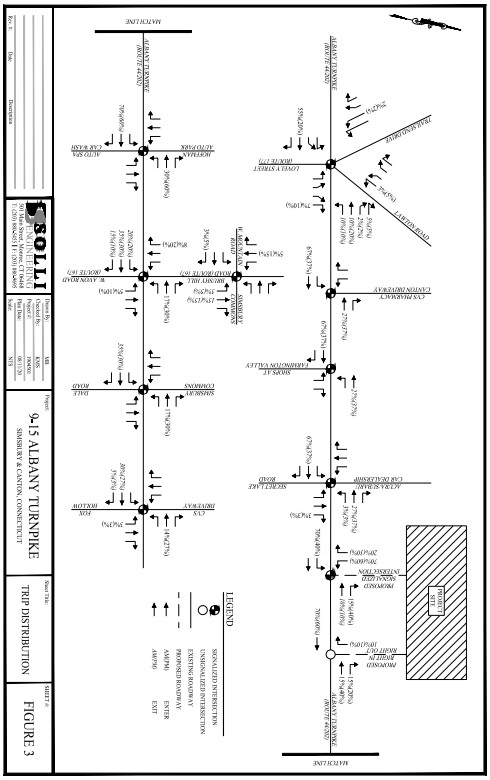
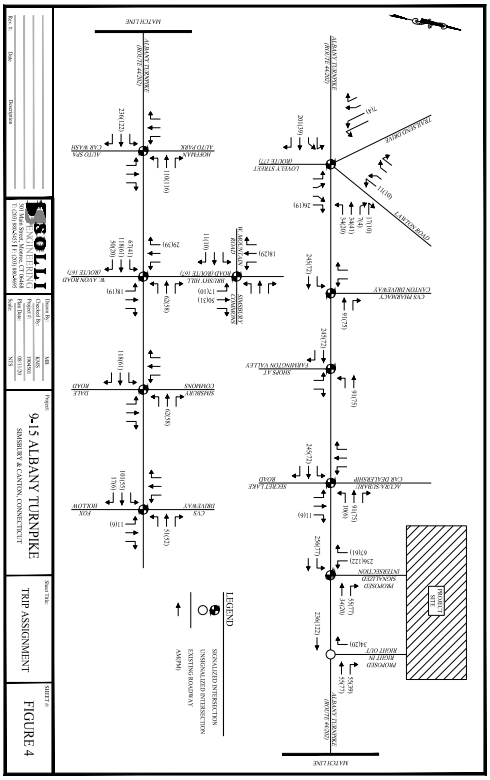
SITE LOCATION MAP

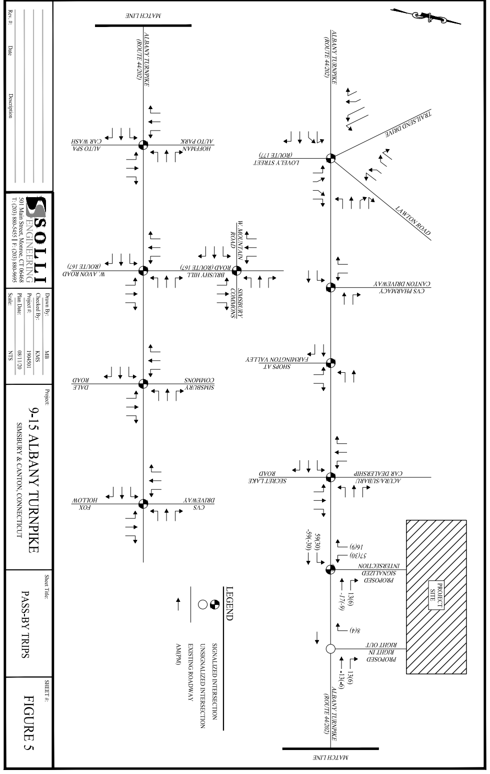
9-15 ALBANY TURNPIKE
CANTON AND SIMSBURY, CONNECTICUT

Project #:	19045O1
Plan Date:	08/11/20
Scale:	1" =500'
Figure:	1





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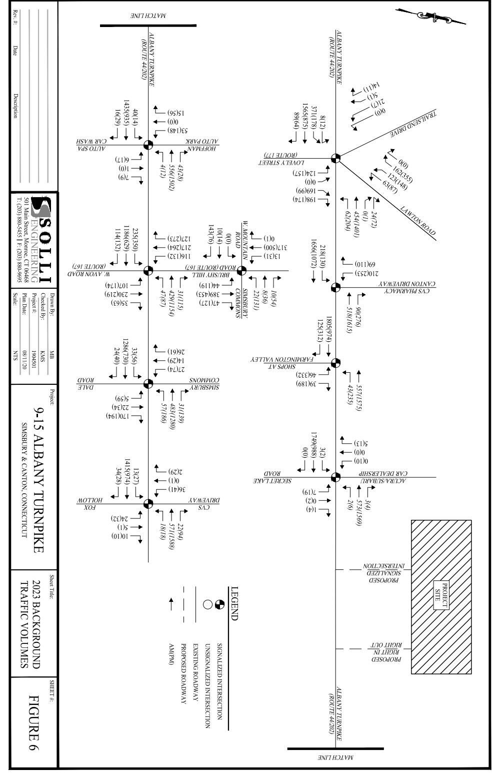
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
PASS-BY TRIPS
FIGURE 5
LEGEND
SIGNALIZED INTERSECTION
UNSIGNALIZED INTERSECTION
EXISTING ROADWAY
AM(PM)
PROJECT SITE
MATCHLINE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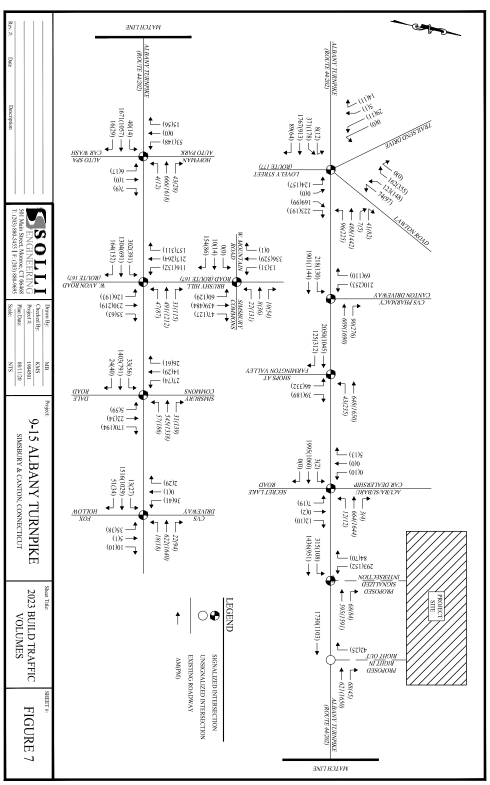
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
2023 BACKGROUND TRAFFIC VOLUMES
FIGURE 6
LEGEND
SIGNALIZED INTERSECTION
UNSIGNALIZED INTERSECTION
EXISTING ROADWAY
PROPOSED ROADWAY
AM(PM)
PROJECT SITE
MATCHLINE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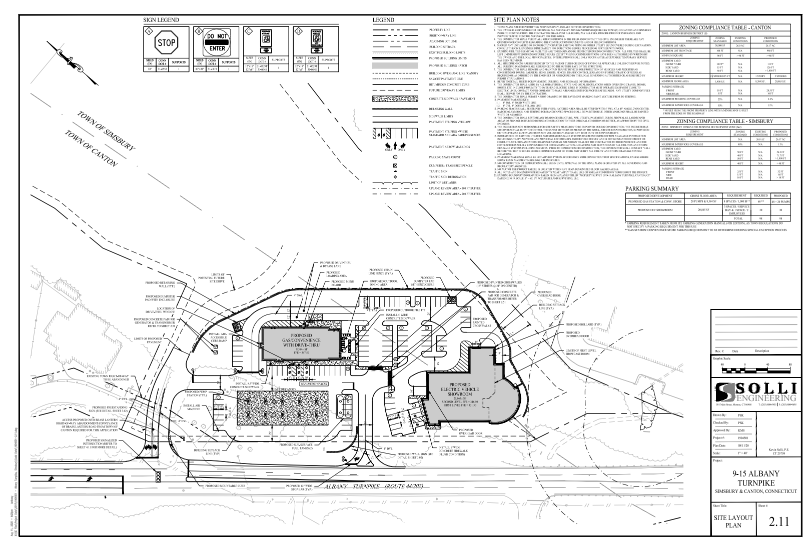
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
2023 BUILD TRAFFIC VOLUMES
FIGURE 7
LEGEND
SIGNALIZED INTERSECTION
UNSIGNALIZED INTERSECTION
EXISTING ROADWAY
AM(PM)
PROJECT SITE
MATCHLINE


SIGN LEGEND
LEGEND
SITE PLAN NOTES
ZONING COMPLIANCE TABLE - CANTON
ZONING COMPLIANCE TABLE - SIMSBURY
PARKING SUMMARY
TOWN OF SIMSBURY
TOWN OF CANTON
PROPOSED GAS/CONVENIENCE WITH DRIVE-THRU
PROPOSED ELECTRIC VEHICLE SHOWROOM
ALBANY TURNPIKE (ROUTE 44/202)
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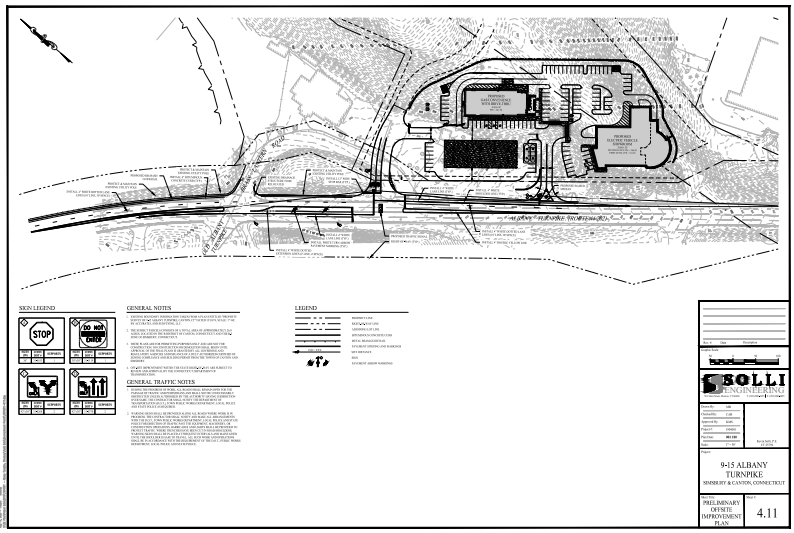
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
SITE LAYOUT PLAN
2.11



Appendix B

Traffic Analysis Data

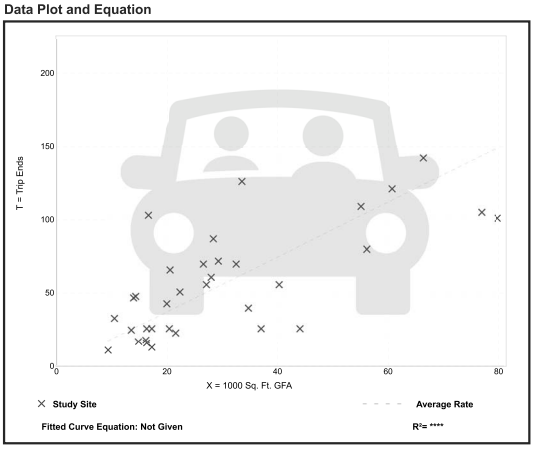
Automobile Sales (New)
(840)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 34
Avg. 1000 Sq. Ft. GFA: 31
Directional Distribution: 73% entering, 27% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.87	0.59 - 6.17	0.95

Data Plot and Equation



Trip Gen Manual, 10th Edition • Institute of Transportation Engineers

Trip Generation Summary
9-15 Albany Turnpike, Canton & Simsbury, Connecticut

	Variable	LUC	AM Peak Hour Enter	AM Peak Hour Exit	AM Peak Hour Total	PM Peak Hour Enter	PM Peak Hour Exit	PM Peak Hour Total
Automobile Sales (New)	20.87	840	28	11	39	20	30	51
Fast Food Restaurant without Drive - Thru Window	2.84	933	43	28	71	40	40	80
Coffee Shop w/ Drive Thru	1.24	937	200	200	400	27	27	54
Super Convenience Market/Gas Station	4.31	960	179	179	358	149	149	298
Total New Trips			**450**	**418**	**868**	**237**	**247**	**483**
Pass By (20%)			*84*	*82*	*166*	*43*	*43*	*86*
Net Trips			**366**	**337**	**702**	**193**	**203**	**397**

Source: ITE Trip Generation, 10th Edition
ET DOT Dunkin Donuts Trip Generation

Land Use	Time Period	Avg Rate	Entering	Exiting
LUC 840 - Automobile Sales (New)	AM	1.87	73%	27%
	PM	2.43	40%	60%
LUC 933 - Fast Food Restaurant without Drive - Thru (SF)	AM	25.10	60%	40%
	PM	28.34	50%	50%
LUC 937 - Coffee Shop w/ Drive Thru	AM	88.99	51%	49%
	PM	43.38	50%	50%
LUC 960 - Super Convenience Market/Gas Station	AM	83.14	50%	50%
	PM	69.28	50%	50%

8/10/2020

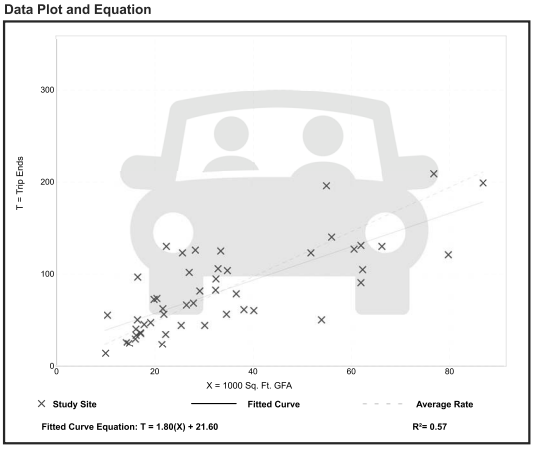
Automobile Sales (New)
(840)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 49
Avg. 1000 Sq. Ft. GFA: 34
Directional Distribution: 40% entering, 60% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.43	0.94 - 5.81	0.99

Data Plot and Equation



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Fast-Food Restaurant without Drive-Through Window
(933)

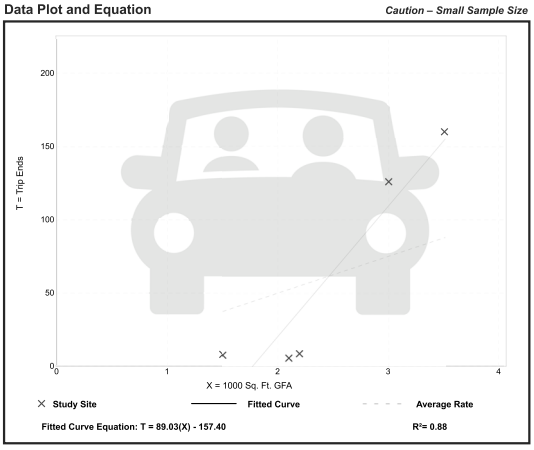
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
25.10	2.86 - 45.58	22.36

Data Plot and Equation

Caution – Small Sample Size



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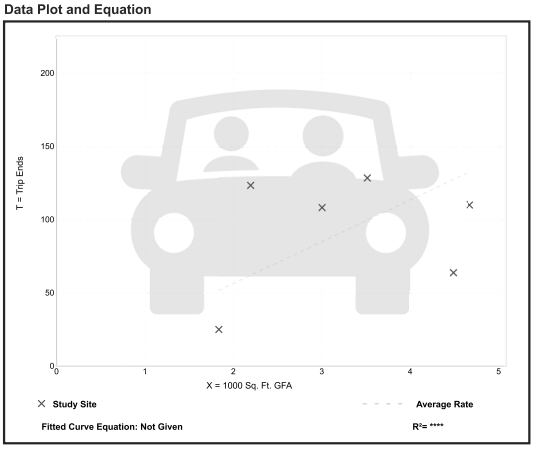
Fast-Food Restaurant without Drive-Through Window
(933)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 6
Avg. 1000 Sq. Ft. GFA: 3
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
28.34	13.62 - 56.01	14.56

Data Plot and Equation



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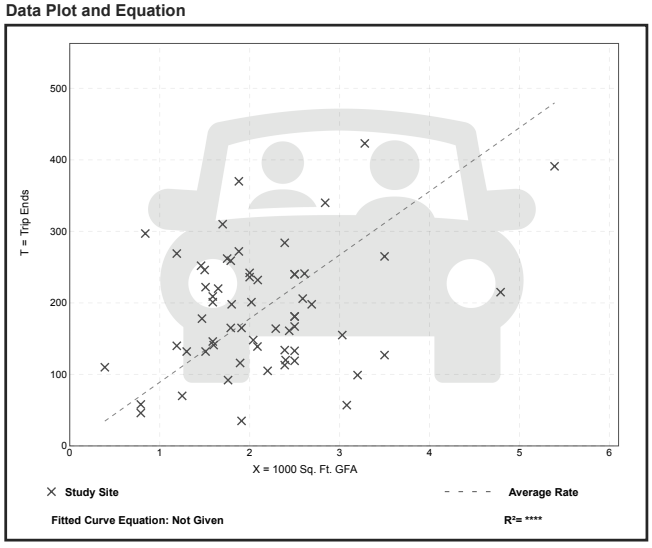
Coffee/Donut Shop with Drive-Through Window
(937)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 61
Avg. 1000 Sq. Ft. GFA: 2
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
88.99	18.32 - 353.57	48.19

Data Plot and Equation



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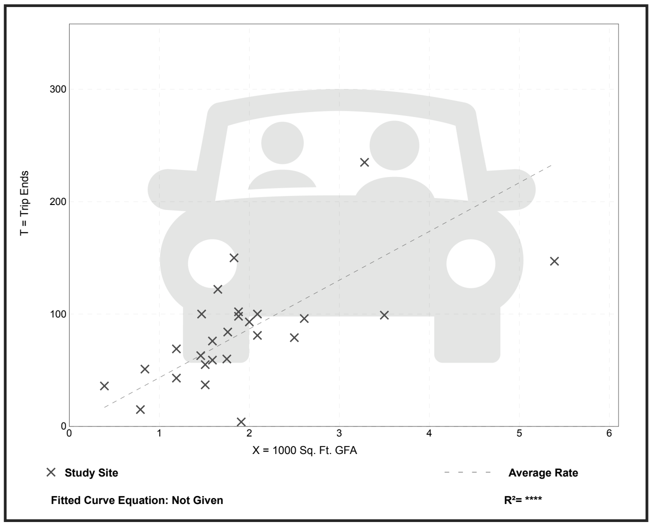
Coffee/Donut Shop with Drive-Through Window
(937)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	26
Avg. 1000 Sq. Ft. GFA:	2
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
43.38	2.09 - 92.31	18.88

Data Plot and Equation



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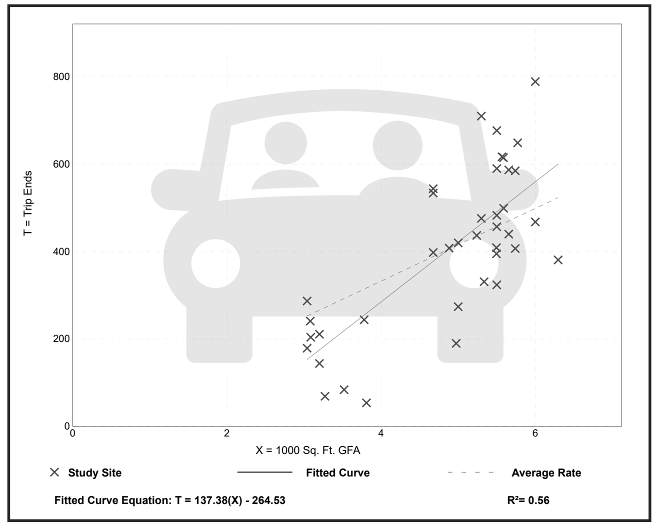
Super Convenience Market/Gas Station
(960)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	39
Avg. 1000 Sq. Ft. GFA:	5
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
83.14	14.17 - 133.96	28.07

Data Plot and Equation



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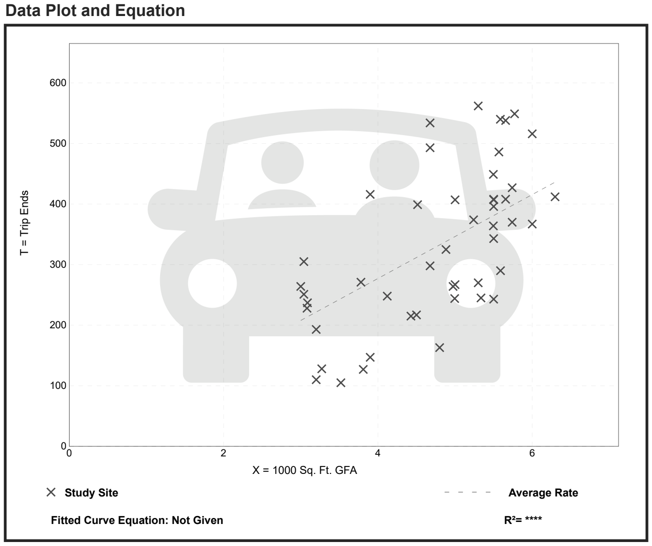
Super Convenience Market/Gas Station
(960)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.**
Setting/Location:	**General Urban/Suburban**
Number of Studies:	48
Avg. 1000 Sq. Ft. GFA:	5
Directional Distribution:	50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
69.28	29.83 - 114.20	21.07

Data Plot and Equation



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INTERSECTION ACCIDENT SUMMARY - JULY 2017 THROUGH MAY 2020
PROPOSED DEVELOPMENT - 9-15 ALBANY TURNPIKE (RTE 44 & 202), CANTON, CONNECTICUT

ACCIDENT TYPE AND SEVERITY	Albany Tpke (RTE 202) & Secret Lake Road [Intersection 1]	Albany Tpke (RTE 202) from Intersection 1 to Intersection 2	Albany Tpke (RTE 202) & Hoffman Autopark [Intersection 2]	TOTAL
Accident Type:				
Rear End	8	23	4	**35**
Angle	1	6	0	**7**
Sideswipe - Opposite Direction	0	3	0	**3**
Sideswipe - Same Direction	0	8	3	**11**
Fixed Object	2	3	0	**5**
Front to Front	0	3	0	**3**
Animal	0	4	0	**4**
Spinout	0	1	0	**1**
Other	1	1	1	**3**
Accident Severity:				
Injury Any Type	2	9	1	**12**
Property Damage Only	10	43	7	**60**
Road Surface Condition:				
Dry	11	41	7	**59**
Wet	1	7	1	**9**
Slush	0	1	0	**1**
Snow	0	3	0	**3**
Ice/Frost	0	0	0	**0**
TOTAL NUMBER OF ACCIDENTS	**12**	**52**	**8**	**72**

*Source: UConn Crash Data Repository

8/10/2020

Solli Engineering
501 Main Street, Suite 2A
Monroe , Connecticut 06468
(203) 880-5455

Albany Turnpike (Route 44/202)
Canton, Connecticut
Date Start: 24-Jul-20
Date End: 30-Jul-20
Site Code: 1904501EB
Date Printed: 08-Aug-20

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<8 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
07/26/20	0	56	6	0	0	0	0	0	0	0	0	0	1	63	
01:00	0	37	2	0	0	0	0	0	0	0	0	0	1	40	
02:00	0	17	4	0	1	0	0	0	0	0	0	0	0	22	
03:00	0	16	0	0	0	0	0	0	0	0	0	0	0	16	
04:00	0	7	1	0	1	0	0	0	1	0	0	0	0	10	
05:00	0	20	3	0	0	0	0	0	1	0	0	0	1	25	
06:00	0	83	11	0	0	0	0	0	0	0	0	0	1	95	
07:00	1	149	20	0	2	0	0	1	1	0	1	0	0	175	
08:00	2	239	20	1	0	1	0	0	0	0	0	1	1	265	
09:00	6	359	39	0	0	3	1	0	0	1	0	0	4	413	
10:00	4	485	44	0	1	3	1	1	0	0	0	1	0	5	545
11:00	6	617	57	1	3	3	1	1	1	2	1	1	0	2	696
12 PM	5	761	62	1	1	7	4	1	0	2	0	1	0	10	855
13:00	13	793	52	0	1	1	2	2	1	1	1	2	0	15	884
14:00	13	718	64	0	2	3	2	1	0	2	1	1	0	13	820
15:00	5	741	47	0	4	5	4	0	0	3	0	0	0	9	818
16:00	11	733	48	0	5	3	1	3	1	0	0	0	1	11	817
17:00	10	645	57	0	2	2	2	2	0	3	0	2	0	9	734
18:00	6	609	40	0	1	2	1	2	0	0	0	0	0	8	669
19:00	3	457	34	0	3	3	2	1	2	2	0	0	0	3	510
20:00	5	376	32	0	0	0	1	0	1	0	0	0	0	5	420
21:00	0	245	14	0	0	1	0	0	1	0	0	0	0	3	264
22:00	3	152	14	1	0	1	0	0	0	0	0	0	0	1	172
23:00	0	77	6	0	0	0	0	0	1	0	0	0	0	0	84
Total	93	8392	677	4	27	38	22	15	11	16	4	8	2	103	9412
Percent	1.0%	89.2%	7.2%	0.0%	0.3%	0.4%	0.2%	0.2%	0.1%	0.2%	0.0%	0.1%	0.0%	1.1%	
AM Peak	09:00	11:00	11:00	08:00	11:00	09:00	09:00	07:00	04:00	11:00	07:00	10:00	08:00	10:00	
Vol.	6	617	57	1	3	3	1	1	2	1	1	1	1	5	
PM Peak	13:00	13:00	14:00	12:00	16:00	12:00	12:00	16:00	19:00	15:00	13:00	13:00	16:00	13:00	
Vol.	13	793	64	1	5	7	4	3	2	3	1	2	1	15	

Solli Engineering
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Albany Turnpike (Route 44/202)
Canton, Connecticut
Date Start: 24-Jul-20
Date End: 30-Jul-20
Site Code: 1904501EB
Date Printed: 08-Aug-20

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<8 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
07/24/20	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	8	671	78	1	14	13	2	7	1	1	2	2	2	11	813
10:00	8	695	75	0	19	11	2	7	4	2	0	2	0	12	837
11:00	10	758	68	3	9	12	3	6	2	1	0	3	2	15	892
12 PM	12	796	81	1	10	13	5	4	3	3	0	0	1	8	937
13:00	18	855	85	4	9	13	4	7	2	3	0	0	0	17	1017
14:00	18	921	93	2	11	7	4	7	5	2	2	0	2	14	1088
15:00	8	858	87	1	6	5	4	1	3	2	0	3	1	12	991
16:00	9	787	76	2	7	4	4	4	1	4	1	2	0	10	911
17:00	12	817	75	4	3	5	7	3	2	4	0	1	1	11	945
18:00	11	687	48	2	3	3	2	3	2	1	0	1	0	19	782
19:00	6	587	44	1	2	2	3	0	0	1	0	2	0	4	652
20:00	6	440	23	0	2	2	2	1	1	0	0	0	0	2	479
21:00	4	298	25	0	0	1	1	0	0	0	0	0	0	3	332
22:00	2	195	13	1	0	1	1	0	2	0	0	0	0	0	215
23:00	1	93	11	0	0	1	0	0	1	0	0	0	0	0	107
Total	133	9458	882	22	95	93	44	50	29	24	5	16	9	138	10998
Percent	1.2%	86.0%	8.0%	0.2%	0.9%	0.8%	0.4%	0.5%	0.3%	0.2%	0.0%	0.1%	0.1%	1.3%	
AM Peak	11:00	11:00	09:00	11:00	10:00	09:00	11:00	09:00	10:00	10:00	09:00	11:00	09:00	11:00	
Vol.	10	758	78	3	19	13	3	7	4	2	2	3	2	15	
PM Peak	13:00	14:00	14:00	13:00	14:00	12:00	17:00	13:00	14:00	16:00	14:00	15:00	14:00	18:00	
Vol.	18	921	93	4	11	13	7	7	5	4	2	3	2	19	

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Site Code: 1904501EB
Date Printed: 08-Aug-20

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<8 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
07/27/20	0	49	2	0	2	0	0	1	0	0	0	0	1	55	
01:00	0	13	0	0	0	0	0	0	0	0	0	0	0	13	
02:00	0	14	3	0	1	0	0	0	0	0	0	0	0	18	
03:00	0	13	1	0	0	0	0	2	0	0	0	0	0	16	
04:00	0	16	6	0	0	0	0	0	1	0	0	0	0	23	
05:00	4	96	23	1	3	0	0	2	0	0	0	1	1	130	
06:00	3	277	45	3	5	4	1	3	2	0	0	1	0	344	
07:00	10	446	90	6	1	8	6	8	2	2	0	1	0	6	586
08:00	8	628	108	3	9	19	3	5	3	0	0	5	1	7	799
09:00	9	623	83	2	13	9	3	5	3	3	0	1	1	10	765
10:00	8	659	86	1	14	12	2	4	4	0	1	2	0	9	802
11:00	10	686	74	5	5	7	2	2	2	4	0	0	2	9	808
12 PM	11	721	82	2	13	9	1	1	7	1	0	1	1	15	865
13:00	5	774	73	3	10	6	4	2	4	3	1	2	1	8	896
14:00	10	706	84	1	3	9	2	5	3	0	0	3	1	8	835
15:00	7	729	64	2	8	5	4	12	1	2	0	1	1	13	849
16:00	6	683	74	1	6	4	1	2	1	1	1	3	0	8	791
17:00	5	713	51	1	1	5	1	2	1	1	1	3	0	13	798
18:00	7	645	60	5	3	5	2	3	1	0	0	0	0	14	745
19:00	7	489	40	0	3	2	2	0	0	0	0	3	0	6	552
20:00	3	346	20	0	1	2	0	0	0	1	0	0	0	2	375
21:00	2	248	19	0	0	0	0	1	0	0	0	0	0	0	270
22:00	1	128	12	1	2	0	0	0	0	0	0	0	0	1	145
23:00	0	84	5	0	1	0	0	1	2	0	0	0	0	0	93
Total	116	9786	1105	37	104	106	34	56	41	19	4	25	8	132	11573
Percent	1.0%	84.6%	9.5%	0.3%	0.9%	0.9%	0.3%	0.5%	0.4%	0.2%	0.0%	0.2%	0.1%	1.1%	
AM Peak	07:00	11:00	08:00	07:00	10:00	08:00	07:00	07:00	10:00	11:00	10:00	08:00	11:00	09:00	
Vol.	10	686	108	6	14	19	6	8	4	4	1	5	2	10	
PM Peak	12:00	13:00	14:00	18:00	12:00	12:00	13:00	15:00	12:00	13:00	13:00	14:00	12:00	12:00	
Vol.	11	774	84	5	13	9	4	12	7	3	1	3	1	15	

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Site Code: 1904501EB
Date Printed: 08-Aug-20

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<8 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
07/25/20	0	52	1	0	0	0	0	2	0	0	0	0	0	0	55
01:00	0	27	1	0	0	0	0	0	0	0	0	0	0	0	28
02:00	2	14	2	1	0	0	0	1	0	0	0	0	0	1	21
03:00	0	15	0	0	0	0	0	1	1	0	0	0	0	0	17
04:00	0	22	6	0	1	0	0	0	0	0	0	0	0	0	29
05:00	0	50	6	0	1	0	0	1	2	0	0	0	0	0	60
06:00	0	108	16	0	0	0	0	1	0	0	0	0	0	0	125
07:00	2	212	28	0	6	1	0	0	2	0	0	1	0	2	254
08:00	9	379	49	0	2	0	1	6	3	0	0	0	0	3	452
09:00	8	520	60	1	5	4	5	3	2	1	0	0	1	4	614
10:00	14	670	69	2	5	1	0	1	1	1	0	1	2	6	773
11:00	15	806	81	3	3	4	2	1	1	2	0	2	1	10	931
12 PM	16	836	74	1	2	3	5	1	1	5	2	1	1	14	962
13:00	11	808	67	0	7	6	1	5	1	2	0	1	0	15	924
14:00	18	839	71	1	4	10	5	4	1	1	0	1	0	13	968
15:00	9	877	60	0	7	3	0	1	2	1	2	0	0	14	976
16:00	10	822	54	2	1	2	4	3	1	3	0	4	1	15	922
17:00	19	736	65	0	1	5	3	1	0	1	0	1	0	16	848
18:00	9	619	54	0	2	3	3	1	1	1	0	2	0	11	706
19:00	11	521	47	0	0	7	2	1	1	0	0	0	0	14	604
20:00	8	424	33	1	1	1	4	0	0	0	0	0	0	4	476
21:00	2	317	22	0	0	0	3	1	1	0	0	0	0	6	352
22:00	3	200	17	0	0	0	0	0	0	0	0	0	0	0	220
23:00	2	113	13	0	1	0	0	0	1	0	0	0	0	0	130
Total	168	9987	896	12	49	53	36	35	21	18	4	14	6	148	11447
Percent	1.5%	87.2%	7.8%	0.1%	0.4%	0.5%	0.3%	0.3%	0.2%	0.2%	0.0%	0.1%	0.1%	1.3%	
AM Peak	11:00	11:00	11:00	11:00	07:00	09:00	09:00	08:00	08:00	11:00		11:00	10:00	11:00	
Vol.	15	806	81	3	6	4	5	6	3	2		2	2	10	
PM Peak	17:00	15:00	12:00	16:00	13:00	14:00	12:00	13:00	15:00	12:00	12:00	16:00	12:00	17:00	
Vol.	19	877	74	2	7	10	5	5	2	5	2	4	1	16	

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Canton, Connecticut
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Site Code: 1904501EB
Date Printed: 08-Aug-20

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<8 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
07/30/20	0	39	3	0	0	0	0	1	1	0	0	0	0	0	44
01:00	0	18	2	0	0	0	0	0	1	0	0	0	0	0	21
02:00	1	9	2	1	1	0	0	1	0	0	0	0	0	0	15
03:00	0	13	3	1	2	0	0	0	1	0	0	0	0	0	20
04:00	0	27	7	0	0	0	0	0	0	0	0	0	0	0	34
05:00	3	80	20	3	3	1	0	1	2	0	1	0	0	2	116
06:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	4	191	38	5	6	1	0	3	5	0	1	0	0	2	256
Percent	1.6%	74.6%	14.8%	2.0%	2.3%	0.4%	0.0%	1.2%	2.0%	0.0%	0.4%	0.0%	0.0%	0.8%	
AM Peak	05:00	05:00	05:00	05:00	05:00	05:00		00:00	05:00		05:00			05:00	
Vol.	3	80	20	3	3	1		1	2		1			2	
PM Peak															
Vol.															
Grand Total	771	58821	5926	168	516	486	205	275	179	128	35	97	46	808	68461
Percent	1.1%	85.9%	8.7%	0.2%	0.8%	0.7%	0.3%	0.4%	0.3%	0.2%	0.1%	0.1%	0.1%	1.2%	

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Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<8 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
07/28/20	0	37	2	0	1	0	0	2	0	0	0	0	0	0	42
01:00	0	12	1	0	0	0	0	0	0	0	0	0	0	0	13
02:00	0	15	1	0	1	0	0	1	1	0	0	0	0	0	19
03:00	0	16	2	1	0	0	0	0	0	0	0	0	0	0	19
04:00	0	20	7	0	0	0	0	0	1	0	0	0	0	0	28
05:00	1	92	24	2	2	1	0	1	2	0	0	0	0	0	125
06:00	2	297	54	3	6	3	1	4	0	0	0	0	0	1	371
07:00	8	486	97	8	4	3	2	6	2	1	2	0	1	6	626
08:00	8	678	99	3	9	8	2	5	4	4	0	2	0	9	831
09:00	9	704	69	3	12	3	5	3	3	2	1	1	0	13	828
10:00	5	696	80	3	11	8	0	4	5	1	0	4	1	10	828
11:00	9	726	71	5	11	2	3	2	6	2	0	4	0	12	853
12 PM	13	815	91	4	10	6	1	2	1	0	2	1	0	20	966
13:00	6	877	71	0	11	8	0	9	1	1	0	1	2	10	997
14:00	10	812	68	3	10	8	5	3	0	4	2	0	0	16	941
15:00	10	740	85	0	5	12	4	2	3	3	0	0	2	15	881
16:00	5	735	68	1	8	8	4	1	3	1	1	0	1	12	848
17:00	11	733	57	1	2	3	4	1	2	1	1	1	0	14	831
18:00	9	610	56	3	3	4	3	3	0	1	0	1	0	12	705
19:00	5	507	35	1	0	2	2	2	0	1	0	0	0	1	556
20:00	4	389	28	0	1	0	1	4	0	0	0	1	0	0	428
21:00	4	231	20	0	0	0	1	1	0	0	0	0	0	2	259
22:00	0	134	7	0	0	0	0	0	1	0	0	0	0	0	142
23:00	0	83	6	1	1	0	0	0	1	0	0	0	0	0	92
Total	119	10445	1099	42	108	79	38	56	36	22	9	16	7	153	12229
Percent	1.0%	85.4%	9.0%	0.3%	0.9%	0.6%	0.3%	0.5%	0.3%	0.2%	0.1%	0.1%	0.1%	1.3%	
AM Peak	09:00	11:00	08:00	07:00	09:00	08:00	09:00	07:00	11:00	08:00	07:00	10:00	07:00	09:00	
Vol.	9	726	99	8	12	8	5	6	6	4	2	4	1	13	
PM Peak	12:00	13:00	12:00	12:00	13:00	15:00	14:00	13:00	15:00	14:00	12:00	12:00	13:00	12:00	
Vol.	13	877	91	4	11	12	5	9	3	4	2	1	2	20	

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Eastbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
07/24/20	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	10	0	**1**	**4**	**105**	329	302	60	2	0	0	0	0	0	813	44	46
10:00	7	0	1	2	83	**382**	318	42	2	0	0	0	0	0	837	43	45
11:00	**11**	0	0	2	77	354	**355**	**86**	**6**	**1**	0	0	0	0	**892**	44	47
12 PM	9	0	0	11	73	379	388	73	4	0	0	0	0	0	937	44	47
13:00	14	0	0	11	102	436	368	81	4	1	0	0	0	0	1017	44	47
14:00	10	0	0	**17**	**133**	**461**	370	88	7	**2**	0	0	0	0	**1088**	44	47
15:00	8	0	0	2	80	405	404	85	7	0	0	0	0	0	991	44	47
16:00	8	0	0	14	51	328	**416**	87	7	0	0	0	0	0	911	44	47
17:00	12	0	**2**	14	89	410	313	98	6	1	0	0	0	0	945	44	47
18:00	**19**	0	0	4	24	254	360	**107**	**12**	1	**1**	0	0	0	782	45	48
19:00	4	0	0	4	25	209	298	103	8	1	0	0	0	0	652	45	48
20:00	2	0	0	2	28	158	222	59	6	1	1	0	0	0	479	44	48
21:00	3	0	0	5	19	124	142	32	7	0	0	0	0	0	332	44	48
22:00	0	0	0	1	19	82	78	30	5	0	0	0	0	0	215	45	49
23:00	0	0	0	0	4	42	41	15	5	0	0	0	0	0	107	46	49
Total	117	0	4	93	912	4353	4375	1046	88	8	2	0	0	0	10998		
Percent	1.1%	0.0%	0.0%	0.8%	8.3%	39.6%	39.8%	9.5%	0.8%	0.1%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00		09:00	09:00	09:00	10:00	11:00	11:00	11:00	11:00					11:00		
Vol.	11		1	4	105	382	355	86	6	1					892		
PM Peak	18:00		17:00	14:00	14:00	14:00	16:00	18:00	18:00	14:00	18:00				14:00		
Vol.	19		2	17	133	461	416	107	12	2	1				1088		

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Albany Turnpike (Route 44/202)
Canton, Connecticut
Date Start: 24-Jul-20
Date End: 30-Jul-20
Site Code: 1904501EB
Date Printed: 08-Aug-20

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<8 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
07/29/20	0	51	1	0	0	0	0	0	1	0	0	0	0	1	54
01:00	0	20	2	0	0	0	0	1	0	0	0	0	0	0	23
02:00	1	12	3	0	0	0	0	1	1	0	0	0	0	0	18
03:00	0	22	1	2	2	0	0	0	0	0	0	0	0	0	27
04:00	0	31	10	1	0	0	0	0	2	0	0	0	0	0	44
05:00	3	100	22	2	3	0	0	0	0	0	0	0	0	0	130
06:00	2	270	54	2	3	6	0	3	4	1	0	0	0	3	348
07:00	10	474	101	5	4	9	5	8	0	4	0	1	1	7	629
08:00	13	648	92	3	9	9	2	6	5	4	2	2	2	20	817
09:00	9	676	87	1	12	9	0	5	2	7	1	5	2	7	823
10:00	13	664	85	3	18	11	3	7	2	0	0	0	2	1	809
11:00	9	705	72	4	7	4	4	4	0	1	2	3	0	12	827
12 PM	6	764	78	2	8	6	2	6	2	1	0	2	2	14	893
13:00	9	837	101	4	15	12	2	4	6	1	1	0	1	9	1002
14:00	4	805	76	3	11	7	1	6	5	3	0	1	2	14	938
15:00	11	798	89	5	10	10	3	4	1	0	0	1	0	8	940
16:00	13	744	89	0	13	11	3	2	1	3	0	1	1	7	888
17:00	16	764	84	2	2	7	3	2	0	1	1	0	1	9	892
18:00	10	719	64	4	2	10	1	0	0	2	1	0	0	8	821
19:00	4	526	38	2	4	2	1	0	2	1	0	1	0	4	585
20:00	3	407	38	0	0	1	1	0	0	0	0	1	0	3	454
21:00	2	289	20	0	2	1	0	0	1	0	0	0	0	3	318
22:00	0	142	15	1	1	0	0	1	0	0	0	0	0	0	160
23:00	0	94	7	0	1	1	0	0	1	0	0	0	0	2	106
Total	138	10562	1229	46	127	116	31	60	36	29	8	18	14	132	12546
Percent	1.1%	84.2%	9.8%	0.4%	1.0%	0.9%	0.2%	0.5%	0.3%	0.2%	0.1%	0.1%	0.1%	1.1%	
AM Peak	08:00	11:00	07:00	07:00	10:00	10:00	07:00	07:00	08:00	09:00	08:00	09:00	08:00	08:00	
Vol.	13	705	101	5	18	11	5	8	5	7	2	5	2	20	
PM Peak	17:00	13:00	13:00	15:00	13:00	13:00	15:00	12:00	13:00	14:00	13:00	12:00	12:00	12:00	
Vol.	16	837	101	5	15	12	3	6	6	3	1	2	2	14	

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Albany Turnpike (Route 44/202)
Canton, Connecticut
Date Start: 24-Jul-20
Date End: 30-Jul-20
Site Code: 190450 1EB
Date Printed: 08-Aug-20

Eastbound

Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76		85th	95th
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Percent	Percent
07/27/20	1	0	0	1	1	13	24	12	3	0	0	0	0	0	55	47	50
01:00	0	0	0	0	2	5	5	1	0	0	0	0	0	0	13	44	46
02:00	0	0	0	0	4	9	4	1	0	0	0	0	0	0	18	42	45
03:00	0	0	0	1	3	4	6	2	0	0	0	0	0	0	16	44	47
04:00	0	0	0	0	2	11	8	2	0	0	0	0	0	0	23	44	47
05:00	1	0	0	1	9	35	65	16	3	0	0	0	0	0	130	44	48
06:00	1	0	0	0	1	63	155	104	**16**	**4**	0	0	0	0	344	48	50
07:00	6	0	0	0	15	109	276	**169**	10	1	0	0	0	0	586	47	49
08:00	3	0	0	1	27	**296**	344	117	11	0	0	0	0	0	799	45	48
09:00	**7**	0	0	1	20	242	**378**	105	11	0	**1**	0	0	0	765	45	48
10:00	7	0	**2**	6	38	270	359	106	13	1	0	0	0	0	802	44	48
11:00	7	0	2	**10**	**40**	285	341	107	15	1	0	0	0	0	**808**	45	48
12 PM	**15**	0	**4**	4	59	315	325	**134**	9	0	0	0	0	0	865	45	48
13:00	8	0	0	**15**	65	333	368	98	9	0	0	0	0	0	**896**	44	48
14:00	9	1	0	4	**69**	291	374	82	6	0	0	0	0	0	835	44	47
15:00	11	**1**	0	2	42	**334**	334	108	15	1	**1**	0	0	0	849	44	48
16:00	5	0	1	3	38	264	353	112	15	0	0	0	0	0	791	45	48
17:00	8	0	0	6	50	228	385	104	**17**	0	0	0	0	0	798	45	48
18:00	11	0	1	3	29	195	**396**	97	12	1	0	0	0	0	745	44	48
19:00	4	0	0	2	16	159	251	103	17	0	0	0	0	0	552	46	49
20:00	2	0	0	0	16	120	163	61	11	**2**	0	0	0	0	375	46	49
21:00	0	0	0	2	43	110	87	25	3	0	0	0	0	0	270	44	47
22:00	1	0	0	3	14	49	63	10	5	0	0	0	0	0	145	44	48
23:00	0	0	0	0	5	35	37	11	4	1	0	0	0	0	93	45	50
Total	107	1	10	65	608	3775	5101	1687	205	12	2	0	0	0	11573		
Percent	0.9%	0.0%	0.1%	0.6%	5.3%	32.6%	44.1%	14.6%	1.8%	0.1%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00		10:00	11:00	11:00	08:00	09:00	07:00	08:00	08:00	09:00				1100		
Vol.	7		2	10	40	296	378	169	16	4	1				808		
PM Peak	12:00	15:00	12:00	13:00	14:00	15:00	18:00	12:00	17:00	20:00	15:00				13:00		
Vol.	15	1	4	15	69	334	396	134	17	2	1				896		

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Albany Turnpike (Route 44/202)
Canton, Connecticut
Date Start: 24-Jul-20
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Site Code: 190450 1EB
Date Printed: 08-Aug-20

Eastbound

Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76		85th	95th
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Percent	Percent
07/25/20	0	0	0	0	5	21	22	6	1	0	0	0	0	0	55	44	48
01:00	0	0	0	1	3	6	15	2	1	0	0	0	0	0	28	44	49
02:00	1	0	0	0	3	8	8	1	0	0	0	0	0	0	21	43	44
03:00	0	0	0	0	2	9	5	1	0	0	0	0	0	0	17	43	45
04:00	0	0	0	0	2	15	10	2	0	0	0	0	0	0	29	43	46
05:00	0	0	0	0	6	16	31	6	0	1	0	0	0	0	60	44	48
06:00	0	0	0	1	4	27	49	37	7	0	0	0	0	0	125	48	50
07:00	2	0	0	0	7	59	124	55	7	0	0	0	0	0	254	47	49
08:00	4	0	**1**	0	18	124	209	89	7	0	0	0	0	0	452	46	49
09:00	4	0	0	2	**37**	173	289	92	**14**	**3**	0	0	0	0	614	45	49
10:00	7	0	1	2	23	241	388	100	11	0	0	0	0	0	773	44	48
11:00	**12**	0	1	**3**	37	**364**	**403**	**107**	4	0	0	0	0	0	**931**	44	48
12 PM	**15**	0	0	3	73	**404**	381	80	4	2	0	0	0	0	962	44	47
13:00	14	0	**1**	**6**	56	345	408	83	8	**3**	0	0	0	0	924	44	47
14:00	12	0	0	1	32	338	**447**	**126**	9	3	0	0	0	0	968	44	48
15:00	12	0	0	2	59	375	433	89	5	1	0	0	0	0	**976**	44	47
16:00	15	0	0	0	66	372	376	79	13	1	0	0	0	0	922	44	47
17:00	12	0	0	3	**83**	302	342	96	9	0	**1**	0	0	0	848	44	48
18:00	10	0	0	3	41	222	318	101	11	0	0	0	0	0	706	45	48
19:00	15	0	0	2	35	186	257	93	**14**	2	0	0	0	0	604	45	49
20:00	3	0	0	1	25	182	190	70	5	0	0	0	0	0	476	45	49
21:00	6	0	1	2	25	140	142	30	4	2	0	0	0	0	352	44	48
22:00	0	0	0	1	14	103	78	22	2	0	0	0	0	0	220	44	47
23:00	0	0	1	1	12	56	45	14	0	1	0	0	0	0	130	44	48
Total	144	0	6	34	668	4088	4970	1381	136	19	1	0	0	0	11447		
Percent	1.3%	0.0%	0.1%	0.3%	5.8%	35.7%	43.4%	12.1%	1.2%	0.2%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00		08:00	11:00	09:00	11:00	11:00	11:00	09:00	09:00					11:00		
Vol.	12		1	3	37	364	403	107	14	3					931		
PM Peak	12:00		13:00	13:00	17:00	12:00	14:00	14:00	19:00	13:00	17:00				15:00		
Vol.	15		1	6	83	404	447	126	14	3	1				976		

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Albany Turnpike (Route 44/202)
Canton, Connecticut
Date Start: 24-Jul-20
Date End: 30-Jul-20
Site Code: 190450 1EB
Date Printed: 08-Aug-20

Eastbound

Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76		85th	95th
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Percent	Percent
07/28/20	0	0	0	0	5	15	15	5	2	0	0	0	0	0	42	45	49
01:00	0	0	0	0	2	4	4	3	0	0	0	0	0	0	13	46	48
02:00	0	0	0	0	5	11	3	0	0	0	0	0	0	0	19	40	43
03:00	0	0	0	0	3	7	5	4	0	0	0	0	0	0	19	46	48
04:00	0	0	0	0	2	21	4	1	0	0	0	0	0	0	28	41	44
05:00	0	0	0	2	10	37	60	16	0	0	0	0	0	0	125	44	48
06:00	1	0	0	0	6	57	177	105	**23**	**1**	**1**	0	0	0	371	48	51
07:00	5	0	0	0	14	115	312	**156**	23	1	0	0	0	0	626	47	49
08:00	9	0	0	2	26	248	399	133	13	1	0	0	0	0	831	45	48
09:00	**10**	0	0	**7**	**50**	282	355	108	15	1	0	0	0	0	828	44	48
10:00	7	0	0	0	44	265	397	98	17	0	0	0	0	0	828	44	48
11:00	8	0	0	4	32	**304**	**403**	96	6	0	0	0	0	0	**853**	44	48
12 PM	**15**	0	0	3	**80**	393	361	97	16	1	0	0	0	0	966	44	48
13:00	8	0	**2**	**15**	56	**395**	395	112	14	0	0	0	0	0	**997**	44	48
14:00	13	0	1	4	46	345	**420**	101	11	0	0	0	0	0	941	44	48
15:00	14	0	0	4	68	315	339	**127**	13	1	0	0	0	0	881	45	48
16:00	7	0	2	5	32	277	406	100	17	2	0	0	0	0	848	44	48
17:00	12	0	1	0	37	229	405	125	17	**4**	1	0	0	0	831	45	49
18:00	13	0	0	0	19	170	368	121	14	0	0	0	0	0	705	46	49
19:00	0	0	0	3	28	129	277	99	**18**	0	**2**	0	0	0	556	46	49
20:00	0	0	0	1	21	135	181	81	7	1	1	0	0	0	428	46	49
21:00	2	0	0	4	16	90	120	20	7	0	0	0	0	0	259	44	48
22:00	0	0	0	0	7	62	45	23	4	1	0	0	0	0	142	46	49
23:00	0	0	0	0	7	29	34	17	5	0	0	0	0	0	92	47	50
Total	124	0	6	54	616	3935	5485	1748	242	14	5	0	0	0	12229		
Percent	1.0%	0.0%	0.0%	0.4%	5.0%	32.2%	44.9%	14.3%	2.0%	0.1%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00			09:00	09:00	11:00	11:00	07:00	06:00	06:00	06:00				11:00		
Vol.	10			7	50	304	403	156	23	1	1				853		
PM Peak	12:00		13:00	13:00	12:00	13:00	14:00	15:00	19:00	17:00	19:00				13:00		
Vol.	15		2	15	80	395	420	127	18	4	2				997		

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Albany Turnpike (Route 44/202)
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Site Code: 190450 1EB
Date Printed: 08-Aug-20

Eastbound

Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76		85th	95th
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Percent	Percent
07/26/20	1	0	0	0	5	22	20	13	1	1	0	0	0	0	63	47	49
01:00	1	0	0	0	5	17	15	2	0	0	0	0	0	0	40	43	45
02:00	0	0	0	0	1	9	11	0	1	0	0	0	0	0	22	43	44
03:00	0	0	0	0	4	3	7	1	0	0	0	0	0	0	16	44	55
04:00	0	0	0	0	0	6	4	0	0	0	0	0	0	0	10	43	44
05:00	1	0	0	0	3	10	10	0	1	0	0	0	0	0	25	43	44
06:00	1	0	0	1	6	26	36	20	4	0	**1**	0	0	0	95	47	50
07:00	0	**1**	0	0	8	36	64	46	15	**5**	0	0	0	0	175	49	53
08:00	1	0	0	0	6	63	131	55	9	0	0	0	0	0	265	47	49
09:00	**5**	0	0	0	**22**	84	214	70	17	1	0	0	0	0	413	46	49
10:00	4	0	0	1	14	130	271	104	**19**	2	0	0	0	0	545	47	49
11:00	1	0	0	**2**	16	**218**	**348**	**106**	5	0	0	0	0	0	**696**	45	48
12 PM	10	0	**2**	**3**	22	**338**	378	92	9	1	0	0	0	0	855	44	48
13:00	15	0	1	1	33	292	**432**	93	15	1	**1**	0	0	0	**884**	44	48
14:00	**16**	0	0	0	1	20	257	408	111	7	0	0	0	0	820	44	48
15:00	7	0	0	0	1	**39**	259	394	111	6	1	0	0	0	818	44	48
16:00	9	0	0	1	33	285	368	107	12	1	1	0	0	0	817	44	48
17:00	7	0	0	0	31	206	354	**126**	10	0	0	0	0	0	734	46	48
18:00	10	0	0	2	29	182	313	115	17	1	0	0	0	0	669	46	49
19:00	3	0	0	0	20	118	257	93	**18**	1	0	0	0	0	510	46	49
20:00	7	0	0	2	22	121	192	58	14	**4**	0	0	0	0	420	46	49
21:00	3	0	0	1	14	101	107	34	4	0	0	0	0	0	264	44	48
22:00	1	0	0	2	25	40	63	26	12	3	0	0	0	0	172	47	52
23:00	0	0	0	1	3	30	33	16	1	0	0	0	0	0	84	46	48
Total	103	1	3	19	381	2853	4430	1809	197	23	3	0	0	0	9412		
Percent	1.1%	0.0%	0.0%	0.2%	4.0%	30.3%	47.1%	14.9%	2.1%	0.2%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00	07:00		11:00	09:00	11:00	11:00	11:00	10:00	07:00	06:00				11:00		
Vol.	5	1		2	22	218	348	106	19	5	1				696		
PM Peak	14:00		12:00	12:00	15:00	12:00	13:00	17:00	19:00	20:00	13:00				13:00		
Vol.	16		2	3	39	338	432	126	18	4	1				884		

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Site Code: 1904501EB
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Start Time	Mon 20-Jul-20	Tue 21-Jul-20	Wed 22-Jul-20	Thu 23-Jul-20	Fri 24-Jul-20	Average Day	Sat 25-Jul-20	Sun 26-Jul-20	Week Average
12:00 AM	*	*	*	*	*	*	55	63	59
01:00	*	*	*	*	*	*	28	40	34
02:00	*	*	*	*	*	*	21	22	22
03:00	*	*	*	*	*	*	17	16	16
04:00	*	*	*	*	*	*	29	10	20
05:00	*	*	*	*	*	*	60	25	42
06:00	*	*	*	*	*	*	125	95	110
07:00	*	*	*	*	*	*	254	175	214
08:00	*	*	*	*	*	*	452	265	358
09:00	*	*	*	*	813	813	614	413	613
10:00	*	*	*	*	837	837	773	545	718
11:00	*	*	*	*	**892**	**892**	**931**	**696**	**840**
12:00 PM	*	*	*	*	937	937	962	855	918
01:00	*	*	*	*	1017	1017	924	**884**	942
02:00	*	*	*	*	**1088**	**1088**	968	820	**959**
03:00	*	*	*	*	991	991	**976**	818	928
04:00	*	*	*	*	911	911	922	817	883
05:00	*	*	*	*	945	945	848	734	842
06:00	*	*	*	*	782	782	706	669	719
07:00	*	*	*	*	652	652	604	510	589
08:00	*	*	*	*	479	479	476	420	458
09:00	*	*	*	*	332	332	352	264	316
10:00	*	*	*	*	215	215	220	172	202
11:00	*	*	*	*	107	107	130	84	107
Day Total	0	0	0	0	10998	10998	11447	9412	10909
% Avg. WkDay	0.0%	0.0%	0.0%	0.0%	100.0%				
% Avg. Week	0.0%	0.0%	0.0%	0.0%	100.8%	100.8%	104.9%	86.3%	
AM Peak	-	-	-	-	11:00	11:00	11:00	11:00	11:00
Vol.	-	-	-	-	892	892	931	696	840
PM Peak	-	-	-	-	14:00	14:00	15:00	13:00	14:00
Vol.	-	-	-	-	1088	1088	976	884	959

Solli Engineering
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Albany Turnpike (Route 44/202)
Canton, Connecticut
Date Start: 24-Jul-20
Date End: 30-Jul-20
Site Code: 1904501EB
Date Printed: 08-Aug-20

Start Time	Mon 27-Jul-20	Tue 28-Jul-20	Wed 29-Jul-20	Thu 30-Jul-20	Fri 31-Jul-20	Average Day	Sat 01-Aug-20	Sun 02-Aug-20	Week Average
12:00 AM	55	42	54	44	*	49	*	*	49
01:00	13	13	23	21	*	18	*	*	18
02:00	18	19	18	15	*	18	*	*	18
03:00	16	19	27	20	*	20	*	*	20
04:00	23	28	44	34	*	32	*	*	32
05:00	130	125	130	116	*	125	*	*	125
06:00	344	371	348	**250**	*	328	*	*	328
07:00	586	626	629	*	*	614	*	*	614
08:00	799	831	817	*	*	816	*	*	816
09:00	765	828	823	*	*	805	*	*	805
10:00	802	828	809	*	*	813	*	*	813
11:00	**808**	**853**	**827**	*	*	**829**	*	*	**829**
12:00 PM	865	966	893	*	*	908	*	*	908
01:00	**896**	**997**	**1002**	*	*	**965**	*	*	**965**
02:00	835	941	938	*	*	905	*	*	905
03:00	849	881	940	*	*	890	*	*	890
04:00	791	848	888	*	*	842	*	*	842
05:00	798	831	892	*	*	840	*	*	840
06:00	745	705	821	*	*	757	*	*	757
07:00	552	556	585	*	*	564	*	*	564
08:00	375	428	454	*	*	419	*	*	419
09:00	270	259	318	*	*	282	*	*	282
10:00	145	142	160	*	*	149	*	*	149
11:00	93	92	106	*	*	97	*	*	97
Day Total	11573	12229	12546	500	0	12085	0	0	12085
% Avg. WkDay	95.8%	101.2%	103.8%	4.1%	0.0%				
% Avg. Week	95.8%	101.2%	103.8%	4.1%	0.0%	100.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00	06:00	-	11:00	-	-	11:00
Vol.	808	853	827	250	-	829	-	-	829
PM Peak	13:00	13:00	13:00	-	-	13:00	-	-	13:00
Vol.	896	997	1002	-	-	965	-	-	965
Grand Total	11573	12229	12546	500	10998	23083	11447	9412	22994

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Albany Turnpike (Route 44/202)
Canton, Connecticut
Date Start: 24-Jul-20
Date End: 30-Jul-20
Site Code: 1904501EB
Date Printed: 08-Aug-20

Eastbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
07/29/20	1	0	0	**2**	4	15	19	8	5	0	0	0	0	0	54	48	52
01:00	0	0	0	1	2	8	7	0	4	1	0	0	0	0	23	51	54
02:00	0	0	0	0	2	12	4	0	0	0	0	0	0	0	18	41	43
03:00	0	0	0	0	1	13	9	3	1	0	0	0	0	0	27	44	49
04:00	0	0	0	0	3	16	19	5	1	0	0	0	0	0	44	44	48
05:00	0	0	0	2	5	46	53	17	7	0	0	0	0	0	130	46	50
06:00	3	0	0	1	5	44	164	108	23	0	0	0	0	0	348	48	51
07:00	5	0	0	1	13	103	312	**166**	**28**	1	0	0	0	0	629	48	49
08:00	**21**	0	**1**	2	38	240	**385**	117	13	0	0	0	0	0	817	45	48
09:00	6	0	1	2	34	296	374	91	14	**5**	0	0	0	0	823	44	48
10:00	3	0	0	0	**46**	298	375	76	8	3	0	0	0	0	809	44	48
11:00	10	0	0	0	30	**349**	339	91	5	2	**1**	0	0	0	**827**	44	48
12 PM	**12**	0	0	1	49	384	352	87	8	0	0	0	0	0	893	44	47
13:00	7	0	0	3	53	**442**	402	92	3	0	0	0	0	0	**1002**	44	47
14:00	11	0	0	**6**	51	384	388	93	5	0	0	0	0	0	938	44	47
15:00	9	0	0	1	48	353	**410**	106	13	0	0	0	0	0	940	44	48
16:00	4	0	0	3	62	327	368	111	11	**2**	0	0	0	0	888	44	48
17:00	10	0	0	2	**66**	312	376	115	10	1	0	0	0	0	892	44	48
18:00	7	0	0	4	30	280	369	**116**	13	2	0	0	0	0	821	45	48
19:00	2	0	0	1	13	144	311	97	**16**	1	0	0	0	0	585	46	49
20:00	2	0	0	0	20	144	209	65	10	2	**1**	**1**	0	0	454	45	49
21:00	2	0	0	5	34	132	103	34	7	0	1	0	0	0	318	44	48
22:00	1	0	0	0	10	60	73	12	4	0	0	0	0	0	160	44	48
23:00	2	0	0	0	5	28	49	19	2	1	0	0	0	0	106	46	49
Total	118	0	2	37	624	4430	5470	1629	211	21	3	1	0	0	12546		
Percent	0.9%	0.0%	0.0%	0.3%	5.0%	35.3%	43.6%	13.0%	1.7%	0.2%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00		08:00	00:00	10:00	11:00	08:00	07:00	07:00	09:00	11:00				11:00		
Vol.	21		1	2	46	349	385	166	28	5	1				827		
PM Peak	12:00			14:00	17:00	13:00	15:00	18:00	19:00	16:00	20:00	20:00			13:00		
Vol.	12			6	66	442	410	116	16	2	1	1			1002		

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Canton, Connecticut
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Site Code: 1904501EB
Date Printed: 08-Aug-20

Eastbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
07/30/20	0	0	0	0	5	15	13	6	**3**	**1**	**1**	0	0	0	44	48	54
01:00	0	0	0	0	2	9	6	4	0	0	0	0	0	0	21	46	48
02:00	0	0	0	**1**	1	9	2	1	1	0	0	0	0	0	15	44	51
03:00	0	0	0	0	3	6	9	1	1	0	0	0	0	0	20	44	50
04:00	0	0	0	0	2	10	18	3	1	0	0	0	0	0	34	44	48
05:00	**2**	0	0	0	**7**	**38**	**50**	**17**	1	1	0	0	0	0	**116**	45	48
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	2	0	0	1	20	87	98	32	7	2	1	0	0	0	250		
Percent	0.8%	0.0%	0.0%	0.4%	8.0%	34.8%	39.2%	12.8%	2.8%	0.8%	0.4%	0.0%	0.0%	0.0%			
AM Peak	05:00			02:00	05:00	05:00	05:00	05:00	00:00	00:00	00:00				05:00		
Vol.	2			1	7	38	50	17	3	1	1				116		
PM Peak																	
Vol.																	
Grand Total	715	2	31	303	3829	23521	29929	8922	1086	99	17	1	0	0	68455		
Percent	1.0%	0.0%	0.0%	0.4%	5.6%	34.4%	43.7%	13.0%	1.6%	0.1%	0.0%	0.0%	0.0%	0.0%			

	15th Percentile :	36 MPH
	50th Percentile :	40 MPH
	85th Percentile :	44 MPH
	95th Percentile :	48 MPH
Statistics	10 MPH Pace Speed :	36-45 MPH
	Number in Pace :	53450
	Percent in Pace :	78.1%
	Number of Vehicles > 40 MPH :	40054
	Percent of Vehicles > 40 MPH :	58.5%
	Mean Speed(Average) :	41 MPH

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Albany Turnpike (Route 44/202)
Canton, Connecticut
Date Start: 24-Jul-20
Date End: 30-Jul-20
Site Code: 1904501
Date Printed: 08-Aug-20

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<8 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
07/25/20	0	56	12	0	2	0	0	0	0	0	0	0	0	0	70
01:00	0	24	2	1	1	0	0	0	1	0	0	0	0	0	29
02:00	0	12	2	0	0	0	0	1	0	0	0	0	0	0	15
03:00	0	16	2	0	1	0	0	0	0	0	0	0	0	0	19
04:00	0	12	3	1	0	0	0	1	0	0	0	0	0	0	17
05:00	0	27	5	2	3	0	0	1	1	0	0	0	0	0	39
06:00	0	77	14	2	2	0	0	0	0	0	0	0	0	0	95
07:00	0	172	29	1	10	0	0	2	1	0	0	0	0	1	216
08:00	3	310	47	1	21	0	0	6	2	1	0	0	0	7	398
09:00	4	438	99	1	19	0	1	1	0	0	1	0	0	8	572
10:00	4	632	103	2	34	0	0	11	2	0	1	0	0	9	798
11:00	12	753	129	0	25	1	0	20	0	1	3	1	0	14	959
12 PM	10	811	123	0	24	0	1	13	2	0	0	0	2	12	998
13:00	8	866	119	1	30	3	0	15	1	0	0	1	0	11	1055
14:00	9	804	110	1	32	0	1	12	1	1	2	0	0	16	989
15:00	13	774	113	0	17	5	0	17	2	4	1	0	0	19	965
16:00	8	683	111	1	26	1	0	6	0	2	0	0	0	8	846
17:00	10	589	117	0	25	0	1	10	0	0	2	0	0	7	761
18:00	4	543	89	0	20	0	0	14	1	0	0	0	0	10	681
19:00	2	432	80	0	12	2	0	3	0	1	0	0	0	3	535
20:00	4	354	55	0	10	2	0	2	0	0	1	0	0	6	434
21:00	0	235	39	0	7	0	0	0	0	0	0	0	0	1	282
22:00	1	151	29	0	4	0	0	1	1	0	0	0	0	2	189
23:00	3	77	13	0	6	0	0	0	0	0	0	0	0	1	100
Total	95	8848	1445	14	331	14	4	136	15	10	11	2	2	135	11062
Percent	0.9%	80.0%	13.1%	0.1%	3.0%	0.1%	0.0%	1.2%	0.1%	0.1%	0.1%	0.0%	0.0%	1.2%	
AM Peak	11:00	11:00	11:00	05:00	10:00	11:00	09:00	11:00	08:00	08:00	11:00	11:00		11:00	
Vol.	12	753	129	2	34	1	1	20	2	1	3	1		14	
PM Peak	15:00	13:00	12:00	13:00	14:00	15:00	12:00	15:00	12:00	15:00	14:00	13:00	12:00	15:00	
Vol.	13	866	123	1	32	5	1	17	2	4	2	1	2	19	

ADT ADT 11,632 AADT 11,632

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Albany Turnpike (Route 44/202)
Canton, Connecticut
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Site Code: 1904501
Date Printed: 08-Aug-20

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<8 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
07/26/20	0	49	11	0	1	0	0	0	0	0	0	0	0	0	61
01:00	0	24	5	0	3	0	0	0	0	0	0	0	0	0	32
02:00	1	19	3	1	0	0	0	0	0	0	0	0	0	0	24
03:00	0	13	1	0	1	0	0	0	0	0	0	0	0	0	15
04:00	0	9	2	0	0	0	0	0	0	0	0	0	0	0	11
05:00	0	19	3	0	3	0	0	2	0	0	0	0	0	0	27
06:00	3	56	9	0	0	0	0	1	1	0	0	0	0	0	70
07:00	2	115	21	0	7	0	0	0	0	0	0	0	0	1	146
08:00	4	221	44	1	16	0	0	1	1	0	0	0	0	3	291
09:00	3	302	59	0	11	0	0	5	0	0	0	0	0	5	385
10:00	4	459	81	0	16	0	0	3	2	0	0	0	0	8	573
11:00	7	554	107	1	13	0	1	9	1	1	0	0	0	13	707
12 PM	8	760	127	0	16	2	1	9	1	2	0	0	2	14	942
13:00	7	709	91	1	15	1	0	13	0	1	2	1	0	10	851
14:00	12	769	100	0	23	1	1	13	0	2	0	0	1	16	938
15:00	4	665	120	0	23	2	0	9	0	2	1	1	0	13	840
16:00	9	540	115	0	17	0	0	6	1	0	0	0	0	13	701
17:00	11	497	65	0	14	0	0	6	0	1	0	0	0	5	599
18:00	4	459	61	0	22	1	1	6	1	0	0	1	0	3	559
19:00	6	343	40	0	10	1	0	5	2	1	1	0	0	6	415
20:00	1	255	37	0	14	0	1	2	1	0	0	0	0	5	316
21:00	6	212	35	0	5	0	0	3	0	0	0	0	0	0	261
22:00	0	98	8	0	4	0	0	1	0	0	0	0	0	0	111
23:00	0	57	7	0	2	0	0	0	0	0	0	0	0	0	66
Total	92	7204	1152	4	236	8	5	94	11	10	4	3	3	115	8941
Percent	1.0%	80.6%	12.9%	0.0%	2.6%	0.1%	0.1%	1.1%	0.1%	0.1%	0.0%	0.0%	0.0%	1.3%	
AM Peak	11:00	11:00	11:00	02:00	08:00		11:00	11:00	10:00	11:00				11:00	
Vol.	7	554	107	1	16		1	9	2	1				13	
PM Peak	14:00	14:00	12:00	13:00	14:00	12:00	12:00	13:00	19:00	12:00	13:00	13:00	12:00	14:00	
Vol.	12	769	127	1	23	2	1	13	2	2	2	1	2	16	

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Site Code: 1904501
Date Printed: 08-Aug-20

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<8 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
07/24/20	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	6	459	85	4	26	2	3	6	2	0	0	2	0	16	611
10:00	1	542	107	9	26	4	0	13	2	2	0	0	0	10	716
11:00	0	680	105	1	37	3	1	16	4	2	0	0	1	13	863
12 PM	9	766	156	3	36	6	1	23	5	2	1	2	0	14	1024
13:00	5	862	156	3	46	4	1	22	3	0	1	1	1	11	1116
14:00	13	861	162	3	30	6	2	19	3	2	2	0	0	18	1121
15:00	12	872	161	4	46	4	2	15	0	1	1	0	2	17	1137
16:00	12	899	155	8	38	5	3	21	2	2	0	0	0	32	1177
17:00	15	802	149	1	31	5	0	21	1	2	2	0	0	22	1051
18:00	8	702	120	3	16	4	0	3	0	3	0	0	0	13	872
19:00	4	564	70	0	15	0	0	5	1	0	0	0	1	8	668
20:00	2	405	53	0	15	0	1	1	1	0	0	0	0	2	480
21:00	2	270	44	0	8	0	1	2	0	0	0	1	0	0	328
22:00	1	141	21	0	5	0	0	2	1	0	0	0	0	1	172
23:00	2	109	9	0	4	0	0	2	0	0	0	0	0	0	126
Total	92	8934	1553	39	379	43	15	171	25	16	7	6	5	177	11462
Percent	0.8%	77.9%	13.5%	0.3%	3.3%	0.4%	0.1%	1.5%	0.2%	0.1%	0.1%	0.1%	0.0%	1.5%	
AM Peak	09:00	11:00	10:00	10:00	11:00	10:00	09:00	11:00	11:00	10:00		09:00	11:00	09:00	
Vol.	6	680	107	9	37	4	3	16	4	2		2	1	16	
PM Peak	17:00	16:00	14:00	16:00	13:00	12:00	16:00	12:00	12:00	18:00	14:00	12:00	15:00	16:00	
Vol.	15	899	162	8	46	6	3	23	5	3	2	2	2	32	

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Albany Turnpike (Route 44/202)
Canton, Connecticut
Date Start: 24-Jul-20
Date End: 30-Jul-20
Site Code: 1904501
Date Printed: 08-Aug-20

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<8 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
07/29/20	1	53	3	0	1	0	0	0	0	0	0	0	0	0	58
01:00	0	18	3	1	1	0	0	0	0	0	0	0	0	0	23
02:00	0	13	0	0	1	0	0	1	0	0	0	0	0	0	15
03:00	0	13	2	2	2	0	0	1	0	0	0	0	0	0	20
04:00	0	22	1	3	2	0	0	1	1	0	0	0	0	0	30
05:00	0	44	11	6	8	0	0	1	0	0	0	0	0	0	70
06:00	1	110	33	8	12	3	1	2	1	0	0	0	0	0	171
07:00	1	222	62	4	20	4	1	3	2	1	0	1	0	2	323
08:00	9	390	83	4	28	5	2	11	6	2	1	0	0	5	546
09:00	3	452	85	7	18	4	2	11	3	1	0	1	1	7	595
10:00	2	509	82	7	47	2	2	6	1	1	1	0	0	6	666
11:00	7	633	115	4	27	4	1	14	5	1	1	0	1	10	823
12 PM	8	671	139	5	37	1	1	22	1	1	0	0	0	22	908
13:00	2	697	138	4	33	3	1	12	0	2	1	0	0	15	908
14:00	11	721	151	2	27	4	1	15	0	3	1	1	1	21	959
15:00	11	835	170	4	44	6	1	25	2	3	2	0	1	18	1122
16:00	13	862	163	0	30	2	4	22	0	2	2	1	1	23	1125
17:00	14	878	137	3	27	0	0	18	2	3	3	1	0	10	1096
18:00	6	646	94	3	21	5	1	5	0	3	0	0	0	14	798
19:00	8	506	80	0	14	0	1	5	1	1	0	0	0	4	620
20:00	7	405	74	1	12	0	1	2	0	0	1	0	0	5	508
21:00	0	238	45	0	5	1	0	2	0	0	0	0	0	2	293
22:00	1	140	23	0	4	0	0	3	0	0	0	0	0	0	171
23:00	2	80	8	0	4	0	0	1	0	0	0	0	0	1	96
Total	107	9158	1702	68	425	44	20	183	25	24	13	5	5	165	11944
Percent	0.9%	76.7%	14.2%	0.6%	3.6%	0.4%	0.2%	1.5%	0.2%	0.2%	0.1%	0.0%	0.0%	1.4%	
AM Peak	08:00	11:00	11:00	06:00	10:00	08:00	08:00	11:00	08:00	08:00	08:00	07:00	09:00	11:00	
Vol.	9	633	115	8	47	5	2	14	6	2	1	1	1	10	
PM Peak	17:00	17:00	15:00	12:00	15:00	15:00	16:00	15:00	15:00	14:00	17:00	14:00	14:00	16:00	
Vol.	14	878	170	5	44	6	4	25	2	3	3	1	1	23	

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Albany Turnpike (Route 44/202)
Canton, Connecticut
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Site Code: 1904501
Date Printed: 08-Aug-20

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<8 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
07/27/20	0	38	6	0	1	0	0	1	0	0	0	0	0	1	48
01:00	0	14	2	1	2	0	0	0	0	0	0	0	0	0	19
02:00	0	11	1	0	0	0	0	0	1	0	0	0	0	0	13
03:00	0	8	1	0	0	0	0	0	0	0	0	0	0	0	9
04:00	0	15	4	3	0	0	0	0	0	0	0	0	0	0	22
05:00	0	46	7	1	7	0	0	2	2	0	0	0	0	0	65
06:00	1	112	22	5	12	2	0	3	4	0	0	0	0	2	163
07:00	3	199	47	7	33	1	1	6	2	0	0	0	0	2	301
08:00	3	324	74	5	25	3	2	9	3	0	1	0	0	12	461
09:00	2	400	99	1	28	2	0	11	0	1	0	0	0	8	552
10:00	3	481	108	1	32	7	2	9	4	0	0	0	0	18	665
11:00	3	571	140	9	32	7	0	12	2	1	1	0	0	15	793
12 PM	1	708	129	2	37	1	1	24	3	0	0	0	1	6	913
13:00	6	686	122	6	31	0	0	17	5	3	0	0	0	10	866
14:00	4	683	119	2	24	5	0	15	3	2	1	0	1	13	872
15:00	5	757	146	2	38	4	0	22	2	2	0	0	0	17	995
16:00	5	757	154	2	41	6	1	24	0	4	2	0	1	17	1014
17:00	13	788	126	3	32	2	1	22	0	1	0	0	0	14	1002
18:00	9	610	101	2	17	0	2	9	1	2	0	0	1	11	765
19:00	7	433	56	1	18	1	0	8	1	0	0	1	1	1	528
20:00	4	326	54	0	15	0	0	3	0	0	0	0	0	4	406
21:00	4	202	26	0	9	0	0	0	0	0	0	0	0	0	241
22:00	0	127	13	0	11	0	0	3	0	0	0	0	0	1	155
23:00	1	61	3	0	2	0	0	0	0	0	0	0	0	0	67
Total	74	8337	1560	53	447	41	10	200	34	16	5	1	5	152	10935
Percent	0.7%	76.2%	14.3%	0.5%	4.1%	0.4%	0.1%	1.8%	0.3%	0.1%	0.0%	0.0%	0.0%	1.4%	
AM Peak	07:00	11:00	11:00	11:00	07:00	10:00	08:00	11:00	08:00	09:00	08:00			10:00	
Vol.	3	571	140	9	33	7	2	12	4	1	1			18	
PM Peak	17:00	17:00	16:00	13:00	16:00	16:00	18:00	12:00	13:00	16:00	16:00	19:00	12:00	15:00	
Vol.	13	788	154	6	41	6	2	24	5	4	2	1	1	17	

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Site Code: 1904501
Date Printed: 08-Aug-20

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<8 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
07/30/20	0	58	4	0	1	0	0	0	1	0	0	0	0	0	64
01:00	0	16	2	0	2	0	0	1	1	0	0	0	0	0	22
02:00	0	11	3	1	0	0	0	2	0	0	0	0	0	0	17
03:00	0	9	3	1	0	0	0	0	0	0	0	0	0	0	13
04:00	0	13	2	4	0	1	0	1	0	0	0	0	0	0	21
05:00	0	37	12	4	10	1	0	1	1	0	0	0	0	0	66
06:00	1	85	32	6	12	2	1	3	1	0	0	0	0	17	160
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	1	229	58	16	25	4	1	8	4	0	0	0	0	17	363
Percent	0.3%	63.1%	16.0%	4.4%	6.9%	1.1%	0.3%	2.2%	1.1%	0.0%	0.0%	0.0%	0.0%	4.7%	
AM Peak	06:00	06:00	06:00	06:00	06:00	06:00	06:00	06:00	00:00					06:00	
Vol.	1	85	32	6	12	2	1	3	1					17	
PM Peak															
Vol.															
Grand Total	544	51861	9172	246	2281	190	71	962	154	87	48	22	23	925	66586
Percent	0.8%	77.9%	13.8%	0.4%	3.4%	0.3%	0.1%	1.4%	0.2%	0.1%	0.1%	0.0%	0.0%	1.4%	

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Albany Turnpike (Route 44/202)
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Site Code: 1904501
Date Printed: 08-Aug-20

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<8 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
07/28/20	0	49	9	0	2	0	0	1	0	0	0	0	0	0	61
01:00	0	11	2	2	1	0	0	0	0	0	0	0	0	0	16
02:00	0	13	1	0	0	0	0	0	0	0	0	0	0	0	14
03:00	0	8	3	0	1	0	0	1	0	0	0	0	0	0	13
04:00	0	12	1	4	0	2	0	3	0	0	0	0	0	0	22
05:00	0	47	15	2	10	0	0	1	3	0	0	0	0	0	78
06:00	0	110	27	10	10	2	1	1	4	0	0	0	0	2	167
07:00	7	263	48	4	23	2	1	5	3	0	2	0	0	2	360
08:00	2	347	84	4	30	8	1	7	5	3	0	0	0	6	497
09:00	5	447	104	4	37	4	0	8	2	0	0	0	0	6	617
10:00	4	526	121	5	37	1	1	10	1	1	0	0	1	3	711
11:00	5	638	138	2	41	3	0	8	4	0	0	0	1	10	850
12 PM	3	685	121	3	41	0	1	21	2	2	1	2	0	20	902
13:00	7	753	119	1	32	4	1	16	1	0	2	1	1	9	947
14:00	7	745	139	1	26	3	4	14	6	2	1	0	0	13	961
15:00	7	778	171	3	42	1	2	19	3	1	0	1	0	26	1054
16:00	14	873	161	2	35	3	3	13	0	1	0	0	0	28	1133
17:00	10	872	144	2	18	1	0	18	0	0	2	0	0	23	1090
18:00	4	647	106	3	17	1	1	13	0	1	0	1	0	4	798
19:00	4	497	77	0	11	0	0	3	0	0	0	0	0	7	599
20:00	2	389	52	0	8	1	0	2	1	0	0	0	0	3	458
21:00	2	245	32	0	10	0	0	3	1	0	0	0	0	1	294
22:00	0	122	17	0	5	0	0	2	2	0	0	0	0	1	149
23:00	0	74	10	0	1	0	0	1	2	0	0	0	0	0	88
Total	83	9151	1702	52	438	36	16	170	40	11	8	5	3	164	11879
Percent	0.7%	77.0%	14.3%	0.4%	3.7%	0.3%	0.1%	1.4%	0.3%	0.1%	0.1%	0.0%	0.0%	1.4%	
AM Peak	07:00	11:00	11:00	06:00	11:00	08:00	06:00	10:00	08:00	08:00	07:00		10:00	11:00	
Vol.	7	638	138	10	41	8	1	10	5	3	2		1	10	
PM Peak	16:00	16:00	15:00	12:00	15:00	13:00	14:00	12:00	14:00	12:00	13:00	12:00	13:00	16:00	
Vol.	14	873	171	3	42	4	4	21	6	2	2	2	1	28	

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Date Printed: 08-Aug-20

Westbound

Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76		85th	95th
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Percent	Percent
07/24/20	0	0	0	0	**4**	8	15	19	11	2	1	0	0	1	61	52	55
01:00	0	0	0	0	0	3	8	11	7	2	0	**1**	0	0	32	53	58
02:00	0	0	**1**	0	1	1	4	10	4	3	0	0	0	0	24	54	58
03:00	0	0	0	**1**	0	2	2	5	2	3	0	0	0	0	15	56	58
04:00	0	0	0	0	1	1	1	6	2	1	0	0	0	0	11	48	52
05:00	0	0	1	0	0	2	2	6	8	4	3	1	0	0	27	54	59
06:00	0	0	1	0	2	5	10	29	13	10	0	0	0	0	70	54	58
07:00	1	0	0	1	3	8	35	53	33	11	1	0	0	0	146	53	57
08:00	2	0	0	0	2	34	71	104	56	19	2	1	0	0	291	53	56
09:00	3	0	0	0	2	27	93	153	67	28	**8**	0	**1**	**3**	385	53	58
10:00	8	0	1	0	4	45	**201**	197	96	18	3	0	0	0	573	51	54
11:00	**13**	0	0	1	3	**73**	198	**261**	**125**	**31**	1	1	0	0	**707**	52	54
12 PM	11	0	0	0	**7**	79	**342**	339	134	25	3	1	**1**	0	**942**	50	54
13:00	9	0	0	0	5	57	267	328	**152**	30	3	0	0	0	851	51	54
14:00	11	0	0	1	3	**82**	321	**353**	136	25	2	3	1	0	938	50	54
15:00	12	0	1	1	2	56	275	297	149	**40**	7	0	0	0	840	52	55
16:00	**15**	0	0	1	5	39	211	263	119	38	7	2	0	**1**	701	52	56
17:00	5	0	1	1	3	42	172	222	104	34	**10**	**4**	1	0	599	53	57
18:00	2	0	0	1	3	29	145	237	102	29	9	2	0	0	559	52	57
19:00	4	0	0	1	2	32	117	165	75	11	6	1	1	0	415	52	54
20:00	4	0	0	1	3	25	79	120	66	13	5	0	0	0	316	52	55
21:00	0	0	**2**	**7**	6	29	87	80	33	15	1	0	1	0	261	51	56
22:00	0	0	0	0	3	16	26	29	28	9	0	0	0	0	111	53	56
23:00	0	0	1	0	2	7	20	16	10	8	2	0	0	0	66	55	59
Total	100	0	9	17	68	702	2711	3301	1527	407	72	16	6	5	8941		
Percent	1.1%	0.0%	0.1%	0.2%	0.8%	7.9%	30.3%	36.9%	17.1%	4.6%	0.8%	0.2%	0.1%	0.1%			
AM Peak	11:00		02:00	03:00	00:00	11:00	10:00	11:00	11:00	11:00	09:00	01:00	09:00	09:00	11:00		
Vol.	13		1	1	4	73	201	261	125	31	8	1	1	3	707		
PM Peak	16:00		21:00	21:00	12:00	14:00	12:00	14:00	13:00	15:00	17:00	17:00	12:00	16:00	12:00		
Vol.	15		2	7	7	82	342	353	152	40	10	4	1	1	942		

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Westbound

Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76		85th	95th
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Percent	Percent
07/24/20	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	**20**	0	**2**	3	18	107	225	163	56	13	**3**	1	0	0	611	49	53
10:00	7	**2**	0	**4**	11	99	272	221	74	**18**	2	**4**	**1**	**1**	716	49	54
11:00	8	0	0	2	**24**	**118**	**326**	**256**	**108**	16	3	2	0	0	**863**	49	53
12 PM	11	0	0	1	21	139	396	316	118	20	2	0	0	0	1024	49	53
13:00	6	0	1	4	31	**202**	409	349	89	21	2	2	0	0	1116	49	53
14:00	16	0	**2**	**6**	18	162	407	365	108	24	**7**	**6**	0	0	1121	49	54
15:00	15	0	0	0	1	**32**	138	**441**	347	128	32	3	0	0	1137	49	54
16:00	**26**	0	0	0	4	24	195	427	330	140	24	5	2	0	0	**1177**	49	54
17:00	18	**1**	0	0	0	10	91	338	**404**	**158**	23	4	3	**1**	0	1051	50	54
18:00	10	0	0	0	1	8	66	267	360	119	**33**	5	3	0	0	872	51	54
19:00	7	0	0	0	0	5	50	215	233	119	29	6	2	1	1	668	52	55
20:00	2	0	0	0	2	9	39	135	175	90	21	4	1	1	1	480	52	55
21:00	0	0	0	0	1	2	34	118	118	39	13	3	0	0	0	328	50	54
22:00	0	0	0	0	0	4	13	50	61	29	12	2	0	1	0	172	53	57
23:00	0	0	0	0	1	1	12	35	39	27	6	3	0	0	**2**	126	53	57
Total	146	3	5	30	218	1465	4061	3737	1402	305	54	26	5	5	11462		
Percent	1.3%	0.0%	0.0%	0.3%	1.9%	12.8%	35.4%	32.6%	12.2%	2.7%	0.5%	0.2%	0.0%	0.0%			
AM Peak	09:00	10:00	09:00	10:00	11:00	11:00	11:00	11:00	11:00	10:00	09:00	10:00	10:00	10:00	11:00		
Vol.	20	2	2	4	24	118	326	256	108	18	3	4	1	1	863		
PM Peak	16:00	17:00	14:00	14:00	15:00	13:00	15:00	17:00	17:00	18:00	14:00	14:00	17:00	23:00	16:00		
Vol.	26	1	2	6	32	202	441	404	158	33	7	6	1	2	1177		

Solli Engineering
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Albany Turnpike (Route 44/202)
Canton, Connecticut
Date Start: 24-Jul-20
Date End: 30-Jul-20
Site Code: 1904501
Date Printed: 08-Aug-20

Westbound

Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76		85th	95th
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Percent	Percent
07/27/20	1	0	0	1	2	5	15	11	7	5	1	0	0	0	48	54	58
01:00	0	0	0	2	1	2	6	4	3	0	1	0	0	0	19	51	60
02:00	0	0	0	0	1	1	7	1	2	1	0	0	0	0	13	52	56
03:00	0	0	0	0	0	0	3	4	2	0	0	0	0	0	9	51	53
04:00	0	0	0	0	0	1	3	7	8	1	1	0	1	0	22	49	59
05:00	0	0	0	0	0	0	8	17	26	11	2	1	0	0	65	51	54
06:00	2	0	0	**3**	1	10	33	51	36	18	6	2	**1**	0	163	55	60
07:00	2	0	0	0	4	15	78	110	63	17	**10**	2	0	0	301	53	59
08:00	13	0	0	2	14	56	96	171	75	**27**	6	0	0	**1**	461	52	56
09:00	7	**1**	**1**	0	6	55	174	186	97	17	6	2	0	0	552	52	54
10:00	**15**	0	1	1	**23**	81	219	207	**99**	15	3	1	0	0	665	50	54
11:00	15	0	0	1	19	**95**	**271**	**267**	97	22	3	**3**	0	0	**793**	50	54
12 PM	5	0	1	1	**19**	104	327	309	112	23	8	**4**	0	0	913	50	54
13:00	10	0	1	3	9	94	304	271	140	28	4	1	**1**	0	866	51	54
14:00	10	0	0	**4**	14	**107**	312	271	122	28	3	1	0	0	872	50	54
15:00	**15**	0	0	1	1	78	328	353	**159**	**51**	6	3	0	0	995	52	56
16:00	15	0	0	2	10	100	**359**	332	159	33	4	0	0	0	**1014**	51	54
17:00	10	0	**2**	2	7	73	330	**394**	147	32	4	0	0	**1**	1002	51	54
18:00	7	0	0	3	3	36	222	319	120	43	**9**	2	1	0	765	52	56
19:00	2	0	0	0	4	44	139	195	102	33	8	1	0	0	528	53	57
20:00	3	0	0	0	6	32	130	139	78	14	4	0	0	0	406	52	54
21:00	0	0	0	3	5	24	81	77	41	8	2	0	0	0	241	51	54
22:00	1	0	0	0	3	15	40	56	30	10	0	0	0	0	155	52	56
23:00	0	0	0	0	1	8	19	14	20	2	0	3	0	0	67	53	59
Total	133	1	6	29	154	1046	3517	3776	1723	430	89	26	3	2	10935		
Percent	1.2%	0.0%	0.1%	0.3%	1.4%	9.6%	32.2%	34.5%	15.8%	3.9%	0.8%	0.2%	0.0%	0.0%			
AM Peak	10:00	09:00	09:00	06:00	10:00	11:00	11:00	11:00	10:00	08:00	07:00	11:00	06:00	08:00	11:00		
Vol.	15	1	1	3	23	95	271	267	99	27	10	3	1	1	793		
PM Peak	15:00		17:00	14:00	12:00	14:00	16:00	17:00	15:00	15:00	18:00	12:00	13:00	17:00	16:00		
Vol.	15		2	4	19	107	359	394	159	51	9	4	1	1	1014		

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Albany Turnpike (Route 44/202)
Canton, Connecticut
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Site Code: 1904501
Date Printed: 08-Aug-20

Westbound

Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76		85th	95th
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Percent	Percent
07/25/20	0	0	0	0	0	0	7	26	25	7	3	2	0	0	70	51	57
01:00	0	0	0	0	2	3	12	6	5	0	0	1	0	0	29	51	54
02:00	0	0	0	**1**	1	1	4	4	2	1	0	0	0	0	15	51	56
03:00	0	0	0	0	0	1	1	8	3	2	3	1	0	0	19	56	60
04:00	0	0	0	0	0	0	4	3	6	3	1	0	0	0	17	52	55
05:00	0	0	0	0	0	3	2	12	10	8	3	1	0	0	39	53	58
06:00	0	0	0	0	0	0	9	20	31	23	9	3	0	0	95	54	59
07:00	1	0	0	0	0	4	18	52	75	41	21	3	1	0	216	54	58
08:00	7	0	0	**2**	4	24	104	158	99	20	7	2	0	**1**	398	52	57
09:00	7	0	0	0	5	53	185	193	95	19	**12**	2	**1**	0	572	52	56
10:00	7	0	0	1	8	59	250	309	127	**30**	4	2	1	0	798	51	54
11:00	**9**	0	0	1	**9**	**95**	**337**	**318**	**153**	28	5	**3**	1	0	**959**	51	54
12 PM	12	0	**1**	1	8	**129**	344	357	115	26	5	0	0	0	998	49	54
13:00	10	0	0	**5**	11	120	**375**	**368**	**131**	31	3	1	0	0	**1055**	50	54
14:00	13	0	0	0	0	8	116	352	350	113	26	5	1	**4**	**1**	989	50	54
15:00	**20**	0	0	0	1	**12**	102	348	341	114	24	1	1	0	1	965	49	54
16:00	7	0	1	0	10	63	264	336	122	**33**	8	**2**	0	0	846	51	55
17:00	6	0	0	0	7	85	244	258	126	28	6	1	0	0	761	51	54
18:00	8	0	0	1	5	43	234	254	103	21	**9**	1	2	0	681	51	54
19:00	0	0	0	0	5	39	146	202	103	30	6	2	1	1	535	53	57
20:00	4	0	0	0	5	43	166	148	52	10	5	0	0	1	434	50	54
21:00	1	0	1	1	3	35	74	107	47	10	3	0	0	0	282	51	54
22:00	2	0	0	0	1	18	51	75	29	11	0	1	1	0	189	52	56
23:00	1	0	1	2	4	13	28	35	9	5	2	0	0	0	100	50	57
Total	115	0	5	16	116	1082	3639	3969	1599	393	91	21	11	5	11062		
Percent	1.0%	0.0%	0.0%	0.1%	1.0%	9.8%	32.9%	35.9%	14.5%	3.6%	0.8%	0.2%	0.1%	0.0%			
AM Peak	11:00		02:00	08:00	11:00	11:00	11:00	11:00	11:00	10:00	09:00	11:00	09:00	08:00	11:00		
Vol.	9		1	2	9	95	337	318	153	30	12	3	1	1	959		
PM Peak	15:00		12:00	13:00	15:00	12:00	13:00	13:00	13:00	16:00	18:00	16:00	14:00	14:00	13:00		
Vol.	20		1	5	12	129	375	368	131	33	9	2	4	1	1055		

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Albany Turnpike (Route 44/202)
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Site Code: 1904501
Date Printed: 08-Aug-20

Westbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
07/30/20	0	0	0	**1**	3	**11**	**16**	**20**	12	1	0	0	0	0	64	51	54
01:00	0	0	0	0	0	4	6	7	4	1	0	0	0	0	22	52	54
02:00	0	0	0	0	**4**	2	3	4	2	2	0	0	0	0	17	53	57
03:00	0	0	0	0	0	2	5	5	1	0	0	0	0	0	13	49	51
04:00	0	0	0	1	0	2	7	10	1	0	0	0	0	0	21	48	49
05:00	0	0	**1**	0	3	8	16	20	**15**	**3**	0	0	0	0	**66**	52	54
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	0	0	1	2	10	29	53	66	35	7	0	0	0	0	203		
Percent	0.0%	0.0%	0.5%	1.0%	4.9%	14.3%	26.1%	32.5%	17.2%	3.4%	0.0%	0.0%	0.0%	0.0%			
AM Peak			05:00	00:00	02:00	00:00	00:00	00:00	05:00	05:00					05:00		
Vol.			1	1	4	11	16	20	15	3					66		
PM Peak																	
Vol.																	
Grand Total	794	6	41	141	965	6971	21965	22931	9611	2354	453	128	40	26	66426		
Percent	1.2%	0.0%	0.1%	0.2%	1.5%	10.5%	33.1%	34.5%	14.5%	3.5%	0.7%	0.2%	0.1%	0.0%			

15th Percentile : 40 MPH
50th Percentile : 45 MPH
85th Percentile : 51 MPH
95th Percentile : 54 MPH

Statistics

10 MPH Pace Speed : 41-50 MPH
Number in Pace : 44896
Percent in Pace : 67.6%
Number of Vehicles > 40 MPH : 57508
Percent of Vehicles > 40 MPH : 86.6%
Mean Speed(Average) : 46 MPH

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Westbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
07/29/20	0	0	0	1	0	11	13	17	15	3	0	1	0	0	61	53	56
01:00	0	0	0	0	2	3	4	5	1	1	0	0	0	0	16	49	55
02:00	0	0	0	0	1	1	4	3	3	2	1	0	0	0	14	52	56
03:00	0	0	0	0	0	1	1	5	3	0	2	1	0	0	13	57	61
04:00	0	0	0	0	0	2	6	6	5	2	1	0	0	0	22	49	54
05:00	0	0	0	0	0	5	14	19	22	14	4	0	0	0	78	52	55
06:00	2	0	0	0	0	3	21	39	54	26	19	1	1	0	167	54	58
07:00	3	0	0	0	2	5	21	94	132	70	24	**7**	**2**	0	360	53	58
08:00	3	0	0	0	3	4	47	141	165	103	25	4	2	0	497	52	56
09:00	7	0	0	0	0	15	85	211	199	74	20	4	2	0	617	50	54
10:00	**1**	0	0	0	2	22	83	251	217	**104**	25	6	0	0	711	51	54
11:00	**9**	0	0	**3**	**9**	**26**	**141**	**294**	**257**	79	**26**	6	0	0	**850**	49	54
12 PM	15	0	0	0	**3**	25	122	312	317	91	10	5	1	0	**1**	902	49	53
13:00	8	0	0	0	2	**26**	127	357	302	96	26	3	0	0	0	947	49	54
14:00	12	0	0	1	1	16	**144**	350	292	127	17	1	0	0	0	961	50	53
15:00	24	0	1	0	0	13	109	349	385	**139**	29	4	0	**1**	0	1054	50	54
16:00	**25**	0	0	0	1	18	121	**418**	384	133	25	5	**2**	0	1	**1133**	49	54
17:00	20	**1**	**2**	1	1	13	117	383	**397**	113	**36**	5	2	0	0	1090	49	54
18:00	2	0	0	0	3	2	54	299	288	117	28	4	1	0	0	798	51	54
19:00	7	0	0	1	3	4	44	178	236	97	25	**6**	2	0	0	599	52	55
20:00	2	0	0	1	0	5	44	149	157	76	18	4	1	1	0	458	52	56
21:00	1	0	0	0	1	2	27	103	93	47	17	4	0	1	0	294	52	57
22:00	1	0	0	0	0	3	18	43	54	23	5	2	0	0	0	149	51	54
23:00	0	0	0	0	0	4	8	23	34	9	9	0	0	1	0	88	53	58
Total	142	1	8	29	215	1372	4044	4018	1558	396	72	17	5	2	11879		
Percent	1.2%	0.0%	0.1%	0.2%	1.8%	11.5%	34.0%	33.8%	13.1%	3.3%	0.6%	0.1%	0.0%	0.0%			
AM Peak	11:00		11:00	11:00	11:00	11:00	11:00	11:00	10:00	11:00	07:00	07:00	06:00		11:00		
Vol.	9		3	3	9	26	141	294	257	104	26	7	2	1	850		
PM Peak	16:00	17:00	17:00	12:00	13:00	14:00	16:00	17:00	15:00	17:00	19:00	16:00	15:00	12:00	16:00		
Vol.	25	1	2	3	26	144	418	397	139	36	6	2	1	1	1133		

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Start Time	Mon 20-Jul-20	Tue 21-Jul-20	Wed 22-Jul-20	Thu 23-Jul-20	Fri 24-Jul-20	Average Day	Sat 25-Jul-20	Sun 26-Jul-20	Week Average
12:00 AM	*	*	*	*	*	*	58	58	58
01:00	*	*	*	*	*	*	20	29	24
02:00	*	*	*	*	*	*	19	21	20
03:00	*	*	*	*	*	*	15	9	12
04:00	*	*	*	*	*	*	18	16	17
05:00	*	*	*	*	*	*	58	29	44
06:00	*	*	*	*	*	*	122	99	110
07:00	*	*	*	*	*	*	263	186	224
08:00	*	*	*	*	*	*	444	315	380
09:00	*	*	*	*	641	641	615	400	552
10:00	*	*	*	*	763	763	856	608	742
11:00	*	*	*	*	**927**	**927**	**994**	**788**	**903**
12:00 PM	*	*	*	*	1042	1042	999	**930**	990
01:00	*	*	*	*	1097	1097	**1026**	911	**1011**
02:00	*	*	*	*	1136	1136	1018	867	1007
03:00	*	*	*	*	**1188**	**1188**	926	835	983
04:00	*	*	*	*	1109	1109	826	670	868
05:00	*	*	*	*	1042	1042	716	591	783
06:00	*	*	*	*	801	801	660	507	656
07:00	*	*	*	*	617	617	518	404	513
08:00	*	*	*	*	429	429	379	287	365
09:00	*	*	*	*	279	279	256	219	251
10:00	*	*	*	*	162	162	154	107	141
11:00	*	*	*	*	109	109	93	59	87
Day Total	0	0	0	0	11342	11342	11053	8945	10741
% Avg. WkDay	0.0%	0.0%	0.0%	0.0%	100.0%				
% Avg. Week	0.0%	0.0%	0.0%	0.0%	105.6%	105.6%	102.9%	83.3%	
AM Peak	-	-	-	-	11:00	11:00	11:00	11:00	11:00
Vol.	-	-	-	-	927	927	994	788	903
PM Peak	-	-	-	-	15:00	15:00	13:00	12:00	13:00
Vol.	-	-	-	-	1188	1188	1026	930	1011

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Westbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	85th Percent	95th Percent
07/29/20	0	0	**1**	0	2	7	16	20	8	1	0	1	**2**	0	58	52	65
01:00	0	0	0	0	4	3	5	5	2	4	0	0	0	0	23	55	58
02:00	0	0	0	0	1	2	6	2	1	2	0	0	0	**1**	15	54	58
03:00	0	0	0	0	0	3	4	9	2	2	0	0	0	0	20	52	57
04:00	0	0	0	0	1	4	9	9	3	4	0	0	0	0	30	54	58
05:00	0	0	0	1	0	11	21	23	9	3	1	0	0	0	70	51	55
06:00	0	0	0	0	0	3	13	32	59	43	17	3	1	0	171	54	58
07:00	1	0	0	0	0	5	26	63	100	95	26	**6**	1	0	0	323	54	58
08:00	8	0	0	1	0	**20**	61	163	169	91	25	6	0	2	0	546	52	56
09:00	4	0	0	0	**3**	5	71	223	186	74	**28**	1	0	0	0	595	50	54
10:00	6	0	0	0	1	7	63	206	**252**	**110**	18	1	**2**	0	0	666	51	54
11:00	**9**	0	0	1	1	14	**109**	**321**	248	97	21	2	0	1	0	**823**	49	54
12 PM	**24**	0	0	0	1	9	111	331	285	116	23	4	1	0	**3**	908	50	54
13:00	13	0	0	**3**	0	12	111	332	302	111	21	3	0	0	0	908	49	54
14:00	15	0	0	1	1	7	110	365	313	121	21	3	1	1	0	959	50	54
15:00	18	0	**3**	1	**31**	107	**380**	**405**	141	29	4	2	0	1	1	1122	50	54
16:00	22	**1**	0	3	20	114	371	394	**153**	**36**	**10**	1	0	0	**1125**	51	54
17:00	11	0	0	1	22	**148**	356	377	147	22	7	3	1	1	1096	50	54
18:00	15	0	0	0	4	72	209	310	148	33	6	1	0	0	798	52	55
19:00	5	0	0	0	6	40	208	224	102	28	3	**4**	0	0	620	52	55
20:00	5	0	0	0	3	48	153	180	87	22	6	2	1	1	508	52	56
21:00	1	0	0	0	2	14	87	105	65	14	2	1	**2**	0	293	53	56
22:00	0	0	0	1	3	17	51	55	27	11	5	1	0	0	171	53	58
23:00	1	0	0	1	2	10	28	32	14	5	2	0	1	0	96	52	58
Total	158	1	7	18	184	1275	3940	4064	1767	416	75	22	10	7	11944		
Percent	1.3%	0.0%	0.1%	0.2%	1.5%	10.7%	33.0%	34.0%	14.8%	3.5%	0.6%	0.2%	0.1%	0.1%			
AM Peak	11:00		00:00	09:00	08:00	11:00	11:00	10:00	10:00	09:00	07:00	10:00	00:00	02:00	11:00		
Vol.	9		1	3	20	109	321	252	110	28	6	2	2	1	823		
PM Peak	12:00	16:00	15:00	13:00	15:00	17:00	15:00	15:00	16:00	16:00	16:00	19:00	21:00	12:00	16:00		
Vol.	24	1	3	3	31	148	380	405	153	36	10	4	2	3	1125		

Solli Engineering
501 Main Street, Suite 2A
Monroe, Connecticut 06468
(203) 880-5455

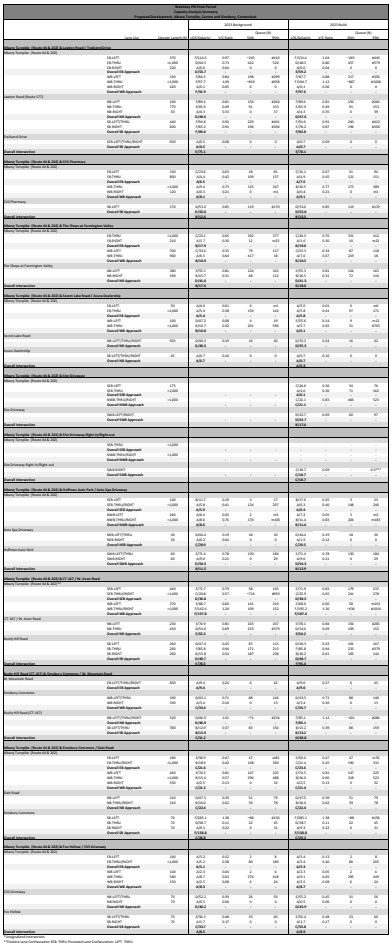
Albany Turnpike (Route 44/202)
Canton, Connecticut
Date Start: 24-Jul-20
Date End: 30-Jul-20
Site Code: 19041901
Date Printed: 08-Aug-20

Start Time	Mon 27-Jul-20	Tue 28-Jul-20	Wed 29-Jul-20	Thu 30-Jul-20	Fri 31-Jul-20	Average Day		Sat 01-Aug-20		Sun 02-Aug-20		Week Average
12:00AM	33	19	11	17	*	44		*		*		17
01:00	19	11	22	16	*	17		*		*		13
02:00	9	16	11	17	*	13		*		*		14
03:00	11	13	21	12	*	14		*		*		30
04:00	29	27	37	29	*	30		*		*		90
05:00	81	100	96	**84**	*	90		*		*		151
06:00	102	223	109	0	*	115		*		*		396
07:00	378	397	412	543	*	396		*		*		514
08:00	481	517	543	619	*	514		*		*		609
09:00	564	645	619	719	*	609		*		*		730
10:00	701	769	719	*	*	730		*		*		**848**
11:00	**825**	**867**	**853**	*	*	**848**		*		*		903
12:00PM	896	915	897	*	*	903		*		*		969
01:00	895	984	969	*	*	969		*		*		955
02:00	895	982	988	*	*	955		*		*		**1098**
03:00	997	1091	**1162**	*	*	1083		*		*		1004
04:00	**1058**	**1117**	1119	*	*	**1098**		*		*		733
05:00	949	1037	1026	*	*	1004		*		*		537
06:00	699	752	747	*	*	733		*		*		413
07:00	491	536	563	*	*	537		*		*		231
08:00	361	431	440	*	*	413		*		*		142
09:00	201	247	244	*	*	231		*		*		75
10:00	139	127	161	*	*	142		*		*		115
11:00	68	76	82	*	*	75		*		*		115
Day Total	10942	11871	11945	211	0	11536		0		0		22277
% Avg	94.9%	102.9%	103.9%	1.8%	0.0%							
Weekday % Avg	94.9%	102.9%	103.9%	1.8%	0.0%							
Week % Avg	94.9%	102.9%	103.9%	1.8%	0.0%	100.0%		0.0%		0.0%		
AM Peak	11:00	11:00	11:00	05:00	-	11:00	-	-	-	-	-	11:00
Vol.	825	867	853	84	-	848	-	-	-	-	-	848
PM Peak	16:00	16:00	16:00	-	-	16:00	-	-	-	-	-	16:00
Vol.	1058	1117	1162	-	-	1098	-	-	-	-	-	1098
Grand Total	10942	11871	11945	211	0	22878		11053		8945		22277
	ADT	ADT 11,183		AADT 11,183								

SOLLI ENGINEERING

Appendix C

Capacity Analysis Worksheets



8/11/2020

SOLLI ENGINEERING

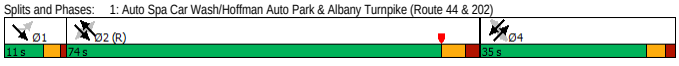
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	40	1352	16	4	524	43	6	1	7	53	0	15
Future Volume (vph)	40	1352	16	4	524	43	6	1	7	53	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12	12	12	12	12	12	12
Storage Length (ft)	140		0	250		0	0		50	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	50			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.989				0.850			0.850
Flt Protected	0.950			0.950				0.960			0.950	
Satd. Flow (prot)	1745	3449	0	1745	3538	0	0	1824	1615	0	1805	1615
Flt Permitted	0.300			0.181				0.739			0.750	
Satd. Flow (perm)	551	3449	0	332	3538	0	0	1404	1615	0	1425	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			11				73			73
Link Speed (mph)		40			40			25			30	
Link Distance (ft)		3567			815			631			754	
Travel Time (s)		60.8			13.9			17.2			17.1	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.58	0.58	0.58	0.77	0.77	0.77
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	43	1438	17	4	570	47	10	2	12	69	0	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	1455	0	4	617	0	0	12	12	0	69	19
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			22			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	0		0	0		1	2	2	1	3	3
Detector Template							Left			Left		
Leading Detector (ft)	30	0		0	0		20	16	16	20	16	16
Trailing Detector (ft)	-6	0		0	0		0	0	0	0	-10	-10
Detector 1 Position(ft)	-6	390		0	0		0	0	0	0	-10	-10
Detector 1 Size(ft)	6	6		6	20		20	6	6	20	6	6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	12							10	10		0	0
Detector 2 Size(ft)	6							6	6		6	6
Detector 2 Type	Cl+Ex							Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0							0.0	0.0		0.0	0.0
Detector 3 Position(ft)	24										10	10

Lane Group	Ø1
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector 3 Size(ft)	6										6	6
Detector 3 Type	Cl+Ex										Cl+Ex	Cl+Ex
Detector 3 Channel												
Detector 3 Extend (s)	0.0										0.0	0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		1 2			2			4			4	
Permitted Phases	1 2			2			4		4	4		4
Detector Phase	1 2	1 2		2	2		4	4	4	4	4	4
Switch Phase												
Minimum Initial (s)				15.0	15.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)				22.0	22.0		15.3	15.3	15.3	15.3	15.3	15.3
Total Split (s)				74.0	74.0		35.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)				61.7%	61.7%		29.2%	29.2%	29.2%	29.2%	29.2%	29.2%
Maximum Green (s)				67.0	67.0		29.7	29.7	29.7	29.7	29.7	29.7
Yellow Time (s)				4.3	4.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)				2.7	2.7		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
Total Lost Time (s)				7.0	7.0			5.3	5.3		5.3	5.3
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2		1.5	1.5	1.5	1.5	1.5	1.5
Recall Mode				C-Max	C-Max		None	None	None	None	None	None
Act Effct Green (s)	103.2	103.2		74.9	74.9			11.4	11.4		11.4	11.4
Actuated g/C Ratio	0.86	0.86		0.62	0.62			0.10	0.10		0.10	0.10
v/c Ratio	0.09	0.49		0.02	0.28			0.09	0.05		0.51	0.09
Control Delay	2.7	3.5		8.2	7.7			50.0	0.4		65.0	0.8
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	2.7	3.5		8.2	7.7			50.0	0.4		65.0	0.8
LOS	A	A		A	A			D	A		E	A
Approach Delay		3.4			7.7			25.2			51.1	
Approach LOS		A			A			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 27 (23%), Referenced to phase 2:NWSE, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 6.8		Intersection LOS: A	
Intersection Capacity Utilization 66.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Auto Spa Car Wash/Hoffman Auto Park & Albany Turnpike (Route 44 & 202)



Lane Group	Ø1
Detector 3 Size(ft)	
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Turn Type	
Protected Phases	1
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	11.0
Total Split (s)	11.0
Total Split (%)	9%
Maximum Green (s)	7.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Lane Group	SEL	SET	NWL	NWT	NET	NER	SWT	SWR
Lane Group Flow (vph)	43	1455	4	617	12	12	69	19
v/c Ratio	0.09	0.49	0.02	0.28	0.09	0.05	0.51	0.09
Control Delay	2.7	3.5	8.2	7.7	50.0	0.4	65.0	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.7	3.5	8.2	7.7	50.0	0.4	65.0	0.8
Queue Length 50th (ft)	4	122	1	76	9	0	52	0
Queue Length 95th (ft)	14	201	m3	97	18	0	83	0
Internal Link Dist (ft)		3487		735	551		674	
Turn Bay Length (ft)	140		250			50		100
Base Capacity (vph)	474	2966	207	2211	347	454	352	454
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.49	0.02	0.28	0.03	0.03	0.20	0.04

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

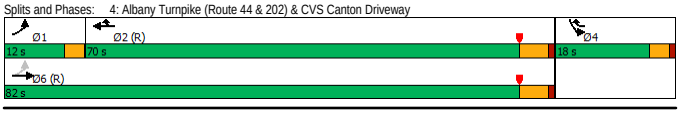
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	23	1659	531	12	9	2
Future Volume (vph)	23	1659	531	12	9	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			120	0	0
Storage Lanes	1			1	2	0
Taper Length (ft)	80				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.95
Frt				0.850	0.975	
Flt Protected	0.950				0.960	
Satd. Flow (prot)	1805	3574	3574	1615	3422	0
Flt Permitted	0.419				0.960	
Satd. Flow (perm)	796	3574	3574	1615	3422	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				13	2	
Link Speed (mph)		30	40		30	
Link Distance (ft)		615	827		249	
Travel Time (s)		14.0	14.1		5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.88	0.88
Heavy Vehicles (%)	0%	1%	1%	0%	1%	0%
Adj. Flow (vph)	25	1803	577	13	10	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	1803	577	13	12	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	3	0	0	0	1	
Detector Template						
Leading Detector (ft)	27	0	0	0	47	
Trailing Detector (ft)	-3	0	0	0	-3	
Detector 1 Position(ft)	-3	200	200	0	-3	
Detector 1 Size(ft)	6	6	6	20	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	9					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Detector 3 Position(ft)	21					
Detector 3 Size(ft)	6					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector 3 Type	Cl+Ex					
Detector 3 Channel						
Detector 3 Extend (s)	0.0					
Turn Type	pm+pt	NA	NA	pt+ov	Prot	
Protected Phases	1	6	2	2 4	4	
Permitted Phases	6					
Detector Phase	1	6	2	2 4	4	
Switch Phase						
Minimum Initial (s)	5.0	25.0	25.0		7.0	
Minimum Split (s)	8.1	30.3	30.3		11.0	
Total Split (s)	12.0	82.0	70.0		18.0	
Total Split (%)	12.0%	82.0%	70.0%		18.0%	
Maximum Green (s)	8.9	76.7	64.7		14.0	
Yellow Time (s)	3.0	4.3	4.3		3.0	
All-Red Time (s)	0.1	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	3.1	5.3	5.3		4.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	1.5	0.2	0.2		2.0	
Recall Mode	None	C-Max	C-Max		None	
Act Effct Green (s)	92.5	93.5	90.2	94.6	7.0	
Actuated g/C Ratio	0.92	0.94	0.90	0.95	0.07	
v/c Ratio	0.03	0.54	0.18	0.01	0.05	
Control Delay	0.9	2.0	1.1	0.2	39.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	0.9	2.1	1.1	0.2	39.9	
LOS	A	A	A	A	D	
Approach Delay		2.1	1.1		39.9	
Approach LOS		A	A		D	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 40 (40%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 2.0 Intersection LOS: A
Intersection Capacity Utilization 59.4% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: Albany Turnpike (Route 44 & 202) & CVS Canton Driveway



Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	25	1803	577	13	12
v/c Ratio	0.03	0.54	0.18	0.01	0.05
Control Delay	0.9	2.0	1.1	0.2	39.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	0.9	2.1	1.1	0.2	39.9
Queue Length 50th (ft)	1	0	0	0	3
Queue Length 95th (ft)	4	171	1	0	11
Internal Link Dist (ft)		535	747		169
Turn Bay Length (ft)	150			120	
Base Capacity (vph)	826	3341	3225	1574	480
Starvation Cap Reductn	0	199	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.57	0.18	0.01	0.03

Intersection Summary

Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	276	1419	84	54	413	23	117	140	159	59	85
Future Volume (vph)	8	276	1419	84	54	413	23	117	140	159	59	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		380		130	325					0	0	
Storage Lanes		1		1	1					1	0	
Taper Length (ft)		300			75						25	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850			0.850			0.850		
Flt Protected		0.950			0.950			0.950				0.980
Satd. Flow (prot)	0	1788	3574	1599	1787	3574	1599	1787	1881	1599	0	1851
Flt Permitted		0.950			0.950			0.950				0.980
Satd. Flow (perm)	0	1788	3574	1599	1787	3574	1599	1787	1881	1599	0	1851
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				215			215			169		
Link Speed (mph)			40			40			40			40
Link Distance (ft)			1074			615			959			864
Travel Time (s)			18.3			10.5			16.3			14.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%	1%
Adj. Flow (vph)	9	300	1542	91	59	449	25	124	149	169	63	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	309	1542	91	59	449	25	124	149	169	0	153
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			12			12			12			12
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15		9	15		9	15		9	15	
Number of Detectors	1	3	2	0	3	2	0	3	3	3	1	3
Detector Template	Left										Left	
Leading Detector (ft)	20	20	281	0	24	331	0	24	24	24	20	24
Trailing Detector (ft)	0	-10	100	0	-6	150	0	-6	-6	-6	0	-6
Detector 1 Position(ft)	0	-10	100	0	-6	150	0	-6	-6	-6	0	-6
Detector 1 Size(ft)	20	6	6	20	6	6	20	6	6	6	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		2	275		6	325		6	6	6		6
Detector 2 Size(ft)		6	6		6	6		6	6	6		6
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0
Detector 3 Position(ft)		14			18			18	18	18		18
Detector 3 Size(ft)		6			6			6	6	6		6

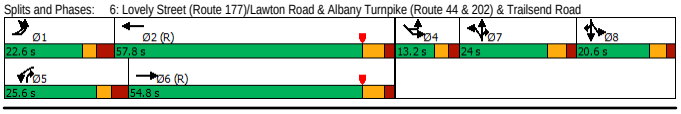
Lane Group	SBR	SEL	SER	SER2
Lane Configurations				
Traffic Volume (vph)	137	20	5	13
Future Volume (vph)	137	20	5	13
Ideal Flow (vphpl)	1900	1900	1900	1900
Storage Length (ft)	250	0	0	
Storage Lanes	2	1	0	
Taper Length (ft)		25		
Lane Util. Factor	0.88	1.00	1.00	1.00
Frt	0.850	0.936		
Flt Protected		0.975		
Satd. Flow (prot)	2814	1734	0	0
Flt Permitted		0.975		
Satd. Flow (perm)	2814	1734	0	0
Right Turn on Red				Yes
Satd. Flow (RTOR)		174		
Link Speed (mph)		30		
Link Distance (ft)		881		
Travel Time (s)		20.0		
Peak Hour Factor	0.94	0.87	0.87	0.87
Heavy Vehicles (%)	1%	0%	0%	0%
Adj. Flow (vph)	146	23	6	15
Shared Lane Traffic (%)				
Lane Group Flow (vph)	146	44	0	0
Enter Blocked Intersection	No	No	No	No
Lane Alignment	Right	Left	Right	Right
Median Width(ft)		12		
Link Offset(ft)		0		
Crosswalk Width(ft)		16		
Two way Left Turn Lane				
Headway Factor	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15	9	9
Number of Detectors	3	0		
Detector Template				
Leading Detector (ft)	24	0		
Trailing Detector (ft)	-6	0		
Detector 1 Position(ft)	-6	0		
Detector 1 Size(ft)	6	20		
Detector 1 Type	Cl+Ex	Cl+Ex		
Detector 1 Channel				
Detector 1 Extend (s)	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		
Detector 2 Position(ft)	6			
Detector 2 Size(ft)	6			
Detector 2 Type	Cl+Ex			
Detector 2 Channel				
Detector 2 Extend (s)	0.0			
Detector 3 Position(ft)	18			
Detector 3 Size(ft)	6			

Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0	0.0	0.0		0.0
Turn Type	Prot	Prot	NA	Free	Prot	NA	Free	Split	NA	pt+ov	Split	NA
Protected Phases	1	1	6		5	2		7	7	7 5	8	8
Permitted Phases				Free			Free					
Detector Phase	1	1	6		5	2		7	7	7 5	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	15.0		9.0	9.0		5.0	5.0
Minimum Split (s)	11.6	11.6	21.8		11.6	21.8		15.0	15.0		14.6	14.6
Total Split (s)	22.6	22.6	54.8		25.6	57.8		24.0	24.0		20.6	20.6
Total Split (%)	16.4%	16.4%	39.7%		18.5%	41.8%		17.4%	17.4%		14.9%	14.9%
Maximum Green (s)	16.0	16.0	48.0		19.0	51.0		18.0	18.0		15.0	15.0
Yellow Time (s)	3.0	3.0	4.5		3.0	4.5		4.0	4.0		3.6	3.6
All-Red Time (s)	3.6	3.6	2.3		3.6	2.3		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)		6.6	6.8		6.6	6.8		6.0	6.0			5.6
Lead/Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0		2.0	3.0		2.0	2.0		2.0	2.0
Recall Mode	None	None	C-Min		None	C-Min		None	None		None	None
Act Effct Green (s)		23.5	65.4	138.2	9.1	51.0	138.2	15.1	15.1	24.8		14.6
Actuated g/C Ratio		0.17	0.47	1.00	0.07	0.37	1.00	0.11	0.11	0.18		0.11
v/c Ratio		1.02	0.91	0.06	0.50	0.34	0.02	0.64	0.73	0.40		0.78
Control Delay		112.2	44.5	0.1	76.4	32.4	0.0	72.9	78.8	6.5		86.1
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay		112.2	44.5	0.1	76.4	32.4	0.0	72.9	78.8	6.5		86.1
LOS		F	D	A	E	C	A	E	E	A		F
Approach Delay			53.2			35.7			49.5			75.2
Approach LOS			D			D			D			E

Intersection Summary

Area Type:	Other		
Cycle Length: 138.2			
Actuated Cycle Length: 138.2			
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 51.2		Intersection LOS: D	
Intersection Capacity Utilization 88.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 6: Lovely Street (Route 177)/Lawton Road & Albany Turnpike (Route 44 & 202) & Trailsend Road



Lane Group	SBR	SEL	SER	SER2
Detector 3 Type	Cl+Ex			
Detector 3 Channel				
Detector 3 Extend (s)	0.0			
Turn Type	Prot	Prot		
Protected Phases	8	4		
Permitted Phases				
Detector Phase	8	4		
Switch Phase				
Minimum Initial (s)	5.0	6.0		
Minimum Split (s)	14.6	11.2		
Total Split (s)	20.6	13.2		
Total Split (%)	14.9%	9.6%		
Maximum Green (s)	15.0	8.0		
Yellow Time (s)	3.6	3.0		
All-Red Time (s)	2.0	2.2		
Lost Time Adjust (s)	0.0	0.0		
Total Lost Time (s)	5.6	5.2		
Lead/Lag	Lag			
Lead-Lag Optimize?				
Vehicle Extension (s)	2.0	2.0		
Recall Mode	None	None		
Act Effct Green (s)	14.6	6.0		
Actuated g/C Ratio	0.11	0.04		
v/c Ratio	0.49	0.18		
Control Delay	63.8	1.7		
Queue Delay	0.0	0.0		
Total Delay	63.8	1.7		
LOS	E	A		
Approach Delay		1.7		
Approach LOS		A		

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBT	SBR	SEL
Lane Group Flow (vph)	309	1542	91	59	449	25	124	149	169	153	146	44
v/c Ratio	1.02	0.91	0.06	0.50	0.34	0.02	0.64	0.73	0.40	0.78	0.49	0.18
Control Delay	112.2	44.5	0.1	76.4	32.4	0.0	72.9	78.8	6.5	86.1	63.8	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	112.2	44.5	0.1	76.4	32.4	0.0	72.9	78.8	6.5	86.1	63.8	1.7
Queue Length 50th (ft)	~345	705	0	52	152	0	108	131	0	134	70	0
Queue Length 95th (ft)	#573	#967	0	98	198	0	171	200	43	#243	111	0
Internal Link Dist (ft)		994			535			879		784		801
Turn Bay Length (ft)	380		130	325							250	
Base Capacity (vph)	303	1690	1599	245	1318	1599	237	250	562	210	320	264
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.91	0.06	0.24	0.34	0.02	0.52	0.60	0.30	0.73	0.46	0.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

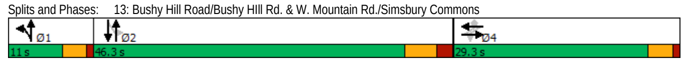
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	10	135	22	8	10	41	366	47	13	299	0
Future Volume (vph)	0	10	135	22	8	10	41	366	47	13	299	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		180	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.874				0.850		0.985				
Flt Protected					0.964			0.995			0.998	
Satd. Flow (prot)	0	1645	0	0	1832	1615	0	3510	0	0	3567	0
Flt Permitted					0.684			0.924			0.922	
Satd. Flow (perm)	0	1645	0	0	1300	1615	0	3259	0	0	3295	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		147				92		24				
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		536			693			493			335	
Travel Time (s)		12.2			15.8			8.4			5.7	
Peak Hour Factor	0.88	0.88	0.92	0.71	0.71	0.71	0.92	0.92	0.92	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	0%	1%	0%	1%	1%	1%
Adj. Flow (vph)	0	11	147	31	11	14	45	398	51	14	322	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	158	0	0	42	14	0	494	0	0	336	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	3	3	1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	106		20	26	26	20	106		20	106	
Trailing Detector (ft)	0	100		0	-4	-4	0	100		0	100	
Detector 1 Position(ft)	0	100		0	-4	-4	0	100		0	100	
Detector 1 Size(ft)	20	6		20	6	6	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					8	8						
Detector 2 Size(ft)					6	6						
Detector 2 Type					Cl+Ex	Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)					0.0	0.0						
Detector 3 Position(ft)					20	20						
Detector 3 Size(ft)					6	6						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Type					Cl+Ex	Cl+Ex						
Detector 3 Channel												
Detector 3 Extend (s)					0.0	0.0						
Turn Type		NA		Perm	NA	Perm	Prot	NA		Perm	NA	
Protected Phases		4			4		1	1 2			2	
Permitted Phases	4			4		4				2		
Detector Phase	4	4		4	4	4	1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	5.0			15.0	15.0	
Minimum Split (s)	11.3	11.3		11.3	11.3	11.3	9.0			21.3	21.3	
Total Split (s)	29.3	29.3		29.3	29.3	29.3	11.0			46.3	46.3	
Total Split (%)	33.8%	33.8%		33.8%	33.8%	33.8%	12.7%			53.5%	53.5%	
Maximum Green (s)	25.0	25.0		25.0	25.0	25.0	7.0			40.0	40.0	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.0			4.2	4.2	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0			2.1	2.1	
Lost Time Adjust (s)		0.0			0.0	0.0					0.0	
Total Lost Time (s)		4.3			4.3	4.3					6.3	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	0.2			4.0	4.0	
Recall Mode	None	None		None	None	None	Max			Min	Min	
Act Effct Green (s)		7.3			7.3	7.3		24.7			15.2	
Actuated g/C Ratio		0.18			0.18	0.18		0.59			0.37	
v/c Ratio		0.38			0.18	0.04		0.40			0.28	
Control Delay		7.7			17.9	0.2		4.2			11.2	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		7.7			17.9	0.2		4.2			11.2	
LOS		A			B	A		A			B	
Approach Delay		7.7			13.5			4.2			11.2	
Approach LOS		A			B			A			B	

Intersection Summary

Area Type: Other
Cycle Length: 86.6
Actuated Cycle Length: 41.6
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.40
Intersection Signal Delay: 7.5 Intersection LOS: A
Intersection Capacity Utilization 55.8% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Bushy Hill Road/Bushy HIll Rd. & W. Mountain Rd./Simsbury Commons



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	158	42	14	494	336
v/c Ratio	0.38	0.18	0.04	0.40	0.28
Control Delay	7.7	17.9	0.2	4.2	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.7	17.9	0.2	4.2	11.2
Queue Length 50th (ft)	2	9	0	18	31
Queue Length 95th (ft)	36	22	0	34	56
Internal Link Dist (ft)	456	613		413	255
Turn Bay Length (ft)			180		
Base Capacity (vph)	1060	793	1021	1767	3059
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.05	0.01	0.28	0.11

Intersection Summary

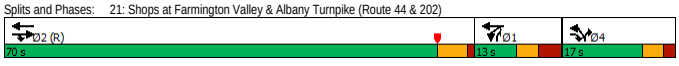
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1612	125	43	495	46	39
Future Volume (vph)	1612	125	43	495	46	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12
Storage Length (ft)		220	420		0	0
Storage Lanes		1	2		2	1
Taper Length (ft)			130		25	
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3455	1561	3385	3574	3502	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3455	1561	3385	3574	3502	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		136				28
Link Speed (mph)	40			40	30	
Link Distance (ft)	827			847	604	
Travel Time (s)	14.1			14.4	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.90	0.90
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Adj. Flow (vph)	1752	136	47	538	51	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1752	136	47	538	51	43
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	22			22	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.04	1.04	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	0	3	2	3	3
Detector Template						
Leading Detector (ft)	356	0	38	356	26	26
Trailing Detector (ft)	180	0	0	180	0	0
Detector 1 Position(ft)	180	350	0	180	0	0
Detector 1 Size(ft)	6	6	6	6	6	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	350		16	350	10	10
Detector 2 Size(ft)	6		6	6	6	6
Detector 2 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 3 Position(ft)			32		20	20

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector 3 Size(ft)			6		6	6
Detector 3 Type			Cl+Ex		Cl+Ex	Cl+Ex
Detector 3 Channel						
Detector 3 Extend (s)			0.0		0.0	0.0
Turn Type	NA	pt+ov	Prot	NA	Prot	pt+ov
Protected Phases	2	2 4	1	1 2	4	4 1
Permitted Phases						
Detector Phase	2	2 4	1	1 2	4	4 1
Switch Phase						
Minimum Initial (s)	15.0		5.0		9.0	
Minimum Split (s)	20.5		11.8		14.0	
Total Split (s)	70.0		13.0		17.0	
Total Split (%)	70.0%		13.0%		17.0%	
Maximum Green (s)	64.5		6.2		12.0	
Yellow Time (s)	4.4		3.2		3.0	
All-Red Time (s)	1.1		3.6		2.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.5		6.8		5.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	2.5		1.5		1.5	
Recall Mode	C-Min		None		None	
Act Effct Green (s)	68.4	82.4	5.3	79.2	9.0	21.1
Actuated g/C Ratio	0.68	0.82	0.05	0.79	0.09	0.21
v/c Ratio	0.74	0.10	0.26	0.19	0.16	0.12
Control Delay	13.9	0.9	44.0	2.3	43.4	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	0.9	44.0	2.3	43.4	17.2
LOS	B	A	D	A	D	B
Approach Delay	13.0			5.7	31.4	
Approach LOS	B			A	C	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 85 (85%), Referenced to phase 2:EBWB, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 12.0 Intersection LOS: B
Intersection Capacity Utilization 60.8% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 21: Shops at Farmington Valley & Albany Turnpike (Route 44 & 202)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1752	136	47	538	51	43
v/c Ratio	0.74	0.10	0.26	0.19	0.16	0.12
Control Delay	13.9	0.9	44.0	2.3	43.4	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	0.9	44.0	2.3	43.4	17.2
Queue Length 50th (ft)	329	0	14	34	15	8
Queue Length 95th (ft)	532	18	34	17	34	36
Internal Link Dist (ft)	747			767	524	
Turn Bay Length (ft)		220	420			
Base Capacity (vph)	2362	1274	209	2862	420	361
Starvation Cap Reductn	4	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.11	0.22	0.19	0.12	0.12

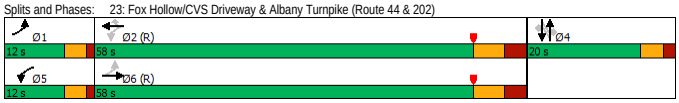
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	1333	32	17	538	22	23	5	9	36	0	2
Future Volume (vph)	13	1333	32	17	538	22	23	5	9	36	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	13	12	12	12
Storage Length (ft)	130		0	130		150	0		80	0		0
Storage Lanes	1		0	1		1	0		1	0		1
Taper Length (ft)	70			90			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996				0.850			0.850			0.850
Flt Protected	0.950			0.950				0.961			0.950	
Satd. Flow (prot)	1745	3476	0	1745	3455	1561	0	1765	1669	0	1805	1615
Flt Permitted	0.402			0.150				0.735			0.732	
Satd. Flow (perm)	738	3476	0	276	3455	1561	0	1350	1669	0	1391	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				70			99			99
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1110			920			549			426	
Travel Time (s)		21.6			17.9			15.0			11.6	
Peak Hour Factor	0.94	0.94	0.94	0.82	0.82	0.82	0.71	0.71	0.71	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	14	1418	34	21	656	27	32	7	13	42	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	1452	0	21	656	27	0	39	13	0	42	2
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0		1	0	0	1	1	1	1	1	1
Detector Template							Left			Left		
Leading Detector (ft)	40	0		40	0	0	20	30	30	20	30	30
Trailing Detector (ft)	0	0		0	0	0	0	-10	-10	0	-10	-10
Detector 1 Position(ft)	0	0		0	0	0	0	-10	-10	0	-10	-10
Detector 1 Size(ft)	40	6		40	6	20	20	40	40	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2		2	4		4	4		4
Detector Phase	1	6		5	2	2	4	4	4	4	4	4
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0	15.0	4.0	4.0	4.0	4.0	4.0	4.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	8.0	22.2		8.0	22.2	22.2	8.8	8.8	8.8	8.8	8.8	8.8
Total Split (s)	12.0	58.0		12.0	58.0	58.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	13.3%	64.4%		13.3%	64.4%	64.4%	22.2%	22.2%	22.2%	22.2%	22.2%	22.2%
Maximum Green (s)	8.0	50.8		8.0	50.8	50.8	15.2	15.2	15.2	15.2	15.2	15.2
Yellow Time (s)	3.0	4.2		3.0	4.2	4.2	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	3.0		1.0	3.0	3.0	1.8	1.8	1.8	1.8	1.8	1.8
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)	4.0	7.2		4.0	7.2	7.2		4.8	4.8		4.8	4.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	0.2		1.5	0.2	0.2	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	73.9	70.4		74.8	72.1	72.1		7.6	7.6		7.6	7.6
Actuated g/C Ratio	0.82	0.78		0.83	0.80	0.80		0.08	0.08		0.08	0.08
v/c Ratio	0.02	0.53		0.07	0.24	0.02		0.35	0.06		0.36	0.01
Control Delay	2.1	6.5		2.4	3.7	0.0		46.2	0.4		46.7	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	2.1	6.5		2.4	3.7	0.0		46.2	0.4		46.7	0.0
LOS	A	A		A	A	A		D	A		D	A
Approach Delay		6.5			3.5			34.8			44.6	
Approach LOS		A			A			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 15 (17%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 7.0		Intersection LOS: A	
Intersection Capacity Utilization 58.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 23: Fox Hollow/CVS Driveway & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	14	1452	21	656	27	39	13	42	2
v/c Ratio	0.02	0.53	0.07	0.24	0.02	0.35	0.06	0.36	0.01
Control Delay	2.1	6.5	2.4	3.7	0.0	46.2	0.4	46.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.1	6.5	2.4	3.7	0.0	46.2	0.4	46.7	0.0
Queue Length 50th (ft)	1	122	2	39	0	21	0	23	0
Queue Length 95th (ft)	5	295	6	89	0	40	0	51	0
Internal Link Dist (ft)		1030		840		469		346	
Turn Bay Length (ft)	130		130		150		80		
Base Capacity (vph)	707	2720	361	2768	1264	228	364	234	355
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	0.02	0.53	0.06	0.24	0.02	0.17	0.04	0.18	0.01

Intersection Summary

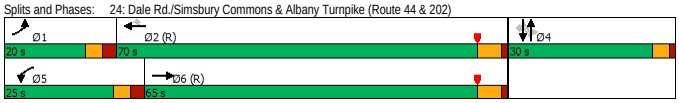
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	1211	23	54	455	31	5	22	160	27	14	26
Future Volume (vph)	33	1211	23	54	455	31	5	22	160	27	14	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	11	11	12	12	12	12
Storage Length (ft)	180		0	450		525	200		0	0		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	115			80			50			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.868				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	3445	0	1770	3574	1615	1454	1594	0	1805	1900	1615
Flt Permitted	0.950			0.950			0.745			0.339		
Satd. Flow (perm)	1745	3445	0	1770	3574	1615	1140	1594	0	644	1900	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				61		213				74
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		791			1110			639			380	
Travel Time (s)		15.4			21.6			17.4			10.4	
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85	0.75	0.75	0.75	0.73	0.73	0.73
Heavy Vehicles (%)	0%	1%	0%	2%	1%	0%	20%	0%	0%	0%	0%	0%
Adj. Flow (vph)	37	1346	26	64	535	36	7	29	213	37	19	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	1372	0	64	535	36	7	242	0	37	19	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1		1	1	1
Detector Template										Left		
Leading Detector (ft)	25	306		25	256	256	20	20		30	30	40
Trailing Detector (ft)	-5	300		-5	250	250	-10	-10		0	0	-10
Detector 1 Position(ft)	-5	300		-5	250	250	-10	-10		0	0	-10
Detector 1 Size(ft)	30	6		6	6	30	30	30		30	30	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases						2	4			4		4
Detector Phase	1	6		5	2	2	4	4		4	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	15.0	15.0	7.0	7.0		7.0	7.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	12.5	20.6		12.5	20.6	20.6	11.2	11.2		11.2	11.2	11.2
Total Split (s)	20.0	65.0		25.0	70.0	70.0	30.0	30.0		30.0	30.0	30.0
Total Split (%)	16.7%	54.2%		20.8%	58.3%	58.3%	25.0%	25.0%		25.0%	25.0%	25.0%
Maximum Green (s)	14.5	59.4		19.5	64.4	64.4	25.8	25.8		25.8	25.8	25.8
Yellow Time (s)	3.0	4.3		3.0	4.3	4.3	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	2.5	1.3		2.5	1.3	1.3	1.2	1.2		1.2	1.2	1.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.6		5.5	5.6	5.6	4.2	4.2		4.2	4.2	4.2
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	5.0		1.5	8.0	8.0	2.0	2.0		2.0	2.0	2.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Act Effct Green (s)	7.6	86.5		8.9	90.3	90.3	11.8	11.8		11.8	11.8	11.8
Actuated g/C Ratio	0.06	0.72		0.07	0.75	0.75	0.10	0.10		0.10	0.10	0.10
v/c Ratio	0.34	0.55		0.49	0.20	0.03	0.06	0.70		0.59	0.10	0.16
Control Delay	56.1	4.9		65.6	5.8	0.8	46.8	20.5		85.3	47.6	2.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	56.1	5.0		65.6	5.8	0.8	46.8	20.5		85.3	47.6	2.5
LOS	E	A		E	A	A	D	C		F	D	A
Approach Delay		6.3			11.5			21.3			45.1	
Approach LOS		A			B			C			D	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 20 (17%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 10.8 Intersection LOS: B
Intersection Capacity Utilization 73.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 24: Dale Rd./Simsbury Commons & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	37	1372	64	535	36	7	242	37	19	36
v/c Ratio	0.34	0.55	0.49	0.20	0.03	0.06	0.70	0.59	0.10	0.16
Control Delay	56.1	4.9	65.6	5.8	0.8	46.8	20.5	85.3	47.6	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.1	5.0	65.6	5.8	0.8	46.8	20.5	85.3	47.6	2.5
Queue Length 50th (ft)	30	126	49	63	0	5	21	28	14	0
Queue Length 95th (ft)	m45	120	88	104	4	16	51	50	28	0
Internal Link Dist (ft)		711		1030			559		300	
Turn Bay Length (ft)	180		450		525	200				
Base Capacity (vph)	210	2484	287	2688	1229	245	509	138	408	405
Starvation Cap Reductn	0	61	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.57	0.22	0.20	0.03	0.03	0.48	0.27	0.05	0.09

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

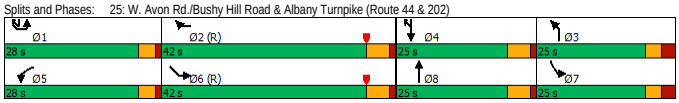
Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Traffic Volume (vph)	44	404	29	101	217	33	109	204	120	221	1117	107
Future Volume (vph)	44	404	29	101	217	33	109	204	120	221	1117	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	11	12	12	11	11	11	11	12	12
Storage Length (ft)	375	0		200		0	0		0		220	0
Storage Lanes	1	2		1		0	1		1		2	0
Taper Length (ft)	125			150			25				140	
Lane Util. Factor	1.00	0.88	1.00	1.00	0.95	0.95	1.00	1.00	1.00	0.97	0.97	0.95
Frt		0.850			0.980				0.850		0.987	
Flt Protected	0.950			0.950			0.950			0.950	0.956	
Satd. Flow (prot)	1745	2722	0	1728	3507	0	1745	1818	1546	3385	3447	0
Flt Permitted	0.950			0.950			0.950			0.950	0.956	
Satd. Flow (perm)	1745	2722	0	1728	3507	0	1745	1818	1546	3385	3447	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		108			12				136		108	
Link Speed (mph)	40				25			40			40	
Link Distance (ft)	791				809			493			815	
Travel Time (s)	13.5				22.1			8.4			13.9	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.88	0.88	0.88	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	0%	1%	1%	0%	1%	0%
Adj. Flow (vph)	49	454	33	107	231	35	124	232	136	235	1188	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	487	0	107	266	0	124	232	136	235	1302	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	11				11			11			46	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.00	1.00
Turning Speed (mph)	15	9	9	15		9	15		9	15	15	9
Number of Detectors	1	2		1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	40	368		34	30		30	30	30	40	190	
Trailing Detector (ft)	0	176		-6	-10		-10	-10	-10	0	184	
Detector 1 Position(ft)	0	176		-6	-10		-10	-10	-10	0	184	
Detector 1 Size(ft)	40	6		40	40		40	40	40	40	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		362										
Detector 2 Size(ft)		6										
Detector 2 Type		Cl+Ex										
Detector 2 Channel												
Detector 2 Extend (s)		0.0										
Turn Type	Prot	Prot		Prot	NA		Prot	NA	pt+ov	Prot	Prot	

Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Protected Phases	5	2		3	8		7	4	14	1	6	
Permitted Phases												
Detector Phase	5	2		3	8		7	4	14	1	6	
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	7.0		7.0	7.0		7.0	15.0	
Minimum Split (s)	11.0	20.4		12.6	12.2		12.6	12.2		11.1	20.4	
Total Split (s)	28.0	42.0		25.0	25.0		25.0	25.0		28.0	42.0	
Total Split (%)	23.3%	35.0%		20.8%	20.8%		20.8%	20.8%		23.3%	35.0%	
Maximum Green (s)	24.0	36.6		19.4	19.8		19.4	19.8		23.9	36.6	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.2		3.0	4.2	
All-Red Time (s)	1.0	1.2		2.6	1.0		2.6	1.0		1.1	1.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.4		5.6	5.2		5.6	5.2		4.1	5.4	
Lead/Lag	Lead	Lag		Lag	Lead		Lag	Lead		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	4.0		1.5	2.0		1.5	2.0		1.5	4.0	
Recall Mode	None	C-Min		None	None		None	None		None	C-Min	
Act Effct Green (s)	8.1	57.8		11.6	13.3		16.3	18.1	31.4	12.2	64.2	
Actuated g/C Ratio	0.07	0.48		0.10	0.11		0.14	0.15	0.26	0.10	0.54	
v/c Ratio	0.42	0.36		0.64	0.67		0.52	0.85	0.27	0.68	0.69	
Control Delay	71.2	13.6		69.0	56.9		55.8	76.3	4.3	70.6	20.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	71.2	13.6		69.0	56.9		55.8	76.3	4.3	70.6	20.5	
LOS	E	B		E	E		E	E	A	E	C	
Approach Delay	18.9				60.4			51.2			28.1	
Approach LOS	B				E			D			C	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 5 (4%), Referenced to phase 2:WBR and 6:SEL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 34.4 Intersection LOS: C
Intersection Capacity Utilization 74.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 25: W. Avon Rd./Bushy Hill Road & Albany Turnpike (Route 44 & 202)



Lane Group	WBL	WBR	NBL	NBT	SBL	SBT	SBR	SEL2	SEL
Lane Group Flow (vph)	49	487	107	266	124	232	136	235	1302
v/c Ratio	0.42	0.36	0.64	0.67	0.52	0.85	0.27	0.68	0.69
Control Delay	71.2	13.6	69.0	56.9	55.8	76.3	4.3	70.6	20.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.2	13.6	69.0	56.9	55.8	76.3	4.3	70.6	20.5
Queue Length 50th (ft)	38	105	81	101	89	174	0	97	372
Queue Length 95th (ft)	83	169	136	142	147	#282	28	131	520
Internal Link Dist (ft)	711			729		413			735
Turn Bay Length (ft)	375		200					220	220
Base Capacity (vph)	349	1366	279	588	282	299	662	674	1893
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	0.14	0.36	0.38	0.45	0.44	0.78	0.21	0.35	0.69

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

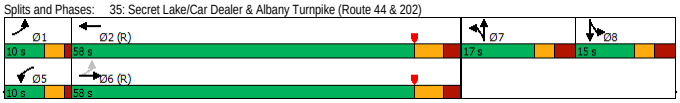
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1648	0	2	540	1	7	0	1	0	0	5
Future Volume (vph)	3	1648	0	2	540	1	7	0	1	0	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	11	11	11	11	12	12	12	12	12	12
Storage Length (ft)	50		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			70			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.986			0.865	
Flt Protected	0.950			0.950				0.957				
Satd. Flow (prot)	1745	3574	0	1745	3455	0	0	1793	0	0	1627	0
Flt Permitted	0.430			0.950				0.957				
Satd. Flow (perm)	790	3574	0	1745	3455	0	0	1793	0	0	1627	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								155			436	
Link Speed (mph)		40			40			25			30	
Link Distance (ft)		847			3567			498			493	
Travel Time (s)		14.4			60.8			13.6			11.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.80	0.80	0.80	0.90	0.90	0.90
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	3	1791	0	2	587	1	9	0	1	0	0	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	1791	0	2	588	0	0	10	0	0	6	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			22			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	0		3	0		1	3		1	2	
Detector Template							Left					
Leading Detector (ft)	26	0		26	0		20	26		6	16	
Trailing Detector (ft)	0	0		0	0		0	0		0	-6	
Detector 1 Position(ft)	0	0		0	894		0	0		0	-6	
Detector 1 Size(ft)	6	6		6	6		20	6		6	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	10			10				10			10	
Detector 2 Size(ft)	6			6				6			6	
Detector 2 Type	Cl+Ex			Cl+Ex				Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0				0.0			0.0	
Detector 3 Position(ft)	20			20				20				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6			6				6				
Detector 3 Type	Cl+Ex			Cl+Ex				Cl+Ex				
Detector 3 Channel												
Detector 3 Extend (s)	0.0			0.0				0.0				
Turn Type	pm+pt	NA		Prot	NA		Split	NA			NA	
Protected Phases	1	6		5	2		7	7		8	8	
Permitted Phases	6											
Detector Phase	1	6		5	2		7	7		8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		9.0	9.0		7.0	7.0	
Minimum Split (s)	9.0	22.0		9.0	22.0		15.2	15.2		13.2	13.2	
Total Split (s)	10.0	58.0		10.0	58.0		17.0	17.0		15.0	15.0	
Total Split (%)	10.0%	58.0%		10.0%	58.0%		17.0%	17.0%		15.0%	15.0%	
Maximum Green (s)	6.0	51.0		6.0	51.0		10.8	10.8		8.8	8.8	
Yellow Time (s)	3.0	4.4		3.0	4.4		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	2.6		1.0	2.6		3.2	3.2		3.2	3.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	7.0		4.0	7.0			6.2			6.2	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	2.5		1.5	2.5		1.5	1.5		1.5	1.5	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	89.5	91.1		5.0	91.1			9.0			7.0	
Actuated g/C Ratio	0.90	0.91		0.05	0.91			0.09			0.07	
v/c Ratio	0.00	0.55		0.02	0.19			0.03			0.01	
Control Delay	2.3	4.7		46.0	3.5			0.2			0.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	2.3	4.7		46.0	3.5			0.2			0.0	
LOS	A	A		D	A			A			A	
Approach Delay		4.7			3.6			0.3				
Approach LOS		A			A			A				

Intersection Summary

Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 89 (89%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 4.4		Intersection LOS: A	
Intersection Capacity Utilization 64.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 35: Secret Lake/Car Dealer & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	3	1791	2	588	10	6
v/c Ratio	0.00	0.55	0.02	0.19	0.03	0.01
Control Delay	2.3	4.7	46.0	3.5	0.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.3	4.7	46.0	3.5	0.2	0.0
Queue Length 50th (ft)	0	0	1	0	0	0
Queue Length 95th (ft)	m0	#676	9	133	0	0
Internal Link Dist (ft)		767		3487	418	413
Turn Bay Length (ft)	50		100			
Base Capacity (vph)	765	3257	104	3148	331	540
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.55	0.02	0.19	0.03	0.01

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

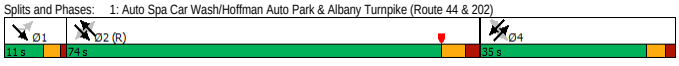
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	14	881	29	12	1415	28	17	0	9	148	0	56
Future Volume (vph)	14	881	29	12	1415	28	17	0	9	148	0	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12	12	12	12	12	12	12
Storage Length (ft)	140		0	250		0	0		50	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	50			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.997				0.850			0.850
Flt Protected	0.950			0.950				0.950			0.950	
Satd. Flow (prot)	1745	3439	0	1745	3564	0	0	1805	1615	0	1805	1615
Flt Permitted	0.076			0.283				0.463			0.740	
Satd. Flow (perm)	140	3439	0	520	3564	0	0	880	1615	0	1406	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			3				121			73
Link Speed (mph)		40			40			25			30	
Link Distance (ft)		3567			815			631			754	
Travel Time (s)		60.8			13.9			17.2			17.1	
Peak Hour Factor	0.90	0.90	0.90	0.96	0.96	0.96	0.65	0.65	0.65	0.86	0.86	0.86
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	16	979	32	13	1474	29	26	0	14	172	0	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	1011	0	13	1503	0	0	26	14	0	172	65
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			22			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	0		0	0		1	2	2	1	3	3
Detector Template							Left			Left		
Leading Detector (ft)	30	0		0	0		20	16	16	20	16	16
Trailing Detector (ft)	-6	0		0	0		0	0	0	0	-10	-10
Detector 1 Position(ft)	-6	390		0	0		0	0	0	0	-10	-10
Detector 1 Size(ft)	6	6		6	20		20	6	6	20	6	6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	12							10	10		0	0
Detector 2 Size(ft)	6							6	6		6	6
Detector 2 Type	Cl+Ex							Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0							0.0	0.0		0.0	0.0
Detector 3 Position(ft)	24										10	10

Lane Group	Ø1
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector 3 Size(ft)	6										6	6
Detector 3 Type	Cl+Ex										Cl+Ex	Cl+Ex
Detector 3 Channel												
Detector 3 Extend (s)	0.0										0.0	0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA	NA	Perm	NA	Perm
Protected Phases		1 2			2			4			4	
Permitted Phases	1 2			2			4			4		4
Detector Phase	1 2	1 2		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)				15.0	15.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)				22.0	22.0		15.3	15.3		15.3	15.3	15.3
Total Split (s)				74.0	74.0		35.0	35.0		35.0	35.0	35.0
Total Split (%)				61.7%	61.7%		29.2%	29.2%		29.2%	29.2%	29.2%
Maximum Green (s)				67.0	67.0		29.7	29.7		29.7	29.7	29.7
Yellow Time (s)				4.3	4.3		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)				2.7	2.7		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)				0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)				7.0	7.0			5.3			5.3	5.3
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2		1.5	1.5		1.5	1.5	1.5
Recall Mode				C-Max	C-Max		None	None		None	None	None
Act Effct Green (s)	91.9	91.9		70.8	70.8			18.8	0.0		18.8	18.8
Actuated g/C Ratio	0.77	0.77		0.59	0.59			0.16	0.00		0.16	0.16
v/c Ratio	0.15	0.38		0.04	0.72			0.19	0.12		0.78	0.21
Control Delay	9.0	5.7		6.4	7.9			44.4	1.9		71.4	9.0
Queue Delay	0.0	0.0		0.0	0.3			0.0	0.0		0.0	0.0
Total Delay	9.0	5.7		6.4	8.2			44.4	1.9		71.4	9.0
LOS	A	A		A	A			D	A		E	A
Approach Delay		5.7			8.2			29.5			54.3	
Approach LOS		A			A			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 35 (29%), Referenced to phase 2:NWSE, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 71.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Auto Spa Car Wash/Hoffman Auto Park & Albany Turnpike (Route 44 & 202)



Lane Group	Ø1
Detector 3 Size(ft)	
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Turn Type	
Protected Phases	1
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	11.0
Total Split (s)	11.0
Total Split (%)	9%
Maximum Green (s)	7.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Lane Group	SEL	SET	NWL	NWT	NET	NER	SWT	SWR
Lane Group Flow (vph)	16	1011	13	1503	26	14	172	65
v/c Ratio	0.15	0.38	0.04	0.72	0.19	0.12	0.78	0.21
Control Delay	9.0	5.7	6.4	7.9	44.4	1.9	71.4	9.0
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Total Delay	9.0	5.7	6.4	8.2	44.4	1.9	71.4	9.0
Queue Length 50th (ft)	3	114	2	154	18	0	130	0
Queue Length 95th (ft)	15	192	m3	m163	30	0	184	29
Internal Link Dist (ft)		3487		735	551		674	
Turn Bay Length (ft)	140		250			50		100
Base Capacity (vph)	107	2635	306	2102	217	121	347	454
Starvation Cap Reductn	0	0	0	149	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.38	0.04	0.77	0.12	0.12	0.50	0.14

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

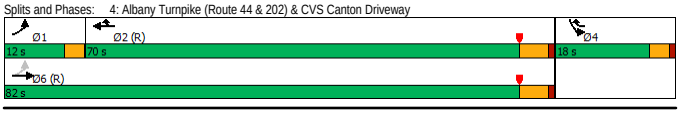
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	18	1042	1595	53	18	11
Future Volume (vph)	18	1042	1595	53	18	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			120	0	0
Storage Lanes	1			1	2	0
Taper Length (ft)	80				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.95
Frt				0.850	0.943	
Flt Protected	0.950				0.970	
Satd. Flow (prot)	1805	3574	3574	1615	3351	0
Flt Permitted	0.106				0.970	
Satd. Flow (perm)	201	3574	3574	1615	3351	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				58	13	
Link Speed (mph)		30	40		30	
Link Distance (ft)		615	827		249	
Travel Time (s)		14.0	14.1		5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.85	0.85
Heavy Vehicles (%)	0%	1%	1%	0%	1%	0%
Adj. Flow (vph)	20	1133	1734	58	21	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	20	1133	1734	58	34	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	3	0	0	0	1	
Detector Template						
Leading Detector (ft)	27	0	0	0	47	
Trailing Detector (ft)	-3	0	0	0	-3	
Detector 1 Position(ft)	-3	200	200	0	-3	
Detector 1 Size(ft)	6	6	6	20	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	9					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Detector 3 Position(ft)	21					
Detector 3 Size(ft)	6					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector 3 Type	Cl+Ex					
Detector 3 Channel						
Detector 3 Extend (s)	0.0					
Turn Type	pm+pt	NA	NA	pt+ov	Prot	
Protected Phases	1	6	2	2 4	4	
Permitted Phases	6					
Detector Phase	1	6	2	2 4	4	
Switch Phase						
Minimum Initial (s)	5.0	25.0	25.0		7.0	
Minimum Split (s)	8.1	30.3	30.3		11.0	
Total Split (s)	12.0	82.0	70.0		18.0	
Total Split (%)	12.0%	82.0%	70.0%		18.0%	
Maximum Green (s)	8.9	76.7	64.7		14.0	
Yellow Time (s)	3.0	4.3	4.3		3.0	
All-Red Time (s)	0.1	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	3.1	5.3	5.3		4.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	1.5	0.2	0.2		2.0	
Recall Mode	None	C-Max	C-Max		None	
Act Effct Green (s)	88.1	87.0	83.7	94.6	7.0	
Actuated g/C Ratio	0.88	0.87	0.84	0.95	0.07	
v/c Ratio	0.08	0.36	0.58	0.04	0.14	
Control Delay	1.6	2.0	3.6	0.4	32.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	1.6	2.0	3.6	0.4	32.4	
LOS	A	A	A	A	C	
Approach Delay		2.0	3.5		32.4	
Approach LOS		A	A		C	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 20 (20%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 3.3 Intersection LOS: A
Intersection Capacity Utilization 57.7% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: Albany Turnpike (Route 44 & 202) & CVS Canton Driveway



Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	20	1133	1734	58	34
v/c Ratio	0.08	0.36	0.58	0.04	0.14
Control Delay	1.6	2.0	3.6	0.4	32.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	1.6	2.0	3.6	0.4	32.4
Queue Length 50th (ft)	1	62	28	0	6
Queue Length 95th (ft)	3	78	249	m5	20
Internal Link Dist (ft)		535	747		169
Turn Bay Length (ft)	150			120	
Base Capacity (vph)	319	3108	2992	1575	480
Starvation Cap Reductn	0	0	54	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.36	0.59	0.04	0.07

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

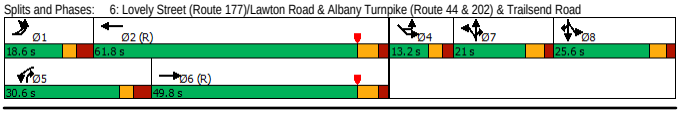
Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	11	168	775	60	185	1308	1	68	148	75	139	82
Future Volume (vph)	11	168	775	60	185	1308	1	68	148	75	139	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		380		130	325		0				0	0
Storage Lanes		1		1	1		1				1	0
Taper Length (ft)		300			75							25
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850				0.850			0.850	
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1788	3574	1599	1787	3574	0	1599	1787	1881	1599	0
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1788	3574	1599	1787	3574	0	1599	1787	1881	1599	0
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				263				263			148	
Link Speed (mph)			40			40				40		
Link Distance (ft)			1074			615				959		
Travel Time (s)			18.3			10.5				16.3		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	1%	1%	1%	1%	0%	1%	1%	1%	1%	0%
Adj. Flow (vph)	12	183	842	65	201	1422	1	74	157	80	148	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	195	842	65	201	1423	0	74	157	80	148	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Right	Left	Left	Right	Left
Median Width(ft)			12			12				12		
Link Offset(ft)			0			0				0		
Crosswalk Width(ft)			16			16				16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15		9	15		9	9	15		9	15
Number of Detectors	1	3	2	0	3	2		0	3	3	3	1
Detector Template	Left											Left
Leading Detector (ft)	20	20	281	0	24	331		0	24	24	24	20
Trailing Detector (ft)	0	-10	100	0	-6	150		0	-6	-6	-6	0
Detector 1 Position(ft)	0	-10	100	0	-6	150		0	-6	-6	-6	0
Detector 1 Size(ft)	20	6	6	20	6	6		20	6	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		2	275		6	325			6	6	6	
Detector 2 Size(ft)		6	6		6	6			6	6	6	
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0	0.0			0.0	0.0	0.0	
Detector 3 Position(ft)		14			18				18	18	18	
Detector 3 Size(ft)		6			6				6	6	6	

Lane Group	SBT	SBR	SEL	SER	SER2
Lane Configurations					
Traffic Volume (vph)	121	316	7	1	10
Future Volume (vph)	121	316	7	1	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Storage Length (ft)		250	0	0	
Storage Lanes		2	1	0	
Taper Length (ft)			25		
Lane Util. Factor	1.00	0.88	1.00	1.00	1.00
Frt		0.850	0.919		
Flt Protected	0.980		0.980		
Satd. Flow (prot)	1851	2814	1711	0	0
Flt Permitted	0.980		0.980		
Satd. Flow (perm)	1851	2814	1711	0	0
Right Turn on Red				Yes	
Satd. Flow (RTOR)			223		
Link Speed (mph)	40		30		
Link Distance (ft)	864		881		
Travel Time (s)	14.7		20.0		
Peak Hour Factor	0.94	0.94	0.87	0.87	0.87
Heavy Vehicles (%)	1%	1%	0%	0%	0%
Adj. Flow (vph)	129	336	8	1	11
Shared Lane Traffic (%)					
Lane Group Flow (vph)	216	336	20	0	0
Enter Blocked Intersection	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Right
Median Width(ft)	12		12		
Link Offset(ft)	0		0		
Crosswalk Width(ft)	16		16		
Two way Left Turn Lane					
Headway Factor	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15	9	9
Number of Detectors	3	3	0		
Detector Template					
Leading Detector (ft)	24	24	0		
Trailing Detector (ft)	-6	-6	0		
Detector 1 Position(ft)	-6	-6	0		
Detector 1 Size(ft)	6	6	20		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel					
Detector 1 Extend (s)	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		
Detector 2 Position(ft)	6	6			
Detector 2 Size(ft)	6	6			
Detector 2 Type	Cl+Ex	Cl+Ex			
Detector 2 Channel					
Detector 2 Extend (s)	0.0	0.0			
Detector 3 Position(ft)	18	18			
Detector 3 Size(ft)	6	6			

Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBT	NBR	SBL
Detector 3 Type		Cl+Ex			Cl+Ex				Cl+Ex	Cl+Ex	Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0				0.0	0.0	0.0	
Turn Type	Prot	Prot	NA	Free	Prot	NA		Free	Split	NA	pt+ov	Split
Protected Phases	1	1	6		5	2			7	7	7 5	8
Permitted Phases				Free				Free				
Detector Phase	1	1	6		5	2			7	7	7 5	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	15.0			9.0	9.0		5.0
Minimum Split (s)	11.6	11.6	21.8		11.6	21.8			15.0	15.0		14.6
Total Split (s)	18.6	18.6	49.8		30.6	61.8			21.0	21.0		25.6
Total Split (%)	13.3%	13.3%	35.5%		21.8%	44.1%			15.0%	15.0%		18.3%
Maximum Green (s)	12.0	12.0	43.0		24.0	55.0			15.0	15.0		20.0
Yellow Time (s)	3.0	3.0	4.5		3.0	4.5			4.0	4.0		3.6
All-Red Time (s)	3.6	3.6	2.3		3.6	2.3			2.0	2.0		2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0			0.0	0.0		
Total Lost Time (s)		6.6	6.8		6.6	6.8			6.0	6.0		
Lead/Lag	Lead	Lead	Lag		Lead	Lag			Lead	Lead		Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0		2.0	3.0			2.0	2.0		2.0
Recall Mode	None	None	C-Min		None	C-Min			None	None		None
Act Effct Green (s)		18.9	54.4	140.2	19.5	55.0		140.2	15.6	15.6	35.7	
Actuated g/C Ratio		0.13	0.39	1.00	0.14	0.39		1.00	0.11	0.11	0.25	
v/c Ratio		0.81	0.61	0.04	0.81	1.01		0.05	0.79	0.38	0.29	
Control Delay		83.7	39.2	0.1	82.3	69.8		0.1	87.5	62.9	4.5	
Queue Delay		0.0	0.0	0.0	0.0	32.4		0.0	0.0	0.0	0.0	
Total Delay		83.7	39.2	0.1	82.3	102.2		0.1	87.5	62.9	4.5	
LOS		F	D	A	F	F		A	F	E	A	
Approach Delay			44.7			95.4				50.5		
Approach LOS			D			F				D		

Intersection Summary			
Area Type:	Other		
Cycle Length: 140.2			
Actuated Cycle Length: 140.2			
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 74.0		Intersection LOS: E	
Intersection Capacity Utilization 95.4%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: Lovely Street (Route 177)/Lawton Road & Albany Turnpike (Route 44 & 202) & Trailsend Road



Lane Group	SBT	SBR	SEL	SER	SER2
Detector 3 Type	Cl+Ex	Cl+Ex			
Detector 3 Channel					
Detector 3 Extend (s)	0.0	0.0			
Turn Type	NA	Prot	Prot		
Protected Phases	8	8	4		
Permitted Phases					
Detector Phase	8	8	4		
Switch Phase					
Minimum Initial (s)	5.0	5.0	6.0		
Minimum Split (s)	14.6	14.6	11.2		
Total Split (s)	25.6	25.6	13.2		
Total Split (%)	18.3%	18.3%	9.4%		
Maximum Green (s)	20.0	20.0	8.0		
Yellow Time (s)	3.6	3.6	3.0		
All-Red Time (s)	2.0	2.0	2.2		
Lost Time Adjust (s)	0.0	0.0	0.0		
Total Lost Time (s)	5.6	5.6	5.2		
Lead/Lag	Lag	Lag			
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0		
Recall Mode	None	None	None		
Act Effct Green (s)	19.0	19.0	6.0		
Actuated g/C Ratio	0.14	0.14	0.04		
v/c Ratio	0.86	0.88	0.07		
Control Delay	89.1	83.2	0.5		
Queue Delay	0.0	0.0	0.0		
Total Delay	89.1	83.2	0.5		
LOS	F	F	A		
Approach Delay	85.5		0.5		
Approach LOS	F		A		

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBT	SBR	SEL
Lane Group Flow (vph)	195	842	65	201	1423	74	157	80	148	216	336	20
v/c Ratio	0.81	0.61	0.04	0.81	1.01	0.05	0.79	0.38	0.29	0.86	0.88	0.07
Control Delay	83.7	39.2	0.1	82.3	69.8	0.1	87.5	62.9	4.5	89.1	83.2	0.5
Queue Delay	0.0	0.0	0.0	0.0	32.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.7	39.2	0.1	82.3	102.2	0.1	87.5	62.9	4.5	89.1	83.2	0.5
Queue Length 50th (ft)	~224	352	0	179	~718	0	140	68	0	194	172	0
Queue Length 95th (ft)	#385	447	0	262	#858	0	#240	123	34	#327	#257	0
Internal Link Dist (ft)		994			535			879		784		801
Turn Bay Length (ft)	380		130	325							250	
Base Capacity (vph)	240	1386	1599	305	1402	1599	207	218	570	264	401	307
Starvation Cap Reductn	0	0	0	0	187	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.61	0.04	0.66	1.17	0.05	0.76	0.37	0.26	0.82	0.84	0.07

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

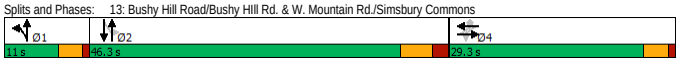
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	14	72	131	36	54	112	427	127	31	471	1
Future Volume (vph)	0	14	72	131	36	54	112	427	127	31	471	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		180	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.887				0.850		0.971				
Flt Protected					0.962			0.992			0.997	
Satd. Flow (prot)	0	1671	0	0	1828	1615	0	3455	0	0	3564	0
Flt Permitted					0.710			0.767			0.875	
Satd. Flow (perm)	0	1671	0	0	1349	1615	0	2671	0	0	3127	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		79				92		55				
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		536			693			493			335	
Travel Time (s)		12.2			15.8			8.4			5.7	
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86	0.88	0.88	0.88	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	0%	1%	0%	1%	1%	1%
Adj. Flow (vph)	0	15	79	152	42	63	127	485	144	34	523	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	94	0	0	194	63	0	756	0	0	558	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	3	3	1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	106		20	26	26	20	106		20	106	
Trailing Detector (ft)	0	100		0	-4	-4	0	100		0	100	
Detector 1 Position(ft)	0	100		0	-4	-4	0	100		0	100	
Detector 1 Size(ft)	20	6		20	6	6	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					8	8						
Detector 2 Size(ft)					6	6						
Detector 2 Type					Cl+Ex	Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)					0.0	0.0						
Detector 3 Position(ft)					20	20						
Detector 3 Size(ft)					6	6						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Type					Cl+Ex	Cl+Ex						
Detector 3 Channel												
Detector 3 Extend (s)					0.0	0.0						
Turn Type		NA		Perm	NA	Perm	Prot	NA		Perm	NA	
Protected Phases		4			4		1	1 2			2	
Permitted Phases	4			4		4				2		
Detector Phase	4	4		4	4	4	1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	5.0			15.0	15.0	
Minimum Split (s)	11.3	11.3		11.3	11.3	11.3	9.0			21.3	21.3	
Total Split (s)	29.3	29.3		29.3	29.3	29.3	11.0			46.3	46.3	
Total Split (%)	33.8%	33.8%		33.8%	33.8%	33.8%	12.7%			53.5%	53.5%	
Maximum Green (s)	25.0	25.0		25.0	25.0	25.0	7.0			40.0	40.0	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.0			4.2	4.2	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0			2.1	2.1	
Lost Time Adjust (s)		0.0			0.0	0.0					0.0	
Total Lost Time (s)		4.3			4.3	4.3					6.3	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	0.2			4.0	4.0	
Recall Mode	None	None		None	None	None	Max			Min	Min	
Act Effct Green (s)		15.8			15.8	15.8		49.6			40.2	
Actuated g/C Ratio		0.20			0.20	0.20		0.64			0.52	
v/c Ratio		0.23			0.71	0.16		0.93			0.34	
Control Delay		9.6			43.1	3.5		29.7			12.7	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		9.6			43.1	3.5		29.7			12.7	
LOS		A			D	A		C			B	
Approach Delay		9.6			33.4			29.7			12.7	
Approach LOS		A			C			C			B	

Intersection Summary

Area Type:	Other		
Cycle Length: 86.6			
Actuated Cycle Length: 77.7			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 23.4		Intersection LOS: C	
Intersection Capacity Utilization 61.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 13: Bushy Hill Road/Bushy HIll Rd. & W. Mountain Rd./Simsbury Commons



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	94	194	63	756	558
v/c Ratio	0.23	0.71	0.16	0.93	0.34
Control Delay	9.6	43.1	3.5	29.7	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	43.1	3.5	29.7	12.7
Queue Length 50th (ft)	6	88	0	57	77
Queue Length 95th (ft)	40	145	13	#198	140
Internal Link Dist (ft)	456	613		413	255
Turn Bay Length (ft)			180		
Base Capacity (vph)	594	436	584	809	1618
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.44	0.11	0.93	0.34

Intersection Summary

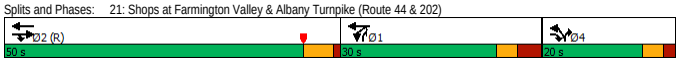
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	744	295	235	1358	320	189
Future Volume (vph)	744	295	235	1358	320	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12
Storage Length (ft)		220	420		0	0
Storage Lanes		1	2		2	1
Taper Length (ft)			130		25	
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3455	1561	3385	3574	3502	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3455	1561	3385	3574	3502	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		260				98
Link Speed (mph)	40			40	30	
Link Distance (ft)	827			847	604	
Travel Time (s)	14.1			14.4	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.85	0.85
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Adj. Flow (vph)	809	321	255	1476	376	222
Shared Lane Traffic (%)						
Lane Group Flow (vph)	809	321	255	1476	376	222
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	22			22	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.04	1.04	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	0	3	2	3	3
Detector Template						
Leading Detector (ft)	356	0	38	356	26	26
Trailing Detector (ft)	180	0	0	180	0	0
Detector 1 Position(ft)	180	350	0	180	0	0
Detector 1 Size(ft)	6	6	6	6	6	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	350		16	350	10	10
Detector 2 Size(ft)	6		6	6	6	6
Detector 2 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 3 Position(ft)			32		20	20

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector 3 Size(ft)			6		6	6
Detector 3 Type			Cl+Ex		Cl+Ex	Cl+Ex
Detector 3 Channel						
Detector 3 Extend (s)			0.0		0.0	0.0
Turn Type	NA	pt+ov	Prot	NA	Prot	pt+ov
Protected Phases	2	2 4	1	1 2	4	4 1
Permitted Phases						
Detector Phase	2	2 4	1	1 2	4	4 1
Switch Phase						
Minimum Initial (s)	15.0		5.0		9.0	
Minimum Split (s)	20.5		11.8		14.0	
Total Split (s)	50.0		30.0		20.0	
Total Split (%)	50.0%		30.0%		20.0%	
Maximum Green (s)	44.5		23.2		15.0	
Yellow Time (s)	4.4		3.2		3.0	
All-Red Time (s)	1.1		3.6		2.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.5		6.8		5.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	2.5		1.5		1.5	
Recall Mode	C-Min		None		None	
Act Effct Green (s)	48.9	67.4	20.3	74.7	13.5	40.6
Actuated g/C Ratio	0.49	0.67	0.20	0.75	0.14	0.41
v/c Ratio	0.48	0.28	0.37	0.55	0.79	0.31
Control Delay	17.7	1.3	34.2	5.1	54.6	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.7	1.3	34.2	5.1	54.6	11.1
LOS	B	A	C	A	D	B
Approach Delay	13.0			9.4	38.5	
Approach LOS	B			A	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 16 (16%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 15.6		Intersection LOS: B	
Intersection Capacity Utilization 56.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 21: Shops at Farmington Valley & Albany Turnpike (Route 44 & 202)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	809	321	255	1476	376	222
v/c Ratio	0.48	0.28	0.37	0.55	0.79	0.31
Control Delay	17.7	1.3	34.2	5.1	54.6	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.7	1.3	34.2	5.1	54.6	11.1
Queue Length 50th (ft)	190	5	68	252	120	46
Queue Length 95th (ft)	250	17	118	7	158	86
Internal Link Dist (ft)	747			767	524	
Turn Bay Length (ft)		220	420			
Base Capacity (vph)	1688	1113	785	2773	525	734
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.29	0.32	0.53	0.72	0.30

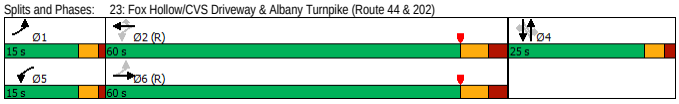
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	918	26	17	1496	94	30	1	9	41	1	29
Future Volume (vph)	27	918	26	17	1496	94	30	1	9	41	1	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	13	12	12	12
Storage Length (ft)	130		0	130		150	0		80	0		0
Storage Lanes	1		0	1		1	0		1	0		1
Taper Length (ft)	70			90			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996				0.850			0.850			0.850
Flt Protected	0.950			0.950				0.954			0.953	
Satd. Flow (prot)	1745	3476	0	1745	3455	1561	0	1752	1669	0	1776	1615
Flt Permitted	0.122			0.283				0.692			0.701	
Satd. Flow (perm)	224	3476	0	520	3455	1561	0	1271	1669	0	1306	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				64			89			89
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1110			920			549			426	
Travel Time (s)		21.6			17.9			15.0			11.6	
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	2%	0%	0%
Adj. Flow (vph)	28	956	27	18	1591	100	39	1	12	53	1	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	983	0	18	1591	100	0	40	12	0	54	38
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0		1	0	0	1	1	1	1	1	1
Detector Template							Left			Left		
Leading Detector (ft)	40	0		40	0	0	20	30	30	20	30	30
Trailing Detector (ft)	0	0		0	0	0	0	-10	-10	0	-10	-10
Detector 1 Position(ft)	0	0		0	0	0	0	-10	-10	0	-10	-10
Detector 1 Size(ft)	40	6		40	6	20	20	40	40	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2		2	4		4	4		4
Detector Phase	1	6		5	2	2	4	4	4	4	4	4
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0	15.0	4.0	4.0	4.0	4.0	4.0	4.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	8.0	22.2		8.0	22.2	22.2	8.8	8.8	8.8	8.8	8.8	8.8
Total Split (s)	15.0	60.0		15.0	60.0	60.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	15.0%	60.0%		15.0%	60.0%	60.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Maximum Green (s)	11.0	52.8		11.0	52.8	52.8	20.2	20.2	20.2	20.2	20.2	20.2
Yellow Time (s)	3.0	4.2		3.0	4.2	4.2	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	3.0		1.0	3.0	3.0	1.8	1.8	1.8	1.8	1.8	1.8
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)	4.0	7.2		4.0	7.2	7.2		4.8	4.8		4.8	4.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	0.2		1.5	0.2	0.2	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	82.9	79.3		81.9	77.5	77.5		8.7	8.7		8.7	8.7
Actuated g/C Ratio	0.83	0.79		0.82	0.78	0.78		0.09	0.09		0.09	0.09
v/c Ratio	0.11	0.36		0.04	0.59	0.08		0.36	0.05		0.48	0.17
Control Delay	3.0	5.0		2.2	8.1	2.5		51.0	0.4		56.2	1.7
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	3.0	5.0		2.2	8.1	2.5		51.0	0.4		56.2	1.7
LOS	A	A		A	A	A		D	A		E	A
Approach Delay		4.9			7.7			39.3			33.7	
Approach LOS		A			A			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 83 (83%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 8.2		Intersection LOS: A	
Intersection Capacity Utilization 62.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 23: Fox Hollow/CVS Driveway & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	28	983	18	1591	100	40	12	54	38
v/c Ratio	0.11	0.36	0.04	0.59	0.08	0.36	0.05	0.48	0.17
Control Delay	3.0	5.0	2.2	8.1	2.5	51.0	0.4	56.2	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.0	5.0	2.2	8.1	2.5	51.0	0.4	56.2	1.7
Queue Length 50th (ft)	2	73	2	247	6	24	0	33	0
Queue Length 95th (ft)	8	174	6	373	24	47	0	60	0
Internal Link Dist (ft)		1030		840		469		346	
Turn Bay Length (ft)	130		130		150		80		
Base Capacity (vph)	356	2756	573	2679	1224	256	408	263	397
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	0.36	0.03	0.59	0.08	0.16	0.03	0.21	0.10

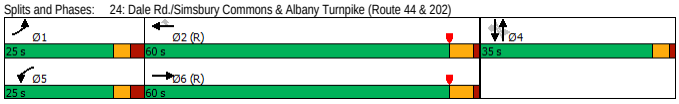
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	688	38	175	1206	139	56	34	183	74	29	61
Future Volume (vph)	56	688	38	175	1206	139	56	34	183	74	29	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	11	11	12	12	12	12
Storage Length (ft)	180		0	450		525	200		0	0		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	115			80			50			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992				0.850		0.874				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	3429	0	1770	3574	1615	1454	1605	0	1805	1900	1615
Flt Permitted	0.950			0.950			0.735			0.204		
Satd. Flow (perm)	1745	3429	0	1770	3574	1615	1125	1605	0	388	1900	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				145		215				74
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		791			1110			639			380	
Travel Time (s)		15.4			21.6			17.4			10.4	
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.80	0.80	0.80	0.85	0.85	0.85
Heavy Vehicles (%)	0%	1%	0%	2%	1%	0%	20%	0%	0%	0%	0%	0%
Adj. Flow (vph)	59	724	40	182	1256	145	70	43	229	87	34	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	764	0	182	1256	145	70	272	0	87	34	72
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1		1	1	1
Detector Template										Left		
Leading Detector (ft)	25	306		25	256	256	20	20		30	30	40
Trailing Detector (ft)	-5	300		-5	250	250	-10	-10		0	0	-10
Detector 1 Position(ft)	-5	300		-5	250	250	-10	-10		0	0	-10
Detector 1 Size(ft)	30	6		30	6	6	30	30		30	30	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases						2	4			4		4
Detector Phase	1	6		5	2	2	4	4		4	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	15.0	15.0	7.0	7.0		7.0	7.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	12.5	20.6		12.5	20.6	20.6	11.2	11.2		11.2	11.2	11.2
Total Split (s)	25.0	60.0		25.0	60.0	60.0	35.0	35.0		35.0	35.0	35.0
Total Split (%)	20.8%	50.0%		20.8%	50.0%	50.0%	29.2%	29.2%		29.2%	29.2%	29.2%
Maximum Green (s)	19.5	54.4		19.5	54.4	54.4	30.8	30.8		30.8	30.8	30.8
Yellow Time (s)	3.0	4.3		3.0	4.3	4.3	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	2.5	1.3		2.5	1.3	1.3	1.2	1.2		1.2	1.2	1.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.6		5.5	5.6	5.6	4.2	4.2		4.2	4.2	4.2
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	5.0		1.5	8.0	8.0	2.0	2.0		2.0	2.0	2.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Act Effct Green (s)	8.7	69.4		15.7	78.9	78.9	19.6	19.6		19.6	19.6	19.6
Actuated g/C Ratio	0.07	0.58		0.13	0.66	0.66	0.16	0.16		0.16	0.16	0.16
v/c Ratio	0.47	0.38		0.79	0.53	0.13	0.38	0.62		1.38	0.11	0.22
Control Delay	60.0	16.8		73.5	14.4	2.5	47.8	16.4		281.6	39.3	9.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	60.0	16.8		73.5	14.4	2.5	47.8	16.4		281.6	39.3	9.5
LOS	E	B		E	B	A	D	B		F	D	A
Approach Delay		19.9			20.1			22.9			137.4	
Approach LOS		B			C			C			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 112 (93%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.38			
Intersection Signal Delay: 28.1		Intersection LOS: C	
Intersection Capacity Utilization 74.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 24: Dale Rd./Simsbury Commons & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	59	764	182	1256	145	70	272	87	34	72
v/c Ratio	0.47	0.38	0.79	0.53	0.13	0.38	0.62	1.38	0.11	0.22
Control Delay	60.0	16.8	73.5	14.4	2.5	47.8	16.4	281.6	39.3	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	16.8	73.5	14.4	2.5	47.8	16.4	281.6	39.3	9.5
Queue Length 50th (ft)	47	83	138	262	0	49	39	~89	23	0
Queue Length 95th (ft)	92	272	213	445	32	75	78	#153	45	31
Internal Link Dist (ft)		711		1030			559		300	
Turn Bay Length (ft)	180		450		525	200				
Base Capacity (vph)	283	1986	287	2349	1111	288	571	99	487	469
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.38	0.63	0.53	0.13	0.24	0.48	0.88	0.07	0.15

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

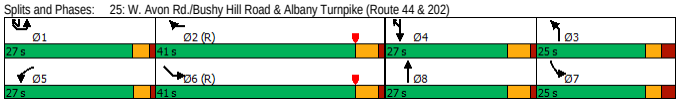
Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Traffic Volume (vph)	82	1087	108	164	206	59	124	249	257	330	593	124
Future Volume (vph)	82	1087	108	164	206	59	124	249	257	330	593	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	11	12	12	11	11	11	11	12	12
Storage Length (ft)	375	0		200		0	0		0		220	0
Storage Lanes	1	2		1		0	1		1		2	0
Taper Length (ft)	125			150			25				140	
Lane Util. Factor	1.00	0.88	1.00	1.00	0.95	0.95	1.00	1.00	1.00	0.97	0.97	0.95
Frt		0.850			0.967				0.850		0.974	
Flt Protected	0.950			0.950			0.950			0.950	0.960	
Satd. Flow (prot)	1745	2723	0	1728	3464	0	1745	1818	1546	3385	3418	0
Flt Permitted	0.950			0.950			0.950			0.950	0.960	
Satd. Flow (perm)	1745	2723	0	1728	3464	0	1745	1818	1546	3385	3418	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		108			27				97		108	
Link Speed (mph)	40				25			40			40	
Link Distance (ft)	791				809			493			815	
Travel Time (s)	13.5				22.1			8.4			13.9	
Peak Hour Factor	0.96	0.96	0.96	0.93	0.93	0.93	0.87	0.87	0.87	0.86	0.86	0.86
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	0%	1%	1%	0%	1%	0%
Adj. Flow (vph)	85	1132	113	176	222	63	143	286	295	384	690	144
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	1245	0	176	285	0	143	286	295	384	834	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	11				11			11			46	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.00	1.00
Turning Speed (mph)	15	9	9	15		9	15		9	15	15	9
Number of Detectors	1	2		1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	40	368		34	30		30	30	30	40	190	
Trailing Detector (ft)	0	176		-6	-10		-10	-10	-10	0	184	
Detector 1 Position(ft)	0	176		-6	-10		-10	-10	-10	0	184	
Detector 1 Size(ft)	40	6		40	40		40	40	40	40	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		362										
Detector 2 Size(ft)		6										
Detector 2 Type		Cl+Ex										
Detector 2 Channel												
Detector 2 Extend (s)		0.0										
Turn Type	Prot	Prot		Prot	NA		Prot	NA	pt+ov	Prot	Prot	

Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Protected Phases	5	2		3	8		7	4	14	1	6	
Permitted Phases												
Detector Phase	5	2		3	8		7	4	14	1	6	
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	7.0		7.0	7.0		7.0	15.0	
Minimum Split (s)	11.0	20.4		12.6	12.2		12.6	12.2		11.1	20.4	
Total Split (s)	27.0	41.0		25.0	27.0		25.0	27.0		27.0	41.0	
Total Split (%)	22.5%	34.2%		20.8%	22.5%		20.8%	22.5%		22.5%	34.2%	
Maximum Green (s)	23.0	35.6		19.4	21.8		19.4	21.8		22.9	35.6	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.2		3.0	4.2	
All-Red Time (s)	1.0	1.2		2.6	1.0		2.6	1.0		1.1	1.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.4		5.6	5.2		5.6	5.2		4.1	5.4	
Lead/Lag	Lead	Lag		Lag	Lead		Lag	Lead		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	4.0		1.5	2.0		1.5	2.0		1.5	4.0	
Recall Mode	None	C-Min		None	None		None	None		None	C-Min	
Act Effct Green (s)	10.1	45.7		15.6	13.6		22.9	20.9	39.5	17.5	55.4	
Actuated g/C Ratio	0.08	0.38		0.13	0.11		0.19	0.17	0.33	0.15	0.46	
v/c Ratio	0.58	1.13		0.79	0.69		0.43	0.91	0.51	0.78	0.51	
Control Delay	67.4	96.2		73.8	54.6		46.8	80.0	14.7	71.1	18.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	67.4	96.2		73.8	54.6		46.8	80.0	14.7	71.1	18.5	
LOS	E	F		E	D		D	E	B	E	B	
Approach Delay	94.4				61.9			46.8			35.1	
Approach LOS	F				E			D			D	

Intersection Summary

Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 7 (6%), Referenced to phase 2:WBR and 6:SEL, Start of Yellow			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 61.8		Intersection LOS: E	
Intersection Capacity Utilization 79.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 25: W. Avon Rd./Bushy Hill Road & Albany Turnpike (Route 44 & 202)



Lane Group	WBL	WBR	NBL	NBT	SBL	SBT	SBR	SEL2	SEL
Lane Group Flow (vph)	85	1245	176	285	143	286	295	384	834
v/c Ratio	0.58	1.13	0.79	0.69	0.43	0.91	0.51	0.78	0.51
Control Delay	67.4	96.2	73.8	54.6	46.8	80.0	14.7	71.1	18.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.4	96.2	73.8	54.6	46.8	80.0	14.7	71.1	18.5
Queue Length 50th (ft)	53	~628	133	102	97	217	76	161	160
Queue Length 95th (ft)	99	#829	207	144	157	#348	104	201	212
Internal Link Dist (ft)	711			729		413			735
Turn Bay Length (ft)	375		200					220	220
Base Capacity (vph)	334	1104	279	651	337	330	650	645	1635
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	0.25	1.13	0.63	0.44	0.42	0.87	0.45	0.60	0.51

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

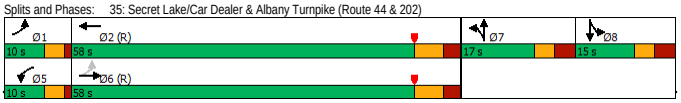
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	931	0	6	1478	4	18	2	4	10	0	13
Future Volume (vph)	2	931	0	6	1478	4	18	2	4	10	0	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	11	11	11	11	12	12	12	12	12	12
Storage Length (ft)	50		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			70			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.978			0.924	
Flt Protected	0.950			0.950				0.964			0.978	
Satd. Flow (prot)	1745	3574	0	1745	3455	0	0	1791	0	0	1707	0
Flt Permitted	0.104			0.950				0.964			0.978	
Satd. Flow (perm)	191	3574	0	1745	3455	0	0	1791	0	0	1707	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								5			155	
Link Speed (mph)		40			40			25			30	
Link Distance (ft)		847			3567			498			493	
Travel Time (s)		14.4			60.8			13.6			11.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.80	0.80	0.80	0.90	0.90	0.90
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	2	1012	0	7	1607	4	23	3	5	11	0	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	1012	0	7	1611	0	0	31	0	0	25	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			22			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	0		3	0		1	3		1	2	
Detector Template							Left					
Leading Detector (ft)	26	0		26	0		20	26		6	16	
Trailing Detector (ft)	0	0		0	0		0	0		0	-6	
Detector 1 Position(ft)	0	0		0	894		0	0		0	-6	
Detector 1 Size(ft)	6	6		6	6		20	6		6	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	10			10				10			10	
Detector 2 Size(ft)	6			6				6			6	
Detector 2 Type	Cl+Ex			Cl+Ex				Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0				0.0			0.0	
Detector 3 Position(ft)	20			20				20				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6			6				6				
Detector 3 Type	Cl+Ex			Cl+Ex				Cl+Ex				
Detector 3 Channel												
Detector 3 Extend (s)	0.0			0.0				0.0				
Turn Type	pm+pt	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		7	7		8	8	
Permitted Phases	6											
Detector Phase	1	6		5	2		7	7		8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		9.0	9.0		7.0	7.0	
Minimum Split (s)	9.0	22.0		9.0	22.0		15.2	15.2		13.2	13.2	
Total Split (s)	10.0	58.0		10.0	58.0		17.0	17.0		15.0	15.0	
Total Split (%)	10.0%	58.0%		10.0%	58.0%		17.0%	17.0%		15.0%	15.0%	
Maximum Green (s)	6.0	51.0		6.0	51.0		10.8	10.8		8.8	8.8	
Yellow Time (s)	3.0	4.4		3.0	4.4		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	2.6		1.0	2.6		3.2	3.2		3.2	3.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	7.0		4.0	7.0			6.2			6.2	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	2.5		1.5	2.5		1.5	1.5		1.5	1.5	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	80.7	79.5		5.1	79.6			9.0			7.0	
Actuated g/C Ratio	0.81	0.80		0.05	0.80			0.09			0.07	
v/c Ratio	0.01	0.36		0.08	0.59			0.19			0.10	
Control Delay	4.0	5.2		47.2	9.8			40.0			0.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	4.0	5.2		47.2	9.8			40.0			0.7	
LOS	A	A		D	A			D			A	
Approach Delay		5.2			10.0			40.0			0.7	
Approach LOS		A			B			D			A	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 16 (16%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 8.5 Intersection LOS: A
Intersection Capacity Utilization 59.5% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 35: Secret Lake/Car Dealer & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	2	1012	7	1611	31	25
v/c Ratio	0.01	0.36	0.08	0.59	0.19	0.10
Control Delay	4.0	5.2	47.2	9.8	40.0	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	5.2	47.2	9.8	40.0	0.7
Queue Length 50th (ft)	0	150	4	178	16	0
Queue Length 95th (ft)	m1	116	19	531	39	0
Internal Link Dist (ft)		767		3487	418	413
Turn Bay Length (ft)	50		100			
Base Capacity (vph)	247	2841	104	2750	197	291
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.36	0.07	0.59	0.16	0.09

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	40	1435	16	4	556	43	6	1	7	53	0	15
Future Volume (vph)	40	1435	16	4	556	43	6	1	7	53	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12	12	12	12	12	12	12
Storage Length (ft)	140		0	250		0	0		50	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	50			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.989				0.850			0.850
Flt Protected	0.950			0.950				0.960			0.950	
Satd. Flow (prot)	1745	3449	0	1745	3537	0	0	1824	1615	0	1805	1615
Flt Permitted	0.283			0.166				0.739			0.750	
Satd. Flow (perm)	520	3449	0	305	3537	0	0	1404	1615	0	1425	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			11				121			73
Link Speed (mph)		40			40			25			30	
Link Distance (ft)		3567			815			631			754	
Travel Time (s)		60.8			13.9			17.2			17.1	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.58	0.58	0.58	0.77	0.77	0.77
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	43	1527	17	4	604	47	10	2	12	69	0	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	1544	0	4	651	0	0	12	12	0	69	19
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			22			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	0		0	0		1	2	2	1	3	3
Detector Template							Left			Left		
Leading Detector (ft)	30	0		0	0		20	16	16	20	16	16
Trailing Detector (ft)	-6	0		0	0		0	0	0	0	-10	-10
Detector 1 Position(ft)	-6	390		0	0		0	0	0	0	-10	-10
Detector 1 Size(ft)	6	6		6	20		20	6	6	20	6	6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	12							10	10		0	0
Detector 2 Size(ft)	6							6	6		6	6
Detector 2 Type	Cl+Ex							Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0							0.0	0.0		0.0	0.0
Detector 3 Position(ft)	24										10	10

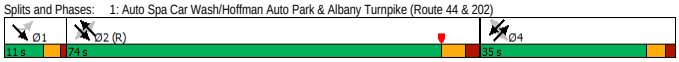
Lane Group	Ø1
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector 3 Size(ft)	6										6	6
Detector 3 Type	Cl+Ex										Cl+Ex	Cl+Ex
Detector 3 Channel												
Detector 3 Extend (s)	0.0										0.0	0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA	NA	Perm	NA	Perm
Protected Phases		1 2			2			4			4	
Permitted Phases	1 2			2	2		4			4		4
Detector Phase	1 2	1 2		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)				15.0	15.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)				22.0	22.0		15.3	15.3		15.3	15.3	15.3
Total Split (s)				74.0	74.0		35.0	35.0		35.0	35.0	35.0
Total Split (%)				61.7%	61.7%		29.2%	29.2%		29.2%	29.2%	29.2%
Maximum Green (s)				67.0	67.0		29.7	29.7		29.7	29.7	29.7
Yellow Time (s)				4.3	4.3		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)				2.7	2.7		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)				0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)				7.0	7.0			5.3			5.3	5.3
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2		1.5	1.5		1.5	1.5	1.5
Recall Mode				C-Max	C-Max		None	None		None	None	None
Act Effct Green (s)	103.2	103.2		74.0	74.0			11.4	0.0		11.4	11.4
Actuated g/C Ratio	0.86	0.86		0.62	0.62			0.10	0.00		0.10	0.10
v/c Ratio	0.10	0.52		0.02	0.30			0.09	0.10		0.51	0.09
Control Delay	2.8	3.7		8.5	7.8			50.0	1.6		65.0	0.8
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	2.8	3.7		8.5	7.8			50.0	1.6		65.0	0.8
LOS	A	A		A	A			D	A		E	A
Approach Delay		3.7			7.9			25.8			51.1	
Approach LOS		A			A			C			D	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 27 (23%), Referenced to phase 2:NWSE, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.52
Intersection Signal Delay: 6.8 Intersection LOS: A
Intersection Capacity Utilization 62.9% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Auto Spa Car Wash/Hoffman Auto Park & Albany Turnpike (Route 44 & 202)



Lane Group	Ø1
Detector 3 Size(ft)	
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Turn Type	
Protected Phases	1
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	11.0
Total Split (s)	11.0
Total Split (%)	9%
Maximum Green (s)	7.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Lane Group	SEL	SET	NWL	NWT	NET	NER	SWT	SWR
Lane Group Flow (vph)	43	1544	4	651	12	12	69	19
v/c Ratio	0.10	0.52	0.02	0.30	0.09	0.10	0.51	0.09
Control Delay	2.8	3.7	8.5	7.8	50.0	1.6	65.0	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.8	3.7	8.5	7.8	50.0	1.6	65.0	0.8
Queue Length 50th (ft)	4	136	1	84	9	0	52	0
Queue Length 95th (ft)	14	223	m3	102	18	0	83	0
Internal Link Dist (ft)		3487		735	551		674	
Turn Bay Length (ft)	140		250			50		100
Base Capacity (vph)	447	2966	188	2185	347	121	352	454
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.52	0.02	0.30	0.03	0.10	0.20	0.04

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

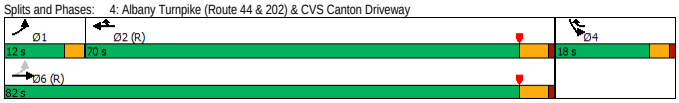
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	218	1656	518	90	210	69
Future Volume (vph)	218	1656	518	90	210	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			120	0	0
Storage Lanes	1			1	2	0
Taper Length (ft)	80				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.95
Frt				0.850	0.963	
Flt Protected	0.950				0.964	
Satd. Flow (prot)	1805	3574	3574	1615	3396	0
Flt Permitted	0.416				0.964	
Satd. Flow (perm)	790	3574	3574	1615	3396	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				98	38	
Link Speed (mph)		30	40		30	
Link Distance (ft)		615	827		249	
Travel Time (s)		14.0	14.1		5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.88	0.88
Heavy Vehicles (%)	0%	1%	1%	0%	1%	0%
Adj. Flow (vph)	237	1800	563	98	239	78
Shared Lane Traffic (%)						
Lane Group Flow (vph)	237	1800	563	98	317	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	3	0	0	0	1	
Detector Template						
Leading Detector (ft)	27	0	0	0	47	
Trailing Detector (ft)	-3	0	0	0	-3	
Detector 1 Position(ft)	-3	200	200	0	-3	
Detector 1 Size(ft)	6	6	6	20	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	9					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Detector 3 Position(ft)	21					
Detector 3 Size(ft)	6					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector 3 Type	Cl+Ex					
Detector 3 Channel						
Detector 3 Extend (s)	0.0					
Turn Type	pm+pt	NA	NA	pt+ov	Prot	
Protected Phases	1	6	2	2 4	4	
Permitted Phases	6					
Detector Phase	1	6	2	2 4	4	
Switch Phase						
Minimum Initial (s)	5.0	25.0	25.0		7.0	
Minimum Split (s)	8.1	30.3	30.3		11.0	
Total Split (s)	12.0	82.0	70.0		18.0	
Total Split (%)	12.0%	82.0%	70.0%		18.0%	
Maximum Green (s)	8.9	76.7	64.7		14.0	
Yellow Time (s)	3.0	4.3	4.3		3.0	
All-Red Time (s)	0.1	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	3.1	5.3	5.3		4.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	1.5	0.2	0.2		2.0	
Recall Mode	None	C-Max	C-Max		None	
Act Effct Green (s)	80.9	78.7	68.5	84.5	12.0	
Actuated g/C Ratio	0.81	0.79	0.68	0.84	0.12	
v/c Ratio	0.33	0.64	0.23	0.07	0.72	
Control Delay	3.6	6.1	6.0	1.6	46.6	
Queue Delay	0.0	0.7	0.0	0.0	0.0	
Total Delay	3.6	6.8	6.0	1.6	46.6	
LOS	A	A	A	A	D	
Approach Delay		6.4	5.4		46.6	
Approach LOS		A	A		D	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 40 (40%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 10.4 Intersection LOS: B
Intersection Capacity Utilization 61.7% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 4: Albany Turnpike (Route 44 & 202) & CVS Canton Driveway



Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	237	1800	563	98	317
v/c Ratio	0.33	0.64	0.23	0.07	0.72
Control Delay	3.6	6.1	6.0	1.6	46.6
Queue Delay	0.0	0.7	0.0	0.0	0.0
Total Delay	3.6	6.8	6.0	1.6	46.6
Queue Length 50th (ft)	26	211	57	0	88
Queue Length 95th (ft)	46	286	150	44	128
Internal Link Dist (ft)		535	747		169
Turn Bay Length (ft)	150			120	
Base Capacity (vph)	729	2811	2448	1410	508
Starvation Cap Reductn	0	589	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.33	0.81	0.23	0.07	0.62

Intersection Summary

Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	371	1565	89	62	454	24	124	169	198	63	123
Future Volume (vph)	8	371	1565	89	62	454	24	124	169	198	63	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		380		130	325					0	0	
Storage Lanes		1		1	1					1	0	
Taper Length (ft)		300			75						25	
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850			0.850			0.850		
Flt Protected		0.950			0.950			0.950				0.983
Satd. Flow (prot)	0	1788	3574	1599	1787	3574	1599	1787	1881	1599	0	1855
Flt Permitted		0.950			0.950			0.950				0.983
Satd. Flow (perm)	0	1788	3574	1599	1787	3574	1599	1787	1881	1599	0	1855
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				215			215			177		
Link Speed (mph)			40			40			40			40
Link Distance (ft)			1074			615			959			864
Travel Time (s)			18.3			10.5			16.3			14.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	0%	1%
Adj. Flow (vph)	9	403	1701	97	67	493	26	132	180	211	67	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	412	1701	97	67	493	26	132	180	211	0	198
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)			12			12			12			12
Link Offset(ft)			0			0			0			0
Crosswalk Width(ft)			16			16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15		9	15		9	15		9	15	
Number of Detectors	1	3	2	0	3	2	0	3	3	3	1	3
Detector Template	Left										Left	
Leading Detector (ft)	20	20	281	0	24	331	0	24	24	24	20	24
Trailing Detector (ft)	0	-10	100	0	-6	150	0	-6	-6	-6	0	-6
Detector 1 Position(ft)	0	-10	100	0	-6	150	0	-6	-6	-6	0	-6
Detector 1 Size(ft)	20	6	6	20	6	6	20	6	6	6	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		2	275		6	325		6	6	6		6
Detector 2 Size(ft)		6	6		6	6		6	6	6		6
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0
Detector 3 Position(ft)		14			18			18	18	18		18
Detector 3 Size(ft)		6			6			6	6	6		6

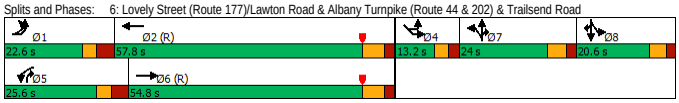
Lane Group	SBR	SEL	SER	SER2
Lane Configurations				
Traffic Volume (vph)	162	21	5	14
Future Volume (vph)	162	21	5	14
Ideal Flow (vphpl)	1900	1900	1900	1900
Storage Length (ft)	250	0	0	
Storage Lanes	2	1	0	
Taper Length (ft)		25		
Lane Util. Factor	0.88	1.00	1.00	1.00
Frt	0.850	0.935		
Flt Protected		0.975		
Satd. Flow (prot)	2814	1732	0	0
Flt Permitted		0.975		
Satd. Flow (perm)	2814	1732	0	0
Right Turn on Red				Yes
Satd. Flow (RTOR)		174		
Link Speed (mph)		30		
Link Distance (ft)		881		
Travel Time (s)		20.0		
Peak Hour Factor	0.94	0.87	0.87	0.87
Heavy Vehicles (%)	1%	0%	0%	0%
Adj. Flow (vph)	172	24	6	16
Shared Lane Traffic (%)				
Lane Group Flow (vph)	172	46	0	0
Enter Blocked Intersection	No	No	No	No
Lane Alignment	Right	Left	Right	Right
Median Width(ft)		12		
Link Offset(ft)		0		
Crosswalk Width(ft)		16		
Two way Left Turn Lane				
Headway Factor	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15	9	9
Number of Detectors	3	0		
Detector Template				
Leading Detector (ft)	24	0		
Trailing Detector (ft)	-6	0		
Detector 1 Position(ft)	-6	0		
Detector 1 Size(ft)	6	20		
Detector 1 Type	Cl+Ex	Cl+Ex		
Detector 1 Channel				
Detector 1 Extend (s)	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0		
Detector 2 Position(ft)	6			
Detector 2 Size(ft)	6			
Detector 2 Type	Cl+Ex			
Detector 2 Channel				
Detector 2 Extend (s)	0.0			
Detector 3 Position(ft)	18			
Detector 3 Size(ft)	6			

Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBL	SBT
Detector 3 Type		Cl+Ex			Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0			0.0	0.0	0.0		0.0
Turn Type	Prot	Prot	NA	Free	Prot	NA	Free	Split	NA	pt+ov	Split	NA
Protected Phases	1	1	6		5	2		7	7	7 5	8	8
Permitted Phases				Free			Free					
Detector Phase	1	1	6		5	2		7	7	7 5	8	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	15.0		9.0	9.0		5.0	5.0
Minimum Split (s)	11.6	11.6	21.8		11.6	21.8		15.0	15.0		14.6	14.6
Total Split (s)	22.6	22.6	54.8		25.6	57.8		24.0	24.0		20.6	20.6
Total Split (%)	16.4%	16.4%	39.7%		18.5%	41.8%		17.4%	17.4%		14.9%	14.9%
Maximum Green (s)	16.0	16.0	48.0		19.0	51.0		18.0	18.0		15.0	15.0
Yellow Time (s)	3.0	3.0	4.5		3.0	4.5		4.0	4.0		3.6	3.6
All-Red Time (s)	3.6	3.6	2.3		3.6	2.3		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)		6.6	6.8		6.6	6.8		6.0	6.0			5.6
Lead/Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0		2.0	3.0		2.0	2.0		2.0	2.0
Recall Mode	None	None	C-Min		None	C-Min		None	None		None	None
Act Effct Green (s)		19.2	60.6	138.2	9.7	51.0	138.2	17.0	17.0	27.3		17.0
Actuated g/C Ratio		0.14	0.44	1.00	0.07	0.37	1.00	0.12	0.12	0.20		0.12
v/c Ratio		1.65	1.09	0.06	0.54	0.37	0.02	0.60	0.78	0.46		0.87
Control Delay		347.9	87.5	0.1	76.9	33.0	0.0	68.5	80.8	9.3		92.9
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay		347.9	87.5	0.1	76.9	33.0	0.0	68.5	80.8	9.3		92.9
LOS		F	F	A	E	C	A	E	F	A		F
Approach Delay			132.2			36.5			48.9			78.8
Approach LOS			F			D			D			E

Intersection Summary

Area Type: Other
Cycle Length: 138.2
Actuated Cycle Length: 138.2
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.65
Intersection Signal Delay: 98.6 Intersection LOS: F
Intersection Capacity Utilization 96.4% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 6: Lovely Street (Route 177)/Lawton Road & Albany Turnpike (Route 44 & 202) & Trailsend Road



Lane Group	SBR	SEL	SER	SER2
Detector 3 Type	Cl+Ex			
Detector 3 Channel				
Detector 3 Extend (s)	0.0			
Turn Type	Prot	Prot		
Protected Phases	8	4		
Permitted Phases				
Detector Phase	8	4		
Switch Phase				
Minimum Initial (s)	5.0	6.0		
Minimum Split (s)	14.6	11.2		
Total Split (s)	20.6	13.2		
Total Split (%)	14.9%	9.6%		
Maximum Green (s)	15.0	8.0		
Yellow Time (s)	3.6	3.0		
All-Red Time (s)	2.0	2.2		
Lost Time Adjust (s)	0.0	0.0		
Total Lost Time (s)	5.6	5.2		
Lead/Lag	Lag			
Lead-Lag Optimize?				
Vehicle Extension (s)	2.0	2.0		
Recall Mode	None	None		
Act Effct Green (s)	17.0	6.0		
Actuated g/C Ratio	0.12	0.04		
v/c Ratio	0.50	0.19		
Control Delay	62.6	1.8		
Queue Delay	0.0	0.0		
Total Delay	62.6	1.8		
LOS	E	A		
Approach Delay		1.8		
Approach LOS		A		

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBT	SBR	SEL
Lane Group Flow (vph)	412	1701	97	67	493	26	132	180	211	198	172	46
v/c Ratio	1.65	1.09	0.06	0.54	0.37	0.02	0.60	0.78	0.46	0.87	0.50	0.19
Control Delay	347.9	87.5	0.1	76.9	33.0	0.0	68.5	80.8	9.3	92.9	62.6	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	347.9	87.5	0.1	76.9	33.0	0.0	68.5	80.8	9.3	92.9	62.6	1.8
Queue Length 50th (ft)	~575	~942	0	59	170	0	113	158	18	177	83	0
Queue Length 95th (ft)	#784	#1132	0	108	218	0	180	239	66	#342	128	0
Internal Link Dist (ft)		994			535			879		784		801
Turn Bay Length (ft)	380		130	325							250	
Base Capacity (vph)	249	1565	1599	245	1318	1599	242	255	571	228	345	264
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.65	1.09	0.06	0.27	0.37	0.02	0.55	0.71	0.37	0.87	0.50	0.17

Intersection Summary

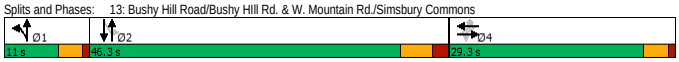
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	10	143	22	8	10	44	389	47	13	317	0
Future Volume (vph)	0	10	143	22	8	10	44	389	47	13	317	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		180	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.874				0.850		0.985				
Flt Protected					0.964			0.995			0.998	
Satd. Flow (prot)	0	1645	0	0	1832	1615	0	3510	0	0	3567	0
Flt Permitted					0.679			0.920			0.922	
Satd. Flow (perm)	0	1645	0	0	1290	1615	0	3245	0	0	3295	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		155				92		22				
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		536			693			493			335	
Travel Time (s)		12.2			15.8			8.4			5.7	
Peak Hour Factor	0.88	0.88	0.92	0.71	0.71	0.71	0.92	0.92	0.92	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	0%	1%	0%	1%	1%	1%
Adj. Flow (vph)	0	11	155	31	11	14	48	423	51	14	341	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	166	0	0	42	14	0	522	0	0	355	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	3	3	1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	106		20	26	26	20	106		20	106	
Trailing Detector (ft)	0	100		0	-4	-4	0	100		0	100	
Detector 1 Position(ft)	0	100		0	-4	-4	0	100		0	100	
Detector 1 Size(ft)	20	6		20	6	6	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					8	8						
Detector 2 Size(ft)					6	6						
Detector 2 Type					Cl+Ex	Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)					0.0	0.0						
Detector 3 Position(ft)					20	20						
Detector 3 Size(ft)					6	6						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Type					Cl+Ex	Cl+Ex						
Detector 3 Channel												
Detector 3 Extend (s)					0.0	0.0						
Turn Type		NA		Perm	NA	Perm	Prot	NA		Perm	NA	
Protected Phases		4			4		1	1 2			2	
Permitted Phases	4			4		4				2		
Detector Phase	4	4		4	4	4	1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	5.0			15.0	15.0	
Minimum Split (s)	11.3	11.3		11.3	11.3	11.3	9.0			21.3	21.3	
Total Split (s)	29.3	29.3		29.3	29.3	29.3	11.0			46.3	46.3	
Total Split (%)	33.8%	33.8%		33.8%	33.8%	33.8%	12.7%			53.5%	53.5%	
Maximum Green (s)	25.0	25.0		25.0	25.0	25.0	7.0			40.0	40.0	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.0			4.2	4.2	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0			2.1	2.1	
Lost Time Adjust (s)		0.0			0.0	0.0					0.0	
Total Lost Time (s)		4.3			4.3	4.3					6.3	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	0.2			4.0	4.0	
Recall Mode	None	None		None	None	None	Max			Min	Min	
Act Effct Green (s)		7.4			7.4	7.4		24.7			15.2	
Actuated g/C Ratio		0.18			0.18	0.18		0.59			0.36	
v/c Ratio		0.40			0.18	0.04		0.43			0.30	
Control Delay		7.6			17.9	0.2		4.5			11.3	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		7.6			17.9	0.2		4.5			11.3	
LOS		A			B	A		A			B	
Approach Delay		7.6			13.4			4.5			11.3	
Approach LOS		A			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 86.6			
Actuated Cycle Length: 41.7			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.43			
Intersection Signal Delay: 7.6		Intersection LOS: A	
Intersection Capacity Utilization 57.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 13: Bushy Hill Road/Bushy HIll Rd. & W. Mountain Rd./Simsbury Commons



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	166	42	14	522	355
v/c Ratio	0.40	0.18	0.04	0.43	0.30
Control Delay	7.6	17.9	0.2	4.5	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	17.9	0.2	4.5	11.3
Queue Length 50th (ft)	2	9	0	20	32
Queue Length 95th (ft)	37	22	0	38	61
Internal Link Dist (ft)	456	613		413	255
Turn Bay Length (ft)			180		
Base Capacity (vph)	1062	785	1019	1752	3053
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.05	0.01	0.30	0.12

Intersection Summary

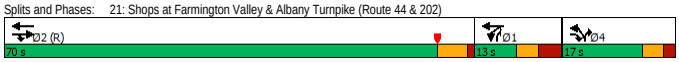
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1805	125	43	557	46	39
Future Volume (vph)	1805	125	43	557	46	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12
Storage Length (ft)		220	420		0	0
Storage Lanes		1	2		2	1
Taper Length (ft)			130		25	
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3455	1561	3385	3574	3502	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3455	1561	3385	3574	3502	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		136				17
Link Speed (mph)	40			40	30	
Link Distance (ft)	827			847	604	
Travel Time (s)	14.1			14.4	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.90	0.90
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Adj. Flow (vph)	1962	136	47	605	51	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1962	136	47	605	51	43
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	22			22	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.04	1.04	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	0	3	2	3	3
Detector Template						
Leading Detector (ft)	356	0	38	356	26	26
Trailing Detector (ft)	180	0	0	180	0	0
Detector 1 Position(ft)	180	350	0	180	0	0
Detector 1 Size(ft)	6	6	6	6	6	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	350		16	350	10	10
Detector 2 Size(ft)	6		6	6	6	6
Detector 2 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 3 Position(ft)			32		20	20

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector 3 Size(ft)			6		6	6
Detector 3 Type			Cl+Ex		Cl+Ex	Cl+Ex
Detector 3 Channel						
Detector 3 Extend (s)			0.0		0.0	0.0
Turn Type	NA	pt+ov	Prot	NA	Prot	pt+ov
Protected Phases	2	2 4	1	1 2	4	4 1
Permitted Phases						
Detector Phase	2	2 4	1	1 2	4	4 1
Switch Phase						
Minimum Initial (s)	15.0		5.0		9.0	
Minimum Split (s)	20.5		11.8		14.0	
Total Split (s)	70.0		13.0		17.0	
Total Split (%)	70.0%		13.0%		17.0%	
Maximum Green (s)	64.5		6.2		12.0	
Yellow Time (s)	4.4		3.2		3.0	
All-Red Time (s)	1.1		3.6		2.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.5		6.8		5.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	2.5		1.5		1.5	
Recall Mode	C-Min		None		None	
Act Effct Green (s)	68.2	82.2	5.5	79.2	9.0	21.3
Actuated g/C Ratio	0.68	0.82	0.06	0.79	0.09	0.21
v/c Ratio	0.83	0.10	0.25	0.21	0.16	0.12
Control Delay	19.3	1.4	43.5	2.4	43.4	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.3	1.4	43.5	2.4	43.4	22.7
LOS	B	A	D	A	D	C
Approach Delay	18.1			5.4	33.9	
Approach LOS	B			A	C	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 85 (85%), Referenced to phase 2:EBWB, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 15.7 — Intersection LOS: B
Intersection Capacity Utilization 66.1% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 21: Shops at Farmington Valley & Albany Turnpike (Route 44 & 202)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1962	136	47	605	51	43
v/c Ratio	0.83	0.10	0.25	0.21	0.16	0.12
Control Delay	19.3	1.4	43.5	2.4	43.4	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.3	1.4	43.5	2.4	43.4	22.7
Queue Length 50th (ft)	497	6	14	39	15	14
Queue Length 95th (ft)	623	m18	32	20	34	42
Internal Link Dist (ft)	747			767	524	
Turn Bay Length (ft)		220	420			
Base Capacity (vph)	2357	1271	209	2856	420	368
Starvation Cap Reductn	2	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.11	0.22	0.21	0.12	0.12

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

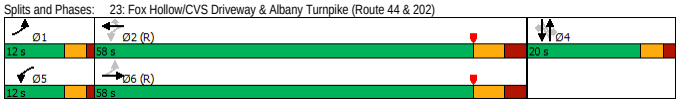
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	1415	34	18	571	22	24	5	10	36	0	2
Future Volume (vph)	13	1415	34	18	571	22	24	5	10	36	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	13	12	12	12
Storage Length (ft)	130		0	130		150	0		80	0		0
Storage Lanes	1		0	1		1	0		1	0		1
Taper Length (ft)	70			90			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996				0.850			0.850			0.850
Flt Protected	0.950			0.950				0.960			0.950	
Satd. Flow (prot)	1745	3476	0	1745	3455	1561	0	1763	1669	0	1805	1615
Flt Permitted	0.387			0.132				0.733			0.730	
Satd. Flow (perm)	711	3476	0	242	3455	1561	0	1346	1669	0	1387	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				70			99			99
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1110			920			549			426	
Travel Time (s)		21.6			17.9			15.0			11.6	
Peak Hour Factor	0.94	0.94	0.94	0.82	0.82	0.82	0.71	0.71	0.71	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	14	1505	36	22	696	27	34	7	14	42	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	1541	0	22	696	27	0	41	14	0	42	2
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0		1	0	0	1	1	1	1	1	1
Detector Template							Left			Left		
Leading Detector (ft)	40	0		40	0	0	20	30	30	20	30	30
Trailing Detector (ft)	0	0		0	0	0	0	-10	-10	0	-10	-10
Detector 1 Position(ft)	0	0		0	0	0	0	-10	-10	0	-10	-10
Detector 1 Size(ft)	40	6		40	6	20	20	40	40	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2		2	4		4	4		4
Detector Phase	1	6		5	2	2	4	4	4	4	4	4
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0	15.0	4.0	4.0	4.0	4.0	4.0	4.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	8.0	22.2		8.0	22.2	22.2	8.8	8.8	8.8	8.8	8.8	8.8
Total Split (s)	12.0	58.0		12.0	58.0	58.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	13.3%	64.4%		13.3%	64.4%	64.4%	22.2%	22.2%	22.2%	22.2%	22.2%	22.2%
Maximum Green (s)	8.0	50.8		8.0	50.8	50.8	15.2	15.2	15.2	15.2	15.2	15.2
Yellow Time (s)	3.0	4.2		3.0	4.2	4.2	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	3.0		1.0	3.0	3.0	1.8	1.8	1.8	1.8	1.8	1.8
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)	4.0	7.2		4.0	7.2	7.2		4.8	4.8		4.8	4.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	0.2		1.5	0.2	0.2	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	73.9	70.4		74.8	72.1	72.1		7.6	7.6		7.6	7.6
Actuated g/C Ratio	0.82	0.78		0.83	0.80	0.80		0.08	0.08		0.08	0.08
v/c Ratio	0.02	0.57		0.08	0.25	0.02		0.37	0.06		0.36	0.01
Control Delay	2.1	6.9		2.6	3.7	0.0		47.1	0.5		46.8	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	2.1	6.9		2.6	3.7	0.0		47.1	0.5		46.8	0.0
LOS	A	A		A	A	A		D	A		D	A
Approach Delay		6.9			3.6			35.3			44.7	
Approach LOS		A			A			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 15 (17%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 7.2 — Intersection LOS: A
Intersection Capacity Utilization 60.9% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 23: Fox Hollow/CVS Driveway & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	14	1541	22	696	27	41	14	42	2
v/c Ratio	0.02	0.57	0.08	0.25	0.02	0.37	0.06	0.36	0.01
Control Delay	2.1	6.9	2.6	3.7	0.0	47.1	0.5	46.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.1	6.9	2.6	3.7	0.0	47.1	0.5	46.8	0.0
Queue Length 50th (ft)	1	135	2	42	0	22	0	23	0
Queue Length 95th (ft)	5	328	6	95	0	42	0	51	0
Internal Link Dist (ft)		1030		840		469		346	
Turn Bay Length (ft)	130		130		150		80		
Base Capacity (vph)	687	2720	336	2768	1264	227	364	234	355
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	0.02	0.57	0.07	0.25	0.02	0.18	0.04	0.18	0.01

Intersection Summary

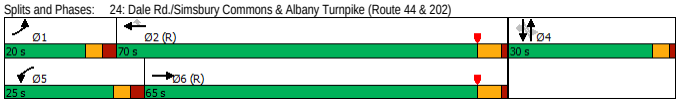
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	1286	24	57	483	31	5	22	170	27	14	26
Future Volume (vph)	33	1286	24	57	483	31	5	22	170	27	14	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	11	11	12	12	12	12
Storage Length (ft)	180		0	450		525	200		0	0		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	115			80			50			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.867				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	3445	0	1770	3574	1615	1454	1592	0	1805	1900	1615
Flt Permitted	0.950			0.950			0.745			0.325		
Satd. Flow (perm)	1745	3445	0	1770	3574	1615	1140	1592	0	618	1900	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				61		227				74
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		791			1110			639			380	
Travel Time (s)		15.4			21.6			17.4			10.4	
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85	0.75	0.75	0.75	0.73	0.73	0.73
Heavy Vehicles (%)	0%	1%	0%	2%	1%	0%	20%	0%	0%	0%	0%	0%
Adj. Flow (vph)	37	1429	27	67	568	36	7	29	227	37	19	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	1456	0	67	568	36	7	256	0	37	19	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1		1	1	1
Detector Template										Left		
Leading Detector (ft)	25	306		25	256	256	20	20		30	30	40
Trailing Detector (ft)	-5	300		-5	250	250	-10	-10		0	0	-10
Detector 1 Position(ft)	-5	300		-5	250	250	-10	-10		0	0	-10
Detector 1 Size(ft)	30	6		30	6	6	30	30		30	30	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases						2	4			4		4
Detector Phase	1	6		5	2	2	4	4		4	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	15.0	15.0	7.0	7.0		7.0	7.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	12.5	20.6		12.5	20.6	20.6	11.2	11.2		11.2	11.2	11.2
Total Split (s)	20.0	65.0		25.0	70.0	70.0	30.0	30.0		30.0	30.0	30.0
Total Split (%)	16.7%	54.2%		20.8%	58.3%	58.3%	25.0%	25.0%		25.0%	25.0%	25.0%
Maximum Green (s)	14.5	59.4		19.5	64.4	64.4	25.8	25.8		25.8	25.8	25.8
Yellow Time (s)	3.0	4.3		3.0	4.3	4.3	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	2.5	1.3		2.5	1.3	1.3	1.2	1.2		1.2	1.2	1.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.6		5.5	5.6	5.6	4.2	4.2		4.2	4.2	4.2
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	5.0		1.5	8.0	8.0	2.0	2.0		2.0	2.0	2.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Act Effct Green (s)	7.6	85.8		9.0	89.7	89.7	12.3	12.3		12.3	12.3	12.3
Actuated g/C Ratio	0.06	0.72		0.08	0.75	0.75	0.10	0.10		0.10	0.10	0.10
v/c Ratio	0.34	0.59		0.50	0.21	0.03	0.06	0.70		0.59	0.10	0.16
Control Delay	57.2	4.7		65.9	6.1	0.8	46.0	19.6		84.1	46.8	2.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	57.2	4.7		65.9	6.1	0.8	46.0	19.6		84.1	46.8	2.3
LOS	E	A		E	A	A	D	B		F	D	A
Approach Delay		6.0			11.8			20.3			44.4	
Approach LOS		A			B			C			D	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 20 (17%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 10.4 Intersection LOS: B
Intersection Capacity Utilization 75.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 24: Dale Rd./Simsbury Commons & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	37	1456	67	568	36	7	256	37	19	36
v/c Ratio	0.34	0.59	0.50	0.21	0.03	0.06	0.70	0.59	0.10	0.16
Control Delay	57.2	4.7	65.9	6.1	0.8	46.0	19.6	84.1	46.8	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	4.7	65.9	6.1	0.8	46.0	19.6	84.1	46.8	2.3
Queue Length 50th (ft)	30	117	51	69	0	5	21	28	14	0
Queue Length 95th (ft)	m42	113	91	115	4	15	50	49	28	0
Internal Link Dist (ft)		711		1030			559		300	
Turn Bay Length (ft)	180		450		525	200				
Base Capacity (vph)	210	2464	287	2672	1222	245	520	132	408	405
Starvation Cap Reductn	0	57	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.60	0.23	0.21	0.03	0.03	0.49	0.28	0.05	0.09

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

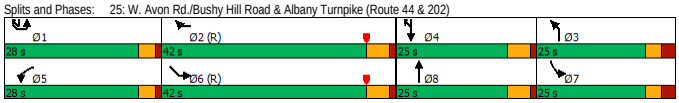
Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Traffic Volume (vph)	47	429	31	107	230	35	116	217	127	235	1186	114
Future Volume (vph)	47	429	31	107	230	35	116	217	127	235	1186	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	11	12	12	11	11	11	11	12	12
Storage Length (ft)	375	0		200		0	0		0		220	0
Storage Lanes	1	2		1		0	1		1		2	0
Taper Length (ft)	125			150			25				140	
Lane Util. Factor	1.00	0.88	1.00	1.00	0.95	0.95	1.00	1.00	1.00	0.97	0.97	0.95
Frt		0.850			0.980				0.850		0.987	
Flt Protected	0.950			0.950			0.950			0.950	0.956	
Satd. Flow (prot)	1745	2722	0	1728	3507	0	1745	1818	1546	3385	3447	0
Flt Permitted	0.950			0.950			0.950			0.950	0.956	
Satd. Flow (perm)	1745	2722	0	1728	3507	0	1745	1818	1546	3385	3447	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		108			12				144		108	
Link Speed (mph)	40				25			40			40	
Link Distance (ft)	791				809			493			815	
Travel Time (s)	13.5				22.1			8.4			13.9	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.88	0.88	0.88	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	0%	1%	1%	0%	1%	0%
Adj. Flow (vph)	53	482	35	114	245	37	132	247	144	250	1262	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	517	0	114	282	0	132	247	144	250	1383	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	11				11			11			46	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.00	1.00
Turning Speed (mph)	15	9	9	15		9	15		9	15	15	9
Number of Detectors	1	2		1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	40	368		34	30		30	30	30	40	190	
Trailing Detector (ft)	0	176		-6	-10		-10	-10	-10	0	184	
Detector 1 Position(ft)	0	176		-6	-10		-10	-10	-10	0	184	
Detector 1 Size(ft)	40	6		40	40		40	40	40	40	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		362										
Detector 2 Size(ft)		6										
Detector 2 Type		Cl+Ex										
Detector 2 Channel												
Detector 2 Extend (s)		0.0										
Turn Type	Prot	Prot		Prot	NA		Prot	NA	pt+ov	Prot	Prot	

Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Protected Phases	5	2		3	8		7	4	1 4	1	6	
Permitted Phases												
Detector Phase	5	2		3	8		7	4	1 4	1	6	
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	7.0		7.0	7.0		7.0	15.0	
Minimum Split (s)	11.0	20.4		12.6	12.2		12.6	12.2		11.1	20.4	
Total Split (s)	28.0	42.0		25.0	25.0		25.0	25.0		28.0	42.0	
Total Split (%)	23.3%	35.0%		20.8%	20.8%		20.8%	20.8%		23.3%	35.0%	
Maximum Green (s)	24.0	36.6		19.4	19.8		19.4	19.8		23.9	36.6	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.2		3.0	4.2	
All-Red Time (s)	1.0	1.2		2.6	1.0		2.6	1.0		1.1	1.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.4		5.6	5.2		5.6	5.2		4.1	5.4	
Lead/Lag	Lead	Lag		Lag	Lead		Lag	Lead		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	4.0		1.5	2.0		1.5	2.0		1.5	4.0	
Recall Mode	None	C-Min		None	None		None	None		None	C-Min	
Act Effct Green (s)	8.3	56.3		12.0	13.9		16.7	18.6	32.5	12.8	63.0	
Actuated g/C Ratio	0.07	0.47		0.10	0.12		0.14	0.16	0.27	0.11	0.52	
v/c Ratio	0.44	0.39		0.66	0.68		0.54	0.88	0.28	0.69	0.74	
Control Delay	77.0	14.2		69.4	56.9		56.3	79.8	4.2	70.0	22.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	77.0	14.2		69.4	56.9		56.3	79.8	4.2	70.0	22.7	
LOS	E	B		E	E		E	E	A	E	C	
Approach Delay	20.0				60.5			53.0			30.0	
Approach LOS	C				E			D			C	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 5 (4%), Referenced to phase 2:WBR and 6:SEL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 35.9 Intersection LOS: D
Intersection Capacity Utilization 77.4% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 25: W. Avon Rd./Bushy Hill Road & Albany Turnpike (Route 44 & 202)



Lane Group	WBL	WBR	NBL	NBT	SBL	SBT	SBR	SEL2	SEL
Lane Group Flow (vph)	53	517	114	282	132	247	144	250	1383
v/c Ratio	0.44	0.39	0.66	0.68	0.54	0.88	0.28	0.69	0.74
Control Delay	77.0	14.2	69.4	56.9	56.3	79.8	4.2	70.0	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.0	14.2	69.4	56.9	56.3	79.8	4.2	70.0	22.7
Queue Length 50th (ft)	33	115	87	107	95	187	0	102	417
Queue Length 95th (ft)	88	186	143	149	156	#310	28	136	581
Internal Link Dist (ft)	711			729		413			735
Turn Bay Length (ft)	375		200					220	220
Base Capacity (vph)	349	1334	279	588	282	299	667	674	1862
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	0.15	0.39	0.41	0.48	0.47	0.83	0.22	0.37	0.74

Intersection Summary

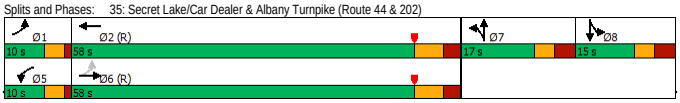
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1749	0	2	573	3	7	0	1	0	0	5
Future Volume (vph)	3	1749	0	2	573	3	7	0	1	0	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	11	11	11	11	12	12	12	12	12	12
Storage Length (ft)	50		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			70			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.999			0.986			0.865	
Flt Protected	0.950			0.950				0.957				
Satd. Flow (prot)	1745	3574	0	1745	3452	0	0	1793	0	0	1627	0
Flt Permitted	0.414			0.950				0.957				
Satd. Flow (perm)	760	3574	0	1745	3452	0	0	1793	0	0	1627	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					1			155			419	
Link Speed (mph)		40			40			25			30	
Link Distance (ft)		847			3567			498			493	
Travel Time (s)		14.4			60.8			13.6			11.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.80	0.80	0.80	0.90	0.90	0.90
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	3	1901	0	2	623	3	9	0	1	0	0	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	1901	0	2	626	0	0	10	0	0	6	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			22			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	0		3	0		1	3		1	2	
Detector Template							Left					
Leading Detector (ft)	26	0		26	0		20	26		6	16	
Trailing Detector (ft)	0	0		0	0		0	0		0	-6	
Detector 1 Position(ft)	0	0		0	894		0	0		0	-6	
Detector 1 Size(ft)	6	6		6	6		20	6		6	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	10			10				10			10	
Detector 2 Size(ft)	6			6				6			6	
Detector 2 Type	Cl+Ex			Cl+Ex				Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0				0.0			0.0	
Detector 3 Position(ft)	20			20				20				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6			6				6				
Detector 3 Type	Cl+Ex			Cl+Ex				Cl+Ex				
Detector 3 Channel												
Detector 3 Extend (s)	0.0			0.0				0.0				
Turn Type	pm+pt	NA		Prot	NA		Split	NA			NA	
Protected Phases	1	6		5	2		7	7		8	8	
Permitted Phases	6											
Detector Phase	1	6		5	2		7	7		8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		9.0	9.0		7.0	7.0	
Minimum Split (s)	9.0	22.0		9.0	22.0		15.2	15.2		13.2	13.2	
Total Split (s)	10.0	58.0		10.0	58.0		17.0	17.0		15.0	15.0	
Total Split (%)	10.0%	58.0%		10.0%	58.0%		17.0%	17.0%		15.0%	15.0%	
Maximum Green (s)	6.0	51.0		6.0	51.0		10.8	10.8		8.8	8.8	
Yellow Time (s)	3.0	4.4		3.0	4.4		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	2.6		1.0	2.6		3.2	3.2		3.2	3.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	7.0		4.0	7.0			6.2			6.2	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	2.5		1.5	2.5		1.5	1.5		1.5	1.5	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	89.5	91.1		5.0	91.1			9.0			7.0	
Actuated g/C Ratio	0.90	0.91		0.05	0.91			0.09			0.07	
v/c Ratio	0.00	0.58		0.02	0.20			0.03			0.01	
Control Delay	2.0	4.3		46.0	3.5			0.2			0.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	2.0	4.3		46.0	3.5			0.2			0.0	
LOS	A	A		D	A			A			A	
Approach Delay		4.3			3.6			0.3				
Approach LOS		A			A			A				

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 89 (89%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 4.1		Intersection LOS: A	
Intersection Capacity Utilization 66.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 35: Secret Lake/Car Dealer & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	3	1901	2	626	10	6
v/c Ratio	0.00	0.58	0.02	0.20	0.03	0.01
Control Delay	2.0	4.3	46.0	3.5	0.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.0	4.3	46.0	3.5	0.2	0.0
Queue Length 50th (ft)	0	0	1	0	0	0
Queue Length 95th (ft)	m0	#763	9	142	0	0
Internal Link Dist (ft)		767		3487	418	413
Turn Bay Length (ft)	50		100			
Base Capacity (vph)	740	3257	104	3145	331	525
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.58	0.02	0.20	0.03	0.01

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

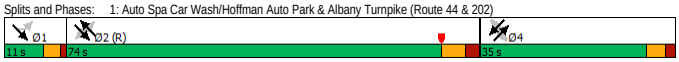
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	14	935	29	12	1502	28	17	0	9	148	0	56
Future Volume (vph)	14	935	29	12	1502	28	17	0	9	148	0	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12	12	12	12	12	12	12
Storage Length (ft)	140		0	250		0	0		50	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	50			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.997				0.850			0.850
Flt Protected	0.950			0.950				0.950			0.950	
Satd. Flow (prot)	1745	3442	0	1745	3564	0	0	1805	1615	0	1805	1615
Flt Permitted	0.060			0.267				0.463			0.740	
Satd. Flow (perm)	110	3442	0	490	3564	0	0	880	1615	0	1406	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			2				73			73
Link Speed (mph)		40			40			25			30	
Link Distance (ft)		3567			815			631			754	
Travel Time (s)		60.8			13.9			17.2			17.1	
Peak Hour Factor	0.90	0.90	0.90	0.96	0.96	0.96	0.65	0.65	0.65	0.86	0.86	0.86
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	16	1039	32	13	1565	29	26	0	14	172	0	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	1071	0	13	1594	0	0	26	14	0	172	65
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			22			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	0		0	0		1	2	2	1	3	3
Detector Template							Left			Left		
Leading Detector (ft)	30	0		0	0		20	16	16	20	16	16
Trailing Detector (ft)	-6	0		0	0		0	0	0	0	-10	-10
Detector 1 Position(ft)	-6	390		0	0		0	0	0	0	-10	-10
Detector 1 Size(ft)	6	6		6	20		20	6	6	20	6	6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	12							10	10		0	0
Detector 2 Size(ft)	6							6	6		6	6
Detector 2 Type	Cl+Ex							Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0							0.0	0.0		0.0	0.0
Detector 3 Position(ft)	24										10	10

Lane Group	Ø1
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector 3 Size(ft)	6										6	6
Detector 3 Type	Cl+Ex										Cl+Ex	Cl+Ex
Detector 3 Channel												
Detector 3 Extend (s)	0.0										0.0	0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		1 2			2			4			4	
Permitted Phases	1 2			2			4		4	4		4
Detector Phase	1 2	1 2		2	2		4	4	4	4	4	4
Switch Phase												
Minimum Initial (s)				15.0	15.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)				22.0	22.0		15.3	15.3	15.3	15.3	15.3	15.3
Total Split (s)				74.0	74.0		35.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)				61.7%	61.7%		29.2%	29.2%	29.2%	29.2%	29.2%	29.2%
Maximum Green (s)				67.0	67.0		29.7	29.7	29.7	29.7	29.7	29.7
Yellow Time (s)				4.3	4.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)				2.7	2.7		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
Total Lost Time (s)				7.0	7.0			5.3	5.3		5.3	5.3
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2		1.5	1.5	1.5	1.5	1.5	1.5
Recall Mode				C-Max	C-Max		None	None	None	None	None	None
Act Effct Green (s)	91.9	91.9		70.3	70.3			18.8	18.8		18.8	18.8
Actuated g/C Ratio	0.77	0.77		0.59	0.59			0.16	0.16		0.16	0.16
v/c Ratio	0.19	0.41		0.05	0.76			0.19	0.04		0.78	0.21
Control Delay	11.7	5.8		6.4	8.2			44.4	0.2		71.4	9.0
Queue Delay	0.0	0.0		0.0	0.4			0.0	0.0		0.0	0.0
Total Delay	11.7	5.8		6.4	8.6			44.4	0.2		71.4	9.0
LOS	B	A		A	A			D	A		E	A
Approach Delay		5.9			8.6			28.9			54.3	
Approach LOS		A			A			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 35 (29%), Referenced to phase 2:NWSE, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 73.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Auto Spa Car Wash/Hoffman Auto Park & Albany Turnpike (Route 44 & 202)



Lane Group	Ø1
Detector 3 Size(ft)	
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Turn Type	
Protected Phases	1
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	11.0
Total Split (s)	11.0
Total Split (%)	9%
Maximum Green (s)	7.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Lane Group	SEL	SET	NWL	NWT	NET	NER	SWT	SWR
Lane Group Flow (vph)	16	1071	13	1594	26	14	172	65
v/c Ratio	0.19	0.41	0.05	0.76	0.19	0.04	0.78	0.21
Control Delay	11.7	5.8	6.4	8.2	44.4	0.2	71.4	9.0
Queue Delay	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Total Delay	11.7	5.8	6.4	8.6	44.4	0.2	71.4	9.0
Queue Length 50th (ft)	3	124	2	170	18	0	130	0
Queue Length 95th (ft)	17	207	m3	m165	30	0	184	29
Internal Link Dist (ft)		3487		735	551		674	
Turn Bay Length (ft)	140		250			50		100
Base Capacity (vph)	84	2637	286	2088	217	454	347	454
Starvation Cap Reductn	0	0	0	148	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.41	0.05	0.82	0.12	0.03	0.50	0.14

Intersection Summary
m Volume for 95th percentile queue is metered by upstream signal.

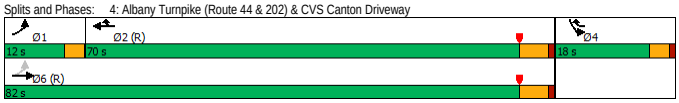
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	130	1072	1615	276	253	110
Future Volume (vph)	130	1072	1615	276	253	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			120	0	0
Storage Lanes	1			1	2	0
Taper Length (ft)	80				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.95
Frt				0.850	0.955	
Flt Protected	0.950				0.966	
Satd. Flow (prot)	1805	3574	3574	1615	3377	0
Flt Permitted	0.072				0.966	
Satd. Flow (perm)	137	3574	3574	1615	3377	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				300	59	
Link Speed (mph)		30	40		30	
Link Distance (ft)		615	827		249	
Travel Time (s)		14.0	14.1		5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.85	0.85
Heavy Vehicles (%)	0%	1%	1%	0%	1%	0%
Adj. Flow (vph)	141	1165	1755	300	298	129
Shared Lane Traffic (%)						
Lane Group Flow (vph)	141	1165	1755	300	427	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	3	0	0	0	1	
Detector Template						
Leading Detector (ft)	27	0	0	0	47	
Trailing Detector (ft)	-3	0	0	0	-3	
Detector 1 Position(ft)	-3	200	200	0	-3	
Detector 1 Size(ft)	6	6	6	20	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	9					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Detector 3 Position(ft)	21					
Detector 3 Size(ft)	6					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector 3 Type	Cl+Ex					
Detector 3 Channel						
Detector 3 Extend (s)	0.0					
Turn Type	pm+pt	NA	NA	pt+ov	Prot	
Protected Phases	1	6	2	2 4	4	
Permitted Phases	6					
Detector Phase	1	6	2	2 4	4	
Switch Phase						
Minimum Initial (s)	5.0	25.0	25.0		7.0	
Minimum Split (s)	8.1	30.3	30.3		11.0	
Total Split (s)	12.0	82.0	70.0		18.0	
Total Split (%)	12.0%	82.0%	70.0%		18.0%	
Maximum Green (s)	8.9	76.7	64.7		14.0	
Yellow Time (s)	3.0	4.3	4.3		3.0	
All-Red Time (s)	0.1	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	3.1	5.3	5.3		4.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	1.5	0.2	0.2		2.0	
Recall Mode	None	C-Max	C-Max		None	
Act Effct Green (s)	79.5	77.3	67.3	84.7	13.4	
Actuated g/C Ratio	0.80	0.77	0.67	0.85	0.13	
v/c Ratio	0.63	0.42	0.73	0.21	0.85	
Control Delay	23.6	4.4	9.3	0.3	53.0	
Queue Delay	0.0	0.0	0.1	0.0	0.0	
Total Delay	23.6	4.4	9.4	0.3	53.0	
LOS	C	A	A	A	D	
Approach Delay		6.5	8.1		53.0	
Approach LOS		A	A		D	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 20 (20%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 12.6 Intersection LOS: B
Intersection Capacity Utilization 73.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Albany Turnpike (Route 44 & 202) & CVS Canton Driveway



Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	141	1165	1755	300	427
v/c Ratio	0.63	0.42	0.73	0.21	0.85
Control Delay	23.6	4.4	9.3	0.3	53.0
Queue Delay	0.0	0.0	0.1	0.0	0.0
Total Delay	23.6	4.4	9.4	0.3	53.0
Queue Length 50th (ft)	18	109	125	0	119
Queue Length 95th (ft)	81	137	347	m1	#170
Internal Link Dist (ft)		535	747		169
Turn Bay Length (ft)	150			120	
Base Capacity (vph)	257	2762	2404	1421	523
Starvation Cap Reductn	0	0	46	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.42	0.74	0.21	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

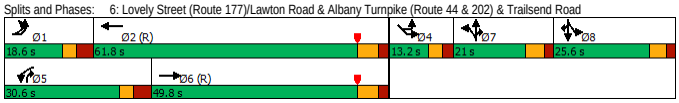
Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	12	178	875	64	204	1401	1	72	157	99	174	87
Future Volume (vph)	12	178	875	64	204	1401	1	72	157	99	174	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		380		130	325		0				0	0
Storage Lanes		1		1	1		1				1	0
Taper Length (ft)		300			75							25
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850				0.850			0.850	
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1788	3574	1599	1787	3574	0	1599	1787	1881	1599	0
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1788	3574	1599	1787	3574	0	1599	1787	1881	1599	0
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				263				263			185	
Link Speed (mph)			40			40				40		
Link Distance (ft)			1074			615				959		
Travel Time (s)			18.3			10.5				16.3		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	1%	1%	1%	1%	0%	1%	1%	1%	1%	0%
Adj. Flow (vph)	13	193	951	70	222	1523	1	78	167	105	185	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	206	951	70	222	1524	0	78	167	105	185	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Right	Left	Left	Right	Left
Median Width(ft)			12			12				12		
Link Offset(ft)			0			0				0		
Crosswalk Width(ft)			16			16				16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15		9	15		9	9	15		9	15
Number of Detectors	1	3	2	0	3	2		0	3	3	3	1
Detector Template	Left											Left
Leading Detector (ft)	20	20	281	0	24	331		0	24	24	24	20
Trailing Detector (ft)	0	-10	100	0	-6	150		0	-6	-6	-6	0
Detector 1 Position(ft)	0	-10	100	0	-6	150		0	-6	-6	-6	0
Detector 1 Size(ft)	20	6	6	20	6	6		20	6	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		2	275		6	325			6	6	6	
Detector 2 Size(ft)		6	6		6	6			6	6	6	
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0	0.0			0.0	0.0	0.0	
Detector 3 Position(ft)		14			18				18	18	18	
Detector 3 Size(ft)		6			6				6	6	6	

Lane Group	SBT	SBR	SEL	SER	SER2
Lane Configurations					
Traffic Volume (vph)	148	355	7	1	11
Future Volume (vph)	148	355	7	1	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Storage Length (ft)		250	0	0	
Storage Lanes		2	1	0	
Taper Length (ft)			25		
Lane Util. Factor	1.00	0.88	1.00	1.00	1.00
Frt		0.850	0.914		
Flt Protected	0.982		0.982		
Satd. Flow (prot)	1854	2814	1705	0	0
Flt Permitted	0.982		0.982		
Satd. Flow (perm)	1854	2814	1705	0	0
Right Turn on Red				Yes	
Satd. Flow (RTOR)			223		
Link Speed (mph)	40		30		
Link Distance (ft)	864		881		
Travel Time (s)	14.7		20.0		
Peak Hour Factor	0.94	0.94	0.87	0.87	0.87
Heavy Vehicles (%)	1%	1%	0%	0%	0%
Adj. Flow (vph)	157	378	8	1	13
Shared Lane Traffic (%)					
Lane Group Flow (vph)	250	378	22	0	0
Enter Blocked Intersection	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Right
Median Width(ft)	12		12		
Link Offset(ft)	0		0		
Crosswalk Width(ft)	16		16		
Two way Left Turn Lane					
Headway Factor	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15	9	9
Number of Detectors	3	3	0		
Detector Template					
Leading Detector (ft)	24	24	0		
Trailing Detector (ft)	-6	-6	0		
Detector 1 Position(ft)	-6	-6	0		
Detector 1 Size(ft)	6	6	20		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel					
Detector 1 Extend (s)	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		
Detector 2 Position(ft)	6	6			
Detector 2 Size(ft)	6	6			
Detector 2 Type	Cl+Ex	Cl+Ex			
Detector 2 Channel					
Detector 2 Extend (s)	0.0	0.0			
Detector 3 Position(ft)	18	18			
Detector 3 Size(ft)	6	6			

Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBT	NBR	SBL
Detector 3 Type		Cl+Ex			Cl+Ex				Cl+Ex	Cl+Ex	Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0				0.0	0.0	0.0	
Turn Type	Prot	Prot	NA	Free	Prot	NA		Free	Split	NA	pt+ov	Split
Protected Phases	1	1	6		5	2			7	7	7 5	8
Permitted Phases				Free				Free				
Detector Phase	1	1	6		5	2			7	7	7 5	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	15.0			9.0	9.0		5.0
Minimum Split (s)	11.6	11.6	21.8		11.6	21.8			15.0	15.0		14.6
Total Split (s)	18.6	18.6	49.8		30.6	61.8			21.0	21.0		25.6
Total Split (%)	13.3%	13.3%	35.5%		21.8%	44.1%			15.0%	15.0%		18.3%
Maximum Green (s)	12.0	12.0	43.0		24.0	55.0			15.0	15.0		20.0
Yellow Time (s)	3.0	3.0	4.5		3.0	4.5			4.0	4.0		3.6
All-Red Time (s)	3.6	3.6	2.3		3.6	2.3			2.0	2.0		2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0			0.0	0.0		
Total Lost Time (s)		6.6	6.8		6.6	6.8			6.0	6.0		
Lead/Lag	Lead	Lead	Lag		Lead	Lag			Lead	Lead		Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0		2.0	3.0			2.0	2.0		2.0
Recall Mode	None	None	C-Min		None	C-Min			None	None		None
Act Effct Green (s)		16.7	51.0	140.2	20.7	55.0		140.2	16.1	16.1	37.4	
Actuated g/C Ratio		0.12	0.36	1.00	0.15	0.39		1.00	0.11	0.11	0.27	
v/c Ratio		0.97	0.73	0.04	0.84	1.09		0.05	0.81	0.49	0.33	
Control Delay		114.5	44.5	0.0	84.5	91.7		0.1	89.4	65.9	4.3	
Queue Delay		0.0	0.0	0.0	0.0	5.9		0.0	0.0	0.0	0.0	
Total Delay		114.5	44.5	0.0	84.5	97.7		0.1	89.4	65.9	4.3	
LOS		F	D	A	F	F		A	F	E	A	
Approach Delay			53.7			91.9				49.6		
Approach LOS			D			F				D		

Intersection Summary			
Area Type:	Other		
Cycle Length: 140.2			
Actuated Cycle Length: 140.2			
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.09			
Intersection Signal Delay: 75.1		Intersection LOS: E	
Intersection Capacity Utilization 100.8%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 6: Lovely Street (Route 177)/Lawton Road & Albany Turnpike (Route 44 & 202) & Trailsend Road



Lane Group	SBT	SBR	SEL	SER	SER2
Detector 3 Type	Cl+Ex	Cl+Ex			
Detector 3 Channel					
Detector 3 Extend (s)	0.0	0.0			
Turn Type	NA	Prot	Prot		
Protected Phases	8	8	4		
Permitted Phases					
Detector Phase	8	8	4		
Switch Phase					
Minimum Initial (s)	5.0	5.0	6.0		
Minimum Split (s)	14.6	14.6	11.2		
Total Split (s)	25.6	25.6	13.2		
Total Split (%)	18.3%	18.3%	9.4%		
Maximum Green (s)	20.0	20.0	8.0		
Yellow Time (s)	3.6	3.6	3.0		
All-Red Time (s)	2.0	2.0	2.2		
Lost Time Adjust (s)	0.0	0.0	0.0		
Total Lost Time (s)	5.6	5.6	5.2		
Lead/Lag	Lag	Lag			
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0		
Recall Mode	None	None	None		
Act Effct Green (s)	20.7	20.7	6.0		
Actuated g/C Ratio	0.15	0.15	0.04		
v/c Ratio	0.92	0.91	0.08		
Control Delay	94.8	85.2	0.5		
Queue Delay	0.0	0.0	0.0		
Total Delay	94.8	85.2	0.5		
LOS	F	F	A		
Approach Delay	89.0		0.5		
Approach LOS	F		A		

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBT	SBR	SEL
Lane Group Flow (vph)	206	951	70	222	1524	78	167	105	185	250	378	22
v/c Ratio	0.97	0.73	0.04	0.84	1.09	0.05	0.81	0.49	0.33	0.92	0.91	0.08
Control Delay	114.5	44.5	0.0	84.5	91.7	0.1	89.4	65.9	4.3	94.8	85.2	0.5
Queue Delay	0.0	0.0	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	114.5	44.5	0.0	84.5	97.7	0.1	89.4	65.9	4.3	94.8	85.2	0.5
Queue Length 50th (ft)	~245	422	0	198	~819	0	150	91	0	229	196	0
Queue Length 95th (ft)	#410	520	0	#299	#958	0	#264	153	37	#401	#306	0
Internal Link Dist (ft)		994			535			879		784		801
Turn Bay Length (ft)	380		130	325							250	
Base Capacity (vph)	212	1299	1599	305	1402	1599	210	222	599	274	417	307
Starvation Cap Reductn	0	0	0	0	177	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.73	0.04	0.73	1.24	0.05	0.80	0.47	0.31	0.91	0.91	0.07

Intersection Summary
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

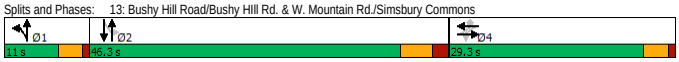
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	14	76	131	36	54	119	453	127	31	500	1
Future Volume (vph)	0	14	76	131	36	54	119	453	127	31	500	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		180	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.885				0.850		0.973				
Flt Protected								0.992			0.997	
Satd. Flow (prot)	0	1667	0	0	1828	1615	0	3462	0	0	3564	0
Flt Permitted					0.707			0.754			0.875	
Satd. Flow (perm)	0	1667	0	0	1343	1615	0	2631	0	0	3127	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		84				92		51				
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		536			693			493			335	
Travel Time (s)		12.2			15.8			8.4			5.7	
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86	0.88	0.88	0.88	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	0%	1%	0%	1%	1%	1%
Adj. Flow (vph)	0	15	84	152	42	63	135	515	144	34	556	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	99	0	0	194	63	0	794	0	0	591	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	3	3	1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	106		20	26	26	20	106		20	106	
Trailing Detector (ft)	0	100		0	-4	-4	0	100		0	100	
Detector 1 Position(ft)	0	100		0	-4	-4	0	100		0	100	
Detector 1 Size(ft)	20	6		20	6	6	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					8	8						
Detector 2 Size(ft)					6	6						
Detector 2 Type					Cl+Ex	Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)					0.0	0.0						
Detector 3 Position(ft)					20	20						
Detector 3 Size(ft)					6	6						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Type					Cl+Ex	Cl+Ex						
Detector 3 Channel												
Detector 3 Extend (s)					0.0	0.0						
Turn Type		NA		Perm	NA	Perm	Prot	NA		Perm	NA	
Protected Phases		4			4		1	1 2			2	
Permitted Phases	4			4		4				2		
Detector Phase	4	4		4	4	4	1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	5.0			15.0	15.0	
Minimum Split (s)	11.3	11.3		11.3	11.3	11.3	9.0			21.3	21.3	
Total Split (s)	29.3	29.3		29.3	29.3	29.3	11.0			46.3	46.3	
Total Split (%)	33.8%	33.8%		33.8%	33.8%	33.8%	12.7%			53.5%	53.5%	
Maximum Green (s)	25.0	25.0		25.0	25.0	25.0	7.0			40.0	40.0	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.0			4.2	4.2	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0			2.1	2.1	
Lost Time Adjust (s)		0.0			0.0	0.0					0.0	
Total Lost Time (s)		4.3			4.3	4.3					6.3	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	0.2			4.0	4.0	
Recall Mode	None	None		None	None	None	Max			Min	Min	
Act Effct Green (s)		15.8			15.8	15.8		49.5			40.2	
Actuated g/C Ratio		0.20			0.20	0.20		0.64			0.52	
v/c Ratio		0.24			0.71	0.16		1.01			0.37	
Control Delay		9.4			43.1	3.4		46.9			12.9	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		9.4			43.1	3.4		46.9			12.9	
LOS		A			D	A		D			B	
Approach Delay		9.4			33.4			46.9			12.9	
Approach LOS		A			C			D			B	

Intersection Summary

Area Type: Other
Cycle Length: 86.6
Actuated Cycle Length: 77.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 31.2 Intersection LOS: C
Intersection Capacity Utilization 62.8% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Bushy Hill Road/Bushy HIll Rd. & W. Mountain Rd./Simsbury Commons



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	99	194	63	794	591
v/c Ratio	0.24	0.71	0.16	1.01	0.37
Control Delay	9.4	43.1	3.4	46.9	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.4	43.1	3.4	46.9	12.9
Queue Length 50th (ft)	6	88	0	~71	83
Queue Length 95th (ft)	42	146	13	#234	150
Internal Link Dist (ft)	456	613		413	255
Turn Bay Length (ft)			180		
Base Capacity (vph)	595	433	584	786	1616
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.17	0.45	0.11	1.01	0.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

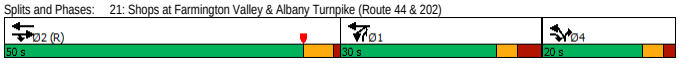
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	974	312	235	1575	332	189
Future Volume (vph)	974	312	235	1575	332	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12
Storage Length (ft)		220	420		0	0
Storage Lanes		1	2		2	1
Taper Length (ft)			130		25	
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3455	1561	3385	3574	3502	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3455	1561	3385	3574	3502	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		260				44
Link Speed (mph)	40			40	30	
Link Distance (ft)	827			847	604	
Travel Time (s)	14.1			14.4	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.85	0.85
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Adj. Flow (vph)	1059	339	255	1712	391	222
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1059	339	255	1712	391	222
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	22			22	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.04	1.04	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	0	3	2	3	3
Detector Template						
Leading Detector (ft)	356	0	38	356	26	26
Trailing Detector (ft)	180	0	0	180	0	0
Detector 1 Position(ft)	180	350	0	180	0	0
Detector 1 Size(ft)	6	6	6	6	6	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	350		16	350	10	10
Detector 2 Size(ft)	6		6	6	6	6
Detector 2 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 3 Position(ft)			32		20	20

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector 3 Size(ft)			6		6	6
Detector 3 Type			Cl+Ex		Cl+Ex	Cl+Ex
Detector 3 Channel						
Detector 3 Extend (s)			0.0		0.0	0.0
Turn Type	NA	pt+ov	Prot	NA	Prot	pt+ov
Protected Phases	2	2 4	1	1 2	4	4 1
Permitted Phases						
Detector Phase	2	2 4	1	1 2	4	4 1
Switch Phase						
Minimum Initial (s)	15.0		5.0		9.0	
Minimum Split (s)	20.5		11.8		14.0	
Total Split (s)	50.0		30.0		20.0	
Total Split (%)	50.0%		30.0%		20.0%	
Maximum Green (s)	44.5		23.2		15.0	
Yellow Time (s)	4.4		3.2		3.0	
All-Red Time (s)	1.1		3.6		2.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.5		6.8		5.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	2.5		1.5		1.5	
Recall Mode	C-Min		None		None	
Act Effct Green (s)	47.0	65.9	21.8	74.4	13.8	42.5
Actuated g/C Ratio	0.47	0.66	0.22	0.74	0.14	0.42
v/c Ratio	0.65	0.30	0.35	0.64	0.81	0.31
Control Delay	23.1	1.7	33.4	6.5	55.3	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	1.7	33.4	6.5	55.3	15.7
LOS	C	A	C	A	E	B
Approach Delay	17.9			10.0	41.0	
Approach LOS	B			B	D	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 16 (16%), Referenced to phase 2:EBWB, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 17.6 Intersection LOS: B
Intersection Capacity Utilization 62.8% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 21: Shops at Farmington Valley & Albany Turnpike (Route 44 & 202)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1059	339	255	1712	391	222
v/c Ratio	0.65	0.30	0.35	0.64	0.81	0.31
Control Delay	23.1	1.7	33.4	6.5	55.3	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	1.7	33.4	6.5	55.3	15.7
Queue Length 50th (ft)	302	12	79	417	124	68
Queue Length 95th (ft)	377	m23	117	18	163	112
Internal Link Dist (ft)	747			767	524	
Turn Bay Length (ft)		220	420			
Base Capacity (vph)	1625	1103	785	2707	525	714
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.31	0.32	0.63	0.74	0.31

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

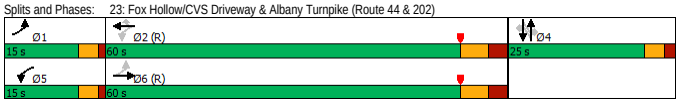
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	974	28	18	1588	94	32	1	10	41	1	29
Future Volume (vph)	27	974	28	18	1588	94	32	1	10	41	1	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	13	12	12	12
Storage Length (ft)	130		0	130		150	0		80	0		0
Storage Lanes	1		0	1		1	0		1	0		1
Taper Length (ft)	70			90			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996				0.850			0.850			0.850
Flt Protected	0.950			0.950				0.953			0.953	
Satd. Flow (prot)	1745	3476	0	1745	3455	1561	0	1750	1669	0	1776	1615
Flt Permitted	0.105			0.263				0.691			0.698	
Satd. Flow (perm)	193	3476	0	483	3455	1561	0	1269	1669	0	1301	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				63			89			89
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1110			920			549			426	
Travel Time (s)		21.6			17.9			15.0			11.6	
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	2%	0%	0%
Adj. Flow (vph)	28	1015	29	19	1689	100	42	1	13	53	1	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	1044	0	19	1689	100	0	43	13	0	54	38
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0		1	0	0	1	1	1	1	1	1
Detector Template							Left			Left		
Leading Detector (ft)	40	0		40	0	0	20	30	30	20	30	30
Trailing Detector (ft)	0	0		0	0	0	0	-10	-10	0	-10	-10
Detector 1 Position(ft)	0	0		0	0	0	0	-10	-10	0	-10	-10
Detector 1 Size(ft)	40	6		40	6	20	20	40	40	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2		2	4		4	4		4
Detector Phase	1	6		5	2	2	4	4	4	4	4	4
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0	15.0	4.0	4.0	4.0	4.0	4.0	4.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	8.0	22.2		8.0	22.2	22.2	8.8	8.8	8.8	8.8	8.8	8.8
Total Split (s)	15.0	60.0		15.0	60.0	60.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	15.0%	60.0%		15.0%	60.0%	60.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Maximum Green (s)	11.0	52.8		11.0	52.8	52.8	20.2	20.2	20.2	20.2	20.2	20.2
Yellow Time (s)	3.0	4.2		3.0	4.2	4.2	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	3.0		1.0	3.0	3.0	1.8	1.8	1.8	1.8	1.8	1.8
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)	4.0	7.2		4.0	7.2	7.2		4.8	4.8		4.8	4.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	0.2		1.5	0.2	0.2	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	82.9	79.3		81.9	77.5	77.5		8.7	8.7		8.7	8.7
Actuated g/C Ratio	0.83	0.79		0.82	0.78	0.78		0.09	0.09		0.09	0.09
v/c Ratio	0.12	0.38		0.04	0.63	0.08		0.39	0.06		0.48	0.17
Control Delay	3.2	5.2		2.3	8.7	2.5		52.2	0.5		56.3	1.7
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	3.2	5.2		2.3	8.7	2.5		52.2	0.5		56.3	1.7
LOS	A	A		A	A	A		D	A		E	A
Approach Delay		5.1			8.3			40.2			33.7	
Approach LOS		A			A			D			C	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 83 (83%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 8.5 Intersection LOS: A
Intersection Capacity Utilization 64.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 23: Fox Hollow/CVS Driveway & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	28	1044	19	1689	100	43	13	54	38
v/c Ratio	0.12	0.38	0.04	0.63	0.08	0.39	0.06	0.48	0.17
Control Delay	3.2	5.2	2.3	8.7	2.5	52.2	0.5	56.3	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.2	5.2	2.3	8.7	2.5	52.2	0.5	56.3	1.7
Queue Length 50th (ft)	2	80	2	276	6	26	0	33	0
Queue Length 95th (ft)	8	189	6	418	24	50	0	60	0
Internal Link Dist (ft)		1030		840		469		346	
Turn Bay Length (ft)	130		130		150		80		
Base Capacity (vph)	333	2756	546	2679	1224	256	408	262	397
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	0.38	0.03	0.63	0.08	0.17	0.03	0.21	0.10

Intersection Summary

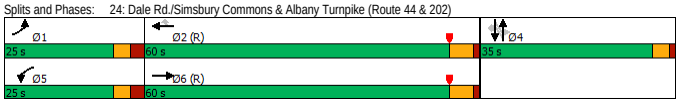
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	730	40	186	1280	139	59	34	194	74	29	61
Future Volume (vph)	56	730	40	186	1280	139	59	34	194	74	29	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	11	11	12	12	12	12
Storage Length (ft)	180		0	450		525	200		0	0		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	115			80			50			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992				0.850		0.873				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	3429	0	1770	3574	1615	1454	1603	0	1805	1900	1615
Flt Permitted	0.950			0.950			0.735			0.197		
Satd. Flow (perm)	1745	3429	0	1770	3574	1615	1125	1603	0	374	1900	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				145		228				74
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		791			1110			639			380	
Travel Time (s)		15.4			21.6			17.4			10.4	
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.80	0.80	0.80	0.85	0.85	0.85
Heavy Vehicles (%)	0%	1%	0%	2%	1%	0%	20%	0%	0%	0%	0%	0%
Adj. Flow (vph)	59	768	42	194	1333	145	74	43	243	87	34	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	810	0	194	1333	145	74	286	0	87	34	72
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1		1	1	1
Detector Template										Left		
Leading Detector (ft)	25	306		25	256	256	20	20		30	30	40
Trailing Detector (ft)	-5	300		-5	250	250	-10	-10		0	0	-10
Detector 1 Position(ft)	-5	300		-5	250	250	-10	-10		0	0	-10
Detector 1 Size(ft)	30	6		30	6	6	30	30		30	30	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases						2	4			4		4
Detector Phase	1	6		5	2	2	4	4		4	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	15.0	15.0	7.0	7.0		7.0	7.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	12.5	20.6		12.5	20.6	20.6	11.2	11.2		11.2	11.2	11.2
Total Split (s)	25.0	60.0		25.0	60.0	60.0	35.0	35.0		35.0	35.0	35.0
Total Split (%)	20.8%	50.0%		20.8%	50.0%	50.0%	29.2%	29.2%		29.2%	29.2%	29.2%
Maximum Green (s)	19.5	54.4		19.5	54.4	54.4	30.8	30.8		30.8	30.8	30.8
Yellow Time (s)	3.0	4.3		3.0	4.3	4.3	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	2.5	1.3		2.5	1.3	1.3	1.2	1.2		1.2	1.2	1.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.6		5.5	5.6	5.6	4.2	4.2		4.2	4.2	4.2
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	5.0		1.5	8.0	8.0	2.0	2.0		2.0	2.0	2.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Act Effct Green (s)	8.7	68.1		16.3	78.2	78.2	20.3	20.3		20.3	20.3	20.3
Actuated g/C Ratio	0.07	0.57		0.14	0.65	0.65	0.17	0.17		0.17	0.17	0.17
v/c Ratio	0.47	0.42		0.81	0.57	0.13	0.39	0.62		1.38	0.11	0.22
Control Delay	58.9	18.9		74.5	15.4	2.5	47.5	16.0		285.1	38.7	9.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	58.9	18.9		74.5	15.4	2.5	47.5	16.0		285.1	38.7	9.3
LOS	E	B		E	B	A	D	B		F	D	A
Approach Delay		21.6			21.2			22.4			138.8	
Approach LOS		C			C			C			F	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 112 (93%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.38
Intersection Signal Delay: 28.8 Intersection LOS: C
Intersection Capacity Utilization 77.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 24: Dale Rd./Simsbury Commons & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	59	810	194	1333	145	74	286	87	34	72
v/c Ratio	0.47	0.42	0.81	0.57	0.13	0.39	0.62	1.38	0.11	0.22
Control Delay	58.9	18.9	74.5	15.4	2.5	47.5	16.0	285.1	38.7	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.9	18.9	74.5	15.4	2.5	47.5	16.0	285.1	38.7	9.3
Queue Length 50th (ft)	47	108	147	296	0	51	39	~88	22	0
Queue Length 95th (ft)	m83	300	225	488	32	79	78	#156	45	31
Internal Link Dist (ft)		711		1030			559		300	
Turn Bay Length (ft)	180		450		525	200				
Base Capacity (vph)	283	1948	288	2329	1103	288	580	95	487	469
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.42	0.67	0.57	0.13	0.26	0.49	0.92	0.07	0.15

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

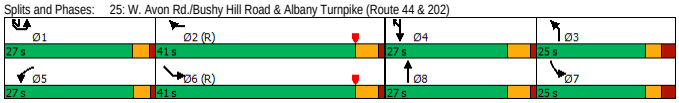
Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Traffic Volume (vph)	87	1154	115	174	219	63	132	264	273	350	629	132
Future Volume (vph)	87	1154	115	174	219	63	132	264	273	350	629	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	11	12	12	11	11	11	11	12	12
Storage Length (ft)	375	0		200		0	0		0		220	0
Storage Lanes	1	2		1		0	1		1		2	0
Taper Length (ft)	125			150			25				140	
Lane Util. Factor	1.00	0.88	1.00	1.00	0.95	0.95	1.00	1.00	1.00	0.97	0.97	0.95
Frt		0.850			0.966				0.850		0.974	
Flt Protected	0.950			0.950			0.950			0.950	0.960	
Satd. Flow (prot)	1745	2723	0	1728	3460	0	1745	1818	1546	3385	3418	0
Flt Permitted	0.950			0.950			0.950			0.950	0.960	
Satd. Flow (perm)	1745	2723	0	1728	3460	0	1745	1818	1546	3385	3418	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		108			27				87		108	
Link Speed (mph)	40				25			40			40	
Link Distance (ft)	791				809			493			815	
Travel Time (s)	13.5				22.1			8.4			13.9	
Peak Hour Factor	0.96	0.96	0.96	0.93	0.93	0.93	0.87	0.87	0.87	0.86	0.86	0.86
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	0%	1%	1%	0%	1%	0%
Adj. Flow (vph)	91	1202	120	187	235	68	152	303	314	407	731	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	1322	0	187	303	0	152	303	314	407	884	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	11				11			11			46	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.00	1.00
Turning Speed (mph)	15	9	9	15		9	15		9	15	15	9
Number of Detectors	1	2		1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	40	368		34	30		30	30	30	40	190	
Trailing Detector (ft)	0	176		-6	-10		-10	-10	-10	0	184	
Detector 1 Position(ft)	0	176		-6	-10		-10	-10	-10	0	184	
Detector 1 Size(ft)	40	6		40	40		40	40	40	40	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		362										
Detector 2 Size(ft)		6										
Detector 2 Type		Cl+Ex										
Detector 2 Channel												
Detector 2 Extend (s)		0.0										
Turn Type	Prot	Prot		Prot	NA		Prot	NA	pt+ov	Prot	Prot	

Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Protected Phases	5	2		3	8		7	4	14	1	6	
Permitted Phases												
Detector Phase	5	2		3	8		7	4	14	1	6	
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	7.0		7.0	7.0		7.0	15.0	
Minimum Split (s)	11.0	20.4		12.6	12.2		12.6	12.2		11.1	20.4	
Total Split (s)	27.0	41.0		25.0	27.0		25.0	27.0		27.0	41.0	
Total Split (%)	22.5%	34.2%		20.8%	22.5%		20.8%	22.5%		22.5%	34.2%	
Maximum Green (s)	23.0	35.6		19.4	21.8		19.4	21.8		22.9	35.6	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.2		3.0	4.2	
All-Red Time (s)	1.0	1.2		2.6	1.0		2.6	1.0		1.1	1.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.4		5.6	5.2		5.6	5.2		4.1	5.4	
Lead/Lag	Lead	Lag		Lag	Lead		Lag	Lead		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	4.0		1.5	2.0		1.5	2.0		1.5	4.0	
Recall Mode	None	C-Min		None	None		None	None		None	C-Min	
Act Effct Green (s)	10.5	44.0		16.2	14.3		23.2	21.3	40.6	18.2	51.9	
Actuated g/C Ratio	0.09	0.37		0.14	0.12		0.19	0.18	0.34	0.15	0.43	
v/c Ratio	0.60	1.24		0.81	0.69		0.45	0.94	0.54	0.79	0.57	
Control Delay	68.7	142.5		74.9	54.6		47.4	85.8	15.8	71.7	20.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	68.7	142.6		74.9	54.6		47.4	85.8	15.8	71.7	20.8	
LOS	E	F		E	D		D	F	B	E	C	
Approach Delay	137.8				62.3			49.7			36.8	
Approach LOS	F				E			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 7 (6%), Referenced to phase 2:WBR and 6:SEL, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.24
Intersection Signal Delay: 78.5 Intersection LOS: E
Intersection Capacity Utilization 83.2% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 25: W. Avon Rd./Bushy Hill Road & Albany Turnpike (Route 44 & 202)



Lane Group	WBL	WBR	NBL	NBT	SBL	SBT	SBR	SEL2	SEL
Lane Group Flow (vph)	91	1322	187	303	152	303	314	407	884
v/c Ratio	0.60	1.24	0.81	0.69	0.45	0.94	0.54	0.79	0.57
Control Delay	68.7	142.5	74.9	54.6	47.4	85.8	15.8	71.7	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.7	142.6	74.9	54.6	47.4	85.8	15.8	71.7	20.8
Queue Length 50th (ft)	58	~716	141	109	103	233	87	171	187
Queue Length 95th (ft)	105	#959	219	152	167	#379	115	213	238
Internal Link Dist (ft)	711			729		413			735
Turn Bay Length (ft)	375		200					220	220
Base Capacity (vph)	334	1066	279	650	337	330	643	645	1538
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	7	0	0	0	0	2	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	1.25	0.67	0.47	0.45	0.92	0.49	0.63	0.57

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

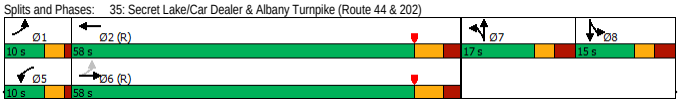
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	988	0	6	1569	4	19	2	4	10	0	13
Future Volume (vph)	2	988	0	6	1569	4	19	2	4	10	0	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	11	11	11	11	12	12	12	12	12	12
Storage Length (ft)	50		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			70			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.979			0.924	
Flt Protected	0.950			0.950				0.964			0.978	
Satd. Flow (prot)	1745	3574	0	1745	3455	0	0	1793	0	0	1707	0
Flt Permitted	0.087			0.950				0.964			0.978	
Satd. Flow (perm)	160	3574	0	1745	3455	0	0	1793	0	0	1707	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								5			155	
Link Speed (mph)		40			40			25			30	
Link Distance (ft)		847			3567			498			493	
Travel Time (s)		14.4			60.8			13.6			11.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.80	0.80	0.80	0.90	0.90	0.90
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	2	1074	0	7	1705	4	24	3	5	11	0	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	1074	0	7	1709	0	0	32	0	0	25	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			22			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	0		3	0		1	3		1	2	
Detector Template							Left					
Leading Detector (ft)	26	0		26	0		20	26		6	16	
Trailing Detector (ft)	0	0		0	0		0	0		0	-6	
Detector 1 Position(ft)	0	0		0	894		0	0		0	-6	
Detector 1 Size(ft)	6	6		6	6		20	6		6	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	10			10				10			10	
Detector 2 Size(ft)	6			6				6			6	
Detector 2 Type	Cl+Ex			Cl+Ex				Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0				0.0			0.0	
Detector 3 Position(ft)	20			20				20				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6			6				6				
Detector 3 Type	Cl+Ex			Cl+Ex				Cl+Ex				
Detector 3 Channel												
Detector 3 Extend (s)	0.0			0.0				0.0				
Turn Type	pm+pt	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		7	7		8	8	
Permitted Phases	6											
Detector Phase	1	6		5	2		7	7		8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		9.0	9.0		7.0	7.0	
Minimum Split (s)	9.0	22.0		9.0	22.0		15.2	15.2		13.2	13.2	
Total Split (s)	10.0	58.0		10.0	58.0		17.0	17.0		15.0	15.0	
Total Split (%)	10.0%	58.0%		10.0%	58.0%		17.0%	17.0%		15.0%	15.0%	
Maximum Green (s)	6.0	51.0		6.0	51.0		10.8	10.8		8.8	8.8	
Yellow Time (s)	3.0	4.4		3.0	4.4		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	2.6		1.0	2.6		3.2	3.2		3.2	3.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	7.0		4.0	7.0			6.2			6.2	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	2.5		1.5	2.5		1.5	1.5		1.5	1.5	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	80.7	79.5		5.1	79.6			9.0			7.0	
Actuated g/C Ratio	0.81	0.80		0.05	0.80			0.09			0.07	
v/c Ratio	0.01	0.38		0.08	0.62			0.19			0.10	
Control Delay	4.0	5.4		47.2	10.7			40.3			0.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	4.0	5.4		47.2	10.7			40.3			0.7	
LOS	A	A		D	B			D			A	
Approach Delay		5.4			10.8			40.3			0.7	
Approach LOS		A			B			D			A	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 16 (16%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 9.0 Intersection LOS: A
Intersection Capacity Utilization 62.0% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 35: Secret Lake/Car Dealer & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	2	1074	7	1709	32	25
v/c Ratio	0.01	0.38	0.08	0.62	0.19	0.10
Control Delay	4.0	5.4	47.2	10.7	40.3	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.0	5.4	47.2	10.7	40.3	0.7
Queue Length 50th (ft)	0	150	4	201	16	0
Queue Length 95th (ft)	m1	142	19	596	40	0
Internal Link Dist (ft)		767		3487	418	413
Turn Bay Length (ft)	50		100			
Base Capacity (vph)	224	2841	104	2750	198	291
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.38	0.07	0.62	0.16	0.09

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	40	1671	16	4	666	43	6	1	7	53	0	15
Future Volume (vph)	40	1671	16	4	666	43	6	1	7	53	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12	12	12	12	12	12	12
Storage Length (ft)	140		0	250		0	0		50	0		100
Storage Lanes	1		0	2		0	0		1	0		1
Taper Length (ft)	50			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.991				0.850			0.850
Flt Protected	0.950			0.950				0.960			0.950	
Satd. Flow (prot)	1745	3452	0	1745	3544	0	0	1824	1615	0	1805	1615
Flt Permitted	0.237			0.128				0.739			0.750	
Satd. Flow (perm)	435	3452	0	235	3544	0	0	1404	1615	0	1425	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			9				121			73
Link Speed (mph)		40			40			25			30	
Link Distance (ft)		862			815			305			754	
Travel Time (s)		14.7			13.9			8.3			17.1	
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.58	0.58	0.58	0.77	0.77	0.77
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	43	1778	17	4	724	47	10	2	12	69	0	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	1795	0	4	771	0	0	12	12	0	69	19
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	0		0	0		1	2	2	1	3	3
Detector Template							Left			Left		
Leading Detector (ft)	30	0		0	0		20	16	16	20	16	16
Trailing Detector (ft)	-6	0		0	0		0	0	0	0	-10	-10
Detector 1 Position(ft)	-6	390		0	0		0	0	0	0	-10	-10
Detector 1 Size(ft)	6	6		6	20		20	6	6	20	6	6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	12							10	10		0	0
Detector 2 Size(ft)	6							6	6		6	6
Detector 2 Type	Cl+Ex							Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0							0.0	0.0		0.0	0.0
Detector 3 Position(ft)	24										10	10

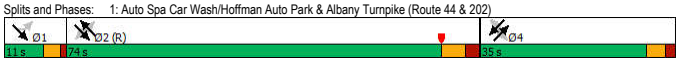
Lane Group	Ø1
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector 3 Size(ft)	6										6	6
Detector 3 Type	Cl+Ex										Cl+Ex	Cl+Ex
Detector 3 Channel												
Detector 3 Extend (s)	0.0										0.0	0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA	NA	Perm	NA	Perm
Protected Phases		1 2			2			4			4	
Permitted Phases	1 2			2			4			4		4
Detector Phase	1 2	1 2		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)				15.0	15.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)				22.0	22.0		15.3	15.3		15.3	15.3	15.3
Total Split (s)				74.0	74.0		35.0	35.0		35.0	35.0	35.0
Total Split (%)				61.7%	61.7%		29.2%	29.2%		29.2%	29.2%	29.2%
Maximum Green (s)				67.0	67.0		29.7	29.7		29.7	29.7	29.7
Yellow Time (s)				4.3	4.3		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)				2.7	2.7		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)				0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)				7.0	7.0			5.3			5.3	5.3
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2		1.5	1.5		1.5	1.5	1.5
Recall Mode				C-Max	C-Max		None	None		None	None	None
Act Effct Green (s)	103.2	103.2		72.9	72.9			11.4	0.0		11.4	11.4
Actuated g/C Ratio	0.86	0.86		0.61	0.61			0.10	0.00		0.10	0.10
v/c Ratio	0.11	0.60		0.03	0.36			0.09	0.10		0.51	0.09
Control Delay	3.0	4.5		8.2	8.4			50.0	1.6		65.0	0.8
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	3.0	4.5		8.2	8.4			50.0	1.6		65.0	0.8
LOS	A	A		A	A			D	A		E	A
Approach Delay		4.4			8.4			25.8			51.1	
Approach LOS		A			A			C			D	

Intersection Summary

Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 27 (23%), Referenced to phase 2:NWSE, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 7.3		Intersection LOS: A	
Intersection Capacity Utilization 69.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Auto Spa Car Wash/Hoffman Auto Park & Albany Turnpike (Route 44 & 202)



Lane Group	Ø1
Detector 3 Size(ft)	
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Turn Type	
Protected Phases	1
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	11.0
Total Split (s)	11.0
Total Split (%)	9%
Maximum Green (s)	7.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Lane Group	SEL	SET	NWL	NWT	NET	NER	SWT	SWR
Lane Group Flow (vph)	43	1795	4	771	12	12	69	19
v/c Ratio	0.11	0.60	0.03	0.36	0.09	0.10	0.51	0.09
Control Delay	3.0	4.5	8.2	8.4	50.0	1.6	65.0	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.0	4.5	8.2	8.4	50.0	1.6	65.0	0.8
Queue Length 50th (ft)	4	182	1	101	9	0	52	0
Queue Length 95th (ft)	15	299	m2	120	18	0	83	0
Internal Link Dist (ft)		782		735	225		674	
Turn Bay Length (ft)	140		250			50		100
Base Capacity (vph)	374	2969	142	2155	347	121	352	454
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.60	0.03	0.36	0.03	0.10	0.20	0.04

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

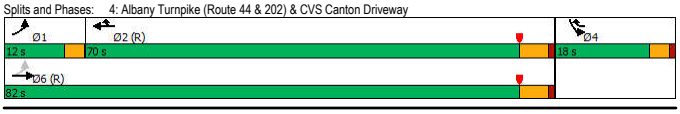
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	218	1901	609	90	210	69
Future Volume (vph)	218	1901	609	90	210	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			120	0	0
Storage Lanes	1			1	2	0
Taper Length (ft)	80				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.95
Frt				0.850	0.963	
Flt Protected	0.950				0.964	
Satd. Flow (prot)	1805	3574	3574	1615	3396	0
Flt Permitted	0.370				0.964	
Satd. Flow (perm)	703	3574	3574	1615	3396	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				98	38	
Link Speed (mph)		30	40		30	
Link Distance (ft)		615	827		249	
Travel Time (s)		14.0	14.1		5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.88	0.88
Heavy Vehicles (%)	0%	1%	1%	0%	1%	0%
Adj. Flow (vph)	237	2066	662	98	239	78
Shared Lane Traffic (%)						
Lane Group Flow (vph)	237	2066	662	98	317	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	3	0	0	0	1	
Detector Template						
Leading Detector (ft)	27	0	0	0	47	
Trailing Detector (ft)	-3	0	0	0	-3	
Detector 1 Position(ft)	-3	200	200	0	-3	
Detector 1 Size(ft)	6	6	6	20	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	9					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Detector 3 Position(ft)	21					
Detector 3 Size(ft)	6					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector 3 Type	Cl+Ex					
Detector 3 Channel						
Detector 3 Extend (s)	0.0					
Turn Type	pm+pt	NA	NA	pt+ov	Prot	
Protected Phases	1	6	2	2 4	4	
Permitted Phases	6					
Detector Phase	1	6	2	2 4	4	
Switch Phase						
Minimum Initial (s)	5.0	25.0	25.0		7.0	
Minimum Split (s)	8.1	30.3	30.3		11.0	
Total Split (s)	12.0	82.0	70.0		18.0	
Total Split (%)	12.0%	82.0%	70.0%		18.0%	
Maximum Green (s)	8.9	76.7	64.7		14.0	
Yellow Time (s)	3.0	4.3	4.3		3.0	
All-Red Time (s)	0.1	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	3.1	5.3	5.3		4.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	1.5	0.2	0.2		2.0	
Recall Mode	None	C-Max	C-Max		None	
Act Effct Green (s)	80.9	78.7	68.5	84.5	12.0	
Actuated g/C Ratio	0.81	0.79	0.68	0.84	0.12	
v/c Ratio	0.37	0.73	0.27	0.07	0.72	
Control Delay	3.9	7.7	2.3	0.4	46.6	
Queue Delay	0.0	1.3	0.0	0.0	8.5	
Total Delay	3.9	9.0	2.3	0.4	55.0	
LOS	A	A	A	A	E	
Approach Delay		8.5	2.0		55.0	
Approach LOS		A	A		E	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 40 (40%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 11.4 Intersection LOS: B
Intersection Capacity Utilization 68.5% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 4: Albany Turnpike (Route 44 & 202) & CVS Canton Driveway



Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	237	2066	662	98	317
v/c Ratio	0.37	0.73	0.27	0.07	0.72
Control Delay	3.9	7.7	2.3	0.4	46.6
Queue Delay	0.0	1.3	0.0	0.0	8.5
Total Delay	3.9	9.0	2.3	0.4	55.0
Queue Length 50th (ft)	26	285	4	0	88
Queue Length 95th (ft)	46	391	38	0	128
Internal Link Dist (ft)		535	747		169
Turn Bay Length (ft)	150			120	
Base Capacity (vph)	666	2811	2448	1410	508
Starvation Cap Reductn	0	492	0	0	0
Spillback Cap Reductn	0	5	0	0	152
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.36	0.89	0.27	0.07	0.89

Intersection Summary

Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	8	371	1767	89	96	488	7	41	124	169	223	74
Future Volume (vph)	8	371	1767	89	96	488	7	41	124	169	223	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		380		130	325		0				0	0
Storage Lanes		1		1	1		1				1	0
Taper Length (ft)		300			75							25
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.998		0.850			0.850	
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1788	3574	1599	1787	3568	0	1599	1787	1881	1599	0
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1788	3574	1599	1787	3568	0	1599	1787	1881	1599	0
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				215				215			149	
Link Speed (mph)			40			40				40		
Link Distance (ft)			1074			615				959		
Travel Time (s)			18.3			10.5				16.3		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	1%	1%	1%	1%	0%	1%	1%	1%	1%	0%
Adj. Flow (vph)	9	403	1921	97	104	530	8	45	132	180	237	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	412	1921	97	104	538	0	45	132	180	237	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Right	Left	Left	Right	Left
Median Width(ft)			12			12				12		
Link Offset(ft)			0			0				0		
Crosswalk Width(ft)			16			16				16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15		9	15		9	9	15		9	15
Number of Detectors	1	3	2	0	3	2		0	3	3	3	1
Detector Template	Left											Left
Leading Detector (ft)	20	20	281	0	24	331		0	24	24	24	20
Trailing Detector (ft)	0	-10	100	0	-6	150		0	-6	-6	-6	0
Detector 1 Position(ft)	0	-10	100	0	-6	150		0	-6	-6	-6	0
Detector 1 Size(ft)	20	6	6	20	6	6		20	6	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		2	275		6	325			6	6	6	
Detector 2 Size(ft)		6	6		6	6			6	6	6	
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0	0.0			0.0	0.0	0.0	
Detector 3 Position(ft)		14			18				18	18	18	
Detector 3 Size(ft)		6			6				6	6	6	

Lane Group	SBT	SBR	SEL	SER	SER2
Lane Configurations					
Traffic Volume (vph)	123	162	29	5	14
Future Volume (vph)	123	162	29	5	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Storage Length (ft)		250	0	0	
Storage Lanes		2	1	0	
Taper Length (ft)			25		
Lane Util. Factor	1.00	0.88	1.00	1.00	1.00
Frt		0.850	0.946		
Flt Protected	0.982		0.971		
Satd. Flow (prot)	1854	2814	1745	0	0
Flt Permitted	0.982		0.971		
Satd. Flow (perm)	1854	2814	1745	0	0
Right Turn on Red					Yes
Satd. Flow (RTOR)			174		
Link Speed (mph)	40		30		
Link Distance (ft)	864		881		
Travel Time (s)	14.7		20.0		
Peak Hour Factor	0.94	0.94	0.87	0.87	0.87
Heavy Vehicles (%)	1%	1%	0%	0%	0%
Adj. Flow (vph)	131	172	33	6	16
Shared Lane Traffic (%)					
Lane Group Flow (vph)	210	172	55	0	0
Enter Blocked Intersection	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Right
Median Width(ft)	12		12		
Link Offset(ft)	0		0		
Crosswalk Width(ft)	16		16		
Two way Left Turn Lane					
Headway Factor	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15	9	9
Number of Detectors	3	3	0		
Detector Template					
Leading Detector (ft)	24	24	0		
Trailing Detector (ft)	-6	-6	0		
Detector 1 Position(ft)	-6	-6	0		
Detector 1 Size(ft)	6	6	20		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel					
Detector 1 Extend (s)	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		
Detector 2 Position(ft)	6	6			
Detector 2 Size(ft)	6	6			
Detector 2 Type	Cl+Ex	Cl+Ex			
Detector 2 Channel					
Detector 2 Extend (s)	0.0	0.0			
Detector 3 Position(ft)	18	18			
Detector 3 Size(ft)	6	6			

Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBT	NBR	SBL
Detector 3 Type		Cl+Ex			Cl+Ex				Cl+Ex	Cl+Ex	Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0				0.0	0.0	0.0	
Turn Type	Prot	Prot	NA	Free	Prot	NA		Free	Split	NA	pt+ov	Split
Protected Phases	1	1	6		5	2			7	7	5 7	8
Permitted Phases				Free				Free				
Detector Phase	1	1	6		5	2			7	7	5 7	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	15.0			9.0	9.0		5.0
Minimum Split (s)	11.6	11.6	21.8		11.6	21.8			15.0	15.0		14.6
Total Split (s)	22.6	22.6	54.8		25.6	57.8			24.0	24.0		20.6
Total Split (%)	16.4%	16.4%	39.7%		18.5%	41.8%			17.4%	17.4%		14.9%
Maximum Green (s)	16.0	16.0	48.0		19.0	51.0			18.0	18.0		15.0
Yellow Time (s)	3.0	3.0	4.5		3.0	4.5			4.0	4.0		3.6
All-Red Time (s)	3.6	3.6	2.3		3.6	2.3			2.0	2.0		2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0			0.0	0.0		
Total Lost Time (s)		6.6	6.8		6.6	6.8			6.0	6.0		
Lead/Lag	Lead	Lead	Lag		Lead	Lag			Lead	Lead		Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0		2.0	3.0			2.0	2.0		2.0
Recall Mode	None	None	C-Min		None	C-Min			None	None		None
Act Effct Green (s)		18.4	56.9	138.2	12.5	51.0		138.2	17.0	17.0	28.9	
Actuated g/C Ratio		0.13	0.41	1.00	0.09	0.37		1.00	0.12	0.12	0.21	
v/c Ratio		1.74	1.31	0.06	0.65	0.41		0.03	0.60	0.78	0.52	
Control Delay		382.2	177.3	0.1	78.2	33.6		0.0	68.5	80.8	14.5	
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Total Delay		382.2	177.3	0.1	78.2	33.6		0.0	68.5	80.8	14.5	
LOS		F	F	A	E	C		A	E	F	B	
Approach Delay			205.0			38.1				49.2		
Approach LOS			F			D				D		

Intersection Summary

Area Type:	Other		
Cycle Length: 138.2			
Actuated Cycle Length: 138.2			
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.74			
Intersection Signal Delay: 141.7		Intersection LOS: F	
Intersection Capacity Utilization 103.8%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 6: Lovely Street (Route 177)/Lawton Road & Albany Turnpike (Route 44 & 202) & Trailsend Road

Lane Group	SBT	SBR	SEL	SER	SER2
Detector 3 Type	CI+Ex	CI+Ex			
Detector 3 Channel					
Detector 3 Extend (s)	0.0	0.0			
Turn Type	NA	Prot	Prot		
Protected Phases	8	8	4		
Permitted Phases					
Detector Phase	8	8	4		
Switch Phase					
Minimum Initial (s)	5.0	5.0	6.0		
Minimum Split (s)	14.6	14.6	11.2		
Total Split (s)	20.6	20.6	13.2		
Total Split (%)	14.9%	14.9%	9.6%		
Maximum Green (s)	15.0	15.0	8.0		
Yellow Time (s)	3.6	3.6	3.0		
All-Red Time (s)	2.0	2.0	2.2		
Lost Time Adjust (s)	0.0	0.0	0.0		
Total Lost Time (s)	5.6	5.6	5.2		
Lead/Lag	Lag	Lag			
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0		
Recall Mode	None	None	None		
Act Effct Green (s)	17.9	17.9	6.0		
Actuated g/C Ratio	0.13	0.13	0.04		
v/c Ratio	0.88	0.47	0.23		
Control Delay	92.6	61.6	2.2		
Queue Delay	0.0	0.0	0.0		
Total Delay	92.6	61.6	2.2		
LOS	F	E	A		
Approach Delay	78.6		2.2		
Approach LOS	E		A		

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBT	SBR	SEL
Lane Group Flow (vph)	412	1921	97	104	538	45	132	180	237	210	172	55
v/c Ratio	1.74	1.31	0.06	0.65	0.41	0.03	0.60	0.78	0.52	0.88	0.47	0.23
Control Delay	382.2	177.3	0.1	78.2	33.6	0.0	68.5	80.8	14.5	92.6	61.6	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	382.2	177.3	0.1	78.2	33.6	0.0	68.5	80.8	14.5	92.6	61.6	2.2
Queue Length 50th (ft)	~575	~1193	0	92	187	0	113	158	47	189	83	0
Queue Length 95th (ft)	#784	#1394	0	151	240	0	180	239	99	#370	128	0
Internal Link Dist (ft)		994			535			879		784		801
Turn Bay Length (ft)	380		130	325							250	
Base Capacity (vph)	237	1470	1599	245	1316	1599	242	255	538	239	363	264
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.74	1.31	0.06	0.42	0.41	0.03	0.55	0.71	0.44	0.88	0.47	0.21

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

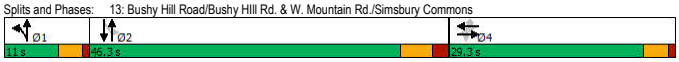
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	10	154	22	8	10	60	439	47	13	336	0
Future Volume (vph)	0	10	154	22	8	10	60	439	47	13	336	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		180	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.873				0.850		0.987				
Flt Protected					0.964			0.995			0.998	
Satd. Flow (prot)	0	1643	0	0	1832	1615	0	3517	0	0	3567	0
Flt Permitted					0.692			0.900			0.919	
Satd. Flow (perm)	0	1643	0	0	1315	1615	0	3181	0	0	3285	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		167				92		19				
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		536			693			493			335	
Travel Time (s)		12.2			15.8			8.4			5.7	
Peak Hour Factor	0.88	0.88	0.92	0.71	0.71	0.71	0.92	0.92	0.92	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	0%	1%	0%	1%	1%	1%
Adj. Flow (vph)	0	11	167	31	11	14	65	477	51	14	361	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	178	0	0	42	14	0	593	0	0	375	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	3	3	1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	106		20	26	26	20	106		20	106	
Trailing Detector (ft)	0	100		0	-4	-4	0	100		0	100	
Detector 1 Position(ft)	0	100		0	-4	-4	0	100		0	100	
Detector 1 Size(ft)	20	6		20	6	6	20	6		20	6	
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					8	8						
Detector 2 Size(ft)					6	6						
Detector 2 Type					CI+Ex	CI+Ex						
Detector 2 Channel												
Detector 2 Extend (s)					0.0	0.0						
Detector 3 Position(ft)					20	20						
Detector 3 Size(ft)					6	6						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Type					CI+Ex	CI+Ex						
Detector 3 Channel												
Detector 3 Extend (s)					0.0	0.0						
Turn Type		NA		Perm	NA	Perm	Prot	NA		Perm	NA	
Protected Phases		4			4		1	1 2			2	
Permitted Phases	4			4		4				2		
Detector Phase	4	4		4	4	4	1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	5.0			15.0	15.0	
Minimum Split (s)	11.3	11.3		11.3	11.3	11.3	9.0			21.3	21.3	
Total Split (s)	29.3	29.3		29.3	29.3	29.3	11.0			46.3	46.3	
Total Split (%)	33.8%	33.8%		33.8%	33.8%	33.8%	12.7%			53.5%	53.5%	
Maximum Green (s)	25.0	25.0		25.0	25.0	25.0	7.0			40.0	40.0	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.0			4.2	4.2	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0			2.1	2.1	
Lost Time Adjust (s)		0.0			0.0	0.0					0.0	
Total Lost Time (s)		4.3			4.3	4.3					6.3	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	0.2			4.0	4.0	
Recall Mode	None	None		None	None	None	Max			Min	Min	
Act Effct Green (s)		7.6			7.6	7.6		24.6			15.3	
Actuated g/C Ratio		0.17			0.17	0.17		0.55			0.34	
v/c Ratio		0.43			0.19	0.04		0.54			0.33	
Control Delay		7.7			18.1	0.2		5.7			12.0	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		7.7			18.1	0.2		5.7			12.0	
LOS		A			B	A		A			B	
Approach Delay		7.7			13.6			5.7			12.0	
Approach LOS		A			B			A			B	

Intersection Summary

Area Type: Other
Cycle Length: 86.6
Actuated Cycle Length: 44.5
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 8.3 Intersection LOS: A
Intersection Capacity Utilization 59.5% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 13: Bushy Hill Road/Bushy HIll Rd. & W. Mountain Rd./Simsbury Commons



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	178	42	14	593	375
v/c Ratio	0.43	0.19	0.04	0.54	0.33
Control Delay	7.7	18.1	0.2	5.7	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.7	18.1	0.2	5.7	12.0
Queue Length 50th (ft)	2	9	0	23	35
Queue Length 95th (ft)	39	23	0	49	66
Internal Link Dist (ft)	456	613		413	255
Turn Bay Length (ft)			180		
Base Capacity (vph)	997	740	948	1662	2956
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.06	0.01	0.36	0.13

Intersection Summary

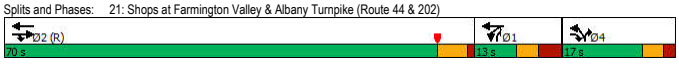
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	2050	125	43	648	46	39
Future Volume (vph)	2050	125	43	648	46	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12
Storage Length (ft)		220	420		0	0
Storage Lanes		1	2		2	1
Taper Length (ft)			130		25	
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3455	1561	3385	3574	3502	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3455	1561	3385	3574	3502	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		136				9
Link Speed (mph)	40			40	30	
Link Distance (ft)	827			847	604	
Travel Time (s)	14.1			14.4	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.90	0.90
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Adj. Flow (vph)	2228	136	47	704	51	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2228	136	47	704	51	43
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	22			22	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.04	1.04	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	0	3	2	3	3
Detector Template						
Leading Detector (ft)	356	0	38	356	26	26
Trailing Detector (ft)	180	0	0	180	0	0
Detector 1 Position(ft)	180	350	0	180	0	0
Detector 1 Size(ft)	6	6	6	6	6	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	350		16	350	10	10
Detector 2 Size(ft)	6		6	6	6	6
Detector 2 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 3 Position(ft)			32		20	20

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector 3 Size(ft)			6		6	6
Detector 3 Type			Cl+Ex		Cl+Ex	Cl+Ex
Detector 3 Channel						
Detector 3 Extend (s)			0.0		0.0	0.0
Turn Type	NA	pt+ov	Prot	NA	Prot	pt+ov
Protected Phases	2	2 4	1	1 2	4	4 1
Permitted Phases						
Detector Phase	2	2 4	1	1 2	4	4 1
Switch Phase						
Minimum Initial (s)	15.0		5.0		9.0	
Minimum Split (s)	20.5		11.8		14.0	
Total Split (s)	70.0		13.0		17.0	
Total Split (%)	70.0%		13.0%		17.0%	
Maximum Green (s)	64.5		6.2		12.0	
Yellow Time (s)	4.4		3.2		3.0	
All-Red Time (s)	1.1		3.6		2.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.5		6.8		5.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	2.5		1.5		1.5	
Recall Mode	C-Min		None		None	
Act Effct Green (s)	68.0	82.0	5.7	79.2	9.0	21.5
Actuated g/C Ratio	0.68	0.82	0.06	0.79	0.09	0.22
v/c Ratio	0.95	0.10	0.24	0.25	0.16	0.12
Control Delay	28.0	1.1	26.8	1.3	43.4	27.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	1.1	26.8	1.3	43.4	27.3
LOS	C	A	C	A	D	C
Approach Delay	26.5			2.9	36.0	
Approach LOS	C			A	D	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 85 (85%), Referenced to phase 2:EBWB, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 21.2 Intersection LOS: C
Intersection Capacity Utilization 72.9% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 21: Shops at Farmington Valley & Albany Turnpike (Route 44 & 202)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2228	136	47	704	51	43
v/c Ratio	0.95	0.10	0.24	0.25	0.16	0.12
Control Delay	28.0	1.1	26.8	1.3	43.4	27.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	1.1	26.8	1.3	43.4	27.3
Queue Length 50th (ft)	664	7	15	32	15	17
Queue Length 95th (ft)	#874	m11	29	2	34	47
Internal Link Dist (ft)	747			767	524	
Turn Bay Length (ft)		220	420			
Base Capacity (vph)	2350	1268	209	2849	420	362
Starvation Cap Reductn	1	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.11	0.22	0.25	0.12	0.12

Intersection Summary

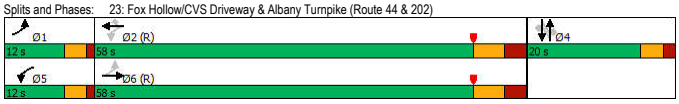
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	1516	51	18	622	22	35	5	10	36	0	2
Future Volume (vph)	13	1516	51	18	622	22	35	5	10	36	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	13	12	12	12
Storage Length (ft)	130		0	130		150	0		80	0		0
Storage Lanes	1		0	1		1	0		1	0		1
Taper Length (ft)	70			90			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950				0.958			0.950	
Satd. Flow (prot)	1745	3472	0	1745	3455	1561	0	1760	1669	0	1805	1615
Flt Permitted	0.364			0.107				0.723			0.720	
Satd. Flow (perm)	669	3472	0	197	3455	1561	0	1328	1669	0	1368	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				70			99			99
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1110			920			549			426	
Travel Time (s)		21.6			17.9			15.0			11.6	
Peak Hour Factor	0.94	0.94	0.94	0.82	0.82	0.82	0.71	0.71	0.71	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	14	1613	54	22	759	27	49	7	14	42	0	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	1667	0	22	759	27	0	56	14	0	42	2
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0		1	0	0	1	1	1	1	1	1
Detector Template							Left			Left		
Leading Detector (ft)	40	0		40	0	0	20	30	30	20	30	30
Trailing Detector (ft)	0	0		0	0	0	0	-10	-10	0	-10	-10
Detector 1 Position(ft)	0	0		0	0	0	0	-10	-10	0	-10	-10
Detector 1 Size(ft)	40	6		40	6	20	20	40	40	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2		2	4		4	4		4
Detector Phase	1	6		5	2	2	4	4	4	4	4	4
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0	15.0	4.0	4.0	4.0	4.0	4.0	4.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	8.0	22.2		8.0	22.2	22.2	8.8	8.8	8.8	8.8	8.8	8.8
Total Split (s)	12.0	58.0		12.0	58.0	58.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	13.3%	64.4%		13.3%	64.4%	64.4%	22.2%	22.2%	22.2%	22.2%	22.2%	22.2%
Maximum Green (s)	8.0	50.8		8.0	50.8	50.8	15.2	15.2	15.2	15.2	15.2	15.2
Yellow Time (s)	3.0	4.2		3.0	4.2	4.2	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	3.0		1.0	3.0	3.0	1.8	1.8	1.8	1.8	1.8	1.8
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)	4.0	7.2		4.0	7.2	7.2		4.8	4.8		4.8	4.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	0.2		1.5	0.2	0.2	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	73.0	69.5		73.9	71.2	71.2		8.5	8.5		8.5	8.5
Actuated g/C Ratio	0.81	0.77		0.82	0.79	0.79		0.09	0.09		0.09	0.09
v/c Ratio	0.02	0.62		0.09	0.28	0.02		0.45	0.06		0.33	0.01
Control Delay	2.4	8.3		3.0	4.2	0.0		49.1	0.4		43.8	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	2.4	8.3		3.0	4.2	0.0		49.1	0.4		43.8	0.0
LOS	A	A		A	A	A		D	A		D	A
Approach Delay		8.3			4.1			39.3			41.8	
Approach LOS		A			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 15 (17%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 8.4		Intersection LOS: A	
Intersection Capacity Utilization 64.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 23: Fox Hollow/CVS Driveway & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	14	1667	22	759	27	56	14	42	2
v/c Ratio	0.02	0.62	0.09	0.28	0.02	0.45	0.06	0.33	0.01
Control Delay	2.4	8.3	3.0	4.2	0.0	49.1	0.4	43.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.4	8.3	3.0	4.2	0.0	49.1	0.4	43.8	0.0
Queue Length 50th (ft)	1	167	2	51	0	31	0	23	0
Queue Length 95th (ft)	5	405	6	111	0	51	0	50	0
Internal Link Dist (ft)		1030		840		469		346	
Turn Bay Length (ft)	130		130		150		80		
Base Capacity (vph)	648	2681	300	2733	1249	224	364	231	355
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	0.02	0.62	0.07	0.28	0.02	0.25	0.04	0.18	0.01

Intersection Summary

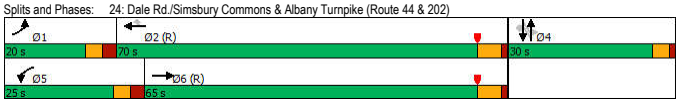
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	1403	24	57	545	31	5	22	170	27	14	26
Future Volume (vph)	33	1403	24	57	545	31	5	22	170	27	14	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	11	11	12	12	12	12
Storage Length (ft)	180		0	450		525	200		0	0		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	115			80			50			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997				0.850		0.867				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	3445	0	1770	3574	1615	1454	1592	0	1805	1900	1615
Flt Permitted	0.950			0.950			0.745			0.325		
Satd. Flow (perm)	1745	3445	0	1770	3574	1615	1140	1592	0	618	1900	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				61		226				74
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		791			1110			639			380	
Travel Time (s)		15.4			21.6			17.4			10.4	
Peak Hour Factor	0.90	0.90	0.90	0.85	0.85	0.85	0.75	0.75	0.75	0.73	0.73	0.73
Heavy Vehicles (%)	0%	1%	0%	2%	1%	0%	20%	0%	0%	0%	0%	0%
Adj. Flow (vph)	37	1559	27	67	641	36	7	29	227	37	19	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	1586	0	67	641	36	7	256	0	37	19	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1		1	1	1
Detector Template										Left		
Leading Detector (ft)	25	306		25	256	256	20	20		30	30	40
Trailing Detector (ft)	-5	300		-5	250	250	-10	-10		0	0	-10
Detector 1 Position(ft)	-5	300		-5	250	250	-10	-10		0	0	-10
Detector 1 Size(ft)	30	6		30	6	6	30	30		30	30	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases						2	4			4		4
Detector Phase	1	6		5	2	2	4	4		4	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	15.0	15.0	7.0	7.0		7.0	7.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	12.5	20.6		12.5	20.6	20.6	11.2	11.2		11.2	11.2	11.2
Total Split (s)	20.0	65.0		25.0	70.0	70.0	30.0	30.0		30.0	30.0	30.0
Total Split (%)	16.7%	54.2%		20.8%	58.3%	58.3%	25.0%	25.0%		25.0%	25.0%	25.0%
Maximum Green (s)	14.5	59.4		19.5	64.4	64.4	25.8	25.8		25.8	25.8	25.8
Yellow Time (s)	3.0	4.3		3.0	4.3	4.3	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	2.5	1.3		2.5	1.3	1.3	1.2	1.2		1.2	1.2	1.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.6		5.5	5.6	5.6	4.2	4.2		4.2	4.2	4.2
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	5.0		1.5	8.0	8.0	2.0	2.0		2.0	2.0	2.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Act Effct Green (s)	7.6	85.8		9.0	89.7	89.7	12.3	12.3		12.3	12.3	12.3
Actuated g/C Ratio	0.06	0.72		0.08	0.75	0.75	0.10	0.10		0.10	0.10	0.10
v/c Ratio	0.34	0.64		0.50	0.24	0.03	0.06	0.70		0.59	0.10	0.16
Control Delay	56.9	5.3		65.9	6.3	0.8	46.0	19.9		84.1	46.8	2.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	56.9	5.4		65.9	6.3	0.8	46.0	19.9		84.1	46.8	2.3
LOS	E	A		E	A	A	D	B		F	D	A
Approach Delay		6.5			11.4			20.6			44.4	
Approach LOS		A			B			C			D	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 20 (17%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 10.5 Intersection LOS: B
Intersection Capacity Utilization 76.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 24: Dale Rd./Simsbury Commons & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	37	1586	67	641	36	7	256	37	19	36
v/c Ratio	0.34	0.64	0.50	0.24	0.03	0.06	0.70	0.59	0.10	0.16
Control Delay	56.9	5.3	65.9	6.3	0.8	46.0	19.9	84.1	46.8	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	5.4	65.9	6.3	0.8	46.0	19.9	84.1	46.8	2.3
Queue Length 50th (ft)	30	98	51	80	0	5	22	28	14	0
Queue Length 95th (ft)	m38	130	91	131	4	15	51	49	28	0
Internal Link Dist (ft)		711		1030			559		300	
Turn Bay Length (ft)	180		450		525	200				
Base Capacity (vph)	210	2464	287	2672	1222	245	519	132	408	405
Starvation Cap Reductn	0	71	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.66	0.23	0.24	0.03	0.03	0.49	0.28	0.05	0.09

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

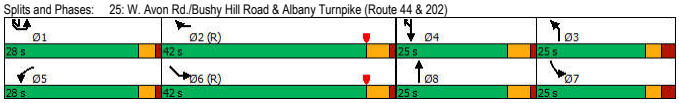
Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Traffic Volume (vph)	47	491	31	126	230	35	116	217	157	302	1304	164
Future Volume (vph)	47	491	31	126	230	35	116	217	157	302	1304	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	11	12	12	11	11	11	11	12	12
Storage Length (ft)	375	0		200		0	0		0		220	0
Storage Lanes	1	2		1		0	1		1		2	0
Taper Length (ft)	125			150			25				140	
Lane Util. Factor	1.00	0.88	1.00	1.00	0.95	0.95	1.00	1.00	1.00	0.97	0.97	0.95
Frt		0.850			0.980				0.850		0.983	
Flt Protected	0.950			0.950			0.950			0.950	0.957	
Satd. Flow (prot)	1745	2722	0	1728	3507	0	1745	1818	1546	3385	3437	0
Flt Permitted	0.950			0.950			0.950			0.950	0.957	
Satd. Flow (perm)	1745	2722	0	1728	3507	0	1745	1818	1546	3385	3437	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		108			12				178		108	
Link Speed (mph)	40				25			40			40	
Link Distance (ft)	791				809			493			815	
Travel Time (s)	13.5				22.1			8.4			13.9	
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.88	0.88	0.88	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	0%	1%	1%	0%	1%	0%
Adj. Flow (vph)	53	552	35	134	245	37	132	247	178	321	1387	174
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	587	0	134	282	0	132	247	178	321	1561	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	11				11			11			47	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.00	1.00
Turning Speed (mph)	15	9	9	15		9	15		9	15	15	9
Number of Detectors	1	2		1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	40	368		34	30		30	30	30	40	190	
Trailing Detector (ft)	0	176		-6	-10		-10	-10	-10	0	184	
Detector 1 Position(ft)	0	176		-6	-10		-10	-10	-10	0	184	
Detector 1 Size(ft)	40	6		40	40		40	40	40	40	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		362										
Detector 2 Size(ft)		6										
Detector 2 Type		Cl+Ex										
Detector 2 Channel												
Detector 2 Extend (s)		0.0										
Turn Type	Prot	Prot		Prot	NA		Prot	NA	pt+ov	Prot	Prot	

Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Protected Phases	5	2		3	8		7	4	14	1	6	
Permitted Phases												
Detector Phase	5	2		3	8		7	4	14	1	6	
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	7.0		7.0	7.0		7.0	15.0	
Minimum Split (s)	11.0	20.4		12.6	12.2		12.6	12.2		11.1	20.4	
Total Split (s)	28.0	42.0		25.0	25.0		25.0	25.0		28.0	42.0	
Total Split (%)	23.3%	35.0%		20.8%	20.8%		20.8%	20.8%		23.3%	35.0%	
Maximum Green (s)	24.0	36.6		19.4	19.8		19.4	19.8		23.9	36.6	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.2		3.0	4.2	
All-Red Time (s)	1.0	1.2		2.6	1.0		2.6	1.0		1.1	1.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.4		5.6	5.2		5.6	5.2		4.1	5.4	
Lead/Lag	Lead	Lag		Lag	Lead		Lag	Lead		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	4.0		1.5	2.0		1.5	2.0		1.5	4.0	
Recall Mode	None	C-Min		None	None		None	None		None	C-Min	
Act Effct Green (s)	8.3	52.5		13.4	13.9		18.1	18.6	35.0	15.3	61.7	
Actuated g/C Ratio	0.07	0.44		0.11	0.12		0.15	0.16	0.29	0.13	0.51	
v/c Ratio	0.44	0.47		0.70	0.68		0.50	0.88	0.31	0.75	0.86	
Control Delay	82.1	17.3		69.6	56.9		53.2	79.8	3.7	67.3	27.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	82.1	17.3		69.6	56.9		53.2	79.8	3.7	67.3	27.8	
LOS	F	B		E	E		D	E	A	E	C	
Approach Delay	22.7				61.0			49.2			34.6	
Approach LOS	C				E			D			C	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 5 (4%), Referenced to phase 2:WBR and 6:SEL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 37.9 Intersection LOS: D
Intersection Capacity Utilization 83.4% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 25: W. Avon Rd./Bushy Hill Road & Albany Turnpike (Route 44 & 202)



Lane Group	WBL	WBR	NBL	NBT	SBL	SBT	SBR	SEL2	SEL
Lane Group Flow (vph)	53	587	134	282	132	247	178	321	1561
v/c Ratio	0.44	0.47	0.70	0.68	0.50	0.88	0.31	0.75	0.86
Control Delay	82.1	17.3	69.6	56.9	53.2	79.8	3.7	67.3	27.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.1	17.3	69.6	56.9	53.2	79.8	3.7	67.3	27.8
Queue Length 50th (ft)	35	149	102	107	94	187	0	124	528
Queue Length 95th (ft)	88	234	161	149	153	#310	28	158	#345
Internal Link Dist (ft)	711			729		413			735
Turn Bay Length (ft)	375		200					220	220
Base Capacity (vph)	349	1251	279	588	288	299	688	674	1819
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	0.15	0.47	0.48	0.48	0.46	0.83	0.26	0.48	0.86

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

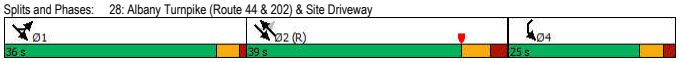
Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	315	1436	595	68	293	84
Future Volume (vph)	315	1436	595	68	293	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	11	11
Storage Length (ft)	175			0	0	0
Storage Lanes	1			0	2	0
Taper Length (ft)	35				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.95
Frt			0.985		0.967	
Flt Protected	0.950				0.963	
Satd. Flow (prot)	1745	3574	3524	0	3318	0
Flt Permitted	0.274				0.963	
Satd. Flow (perm)	503	3574	3524	0	3318	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			13		34	
Link Speed (mph)		40	40		30	
Link Distance (ft)		2282	413		859	
Travel Time (s)		38.9	7.0		19.5	
Peak Hour Factor	0.94	0.94	0.92	0.92	0.88	0.88
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%
Adj. Flow (vph)	335	1528	647	74	333	95
Shared Lane Traffic (%)						
Lane Group Flow (vph)	335	1528	721	0	428	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		11	11		22	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.04	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	0	0		1	
Detector Template						
Leading Detector (ft)	34	0	0		34	
Trailing Detector (ft)	-6	0	0		-6	
Detector 1 Position(ft)	-6	0	0		-6	
Detector 1 Size(ft)	40	6	6		40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	1 2	2		4	
Permitted Phases	1 2					
Detector Phase	1	1 2	2		4	
Switch Phase						
Minimum Initial (s)	5.0		10.0		5.0	

Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Minimum Split (s)	9.5		17.0		10.5	
Total Split (s)	36.0		39.0		25.0	
Total Split (%)	36.0%		39.0%		25.0%	
Maximum Green (s)	31.5		32.0		19.5	
Yellow Time (s)	3.5		4.3		3.5	
All-Red Time (s)	1.0		2.7		2.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	4.5		7.0		5.5	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		0.2		1.5	
Recall Mode	None		C-Min		None	
Act Effct Green (s)	69.6	74.1	36.4		15.9	
Actuated g/C Ratio	0.70	0.74	0.36		0.16	
v/c Ratio	0.46	0.58	0.56		0.77	
Control Delay	4.4	1.7	29.0		46.5	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	4.4	1.7	29.0		46.5	
LOS	A	A	C		D	
Approach Delay		2.2	29.0		46.5	
Approach LOS		A	C		D	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 46 (46%), Referenced to phase 2:NWSE, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 14.9 Intersection LOS: B
Intersection Capacity Utilization 61.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 28: Albany Turnpike (Route 44 & 202) & Site Driveway



Lane Group	SEL	SET	NWT	SWL
Lane Group Flow (vph)	335	1528	721	428
v/c Ratio	0.46	0.58	0.56	0.77
Control Delay	4.4	1.7	29.0	46.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	4.4	1.7	29.0	46.5
Queue Length 50th (ft)	17	8	194	125
Queue Length 95th (ft)	57	1	276	163
Internal Link Dist (ft)		2202	333	779
Turn Bay Length (ft)	175			
Base Capacity (vph)	778	2714	1357	681
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	0.43	0.56	0.53	0.63

Intersection Summary

Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	0	1730	621	68	0	42
Future Volume (vph)	0	1730	621	68	0	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.985			0.865
Flt Protected						
Satd. Flow (prot)	0	3574	3524	0	0	1644
Flt Permitted						
Satd. Flow (perm)	0	3574	3524	0	0	1644
Link Speed (mph)		40	40		30	
Link Distance (ft)		413	862		682	
Travel Time (s)		7.0	14.7		15.5	
Peak Hour Factor	0.94	0.94	0.92	0.92	0.88	0.88
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%
Adj. Flow (vph)	0	1840	675	74	0	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1840	749	0	0	48
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		11	11		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.2

Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	0	1730	621	68	0	42
Future Vol, veh/h	0	1730	621	68	0	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	92	92	88	88
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	0	1840	675	74	0	48

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	375
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	628
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	628
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	SE	NW	SW
HCM Control Delay, s	0	0	11.2
HCM LOS			B

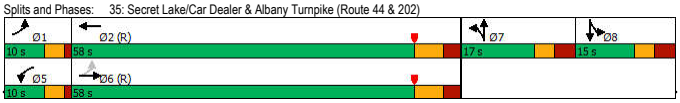
Minor Lane/Major Mvmt	NWT	NWR	SETSWLn1
Capacity (veh/h)	-	-	- 628
HCM Lane V/C Ratio	-	-	- 0.076
HCM Control Delay (s)	-	-	- 11.2
HCM Lane LOS	-	-	- B
HCM 95th %tile Q(veh)	-	-	- 0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1995	0	12	664	3	7	0	12	0	0	5
Future Volume (vph)	3	1995	0	12	664	3	7	0	12	0	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	11	11	11	11	12	12	12	12	12	12
Storage Length (ft)	50		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			70			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.999			0.916			0.865	
Flt Protected	0.950			0.950				0.982				
Satd. Flow (prot)	1745	3574	0	1745	3452	0	0	1709	0	0	1627	0
Flt Permitted	0.373			0.950				0.982				
Satd. Flow (perm)	685	3574	0	1745	3452	0	0	1709	0	0	1627	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					1			155			381	
Link Speed (mph)		40			40			25			30	
Link Distance (ft)		847			2282			498			493	
Travel Time (s)		14.4			38.9			13.6			11.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.80	0.80	0.80	0.90	0.90	0.90
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	3	2168	0	13	722	3	9	0	15	0	0	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	2168	0	13	725	0	0	24	0	0	6	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			22			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	0		3	0		1	3		1	2	
Detector Template							Left					
Leading Detector (ft)	26	0		26	0		20	26		6	16	
Trailing Detector (ft)	0	0		0	0		0	0		0	-6	
Detector 1 Position(ft)	0	0		0	894		0	0		0	-6	
Detector 1 Size(ft)	6	6		6	6		20	6		6	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	10			10				10			10	
Detector 2 Size(ft)	6			6				6			6	
Detector 2 Type	Cl+Ex			Cl+Ex				Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0				0.0			0.0	
Detector 3 Position(ft)	20			20				20				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6			6				6				
Detector 3 Type	Cl+Ex			Cl+Ex				Cl+Ex				
Detector 3 Channel												
Detector 3 Extend (s)	0.0			0.0				0.0				
Turn Type	pm+pt	NA		Prot	NA		Split	NA			NA	
Protected Phases	1	6		5	2		7	7		8	8	
Permitted Phases	6											
Detector Phase	1	6		5	2		7	7		8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		9.0	9.0		7.0	7.0	
Minimum Split (s)	9.0	22.0		9.0	22.0		15.2	15.2		13.2	13.2	
Total Split (s)	10.0	58.0		10.0	58.0		17.0	17.0		15.0	15.0	
Total Split (%)	10.0%	58.0%		10.0%	58.0%		17.0%	17.0%		15.0%	15.0%	
Maximum Green (s)	6.0	51.0		6.0	51.0		10.8	10.8		8.8	8.8	
Yellow Time (s)	3.0	4.4		3.0	4.4		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	2.6		1.0	2.6		3.2	3.2		3.2	3.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	7.0		4.0	7.0			6.2			6.2	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	2.5		1.5	2.5		1.5	1.5		1.5	1.5	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	86.2	86.4		5.3	86.7			9.0			7.0	
Actuated g/C Ratio	0.86	0.86		0.05	0.87			0.09			0.07	
v/c Ratio	0.00	0.70		0.14	0.24			0.08			0.01	
Control Delay	2.7	6.7		53.5	1.7			0.5			0.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	2.7	6.7		53.5	1.7			0.5			0.0	
LOS	A	A		D	A			A			A	
Approach Delay		6.7			2.6			0.5				
Approach LOS		A			A			A				

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 89 (89%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 5.6		Intersection LOS: A	
Intersection Capacity Utilization 73.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 35: Secret Lake/Car Dealer & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	3	2168	13	725	24	6
v/c Ratio	0.00	0.70	0.14	0.24	0.08	0.01
Control Delay	2.7	6.7	53.5	1.7	0.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.7	6.7	53.5	1.7	0.5	0.0
Queue Length 50th (ft)	0	0	8	0	0	0
Queue Length 95th (ft)	m0	m#916	m16	42	0	0
Internal Link Dist (ft)		767		2202	418	413
Turn Bay Length (ft)	50		100			
Base Capacity (vph)	655	3088	105	2992	322	490
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.70	0.12	0.24	0.07	0.01

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

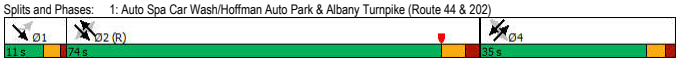
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	14	1057	29	12	1618	28	17	0	9	148	0	56
Future Volume (vph)	14	1057	29	12	1618	28	17	0	9	148	0	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	12	12	12	12	12	12	12	12
Storage Length (ft)	140		0	250		0	0		50	0		100
Storage Lanes	1		0	2		0	0		1	0		1
Taper Length (ft)	50			100			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.997				0.850			0.850
Flt Protected	0.950			0.950				0.950			0.950	
Satd. Flow (prot)	1745	3442	0	1745	3564	0	0	1805	1615	0	1805	1615
Flt Permitted	0.045			0.233				0.463			0.740	
Satd. Flow (perm)	83	3442	0	428	3564	0	0	880	1615	0	1406	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			2				121			73
Link Speed (mph)		40			40			25			30	
Link Distance (ft)		944			815			631			754	
Travel Time (s)		16.1			13.9			17.2			17.1	
Peak Hour Factor	0.90	0.90	0.90	0.96	0.96	0.96	0.65	0.65	0.65	0.86	0.86	0.86
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	16	1174	32	13	1685	29	26	0	14	172	0	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	1206	0	13	1714	0	0	26	14	0	172	65
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	0		0	0		1	2	2	1	3	3
Detector Template							Left			Left		
Leading Detector (ft)	30	0		0	0		20	16	16	20	16	16
Trailing Detector (ft)	-6	0		0	0		0	0	0	0	-10	-10
Detector 1 Position(ft)	-6	390		0	0		0	0	0	0	-10	-10
Detector 1 Size(ft)	6	6		6	20		20	6	6	20	6	6
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	12							10	10		0	0
Detector 2 Size(ft)	6							6	6		6	6
Detector 2 Type	Cl+Ex							Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0							0.0	0.0		0.0	0.0
Detector 3 Position(ft)	24										10	10

Lane Group	Ø1
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Detector 3 Position(ft)	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Detector 3 Size(ft)	6										6	6
Detector 3 Type	Cl+Ex										Cl+Ex	Cl+Ex
Detector 3 Channel												
Detector 3 Extend (s)	0.0										0.0	0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA	NA	Perm	NA	Perm
Protected Phases		1 2			2			4			4	
Permitted Phases	1 2			2			4			4		4
Detector Phase	1 2	1 2		2	2		4	4		4	4	4
Switch Phase												
Minimum Initial (s)				15.0	15.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)				22.0	22.0		15.3	15.3		15.3	15.3	15.3
Total Split (s)				74.0	74.0		35.0	35.0		35.0	35.0	35.0
Total Split (%)				61.7%	61.7%		29.2%	29.2%		29.2%	29.2%	29.2%
Maximum Green (s)				67.0	67.0		29.7	29.7		29.7	29.7	29.7
Yellow Time (s)				4.3	4.3		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)				2.7	2.7		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)				0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)				7.0	7.0			5.3			5.3	5.3
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2		1.5	1.5		1.5	1.5	1.5
Recall Mode				C-Max	C-Max		None	None		None	None	None
Act Effct Green (s)	91.9	91.9		69.5	69.5			18.8	0.0		18.8	18.8
Actuated g/C Ratio	0.77	0.77		0.58	0.58			0.16	0.00		0.16	0.16
v/c Ratio	0.25	0.46		0.05	0.83			0.19	0.12		0.78	0.21
Control Delay	17.6	6.3		7.2	10.4			44.4	1.9		71.4	9.0
Queue Delay	0.0	0.0		0.0	1.0			0.0	0.0		0.0	0.0
Total Delay	17.6	6.3		7.2	11.4			44.4	1.9		71.4	9.0
LOS	B	A		A	B			D	A		E	A
Approach Delay		6.4			11.4			29.5			54.3	
Approach LOS		A			B			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 35 (29%), Referenced to phase 2:NWSE, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 76.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Auto Spa Car Wash/Hoffman Auto Park & Albany Turnpike (Route 44 & 202)



Lane Group	Ø1
Detector 3 Size(ft)	
Detector 3 Type	
Detector 3 Channel	
Detector 3 Extend (s)	
Turn Type	
Protected Phases	1
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	7.0
Minimum Split (s)	11.0
Total Split (s)	11.0
Total Split (%)	9%
Maximum Green (s)	7.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Lane Group	SEL	SET	NWL	NWT	NET	NER	SWT	SWR
Lane Group Flow (vph)	16	1206	13	1714	26	14	172	65
v/c Ratio	0.25	0.46	0.05	0.83	0.19	0.12	0.78	0.21
Control Delay	17.6	6.3	7.2	10.4	44.4	1.9	71.4	9.0
Queue Delay	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Total Delay	17.6	6.3	7.2	11.4	44.4	1.9	71.4	9.0
Queue Length 50th (ft)	3	148	3	204	18	0	130	0
Queue Length 95th (ft)	23	246	m3	m183	30	0	184	29
Internal Link Dist (ft)		864		735	551		674	
Turn Bay Length (ft)	140		250			50		100
Base Capacity (vph)	63	2637	247	2063	217	121	347	454
Starvation Cap Reductn	0	0	0	147	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.46	0.05	0.89	0.12	0.12	0.50	0.14

Intersection Summary
m Volume for 95th percentile queue is metered by upstream signal.

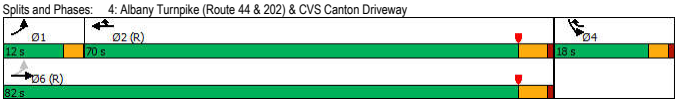
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	130	1144	1690	276	253	110
Future Volume (vph)	130	1144	1690	276	253	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150			120	0	0
Storage Lanes	1			1	2	0
Taper Length (ft)	80				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.95
Frt				0.850	0.955	
Flt Protected	0.950				0.966	
Satd. Flow (prot)	1805	3574	3574	1615	3377	0
Flt Permitted	0.060				0.966	
Satd. Flow (perm)	114	3574	3574	1615	3377	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				275	59	
Link Speed (mph)		30	40		30	
Link Distance (ft)		615	827		249	
Travel Time (s)		14.0	14.1		5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.85	0.85
Heavy Vehicles (%)	0%	1%	1%	0%	1%	0%
Adj. Flow (vph)	141	1243	1837	300	298	129
Shared Lane Traffic (%)						
Lane Group Flow (vph)	141	1243	1837	300	427	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	3	0	0	0	1	
Detector Template						
Leading Detector (ft)	27	0	0	0	47	
Trailing Detector (ft)	-3	0	0	0	-3	
Detector 1 Position(ft)	-3	200	200	0	-3	
Detector 1 Size(ft)	6	6	6	20	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	9					
Detector 2 Size(ft)	6					
Detector 2 Type	Cl+Ex					
Detector 2 Channel						
Detector 2 Extend (s)	0.0					
Detector 3 Position(ft)	21					
Detector 3 Size(ft)	6					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector 3 Type	Cl+Ex					
Detector 3 Channel						
Detector 3 Extend (s)	0.0					
Turn Type	pm+pt	NA	NA	pt+ov	Prot	
Protected Phases	1	6	2	2 4	4	
Permitted Phases	6					
Detector Phase	1	6	2	2 4	4	
Switch Phase						
Minimum Initial (s)	5.0	25.0	25.0		7.0	
Minimum Split (s)	8.1	30.3	30.3		11.0	
Total Split (s)	12.0	82.0	70.0		18.0	
Total Split (%)	12.0%	82.0%	70.0%		18.0%	
Maximum Green (s)	8.9	76.7	64.7		14.0	
Yellow Time (s)	3.0	4.3	4.3		3.0	
All-Red Time (s)	0.1	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	3.1	5.3	5.3		4.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	1.5	0.2	0.2		2.0	
Recall Mode	None	C-Max	C-Max		None	
Act Effct Green (s)	79.5	77.3	67.2	84.6	13.4	
Actuated g/C Ratio	0.80	0.77	0.67	0.85	0.13	
v/c Ratio	0.67	0.45	0.77	0.21	0.85	
Control Delay	31.1	4.6	10.4	0.4	53.0	
Queue Delay	0.0	0.3	0.1	0.0	0.0	
Total Delay	31.1	4.9	10.5	0.4	53.0	
LOS	C	A	B	A	D	
Approach Delay		7.6	9.1		53.0	
Approach LOS		A	A		D	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 20 (20%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 13.3 Intersection LOS: B
Intersection Capacity Utilization 75.7% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 4: Albany Turnpike (Route 44 & 202) & CVS Canton Driveway



Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Group Flow (vph)	141	1243	1837	300	427
v/c Ratio	0.67	0.45	0.77	0.21	0.85
Control Delay	31.1	4.6	10.4	0.4	53.0
Queue Delay	0.0	0.3	0.1	0.0	0.0
Total Delay	31.1	4.9	10.5	0.4	53.0
Queue Length 50th (ft)	31	121	173	0	119
Queue Length 95th (ft)	94	151	389	m1	#170
Internal Link Dist (ft)		535	747		169
Turn Bay Length (ft)	150			120	
Base Capacity (vph)	241	2762	2400	1416	523
Starvation Cap Reductn	0	771	42	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.59	0.62	0.78	0.21	0.82

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

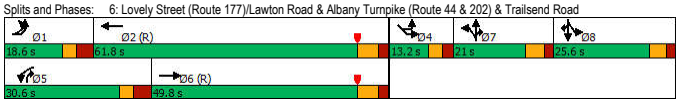
Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	12	178	913	64	225	1442	5	82	157	99	193	97
Future Volume (vph)	12	178	913	64	225	1442	5	82	157	99	193	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		380		130	325		0				0	0
Storage Lanes		1		1	1		1				1	0
Taper Length (ft)		300			75							25
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850				0.850			0.850	
Flt Protected		0.950			0.950				0.950			
Satd. Flow (prot)	0	1788	3574	1599	1787	3574	0	1599	1787	1881	1599	0
Flt Permitted		0.950			0.950				0.950			
Satd. Flow (perm)	0	1788	3574	1599	1787	3574	0	1599	1787	1881	1599	0
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				263				263			205	
Link Speed (mph)			40			40				40		
Link Distance (ft)			1074			615				959		
Travel Time (s)			18.3			10.5				16.3		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	1%	1%	1%	1%	0%	1%	1%	1%	1%	0%
Adj. Flow (vph)	13	193	992	70	245	1567	5	89	167	105	205	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	206	992	70	245	1572	0	89	167	105	205	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Left	Right	Right	Left	Left	Right	Left
Median Width(ft)			12			12				12		
Link Offset(ft)			0			0				0		
Crosswalk Width(ft)			16			16				16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	15		9	15		9	9	15		9	15
Number of Detectors	1	3	2	0	3	2		0	3	3	3	1
Detector Template	Left											Left
Leading Detector (ft)	20	20	281	0	24	331		0	24	24	24	20
Trailing Detector (ft)	0	-10	100	0	-6	150		0	-6	-6	-6	0
Detector 1 Position(ft)	0	-10	100	0	-6	150		0	-6	-6	-6	0
Detector 1 Size(ft)	20	6	6	20	6	6		20	6	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		2	275		6	325			6	6	6	
Detector 2 Size(ft)		6	6		6	6			6	6	6	
Detector 2 Type		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0	0.0		0.0	0.0			0.0	0.0	0.0	
Detector 3 Position(ft)		14			18				18	18	18	
Detector 3 Size(ft)		6			6				6	6	6	

Lane Group	SBT	SBR	SEL	SER	SER2
Lane Configurations					
Traffic Volume (vph)	148	355	11	1	11
Future Volume (vph)	148	355	11	1	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Storage Length (ft)		250	0	0	
Storage Lanes		2	1	0	
Taper Length (ft)			25		
Lane Util. Factor	1.00	0.88	1.00	1.00	1.00
Frt		0.850	0.930		
Flt Protected	0.981		0.976		
Satd. Flow (prot)	1853	2814	1725	0	0
Flt Permitted	0.981		0.976		
Satd. Flow (perm)	1853	2814	1725	0	0
Right Turn on Red					Yes
Satd. Flow (RTOR)			223		
Link Speed (mph)	40		30		
Link Distance (ft)	864		881		
Travel Time (s)	14.7		20.0		
Peak Hour Factor	0.94	0.94	0.87	0.87	0.87
Heavy Vehicles (%)	1%	1%	0%	0%	0%
Adj. Flow (vph)	157	378	13	1	13
Shared Lane Traffic (%)					
Lane Group Flow (vph)	260	378	27	0	0
Enter Blocked Intersection	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Right
Median Width(ft)	12		12		
Link Offset(ft)	0		0		
Crosswalk Width(ft)	16		16		
Two way Left Turn Lane					
Headway Factor	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15	9	9
Number of Detectors	3	3	0		
Detector Template					
Leading Detector (ft)	24	24	0		
Trailing Detector (ft)	-6	-6	0		
Detector 1 Position(ft)	-6	-6	0		
Detector 1 Size(ft)	6	6	20		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		
Detector 1 Channel					
Detector 1 Extend (s)	0.0	0.0	0.0		
Detector 1 Queue (s)	0.0	0.0	0.0		
Detector 1 Delay (s)	0.0	0.0	0.0		
Detector 2 Position(ft)	6	6			
Detector 2 Size(ft)	6	6			
Detector 2 Type	Cl+Ex	Cl+Ex			
Detector 2 Channel					
Detector 2 Extend (s)	0.0	0.0			
Detector 3 Position(ft)	18	18			
Detector 3 Size(ft)	6	6			

Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBT	NBR	SBL
Detector 3 Type		Cl+Ex			Cl+Ex				Cl+Ex	Cl+Ex	Cl+Ex	
Detector 3 Channel												
Detector 3 Extend (s)		0.0			0.0				0.0	0.0	0.0	
Turn Type	Prot	Prot	NA	Free	Prot	NA		Free	Split	NA	pt+ov	Split
Protected Phases	1	1	6		5	2			7	7	7 5	8
Permitted Phases				Free				Free				
Detector Phase	1	1	6		5	2			7	7	7 5	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	15.0			9.0	9.0		9.0
Minimum Split (s)	11.6	11.6	21.8		11.6	21.8			15.0	15.0		14.6
Total Split (s)	18.6	18.6	49.8		30.6	61.8			21.0	21.0		25.6
Total Split (%)	13.3%	13.3%	35.5%		21.8%	44.1%			15.0%	15.0%		18.3%
Maximum Green (s)	12.0	12.0	43.0		24.0	55.0			15.0	15.0		20.0
Yellow Time (s)	3.0	3.0	4.5		3.0	4.5			4.0	4.0		3.6
All-Red Time (s)	3.6	3.6	2.3		3.6	2.3			2.0	2.0		2.0
Lost Time Adjust (s)		0.0	0.0		0.0	0.0			0.0	0.0		
Total Lost Time (s)		6.6	6.8		6.6	6.8			6.0	6.0		
Lead/Lag	Lead	Lead	Lag		Lead	Lag			Lead	Lead		Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0		2.0	3.0			2.0	2.0		2.0
Recall Mode	None	None	C-Min		None	C-Min			None	None		None
Act Effct Green (s)		15.7	48.7	140.2	21.9	55.0		140.2	16.1	16.1	38.6	
Actuated g/C Ratio		0.11	0.35	1.00	0.16	0.39		1.00	0.11	0.11	0.28	
v/c Ratio		1.04	0.80	0.04	0.88	1.12		0.06	0.81	0.49	0.35	
Control Delay		131.4	48.3	0.0	87.7	104.2		0.1	89.4	65.9	4.3	
Queue Delay		0.0	0.0	0.0	0.0	0.5		0.0	0.0	0.0	0.0	
Total Delay		131.4	48.3	0.0	87.7	104.7		0.1	89.4	65.9	4.3	
LOS		F	D	A	F	F		A	F	E	A	
Approach Delay			59.2			97.6				47.6		
Approach LOS			E			F				D		

Intersection Summary			
Area Type:	Other		
Cycle Length: 140.2			
Actuated Cycle Length: 140.2			
Offset: 73.6 (52%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.12			
Intersection Signal Delay: 78.1		Intersection LOS: E	
Intersection Capacity Utilization 102.6%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 6: Lovely Street (Route 177)/Lawton Road & Albany Turnpike (Route 44 & 202) & Trailsend Road



Lane Group	SBT	SBR	SEL	SER	SER2
Detector 3 Type	Cl+Ex	Cl+Ex			
Detector 3 Channel					
Detector 3 Extend (s)	0.0	0.0			
Turn Type	NA	Prot	Prot		
Protected Phases	8	8	4		
Permitted Phases					
Detector Phase	8	8	4		
Switch Phase					
Minimum Initial (s)	9.0	9.0	6.0		
Minimum Split (s)	14.6	14.6	11.2		
Total Split (s)	25.6	25.6	13.2		
Total Split (%)	18.3%	18.3%	9.4%		
Maximum Green (s)	20.0	20.0	8.0		
Yellow Time (s)	3.6	3.6	3.0		
All-Red Time (s)	2.0	2.0	2.2		
Lost Time Adjust (s)	0.0	0.0	0.0		
Total Lost Time (s)	5.6	5.6	5.2		
Lead/Lag	Lag	Lag			
Lead-Lag Optimize?					
Vehicle Extension (s)	2.0	2.0	2.0		
Recall Mode	None	None	None		
Act Effct Green (s)	21.7	21.7	6.0		
Actuated g/C Ratio	0.15	0.15	0.04		
v/c Ratio	0.91	0.87	0.09		
Control Delay	91.9	78.2	0.7		
Queue Delay	0.0	0.0	0.0		
Total Delay	91.9	78.2	0.7		
LOS	F	E	A		
Approach Delay	83.8		0.7		
Approach LOS	F		A		

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBT	NBR	SBT	SBR	SEL
Lane Group Flow (vph)	206	992	70	245	1572	89	167	105	205	260	378	27
v/c Ratio	1.04	0.80	0.04	0.88	1.12	0.06	0.81	0.49	0.35	0.91	0.87	0.09
Control Delay	131.4	48.3	0.0	87.7	104.2	0.1	89.4	65.9	4.3	91.9	78.2	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	131.4	48.3	0.0	87.7	104.7	0.1	89.4	65.9	4.3	91.9	78.2	0.7
Queue Length 50th (ft)	~245	457	0	217	~867	0	150	91	0	240	196	0
Queue Length 95th (ft)	#410	#579	0	#350	#1006	0	#264	153	39	#422	#306	0
Internal Link Dist (ft)		994			535			879		784		801
Turn Bay Length (ft)	380		130	325							250	
Base Capacity (vph)	199	1242	1599	305	1402	1599	210	222	613	287	435	308
Starvation Cap Reductn	0	0	0	0	173	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.04	0.80	0.04	0.80	1.28	0.06	0.80	0.47	0.33	0.91	0.87	0.09

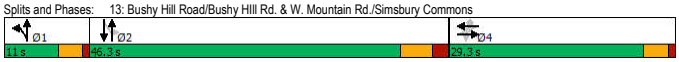
Intersection Summary
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	14	86	131	36	54	129	484	127	31	529	1
Future Volume (vph)	0	14	86	131	36	54	129	484	127	31	529	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		180	0		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.883				0.850		0.974				
Flt Protected					0.962			0.991			0.997	
Satd. Flow (prot)	0	1663	0	0	1828	1615	0	3462	0	0	3564	0
Flt Permitted					0.700			0.736			0.873	
Satd. Flow (perm)	0	1663	0	0	1330	1615	0	2571	0	0	3120	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		95				92		46				
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		536			693			493			335	
Travel Time (s)		12.2			15.8			8.4			5.7	
Peak Hour Factor	0.91	0.91	0.91	0.86	0.86	0.86	0.88	0.88	0.88	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%	0%	1%	0%	1%	1%	1%
Adj. Flow (vph)	0	15	95	152	42	63	147	550	144	34	588	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	110	0	0	194	63	0	841	0	0	623	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	3	3	1	1		1	1	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	106		20	26	26	20	106		20	106	
Trailing Detector (ft)	0	100		0	-4	-4	0	100		0	100	
Detector 1 Position(ft)	0	100		0	-4	-4	0	100		0	100	
Detector 1 Size(ft)	20	6		20	6	6	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)					8	8						
Detector 2 Size(ft)					6	6						
Detector 2 Type					Cl+Ex	Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)					0.0	0.0						
Detector 3 Position(ft)					20	20						
Detector 3 Size(ft)					6	6						

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Type					Cl+Ex	Cl+Ex						
Detector 3 Channel												
Detector 3 Extend (s)					0.0	0.0						
Turn Type		NA		Perm	NA	Perm	Prot	NA		Perm	NA	
Protected Phases		4			4		1	1 2			2	
Permitted Phases	4			4		4				2		
Detector Phase	4	4		4	4	4	1	1 2		2	2	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	5.0			15.0	15.0	
Minimum Split (s)	11.3	11.3		11.3	11.3	11.3	9.0			21.3	21.3	
Total Split (s)	29.3	29.3		29.3	29.3	29.3	11.0			46.3	46.3	
Total Split (%)	33.8%	33.8%		33.8%	33.8%	33.8%	12.7%			53.5%	53.5%	
Maximum Green (s)	25.0	25.0		25.0	25.0	25.0	7.0			40.0	40.0	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.0			4.2	4.2	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0			2.1	2.1	
Lost Time Adjust (s)		0.0			0.0	0.0					0.0	
Total Lost Time (s)		4.3			4.3	4.3					6.3	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		4.0	4.0	4.0	0.2			4.0	4.0	
Recall Mode	None	None		None	None	None	Max			Min	Min	
Act Effct Green (s)		15.9			15.9	15.9		49.5			40.2	
Actuated g/C Ratio		0.20			0.20	0.20		0.64			0.52	
v/c Ratio		0.27			0.71	0.16		1.12			0.39	
Control Delay		9.0			43.5	3.4		85.1			13.2	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		9.0			43.5	3.4		85.1			13.2	
LOS		A			D	A		F			B	
Approach Delay		9.0			33.7			85.1			13.2	
Approach LOS		A			C			F			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 86.6			
Actuated Cycle Length: 77.8			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.12			
Intersection Signal Delay: 48.8		Intersection LOS: D	
Intersection Capacity Utilization 64.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 13: Bushy Hill Road/Bushy HIll Rd. & W. Mountain Rd./Simsbury Commons



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	110	194	63	841	623
v/c Ratio	0.27	0.71	0.16	1.12	0.39
Control Delay	9.0	43.5	3.4	85.1	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.0	43.5	3.4	85.1	13.2
Queue Length 50th (ft)	6	88	0	~101	88
Queue Length 95th (ft)	43	146	13	#284	159
Internal Link Dist (ft)	456	613		413	255
Turn Bay Length (ft)			180		
Base Capacity (vph)	601	429	583	751	1611
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.45	0.11	1.12	0.39

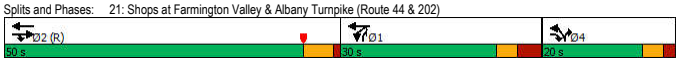
Intersection Summary
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1045	312	235	1650	332	189
Future Volume (vph)	1045	312	235	1650	332	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12
Storage Length (ft)		220	420		0	0
Storage Lanes		1	2		2	1
Taper Length (ft)			130		25	
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3455	1561	3385	3574	3502	1615
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3455	1561	3385	3574	3502	1615
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		260				35
Link Speed (mph)	40			40	30	
Link Distance (ft)	827			847	604	
Travel Time (s)	14.1			14.4	13.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.85	0.85
Heavy Vehicles (%)	1%	0%	0%	1%	0%	0%
Adj. Flow (vph)	1136	339	255	1793	391	222
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1136	339	255	1793	391	222
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	22			22	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.04	1.04	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	2	0	3	2	3	3
Detector Template						
Leading Detector (ft)	356	0	38	356	26	26
Trailing Detector (ft)	180	0	0	180	0	0
Detector 1 Position(ft)	180	350	0	180	0	0
Detector 1 Size(ft)	6	6	6	6	6	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)	350		16	350	10	10
Detector 2 Size(ft)	6		6	6	6	6
Detector 2 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 3 Position(ft)			32		20	20

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector 3 Size(ft)			6		6	6
Detector 3 Type			Cl+Ex		Cl+Ex	Cl+Ex
Detector 3 Channel						
Detector 3 Extend (s)			0.0		0.0	0.0
Turn Type	NA	pt+ov	Prot	NA	Prot	pt+ov
Protected Phases	2	2 4	1	1 2	4	4 1
Permitted Phases						
Detector Phase	2	2 4	1	1 2	4	4 1
Switch Phase						
Minimum Initial (s)	15.0		5.0		9.0	
Minimum Split (s)	20.5		11.8		14.0	
Total Split (s)	50.0		30.0		20.0	
Total Split (%)	50.0%		30.0%		20.0%	
Maximum Green (s)	44.5		23.2		15.0	
Yellow Time (s)	4.4		3.2		3.0	
All-Red Time (s)	1.1		3.6		2.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	5.5		6.8		5.0	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	2.5		1.5		1.5	
Recall Mode	C-Min		None		None	
Act Effct Green (s)	46.7	65.5	22.2	74.4	13.8	42.8
Actuated g/C Ratio	0.47	0.66	0.22	0.74	0.14	0.43
v/c Ratio	0.70	0.30	0.34	0.67	0.81	0.31
Control Delay	24.3	1.6	33.3	6.6	55.3	16.5
Queue Delay	0.0	0.0	0.0	0.4	0.0	0.0
Total Delay	24.3	1.6	33.3	7.0	55.3	16.5
LOS	C	A	C	A	E	B
Approach Delay	19.0			10.3	41.3	
Approach LOS	B			B	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 16 (16%), Referenced to phase 2:EBWB, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 18.0		Intersection LOS: B	
Intersection Capacity Utilization 64.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 21: Shops at Farmington Valley & Albany Turnpike (Route 44 & 202)



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1136	339	255	1793	391	222
v/c Ratio	0.70	0.30	0.34	0.67	0.81	0.31
Control Delay	24.3	1.6	33.3	6.6	55.3	16.5
Queue Delay	0.0	0.0	0.0	0.4	0.0	0.0
Total Delay	24.3	1.6	33.3	7.0	55.3	16.5
Queue Length 50th (ft)	331	10	87	219	124	72
Queue Length 95th (ft)	412	m21	118	18	163	116
Internal Link Dist (ft)	747			767	524	
Turn Bay Length (ft)		220	420			
Base Capacity (vph)	1612	1099	785	2694	525	730
Starvation Cap Reductn	0	0	0	399	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.31	0.32	0.78	0.74	0.30

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

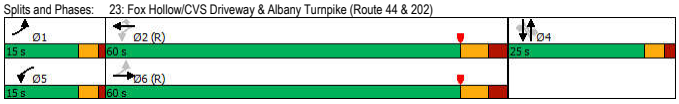
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	1029	34	18	1640	94	38	1	10	41	1	29
Future Volume (vph)	27	1029	34	18	1640	94	38	1	10	41	1	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	13	12	12	12
Storage Length (ft)	130		0	130		150	0		80	0		0
Storage Lanes	1		0	1		1	0		1	0		1
Taper Length (ft)	70			90			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995				0.850			0.850			0.850
Flt Protected	0.950			0.950				0.953			0.953	
Satd. Flow (prot)	1745	3472	0	1745	3455	1561	0	1750	1669	0	1776	1615
Flt Permitted	0.096			0.243				0.691			0.693	
Satd. Flow (perm)	176	3472	0	446	3455	1561	0	1269	1669	0	1291	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				63			89			89
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		1110			920			549			426	
Travel Time (s)		21.6			17.9			15.0			11.6	
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	2%	0%	0%
Adj. Flow (vph)	28	1072	35	19	1745	100	49	1	13	53	1	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	1107	0	19	1745	100	0	50	13	0	54	38
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0		1	0	0	1	1	1	1	1	1
Detector Template							Left			Left		
Leading Detector (ft)	40	0		40	0	0	20	30	30	20	30	30
Trailing Detector (ft)	0	0		0	0	0	0	-10	-10	0	-10	-10
Detector 1 Position(ft)	0	0		0	0	0	0	-10	-10	0	-10	-10
Detector 1 Size(ft)	40	6		40	6	20	20	40	40	20	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases	6			2		2	4		4	4		4
Detector Phase	1	6		5	2	2	4	4	4	4	4	4
Switch Phase												
Minimum Initial (s)	4.0	15.0		4.0	15.0	15.0	4.0	4.0	4.0	4.0	4.0	4.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	8.0	22.2		8.0	22.2	22.2	8.8	8.8	8.8	8.8	8.8	8.8
Total Split (s)	15.0	60.0		15.0	60.0	60.0	25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	15.0%	60.0%		15.0%	60.0%	60.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Maximum Green (s)	11.0	52.8		11.0	52.8	52.8	20.2	20.2	20.2	20.2	20.2	20.2
Yellow Time (s)	3.0	4.2		3.0	4.2	4.2	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	3.0		1.0	3.0	3.0	1.8	1.8	1.8	1.8	1.8	1.8
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)	4.0	7.2		4.0	7.2	7.2		4.8	4.8		4.8	4.8
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	0.2		1.5	0.2	0.2	2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	82.8	79.2		81.9	77.5	77.5		8.8	8.8		8.8	8.8
Actuated g/C Ratio	0.83	0.79		0.82	0.78	0.78		0.09	0.09		0.09	0.09
v/c Ratio	0.13	0.40		0.05	0.65	0.08		0.45	0.06		0.48	0.17
Control Delay	3.4	5.4		2.3	9.1	2.5		55.2	0.5		56.4	1.7
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay	3.4	5.4		2.3	9.1	2.5		55.2	0.5		56.4	1.7
LOS	A	A		A	A	A		E	A		E	A
Approach Delay		5.3			8.7			43.9			33.8	
Approach LOS		A			A			D			C	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 83 (83%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 8.9 Intersection LOS: A
Intersection Capacity Utilization 66.0% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 23: Fox Hollow/CVS Driveway & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	28	1107	19	1745	100	50	13	54	38
v/c Ratio	0.13	0.40	0.05	0.65	0.08	0.45	0.06	0.48	0.17
Control Delay	3.4	5.4	2.3	9.1	2.5	55.2	0.5	56.4	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.4	5.4	2.3	9.1	2.5	55.2	0.5	56.4	1.7
Queue Length 50th (ft)	2	86	2	295	6	31	0	33	0
Queue Length 95th (ft)	8	205	6	449	24	56	0	60	0
Internal Link Dist (ft)		1030		840		469		346	
Turn Bay Length (ft)	130		130		150		80		
Base Capacity (vph)	320	2751	519	2677	1224	256	408	260	397
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	0.40	0.04	0.65	0.08	0.20	0.03	0.21	0.10

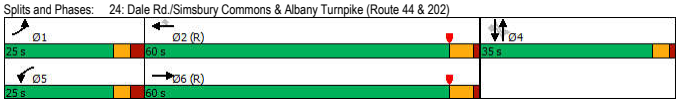
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	791	40	186	1338	139	59	34	194	74	29	61
Future Volume (vph)	56	791	40	186	1338	139	59	34	194	74	29	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	12	12	12	11	11	12	12	12	12
Storage Length (ft)	180		0	450		525	200		0	0		0
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	115			80			50			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993				0.850		0.873				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1745	3433	0	1770	3574	1615	1454	1603	0	1805	1900	1615
Flt Permitted	0.950			0.950			0.735			0.197		
Satd. Flow (perm)	1745	3433	0	1770	3574	1615	1125	1603	0	374	1900	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				145		228				74
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		791			1110			639			380	
Travel Time (s)		15.4			21.6			17.4			10.4	
Peak Hour Factor	0.95	0.95	0.95	0.96	0.96	0.96	0.80	0.80	0.80	0.85	0.85	0.85
Heavy Vehicles (%)	0%	1%	0%	2%	1%	0%	20%	0%	0%	0%	0%	0%
Adj. Flow (vph)	59	833	42	194	1394	145	74	43	243	87	34	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	875	0	194	1394	145	74	286	0	87	34	72
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	1		1	1	1
Detector Template										Left		
Leading Detector (ft)	25	306		25	256	256	20	20		30	30	40
Trailing Detector (ft)	-5	300		-5	250	250	-10	-10		0	0	-10
Detector 1 Position(ft)	-5	300		-5	250	250	-10	-10		0	0	-10
Detector 1 Size(ft)	30	6		30	6	6	30	30		30	30	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			4	
Permitted Phases						2	4			4		4
Detector Phase	1	6		5	2	2	4	4		4	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	15.0	15.0	7.0	7.0		7.0	7.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	12.5	20.6		12.5	20.6	20.6	11.2	11.2		11.2	11.2	11.2
Total Split (s)	25.0	60.0		25.0	60.0	60.0	35.0	35.0		35.0	35.0	35.0
Total Split (%)	20.8%	50.0%		20.8%	50.0%	50.0%	29.2%	29.2%		29.2%	29.2%	29.2%
Maximum Green (s)	19.5	54.4		19.5	54.4	54.4	30.8	30.8		30.8	30.8	30.8
Yellow Time (s)	3.0	4.3		3.0	4.3	4.3	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	2.5	1.3		2.5	1.3	1.3	1.2	1.2		1.2	1.2	1.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.5	5.6		5.5	5.6	5.6	4.2	4.2		4.2	4.2	4.2
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	5.0		1.5	8.0	8.0	2.0	2.0		2.0	2.0	2.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None		None	None	None
Act Effct Green (s)	8.7	68.1		16.3	78.2	78.2	20.3	20.3		20.3	20.3	20.3
Actuated g/C Ratio	0.07	0.57		0.14	0.65	0.65	0.17	0.17		0.17	0.17	0.17
v/c Ratio	0.47	0.45		0.81	0.60	0.13	0.39	0.62		1.38	0.11	0.22
Control Delay	56.0	21.4		74.5	16.0	2.5	47.5	16.0		285.1	38.7	9.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	56.0	21.4		74.5	16.0	2.5	47.5	16.0		285.1	38.7	9.3
LOS	E	C		E	B	A	D	B		F	D	A
Approach Delay		23.6			21.4			22.4			138.8	
Approach LOS		C			C			C			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 112 (93%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.38			
Intersection Signal Delay: 29.2		Intersection LOS: C	
Intersection Capacity Utilization 78.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 24: Dale Rd./Simsbury Commons & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	59	875	194	1394	145	74	286	87	34	72
v/c Ratio	0.47	0.45	0.81	0.60	0.13	0.39	0.62	1.38	0.11	0.22
Control Delay	56.0	21.4	74.5	16.0	2.5	47.5	16.0	285.1	38.7	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	21.4	74.5	16.0	2.5	47.5	16.0	285.1	38.7	9.3
Queue Length 50th (ft)	47	190	147	318	0	51	39	~88	22	0
Queue Length 95th (ft)	m76	331	225	523	32	79	78	#156	45	31
Internal Link Dist (ft)		711		1030			559		300	
Turn Bay Length (ft)	180		450		525	200				
Base Capacity (vph)	283	1950	288	2329	1103	288	580	95	487	469
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.45	0.67	0.60	0.13	0.26	0.49	0.92	0.07	0.15

Intersection Summary
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

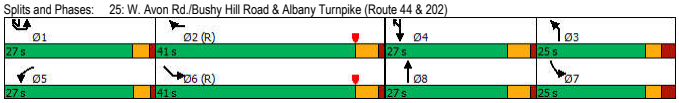
Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Traffic Volume (vph)	87	1212	115	193	219	63	132	264	311	391	691	152
Future Volume (vph)	87	1212	115	193	219	63	132	264	311	391	691	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	11	12	12	11	11	11	11	12	12
Storage Length (ft)	375	0		200		0	0		0		220	0
Storage Lanes	1	2		1		0	1		1		2	0
Taper Length (ft)	125			150			25				140	
Lane Util. Factor	1.00	0.88	1.00	1.00	0.95	0.95	1.00	1.00	1.00	0.97	0.97	0.95
Frt		0.850			0.966				0.850		0.973	
Flt Protected	0.950			0.950			0.950			0.950	0.961	
Satd. Flow (prot)	1745	2723	0	1728	3460	0	1745	1818	1546	3385	3419	0
Flt Permitted	0.950			0.950			0.950			0.950	0.961	
Satd. Flow (perm)	1745	2723	0	1728	3460	0	1745	1818	1546	3385	3419	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		108			27				73		108	
Link Speed (mph)	40				25			40			40	
Link Distance (ft)	791				809			493			815	
Travel Time (s)	13.5				22.1			8.4			13.9	
Peak Hour Factor	0.96	0.96	0.96	0.93	0.93	0.93	0.87	0.87	0.87	0.86	0.86	0.86
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	0%	1%	1%	0%	1%	0%
Adj. Flow (vph)	91	1263	120	208	235	68	152	303	357	455	803	177
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	1383	0	208	303	0	152	303	357	455	980	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Right	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	11				11			11			47	
Link Offset(ft)	0				0			0			0	
Crosswalk Width(ft)	16				16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.00	1.04	1.00	1.00	1.04	1.04	1.04	1.04	1.00	1.00
Turning Speed (mph)	15	9	9	15		9	15		9	15	15	9
Number of Detectors	1	2		1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	40	368		34	30		30	30	30	40	190	
Trailing Detector (ft)	0	176		-6	-10		-10	-10	-10	0	184	
Detector 1 Position(ft)	0	176		-6	-10		-10	-10	-10	0	184	
Detector 1 Size(ft)	40	6		40	40		40	40	40	40	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		362										
Detector 2 Size(ft)		6										
Detector 2 Type		Cl+Ex										
Detector 2 Channel												
Detector 2 Extend (s)		0.0										
Turn Type	Prot	Prot		Prot	NA		Prot	NA	pt+ov	Prot	Prot	

Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Protected Phases	5	2		3	8		7	4	14	1	6	
Permitted Phases												
Detector Phase	5	2		3	8		7	4	14	1	6	
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	7.0		7.0	7.0		7.0	15.0	
Minimum Split (s)	11.0	20.4		12.6	12.2		12.6	12.2		11.1	20.4	
Total Split (s)	27.0	41.0		25.0	27.0		25.0	27.0		27.0	41.0	
Total Split (%)	22.5%	34.2%		20.8%	22.5%		20.8%	22.5%		22.5%	34.2%	
Maximum Green (s)	23.0	35.6		19.4	21.8		19.4	21.8		22.9	35.6	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.2		3.0	4.2	
All-Red Time (s)	1.0	1.2		2.6	1.0		2.6	1.0		1.1	1.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	5.4		5.6	5.2		5.6	5.2		4.1	5.4	
Lead/Lag	Lead	Lag		Lag	Lead		Lag	Lead		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	4.0		1.5	2.0		1.5	2.0		1.5	4.0	
Recall Mode	None	C-Min		None	None		None	None		None	C-Min	
Act Effct Green (s)	10.5	41.7		17.2	14.3		24.2	21.3	41.9	19.5	50.9	
Actuated g/C Ratio	0.09	0.35		0.14	0.12		0.20	0.18	0.35	0.16	0.42	
v/c Ratio	0.60	1.36		0.84	0.69		0.43	0.94	0.61	0.83	0.65	
Control Delay	68.6	195.1		78.1	54.6		46.3	85.8	18.2	71.9	22.9	
Queue Delay	0.0	0.2		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	68.6	195.2		78.1	54.6		46.3	85.8	18.2	71.9	22.9	
LOS	E	F		E	D		D	F	B	E	C	
Approach Delay	187.4				64.2			48.7			38.5	
Approach LOS	F				E			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 7 (6%), Referenced to phase 2:WBR and 6:SEL, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.36
Intersection Signal Delay: 95.4 Intersection LOS: F
Intersection Capacity Utilization 88.6% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 25: W. Avon Rd./Bushy Hill Road & Albany Turnpike (Route 44 & 202)



Lane Group	WBL	WBR	NBL	NBT	SBL	SBT	SBR	SEL2	SEL
Lane Group Flow (vph)	91	1383	208	303	152	303	357	455	980
v/c Ratio	0.60	1.36	0.84	0.69	0.43	0.94	0.61	0.83	0.65
Control Delay	68.6	195.1	78.1	54.6	46.3	85.8	18.2	71.9	22.9
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.6	195.2	78.1	54.6	46.3	85.8	18.2	71.9	22.9
Queue Length 50th (ft)	58	~634	156	109	101	233	105	179	241
Queue Length 95th (ft)	m101	#1016	#265	152	167	#379	144	237	278
Internal Link Dist (ft)	711			729		413			735
Turn Bay Length (ft)	375		200					220	220
Base Capacity (vph)	334	1017	279	650	351	330	635	645	1511
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	34	0	0	0	0	3	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	1.41	0.75	0.47	0.43	0.92	0.56	0.71	0.65

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

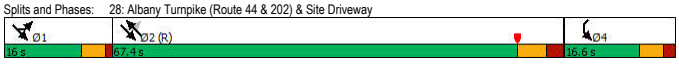
Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	108	951	1591	84	152	70
Future Volume (vph)	108	951	1591	84	152	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	12	12	11	11
Storage Length (ft)	175			0	0	0
Storage Lanes	1			0	2	0
Taper Length (ft)	35				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.95
Frt			0.992		0.953	
Flt Protected	0.950				0.967	
Satd. Flow (prot)	1745	3574	3547	0	3284	0
Flt Permitted	0.067				0.967	
Satd. Flow (perm)	123	3574	3547	0	3284	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			10		65	
Link Speed (mph)		40	40		30	
Link Distance (ft)		2232	380		896	
Travel Time (s)		38.0	6.5		20.4	
Peak Hour Factor	0.92	0.92	0.96	0.96	0.88	0.88
Heavy Vehicles (%)	0%	1%	1%	0%	0%	0%
Adj. Flow (vph)	117	1034	1657	88	173	80
Shared Lane Traffic (%)						
Lane Group Flow (vph)	117	1034	1745	0	253	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		11	11		22	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.04	1.00	1.00	1.00	1.04	1.04
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	0	0		1	
Detector Template						
Leading Detector (ft)	34	0	0		34	
Trailing Detector (ft)	-6	0	0		-6	
Detector 1 Position(ft)	-6	0	0		-6	
Detector 1 Size(ft)	40	6	6		40	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Turn Type	pm+pt	NA	NA		Prot	
Protected Phases	1	1 2	2		4	
Permitted Phases	1 2					
Detector Phase	1	1 2	2		4	
Switch Phase						
Minimum Initial (s)	5.0		10.0		5.0	

Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Minimum Split (s)	9.5		17.0		10.5	
Total Split (s)	16.0		67.4		16.6	
Total Split (%)	16.0%		67.4%		16.6%	
Maximum Green (s)	11.5		60.4		11.1	
Yellow Time (s)	3.5		4.3		3.5	
All-Red Time (s)	1.0		2.7		2.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	4.5		7.0		5.5	
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		0.2		1.5	
Recall Mode	None		C-Min		None	
Act Effct Green (s)	76.2	80.7	59.3		9.3	
Actuated g/C Ratio	0.76	0.81	0.59		0.09	
v/c Ratio	0.36	0.36	0.83		0.69	
Control Delay	24.6	4.0	21.1		42.7	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	24.6	4.0	21.1		42.7	
LOS	C	A	C		D	
Approach Delay		6.1	21.1		42.7	
Approach LOS		A	C		D	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 92 (92%), Referenced to phase 2:NWSE, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 17.4 Intersection LOS: B
Intersection Capacity Utilization 73.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 28: Albany Turnpike (Route 44 & 202) & Site Driveway



Lane Group	SEL	SET	NWT	SWL
Lane Group Flow (vph)	117	1034	1745	253
v/c Ratio	0.36	0.36	0.83	0.69
Control Delay	24.6	4.0	21.1	42.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.6	4.0	21.1	42.7
Queue Length 50th (ft)	34	71	466	60
Queue Length 95th (ft)	76	162	523	97
Internal Link Dist (ft)		2152	300	816
Turn Bay Length (ft)	175			
Base Capacity (vph)	327	2932	2186	423
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.36	0.35	0.80	0.60

Intersection Summary

Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	0	1103	1650	45	0	25
Future Volume (vph)	0	1103	1650	45	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.996			0.865
Flt Protected						
Satd. Flow (prot)	0	3539	3525	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	3539	3525	0	0	1611
Link Speed (mph)		40	40		30	
Link Distance (ft)		380	944		492	
Travel Time (s)		6.5	16.1		11.2	
Peak Hour Factor	0.92	0.92	0.96	0.96	0.92	0.92
Adj. Flow (vph)	0	1199	1719	47	0	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1199	1766	0	0	27
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		11	11		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 57.0%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection						
Int Delay, s/veh	0.2					
Movement	**SEL**	**SET**	**NWT**	**NWR**	**SWL**	**SWR**
Lane Configurations						
Traffic Vol, veh/h	0	1103	1650	45	0	25
Future Vol, veh/h	0	1103	1650	45	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	96	96	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1199	1719	47	0	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	883
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	289
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	-	-	-	-	-	289
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	SE	NW	SW
HCM Control Delay, s	0	0	18.7
HCM LOS			C

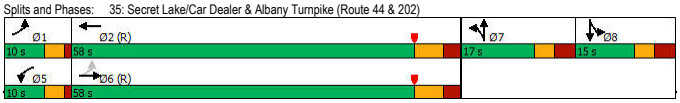
Minor Lane/Major Mvmt	NWT	NWR	SETSWLn1
Capacity (veh/h)	-	-	- 289
HCM Lane V/C Ratio	-	-	- 0.094
HCM Control Delay (s)	-	-	- 18.7
HCM Lane LOS	-	-	- C
HCM 95th %tile Q(veh)	-	-	- 0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1060	0	12	1644	4	19	2	10	10	0	13
Future Volume (vph)	2	1060	0	12	1644	4	19	2	10	10	0	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	11	11	11	11	12	12	12	12	12	12
Storage Length (ft)	50		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	75			70			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.956			0.924	
Flt Protected	0.950			0.950				0.971			0.978	
Satd. Flow (prot)	1745	3574	0	1745	3455	0	0	1764	0	0	1707	0
Flt Permitted	0.074			0.950				0.971			0.978	
Satd. Flow (perm)	136	3574	0	1745	3455	0	0	1764	0	0	1707	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								13			155	
Link Speed (mph)		40			40			25			30	
Link Distance (ft)		847			2232			498			493	
Travel Time (s)		14.4			38.0			13.6			11.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.80	0.80	0.80	0.90	0.90	0.90
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	2	1152	0	13	1787	4	24	3	13	11	0	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	1152	0	13	1791	0	0	40	0	0	25	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		22			22			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.00	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	3	0		3	0		1	3		1	2	
Detector Template							Left					
Leading Detector (ft)	26	0		26	0		20	26		6	16	
Trailing Detector (ft)	0	0		0	0		0	0		0	-6	
Detector 1 Position(ft)	0	0		0	894		0	0		0	-6	
Detector 1 Size(ft)	6	6		6	6		20	6		6	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)	10			10				10			10	
Detector 2 Size(ft)	6			6				6			6	
Detector 2 Type	Cl+Ex			Cl+Ex				Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0				0.0			0.0	
Detector 3 Position(ft)	20			20				20				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 3 Size(ft)	6			6				6				
Detector 3 Type	Cl+Ex			Cl+Ex				Cl+Ex				
Detector 3 Channel												
Detector 3 Extend (s)	0.0			0.0				0.0				
Turn Type	pm+pt	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		7	7		8	8	
Permitted Phases	6											
Detector Phase	1	6		5	2		7	7		8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		9.0	9.0		7.0	7.0	
Minimum Split (s)	9.0	22.0		9.0	22.0		15.2	15.2		13.2	13.2	
Total Split (s)	10.0	58.0		10.0	58.0		17.0	17.0		15.0	15.0	
Total Split (%)	10.0%	58.0%		10.0%	58.0%		17.0%	17.0%		15.0%	15.0%	
Maximum Green (s)	6.0	51.0		6.0	51.0		10.8	10.8		8.8	8.8	
Yellow Time (s)	3.0	4.4		3.0	4.4		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	2.6		1.0	2.6		3.2	3.2		3.2	3.2	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.0	7.0		4.0	7.0			6.2			6.2	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.5	2.5		1.5	2.5		1.5	1.5		1.5	1.5	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Act Effct Green (s)	80.5	79.3		5.3	79.6			9.0			7.0	
Actuated g/C Ratio	0.80	0.79		0.05	0.80			0.09			0.07	
v/c Ratio	0.01	0.41		0.14	0.65			0.24			0.10	
Control Delay	5.0	5.8		55.6	5.7			35.3			0.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	5.0	5.8		55.6	5.7			35.3			0.7	
LOS	A	A		E	A			D			A	
Approach Delay		5.8			6.1			35.3			0.7	
Approach LOS		A			A			D			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 16 (16%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 6.3		Intersection LOS: A	
Intersection Capacity Utilization 64.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 35: Secret Lake/Car Dealer & Albany Turnpike (Route 44 & 202)



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	2	1152	13	1791	40	25
v/c Ratio	0.01	0.41	0.14	0.65	0.24	0.10
Control Delay	5.0	5.8	55.6	5.7	35.3	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.0	5.8	55.6	5.7	35.3	0.7
Queue Length 50th (ft)	0	97	9	31	16	0
Queue Length 95th (ft)	m0	171	m12	#705	42	0
Internal Link Dist (ft)		767		2152	418	413
Turn Bay Length (ft)	50		100			
Base Capacity (vph)	206	2835	105	2750	202	291
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.41	0.12	0.65	0.20	0.09

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

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Appendix D

Signal Warrant Analysis Worksheets

Daily Trip Generation Summary
9.15 Albany Turnpike, Canton & Simsbury, Connecticut

	Variable	LUC	Weekday Enter	Weekday Exit	Total
Fast Food Restaurant without Drive Thru	2.84	933	492	492	984
Coffee Shop w/ Drive Thru	1.24	937	509	509	1018
Super Convenience Market/Gas Station	4.31	960	1805	1805	3610
Automobile Sales New	21	840	291	291	581
Total New Trips			**3097**	**3097**	**6193**
20% Pass-by			*561*	*561*	*1122*
Net Trips			**2,535**	**2,535**	**5,071**

Source: ITE Trip Generation, 10th Edition

Land Use	Time Period	Avg. Rate	Entering	Exiting
LUC 933 - Fast Food Restaurant w/o Drive Thru	Weekday	346.23	50%	50%
LUC 937 - Coffee Shop w/ Drive Thru	Weekday	820.38	50%	50%
LUC 960 - Super Convenience Market/Gas Station	Weekday	837.58	50%	50%
LUC 840 - Automobile Sales New	Weekday	27.84	50%	50%

Source: ITE Trip Generation, 10th Edition, Weekday Rate(s)

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9/24/2020

EIGHT-HOUR VEHICLULAR VOLUME WARRANT

TOWN: Canton & Simsbury, CT
MAJOR STREET: Route 44
MINOR STREET: 15 Albany Turnpike
ENGINEER: Solli Engineering
DATE OF COUNTS: October - 2017
85TH PERCENTILE SPEED (MPH) EB-44/WB-51
NUMBER OF CRASHES IN A 12-MONTH PERIOD SUSCEPTIBLE TO CORRECTION BY A SIGNAL
Urban

	MAJOR STREET			MINOR STREET			MINIMUM VEH. VOLUME CONDITION A					INTERRUPTION OF TRAFFIC CONDITION B				
	#OF LANES: 4			#OF LANES: 2						Conditio n A met to 70%?	Selected Hours for Conditio n A				Conditio n B met to 70%?	Selection Hours for Conditio n B
TIME BEG HR	EB APP.	WB APP.	TOTAL	NB APP.	SB APP.	TOTAL	Major St 600	Minor St 200	100% Met?			Major St 900	Minor St 100	100% Met?		
12:00 AM	24	50	74	0	16	16	12%	8%			☐	8%	16%			☐
1:00 AM	14	24	38	0	12	12	6%	6%			☐	4%	12%			☐
2:00 AM	15	10	25	0	0	0	4%	0%			☐	3%	0%			☐
3:00 AM	25	13	38	0	0	0	6%	0%			☐	4%	0%			☐
4:00 AM	95	37	132	0	0	0	22%	0%			☐	15%	0%			☐
5:00 AM	342	117	459	0	38	38	77%	19%			☐	51%	38%			☐
6:00 AM	932	234	1166	0	56	56	194%	28%			☐	130%	56%			☑
7:00 AM	1531	449	1980	0	108	108	330%	54%			☐	220%	108%	X	X	☑
8:00 AM	1370	667	2037	0	93	93	340%	47%			☐	226%	93%		X	☑
9:00 AM	1001	642	1643	0	120	120	274%	60%			☐	183%	120%	X	X	☑
10:00 AM	942	823	1765	0	106	106	294%	53%			☐	196%	106%	X	X	☑
11:00 AM	1024	823	1847	0	132	132	308%	66%			☐	205%	132%	X	X	☑
12:00 PM	1117	951	2068	0	172	172	345%	86%		X	☑	230%	172%	X	X	☑
1:00 PM	1097	951	2048	0	138	138	341%	69%			☐	228%	138%	X	X	☑
2:00 PM	1049	1043	2092	0	134	134	349%	67%			☐	232%	134%	X	X	☑
3:00 PM	1088	1188	2276	0	136	136	379%	68%			☐	253%	136%	X	X	☑
4:00 PM	1010	1336	2346	0	151	151	391%	76%		X	☑	261%	151%	X	X	☑
5:00 PM	1001	1391	2392	0	171	171	399%	86%		X	☑	266%	171%	X	X	☑
6:00 PM	811	1088	1899	0	169	169	317%	84%		X	☑	211%	169%	X	X	☑
7:00 PM	541	634	1175	0	105	105	196%	53%			☐	131%	105%	X	X	☑
8:00 PM	349	403	752	0	75	75	125%	38%			☐	84%	75%		X	☑
9:00 PM	210	271	481	0	55	55	80%	27%			☐	53%	55%			☐
10:00 PM	110	136	246	0	37	37	41%	19%			☐	27%	37%			☐
11:00 PM	64	61	125	0	29	29	21%	15%			☐	14%	29%			☐
TOTAL HOURS MET:									0	4	4			12	14	14

9/24/2020

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2023 Total Hourly Traffic Volumes for Signal Warrant Analysis
Albany Turnpike (Route 44) & 15 Albany Turnpike Site Driveway

Albany Turnpike (Route 44)		
Time Period	EB Total	WB Total
mid-1 am	18	40
1-2 am	10	24
2-3 am	15	10
3-4am	25	13
4-5am	95	37
5-6am	317	117
6-7am	880	234
7-8am	1429	449
8-9am	1278	667
9-10am	899	642
10-11am	865	823
11-12 noon	927	823
12-1pm	1007	951
1-2pm	1004	951
2-3pm	965	1043
3-4pm	1000	1188
4-5pm	942	1336
5-6pm	928	1391
6-7pm	740	1088
7-8pm	497	634
8-9pm	314	403
9-10pm	184	271
10-11pm	93	136
11-mid	50	61

Source: 2018 NHS-028 Counts ATR Data From CT DOT

Total Proposed Development Trips (29,260 sf) - 15 Albany Turnpike Site Driveway (5,071 trips/day)								
Time Period	% of 24-Hr Entering Traffic	% of 24-Hr Exiting Traffic	Enter from WB (right) Total	Enter from WB (Right-in) Total	Enter from EB (left) Total	Exit to EB (left) Total	Exit to WB (right) Total	Exit to WB (right-out) Total
mid-1 am	0.77	0.94	7	7	6	7	8	4
1-2 am	0.52	0.70	5	5	4	5	6	4
2-3 am	0.00	0.00	-	-	-	-	-	-
3-4am	0.00	0.00	-	-	-	-	-	-
4-5am	0.00	0.00	-	-	-	-	-	-
5-6am	1.42	1.42	5	5	25	25	13	13
6-7am	2.91	2.90	11	11	92	46	10	10
7-8am	5.76	4.99	22	22	102	89	19	19
8-9am	5.19	4.32	20	20	92	77	16	16
9-10am	5.78	5.59	22	22	102	99	21	21
10-11am	6.10	5.59	39	39	77	71	35	35
11-12 noon	7.69	6.94	49	49	97	88	44	44
12-1pm	8.71	9.02	55	55	110	116	57	57
1-2pm	7.38	7.28	46	46	93	92	46	46
2-3pm	6.59	7.04	42	42	84	89	45	45
3-4pm	6.96	7.13	44	44	88	90	45	45
4-5pm	6.99	6.64	68	34	68	101	50	17
5-6pm	7.22	7.51	73	37	73	114	57	19
6-7pm	7.09	7.39	71	36	71	112	56	19
7-8pm	4.95	5.20	33	33	44	79	26	26
8-9pm	3.41	3.70	26	26	35	96	19	19
9-10pm	2.96	2.70	19	19	26	41	14	14
10-11pm	1.66	1.84	13	13	17	28	9	9
11-mid	1.39	1.44	11	11	14	22	7	7

Note: Exit to EB (Right) has been excluded from Warrant Analysis per CT DOT Comments

9/24/2020

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Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Sect. 4C.02

December 2009

2023 Hourly Traffic Volumes Breakdown for Signal Warrant Analysis
Albany Turnpike (Route 44) & 15 Albany Turnpike Site Driveway

Albany Turnpike (Route 44)		
Time Period	EB Total	WB Total
mid-1am	18	40
1-2 am	10	24
2-3am	15	10
3-4am	25	13
4-5am	95	37
5-6am	317	117
6-7am	880	234
7-8am	1429	449
8-9am	1278	667
9-10am	899	642
10-11am	865	823
11-12 noon	927	823
12-1pm	1007	951
1-2pm	1004	951
2-3pm	965	1043
3-4pm	1000	1188
4-5pm	942	1336
5-6pm	928	1391
6-7pm	740	1088
7-8pm	497	634
8-9pm	314	403
9-10pm	184	271
10-11pm	93	136
11-mid	50	61

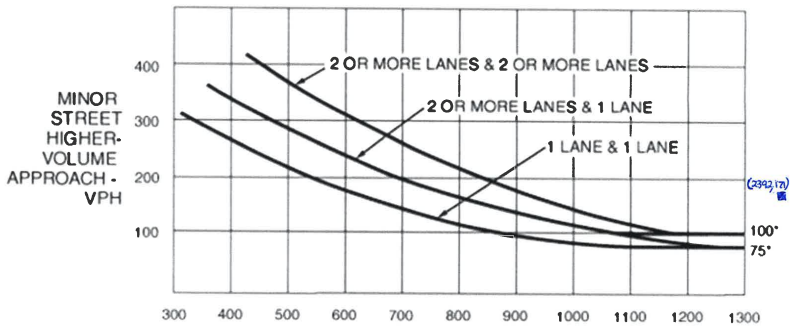
	LUC 933 - Daily Trips: First Food Restaurant w/o Drive-thru				LUC 937 - Daily Trips*: Coffee Shop w. Drive-thru				LUC 960 - Daily Trips: Super Convenience/Gas Station				LUC 840 - Daily Trips: Automobile Sales New				Total Development - Daily Trips			
Time Period	% Entering	% Exiting	Enter	Exit	% Entering	% Exiting	Enter	Exit	% Entering	% Exiting	Enter	Exit	% Entering	% Exiting	Enter	Exit	% Entering	% Exiting	Enter	Exit
12-1 AM	0.9%	1.3%	4	5	0%	0%	0	0	1.1%	1.3%	16	19	0.0%	0.0%	0	0	0.77%	0.94%	39	24
1-2 AM	0.4%	1.6%	2	6	0%	0%	0	0	0.8%	0.8%	12	12	0.0%	0.0%	0	0	0.52%	0.70%	33	18
2-3 AM	0.0%	0.0%	0	0	0%	0%	0	0	0.5%	0.5%	7	7	0.0%	0.0%	0	0	0.28%	0.28%	7	7
3-4 AM	0.0%	0.0%	0	0	0%	0%	0	0	0.7%	0.7%	10	10	0.0%	0.0%	0	0	0.40%	0.40%	10	10
4-5 AM	0.0%	0.0%	0	0	0%	0%	0	0	1.2%	1.3%	17	19	0.0%	0.0%	0	0	0.68%	0.74%	17	19
5-6 AM	0.0%	0.0%	0	0	0%	0%	0	0	2.5%	2.9%	36	36	0.0%	0.0%	0	0	1.42%	1.42%	36	36
6-7 AM	0.6%	0.0%	2	0	0%	0%	0	0	4.7%	4.9%	68	69	1.2%	0.3%	3	1	2.91%	2.60%	74	66
7-8 AM	0.7%	0.4%	3	2	0%	0%	0	0	5.7%	5.7%	82	82	9.0%	2.3%	26	7	4.39%	3.57%	111	91
8-9 AM	0.6%	0.8%	2	3	1%	0%	4	0	6.4%	6.3%	92	91	11.3%	5.3%	33	15	5.19%	4.32%	132	110
9-10 AM	2.1%	1.4%	8	6	9%	9%	37	37	5.4%	5.5%	78	79	8.1%	6.9%	24	20	5.78%	5.59%	146	142
10-11 AM	4.1%	3.4%	16	13	9%	8%	37	33	5.2%	5.2%	75	75	9.2%	7.3%	27	21	6.10%	5.59%	155	142
11-12 noon	9.7	8.3	38	32	9%	8%	37	33	5.6%	5.4%	81	78	8.6%	9.0%	25	26	7.65%	6.94%	194	176
12-1pm	14.1%	14.9%	56	59	12%	12%	49	49	6.3%	6.3%	91	91	8.5%	10.4%	25	31	8.71%	9.02%	221	229
1-2pm	11.7%	11.8%	46	46	7%	7%	29	29	5.8%	5.7%	84	82	9.5%	9.4%	28	27	7.33%	7.28%	186	185
2-3pm	7.5%	8.0%	30	31	6%	7%	24	29	6.0%	6.0%	87	87	9.1%	11.0%	26	32	6.59%	7.04%	167	179
3-4pm	9.4%	8.7%	37	34	7%	7%	29	29	6.3%	6.2%	91	90	6.9%	9.8%	20	29	6.96%	7.13%	177	181
4-5pm	5.1%	4.8%	21	19	9%	9%	37	37	6.1%	6.3%	91	93	7.1%	7.9%	21	23	6.69%	6.64%	170	168
5-6pm	6.2%	6.8%	24	27	11%	10%	45	41	6.6%	6.9%	95	94	6.4%	10.0%	19	29	7.22%	7.51%	183	190
6-7pm	6.6%	6.6%	26	26	14%	13%	57	53	6.0%	6.1%	87	88	3.1%	7.0%	9	20	7.05%	7.39%	179	187
7-8pm	4.2%	4.6%	17	18	4%	7%	16	29	5.0%	5.1%	72	73	1.8%	4.0%	5	11	4.35%	5.20%	110	132
8-9pm	5.2%	5.7%	20	22	2%	3%	8	12	4.0%	4.3%	58	59	0.0%	0.0%	0	0	3.41%	3.70%	86	94
9-10pm	4.0%	4.9%	16	19	0%	0%	0	0	3.4%	3.4%	49	49	0.0%	0.0%	0	0	2.56%	2.70%	65	68
10-11pm	1.5%	2.7%	6	11	0%	0%	0	0	2.5%	2.5%	36	36	0.0%	0.0%	0	0	1.66%	1.84%	42	47
11-12 AM	1.6%	1.6%	6	6	0%	0%	0	0	2.0%	2.1%	29	30	0.0%	0.0%	0	0	1.39%	1.44%	35	37

Source: 2019 NHS-028 Counts ATR Data From CT DOT

*LUC 937 Hourly Distribution based on LUC 936- Coffee Shop w/out Drive Thru Hourly Variation, Entering & Exiting breakdown were established based on LUC 934 Fast Food with Drive-Thru

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

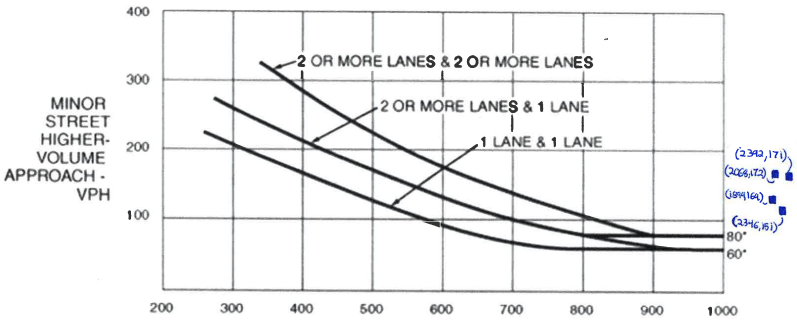
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



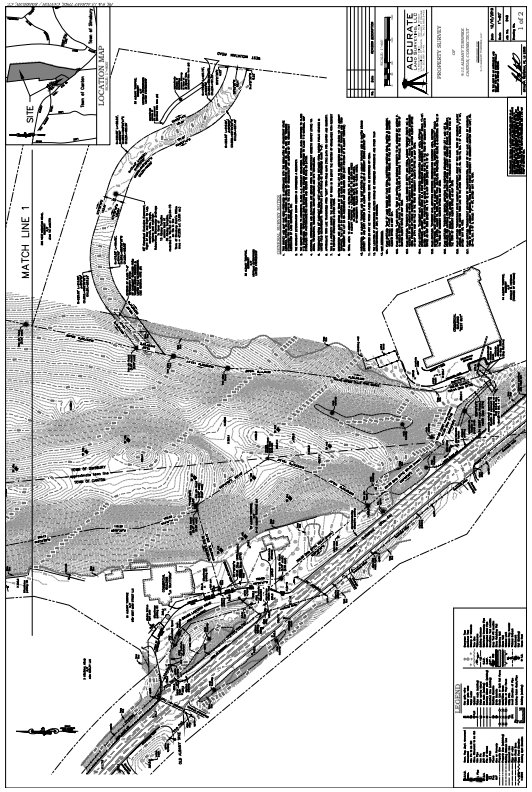
*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

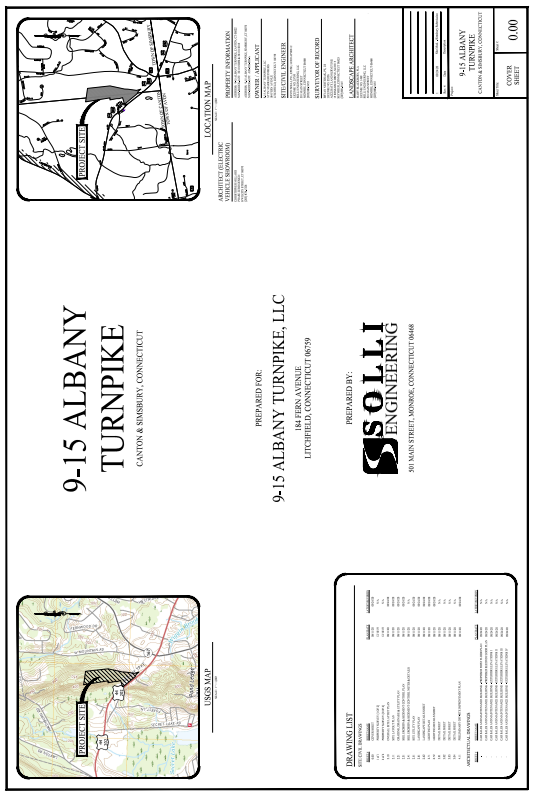
Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

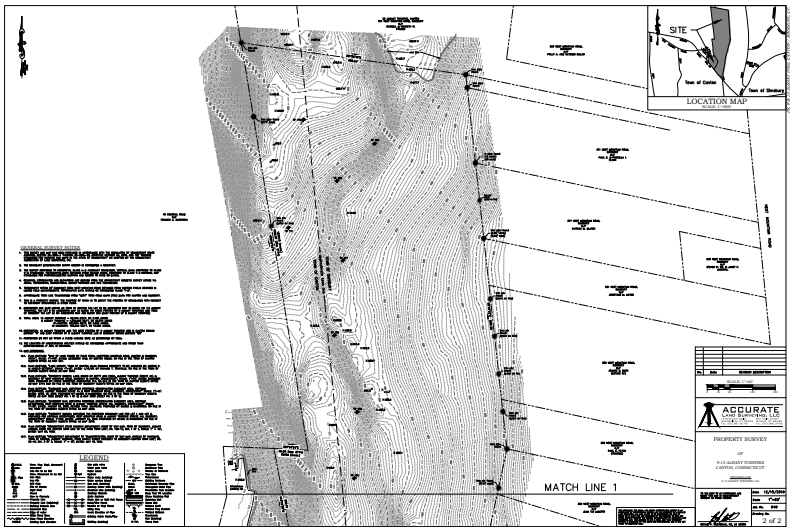
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)

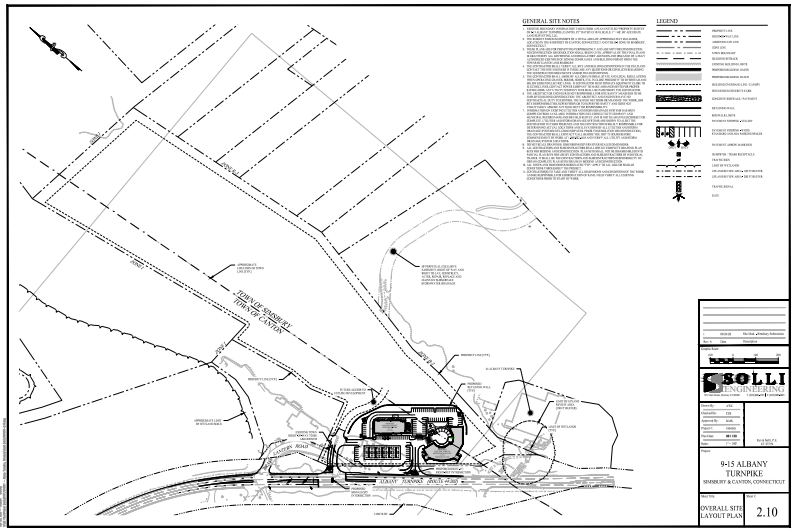


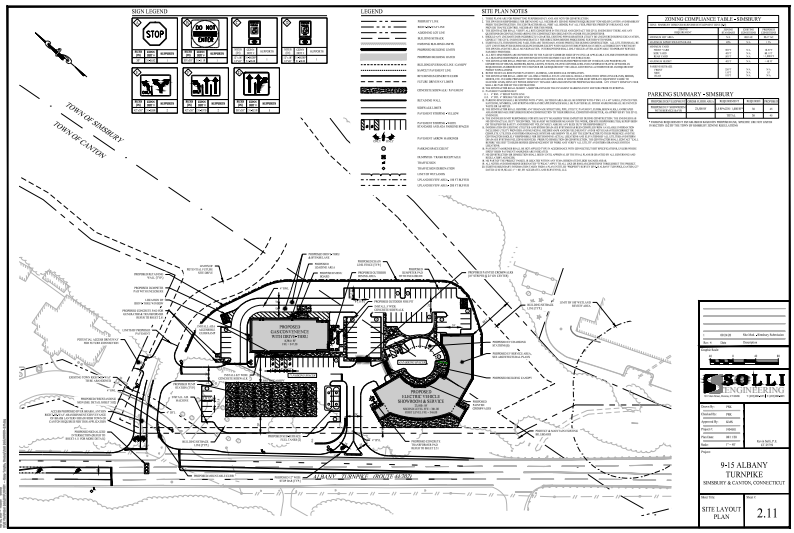
*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

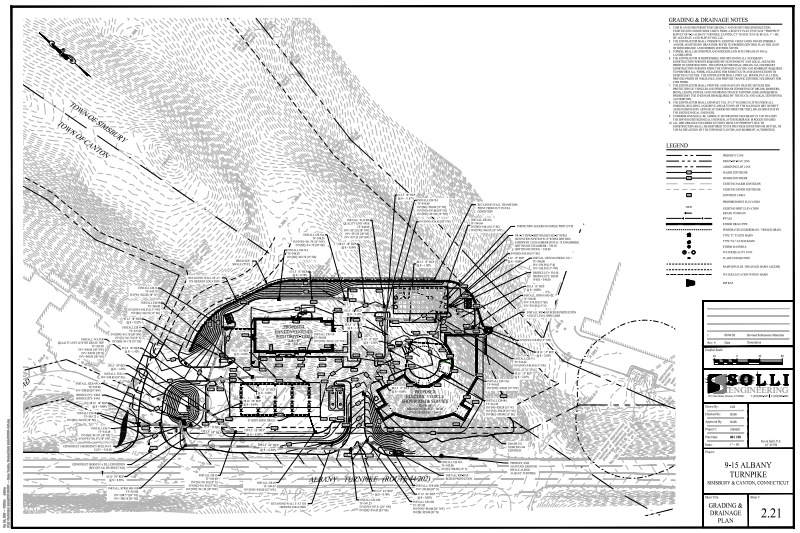


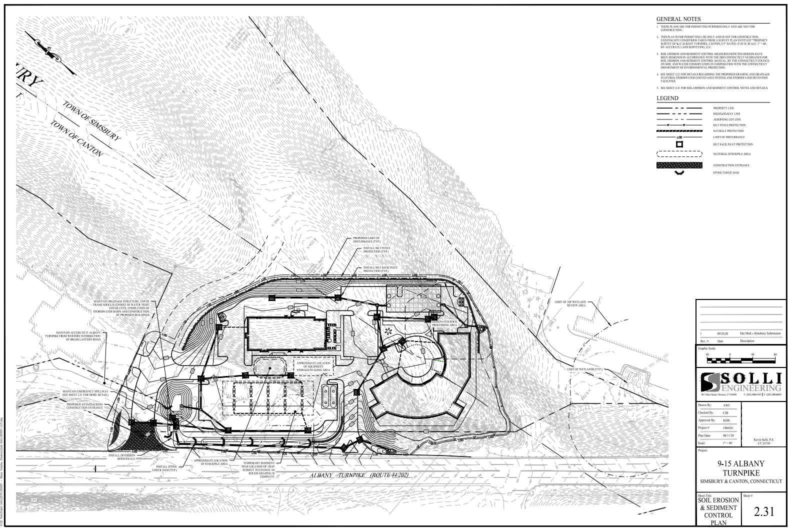


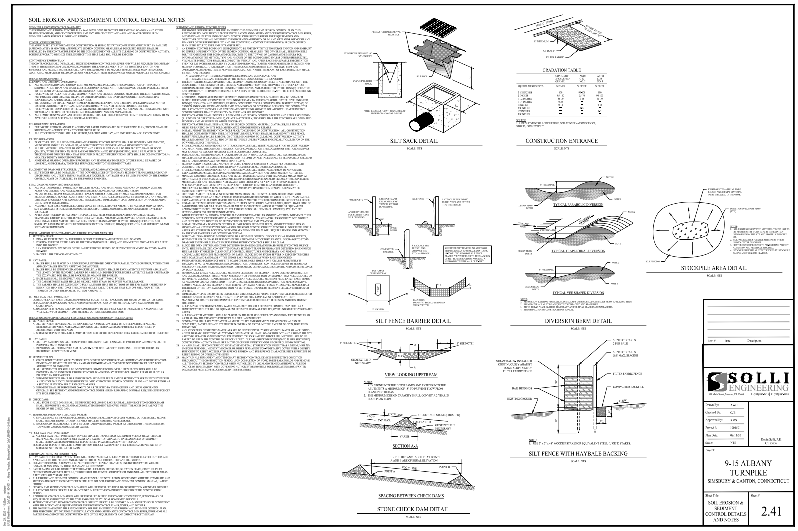

SITE
LOCATION MAP
MATCH LINE 1
LEGEND
PROPERTY SURVEY
OF
9-15 ALBANY TURNPIKE
CANTON, CONNECTICUT
ACCURATE
2 of 2

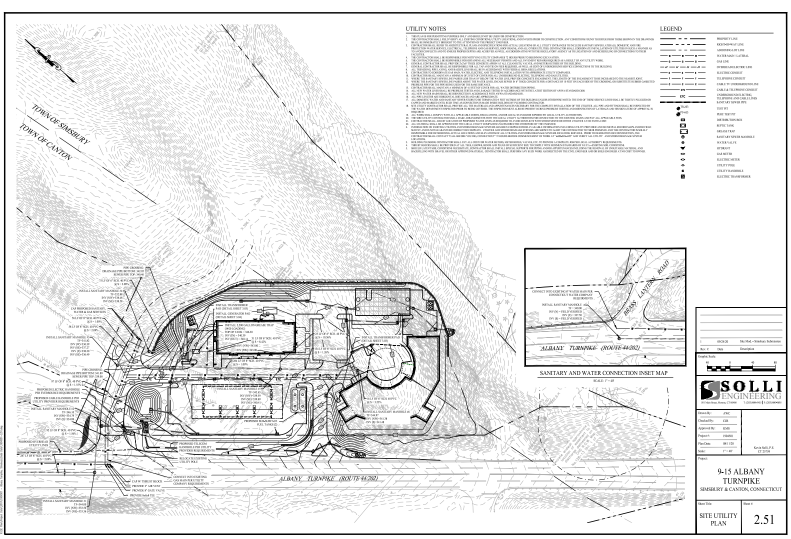

GENERAL SITE NOTES
LEGEND
TOWN OF SIMSBURY
TOWN OF CANTON
SOLLI
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
OVERALL SITE LAYOUT PLAN
2.10

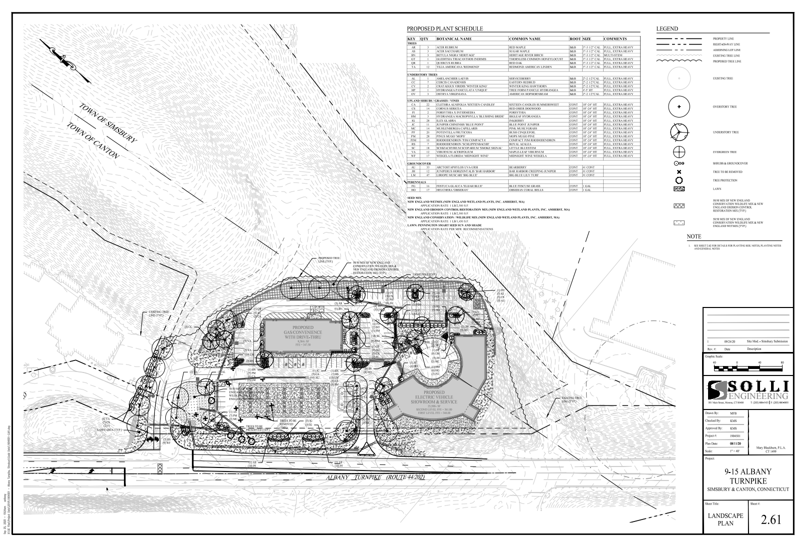

SIGN LEGEND
LEGEND
SITE PLAN NOTES
ZONING COMPLIANCE TABLE - SIMSBURY
PARKING SUMMARY - SIMSBURY
TOWN OF SIMSBURY
TOWN OF CANTON
ALBANY TURNPIKE (ROUTE 44)
SOLLI
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
SITE LAYOUT PLAN
2.11

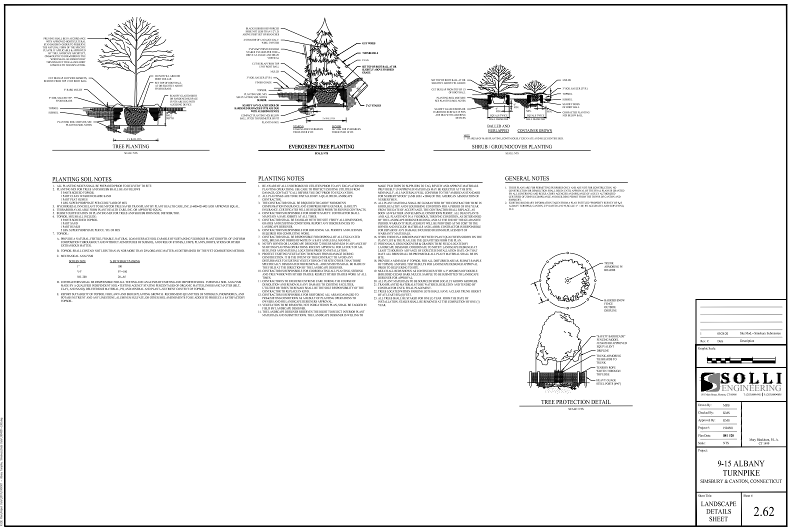

GRADING & DRAINAGE NOTES
LEGEND
TOWN OF SIMSBURY
TOWN OF CANTON
ALBANY TURNPIKE (ROUTE 44)
SOLLI
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
GRADING & DRAINAGE PLAN
2.21

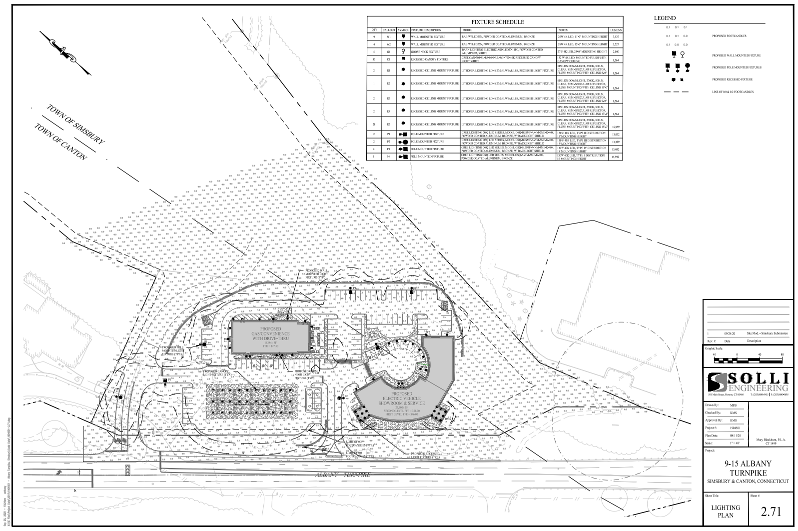

GENERAL NOTES
LEGEND
TOWN OF SIMSBURY
TOWN OF CANTON
ALBANY TURNPIKE (ROUTE 44/202)
1 09/24/20 Site Mod. - Simsbury Submission
Rev. #: Date Description
Graphic Scale:
SOLLI ENGINEERING
Drawn By: AWC
Checked By: CJB
Approved By: KMS
Project #: 1904501
Plan Date: 08/11/20
Scale: 1" = 40'
Kevin Solli, P.E.
CT 25759
Project:
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
Sheet Title:
SOIL EROSION & SEDIMENT CONTROL PLAN
Sheet #:
2.31


SOIL EROSION AND SEDIMENT CONTROL GENERAL NOTES
SILT SACK DETAIL
CONSTRUCTION ENTRANCE
GRADATION TABLE
SILT FENCE BARRIER DETAIL
DIVERSION BERM DETAIL
STOCKPILE AREA DETAIL
SCALE: NTS
STONE CHECK DAM DETAIL
SILT FENCE WITH HAYBALE BACKING
Rev. #: Date Description
SOLLI ENGINEERING
Drawn By: AWC
Checked By: CJB
Approved By: KMS
Project #: 1904501
Plan Date: 08/11/20
Scale: NTS
Kevin Solli, P.E.
CT 25759
Project:
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
Sheet Title:
SOIL EROSION & SEDIMENT CONTROL DETAILS AND NOTES
Sheet #:
2.41


UTILITY NOTES
LEGEND
TOWN OF SIMSBURY
TOWN OF CANTON
ALBANY TURNPIKE (ROUTE 44/202)
SANITARY AND WATER CONNECTION INSET MAP
1 09/24/20 Site Mod. - Simsbury Submission
Rev. #: Date Description
Graphic Scale:
SOLLI ENGINEERING
Drawn By: AWC
Checked By: CJB
Approved By: KMS
Project #: 1904501
Plan Date: 08/11/20
Scale: 1" = 40'
Kevin Solli, P.E.
CT 25759
Project:
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
Sheet Title:
SITE UTILITY PLAN
Sheet #:
2.51

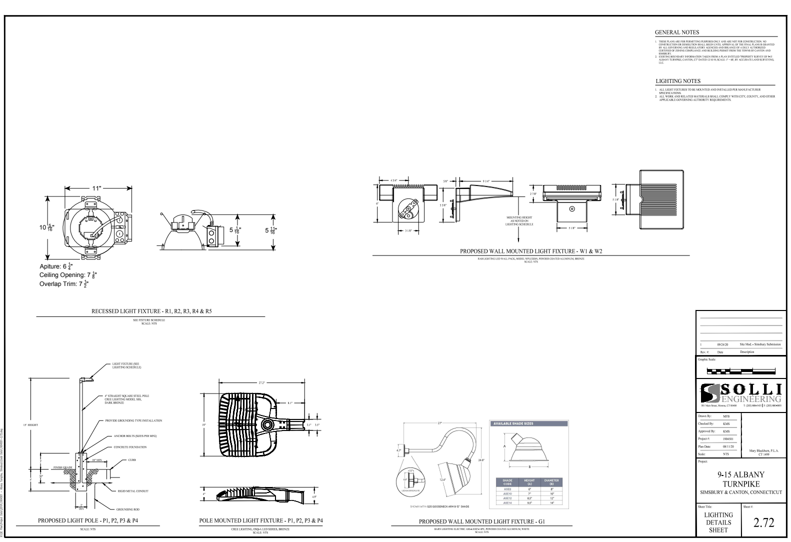

PROPOSED PLANT SCHEDULE
LEGEND
NOTE
1. SEE SHEET 2.62 FOR DETAILS FOR PLANTING SOIL NOTES, PLANTING NOTES AND GENERAL NOTES
TOWN OF SIMSBURY
TOWN OF CANTON
ALBANY TURNPIKE (ROUTE 44/202)
1 09/24/20 Site Mod. - Simsbury Submission
Rev. #: Date Description
Graphic Scale:
SOLLI ENGINEERING
Drawn By: MFB
Checked By: KMS
Approved By: KMS
Project #: 1904501
Plan Date: 08/11/20
Scale: 1" = 40'
Mary Blackburn, P.L.A.
CT 1499
Project:
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
Sheet Title:
LANDSCAPE PLAN
Sheet #:
2.61

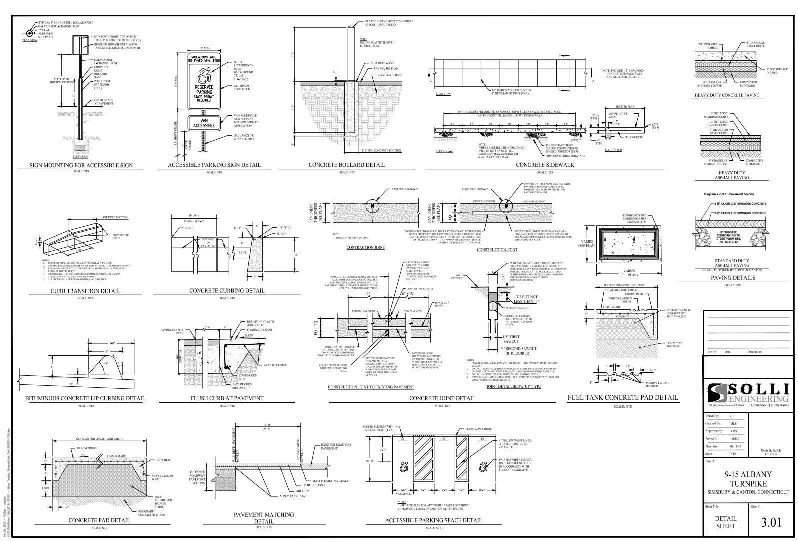


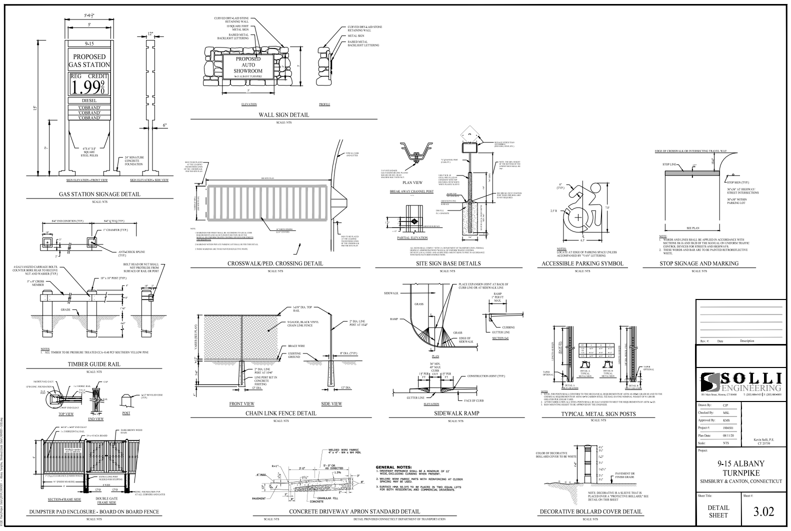


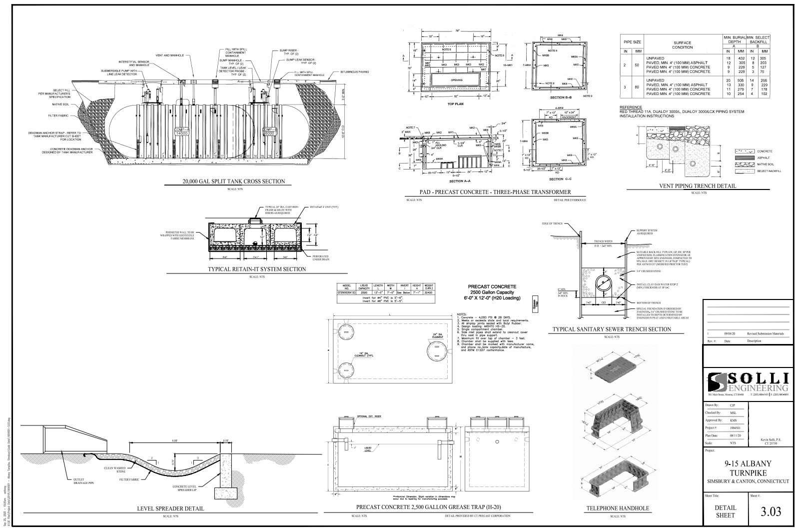
FIXTURE SCHEDULE

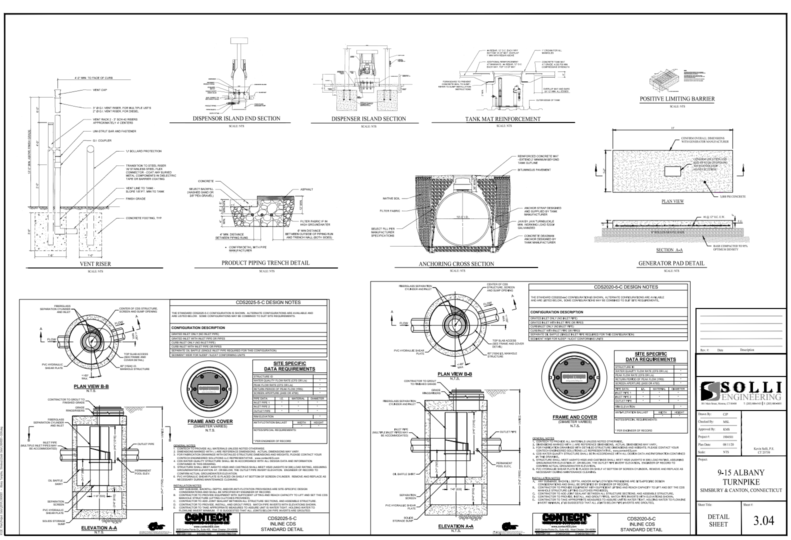
QTY	CALLOUT	SYMBOL	FIXTURE DESCRIPTION	MODEL	NOTES	LUMENS
9	W1		WALL MOUNTED FIXTURE	RAB WPLED26N, POWDER COATED ALUMINUM, BRONZE	26W 4K LED, 11'-0" MOUNTING HEIGHT	3,527
4	W2		WALL MOUNTED FIXTURE	RAB WPLED26N, POWDER COATED ALUMINUM, BRONZE	26W 4K LED, 15'-0" MOUNTING HEIGHT	3,527
5	G1		GOOSE NECK FIXTURE	BARN LIGHTING ELECTRIC ASE-LED27-14PC, POWDER COATED ALUMINUM, WHITE	27W 4K LED, 23'-0" MOUNTING HEIGHT	2,800
30	C1		RECESSED CANOPY FIXTURE	CREE CAN-304-SL-RS-06-E-UL-WH-700-40K RECESSED CANOPY LIGHT WHITE	132 W 4K LED, MOUNTED FLUSH WITH CANOPY CEILING	1,564
2	R1		RECESSED CEILING MOUNT FIXTURE	LITHONIA LIGHTING LDN6 27/05 L06AR LSS, RECESSED LIGHT FIXTURE	6IN LDN DOWNLIGHT, 2700K, 500LM, CLEAR, SEMI-SPECULAR REFLECTOR, FLUSH MOUNTING WITH CEILING 8'-0"	1,564
1	R2		RECESSED CEILING MOUNT FIXTURE	LITHONIA LIGHTING LDN6 27/05 L06AR LSS, RECESSED LIGHT FIXTURE	6IN LDN DOWNLIGHT, 2700K, 500LM, CLEAR, SEMI-SPECULAR REFLECTOR, FLUSH MOUNTING WITH CEILING 11'-0"	1,564
2	R3		RECESSED CEILING MOUNT FIXTURE	LITHONIA LIGHTING LDN6 27/05 L06AR LSS, RECESSED LIGHT FIXTURE	6IN LDN DOWNLIGHT, 2700K, 500LM, CLEAR, SEMI-SPECULAR REFLECTOR, FLUSH MOUNTING WITH CEILING 9'-0"	1,564
2	R4		RECESSED CEILING MOUNT FIXTURE	LITHONIA LIGHTING LDN6 27/05 L06AR LSS, RECESSED LIGHT FIXTURE	6IN LDN DOWNLIGHT, 2700K, 500LM, CLEAR, SEMI-SPECULAR REFLECTOR, FLUSH MOUNTING WITH CEILING 13'-4"	1,564
28	R5		RECESSED CEILING MOUNT FIXTURE	LITHONIA LIGHTING LDN6 27/05 L06AR LSS, RECESSED LIGHT FIXTURE	6IN LDN DOWNLIGHT, 2700K, 500LM, CLEAR, SEMI-SPECULAR REFLECTOR, FLUSH MOUNTING WITH CEILING 15'-0"	16,859
2	P1		POLE MOUNTED FIXTURE	CREE LIGHTING OSQ LED SERIES, MODEL OSQ-BLSMF-A-NM-2ME-K-40K, POWDER COATED ALUMINUM, BRONZE, W/ BACKLIGHT SHIELD	130W 40K LED, TYPE II DISTRIBUTION 15' MOUNTING HEIGHT	13,032
2	P2		POLE MOUNTED FIXTURE	CREE LIGHTING OSQ LED SERIES, MODEL OSQ-BLSMF-A-NM-3ME-K-40K, POWDER COATED ALUMINUM, BRONZE, W/ BACKLIGHT SHIELD	130W 40K LED, TYPE III DISTRIBUTION 15' MOUNTING HEIGHT	13,389
2	P3		POLE MOUNTED FIXTURE	CREE LIGHTING OSQ LED SERIES, MODEL OSQ-BLSMF-A-NM-4ME-K-40K, POWDER COATED ALUMINUM, BRONZE, W/ BACKLIGHT SHIELD	130W 40K LED, TYPE IV DISTRIBUTION 15' MOUNTING HEIGHT	13,032
1	P4		POLE MOUNTED FIXTURE	CREE LIGHTING OSQ LED SERIES, MODEL OSQ-A-NM-5ME-K-40K, POWDER COATED ALUMINUM, BRONZE	130W 40K LED, TYPE 5 DISTRIBUTION 15' MOUNTING HEIGHT	15,999

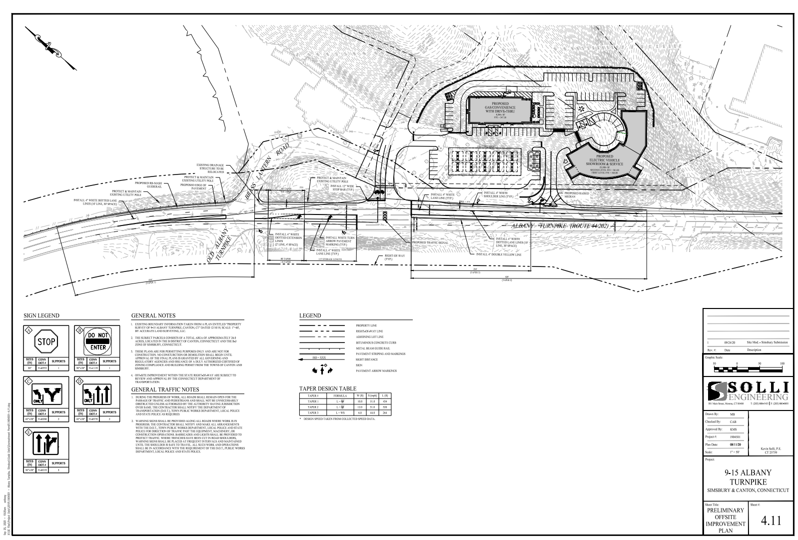




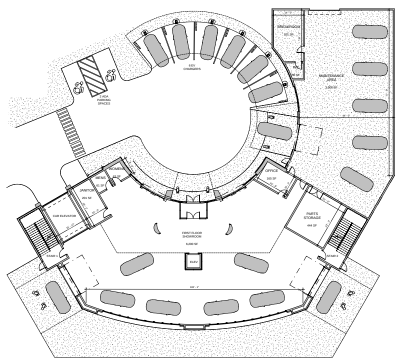

PROPOSED GAS STATION
1.99
GAS STATION SIGNAGE DETAIL
PROPOSED AUTO SHOWROOM
WALL SIGN DETAIL
CROSSWALK/PED. CROSSING DETAIL
SITE SIGN BASE DETAILS
ACCESSIBLE PARKING SYMBOL
STOP SIGNAGE AND MARKING
TIMBER GUIDE RAIL
CHAIN LINK FENCE DETAIL
SIDEWALK RAMP
TYPICAL METAL SIGN POSTS
DUMPSTER PAD ENCLOSURE - BOARD ON BOARD FENCE
CONCRETE DRIVEWAY APRON STANDARD DETAIL
DECORATIVE BOLLARD COVER DETAIL
SOLLI ENGINEERING
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
DETAIL SHEET
3.02


20,000 GAL SPLIT TANK CROSS SECTION
PAD - PRECAST CONCRETE - THREE-PHASE TRANSFORMER
VENT PIPING TRENCH DETAIL
TYPICAL RETAIN-IT SYSTEM SECTION
PRECAST CONCRETE
2500 Gallon Capacity
TYPICAL SANITARY SEWER TRENCH SECTION
LEVEL SPREADER DETAIL
PRECAST CONCRETE 2,500 GALLON GREASE TRAP (H-20)
TELEPHONE HANDHOLE
SOLLI ENGINEERING
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
DETAIL SHEET
3.03


DISPENSER ISLAND END SECTION
DISPENSER ISLAND SECTION
TANK MAT REINFORCEMENT
POSITIVE LIMITING BARRIER
VENT RISER
PRODUCT PIPING TRENCH DETAIL
ANCHORING CROSS SECTION
GENERATOR PAD DETAIL
CDS2020-5-C DESIGN NOTES
SITE SPECIFIC DATA REQUIREMENTS
FRAME AND COVER
PLAN VIEW B-B
ELEVATION A-A
CONTECH
CDS2020-5-C INLINE CDS STANDARD DETAIL
SOLLI ENGINEERING
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
DETAIL SHEET
3.04

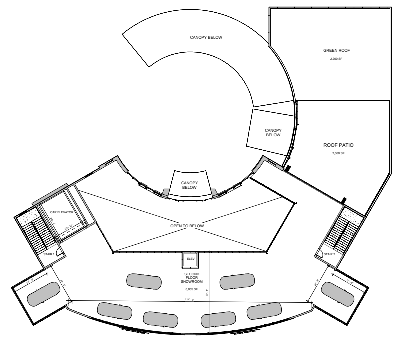

ALBANY TURNPIKE (ROUTE 44/202)
SIGN LEGEND
STOP
DO NOT ENTER
GENERAL NOTES
GENERAL TRAFFIC NOTES
LEGEND
TAPER DESIGN TABLE
SOLLI ENGINEERING
9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CONNECTICUT
PRELIMINARY OFFSITE IMPROVEMENT PLAN
4.11

GROSS FLOOR AREA	13,400 SF
FIRST FLOOR AREA BREAKDOWN	
TOTAL SALES AREA	6,690 SF
FIRST FLOOR SHOWROOM	6,200 SF
MENS RESTROOM	61 SF
WOMENS RESTROOM	63 SF
JANITOR	201 SF
OFFICE	165 SF
TOTAL MAINTENANCE AREA	4,721 SF
PARTS STORAGE	444 SF
MAINTENANCE AREA	3,906 SF
BREAKROOM	321 SF
BREAKROOM WC	50 SF
SECOND FLOOR AREA BREAKDOWN	
TOTAL SALES AREA	8,060 SF
SECOND FLOOR SHOWROOM	6,005 SF
ROOF PATIO	2,060 SF
TOTAL SALES AREA	14,750 SF
TOTAL MAINTENANCE AREA	4,721 SF
OVERALL TOTAL	19,471 SF



CAR SHOWROOM AND MAINTENANCE BUILDING

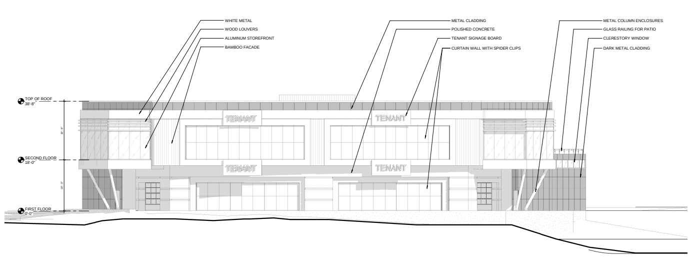
CANTON
9.24.2020
PROPOSED FIRST FLOOR PLAN



CAR SHOWROOM AND MAINTENANCE BUILDING

CANTON
9.24.2020
PROPOSED SECOND FLOOR PLAN

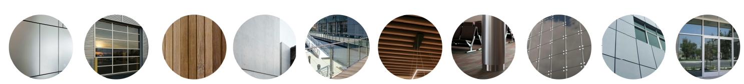
SAMPLE MATERIAL IMAGES FOR REFERENCE



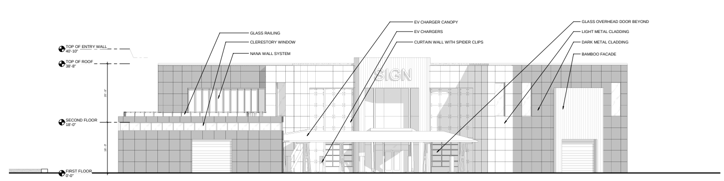
CAR SHOWROOM AND MAINTENANCE BUILDING

CANTON
9.24.2020
EXTERIOR ELEVATION I

9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CT



SAMPLE MATERIAL IMAGES FOR REFERENCE

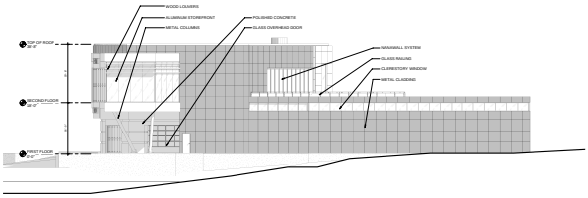


CAR SHOWROOM AND MAINTENANCE BUILDING

CANTON
9.24.2020
EXTERIOR ELEVATION II

9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CT

SAMPLE MATERIAL IMAGES FOR REFERENCE



CAR SHOWROOM AND MAINTENANCE BUILDING

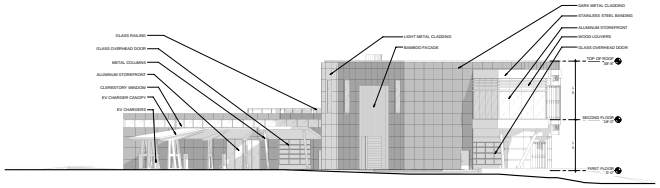
CANTON

9.24.2020

EXTERIOR ELEVATION III

9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CT

SAMPLE MATERIAL IMAGES FOR REFERENCE



CAR SHOWROOM AND MAINTENANCE BUILDING

CANTON

9.24.2020

EXTERIOR ELEVATION IV

9-15 ALBANY TURNPIKE
SIMSBURY & CANTON, CT