May 6, 2025

Peter Stith, AICP, Planning Manager
Portsmouth Planning & Sustainability Department
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

SUBJECT: TAC Workshop
Proposed Workforce Housing Development
126 Lang Road (Tax Map 291 Lot 1-1)

Dear Mr. Stith,

On behalf of Service Credit Union (SCU), the owner, and Preservation of Affordable Housing (POAH), the developer of Phase 1, McClure has applied for the May 15th TAC Workshop for Phase 1 only of the Workforce Housing Development for 126 Lang Road.

SCU and POAH's vision is to create affordable, desirable housing to serve the community as the cost of living continues to rise. The wish is to provide housing opportunities for members of the workforce including our teachers, firefighters, police officers, small business owners, artists, chefs, caregivers, and bankers to name a few. A master plan of the site has been created which includes approximately 170 workforce housing units, 30 workforce/veteran housing units, a potential non-profit daycare facility, and 35 market rate townhouses which will be used to subsidize the affordability of the entire development.

The development will be separated into two applications, which will be described as "phases" below. For the first phase, POAH is proposing two, 70-unit workforce housing apartment buildings with associated utilities and parking. Special attention has been given to providing community space with a shared concrete courtyard at the building entrances, smaller concrete patio areas for smaller gatherings adjacent to the buildings, and a common green area for more gathering and recreational activities. Stone dust paths will connect the buildings with natural walking paths that are proposed to be constructed in the initial stages of phase 2. A Conditional Use Permit will be required to allow more than 24 units within an apartment building and modifications will need to be provided for building length and setbacks per building height. The Conditional Use and modifications will be required to make the cost of the workforce housing feasible.

The second phase will consist of a 30-unit workforce housing building to the north; a 30-unit workforce/veteran housing building to the south with a potential first floor, non-profit, daycare facility; and 35 market rate townhouses along a private road from Longmeadow to Lang Road. A new sidewalk will be constructed along the new private road that will connect each of the residential areas. A Conditional Use Permit will be required to allow disturbances within the Wetland Protection Area.

25 New Hampshire Ave, Suite 255, Portsmouth, New Hampshire 03801
P 603.766.0435 | mcclurevision.com

The intent is to apply for this year's Low-Income Housing Credit (LIHTC) for Phase 1; therefore, we are requesting to separate the timelines of the two applications. The LIHTC application process requires obtaining state and local planning permits by the end of September. Since no Wetland Protection area disturbances are requested in phase 2, we are hoping to permit Phase 1 with the site plan application submission for phase 2 following shortly after.

If you have any questions or comments, please feel free to contact me by email at nduquette@mcclurevision.com or by phone at 207-370-0948.

Sincerely,

Nicole Duquette

Nicole Duquette, P.E., LEED AP
Senior Project Manager

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P 603.766.0435 | mcclurevision.com

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AUTHORIZATION OF THE SERVICE CREDIT UNION
126 LAND ROAD

I, David Weed, duly authorized vice president of Service Credit Union, applicant, hereby authorize representatives of Donahue, Tucker & Ciandella, PLLC, McClure Engineering, Inc., and the Preservation of Affordable Housing to represent the company's interests before the Portsmouth land use boards and to submit any and all applications and materials related thereto on its behalf.

Date: 5/2/2025 | 5:16 AM PDT

David Weed

David Weed, Asst. Vice President
Service Credit Union

LONGMEADOW COMMONS
SITE DEVELOPMENT PLANS
LOCATED IN:
126 LANG ROAD
PORTSMOUTH, ROCKINGHAM COUNTY, NEW HAMPSHIRE

PREPARED FOR:
PRESERVATION OF AFFORDABLE HOUSING
2 OLIVER STREET
BOSTON, MASSACHUSETTS 02109

UTILITY CONTACTS

EVERSOURCE
1700 LAFAYETTE ROAD
PORTSMOUTH, NH 03801
PHONE: (800) 662-7764

UNITIL
325 WEST ROAD
PORTSMOUTH, NH 03801
PHONE: (888) 301-7700

CITY OF PORTSMOUTH WATER DIVISION
680 PEVERLY HILL ROAD
PORTSMOUTH, NH 03801
PHONE: (603) 427-1530

CITY OF PORTSMOUTH SEWER DIVISION
680 PEVERLY HILL ROAD
PORTSMOUTH, NH 03801
PHONE: (603) 427-1530

CITY OF PORTSMOUTH PUBLIC WORKS
680 PEVERLY HILL ROAD
PORTSMOUTH, NH 03801
PHONE: (603) 427-1530

CONTACTS

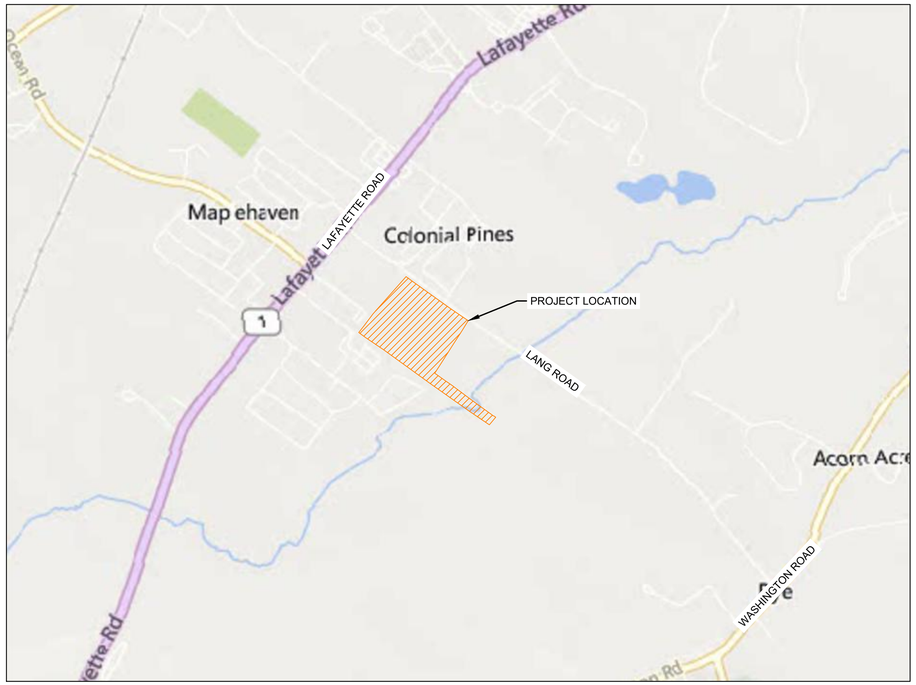
OWNER:
SERVICE CREDIT UNION
3003 LAFAYETTE RD
PORTSMOUTH, NH 03801

DEVELOPER:
PRESERVATION OF AFFORDABLE HOUSING (POAH)
2 OLIVER STREET, SUITE 500
BOSTON, MA 03106

ENGINEER:
MCCLURE
25 NEW HAMPSHIRE AVENUE, SUITE 255
PORTSMOUTH, NH 03801
PHONE: 603-766-0435
CONTACT: NICOLE DUQUETTE

SURVEYOR:
MCCLURE
25 NEW HAMPSHIRE AVENUE, SUITE 255
PORTSMOUTH, NH 03801
PHONE: 603-766-0435

ARCHITECT:
PROCON
1359 HOOKSETT ROAD
HOOKSETT, NH 03106



SITE LOCATION MAP
SCALE: 1" = 1000'

811 DigSafe MA-ME-NH-RI-VT

SHEET LIST TABLE	
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Suite 255
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P 603-766-0435

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North Kansas City,MO
Lenexa, KS
Portsmouth, NH | Boston, MA

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STATE OF NEW HAMPSHIRE
NICOLE J. DUQUETTE
No.17179
LICENSED PROFESSIONAL ENGINEER

REVISIONS

PROJECT INFO
2024002213
MAY 6, 2025

ENGINEER	DRAWN BY	CHECKED BY
N. DUQUETTE	B. RICHARDS	N. DUQUETTE

LONGMEADOW COMMONS
126 LANG ROAD
PORTSMOUTH, NH 03801

COVER SHEET

P:\2024001787\04-DRAWINGS\DWG\PLANS\24-1787_COVER SHEET.DWG

DRAWING NO.
C001

GENERAL NOTES:

1. ALL CONSTRUCTION OPERATIONS MUST BE ACCOMPLISHED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS FOR THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
2. THE CONTRACTOR SHALL COORDINATE WITH APPROPRIATE UTILITY COMPANIES PRIOR TO CONSTRUCTION ADJUSTMENTS OR RELOCATION OF EXISTING UTILITIES.
3. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING SITE FEATURES DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO DRAINAGE STRUCTURES, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
4. THE CONTRACTOR SHALL PROTECT ALL BENCHMARKS AND PROPERTY MONUMENTATION AND SHALL REPLACE OR REPAIR, AT HIS/HER OWN EXPENSE. BENCHMARKS AND MONUMENTATION DISTURBED DURING CONSTRUCTION.
5. IF THE CONTRACTOR RELOCATES OR SETS NEW BENCHMARKS, THE VERTICAL ELEVATION OF THE BENCHMARKS SHALL BE SET WITHIN A TOLERANCE OF 0.010 FEET.
6. ALL STRIPING, PAVEMENT MARKINGS, AND TRAFFIC SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, UNLESS OTHERWISE NOTED ON THE PLANS.
7. THE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH OCCUR DUE TO HIS/HER FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES. CONTRACTOR SHALL LOCATE ALL UTILITIES, PUBLIC AND PRIVATE, PRIOR TO COMMENCING ANY WORK.

SITE PLAN NOTES:

1. TAX MAP 291 LOT 1-1
2. ZONING DISTRICT: GATEWAY NEIGHBORHOOD MIXED USE DISTRICT (G1)
3. LOT AREA = 26.71 ACRES
4. EXISTING USE: VACANT, FORMERLY RALPH'S TRUCKING
   PROPOSED USE: 140 WORKFORCE HOUSING UNITS
5. ALL BUILDING AND SITE CONSTRUCTION SHALL COMPLY WITH THE RULES AND REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT (ADA).
6. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN PLANS AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR.
7. THE CONTRACTOR SHALL HAVE A VALID DIGSAFE TICKET FOR THE DURATION OF CONSTRUCTION.
8. ALL CONSTRUCTION SHALL CONFORM TO THE APPLICABLE REGULATIONS AND STANDARDS OF THE CITY OF PORTSMOUTH AND THE STATE OF NEW HAMPSHIRE.
9. THE DEVELOPMENT AREA OF THE SITE IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA (100 YEAR FLOOD) PER FLOOD INSURANCE RATE MAP NUMBER 33015C0270F, WITH AN EFFECTIVE DATE OF X1/29/2021.
10. ALL CONSTRUCTION SHALL CONFORM TO THESE PLANS AND THE STANDARD CONSTRUCTION DRAWINGS AS SUPPLIED BY THE DEVELOPER
11. A SIGN PERMIT SHALL BE OBTAINED PRIOR TO INSTULATION.
12. PROPOSED SNOW STORAGE AREAS AS SHOWN. ANY EXCESS SNOW SHALL BE TRUCKED OFF-SITE.
13. THE CONTRACOTR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THE PLANS DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING THE SAFETY OF THE CONSTRUCTION, CONTRACOTR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF WORK. THE SEAL OF THE SURVEYOR AND/OR ENGINEER AS INCLUDED IN THE PLAN SET DOES NOT EXTEND TO ANY SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE AND/OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.
14. APPROPRIATE EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE INITIATION OF ANY SITE WORK & SHALL BE MAINTAINED BY THE DEVELOPER UNTIL ADEQUATE VEGETATIVE COVER IS ESTABLISHED ON ALL GRADED AREAS. SEE EROSION CONTROL PLAN.
15. A CONDITIONAL USE PERMIT IS REQUIRED FROM THE PORTSMOUTH PLANNING BOARD TO ALLOW A BUILDING WITH GREATER THAN 24 UBNITS. THE FOLLOWING MODIFICATIONS ARE REQUESTED AS PART OF THE CUP:
    - BUILDING LENGTH INCREASE
    - BUILDING SETBACK REDUCTION FOR A 50 FT BUILDING
16. ALL CONDITIONS OF THIS PLANSHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
17. STATE PERMITS REQUIRED:
    - NHDES ALTERATION OF TERRAIN PERMIT
    - USEPA NPDES CONSTRUCTION GENERAL PERMIT

DEMOLITION NOTES:

1. PRIOR TO COMMENCING ANY WORK, SECURE THE NECESSARY DEMOLITION PERMIT FROM THE CITY OF PORTSMOUTH.
2. ALL DEMOLITION ACTIVITIES MUST STRICTLY COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
3. CLEARLY MARK THE BOUNDARIES OF THE WORK AREA IN THE FIELD BEFORE STARTING CONSTRUCTION OR SITE CLEARING.
4. CONDUCT ALL DEMOLITION OPERATIONS IN A WAY THAT PREVENTS HARM TO INDIVIDUALS, DAMAGE TO STRUCTURES, AND ADJACENT PROPERTIES. THE USE OF EXPLOSIVES IS PROHIBITED WITHOUT THE PRIOR WRITTEN CONSENT OF BOTH THE DEVELOPER AND RELEVANT GOVERNMENTAL AUTHORITIES.
5. PERFORM THE DEMOLITION WORK IN A MANAGER THAT CONSISTENTLY PREVENTS UNAUTHORIZED ACCESS TO THE SITE.
6. ALL WORK PERFORMED WITHIN PUBLIC ROADWAY RIGHT-OF-WAY MUST ADHERE TO CITY STANDARDS.
7. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING DIG SAFE (811) AT LEAST 72 HOURS BEFORE ANY EXCAVATION ON SITE. THE LOCAL WATER DEPARTMENT MUST ALSO BE NOTIFIED TO MARK THEIR UTILITIES.
8. COORDINATE ALL EXISTING UTILITY DISCONNECTIONS WITH THE RESPECTIVE UTILITY COMPANIES BEFORE STARTING WORK.
9. BEFORE DEMOLITION BEGINS, DISCONNECT, SHUT OFF, AND PROPERLY SEAL ALL UTILITIES SERVING THE STRUCTURE(S).
10. CLEARLY MARK THE POSITION OF ALL UTILITY DRAINAGE AND SANITARY LINES, AND ENSURE ALL ACTIVE LINES ARE PROTECTED.
11. IDENTIFY ALL REQUIRED INTERRUPTIONS OF ACTIVE UTILITY SYSTEMS THAT MAY AFFECT OTHERS BEFORE DEMOLITION AND NOTIFY ALL RELEVANT UTILITY COMPANIES TO MAINTAIN CONTINUOUS SERVICE WHERE NEEDED.
12. COMPLETELY FILL ALL BELOW-GRADE AREAS AND VOIDS RESULTING FROM DEMOLITION WITH SUITABLE SOIL MATERIALS (STONE, GRAVEL, SANDS) THAT ARE FREE OF DEBRIS, TRASH, FROZEN MATERIALS, ROOTS, AND OTHER ORGANIC MATTER.. STONES USED AS FILL SHALL NOT EXCEED 6 INCHES IN ANY DIMENSION. MATERIAL FROM THE DEMOLISHED STRUCTURE IS NOT PERMITTED FOR USE AS FILL. ENSURE FILL AREAS ARE FREE OF STANDING WATER, FROZEN MATERIAL, TRASH, AND DEBRIS BEFORE PLACING FILL. PLACE FILL IN LAYERS NO THICKER THAN 6 INCHES (LOOSE) AND COMPACT EAEA LAYER TO AT LEAST 95% OPTIMUM DENSITY. GRADE THE FINAL SURFACE TO MATCH ADJACENT CONTOURS AND ENSURE PROPER SURFACE DRAINAGE.
13. IMPLEMENT EROSION CONTROL DEVICES ACCORDING TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN BEFORE ANY DEMOLITION WORK BEGINS. EMPLOY WATERING, TEMPORARY ENCLOSURE, AND OTHER SUITABLE METHODS TO MINIMIZE DUST AND DIRT GENERATION AND DISPERSAL. CLEAN ANY DUST AND DEBRIS CAUSED BY DEMOLITION FROM ADJACENT STRUCTURES AND IMPROVEMENTS. RESTORE ALL ADJACENT AREAS TO THEIR PRE-WORK CONDITIONS.

GRADING & DRAINAGE NOTES:

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL DRAINAGE STRUCTURES, INCLUDING NYLOPLAST DRAIN BASINS (OR APPROVED EQUAL), TO THE CIVIL ENGINEER FOR REVIEW PRIOR TO ORDERING.
2. ALL SITE DRAINAGE PIPE SHALL BE CORRUGATED HIGH-DENSITY DUAL-WALL, SMOOTH INTERIOR POLYETHYLENE PIPE WITH STANDARD JOINTS, AS MANUFACTURED BY ADS, INC., OR APPROVED EQUAL.
3. ALL PROPOSED CATCH BASINS SHALL HAVE 4' SUMPS AND OUTLETS FITTED WITH "ELIMINATOR" HOODS, OR APPROVED EQUAL.
4. THE NORTHING AND EASTING COORDINATES ON THE PLANS INDICATE THE CENTER POINT OF A STRUCTURE OR CLEANOUT RISER, OR THE POINT ON A FITTING WHERE THE PIPE CENTERLINES INTERSECT. THE COORDINATE FOR A FLARED END SECTION IS AT THE MIDPOINT OF THE OUTFLOW END.

UTILITY NOTES:

1. CONTRACTOR SHALL CALL, NOTIFY, AND COORDINATE WITH DIG-SAFE (1-888-344-7233) PRIOR TO COMMENCING ANY EXCAVATION.
2. AN ATTEMPT HAS BEEN MADE TO LOCATE ALL UTILITY MANHOLES, METER COVERS, AND OTHER SUCH UTILITY ITEMS FROM SURVEY INFORMATION. UNDERGROUND UTILITY LINES AND STRUCTURES SHOWN ARE PER RECORDS MADE AVAILABLE BY THE OWNER, UTILITY COMPANY OR MUNICIPALITY, AND BY FIELD OBSERVATION WHERE POSSIBLE. ALL MUNICIPALITIES AND UTILITY COMPANIES SHOULD BE NOTIFIED BY CONTRACTOR FOR FIELD LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES, INCLUDING SERVICE LINES PRIOR TO CONSTRUCTION.
3. LOCATION OF UTILITIES IS NOT GUARANTEED AND THE CONTRACTOR SHALL USE EXTREME CAUTION DURING EXCAVATION, USING HAND EXCAVATION AS NECESSARY TO LOCATE AND PROTECT UTILITY LINES. CONTRACTOR TO NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCIES IN UTILITIES OR THEIR LOCATIONS.
4. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF THE UTILITY COVERS WITHIN THE PROJECT LIMITS AND ADJUST THOSE ITEMS TO BE AT THE FINISHED GRADES IN EITHER THE SIDEWALK OR PAVEMENT AREAS WITHOUT ADDITIONAL COST TO THE OWNER. THE RELOCATION OF SUCH ITEMS SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
5. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL INFORMATION SHOWN ON PLANS.
6. REPAIR OF UTILITY LINES DAMAGED BY THE CONTRACTOR SHALL BE AT THE CONTRACTOR'S EXPENSE.
7. PROPER COORDINATION WITH THE RESPECTIVE UTILITY COMPANIES SHALL BE PERFORMED BY THE CONTRACTOR TO INSURE THAT ALL UTILITY COMPANY, LOCAL MUNICIPALITY AND LOCAL COUNTY STANDARDS FOR MATERIALS AND CONSTRUCTION METHODS ARE MET.
8. THE CONTRACTOR SHALL ARRANGE FOR AND COORDINATE WITH THE RESPECTIVE UTILITY COMPANIES FOR SERVICE INSTALLATIONS AND CONNECTIONS AND MAIN SERVICE RELOCATIONS. THE CONTRACTOR SHALL COORDINATE THE WORK TO BE PERFORMED BY THE VARIOUS UTILITY COMPANIES AND SECURE ALL PERMITS AND PAY ALL FEES FOR CONNECTIONS, DISCONNECTIONS, RELOCATIONS, INSPECTIONS AND DEMOLITION AS NECESSARY
9. ALL UTILITY CONSTRUCTION IS SUBJECT TO INSPECTION PRIOR TO APPROVAL FOR BACKFILL IN ACCORDANCE WITH THE APPROPRIATE UTILITY COMPANY, LOCAL MUNICIPALITY AND/OR LOCAL COUNTY REQUIREMENTS.
10. IN THE EVENT OF CONFLICT OF ANY REQUIREMENTS OR PROVISIONS OF THE WORK INDICATED HEREIN, MCCLURE SHALL BE NOTIFIED IMMEDIATELY FOR A DETERMINATION OF THE PLAN REQUIREMENTS AND INTENT THEREOF.
11. SEE THE MECHANICAL, ELECTRICAL AND PLUMBING SITE PLAN(S) FOR ADDITIONAL SITE UTILITIES AND SITE LIGHTNING.

McCLURE™
25 New Hampshire Avenue
Suite 255
Portsmouth, NH 03801
P 603-766-0435

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Cedar Rapids,IA | Clive,IA
Coralville,IA | Council Bluffs,IA
Fort Dodge,IA | Sioux City,IA
Columbia,MO | Macon,MO
North Kansas City,MO
Lenexa, KS
Portsmouth, NH | Boston, MA

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STATE OF NEW HAMPSHIRE
NICOLE L DUQUETTE No.17179
LICENSED PROFESSIONAL ENGINEER

REVISIONS

PROJECT INFO
2024002213
MAY 6, 2025

ENGINEER	DRAWN BY	CHECKED BY
N. DUQUETTE	B. RICHARDS	N. DUQUETTE

LONGMEADOW COMMONS
126 LANG ROAD
PORTSMOUTH, NH 03801

GENERAL NOTES

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DRAWING NO.
C002

GENERAL NOTES

1. HORIZONTAL DATUM IS BASED ON NORTH AMERICAN DATUM OF 1983(NAD83) NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM ZONE 2800.
2. VERTICAL DATUM IS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988(NAVD88) AND WAS OBTAINED FROM REDUNDANT GPS OBSERVATIONS IN NOVEMBER 2024.
3. WETLANDS SHOWN HEREON WERE DELINEATED BY GOVE ENVIRONMENTAL SERVICES NOVEMBER 2024 AND LOCATED BY MCCLURE ENGINEERING CO. NOVEMBER 2024. TAX MAP 291, LOT 1-2 WAS NOT DELINEATED AT THE TIME OF THIS SURVEY.
4. UTILITIES SHOWN HEREON ARE BASED ON ABOVE GROUND EVIDENCE AND PLANS REFERENCED. MCCLURE TAKES NO RESPONSIBILITY FOR THE LOCATION OF SAID UTILITIES, AS SHOWN HEREON.
5. BY GRAPHIC PLOTTING ONLY, THE PARCEL SHOWN HEREON LIES WITHIN ZONE X AND ZONE A FLOOD HAZARD AREAS, AS SHOWN ON THE (F.E.M.A.)FEDERAL EMERGENCY MANAGEMENT AGENCY) (F.I.R.M.)FLOOD INSURANCE RATE MAP 33015C0270F, WITH AN EFFECTIVE DATE OF JANUARY 29, 2021.

BENCHMARK NOTES:

1. MAGNAIL SET IN PAVEMENT AT INTERSECTION OF LANG ROAD & LONGMEADOW ROAD, AS SHOWN HEREON. ELEVATION = 67.01
2. MAGNAIL SET IN PAVEMENT AT 90 DEGREE TURN OF LONGMEADOW ROAD, AS SHOWN HEREON. ELEVATION = 58.17

PLAN REFERENCES

1. "LOT LINE RELOCATION PLAN" BY MILLETTE, SPRAGUE & COLWELL, INC., DATED 9/02/99, AND RECORDED IN ROCKINGHAM COUNTY REGISTRY OF DEEDS PLAN D-27623.
2. "TOPOGRAPHIC PLAN OF TAX MAP 291, LOT 1-1, LANG ROAD, PORTSMOUTH, NH" BY DOUCET SURVEY INC., DATED DECEMBER 22, 2015, UNRECORDED.
3. "AS-BUILT PLAN FOR CITY OF PORTSMOUTH OF LONGMEADOW ROAD & LANG ROAD, PORTSMOUTH, NH" BY DOUCET SURVEY LLC DATED DECEMBER 20, 2020.
4. "SUBDIVISION PLAN OF SERVICE FEDERAL CREDIT UNION" BY DOUCET SURVEY LLC DATED 02/11/21, AND RECORDED IN ROCKINGHAM COUNTY REGISTRY OF DEEDS PLAN D-42707.

EXISTING SURVEY LEGEND

LINEWORK

- DRAINAGE
- WATER
- UNDERGROUND ELECTRIC
- OVERHEAD ELECTRIC
- INTERMEDIATE CONTOUR (2')
- INDEX CONTOUR (10')
- PROPERTY LINE
- RIGHT OF WAY
- SECTION LINE
- EASEMENT
- GUARD RAIL
- FIELD FENCE
- CHAIN LINK FENCE
- WOODEN FENCE

TYPICAL HATCHING

- WETLANDS
- LEDGE

ABBREVIATIONS

BM	BENCHMARK
RIM	ELEVATION AT RIM
W/	WITH
TYP	TYPICAL
CB	CATCH BASIN
SMH	SEWER MANHOLE
DMH	DRAINAGE MANHOLE
CI	CAST IRON PIPE
DI	DUCTILE IRON PIPE
CMP	CORRUGATED METAL PIPE
HDPE	HIGH-DENSITY POLYETHYLENE PIPE
VCP	VITRIFIED CLAY PIPE
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
UTM	UNABLE TO MEASURE
IP	IRON PIN OR PIPE
IR	IRON ROD
DH	DRILL HOLE
F	FOUND
TBS	TO BE SET

GENERAL SITE FEATURES

- BOLLARD
- FLAGPOLE
- FLOOD LIGHT
- GUY WIRE
- MB MAILBOX
- SIGN- DOUBLE POST
- SIGN- SINGLE POST
- SOILBORE
- WETLAND FLAG
- STREET LIGHT
- UTILITY POLE
- UTILITY POLE W/STREET LIGHT
- UNKNOWN MANHOLE

MONUMENTS

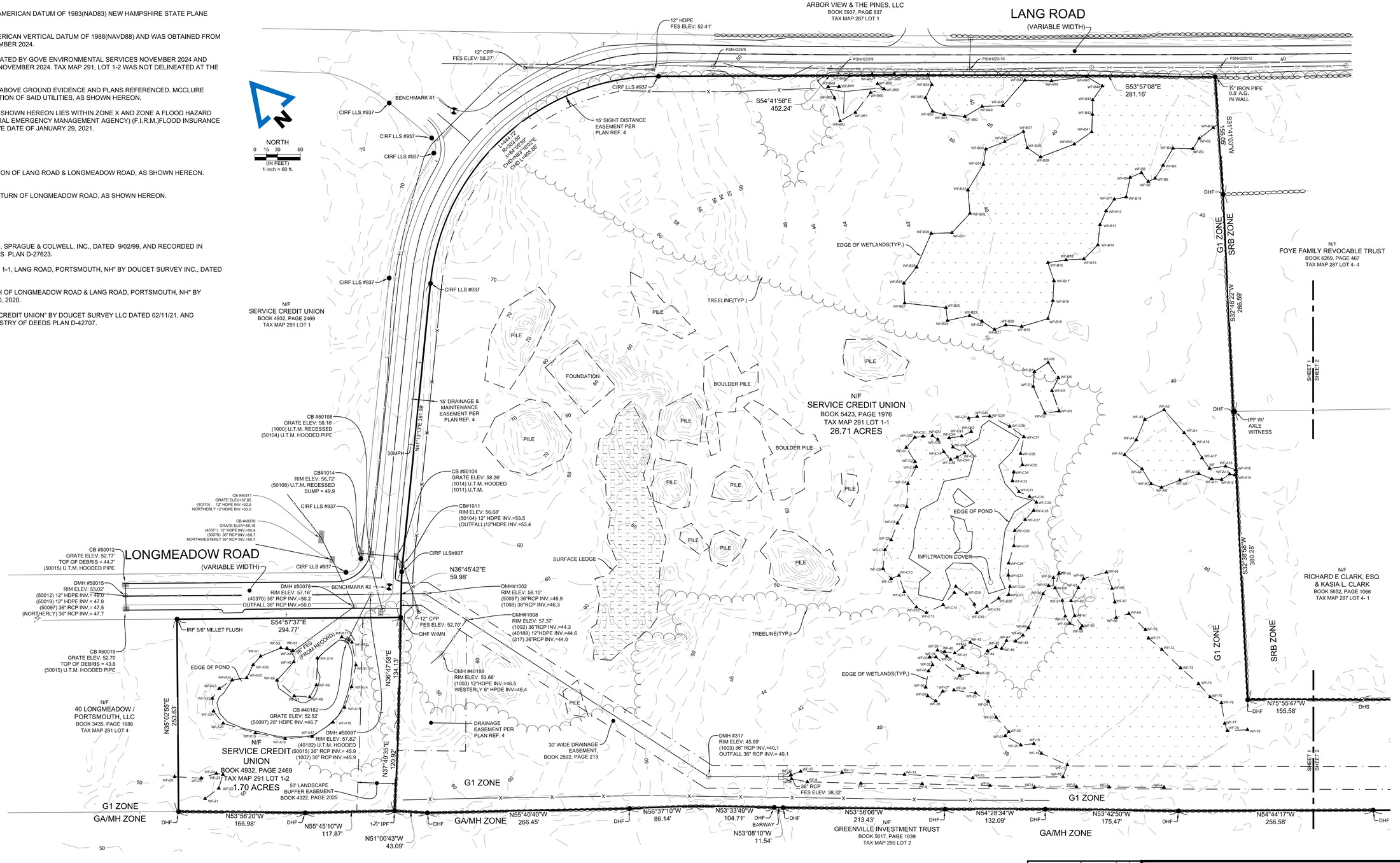
- BENCHMARK
- IRON PIPE, IRON ROD OR DRILL HOLE, AS NOTED

STORM SEWER

- BEEHIVE INTAKE (SIZE VARIES)
- FLARED END SECTION (SIZE VARIES)
- CATCH BASIN
- STAND PIPE
- DRAINAGE CLEANOUT
- DRAINAGE MANHOLE
- OPEN SIDED AREA INTAKE (SIZE VARIES)

WATER

- CURB STOP
- FIRE HYDRANT
- IRRIGATION VALVE
- MONITORING WELL
- POST INDICATOR VALVE
- WATER MANHOLE
- WATER VALVE
- WATER VALVE MANHOLE



ZONING INFORMATION

1. THE SUBJECT PARCEL LIES WITHIN THE CITY OF PORTSMOUTH G1(GATEWAY CORRIDOR) ZONING DISTRICT.
2. MINIMUM LOT SIZE : 10,000 SQUARE FEET
3. SETBACKS:
   - FRONT: VARIES PER USE
   - SIDE: VARIES PER USE
   - REAR: VARIES PER USE



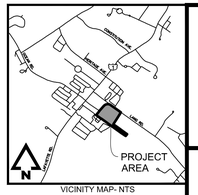
SURVEYOR'S CERTIFICATIONS:

LAN 503.04
I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION AND FALLS UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THE SURVEY WAS COMPLETED WITH A TRIMBLE RTK GPS (R12I AND R10) WITH A 95% CONFIDENCE LEVEL OF 0.05' + 1:10,000 OR GREATER.

RSA 676:16
"I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN."

DATE: 5/5/2025

JOHN D. GATHCHELL, JR, LLS #953



VICINITY MAP- NTS

EXISTING CONDITIONS PLAN

OF

126 LANG ROAD, PORTSMOUTH, NH

PREPARED FOR SERVICE CREDIT UNION

ENGINEER	DRAWN BY	REVISIONS
	DMS	-
SURVEYOR	CREW CHIEF	-
JDG	DMS	-
SHEET NO.		-
C003		-

2024006643
DECEMBER 2, 2024

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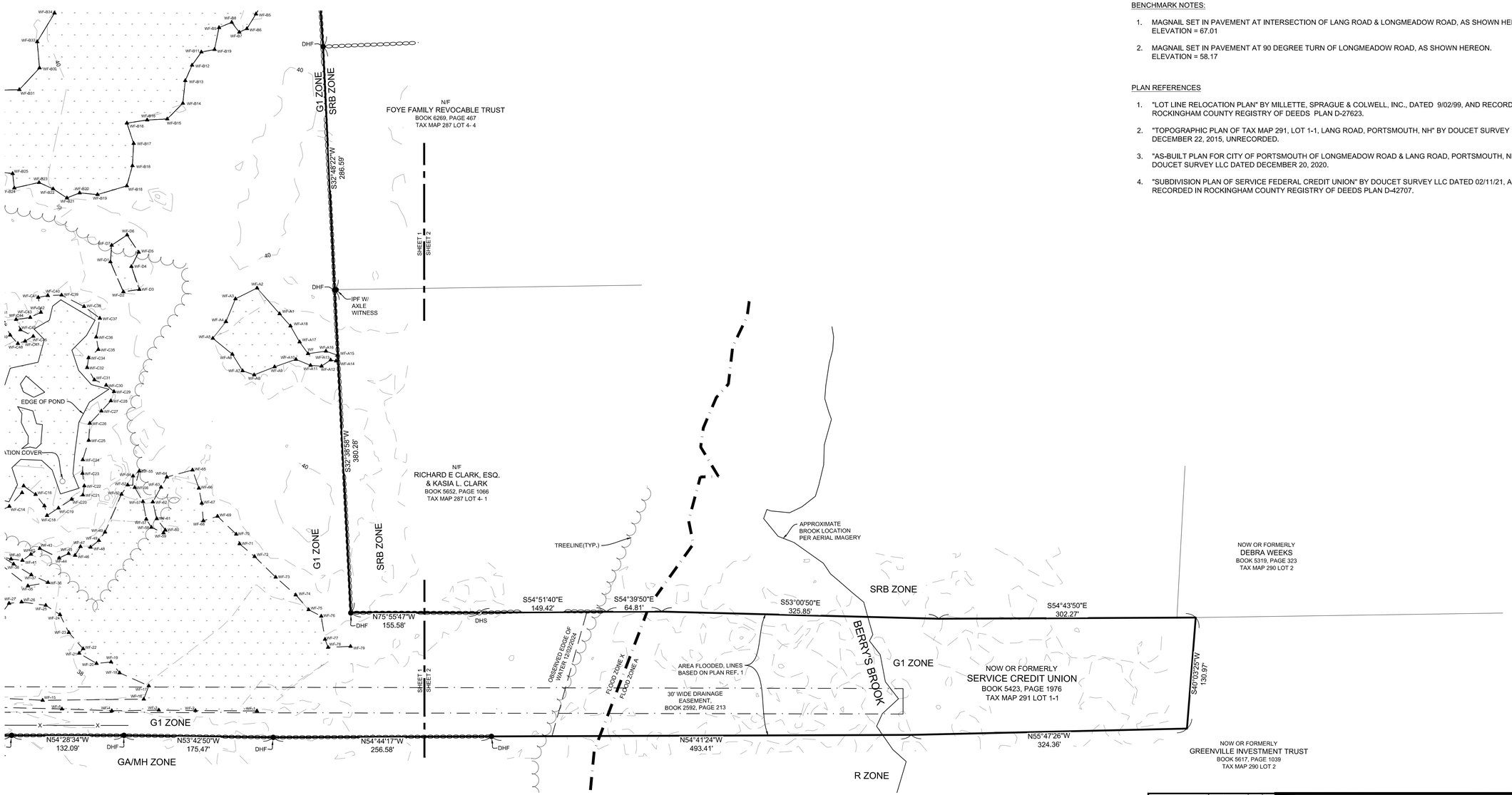
DRAWING PATH: P:\2024\2024006643\Dwg\Survey\2024006643 EXCS-126 Lang Road, Portsmouth, NH\04xDrawings\Survey\2024006643 EXCS-126 Lang Road, Portsmouth, NH.dwg PLOT DATE: 05/2/2025 10:05 AM PLOTTED BY: DAVE SHERMAN

NORTH
0 15 30 60
(IN FEET)
1 inch = 60 ft.



EXISTING SURVEY LEGEND

LINEWORK

- DRAINAGE
- WATER
- UNDERGROUND ELECTRIC
- OVERHEAD ELECTRIC
- INTERMEDIATE CONTOUR (2')
- INDEX CONTOUR (10')
- PROPERTY LINE
- RIGHT OF WAY
- SECTION LINE
- EASEMENT
- GUARD RAIL
- FIELD FENCE
- CHAIN LINK FENCE
- WOODEN FENCE

TYPICAL HATCHING

- WETLANDS
- LEDGE

ABBREVIATIONS

BM	BENCHMARK
RIM	ELEVATION AT RIM
W/	WITH
TYP	TYPICAL
CB	CATCH BASIN
SMH	SEWER MANHOLE
DMH	DRAINAGE MANHOLE
CI	CAST IRON PIPE
DI	DUCTILE IRON PIPE
CMP	CORRUGATED METAL PIPE
HDPE	HIGH-DENSITY POLYETHYLENE PIPE
VCP	VITRIFIED CLAY PIPE
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
UTM	UNABLE TO MEASURE
IP	IRON PIN PIPE
IR	IRON ROD
DH	DRILL HOLE
F	FOUND
TBS	TO BE SET

GENERAL SITE FEATURES

- BOLLARD
- FLAGPOLE
- FLOOD LIGHT
- GUY WIRE
- MB MAILBOX
- SIGN- DOUBLE POST
- SIGN- SINGLE POST
- SOILBORE
- WETLAND FLAG
- STREET LIGHT
- UTILITY POLE
- UTILITY POLE W/STREET LIGHT
- UNKNOWN MANHOLE

MONUMENTS

- BENCHMARK
- IRON PIPE, IRON ROD OR DRILL HOLE, AS NOTED

STORM SEWER

- BEEHIVE INTAKE (SIZE VARIES)
- FLARED END SECTION (SIZE VARIES)
- CATCH BASIN
- SP STAND PIPE
- DRAINAGE CLEANOUT
- DRAINAGE MANHOLE
- OPEN SIDED AREA INTAKE (SIZE VARIES)

WATER

- CURB STOP
- FIRE HYDRANT
- IRRIGATION VALVE
- MONITORING WELL
- POST INDICATOR VALVE
- WATER MANHOLE
- WATER VALVE
- WATER VALVE MANHOLE

ZONING INFORMATION

1. THE SUBJECT PARCEL LIES WITHIN THE CITY OF PORTSMOUTH G1(GATEWAY CORRIDOR) ZONING DISTRICT.

2. MINIMUM LOT SIZE : 10,000 SQUARE FEET

3. SETBACKS:
   FRONT: VARIES PER USE
   SIDE: VARIES PER USE
   REAR: VARIES PER USE

STATE OF NEW HAMPSHIRE — No. 953 JOHN D. GATCHELL JR. — LICENSED LAND SURVEYOR — SIGNATURE

GENERAL NOTES

1. HORIZONTAL DATUM IS BASED ON NORTH AMERICAN DATUM OF 1983(NAD83) NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM ZONE 2800.
2. VERTICAL DATUM IS BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988(NAVD88) AND WAS OBTAINED FROM REDUNDANT GPS OBSERVATIONS IN NOVEMBER 2024.
3. WETLANDS SHOWN HEREON WERE DELINEATED BY GOVE ENVIRONMENTAL SERVICES NOVEMBER 2024 AND LOCATED BY MCCLURE ENGINEERING CO. NOVEMBER 2024. TAX MAP 291, LOT 1-2 WAS NOT DELINEATED AT THE TIME OF THIS SURVEY.
4. UTILITIES SHOWN HEREON ARE BASED ON ABOVE GROUND EVIDENCE AND PLANS REFERENCED. MCCLURE TAKES NO RESPONSIBILITY FOR THE LOCATION OF SAID UTILITIES, AS SHOWN HEREON.
5. BY GRAPHIC PLOTTING ONLY, THE PARCEL SHOWN HEREON LIES WITHIN ZONE X AND ZONE A FLOOD HAZARD AREAS, AS SHOWN ON THE (F.E.M.A.)FEDERAL EMERGENCY MANAGEMENT AGENCY) (F.I.R.M.)FLOOD INSURANCE RATE MAP 33015C0270F, WITH AN EFFECTIVE DATE OF JANUARY 29, 2021.

BENCHMARK NOTES:

1. MAGNAIL SET IN PAVEMENT AT INTERSECTION OF LANG ROAD & LONGMEADOW ROAD, AS SHOWN HEREON. ELEVATION = 67.01
2. MAGNAIL SET IN PAVEMENT AT 90 DEGREE TURN OF LONGMEADOW ROAD, AS SHOWN HEREON. ELEVATION = 58.17

PLAN REFERENCES

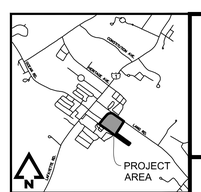
1. "LOT LINE RELOCATION PLAN" BY MILLETTE, SPRAGUE & COLWELL, INC., DATED 9/02/99, AND RECORDED IN ROCKINGHAM COUNTY REGISTRY OF DEEDS PLAN D-27623.
2. "TOPOGRAPHIC PLAN OF TAX MAP 291, LOT 1-1, LANG ROAD, PORTSMOUTH, NH" BY DOUCET SURVEY INC., DATED DECEMBER 22, 2015, UNRECORDED.
3. "AS-BUILT PLAN FOR CITY OF PORTSMOUTH OF LONGMEADOW ROAD & LANG ROAD, PORTSMOUTH, NH" BY DOUCET SURVEY LLC DATED DECEMBER 20, 2020.
4. "SUBDIVISION PLAN OF SERVICE FEDERAL CREDIT UNION" BY DOUCET SURVEY LLC DATED 02/11/21, AND RECORDED IN ROCKINGHAM COUNTY REGISTRY OF DEEDS PLAN D-42707.

SURVEYOR'S CERTIFICATIONS:

LAN 503.04
I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION AND FALLS UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THE SURVEY WAS COMPLETED WITH A TRIMBLE RTK GPS (R12I AND R10) WITH A 95% CONFIDENCE LEVEL OF 0.05' + 1:10,000 OR GREATER.

RSA 676:16
"I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN."

DATE: 5/5/2025 _____ JOHN D. GATHCHELL, JR, LLS #953



VICINITY MAP- NTS

EXISTING CONDITIONS PLAN

OF

126 LANG ROAD, PORTSMOUTH, NH

PREPARED FOR SERVICE CREDIT UNION

ENGINEER	DRAWN BY	REVISIONS
	DMS	-
SURVEYOR	CREW CHIEF	-
JDG	DMS	-
		-
		-

SHEET NO.
C004

2024006643
DECEMBER 2, 2024

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REVISIONS

PROJECT INFO
2024002213

ENGINEER	DRAWN BY	CHECKED BY
N. DUQUETTE	B. RICHARDS	N. DUQUETTE

LONGMEADOW COMMONS
126 LANG ROAD
PORTSMOUTH, NH 03801

EXISTING CONDITIONS PLAN

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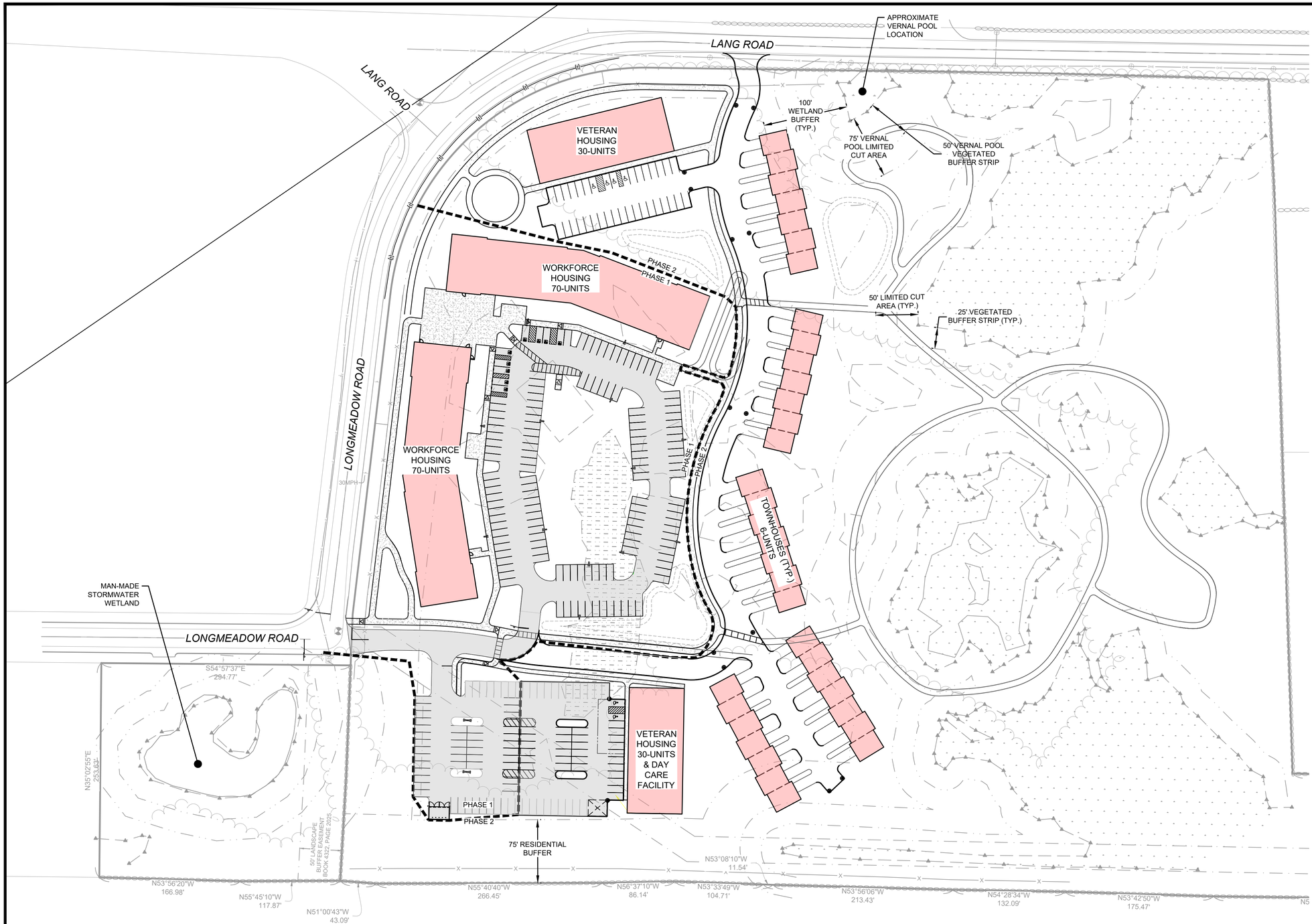

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STATE OF NEW HAMPSHIRE
NICOLE J. DUQUETTE
No.17179
LICENSED PROFESSIONAL ENGINEER

REVISIONS

PROJECT INFO
2024002213
MAY 6, 2025

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OVERALL SITE PLAN

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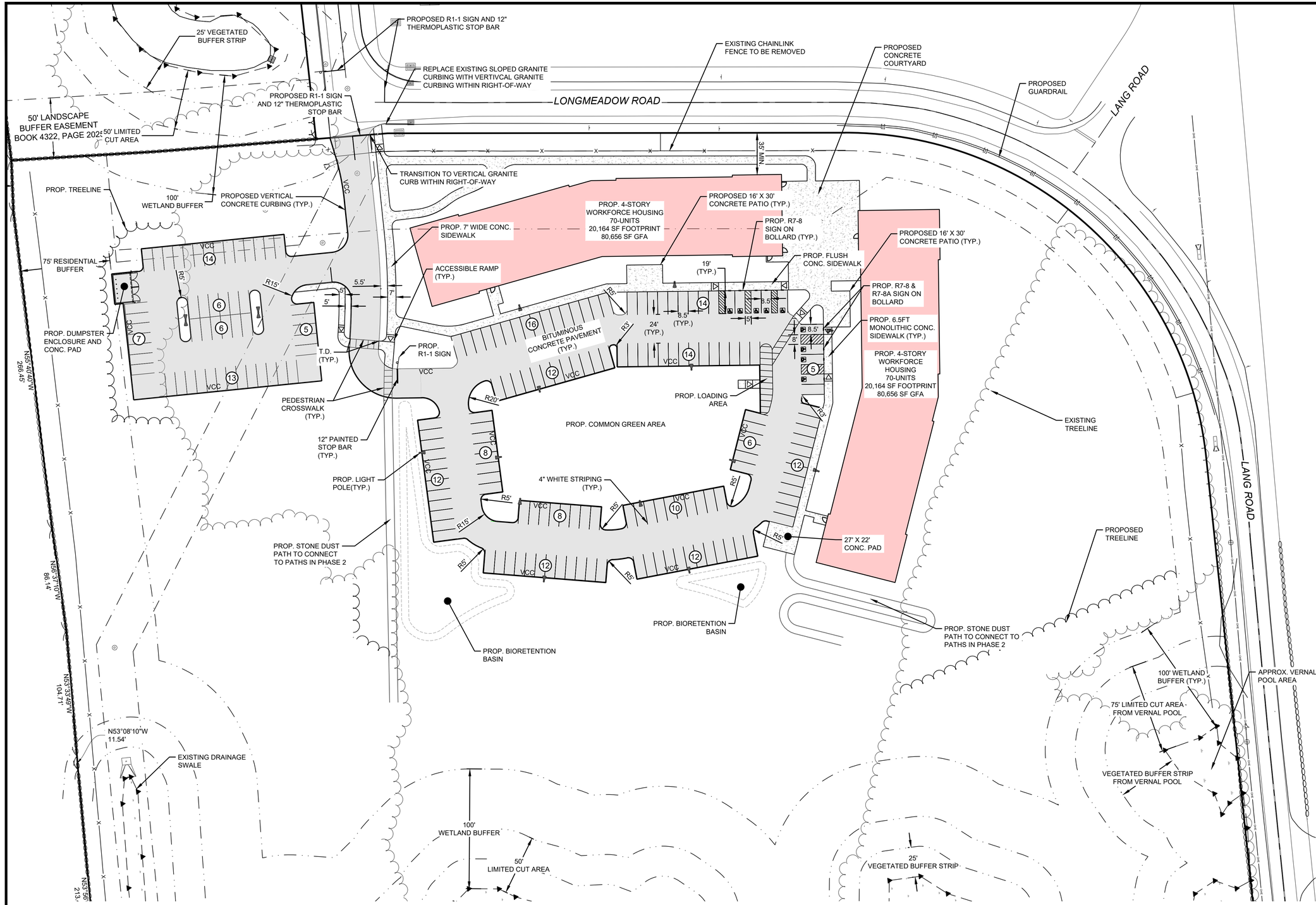

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SITE PLAN

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DRAWING NO.
C102

EXISTING WET POND

EXISTING DRAINAGE PIPE TO BE REMOVED

50' LANDSCAPE BUFFER EASEMENT BOOK 4322, PAGE 2025

EXISTING BIORETENTION BASIN

CB-2
RIM=58.00
INV. IN 12" (SW)=52.70
INV. OUT (NE)=53.12

EX CB-1
RIM=54.50
INV. OUT 12" (S)=53.40

CB-1
RIM=58.00
INV. IN 12" (SW)=52.94
INV. IN 12" (N)=53.22

FES-1
FL =52.84

FES-2
FL =52.70

PROP. 4-STORY
WORKFORCE HOUSING
70-UNITS
20,164 SF FOOTPRINT
80,656 SF GFA
FFE=60.00±

CB-4
RIM=57.29
INV. IN 12" (SE)=53.31
INV. OUT 12" (NW)=53.21

CB-3
RIM=58.00
INV. OUT 12" (NW)=53.63

CB-10
RIM=55.42
INV. OUT 12" (E)=53.42

CB-9
RIM=56.51
INV. IN 12" (NE)=53.56
INV. OUT 12" (S)=53.46
INV. OUT 12" (SE)=53.72

CB-8
RIM=58.01
INV. OUT 12" (SW)=54.13

69.035
58.380
58.652
58.000
58.380
58.000

PROPOSED ADA PARKING SPACES (TYP.)

CB-12
RIM=58.00
INV. OUT 12" (E)=54.84

58.379
57.999

PROP. 4-STORY
WORKFORCE
HOUSING
70-UNITS
20,164 SF FOOTPRINT
80,656 SF GFA
FFE=60.00±

CB-11
RIM=55.48
INV. IN 12" (W)=53.15
INV. IN 12" (N)=53.15
INV. OUT 15" (E)=53.05

FES-3
FL =52.30

CB-7
RIM=56.00
INV. IN 12" (NW)=53.56
INV. OUT 12" (SE)=53.29

SMH-1

CB-13
RIM=57.33
INV. IN 12" (W)=54.47
INV. OUT 12" (SE)=54.37

CB-6
RIM=54.27
INV. IN 12" (NW)=52.72
INV. IN 12" (NE)=53.39

CB-14
RIM=56.64
INV. IN 12" (NW)=53.83
INV. OUT 12" (SE)=53.73

CB-5
RIM=55.95
INV. OUT 12" (SW)=53.95

FES-4
FL =53.50

FES-5
FL =51.00

FES-6
FL =51.00

SMH-2

SMH-3

SMH-4

OCS
RIM=52.00
INV. OUT 18" (SE)=47.00

FES-7
FL =46.00

100' WETLAND BUFFER

50' LIMITED CUT AREA

25' VEGETATED BUFFER STRIP

100' WETLAND BUFFER (TYP.)

75' LIMITED CUT AREA FROM VERNAL POOL

VEGETATED BUFFER STRIP FROM VERNAL POOL

N56°37'10"W 86.14'

N53°33'49"W 104.71'

N53°08'10"W 11.54'

N55°56'10"W 206.45'

N53°56' 213'

N

40 20 0 40

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STATE OF NEW HAMPSHIRE
NICOLE J. DUQUETTE
No.17179
LICENSED PROFESSIONAL ENGINEER

REVISIONS

PROJECT INFO
2024002213
MAY 6, 2025

ENGINEER	DRAWN BY	CHECKED BY
N. DUQUETTE	B. RICHARDS	N. DUQUETTE

LONGMEADOW COMMONS
126 LANG ROAD
PORTSMOUTH, NH 03801

GRADING AND DRAINAGE PLAN

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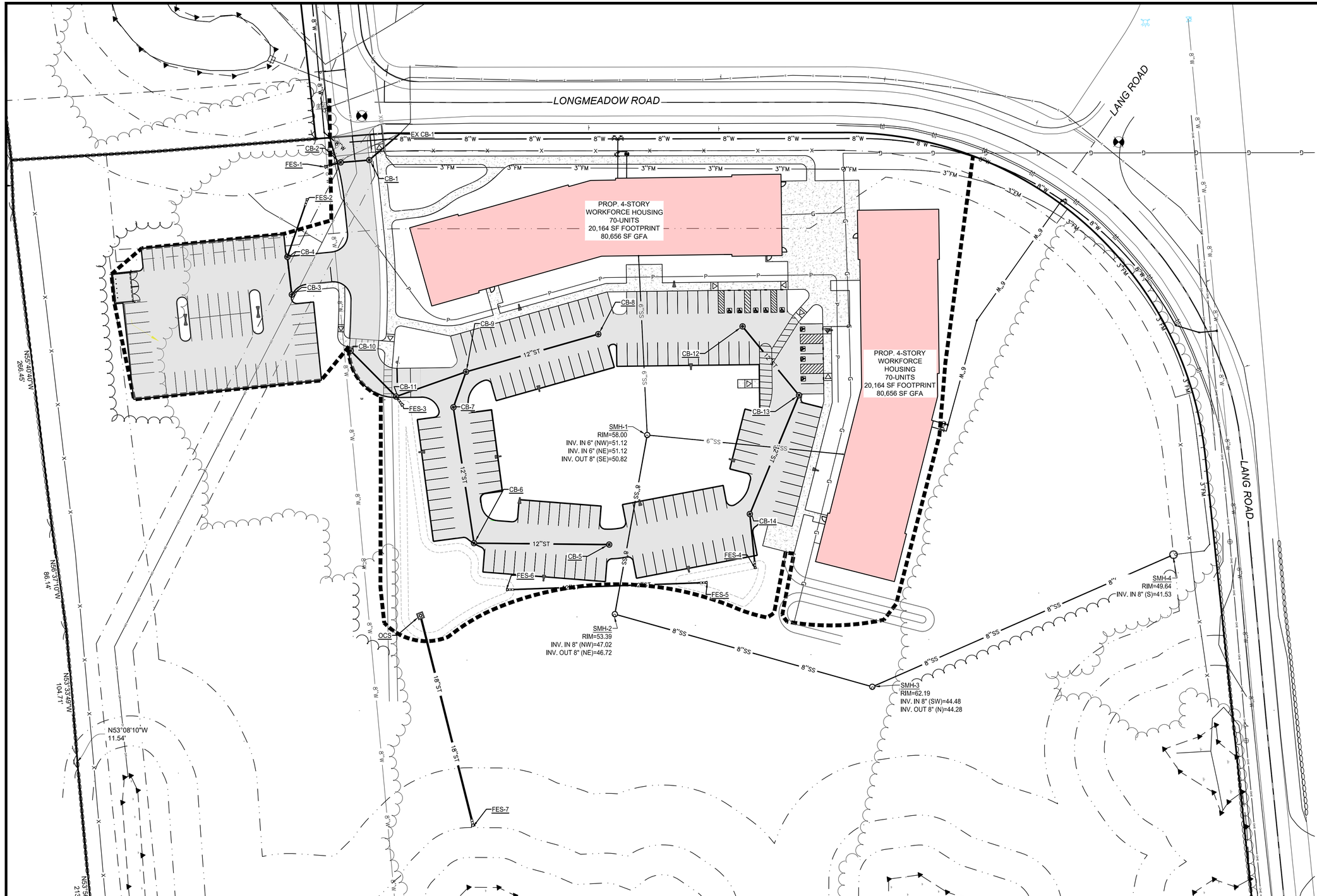

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ENGINEER N. DUQUETTE | DRAWN BY B. RICHARDS | CHECKED BY N. DUQUETTE

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UTILITY PLAN

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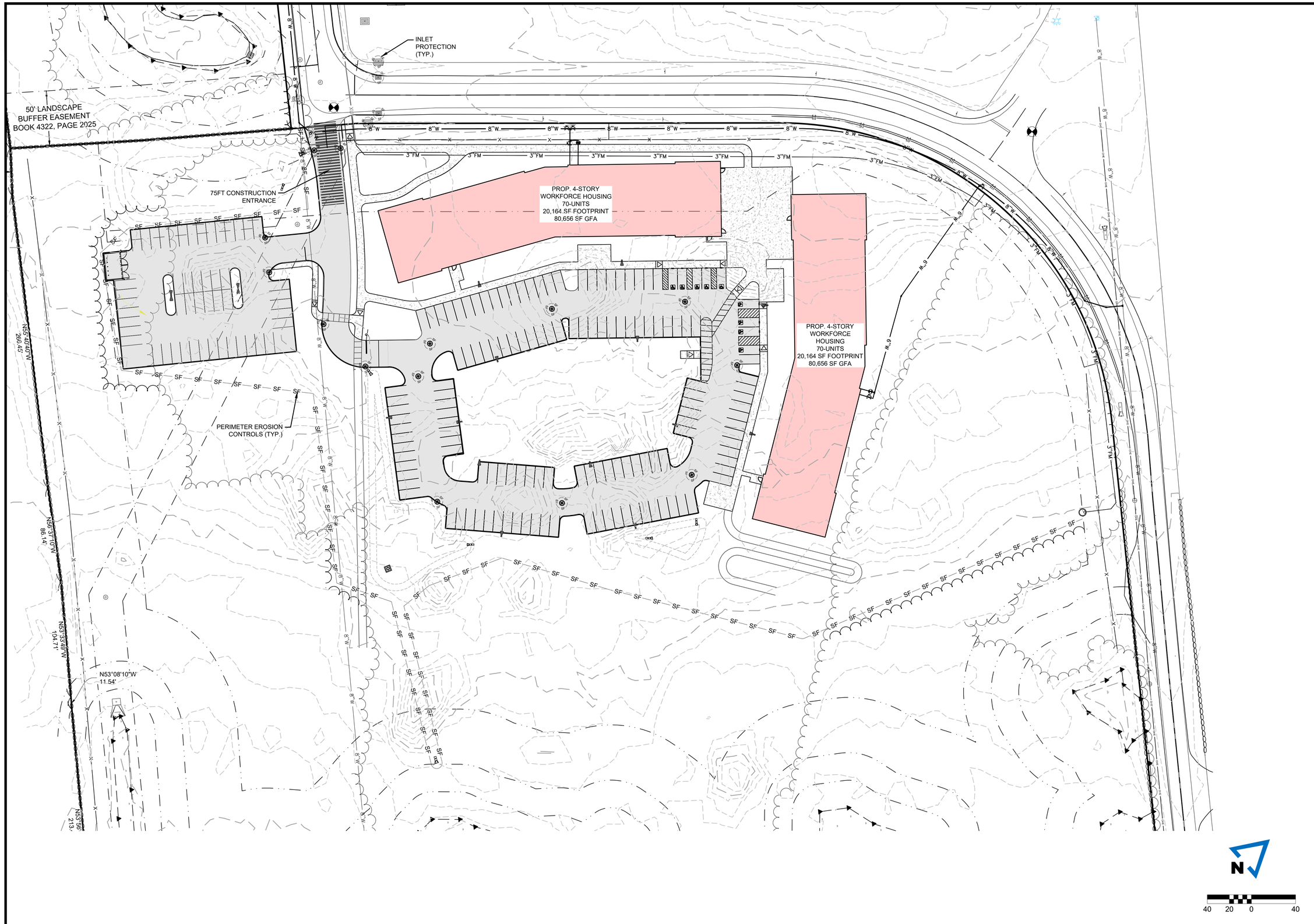

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EROSION CONTROL PLAN

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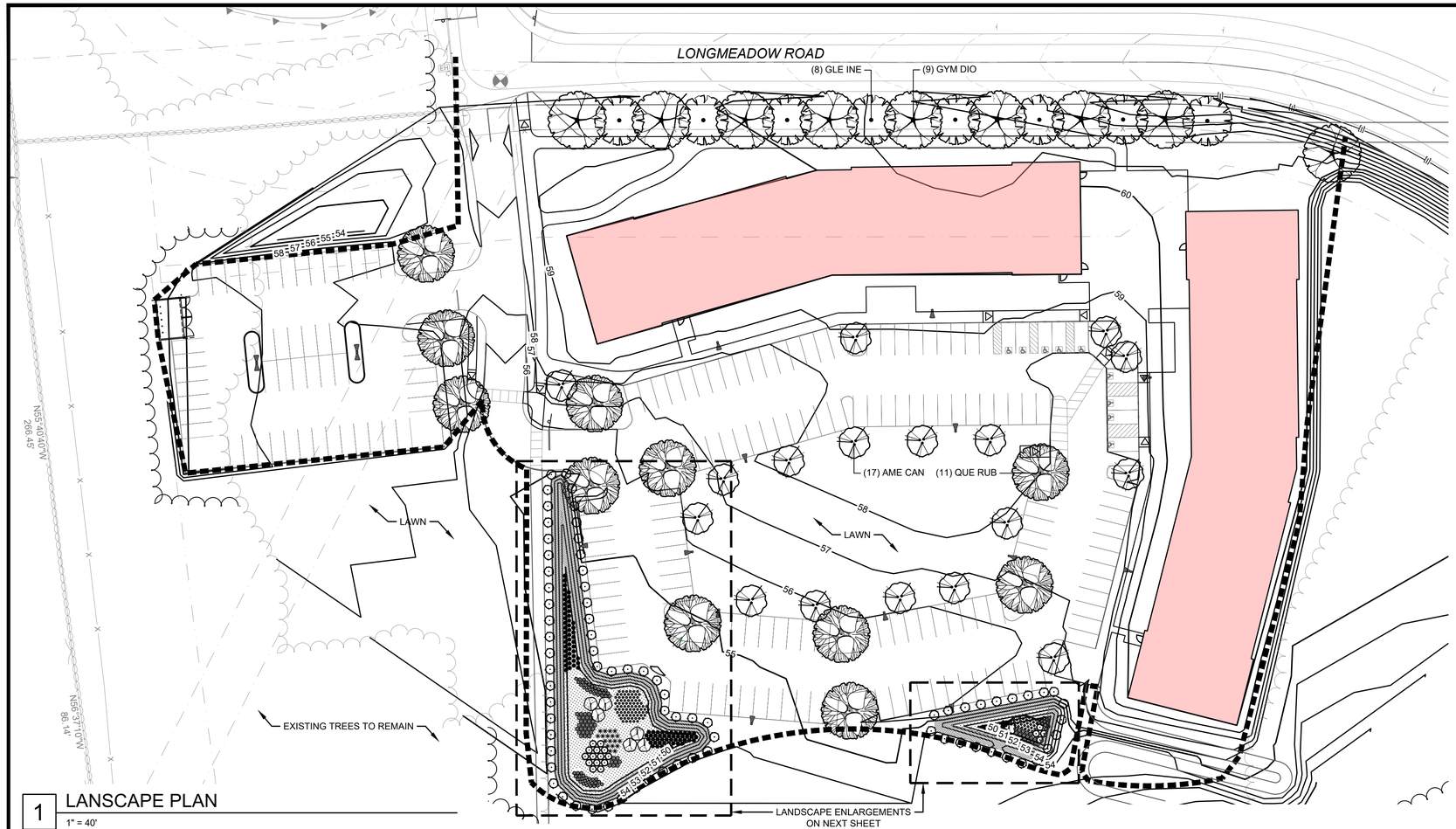
C106



1 LANSCAPE PLAN
1" = 40'

PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	HEIGHT	WIDTH	GROWTH HABITS	TOLERANCES (RGZ = RAIN GARDEN ZONE)
TREES								
	AME CAN	17	Amelanchier canadensis / Canadian Serviceberry	B&B, 1.5" Cal.	25-30' H	15-20' W	SPREADING CROWN	CLAY SOILS
	GLE INE	8	Gleditsia triacanthos inermis 'Skycole' / Skyline® Honey Locust	B&B, 2.5" Cal.	35-45' H	25-35' W	PYRAMIDAL, THORNLESS	DEER, DROUGHT, CLAY SOILS, BLACK WALNUT, AIR POLLUTION
	GYM DIO	9	Gymnocladus dioicus 'Espresso' / Kentucky Coffeetree	B&B, 2.5" Cal.	50-75' H	40-50' W	OVAL TO VASE, SEEDLESS	ALKALINE SOILS, DROUGHT, SALT, WET SOILS
	QUE RUB	11	Quercus rubra / Northern Red Oak	B&B, 2.5" Cal.	50-75' H	50-75' W	OVAL SPREADING CROWN	DROUGHT, DRY SOILS, BLACK WALNUT, AIR POLLUTION
SHRUBS								
	ARO ABR	18	Aronia arbutifolia 'Brilliantissima' / Brilliant Red Chokeberry	5 gal	6-8' H	3-4' W	VASE SHAPE	EROSION, CLAY SOILS, DRY SOILS, WET SOILS, RGZ: BOTTOM/SLOPE
	ILE WI3	7	Ilex verticillata / Winterberry	5 gal	4-12' H	4-12' W	UPRIGHT-ROUNDED	EROSION, CLAY SOILS, WET SOILS, AIR POLLUTION, RGZ: BOTTOM
	RHU GRO	75	Rhus aromatica 'Gro-Low' / Gro-Low Fragrant Sumac	5 gal	2-6' H	6-10' W	DENSE LOW GROWING	RABBIT, DROUGHT, EROSION, CLAY SOILS, DRY SOILS, SHALLOW-ROCKY SOILS, RGZ: SLOPE/BERM
PERENNIALS								
	ASC INC	115	Asclepias incarnata / Swamp Milkweed	1 gal	3-6' H	2' W	ERECT, CLUMP FORMING	DEER, CLAY SOILS, WET SOILS; ATTRACTS HUMMINGBIRDS, BEES, BUTTERFLIES; MONARCH LARVAL HOST. RGZ: BOTTOM
	EUT PUR	54	Eutrochium purpureum / Joe Pye Weed	1 gal	3-6' H	3' W	ERECT, CLUMP FORMING	DEER CLAY SOILS, WET SOILS, ATTRACTS BIRDS, BUTTERFLIES. RGZ: BOTTOM
	IRI VER	115	Iris versicolor / Blue Flag	1 gal	2-3' H	2-3' W	STURDY CLUMP FORMING	DEER, WET SOILS, ATTRACTS BIRDS, HUMMINGBIRDS. RGZ: BOTTOM
	LOB CAR	62	Lobelia cardinalis / Cardinal Flower	1 gal	2-4' H	2' W	ERECT, CLUMP FORMING	RABBIT, DEER, WET SOILS, ATTRACTS BUTTERFLIES, BIRDS, HUMMINGBIRDS, RGZ: BOTTOM
	SYM NOV	18	Symphyotrichum novae-angliae / New England Aster	1 gal	2.5-6' H	2-3' W	ROBUST, UPRIGHT	CLAY SOILS, ATTRACTS BEES, BUTTERFLIES. NECTOR SOURCE FOR MONARCHS, IMPORTANT POLLINATOR PLANT IN FALL
GROUND COVERS								
	CAR VUL	1,139	Carex vulpinoidea / Fox Sedge	plugs - 18" o.c.	1-3' H	1.5' W	UPRIGHT, SLENDER	DEER, WET SOILS, ATTRACTS BIRDS, RGZ: BOTTOM
	SCH LIT	1,877	Schizachyrium scoparium / Little Bluestem	plugs - 18" o.c.	2-3' H	1' W	UPRIGHT, SLENDER	DEER, DROUGHT, EROSION, DRY SOILS, SHALLOW-ROCKY SOILS, BLACK WALNUT, AIR POLLUTION, ATTRACTS BUTTERFLIES, BIRDS. RGZ: BERM

LANDSCAPE NOTES:

1. FIELD VERIFY UTILITIES SHOWN ON PLANS PRIOR TO WORK COMMENCEMENT. INFORMATION SHOWN ON PLAN IS FROM AVAILABLE INFORMATION AND ALL LOCATIONS SHOWN SHOULD BE CONSIDERED APPROXIMATE. THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO UTILITIES MADE FROM CONSTRUCTION ACTIVITY. IMMEDIATELY NOTIFY PROJECT LANDSCAPE ARCHITECT AND ENGINEER IF DISCREPANCIES ARISE.
2. COMPLETE REQUIRED LANDSCAPING FOR THE ENTIRE SITE IN CONFORMANCE TO THE PLANS AND SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO: SEEDED AREAS, SODDED AREAS, SHRUB BEDS, AND SITE CLEAN-UP.
3. VERIFY QUANTITIES PRIOR TO COMMENCING WORK. REPORT DISCREPANCIES TO THE LANDSCAPE ARCHITECT. PLANT MATERIAL TO BE SPACED AS SHOWN, UNLESS OTHERWISE NOTED.
4. PLANT MATERIAL SHALL COMPLY WITH ALL SIZING AND GRADING STANDARDS OF LATEST EDITION OF AMERICAN STANDARD FOR NUSERY STOCK (A.S.N.S.) LATEST EDITION PUBLISHED BY (ANLA) ANSI 260.1. THIS IS A REPRESENTATIVE GUIDELINE SPECIFICATION ONLY AND WILL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR THE PLANT MATERIAL.
5. THE OWNER RESERVES THE RIGHT TO SUBSTITUTE PLANT MATERIAL, TYPE, SIZE AND/OR QUANTITY. LARGER SIZED PLANT MATERIALS OF THE SPECIES LISTED MAY BE USED IF THE STOCK CONFORMS TO A.S.N.S. VEGETATION SUBSTITUTIONS SHALL BE APPROVED BY PROJECT LANDSCAPE ARCHITECT. SUBSTITUTIONS MADE WITHOUT WRITTEN APPROVAL WILL BE REPLACED WITH APPROVED SELECTIONS AT CONTRACTOR'S COST.
6. DISTURBED AREAS DUE TO CONSTRUCTION ACTIVITIES NOT IDENTIFIED ON THESE PLANS SHALL RECEIVE 6" OF LOAM AND SEEDED. NO FILL SHALL BE PLACED IN ANY WETLAND AREA.
7. CONTRACTOR SHALL COMPLY WITH APPLICABLE CODES AND ORDINANCES REGARDING LANDSCAPING. REFER TO SPECIFICATIONS FOR PLANT MATERIAL, SOILS, AND INSTALLATION METHODS.
8. INSTALL PLANT MATERIAL IN ACCORDANCE WITH A.S.N.S. STANDARDS.
9. INSTALL FINISHED GRADES OF SOD, LANDSCAPE BEDS, AND MULCH 1" BELOW ABUTTING PAVEMENT SURFACES TO ALLOW UNINHIBITED DRAINAGE TO NON-PAVEMENT SURFACES.
10. REMOVE ALL TWINE, WIRE, AND BURLAP FROM TREE AND SHRUB ROOT BALLS. REMOVE ALL PLASTIC WRAP, FABRIC ROPE, ROT PROOF WRAP, AND PLANT IDENTIFICATION TAGS.
11. TREES SHALL NOT BE PLANTED CLOSER THAN EIGHT HORIZONTAL FEET OF UNDERGROUND UTILITIES UNLESS OTHERWISE NOTED OR PER PLANS. MODIFICATIONS TO TREE PLACEMENT SHALL BE COORDINATED WITH THE LANDSCAPE ARCHITECT AND CAN BE SUBJECT TO CITY REVIEW AND APPROVAL. CONTRACTOR IS RESPONSIBLE FOR UNAPPROVED RELOCATION(S) OR MODIFICATION(S) TO TREE LOCATIONS.
12. PROVIDE NATURAL TOPSOIL THAT IS FERTILE, FRIABLE, WITHOUT MIXTURE OF SUBSOIL MATERIALS, AND OBTAINED FROM A WELL DRAINED, AVAILABLE SITE. IT SHALL NOT CONTAIN SUBSTANCES WHICH MAY BE HARMFUL TO PLANT GROWTH. TOPSOIL SHALL BE SCREENED AND FREE FROM CLAY, LUMPS, STONES, ROOTS, PLANTS, OR SIMILAR SUBSTANCES 1" OR MORE IN DIAMETER, DEBRIS, OR OTHER OBJECTS WHICH MIGHT BE A HINDRANCE TO PLANTING OPERATIONS. TOPSOIL SHALL CONTAIN AT LEAST 4-6% ORGANIC MATTER BY WEIGHT AND HAVE A PH RANGE OF 5.5 TO 7.0.
13. PLANT MATERIAL TO BE GUARANTEED FOR ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION AND ACCEPTANCE. PLANT MATERIALS SHALL BE A ONE-TIME-REPLACEMENT AND RECORDS KEPT BY THE LANDSCAPE CONTRACTOR FOR ALL REPLACEMENTS.
14. PLANT MATERIAL SHALL BE OF EXCELLENT QUALITY, FREE OF DISEASE & INFESTATION-TRUE TO TYPE, VARIETY, SIZE SPECIFIED, & FORM PER ANSI STANDARDS.
15. WATER-IN EACH PLANT IMMEDIATELY FOLLOWING INSTALLATION AND CONTINUE WATERING ROUTINE UNTIL SUBSTANTIAL PROJECT COMPLETION. CONTRACTOR IS REQUIRED TO COORDINATE WATERING REQUIREMENTS TO THE OWNER THEREAFTER.
16. ALL PLANT STOCK SHALL BE LOCALLY GROWN OR WITHIN HARDINESS ZONES 4-7, ESTABLISHED BY THE USDA PLANT HARDINESS ZONE MAP
17. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 1ST, NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISION ARE MADE FOR DROUGHT AND ARE APPROVED BY THE ENGINEER AND LANDSCAPE ARCHITECT.
18. ALL LAWN AREAS TO BE GRASS COMMON TO REGION. SPECIES TO BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PLANTING

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25 New Hampshire Avenue
Suite 255
Portsmouth, NH 03801
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STATE OF NEW HAMPSHIRE
NICOLE L DUQUETTE No.17179
LICENSED PROFESSIONAL ENGINEER

REVISIONS

PROJECT INFO
2024002213
MAY 6, 2025

ENGINEER	DRAWN BY	CHECKED BY
N. DUQUETTE	B. RICHARDS	N. DUQUETTE

LONGMEADOW COMMONS
126 LANG ROAD
PORTSMOUTH, NH 03801

LANDSCAPE PLAN

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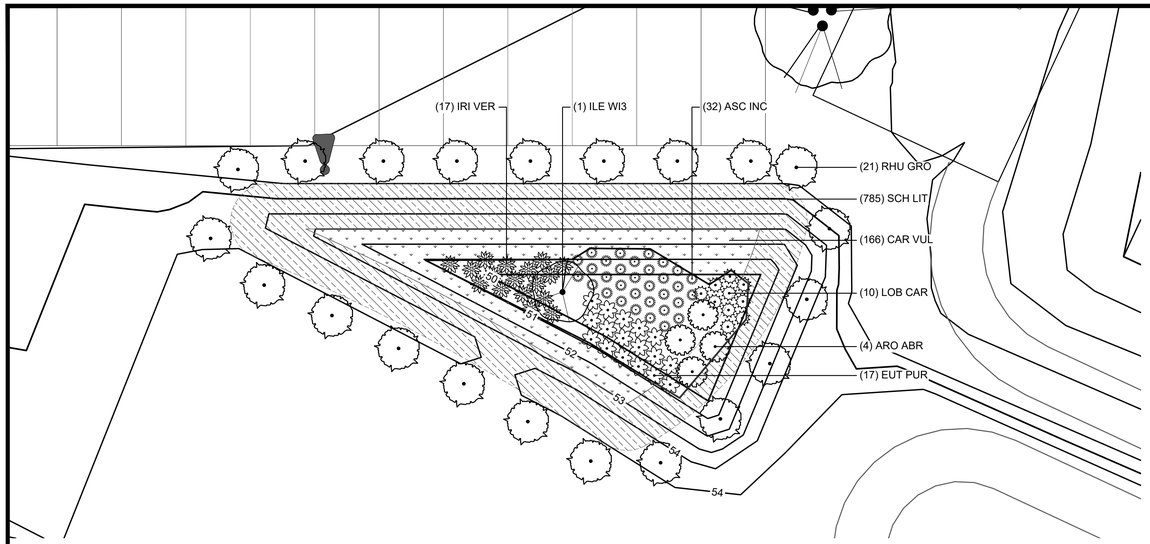
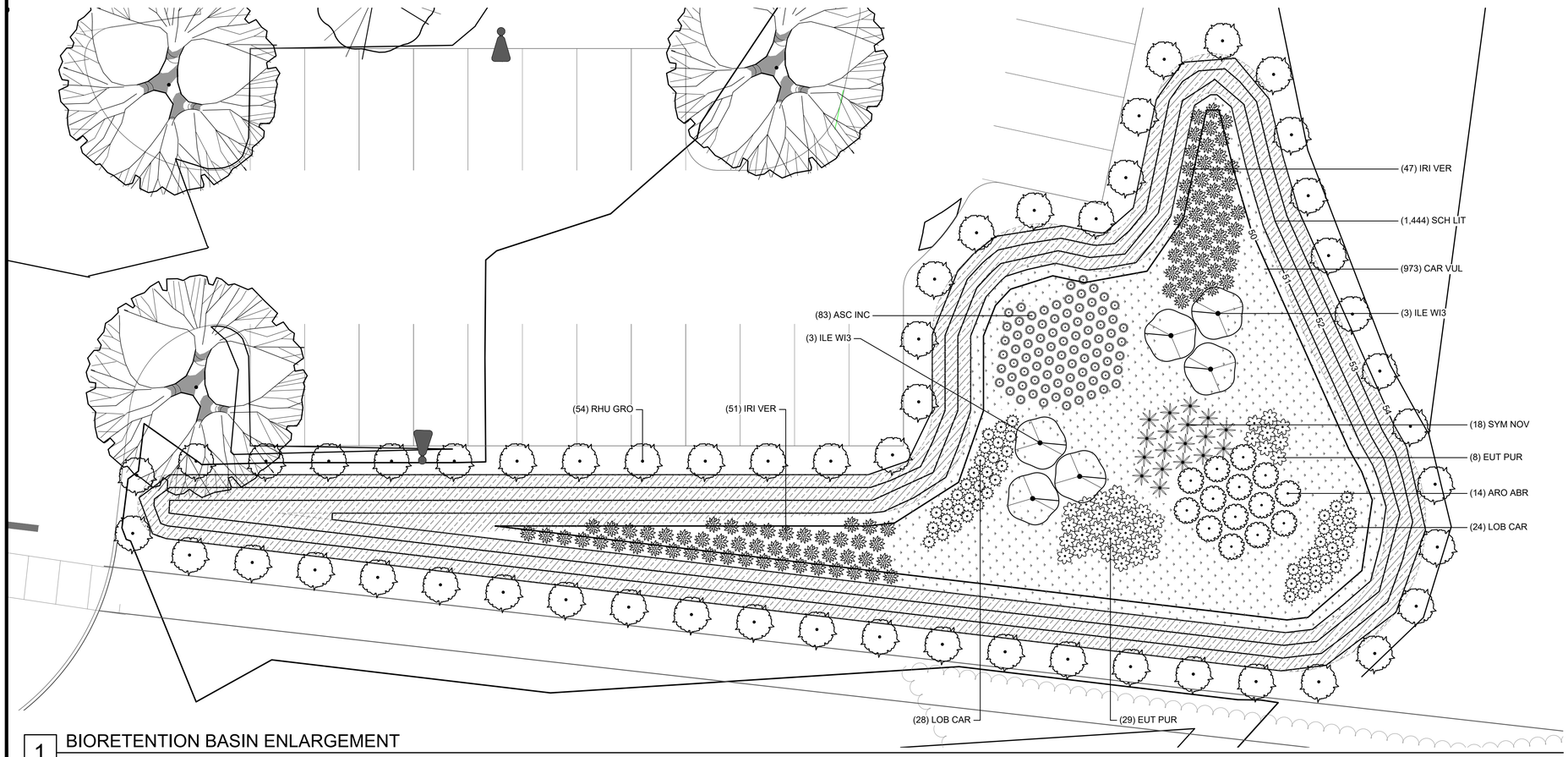
DRAWING NO.
C107



2 BIORETENTION BASIN ENLARGEMENT

1" = 20'



1 BIORETENTION BASIN ENLARGEMENT

1" = 20'

PLANT LEGEND (FULL SCHEDULE ON C107)

SYMBOL	CODE	BOTANICAL / COMMON NAME
TREES		
	AME CAN	Amelanchier canadensis / Canadian Serviceberry
	GLE INE	Gleditsia triacanthos inermis 'Skycole' / Skyline® Honey Locust
	GYM DIO	Gymnocladus dioicus 'Espresso' / Kentucky Coffeetree
	QUE RUB	Quercus rubra / Northern Red Oak
SHRUBS		
	ARO ABR	Aronia arbutifolia 'Brilliantissima' / Brilliant Red Chokeberry
	ILE WI3	Ilex verticillata / Winterberry
	RHU GRO	Rhus aromatica 'Gro-Low' / Gro-Low Fragrant Sumac
PERENNIALS		
	ASC INC	Asclepias incarnata / Swamp Milkweed
	EUT PUR	Eutrochium purpureum / Joe Pye Weed
	IRI VER	Iris versicolor / Blue Flag
	LOB CAR	Lobelia cardinalis / Cardinal Flower
	SYM NOV	Symphyotrichum novae-angliae / New England Aster

SYMBOL	BOTANICAL / COMMON NAME
GROUND COVERS	
	Carex vulpinoidea / Fox Sedge
	Schizachyrium scoparium / Little Bluestem

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N. DUQUETTE	B. RICHARDS	N. DUQUETTE

LONGMEADOW COMMONS
126 LANG ROAD
PORTSMOUTH, NH 03801

LANDSCAPE ENLARGEMENTS

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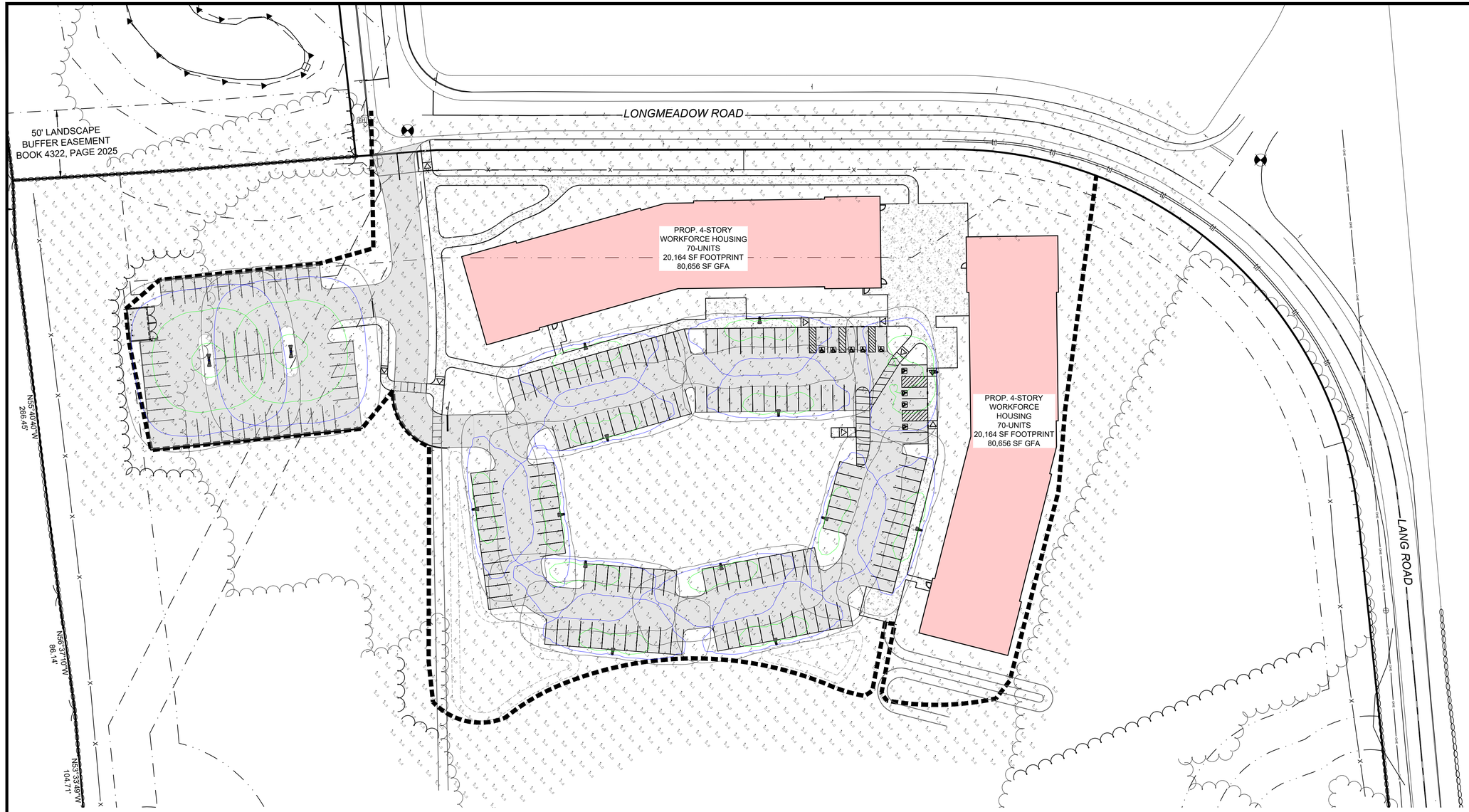
DRAWING NO.
C108



Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Description	Tag	[MANUFAC]
	12	P1-3	Single	VALS-09L-3W-UNV-30K8-CXX-SA-IS / 4SQ B3 S11G20 S AB 4BC	20' POLE	LSI INDUSTRIES, INC.
	1	P1-4	Single	VALS-09L-4F-UNV-30K8-CXX-SA-IS / 4SQ B3 S11G20 S AB 4BC	20' POLE	LSI INDUSTRIES, INC.
	2	P1-5	Back-Back	VALS-09L-5QW-UNV-30K8-SA / 4SQ B3 S11G20 D180 AB 4BC	20' POLE	LSI INDUSTRIES, INC.

6 PARKING LOTS
PHASE 1
Illuminance (Fc)
Average = 1.20
Maximum = 2.1
Minimum = 0.5
Avg/Min Ratio = 2.40
Max/Min Ratio = 4.20

SINGULAR SOUTHERN PARKING LOT

Illuminance (Fc)
Average = 1.32
Maximum = 2.8
Minimum = 0.4
Avg/Min Ratio = 3.30
Max/Min Ratio = 7.00

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N. DUQUETTE	B. RICHARDS	N. DUQUETTE

LONGMEADOW COMMONS
126 LANG ROAD
PORTSMOUTH, NH 03801

LIGHTING PLAN

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DRAWING NO.
C109

1. PRIOR TO STARTING ANY WORK ON THE SITE THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES.

2. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS THEREOF IN NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICE STORM WATER MANUALS, VOLUME 1–3, LATEST EDITION.

3. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PER PLANS AND DETAILS. PERIMETER CONTROLS SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF EARTH DISTURBING ACTIVITIES.

4. INSTALL INLET PROTECTION AROUND ALL STORM DRAIN STRUCTURES. INLET PROTECTION BMP'S SHALL REMAIN UNTIL THE SITE IS STABILIZED. CONSTRUCTION OF STORMWATER BASINS AND TREATMENT SWALES SHALL OCCUR PRIOR TO AND EARTH MOVING OPERATION THAT WILL INFLUENCE STORM WATER RUNOFF.

5. THE WORK AREA SHALL BE GRADED, SHAPED AND OTHERWISE DRAINED IN SUCH A MANNER AS TO MINIMIZE SOIL EROSION, SILTATION OF DRAINAGE CHANNELS, DAMAGE TO EXISTING VEGETATION, AND DAMAGE TO PROPERTY OUTSIDE THE LIMITS OF THE WORK AREA.

6. EXISTING VEGETATION IS TO REMAIN UNDISTURBED WHEN POSSIBLE.

7. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE KEPT CLEAN DURING CONSTRUCTION. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AT LEAST ONCE A WEEK AND AFTER EVERY 0.25–INCH OR GREATER RAINFALL. SEDIMENTS SHALL BE DISPOSED OF IN AN UPLAND AREA THAT WILL NOT CONTRIBUTE TO SEDIMENT OFF–SITE AND BE PERMANENTLY STABILIZED.

8. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION. AT NO TIME SHALL THE TOTAL UNSTABILIZED DISTURBED AREA, INCLUDING LOT DISTURBANCES, BE GREATER THAN FIVE (5) ACRES.

9. THE LAND AREA EXPOSED SHALL BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME. ALL NON–ACTIVE DISTURBED AREAS SHALL BE STABILIZED WITHIN 30 DAYS OF THE DISTURBANCE. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF FINAL GRADING.

10. DITCHES, SWALES AND DRAINAGE BASINS SHALL BE CONSTRUCTED DURING THE INITIAL PHASE OF CONSTRUCTION AND STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.

11. AN AREA SHALL BE CONSIDERED STABILIZED IF ONE OF THE FOLLOWING HAS OCCURRED:
   A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
   B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
   C. A MINIMUM OF 3–INCHES OF NON–EROSIVE MATERIAL, SUCH AS STONE OR RIPRAP, HAS BEEN INSTALLED; OR
   D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

12. EROSION CONTROL BLANKETS SHALL BE INSTALLED ON ALL SLOPES THAT ARE STEEPER THAN 3:1 (HORIZONTAL / VERTICAL). UNLESS OTHERWISE SPECIFIED THE CONTRACTOR SHALL USE NORTH AMERICAN GREEN SC150, OR APPROVED EQUAL.

13. ALL AREAS RECEIVING EROSION CONTROL STONE OR RIPRAP SHALL HAVE A GEOTEXTILE MATERIAL INSTALLED BELOW THE STONE (SEE APPROPRIATE DETAILS).

14. ALL DISTURBED AREAS TO TURF FINISHED SHALL BE COVERED WITH A MINIMUM THICKNESS OF 6 INCHES OF COMPACTED LOAM. LOAM SHALL BE COVERED WITH THE APPROPRIATE SEED MIXTURE AS INDICATED BELOW:

PERMANENT SEED (LAWN AREAS)	LBS / 1,000 SQ. FT.	PERMANENT SLOPE SEED MIX	LBS / 1,000 SQ. FT.
CREEPING RED FESCUE	0.92 LBS	CREEPING RED FESCUE	0.80 LBS
PERENNIAL RYEGRASS	1.15 LBS	PERENNIAL RYEGRASS	0.69 LBS
KENTUCKY BLUEGRASS	0.58 LBS	REDTOP	0.12 LBS
REDTOP	0.12 LBS	ALSIKE CLOVER	0.12 LBS
		BIRDSFOOT TREFOIL	
APPLICATION RATE TOTALS 2.8 LBS PER 1,000 SF		**APPLICATION RATE TOTALS *1.85 LBS PER 1,000 SF**	

15. TEMPORARY STABILIZATION OF DISTURBED AREAS:
STRIPPED SOIL SHALL BE STOCKPILED UNCOMPACTED, AND STABILIZED AGAINST EROSION AS OUTLINED BELOW:
SEED BED PREPARATION: 10–10–10 FERTILIZATION TO BE SPREAD AT THE RATE OF 7 LBS. PER 100 SF AND AGRICULTURAL LIMESTONE AT A RATE OF 90 LBS PER 1000 SF AND INCORPORATED INTO THE SOIL. THE SOIL, FERTILIZER AND LIMESTONE SHALL BE TILLED TO PREPARE FOR SEEDING.

A. SEED MIXTURE: USE ANY OF THE FOLLOWING:

SPECIES	RATE PER 1,000 SF	DEPTH	SEEDING DATES
WINTER RYE	2.5 LBS	1 INCH	8/15 TO 9/15
OATS	2.5 LBS	1 INCH	4/15 TO 10/15
ANNUAL RYEGRASS	1.0 LBS	0.25 INCH	8/15 TO 9/15

B. MULCHING: MULCH SHOULD BE USED ON HIGHLY ERODIBLE AREAS, AND WHERE CONSERVATION OF MOISTURE WILL FACILITATE PLANT ESTABLISHMENT AS FOLLOWS:

TYPE	RATE PER 1,000 SF	USE AND COMMENTS
STRAW	70 TO 90 LBS	MAY BE USED WITH PLANTINGS, MUST BE ANCHORED TO BE USED ALONE
WOOD CHIPS OR BARK MULCH	460 TO 920 LBS	USED WITH TREE AND SHRUB PLANTINGS
FIBROUS MATTING	AS RECOMMENDED BY MANUFACTURER	MUST BE BIODEGRADABLE. USE IN SLOPE AREAS AND AREAS DIFFICULT TO VEGETATE
CRUSHED STONE 1/4" TO 1-1/2" DIA.	SPREAD TO GREATER THAN 1/2" THICKNESS	USE IN SPECIFIC AREAS AS SHOWN ON PLAN OR AS NEEDED

16. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. IF SOIL TESTING IS NOT FEASIBLE (CRITICAL TIME FRAMES OR VARIABLE SITES) THEN APPLY FERTILIZER AT A RATE OF 11 POUNDS PER 1,000 SF AND LIMESTONE AT A RATE OF 90 POUNDS PER 1,000 SF. FERTILIZER SHALL BE LOW PHOSPHATE (LESS THAN 2% PHOSPHORUS).

17. CAUTION SHOULD BE TAKE WHEN THE PROPERTY IS LOCATED WITHIN 250 FEET OF A WATER BODY. IN THIS CASE ALL FERTILIZERS SHALL BE RESTRICTED TO A LOW PHOSPHATE, SLOW RELEASE NITROGEN FERTILIZER. SLOW RELEASE FERTILIZERS MUST BE AT LEAST 50% SLOW RELEASE NITROGEN COMPONENT. NO FERTILIZER EXCEPT LIMESTONE SHALL BE APPLIED WITHIN 25 FEET OF THE SURFACE WATER. THESE ARE REGULATED LIMITATIONS.

18. PERMANENT OR TEMPORARY COVER MUST BE IN PLACE BEFORE THE GROWING SEASON ENDS (SEE WINTER CONSTRUCTION NOTES). NO DISTURBED AREAS SHALL BE LEFT EXPOSED DURING THE WINTER MONTHS.

19. A VIGOROUS DUST CONTROL PROGRAM SHALL BE APPLIED BY THE SITE CONTRACTOR. DUST SHALL BE MANAGED THROUGH THE USE OF WATER AND/OR CALCIUM CHLORIDE.

20. IN NO WAY ARE THE MEASURES INDICATED ON THE PLANS OR IN THESE NOTES TO BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR SHALL USE JUDGMENT TO INSTALL ADDITIONAL EROSION CONTROL MEASURES AS SITE CONDITIONS, WEATHER OR CONSTRUCTION METHODS WARRANT.

21. FOLLOWING PERMANENT STABILIZATION, TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED AND ACCUMULATED SEDIMENTATION IS TO BE DISPOSED OF IN AN APPROVED LOCATION, OUTSIDE OF JURISDICTIONAL WETLANDS.

22. LOT DISTURBANCE OTHER THAN SHOWN ON THE APPROVED PLANS, SHALL NOT COMMENCE UNTIL AFTER THE ROADWAY HAS THE BASE COURSE TO DESIGN ELEVATION AND THE ASSOCIATED DRAINAGE IS COMPLETE AND STABLE.

23. THE CONTRACTOR AND OWNER ARE RESPONSIBLE FOR OBSERVING AND MANAGING THE PROJECT PER RSA 430:53 AND AGR 3800 REGARDING INVASIVE SPECIES (PLANTS AND INSECTS). NO INVASIVE SPECIES PLANT OR INSECT SHALL BE INTRODUCED ONTO THE SITE.

EROSION CONTROL NOTES (1)

NOT TO SCALE

1. ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATED GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED. STABILIZATION METHODS SHALL INCLUDE SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.

2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATED GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.

3. AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL OR PROPERLY INSTALLED EROSION CONTROL BLANKETS COVERED WITH HAY. OTHER STABILIZATION OPTIONS ARE TO BE APPROVED BY THE APPROPRIATE AGENCIES AND THE DESIGN ENGINEER. IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER MONTHS THEN THE ROAD SHOULD BE CLEARED OF ACCUMULATED SNOW AFTER EACH STORM EVENT.

WINTER CONSTRUCTION NOTES (2)

NOT TO SCALE

1. INSTALL SILTATION CONTROL FENCES IN LOCATIONS SHOWN HEREON. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATION.

2. INSTALL STABILIZED CONSTRUCTION EXIT(S).

3. CUT AND CLEAR TREES; DISPOSE OF DEBRIS. STUMPS ARE TO BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.

4. REMOVE TOPSOIL AND STOCKPILE AWAY FROM ANY WETLAND. STABILIZE STOCKPILE IMMEDIATELY BY SEEDING. PLACE SILT FENCE AROUND THE DOWN SLOPE SIDE OF EARTH STOCKPILES.

5. ROUGH GRADE SITE - CONSTRUCT DRAINAGE BASINS AND DRAINAGE SWALES DURING INITIAL PORTION OF CONSTRUCTION. STABILIZE IMMEDIATELY PER THE CONSTRUCTION AND EROSION CONTROL DETAILS. DO NOT DIRECT STORM WATER RUNOFF TO THESE STRUCTURES UNTIL A HEALTHY VEGETATIVE COVER IS ESTABLISHED.

6. BEGIN BUILDING CONSTRUCTION.

7. CONSTRUCT GRAVEL PARKING AREA (PAVEMENT OPTIONAL) AND BUILDING PAD. INSTALL UTILITIES AND STRUCTURES. ALL CUT AND FILL SLOPES SHALL BE STABILIZED UPON COMPLETION OF ROUGH GRADING PER THE THE EROSION CONTROL NOTES.

8. INSPECT AND MAINTAIN EROSION CONTROL MEASURES ON A WEEKLY BASIS AND AFTER EVERY 0.25" OR GREATER RAINFALL.

9. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, CULVERTS, DITCHES, SILTATION FENCES, SEDIMENT TRAPS, ETC. MULCH AND SEED AS REQUIRED.

10. FINISH GRADING TO PREPARE FOR PAVING (IF ANY) AND LOAMING. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 72 HOURS AFTER FINAL GRADING.

11. FINISH PAVING (IF ANY). PERMANENT SEEDING SHALL BE PERFORMED UPON COMPLETION OF PARKING AREA (SEE EROSION CONTROL NOTES).

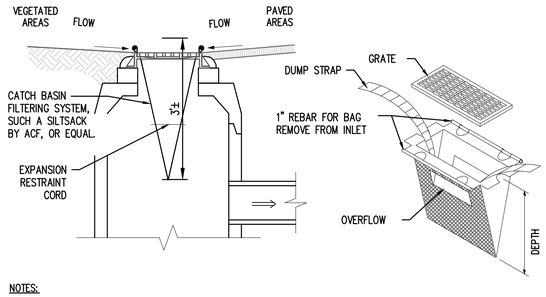
12. COMPLETE PERMANENT SEEDING AND LANDSCAPING.

13. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WHEN ALL DISTURBED AREAS HAVE BEEN STABILIZED.

14. ALL STRUCTURES SHALL BE CLEANED OF SEDIMENTS ONCE CONSTRUCTION IS COMPLETE.

CONSTRUCTION SEQUENCE (3)

NOT TO SCALE



NOTES:

1. INSTALL AND MAINTAIN SACKS IN ALL CATCH BASINS.

2. TO INSTALL SACK, REMOVE CATCH BASIN GRATE AND PLACE SACK IN OPENING. HOLD OUT APPROXIMATELY SIX INCHES OF THE SACK OUTSIDE THE FRAME FOR THE LIFTING STRAPS. REPLACE THE GRATE TO HOLD THE SACK IN PLACE.

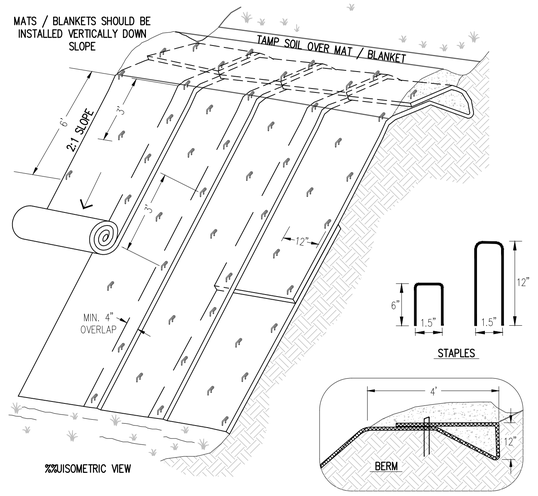
3. THE SACK SHOULD BE INSPECTED AFTER EVERY STORM, OR ONCE EVERY TWO WEEKS, WHICH EVER OCCURS FIRST.

4. THE RESTRAINT CORD SHOULD BE VISIBLE AT ALL TIMES. IF THE CORD IS COVERED WITH SEDIMENT, THE SACK SHOULD BE EMPTIED. EMPTY THE SACK AWAY FROM THE CATCH BASIN TO PREVENT SEDIMENT FROM RE-ENTERING THE CATCH BASIN. EMPTY THE SACK PER THE MANUFACTURES RECOMMENDATIONS.

5. REPLACE THE SACK IN THE CATCH BASIN AFTER THE SACK HAS BEEN EMPTIED. ONCE CONSTRUCTION IS COMPLETE AND ALL DISTURBED AREAS HAVE BEEN STABILIZED BY PAVING OR A HEALTHY VEGETATIVE COVER, REMOVE THE SACK FROM THE CATCH BASINS.

SILT SACK SEDIMENT FILTER (4)

NOT TO SCALE



NOTES:

1. DIMENSIONS GIVEN IN THIS DETAIL ARE EXAMPLES: DEVICE SHOULD BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

2. INSTALL STRAW/COCONUT FIBER EROSION CONTROL MAT SUCH AS NORTH AMERICAN GREEN SC150 OR EQUAL ON ALL SLOPES EXCEEDING 3' HORZ : 1' VERT.

3. THE EROSION CONTROL MATERIAL(S) SHALL BE ANCHORED WITH "U" SHAPED 11 GAUGE WIRE STAPLES OR WOODEN STAKES WITH A MINIMUM TOP WIDTH OF 1 INCH AND LENGTH OF 6 INCH.

4. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS / BLANKETS SHALL HAVE GOOD SOIL CONTACT.

5. APPLY LIME, FERTILIZER AND PERMANENT SEEDING BEFORE PLACING BLANKETS.

6. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET AS SHOWN. ROLL THE BLANKETS DOWN THE SLOPE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES OR STAKES IN APPROPRIATE LOCATIONS. REFER TO MANUFACTURERS STAPLE GUIDE FOR CORRECT STAPLE PATTERN.

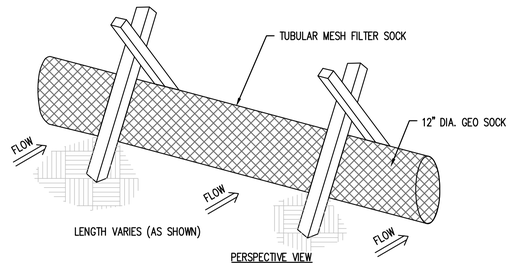
7. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

8. IN LOOSE SOIL CONDITIONS THE USE OF STAPLES OR STAKE LENGTHS GREATER THAN 6 INCHES MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

9. THE CONTRACTOR SHALL MAINTAIN THE BLANKET UNTIL ALL WORK ON THE CONTRACT HAS BEEN COMPLETED AND ACCEPTED. MAINTENANCE SHALL CONSIST OF THE REPAIR OF AREAS WHERE DAMAGED BY ANY CAUSE. ALL DAMAGED AREAS SHALL BE REPAIRED TO REESTABLISH THE CONDITIONS AND GRADE OF THE SOIL PRIOR TO APPLICATION OF THE COVERING AND SHALL BE REFERTILIZED, RESEEDED AND REMULCHED AS DIRECTED.

EROSION BLANKETS (5)

NOT TO SCALE



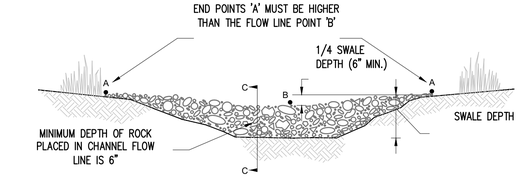
1. FILTER SOCK SHALL BE A MESH TUBE FILLED WITH COMPOSTED MATERIAL.

2. MINIMAL CLEARING MAY BE REQUIRED TO INSTALL FILTER SOCKS.

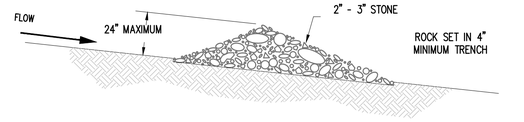
3. INSTALL FILTER SOCKS PRIOR TO ANY CLEARING OR GRUBBING.

SILT SOCK (6)

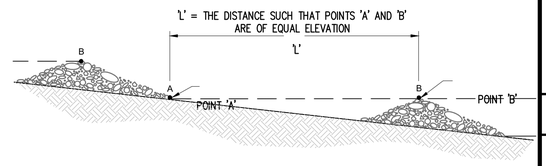
NOT TO SCALE



VIEW LOOKING UPSTREAM



SECTION C - C



PROFILE - CHECK DAM SPACING

NOTES:

1. STONE CHECK DAMS SHOULD BE INSTALLED BEFORE RUNOFF IS DIRECTED TO THE SWALE OR DRAINAGE DITCH.

2. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE CHECK DAM SHOULD BE LESS THAN ONE ACRE.

3. STONE CHECK DAMS SHOULD NOT BE USED IN A FLOWING STREAM.

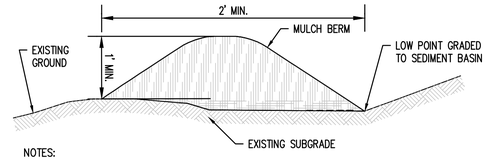
4. STONE CHECK DAMS SHOULD BE CONSTRUCTED OF WELL-GRADED ANGULAR 2 TO 3 INCH STONE. THE INSTALLATION OF 3/4-INCH STONE ON THE UPGRADIENT FACE IS RECOMMENDED FOR BETTER FILTERING.

5. WHEN INSTALLING STONE CHECK DAMS THE CONTRACTOR SHALL KEY THE STONE INTO THE CHANNEL BANKS AND EXTEND THE STONE BEYOND THE ABUTMENTS A MINIMUM OF 18-INCHES TO PREVENT FLOW AROUND THE DAM.

6. STONE CHECK DAMS SHOULD BE REMOVED ONCE THE SWALE OR DITCH HAS BEEN STABILIZED UNLESS OTHERWISE SPECIFIED.

STONE CHECK DAM (7)

NOT TO SCALE



NOTES:

1. EROSION CONTROL MIX SHOULD CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" DIAMETER.

2. THE ORGANIC MATTER CONTENT SHOULD BE BETWEEN 25% AND 65% ON A DRY WEIGHT BASIS THAT IS:

   2.1. FIBROUS AND ELONGATED SUCH AS FROM SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, AND OR EQUIVALENT MANUFACTURED PRODUCTS.

   2.2. NOT COMPROMISED OF WOOD CHIPS, BARK CHIPS, GROUND CONSTRUCTION DEBRIS, OR REPROCESSED WOOD PRODUCTS.

3. THE MIX SHOULD NOT CONTAIN SILTS, CLAYS, AND SANDS.

4. HAVE A PARTICLE SIZE BY WEIGHT OF 100% PASSING A 3-INCH SCREE, 90% TO 100% PASSING A 1-INCH SCREEN, 70% TO 100% PASSING A 0.75-INCH SCREEN, AND 30% TO 75% PASSING A 0.25-INCH SCREEN

5. HAVE A PH BETWEEN 5.0 AND 8.0

6. REFER TO THE NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOL. 3 SECTION 4.2 FOR COMPLETE DETAILS.

TYPICAL MULCH BERM (8)

NOT TO SCALE

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STATE OF NEW HAMPSHIRE
NICOLE U DUQUETTE
No.17179
LICENSED PROFESSIONAL ENGINEER

REVISIONS

PROJECT INFO
2024002213
MAY 6, 2025

ENGINEER	DRAWN BY	CHECKED BY
N. DUQUETTE	B. RICHARDS	N. DUQUETTE

LONGMEADOW COMMONS
126 LANG ROAD
PORTSMOUTH, NH 03801

EROSION CONTROL DETAILS

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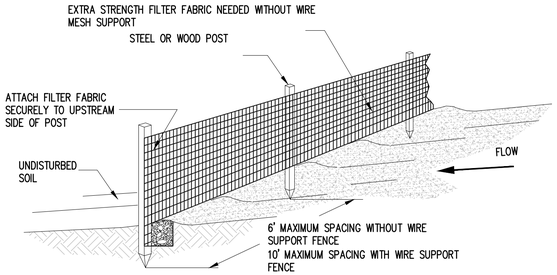
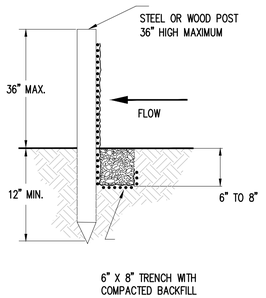
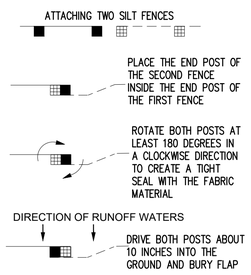
DRAWING NO.
C501



PERSPECTIVE VIEW



SECTION VIEW



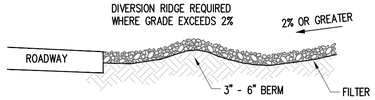
ATTACHING TWO SILT FENCES

NOTES:

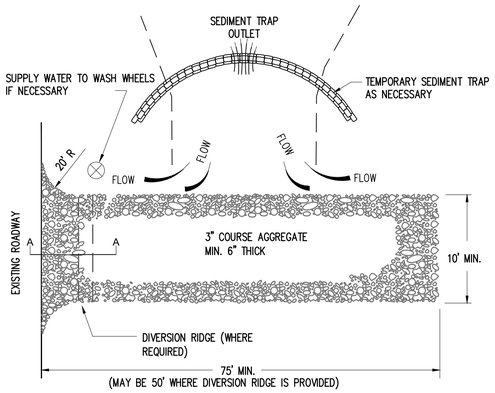
1. SILT FENCES SHOULD NOT BE USED ACROSS STREAMS, CHANNELS, SWALES, DITCHES OR OTHER DRAINAGE WAYS.
2. SILT FENCE SHOULD BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE AND THE ENDS OF THE SILT FENCE SHOULD BE FLARED UPSLOPE.
3. IF THE SITE CONDITIONS INCLUDE FROZEN GROUND, LEDGE OR THE PRESENCE OF HEAVY ROOTS THE BASE OF THE FABRIC SHOULD BE EMBEDDED WITH A MINIMUM THICKNESS OF 8 INCHES OF 3/4-INCH STONE.
4. SILT FENCES PLACED AT THE TOE OF SLOPES SHOULD BE INSTALLED AT LEAST 6 FEET FROM THE TOE TO ALLOW SPACE FOR SHALLOW PONDING AND ACCESS FOR MAINTENANCE.
5. THE MAXIMUM SLOPE ABOVE THE FENCE SHOULD BE 2:1 AND THE MAXIMUM LENGTH OF SLOPE ABOVE THE FENCE SHOULD BE 100 FEET.
6. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE TO SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
7. SILT FENCES SHOULD BE REMOVED WHEN THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.

SILT FENCE — 1

NOT TO SCALE



SECTION A-A



PLAN VIEW

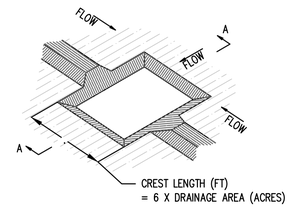
NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. THE MINIMUM STONE USED SHOULD BE 3-INCH CRUSHED STONE.
3. THE MINIMUM LENGTH OF THE PAD SHOULD BE 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3-INCH TO 6-INCH HIGH BERM IS INSTALLED AT THE ENTRANCE OF THE PROJECT SITE.
4. THE PAD SHOULD EXTEND THE FULL WIDTH OF THE CONSTRUCTION ACCESS ROAD OR 10 FEET, WHICHEVER IS GREATER.
5. THE PAD SHOULD SLOPE AWAY FROM THE EXISTING ROADWAY.
6. THE PAD SHOULD BE AT LEAST 6-INCHES THICK.
7. THE GEOTEXTILE FILTER FABRIC SHOULD BE PLACED BETWEEN THE STONE PAD AND THE EARTH SURFACE BELOW THE PAD.
8. THE PAD SHALL BE MAINTAINED OR REPLACED WHEN MUD AND SOIL PARTICLES CLOG THE VOIDS IN THE STONE SUCH THAT MUD AND SOIL PARTICLES ARE TRACKED OFF-SITE.
9. NATURAL DRAINAGE THAT CROSSES THE LOCATION OF THE STONE PAD SHOULD BE INTERCEPTED AND PIPED BENEATH THE PAD, AS NECESSARY, WITH SUITABLE OUTLET PROTECTION.
10. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
11. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

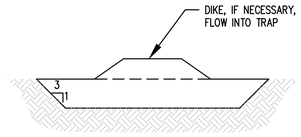
SCALE: N.T.S.

STABILIZED CONSTRUCTION EXIT — 2

NOT TO SCALE



ISOMETRIC VIEW

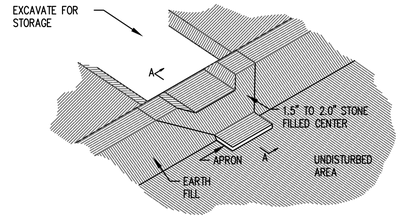


SECTION A-A

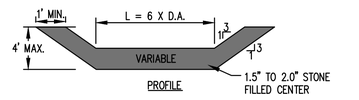
EXCAVATED

EARTH OUTLET SEDIMENT TRAP — 3

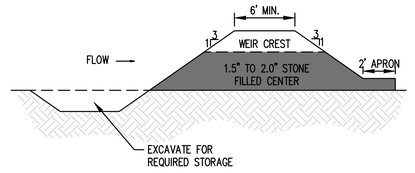
NOT TO SCALE



ISOMETRIC VIEW



PROFILE



SECTION A-A

STONE OUTLET SEDIMENT TRAP — 4

NOT TO SCALE

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REVISIONS

STATE OF NEW HAMPSHIRE — NICOLE L DUQUETTE No.17179 — LICENSED PROFESSIONAL ENGINEER

PROJECT INFO
2024002213
MAY 6, 2025

ENGINEER	DRAWN BY	CHECKED BY
N. DUQUETTE	B. RICHARDS	N. DUQUETTE

LONGMEADOW COMMONS
126 LANG ROAD
PORTSMOUTH, NH 03801

EROSION CONTROL DETAILS

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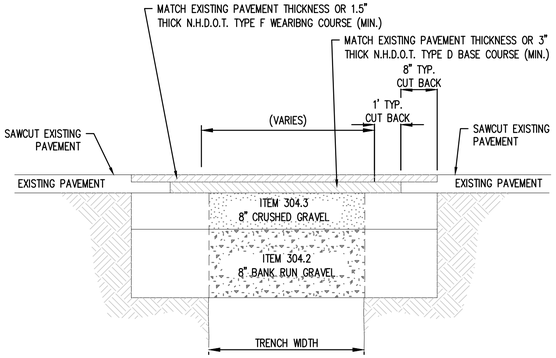
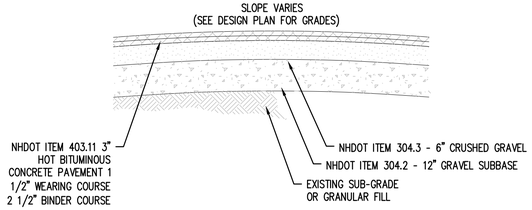


PAVEMENT TRENCH PATCH — 1

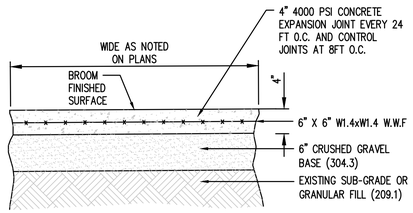
NOT TO SCALE



** SEE CURB DETAILS WHEN APPLICABLE**

PAVEMENT SECTION — 2

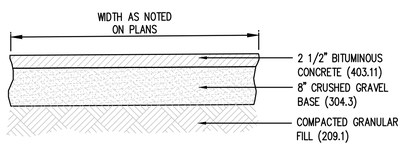
NOT TO SCALE



NOTE:
BROOM FINISH WITH TWO COATS SEALING/CURING COMPOUND

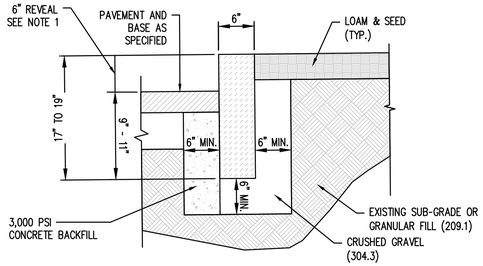
SIDEWALK - CONCRETE — 3

NOT TO SCALE



SIDEWALK - ASPHALT — 4

NOT TO SCALE

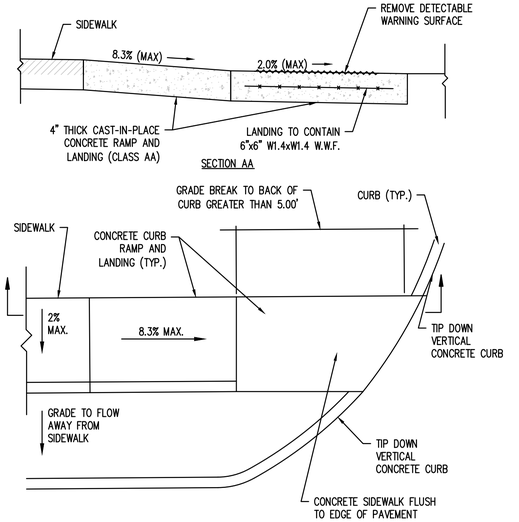


NOTES:
1. CURB REVEAL SHALL BE AS FOLLOWS:
   A. FULL REVEAL: 6"-7"
   B. AT ACCESSIBLE CURB RAMPS: 0"
2. LENGTH OF STRAIGHT CURB STONES SHALL BE AS FOLLOWS:
   A. MINIMUM LENGTH: 3'
   B. MAXIMUM LENGTH: 10'
   C. LENGTH OF STONES ON CURVES: SEE CHART
3. ADJOINING STONES SHALL HAVE THE SAME OF APPROXIMATE LENGTH.

MAX LENGTH OF STRAIGHT CURB STONES LAID ON CURVES	
RADIUS (FT)	MAXIMUM LENGTH (FT)
<21'	USE CURVED CURB
21'	3'
22' - 28'	4'
29' - 35'	5'
36' - 42'	6'
43' - 49'	7'
50' - 56'	8'
57' - 60'	9'
>60'	10'

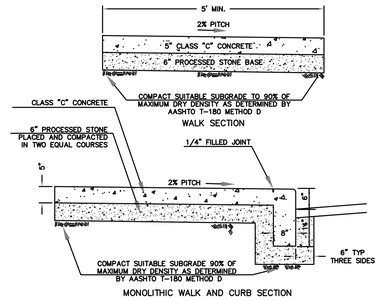
VERTICAL GRANITE CURB (NHDOT) — 5

NOT TO SCALE



ACCESSIBLE CURB RAMP — 6

NOT TO SCALE



MONOLITHIC CONCRETE SIDEWALK — 7

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STATE OF NEW HAMPSHIRE — NICOLE L DUQUETTE No.17179 LICENSED PROFESSIONAL ENGINEER

REVISIONS

PROJECT INFO
2024002213
MAY 6, 2025

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N. DUQUETTE	B. RICHARDS	N. DUQUETTE

LONGMEADOW COMMONS
126 LANG ROAD
PORTSMOUTH, NH 03801

CONSTRUCTION DETAILS

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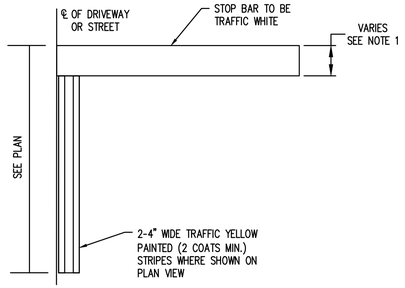
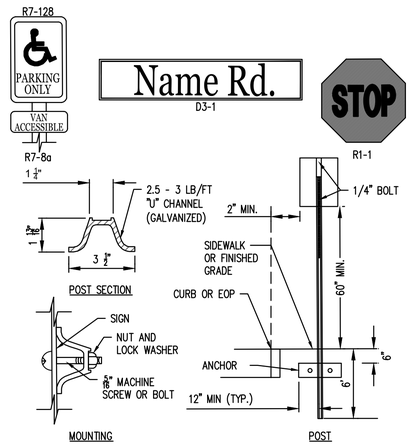
DRAWING NO.
C503



STOP BAR DETAIL

NOT TO SCALE — 1



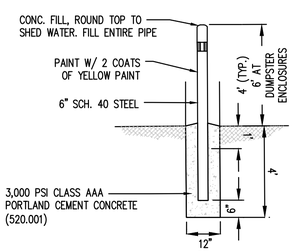
GENERAL NOTES:

1. ALL SIGNING AND PAVEMENT MARKINGS SHALL CONFORM TO "NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", SECTIONS 615 AND 632, AS AMENDED, AND THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
2. THE CONTRACTOR IS RESPONSIBLE FOR THE LAYOUT OF ALL SIGNING AND PAVEMENT MARKINGS.

TRAFFIC SIGNS

NOT TO SCALE — 2

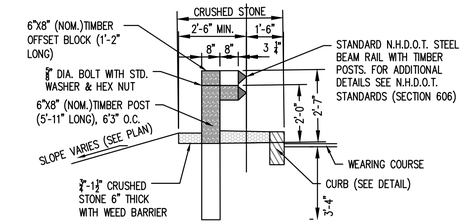
FINAL AESTHETIC ELEMENTS INCLUDING COLOR, HEAD STYLE, FINISHING ETC. TO BE APPROVED BY OWNER OR ARCHITECT.



BOLLARDS TO BE COVERED WITH A UV LIGHTED BOLLARD OR HARDWIRED LIGHTED BOLLARD FROM IDEALSHIELD (OR EQUAL).

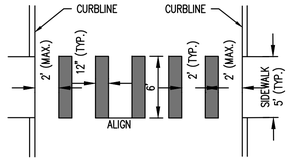
FIXED BOLLARD & BASE

NOT TO SCALE — 3



GUARD RAIL DETAIL

NOT TO SCALE — 4

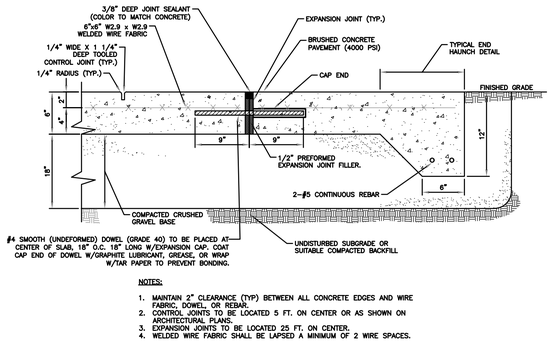


NOTES:

1. TWELVE INCH (12") WHITE THERMOPLASTIC LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO - 6 INCH LINES) WILL BE ACCEPTED.
2. LONGITUDINAL CROSSWALK LINES TO BE PARALLEL TO CURBLINE.
3. ALL LONGITUDINAL CROSSWALK LINES TO BE THE SAME LENGTH AND PROPERLY ALIGNED.

CROSSWALK

NOT TO SCALE — 5

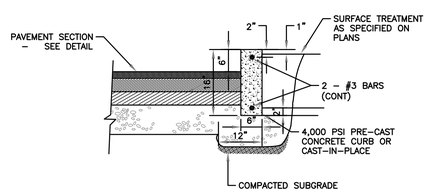


NOTES:

1. MAINTAIN 2" CLEARANCE (TYP) BETWEEN ALL CONCRETE EDGES AND WIRE FABRIC, DOWEL, OR REBAR.
2. CONTROL JOINTS TO BE LOCATED 5 FT. ON CENTER OR AS SHOWN ON ARCHITECTURAL PLANS.
3. EXPANSION JOINTS TO BE LOCATED 25 FT. ON CENTER.
4. WELDED WIRE FABRIC SHALL BE LAPSED A MINIMUM OF 2 WIRE SPACES.

6" HEAVY DUTY CONCRETE PAD

NOT TO SCALE — 6



CONCRETE CURB SECTION

NOT TO SCALE — 7

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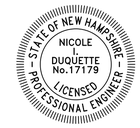

REVISIONS

PROJECT INFO
2024002213
MAY 6, 2025

ENGINEER	DRAWN BY	CHECKED BY
N. DUQUETTE	B. RICHARDS	N. DUQUETTE

LONGMEADOW COMMONS
126 LANG ROAD
PORTSMOUTH, NH 03801

CONSTRUCTION DETAILS

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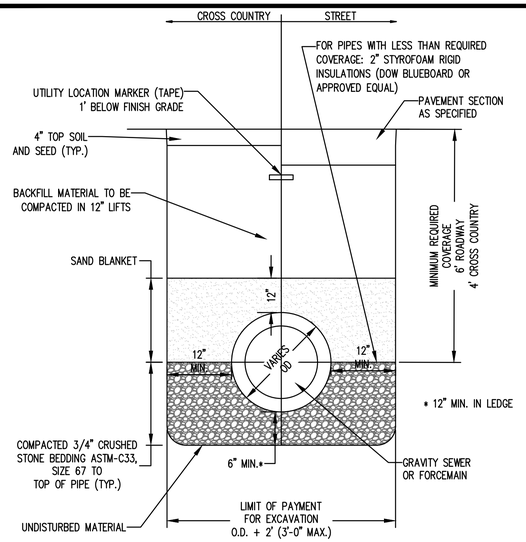
DRAWING NO.
C504

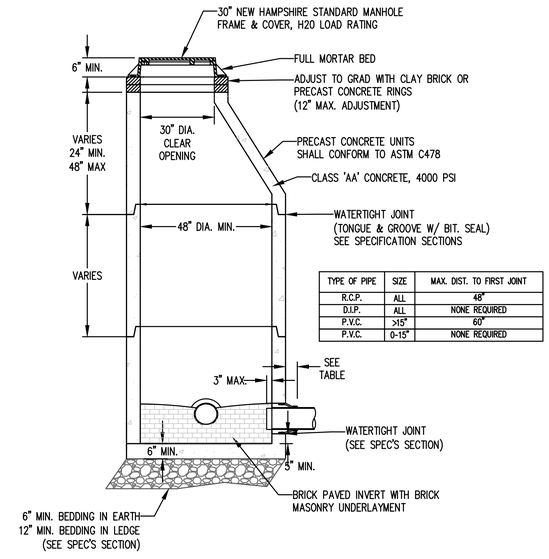


NOTE:

FOR CONSTRUCTION RELATIVE TO UNSUITABLE MATERIALS ENCOUNTERED DURING EXCAVATION, THE ENGINEER SHALL BE CONTACTED IMMEDIATELY UPON ENCOUNTERING UNSUITABLE MATERIAL PRIOR TO EXCAVATION TO VERIFY THE WORK. THE CONTRACTOR SHALL EXCAVATE THE UNSUITABLE MATERIAL AND REPLACE WITH SELECT FILL AS DIRECTED BY THE ENGINEER.

TYPICAL SEWER PIPE TRENCH — 1

NOT TO SCALE



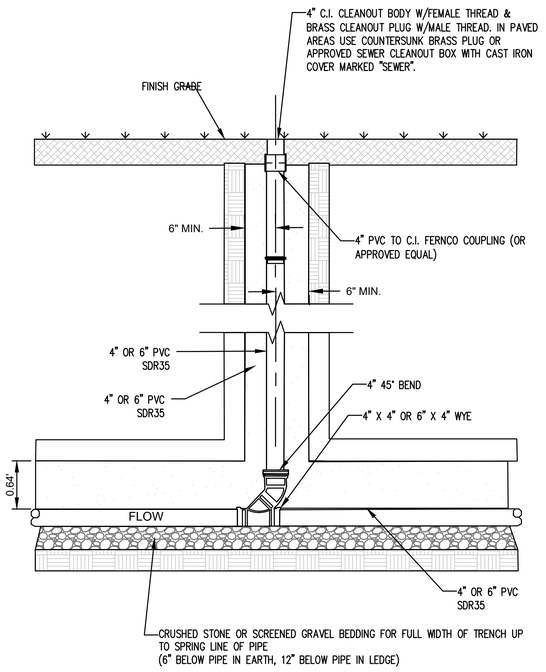
TYPE OF PIPE	SIZE	MAX. DIST. TO FIRST JOINT
R.C.P.	ALL	48"
D.I.P.	ALL	NONE REQUIRED
P.V.C.	>15"	60"
P.V.C.	0-15"	NONE REQUIRED

NOTE:

ALL SECTIONS SHALL BE CONCRETE CLASS 'AA' (4,000 PSI). CIRCUMFERENTIAL REINFORCEMENT SHALL NE 0.12 SQ.IN./LF IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ON LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ.IN./LF.

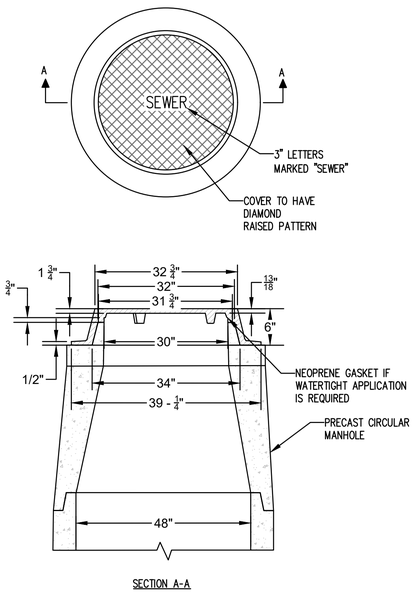
PRE-CAST REINFORCED SANITARY SEWER MANHOLE — 2

NOT TO SCALE



TYPICAL SEWER SERVICE CLEANOUT — 3

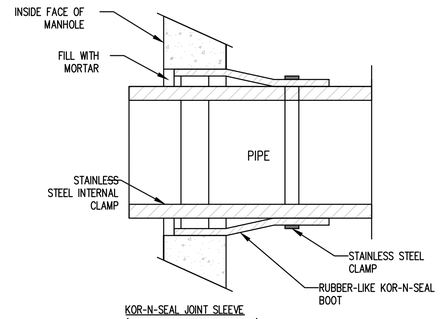
NOT TO SCALE



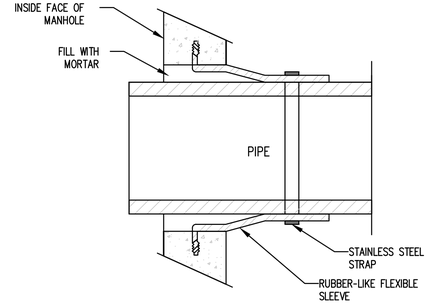
SECTION A-A

TYPICAL SEWER MANHOLE COVER — 4

NOT TO SCALE



KOR-N-SEAL JOINT SLEEVE
(OR ACCEPTABLE SUBSTITUTE)



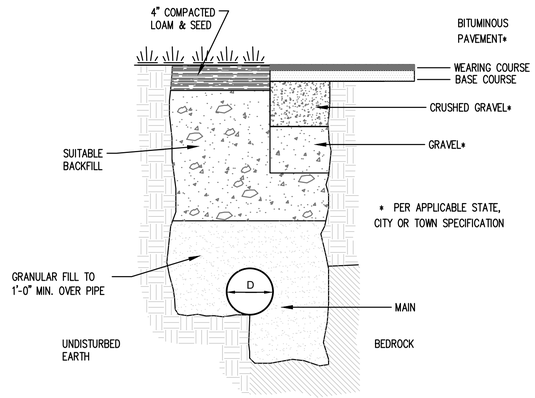
LOCK-JOINT FLEXIBLE MANHOLE SLEEVE
(OR ACCEPTABLE SUBSTITUTE)

NOTE:

ALL GASKETS, SEALANTS, MORTAR, ETC ... SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS

PIPE TO SEWER MANHOLE JOINTS — 5

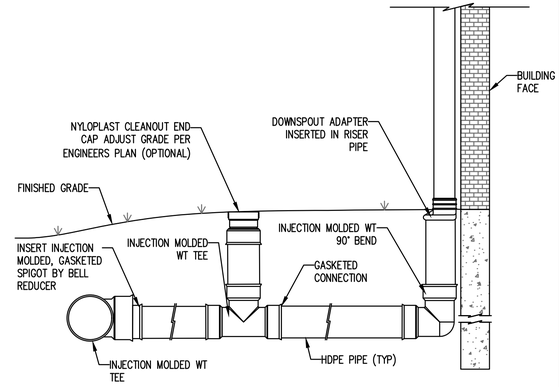
NOT TO SCALE



1. PIPE SHALL BE BURIED AT A MINIMUM DEPTH OF 5'-6"
2. PIPE SHALL HAVE A MINIMUM CLEARANCE OF 1'-0" TO BEDROCK
3. TRENCH WIDTH FOR ROCK EXCAVATION = D + 2'-0"
4. PIPE SHALL BE POLY WRAPPED IN ACCORDANCE WITH AWWA SPEC C105

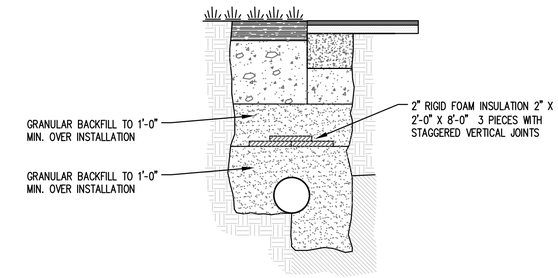
TYPICAL TRENCH DETAIL — 6

NOT TO SCALE



ROOF DRAIN — 7

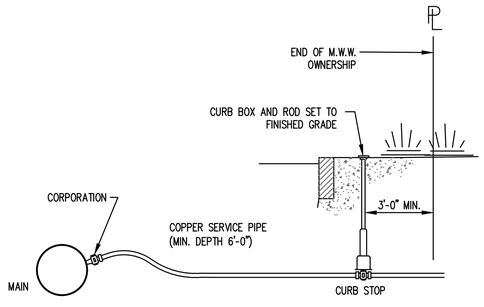
NOT TO SCALE



1. PIPE SHALL BE POLY WRAPPED IN ACCORDANCE WITH AWWA SPEC C105
2. MAIN INSTALLATIONS OF LESS THAN 5'-6" OF COVER SHALL BE ALLOWED ONLY AT THE DISCRETION OF THE ENGINEER. ALL INSTALLATIONS OF LESS 5'-6" OF COVER SHALL BE INSULATED AS SHOWN.

INSULATED WATER MAIN — 8

NOT TO SCALE



CORPORATIONS SHALL BE TAPPED DIRECTLY TO THE MAIN IN SIZES UP TO 1" ø (INCLUSIVE).

TYPICAL SERVICE CONNECTION — 9

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STATE OF NEW HAMPSHIRE — NICOLE L DUQUETTE No.17179 — LICENSED PROFESSIONAL ENGINEER

REVISIONS

PROJECT INFO
2024002213
MAY 6, 2025

ENGINEER	DRAWN BY	CHECKED BY
N. DUQUETTE	B. RICHARDS	N. DUQUETTE

LONGMEADOW COMMONS
126 LANG ROAD
PORTSMOUTH, NH 03801

CONSTRUCTION DETAILS

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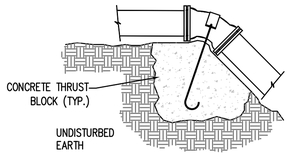
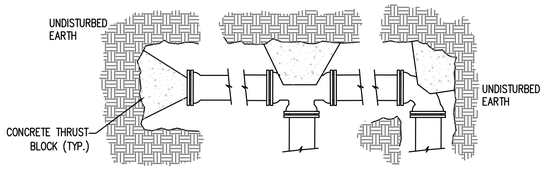
DRAWING NO.
C505



ELEVATION - VERTICAL BENDS



PLAN - HORIZONTAL BENDS, TEES AND PLUGS

1. THRUST BLOCK DIMENSIONS TO BE DETERMINED IN FIELD BY ENGINEER BASED ON PIPE SIZE, WATER PRESSURE AND SOIL TYPE.
2. STONE BACKING MAY BE SUBSTITUTED FOR CONCRETE THRUST BLOCKS PROVIDED THE STONE(S) ARE OF EQUAL SIZE AND BEAR ON UNDISTURBED
3. USE OF JOINT RESTRAINT SYSTEMS SHALL NOT ELIMINATE THRUST BLOCK REQUIREMENTS (WHERE POSSIBLE).

TYPICAL THRUST BLOCKS

NOT TO SCALE

1

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STATE OF NEW HAMPSHIRE
NICOLE L DUQUETTE
No.17179
LICENSED
PROFESSIONAL ENGINEER

REVISIONS

PROJECT INFO
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MAY 6, 2025

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LONGMEADOW COMMONS
126 LANG ROAD
PORTSMOUTH, NH 03801

CONSTRUCTION DETAILS

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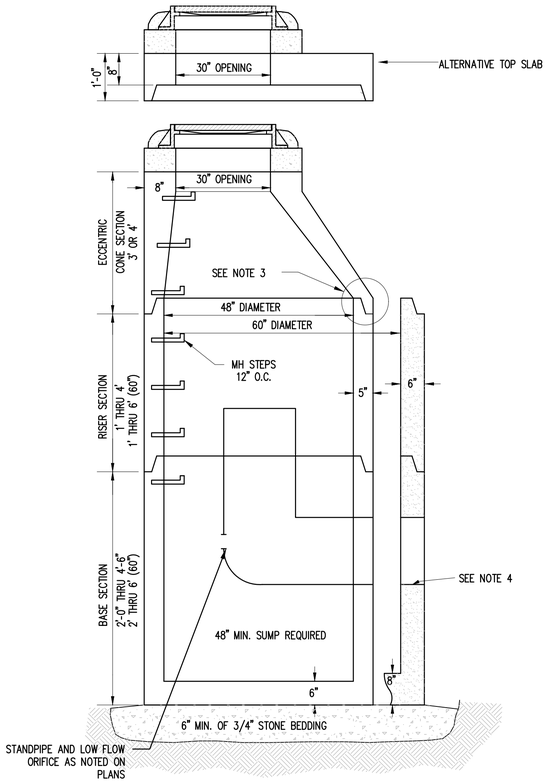
DRAWING NO.
C506

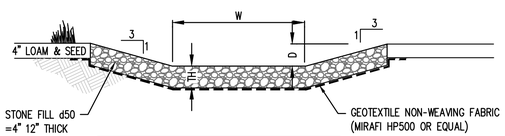


Notes:

1. CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI MINIMUM.
2. ALTERNATIVE TOP SLAB SHALL BE STEEL REINFORCED TO MEET H-20 LOADING.
3. SECTION JOINTS SHALL BE SEALED WITH BUTYL RUBBER AND SHALL CONFORM TO ASTM C443 SPEC. AND FED SPEC. SS-S-210A.
4. ALL PIPING SHALL BE SEALED WITH NON SHRINK GROUT.
5. INLET FRAME SHALL BE ADJUSTED TO GRADE WITH A N=MINIMUM OF TWO (2) COURSES OF BRICK OR ONE SOLID CONCRETE RING AND GROUT. SEALED IN PLACE WITH NON SHRINK GROUT.
6. FRAME AND COVER SHALL BE HEAVY DUTY WITH A MINIMUM INSIDE CLEARANCE OF 30", SUCH AS THE NEENAH R-1754-A OR EQUAL.
7. THE 48" DIAMETER MANHOLE SHALL BE RESTRICTED TO PIPES OF 24" IN DIAMETER OR LESS. THE 60" DIAMETER MANHOLE SHALL BE RESTRICTED TO PIPES OF 36" IN DIAMETER OR LESS.

4' DIA. MANHOLE - STORM DRAIN (DMH)

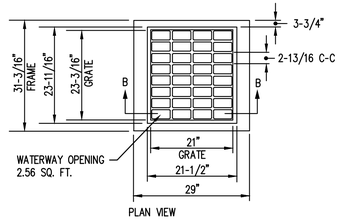
NOT TO SCALE — 1



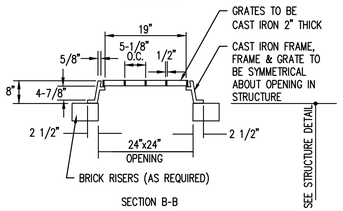
STRUCTURE	W	D	TH	d50
RAIN GARDEN				

EMERGENCY SPILLWAY DETAIL

NOT TO SCALE — 2



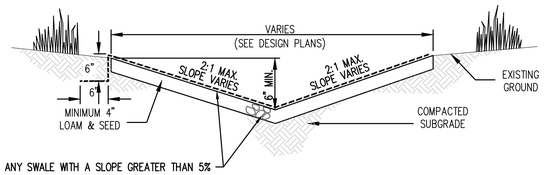
PLAN VIEW
SINGLE GRATE



SECTION B-B

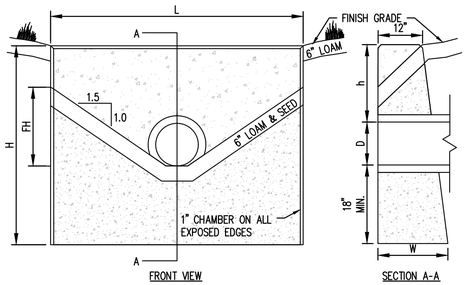
FRAME AND GRATE - NHDOT TYPE B

NOT TO SCALE — 3



TYPICAL SWALE DETAIL

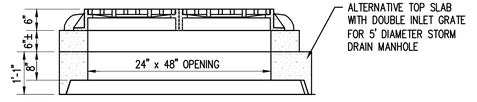
NOT TO SCALE — 4

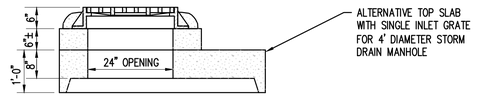


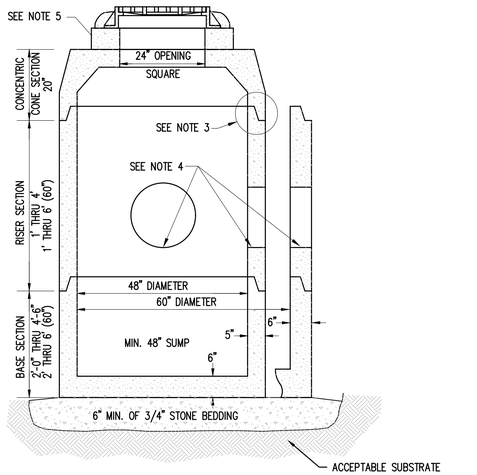
CULVERT DIAM.	HEADWALL LENGTH	HEADWALL HEIGHT	FILL HEIGHT	TOP HEIGHT	HEADWALL BOTTOM
D	L	H	FH	h	WIDTH W
INCHES	FEET & INCHES				
12	4'-3"	3'-9"	1'-1"	1'-3"	1'-11.25"
15	6'-0"	4'-3"	1'-7"	1'-6"	2'-0.75"
18	7'-0"	4'-6"	1'-10"	1'-6"	2'-1.50"
24	9'-0"	5'-0"	2'-4"	1'-6"	2'-3.00"

HEADWALL - PRECAST CONCRETE

NOT TO SCALE — 5





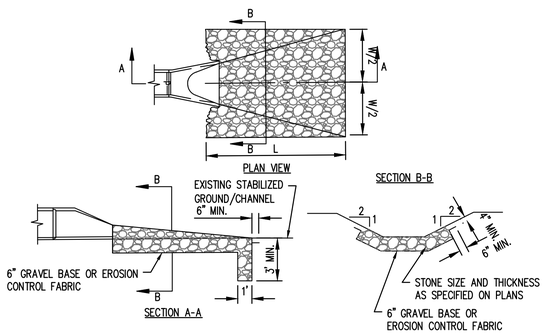


Notes:

1. CONCRETE COMPRESSIVE STRENGTH SHALL BE 4000 PSI MINIMUM.
2. ALTERNATIVE TOP SLAB SHALL BE STEEL REINFORCED TO MEET H-20 LOADING.
3. SECTION JOINTS SHALL BE SEALED WITH BUTYL RUBBER AND SHALL CONFORM TO ASTM C443 SPEC. AND FED SPEC. SS-S-210A.
4. ALL PIPING SHALL BE SEALED WITH NON SHRINK GROUT.
5. INLET FRAME SHALL BE ADJUSTED TO GRADE WITH BRICK AND MORTAR (8" MIN - 12" MAX) OR ONE SOLID CONCRETE RING AND GROUT. SEALED IN PLACE WITH NON SHRINK GROUT.
6. INLET GRATE AND FRAME IS TO BE NEENAH MODEL R-3570 FOR SINGLE GRATE AND MODEL R-3571 FOR A DOUBLE GATE STRUCTURE OR EQUAL.
7. THE 48" DIAMETER MANHOLE SHALL BE RESTRICTED TO PIPES OF 24" IN DIAMETER OR LESS. THE 60" DIAMETER MANHOLE SHALL BE RESTRICTED TO PIPES OF 36" IN DIAMETER OR LESS.

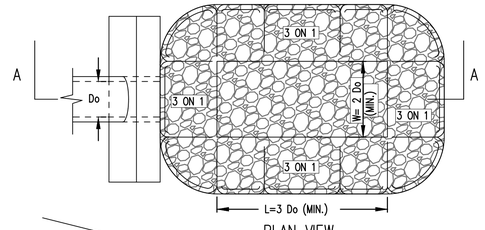
CATCH BASIN (CB)

NOT TO SCALE — 6

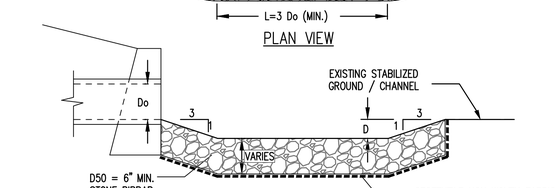


FLARED END SECTION (FES)

NOT TO SCALE — 7



PLAN VIEW



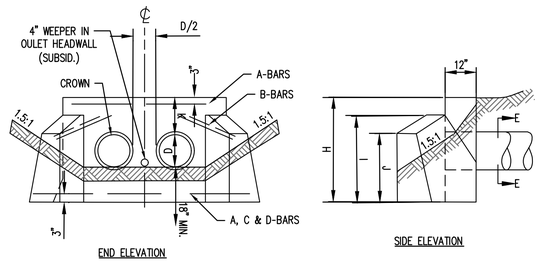
SECTION A-A

L=3 Do = 3(2 FT.) = 6 FT.
W=2 Do = 2(2 FT.) = 4 FT.

LOCATION	D(in)	Do(IN)	L (FT)*	W (FT)*	D_{50} (IN.)	THICKNESS (IN.)
HW-1						

PREFORMED SCOUR HOLE

NOT TO SCALE — 8



CULVERT DIAM.	HEADWALL LENGTH	HEADWALL HEIGHT	TOP HEIGHT
D	C	H	K
INCHES	FEET & INCHES		
24	10'-0"	5'-0"	1'-6"
30	11'-9"	5'-6"	1'-6"
36	13'-7"	6'-0"	1'-6"

DUAL PIPE CONCRETE HEADWALL

NOT TO SCALE — 9

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STATE OF NEW HAMPSHIRE — NICOLE L DUQUETTE No.17179 — LICENSED PROFESSIONAL ENGINEER

REVISIONS

PROJECT INFO
2024002213
MAY 6, 2025
ENGINEER N. DUQUETTE | DRAWN BY B. RICHARDS | CHECKED BY N. DUQUETTE

LONGMEADOW COMMONS
126 LANG ROAD
PORTSMOUTH, NH 03801

CONSTRUCTION DETAILS

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DRAWING NO.
C507

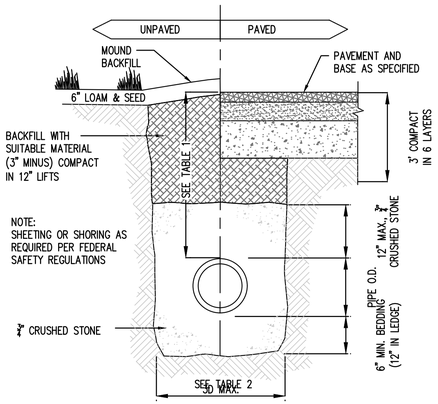
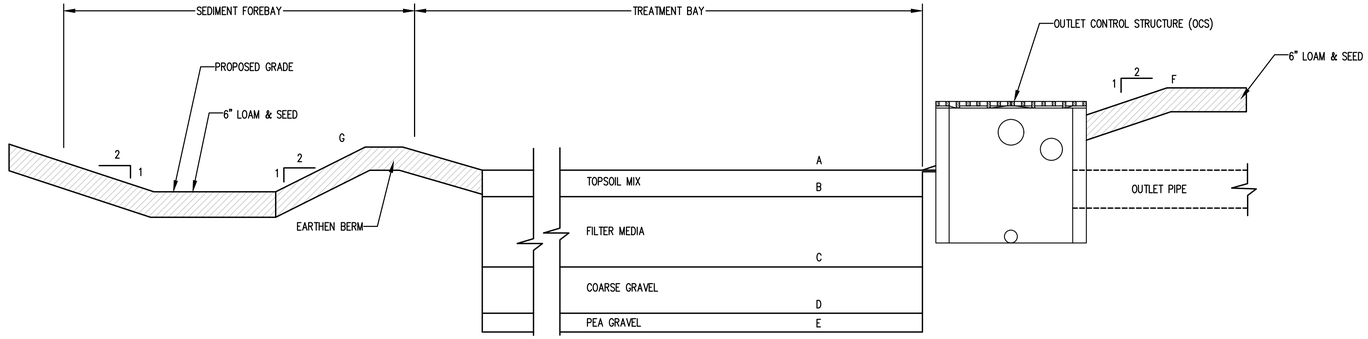


TABLE 1 (RECOMMENDED COVER)		
LOCATION	PIPE MATERIAL	MINIMUM COVER
PAVED ROADS	ALL	3 FT.
GRAVEL ROADS	ALL	2 FT.
DRIVEWAYS	ALL	1 FT.
UNPAVED AREAS	ALL	2 FT.

TABLE 2 (RECOMMENDED TRENCH WIDTH)	
INSIDE DIAMETER	TOTAL WIDTH
12" TO 24" OVER 24"	I.D. + 24" 2 X I.D.

DRAINAGE TRENCH (TYPICAL) — 1

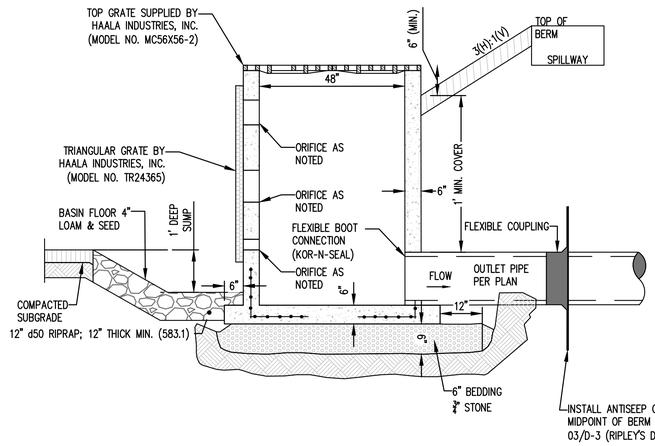
NOT TO SCALE

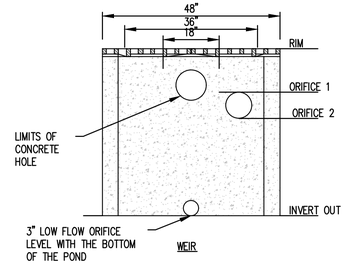


LOCATION	ELEV. (FT)
BOTTOM OF STORAGE (A)	
TOPSOIL MIX (B)	
FILTER MEDIA (C)	
COARSE GRAVEL (D)	
PEA GRAVEL (E)	
TOP OF BERM (F)	
FOREBAY BERM (G)	

BIO-RETENTION BASIN — 2

NOT TO SCALE





OUTLET STRUCTURE NOTES:

1. OUTLET CONTROL STRUCTURE SHALL CONFORM TO SECTION 604 FOR THE NHDOT STANDARD SPECIFICATIONS.
2. ALL HARDWARE SHALL BE HOT-DIPPED GALVINZED PER ASTM A123/123M AND/OR ASTM A153/153M.
3. ALL HARDWARE SHALL TO CONFORM TO SECTION 550, AND AS FOLLOWS;
   A. BOLTS: ASTM A325;
   B. NUTS: GRADE DH;
   C. WASHERS: ASTM F436;
   D. STRUCTURAL STEEL: ASTM A6 AND/OR AASHTO M270 (ASTM A709); GRADE 36;

LOCATION	DIM	ELEV. (FT)
RIM		
ORIFICE 1		
ORIFICE 2		
SUMP	---	
INVERT OUT		

OUTLET CONTROL STRUCTURE (OCS) — 3

NOT TO SCALE

McCLURE™
25 New Hampshire Avenue
Suite 255
Portsmouth, NH 03801
P 603-766-0435
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Cedar Rapids,IA | Clive,IA
Coralville,IA | Council Bluffs,IA
Fort Dodge,IA | Sioux City,IA
Columbia,MO | Macon,MO
North Kansas City,MO
Lenexa, KS
Portsmouth, NH | Boston, MA

NOTICE:
McClure Engineering Co. is not responsible or liable for any issues, claims, damages, or losses (collectively, "Losses") which arise from failure to follow these Plans, Specifications, and the engineering intent they convey, or for Losses which arise from failure to obtain and/or follow the engineers' or surveyors' guidance with respect to any alleged errors, omissions, inconsistences, ambiguities, or conflicts contained within the Plans and Specifications.



REVISIONS

PROJECT INFO
2024002213
MAY 6, 2025

ENGINEER	DRAWN BY	CHECKED BY
N. DUQUETTE	B. RICHARDS	N. DUQUETTE

LONGMEADOW COMMONS
126 LANG ROAD
PORTSMOUTH, NH 03801

CONSTRUCTION DETAILS

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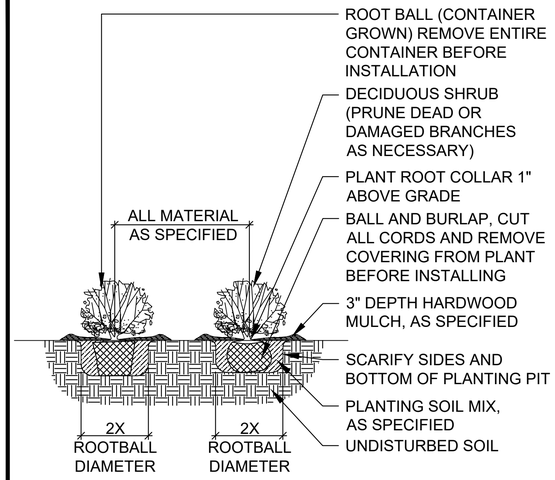
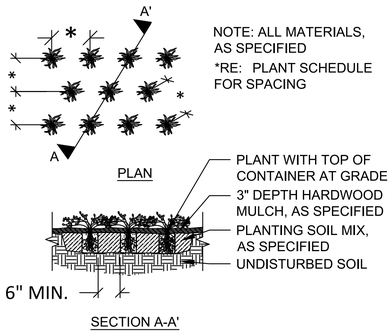
DRAWING NO.
C508



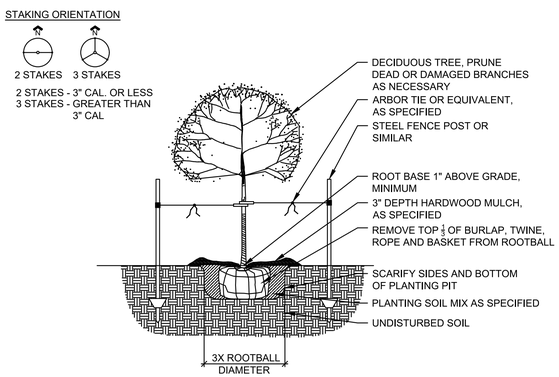
SHRUB PERENNIAL PLANTING — 1

NOT TO SCALE



GROUNDCOVER PLANTING — 2

NOT TO SCALE



1/2" = 1' SCALE
DECIDUOUS TREE PLANTING DETAIL

DECIDUOUS TREE PLANTING — 3

NOT TO SCALE

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Columbia,MO | Macon,MO
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Lenexa, KS
Portsmouth, NH | Boston, MA

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STATE OF NEW HAMPSHIRE
NICOLE L DUQUETTE
No.17179
LICENSED
PROFESSIONAL ENGINEER

REVISIONS

PROJECT INFO
2024002213
MAY 6, 2025

ENGINEER	DRAWN BY	CHECKED BY
N. DUQUETTE	B. RICHARDS	N. DUQUETTE

LONGMEADOW COMMONS
126 LANG ROAD
PORTSMOUTH, NH 03801

CONSTRUCTION DETAILS

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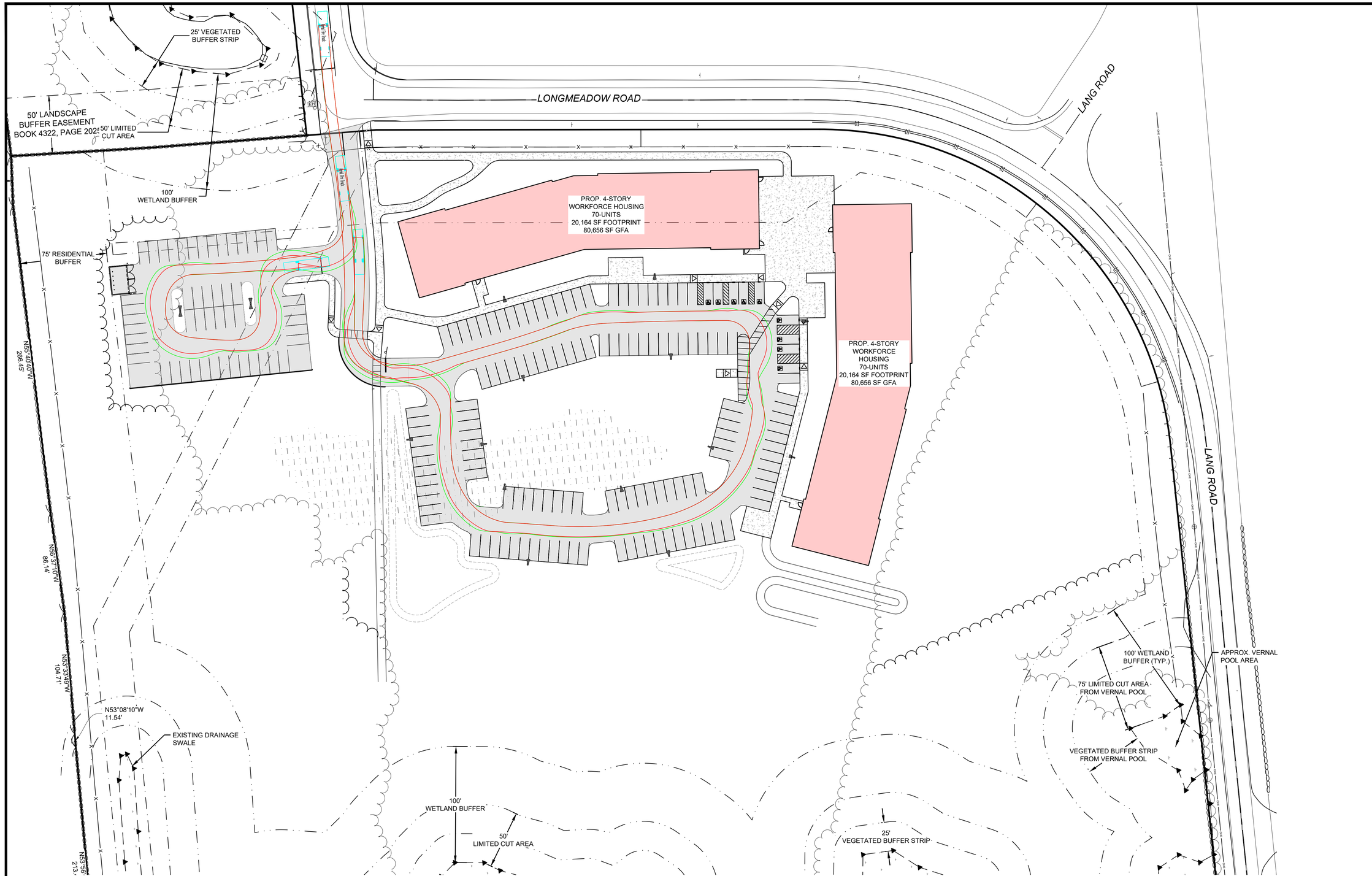
DRAWING NO.
C509



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Columbia,MO | Macon,MO
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STATE OF NEW HAMPSHIRE
NICOLE J. DUQUETTE
No. 17179
LICENSED PROFESSIONAL ENGINEER

REVISIONS

PROJECT INFO
2024002213
MAY 6, 2025

ENGINEER	DRAWN BY	CHECKED BY
N. DUQUETTE	B. RICHARDS	N. DUQUETTE

LONGMEADOW COMMONS
126 LANG ROAD
PORTSMOUTH, NH 03801

TURNING MOVEMENT PLAN

P:\2024001787\04-DRAWINGS\DWG\PLANS\24-1787_TURNING PLAN.DWG

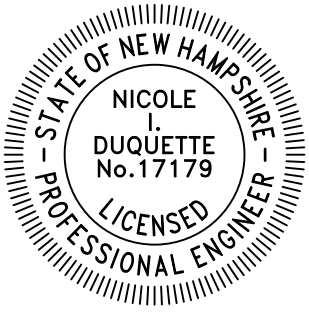
DRAWING NO.
C601

Stormwater Management Report

126 Lang Road Portsmouth, NH 03801

Submitted: 05/06/2025

Prepared For: Preservation of Affordable Housing (POAH)
2 Oliver Street, Suite 500
Boston, MA 02109



McCLURE™

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Section 2.2..... Developed Conditions – 10 Year Storm Full Summary

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Stormwater Management Report
Tax Map 291 Lot 1-1
Proposed Workforce Housing Development – Phase 1
Portsmouth, New Hampshire

Prepared for:
Preservation of Affordable Housing

I. INTRODUCTION

McClure Engineering Company (McClure) has prepared storm water drainage calculations for the proposed development at 126 Lang Road in Portsmouth, New Hampshire. The calculations are associated with a proposed residential development and associated site improvements. The applicant is proposing the construction of two (2) workforce housing buildings (20,164 S.F. ±), parking and access, as well as associated stormwater improvements. The project will require an Alteration of Terrain Permit from the State of New Hampshire Department of Environmental Services (NHDES). The site will be serviced by municipal sewer, water, gas, electric, and communications.

The purpose of this report is to analyze the qualitative and quantitative impacts of the proposed development. The objective of the proposed stormwater management system is to mitigate any runoff volume or rate increases resulting from the proposed development and to meet the drainage guidelines set forth in the City of Portsmouth Site Plan Regulations as well as Env-Wq 1500: Alteration of Terrain.

II. SITE DESCRIPTION (EXISTING)

The project location consists a vacant lot which has been disturbed in the past as part of the construction of Longmeadow Road extension and associated drainage improvements as well as previous clearing and disturbance on-site. Currently the site consists of wooded areas, existing stockpiles, a single existing foundation, and wetlands. Access to the site is located along Longmeadow Road approximately 600 L.F. ± west of the intersection of Longmeadow Road and Lang Road. The property consists of previously disturbed lands which ultimately slope back toward the wetlands on the rear of the site, however the existing stockpiles have created many steep slopes within the middle of the site. A Site-Specific Soil Survey was conducted on-site and indicated that Hydrologic Soil Group's (HSG) "B & C" exist in the vicinity of the project.

III. METHODOLOGY:

The quantity of runoff and the conveyance of that flow through the site are determined using the software package HydroCAD 10.20-2h by HydroCAD Software Solution, LLC. HydroCAD is a design program for modeling stormwater hydrology based on the Soil Conservation Service (SCS) TR-20 method combined with standard hydraulic calculations used to model detention basins and culverts.

Stormwater management systems and erosion control measures are designed in accordance with the methodology for the "Best Management Practices" (BMP's) as outlined in the New Hampshire Stormwater Manual, Volume 2.

IV. SITE DESCRIPTION (EXISTING)

Section 7.6 of The City of Portsmouth Site Plan Regulations requires that the two (2), ten (10), twenty-five (25), and fifty (50) year storm events must be evaluated. These design standards have been utilized for the analysis to compare the pre- and post-development peak flow rates for the site. Reference Table 1.1 and 1.2 below.

Pre-Development Drainage Conditions:

As can be seen on the Pre-Developed Drainage Plans (Section 3.6), the property consists of ten (10) subcatchments with one (1) observation point. Observation Point OP-1 drains to the wetlands located in the rear of the subject parcel.

Post-Development Drainage Conditions:

The applicant is proposing to construct two residential apartment buildings (20,164 S.F. ±) along with parking and associated stormwater improvements. Proposed pavement and roof area will be captured in bio-retention basins and the existing bio-retention basin located on-site, which will treat and mitigate stormwater runoff from a section of parking as well as maintaining the existing areas that were originally designed to be conveyed to this system.

V. SUMMARY:

The intent of the stormwater management system for this project is to address the qualitative and quantitative aspects of the stormwater runoff so that there are no adverse impacts downstream of the proposed project. The proposed development will result in an equal amount or decrease in stormwater flow to the observation points due to the site improvements.

The net result is that new paved areas will receive qualitative treatment and the proposed stormwater BMPs will mitigate runoff rates and volumes leaving the site.

The following table is a summary of the attached calculations and provides a comparison of the peak flow rates and volumes at the observation points for the site. The values presented are based on pre- and post-development conditions.

Table 1.1: Peak Flow Rates (CFS) to Observation Points

Location	Q2-YR (CFS)			Q10-YR (CFS)			Q25-YR (CFS)			Q50-YR (CFS)		
	Pre	Post	Δ	Pre	Post	Δ	Pre	Post	Δ	Pre	Post	Δ
OP-1	18.07	16.65	-1.42	31.65	30.68	-0.97	62.49	60.97	-1.52	82.63	75.92	-6.71

Table 1.2: Peak Volume (AF) to Observation Points

Location	V2-YR (AF)			V10-YR (AF)			V25-YR (AF)			V50-YR (AF)		
	Pre	Post	Δ	Pre	Post	Δ	Pre	Post	Δ	Pre	Post	Δ
OP-1	3.465	3.041	-0.424	5.601	5.010	-0.591	10.781	9.897	-0.884	14.234	13.193	-1.041

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Metadata for Point	
Smoothing	Yes
State	New Hampshire
Location	New Hampshire, United States
Latitude	43.024 degrees North
Longitude	70.79 degrees West
Elevation	10 feet
Date/Time	Thu Mar 20 2025 10:28:19 GMT-0400 (Eastern Daylight Time)

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.66	0.82	1.04	**1yr**	0.71	0.98	1.22	1.57	2.05	2.69	2.96	**1yr**	2.38	2.85	3.26	3.98	4.61	**1yr**
2yr	0.32	0.50	0.62	0.82	1.03	1.31	**2yr**	0.89	1.19	1.52	1.95	2.51	3.25	3.61	**2yr**	2.87	3.47	3.98	4.73	5.39	**2yr**
5yr	0.37	0.58	0.73	0.98	1.25	1.62	**5yr**	1.08	1.47	1.90	2.45	3.17	4.12	4.64	**5yr**	3.64	4.46	5.11	6.01	6.78	**5yr**
10yr	0.41	0.65	0.83	1.12	1.46	1.90	**10yr**	1.26	1.74	2.25	2.92	3.79	4.93	5.60	**10yr**	4.36	5.39	6.17	7.21	8.08	**10yr**
25yr	0.48	0.77	0.98	1.35	1.79	2.36	**25yr**	1.54	2.16	2.80	3.67	4.80	6.25	7.20	**25yr**	5.53	6.92	7.93	9.16	10.18	**25yr**
50yr	0.54	0.87	1.11	1.55	2.09	2.79	**50yr**	1.81	2.55	3.33	4.37	5.73	7.49	8.70	**50yr**	6.63	8.37	9.59	10.99	12.14	**50yr**
100yr	0.60	0.98	1.26	1.79	2.45	3.30	**100yr**	2.11	3.01	3.95	5.22	6.86	8.98	10.53	**100yr**	7.95	10.12	11.61	13.19	14.48	**100yr**
200yr	0.68	1.12	1.45	2.07	2.86	3.89	**200yr**	2.47	3.55	4.68	6.21	8.20	10.77	12.73	**200yr**	9.53	12.24	14.04	15.83	17.27	**200yr**
500yr	0.81	1.34	1.74	2.52	3.53	4.84	**500yr**	3.05	4.43	5.85	7.82	10.38	13.69	16.39	**500yr**	12.12	15.76	18.08	20.16	21.82	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.72	0.89	**1yr**	0.62	0.87	0.92	1.33	1.67	2.27	2.59	**1yr**	2.01	2.49	2.90	3.18	3.95	**1yr**
2yr	0.32	0.49	0.60	0.81	1.00	1.19	**2yr**	0.87	1.17	1.37	1.82	2.33	3.10	3.51	**2yr**	2.74	3.37	3.88	4.61	5.14	**2yr**
5yr	0.35	0.54	0.68	0.93	1.18	1.41	**5yr**	1.02	1.38	1.61	2.12	2.73	3.85	4.28	**5yr**	3.40	4.11	4.80	5.64	6.35	**5yr**
10yr	0.39	0.60	0.74	1.04	1.34	1.61	**10yr**	1.16	1.57	1.81	2.38	3.05	4.45	4.98	**10yr**	3.94	4.79	5.58	6.56	7.34	**10yr**
25yr	0.45	0.68	0.84	1.20	1.58	1.91	**25yr**	1.37	1.87	2.11	2.75	3.53	4.81	6.07	**25yr**	4.25	5.84	6.88	8.02	8.89	**25yr**
50yr	0.49	0.75	0.93	1.33	1.80	2.18	**50yr**	1.55	2.14	2.36	3.06	3.93	5.44	7.04	**50yr**	4.82	6.77	8.05	9.35	10.28	**50yr**
100yr	0.55	0.83	1.04	1.50	2.05	2.49	**100yr**	1.77	2.44	2.64	3.40	4.35	6.14	8.16	**100yr**	5.43	7.85	9.43	10.91	11.89	**100yr**
200yr	0.61	0.91	1.16	1.68	2.34	2.84	**200yr**	2.02	2.78	2.95	3.76	4.79	6.90	9.47	**200yr**	6.11	9.10	11.05	12.74	13.78	**200yr**
500yr	0.71	1.05	1.35	1.97	2.80	3.40	**500yr**	2.41	3.33	3.43	4.28	5.46	8.07	11.51	**500yr**	7.14	11.07	13.65	15.68	16.72	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.29	0.44	0.54	0.73	0.89	1.09	**1yr**	0.77	1.06	1.27	1.74	2.20	3.02	3.18	**1yr**	2.67	3.05	3.63	4.41	5.11	**1yr**
2yr	0.34	0.52	0.64	0.87	1.07	1.27	**2yr**	0.92	1.24	1.48	1.96	2.51	3.46	3.73	**2yr**	3.06	3.59	4.11	4.88	5.69	**2yr**
5yr	0.40	0.62	0.77	1.05	1.34	1.63	**5yr**	1.16	1.59	1.89	2.53	3.24	4.38	4.98	**5yr**	3.88	4.79	5.43	6.41	7.20	**5yr**
10yr	0.47	0.72	0.90	1.25	1.62	1.99	**10yr**	1.40	1.94	2.29	3.10	3.94	5.39	6.21	**10yr**	4.77	5.98	6.82	7.88	8.79	**10yr**
25yr	0.58	0.88	1.10	1.57	2.06	2.59	**25yr**	1.78	2.53	2.96	4.07	5.14	7.84	8.33	**25yr**	6.94	8.01	9.11	10.37	11.44	**25yr**
50yr	0.68	1.03	1.28	1.84	2.48	3.15	**50yr**	2.14	3.08	3.60	4.99	6.30	9.81	10.40	**50yr**	8.69	10.00	11.34	12.75	13.98	**50yr**
100yr	0.80	1.20	1.51	2.18	2.99	3.84	**100yr**	2.58	3.75	4.38	6.15	7.73	12.27	13.00	**100yr**	10.86	12.50	14.12	15.70	17.09	**100yr**
200yr	0.93	1.40	1.78	2.57	3.59	4.69	**200yr**	3.10	4.59	5.34	7.58	9.50	15.38	16.26	**200yr**	13.61	15.64	17.60	19.32	20.90	**200yr**
500yr	1.16	1.72	2.21	3.22	4.58	6.10	**500yr**	3.95	5.96	6.93	10.02	12.49	20.76	21.86	**500yr**	18.37	21.02	23.54	25.43	27.27	**500yr**

Powered by ACIS Northeast Regional Climate Center



Map Scale: 1:5,710 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Lines

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Points

A
A/D
B
B/D
C
C/D
D
Not rated or not available

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 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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: Rockingham County, New Hampshire
Survey Area Data: Version 27, Sep 3, 2024

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

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
32A	Boxford silt loam, 0 to 3 percent slopes	D	2.0	1.2%
140B	Chatfield-Hollis-Canton complex, 0 to 8 percent slopes, rocky	B	6.5	4.0%
299	Udorthents, smoothed		37.0	22.9%
460B	Pennichuck channery very fine sandy loam, 3 to 8 percent slopes	C	9.9	6.2%
495	Natchaug mucky peat, 0 to 2 percent slopes	B/D	4.4	2.7%
538A	Squamscott fine sandy loam, 0 to 5 percent slopes	C/D	21.2	13.2%
699	Urban land		14.8	9.2%
799	Urban land-Canton complex, 3 to 15 percent slopes		65.5	40.6%
Totals for Area of Interest			**161.4**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Section 1.1: Pre-Developed Conditions

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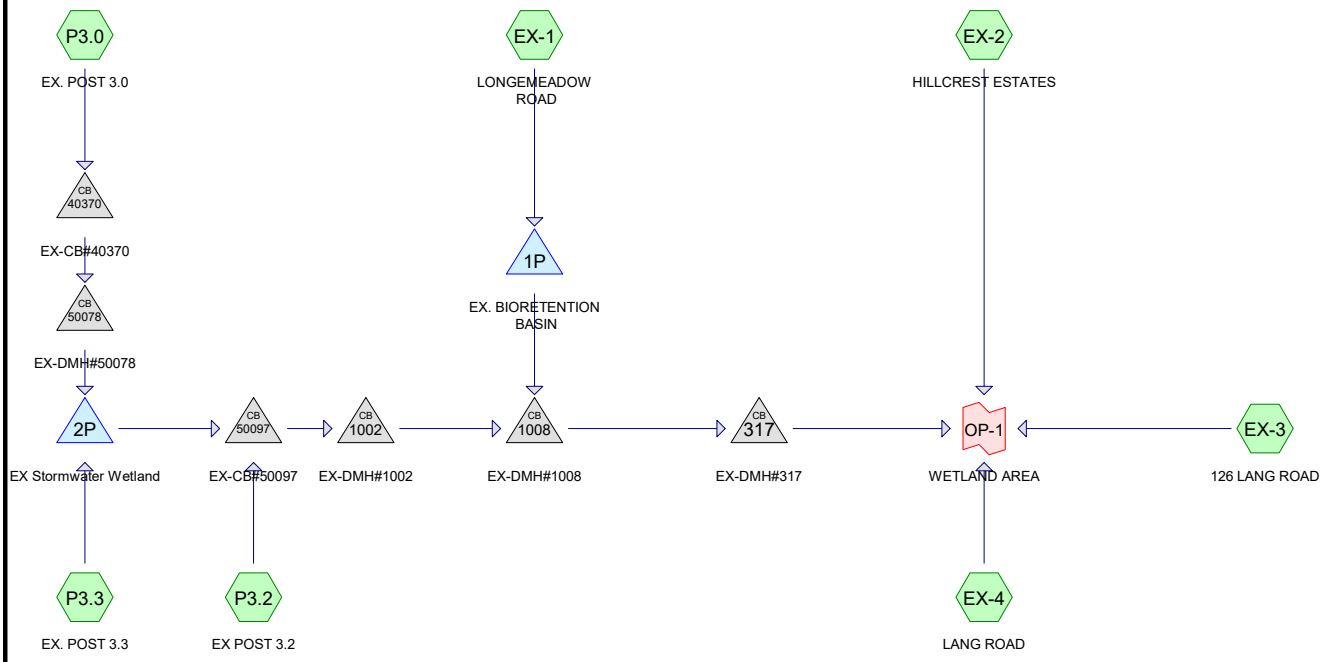

Subcat Reach Pond Link

Routing Diagram for 24-1787EX00
Prepared by McClure, Printed 5/4/2025
HydroCAD® 10.20-2h s/n 12811 © 2024 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
13.459	61	>75% Grass cover, Good, HSG B (EX-1, EX-3, EX-4, P3.0, P3.2, P3.3)
7.257	74	>75% Grass cover, Good, HSG C (EX-1, EX-3, EX-4)
7.305	98	Paved parking, HSG B (EX-1, EX-4, P3.0, P3.2, P3.3)
0.994	98	Roofs, HSG B (EX-3, P3.0, P3.2, P3.3)
0.476	98	Unconnected pavement, HSG B (EX-3)
4.387	55	Woods, Good, HSG B (EX-1, EX-2, EX-3, EX-4, P3.0)
1.275	70	Woods, Good, HSG C (EX-1, EX-2, EX-3, EX-4)
35.153	**72**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
26.621	HSG B	EX-1, EX-2, EX-3, EX-4, P3.0, P3.2, P3.3
8.532	HSG C	EX-1, EX-2, EX-3, EX-4
0.000	HSG D	
0.000	Other	
35.153		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	13.459	7.257	0.000	0.000	20.715	>75% Grass cover, Good	EX-1, EX-3, EX-4, P3.0, P3.2, P3.3
0.000	7.305	0.000	0.000	0.000	7.305	Paved parking	EX-1, EX-4, P3.0, P3.2, P3.3
0.000	0.994	0.000	0.000	0.000	0.994	Roofs	EX-3, P3.0, P3.2, P3.3
0.000	0.476	0.000	0.000	0.000	0.476	Unconnected pavement	EX-3
0.000	4.387	1.275	0.000	0.000	5.663	Woods, Good	EX-1, EX-2, EX-3, EX-4, P3.0
0.000	**26.621**	**8.532**	**0.000**	**0.000**	**35.153**	**TOTAL AREA**	

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 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 EX-1: LONGEMEADOW Runoff Area=178,391 sf 12.81% Impervious Runoff Depth=1.22"
Flow Length=771' Slope=0.0185 '/' Tc=24.6 min CN=71 Runoff=3.41 cfs 0.416 af

Subcatchment EX-2: HILLCREST ESTATES Runoff Area=34,020 sf 0.00% Impervious Runoff Depth=0.47"
Flow Length=524' Slope=0.0419 '/' Tc=17.7 min CN=56 Runoff=0.18 cfs 0.031 af

Subcatchment EX-3: 126 LANG ROAD Runoff Area=412,632 sf 6.08% Impervious Runoff Depth=1.16"
Flow Length=636' Slope=0.3303 '/' Tc=6.0 min CN=70 Runoff=12.09 cfs 0.915 af

Subcatchment EX-4: LANG ROAD Runoff Area=65,097 sf 25.09% Impervious Runoff Depth=1.10"
Flow Length=606' Slope=0.0412 '/' Tc=14.4 min CN=69 Runoff=1.36 cfs 0.137 af

Subcatchment P3.0: EX. POST 3.0 Runoff Area=599,696 sf 38.08% Impervious Runoff Depth=1.47"
Flow Length=735' Slope=0.0050 '/' Tc=40.8 min CN=75 Runoff=11.30 cfs 1.691 af

Subcatchment P3.2: EX POST 3.2 Runoff Area=158,779 sf 54.40% Impervious Runoff Depth=1.90"
Flow Length=1,000' Slope=0.0147 '/' Tc=25.4 min CN=81 Runoff=4.94 cfs 0.579 af

Subcatchment P3.3: EX. POST 3.3 Runoff Area=82,637 sf 3.87% Impervious Runoff Depth=0.73"
Flow Length=456' Slope=0.1316 '/' Tc=7.7 min CN=62 Runoff=1.22 cfs 0.116 af

Pond 1P: EX. BIORETENTION BASIN Peak Elev=51.57' Storage=9,808 cf Inflow=3.41 cfs 0.416 af
Discarded=0.35 cfs 0.328 af Primary=0.00 cfs 0.000 af Outflow=0.35 cfs 0.328 af

Pond 2P: EX Stormwater Wetland Peak Elev=48.27' Storage=6,537 cf Inflow=11.69 cfs 1.807 af
Outflow=10.26 cfs 1.804 af

Pond 317: EX-DMH#317 Peak Elev=41.50' Inflow=13.01 cfs 2.383 af
36.0" Round Culvert n=0.011 L=108.7' S=0.0164 '/' Outflow=13.01 cfs 2.383 af

Pond 1002: EX-DMH#1002 Peak Elev=47.70' Inflow=13.01 cfs 2.383 af
36.0" Round Culvert n=0.011 L=64.8' S=0.0309 '/' Outflow=13.01 cfs 2.383 af

Pond 1008: EX-DMH#1008 Peak Elev=45.40' Inflow=13.01 cfs 2.383 af
36.0" Round Culvert n=0.011 L=379.8' S=0.0103 '/' Outflow=13.01 cfs 2.383 af

Pond 40370: EX-CB#40370 Peak Elev=52.08' Inflow=11.30 cfs 1.691 af
36.0" Round Culvert n=0.011 L=68.4' S=0.0073 '/' Outflow=11.30 cfs 1.691 af

Pond 50078: EX-DMH#50078 Peak Elev=51.51' Inflow=11.30 cfs 1.691 af
36.0" Round Culvert n=0.011 L=101.4' S=0.0035 '/' Outflow=11.30 cfs 1.691 af

Pond 50097: EX-CB#50097 Peak Elev=48.30' Inflow=13.01 cfs 2.383 af
36.0" Round Culvert n=0.011 L=71.2' S=-0.0140 '/' Outflow=13.01 cfs 2.383 af

Link OP-1: WETLAND AREA Inflow=18.07 cfs 3.465 af
Primary=18.07 cfs 3.465 af

Total Runoff Area = 35.153 ac Runoff Volume = 3.885 af Average Runoff Depth = 1.33"
75.04% Pervious = 26.378 ac 24.96% Impervious = 8.775 ac

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 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 EX-1: LONGEMEADOW Runoff Area=178,391 sf 12.81% Impervious Runoff Depth=2.02"
Flow Length=771' Slope=0.0185 '/' Tc=24.6 min CN=71 Runoff=5.86 cfs 0.689 af

Subcatchment EX-2: HILLCREST ESTATES Runoff Area=34,020 sf 0.00% Impervious Runoff Depth=0.98"
Flow Length=524' Slope=0.0419 '/' Tc=17.7 min CN=56 Runoff=0.51 cfs 0.063 af

Subcatchment EX-3: 126 LANG ROAD Runoff Area=412,632 sf 6.08% Impervious Runoff Depth=1.94"
Flow Length=636' Slope=0.3303 '/' Tc=6.0 min CN=70 Runoff=21.12 cfs 1.532 af

Subcatchment EX-4: LANG ROAD Runoff Area=65,097 sf 25.09% Impervious Runoff Depth=1.86"
Flow Length=606' Slope=0.0412 '/' Tc=14.4 min CN=69 Runoff=2.43 cfs 0.232 af

Subcatchment P3.0: EX. POST 3.0 Runoff Area=599,696 sf 38.08% Impervious Runoff Depth=2.34"
Flow Length=735' Slope=0.0050 '/' Tc=40.8 min CN=75 Runoff=18.36 cfs 2.689 af

Subcatchment P3.2: EX POST 3.2 Runoff Area=158,779 sf 54.40% Impervious Runoff Depth=2.87"
Flow Length=1,000' Slope=0.0147 '/' Tc=25.4 min CN=81 Runoff=7.47 cfs 0.872 af

Subcatchment P3.3: EX. POST 3.3 Runoff Area=82,637 sf 3.87% Impervious Runoff Depth=1.36"
Flow Length=456' Slope=0.1316 '/' Tc=7.7 min CN=62 Runoff=2.60 cfs 0.215 af

Pond 1P: EX. BIORETENTION BASIN Peak Elev=52.83' Storage=16,059 cf Inflow=5.86 cfs 0.689 af
Discarded=0.64 cfs 0.600 af Primary=0.00 cfs 0.000 af Outflow=0.64 cfs 0.600 af

Pond 2P: EX Stormwater Wetland Peak Elev=48.84' Storage=12,226 cf Inflow=19.08 cfs 2.904 af
Outflow=16.15 cfs 2.901 af

Pond 317: EX-DMH#317 Peak Elev=41.90' Inflow=20.24 cfs 3.773 af
36.0" Round Culvert n=0.011 L=108.7' S=0.0164 '/' Outflow=20.24 cfs 3.773 af

Pond 1002: EX-DMH#1002 Peak Elev=48.10' Inflow=20.24 cfs 3.773 af
36.0" Round Culvert n=0.011 L=64.8' S=0.0309 '/' Outflow=20.24 cfs 3.773 af

Pond 1008: EX-DMH#1008 Peak Elev=45.80' Inflow=20.24 cfs 3.773 af
36.0" Round Culvert n=0.011 L=379.8' S=0.0103 '/' Outflow=20.24 cfs 3.773 af

Pond 40370: EX-CB#40370 Peak Elev=52.55' Inflow=18.36 cfs 2.689 af
36.0" Round Culvert n=0.011 L=68.4' S=0.0073 '/' Outflow=18.36 cfs 2.689 af

Pond 50078: EX-DMH#50078 Peak Elev=52.00' Inflow=18.36 cfs 2.689 af
36.0" Round Culvert n=0.011 L=101.4' S=0.0035 '/' Outflow=18.36 cfs 2.689 af

Pond 50097: EX-CB#50097 Peak Elev=48.70' Inflow=20.24 cfs 3.773 af
36.0" Round Culvert n=0.011 L=71.2' S=-0.0140 '/' Outflow=20.24 cfs 3.773 af

Link OP-1: WETLAND AREA Inflow=31.65 cfs 5.601 af
Primary=31.65 cfs 5.601 af

Total Runoff Area = 35.153 ac Runoff Volume = 6.293 af Average Runoff Depth = 2.15"
75.04% Pervious = 26.378 ac 24.96% Impervious = 8.775 ac

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 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 EX-1: LONGEMEADOW Runoff Area=178,391 sf 12.81% Impervious Runoff Depth=3.88"
Flow Length=771' Slope=0.0185 '/' Tc=24.6 min CN=71 Runoff=11.52 cfs 1.325 af

Subcatchment EX-2: HILLCREST ESTATES Runoff Area=34,020 sf 0.00% Impervious Runoff Depth=2.34"
Flow Length=524' Slope=0.0419 '/' Tc=17.7 min CN=56 Runoff=1.43 cfs 0.152 af

Subcatchment EX-3: 126 LANG ROAD Runoff Area=412,632 sf 6.08% Impervious Runoff Depth=3.78"
Flow Length=636' Slope=0.3303 '/' Tc=6.0 min CN=70 Runoff=41.95 cfs 2.981 af

Subcatchment EX-4: LANG ROAD Runoff Area=65,097 sf 25.09% Impervious Runoff Depth=3.67"
Flow Length=606' Slope=0.0412 '/' Tc=14.4 min CN=69 Runoff=4.93 cfs 0.457 af

Subcatchment P3.0: EX. POST 3.0 Runoff Area=599,696 sf 38.08% Impervious Runoff Depth=4.32"
Flow Length=735' Slope=0.0050 '/' Tc=40.8 min CN=75 Runoff=34.04 cfs 4.953 af

Subcatchment P3.2: EX POST 3.2 Runoff Area=158,779 sf 54.40% Impervious Runoff Depth=4.98"
Flow Length=1,000' Slope=0.0147 '/' Tc=25.4 min CN=81 Runoff=12.85 cfs 1.513 af

Subcatchment P3.3: EX. POST 3.3 Runoff Area=82,637 sf 3.87% Impervious Runoff Depth=2.94"
Flow Length=456' Slope=0.1316 '/' Tc=7.7 min CN=62 Runoff=6.06 cfs 0.465 af

Pond 1P: EX. BIORETENTION BASIN Peak Elev=54.83' Storage=28,789 cf Inflow=11.52 cfs 1.325 af
Discarded=1.09 cfs 0.975 af Primary=1.02 cfs 0.262 af Outflow=2.11 cfs 1.237 af

Pond 2P: EX Stormwater Wetland Peak Elev=50.31' Storage=32,034 cf Inflow=35.51 cfs 5.418 af
Outflow=25.40 cfs 5.415 af

Pond 317: EX-DMH#317 Peak Elev=42.54' Inflow=32.78 cfs 7.190 af
36.0" Round Culvert n=0.011 L=108.7' S=0.0164 '/' Outflow=32.78 cfs 7.190 af

Pond 1002: EX-DMH#1002 Peak Elev=48.71' Inflow=32.24 cfs 6.928 af
36.0" Round Culvert n=0.011 L=64.8' S=0.0309 '/' Outflow=32.24 cfs 6.928 af

Pond 1008: EX-DMH#1008 Peak Elev=46.44' Inflow=32.78 cfs 7.190 af
36.0" Round Culvert n=0.011 L=379.8' S=0.0103 '/' Outflow=32.78 cfs 7.190 af

Pond 40370: EX-CB#40370 Peak Elev=53.46' Inflow=34.04 cfs 4.953 af
36.0" Round Culvert n=0.011 L=68.4' S=0.0073 '/' Outflow=34.04 cfs 4.953 af

Pond 50078: EX-DMH#50078 Peak Elev=52.96' Inflow=34.04 cfs 4.953 af
36.0" Round Culvert n=0.011 L=101.4' S=0.0035 '/' Outflow=34.04 cfs 4.953 af

Pond 50097: EX-CB#50097 Peak Elev=49.31' Inflow=32.24 cfs 6.928 af
36.0" Round Culvert n=0.011 L=71.2' S=-0.0140 '/' Outflow=32.24 cfs 6.928 af

Link OP-1: WETLAND AREA Inflow=62.49 cfs 10.781 af
Primary=62.49 cfs 10.781 af

Total Runoff Area = 35.153 ac Runoff Volume = 11.848 af Average Runoff Depth = 4.04"
75.04% Pervious = 26.378 ac 24.96% Impervious = 8.775 ac

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 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 EX-1: LONGEMEADOW Runoff Area=178,391 sf 12.81% Impervious Runoff Depth=5.11"
Flow Length=771' Slope=0.0185 '/' Tc=24.6 min CN=71 Runoff=15.18 cfs 1.745 af

Subcatchment EX-2: HILLCREST ESTATES Runoff Area=34,020 sf 0.00% Impervious Runoff Depth=3.33"
Flow Length=524' Slope=0.0419 '/' Tc=17.7 min CN=56 Runoff=2.10 cfs 0.216 af

Subcatchment EX-3: 126 LANG ROAD Runoff Area=412,632 sf 6.08% Impervious Runoff Depth=4.99"
Flow Length=636' Slope=0.3303 '/' Tc=6.0 min CN=70 Runoff=55.45 cfs 3.941 af

Subcatchment EX-4: LANG ROAD Runoff Area=65,097 sf 25.09% Impervious Runoff Depth=4.87"
Flow Length=606' Slope=0.0412 '/' Tc=14.4 min CN=69 Runoff=6.56 cfs 0.607 af

Subcatchment P3.0: EX. POST 3.0 Runoff Area=599,696 sf 38.08% Impervious Runoff Depth=5.60"
Flow Length=735' Slope=0.0050 '/' Tc=40.8 min CN=75 Runoff=43.97 cfs 6.419 af

Subcatchment P3.2: EX POST 3.2 Runoff Area=158,779 sf 54.40% Impervious Runoff Depth=6.32"
Flow Length=1,000' Slope=0.0147 '/' Tc=25.4 min CN=81 Runoff=16.18 cfs 1.920 af

Subcatchment P3.3: EX. POST 3.3 Runoff Area=82,637 sf 3.87% Impervious Runoff Depth=4.04"
Flow Length=456' Slope=0.1316 '/' Tc=7.7 min CN=62 Runoff=8.41 cfs 0.638 af

Pond 1P: EX. BIORETENTION BASIN Peak Elev=55.99' Storage=37,991 cf Inflow=15.18 cfs 1.745 af
Discarded=1.38 cfs 1.161 af Primary=1.44 cfs 0.496 af Outflow=2.82 cfs 1.656 af

Pond 2P: EX Stormwater Wetland Peak Elev=51.29' Storage=48,723 cf Inflow=45.94 cfs 7.057 af
Outflow=30.08 cfs 7.054 af

Pond 317: EX-DMH#317 Peak Elev=42.94' Inflow=39.71 cfs 9.470 af
36.0" Round Culvert n=0.011 L=108.7' S=0.0164 '/' Outflow=39.71 cfs 9.470 af

Pond 1002: EX-DMH#1002 Peak Elev=49.07' Inflow=38.69 cfs 8.974 af
36.0" Round Culvert n=0.011 L=64.8' S=0.0309 '/' Outflow=38.69 cfs 8.974 af

Pond 1008: EX-DMH#1008 Peak Elev=46.84' Inflow=39.71 cfs 9.470 af
36.0" Round Culvert n=0.011 L=379.8' S=0.0103 '/' Outflow=39.71 cfs 9.470 af

Pond 40370: EX-CB#40370 Peak Elev=54.05' Inflow=43.97 cfs 6.419 af
36.0" Round Culvert n=0.011 L=68.4' S=0.0073 '/' Outflow=43.97 cfs 6.419 af

Pond 50078: EX-DMH#50078 Peak Elev=53.65' Inflow=43.97 cfs 6.419 af
36.0" Round Culvert n=0.011 L=101.4' S=0.0035 '/' Outflow=43.97 cfs 6.419 af

Pond 50097: EX-CB#50097 Peak Elev=49.67' Inflow=38.69 cfs 8.974 af
36.0" Round Culvert n=0.011 L=71.2' S=-0.0140 '/' Outflow=38.69 cfs 8.974 af

Link OP-1: WETLAND AREA Inflow=82.63 cfs 14.234 af
Primary=82.63 cfs 14.234 af

Total Runoff Area = 35.153 ac Runoff Volume = 15.486 af Average Runoff Depth = 5.29"
75.04% Pervious = 26.378 ac 24.96% Impervious = 8.775 ac

Section 1.2: Pre-Developed Conditions
10-year Storm – Full Summary

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Summary for Subcatchment EX-1: LONGEMEADOW ROAD

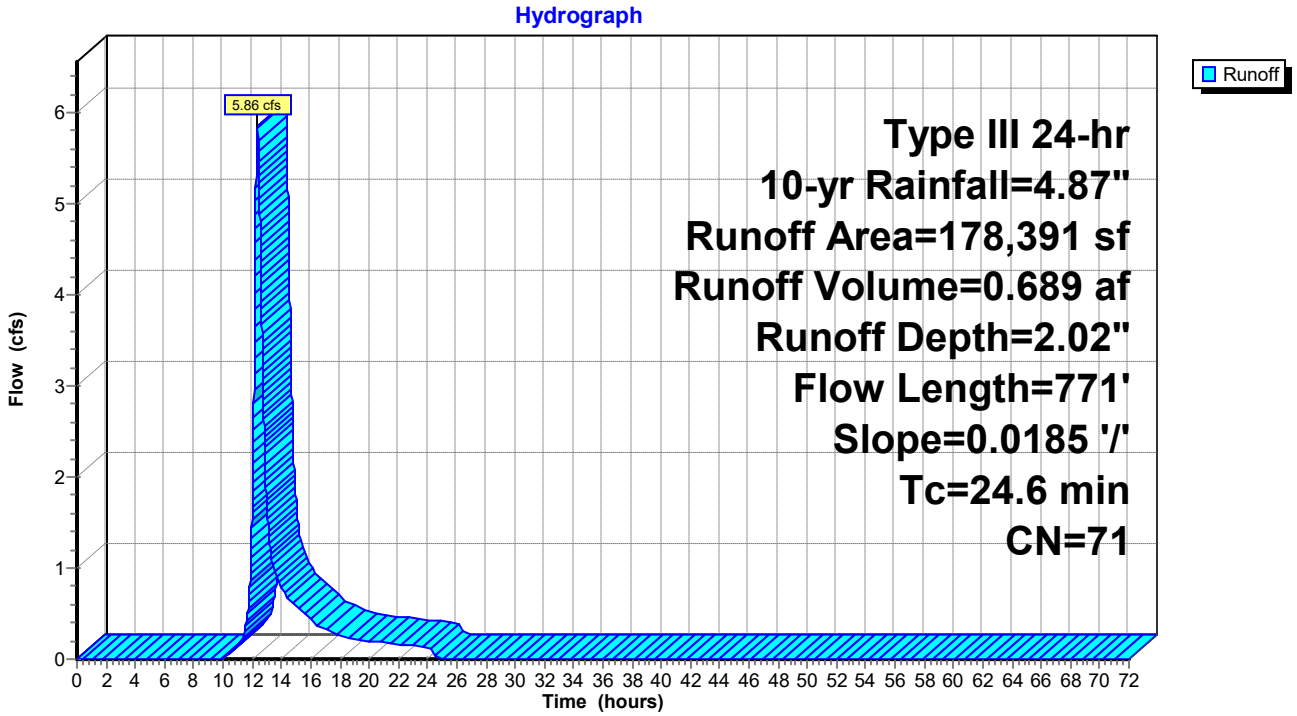
Runoff = 5.86 cfs @ 12.36 hrs, Volume= 0.689 af, Depth= 2.02"
Routed to Pond 1P : EX. BIORETENTION BASIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.87"

Area (sf)	CN	Description
52,671	61	>75% Grass cover, Good, HSG B
77,369	74	>75% Grass cover, Good, HSG C
19,605	55	Woods, Good, HSG B
5,895	70	Woods, Good, HSG C
22,851	98	Paved parking, HSG B
178,391	71	Weighted Average
155,540		87.19% Pervious Area
22,851		12.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.6	771	0.0185	0.52		**Lag/CN Method,**

Subcatchment EX-1: LONGEMEADOW ROAD



Summary for Subcatchment EX-2: HILLCREST ESTATES

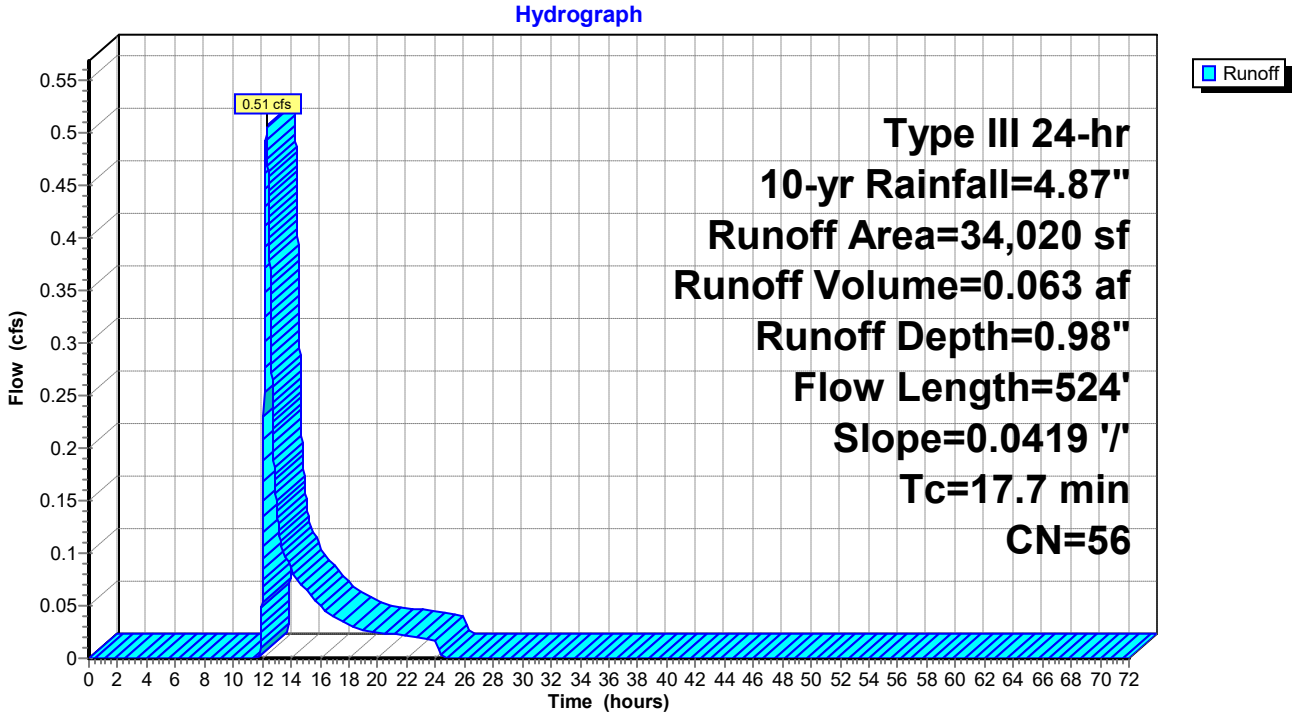
Runoff = 0.51 cfs @ 12.29 hrs, Volume= 0.063 af, Depth= 0.98"
Routed to Link OP-1 : WETLAND AREA

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.87"

Area (sf)	CN	Description
30,638	55	Woods, Good, HSG B
3,382	70	Woods, Good, HSG C
34,020	56	Weighted Average
34,020		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.7	524	0.0419	0.49		**Lag/CN Method,**

Subcatchment EX-2: HILLCREST ESTATES



Summary for Subcatchment EX-3: 126 LANG ROAD

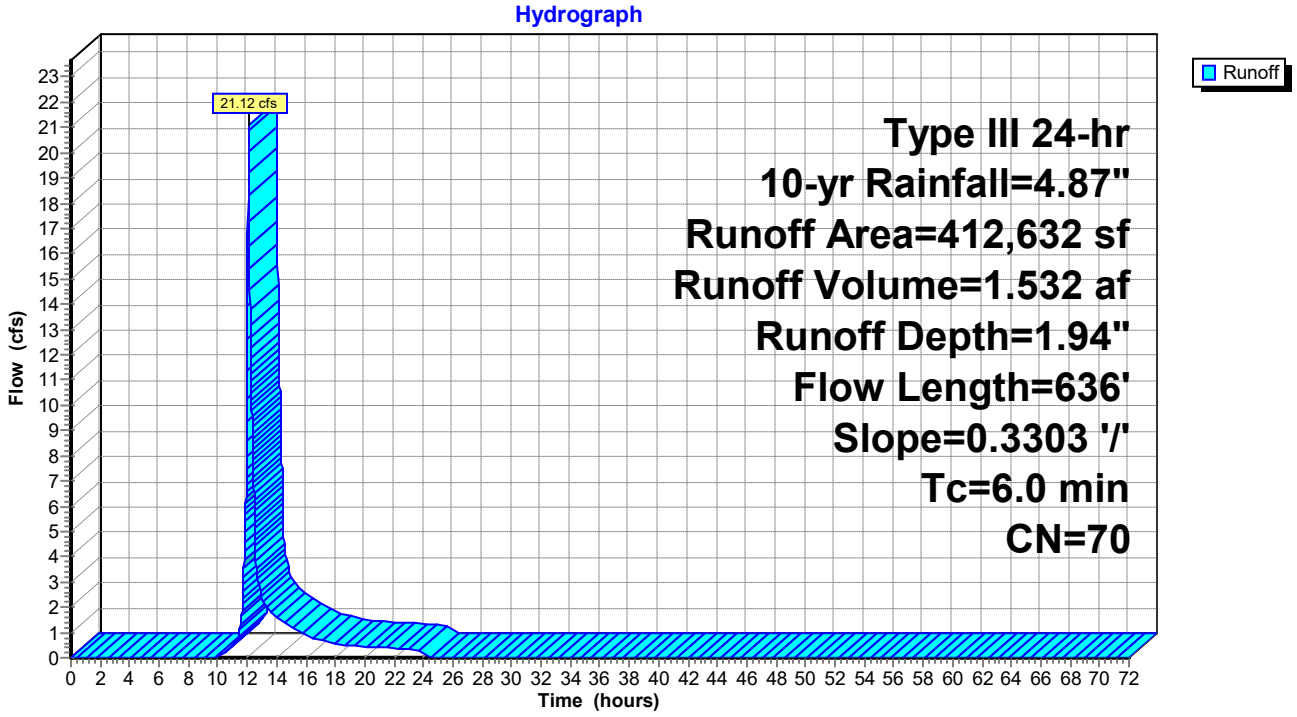
Runoff = 21.12 cfs @ 12.09 hrs, Volume= 1.532 af, Depth= 1.94"
Routed to Link OP-1 : WETLAND AREA

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.87"

Area (sf)	CN	Description
13,344	61	>75% Grass cover, Good, HSG B
235,383	74	>75% Grass cover, Good, HSG C
93,517	55	Woods, Good, HSG B
45,283	70	Woods, Good, HSG C
20,732	98	Unconnected pavement, HSG B
4,373	98	Roofs, HSG B
412,632	70	Weighted Average
387,527		93.92% Pervious Area
25,105		6.08% Impervious Area
20,732		82.58% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	636	0.3303	2.06		**Lag/CN Method,**
5.1	636	Total, Increased to minimum Tc = 6.0 min			

Subcatchment EX-3: 126 LANG ROAD



Summary for Subcatchment EX-4: LANG ROAD

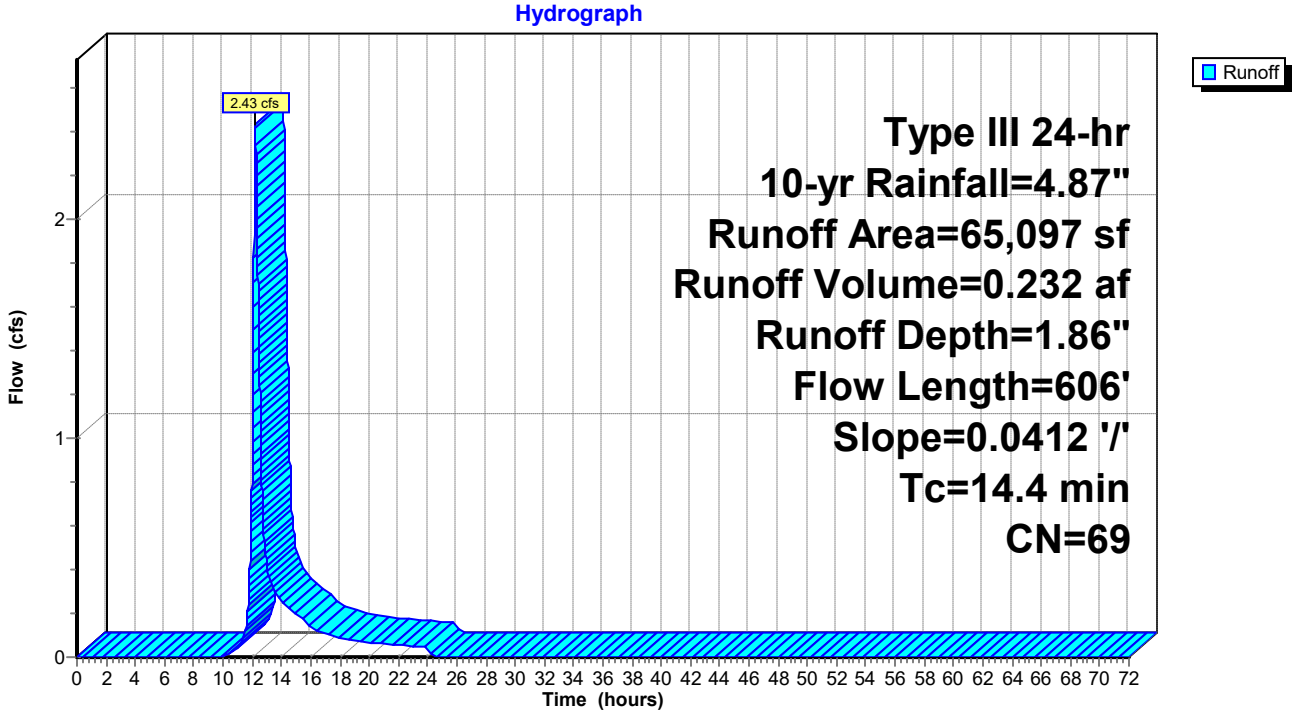
Runoff = 2.43 cfs @ 12.21 hrs, Volume= 0.232 af, Depth= 1.86"
Routed to Link OP-1 : WETLAND AREA

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.87"

Area (sf)	CN	Description
25,410	61	>75% Grass cover, Good, HSG B
3,343	74	>75% Grass cover, Good, HSG C
19,014	55	Woods, Good, HSG B
998	70	Woods, Good, HSG C
16,332	98	Paved parking, HSG B
65,097	69	Weighted Average
48,765		74.91% Pervious Area
16,332		25.09% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.4	606	0.0412	0.70		**Lag/CN Method,**

Subcatchment EX-4: LANG ROAD



Summary for Subcatchment P3.0: EX. POST 3.0

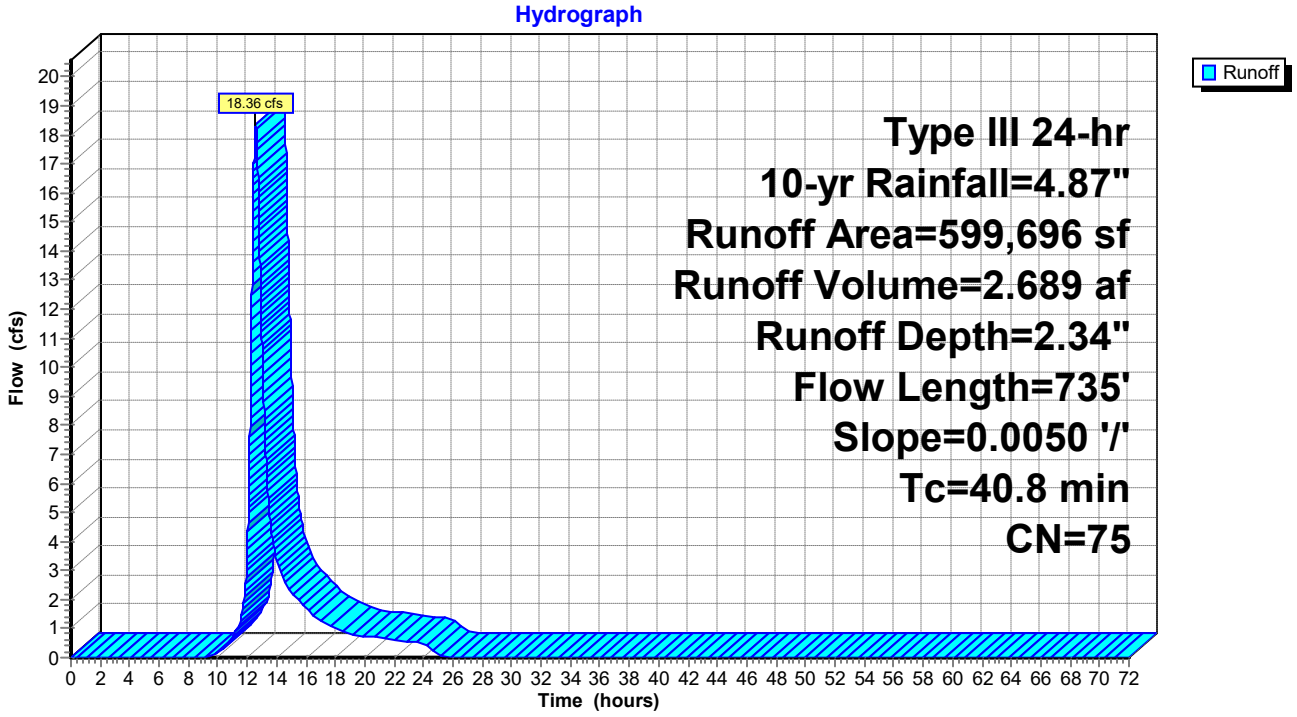
Runoff = 18.36 cfs @ 12.56 hrs, Volume= 2.689 af, Depth= 2.34"
Routed to Pond 40370 : EX-CB#40370

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.87"

Area (sf)	CN	Description
342,999	61	>75% Grass cover, Good, HSG B
195,405	98	Paved parking, HSG B
28,340	55	Woods, Good, HSG B
32,952	98	Roofs, HSG B
599,696	75	Weighted Average
371,339		61.92% Pervious Area
228,357		38.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.8	735	0.0050	0.30		**Lag/CN Method,**

Subcatchment P3.0: EX. POST 3.0



Summary for Subcatchment P3.2: EX POST 3.2

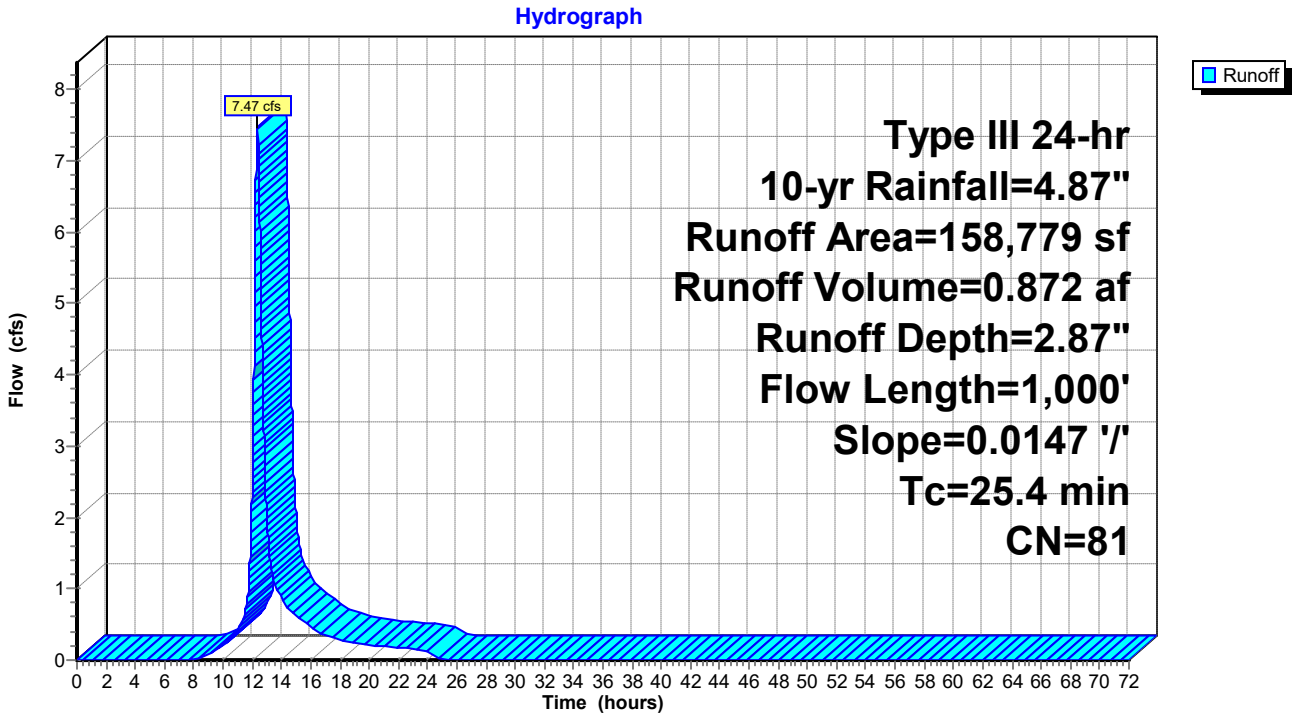
Runoff = 7.47 cfs @ 12.34 hrs, Volume= 0.872 af, Depth= 2.87"
Routed to Pond 50097 : EX-CB#50097

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.87"

Area (sf)	CN	Description
72,397	61	>75% Grass cover, Good, HSG B
81,496	98	Paved parking, HSG B
4,886	98	Roofs, HSG B
158,779	81	Weighted Average
72,397		45.60% Pervious Area
86,382		54.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,000	0.0147	0.66		**Lag/CN Method,**

Subcatchment P3.2: EX POST 3.2



Summary for Subcatchment P3.3: EX. POST 3.3

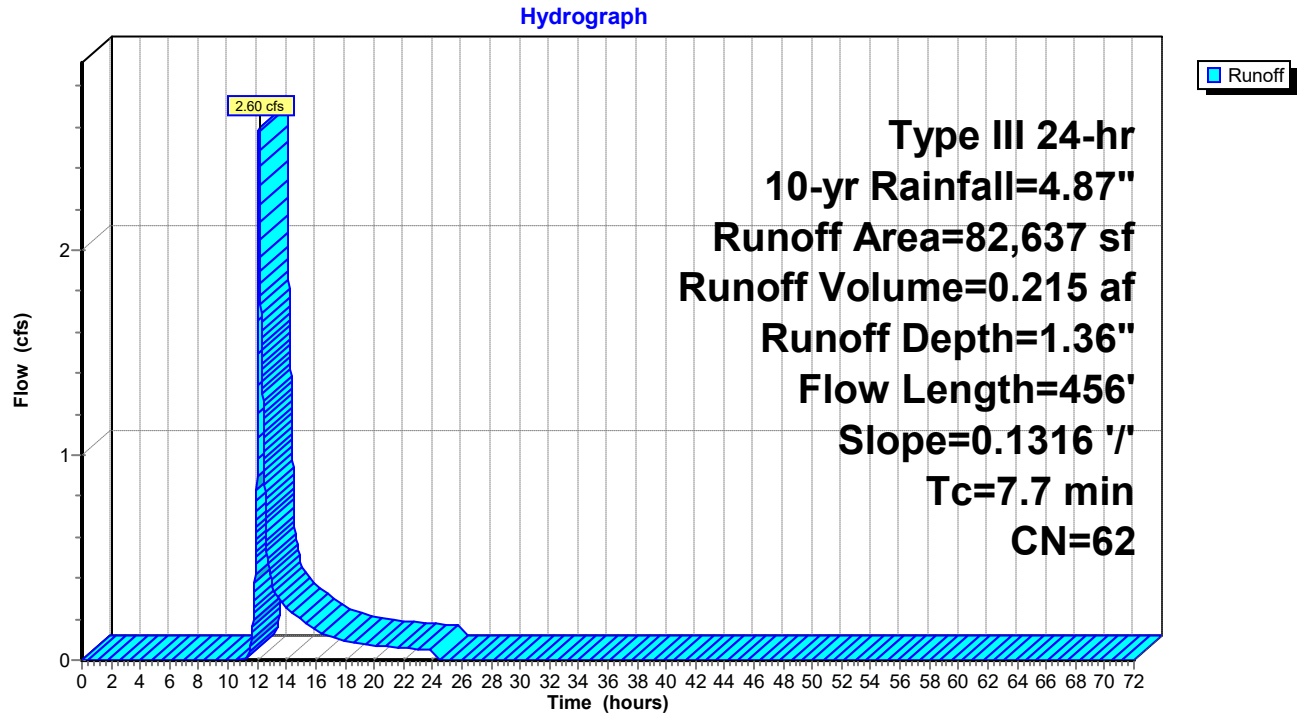
Runoff = 2.60 cfs @ 12.12 hrs, Volume= 0.215 af, Depth= 1.36"
Routed to Pond 2P : EX Stormwater Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.87"

Area (sf)	CN	Description
79,438	61	>75% Grass cover, Good, HSG B
2,132	98	Paved parking, HSG B
1,067	98	Roofs, HSG B
82,637	62	Weighted Average
79,438		96.13% Pervious Area
3,199		3.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	456	0.1316	0.99		**Lag/CN Method,**

Subcatchment P3.3: EX. POST 3.3



Summary for Pond 1P: EX. BIORETENTION BASIN

Inflow Area = 4.095 ac, 12.81% Impervious, Inflow Depth = 2.02" for 10-yr event
Inflow = 5.86 cfs @ 12.36 hrs, Volume= 0.689 af
Outflow = 0.64 cfs @ 14.62 hrs, Volume= 0.600 af, Atten= 89%, Lag= 136.0 min
Discarded = 0.64 cfs @ 14.62 hrs, Volume= 0.600 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 1008 : EX-DMH#1008

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.83' @ 14.62 hrs Surf.Area= 8,858 sf Storage= 16,059 cf
Flood Elev= 55.00' Surf.Area= 10,982 sf Storage= 30,024 cf

Plug-Flow detention time= 376.1 min calculated for 0.600 af (87% of inflow)
Center-of-Mass det. time= 317.3 min (1,181.0 - 863.7)

Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	413 cf	**FOREBAY (Irregular)** Listed below (Recalc)
#2	50.00'	33,799 cf	**ABOVE GROUND STORAGE (Irregular)** Listed below (Recalc)
#3	46.83'	3,837 cf	**TREATMENT BAY (Irregular)** Listed below (Recalc) 9,611 cf Overall - 18 cf Embedded = 9,593 cf x 40.0% Voids
#4	47.17'	18 cf	**6.0" Round UNDERDRAIN** Inside #3 L= 92.5'
		38,067 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
50.00	34	23.9	0	0	34
50.50	105	40.2	33	33	119
51.00	192	53.8	73	106	223
51.50	302	66.6	122	229	349
52.00	438	80.6	184	413	517

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
50.00	3,032	247.0	0	0	3,032
52.00	4,660	290.0	7,634	7,634	4,946
54.00	6,509	327.0	11,118	18,752	6,865
56.00	8,586	364.0	15,047	33,799	9,014

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
46.83	3,032	247.0	0	0	3,032
50.00	3,032	247.0	9,611	9,611	3,815

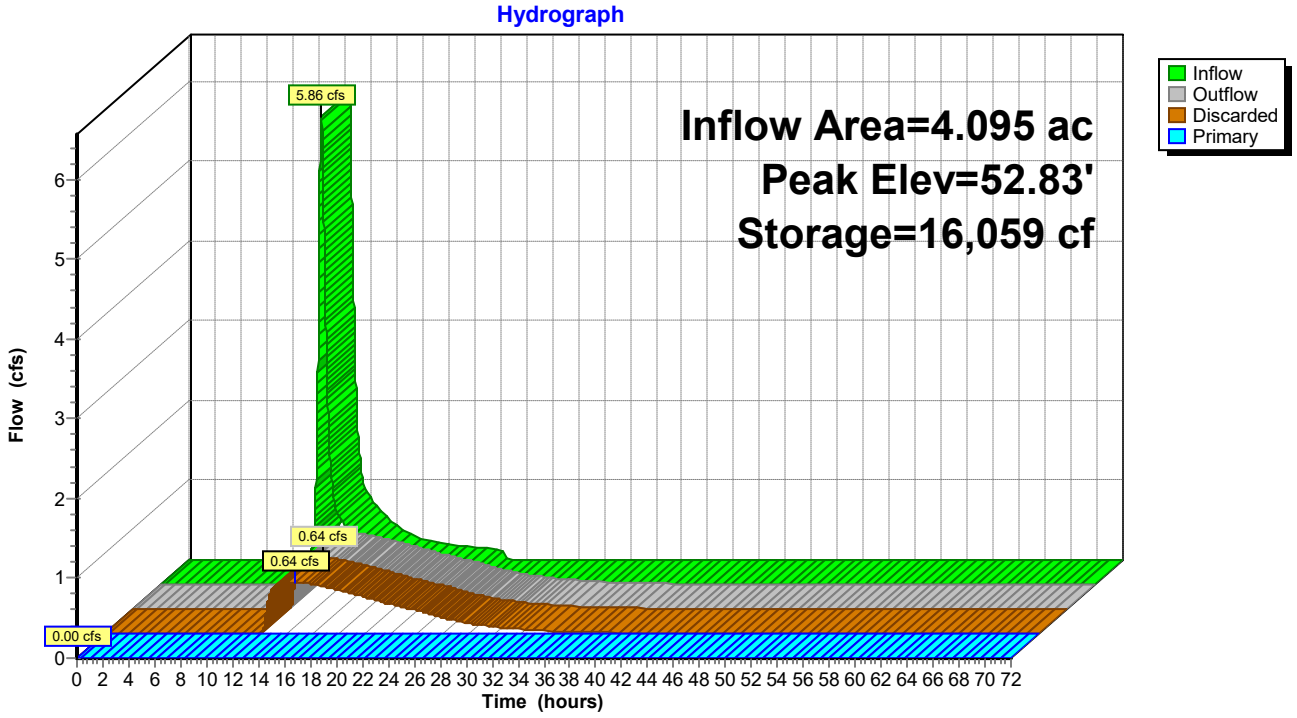
Device	Routing	Invert	Outlet Devices
#1	Primary	46.50'	**12.0" Round Culvert** L= 55.1' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.50' / 44.60' S= 0.0345 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

#2	Device 1	53.66'	**14.2" x 14.2" Horiz. OCS-(DMH#40188)** C= 0.600 Limited to weir flow at low heads
#3	Device 2	47.17'	**6.0" Vert. UNDERDRAIN** C= 0.600 Limited to weir flow at low heads
#4	Discarded	50.00'	**10.000 in/hr Exfiltration over Surface area above 50.00'** Excluded Surface area = 6,098 sf Phase-In= 0.01'

Discarded OutFlow Max=0.64 cfs @ 14.62 hrs HW=52.83' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.64 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=46.83' (Free Discharge)
└**1=Culvert** (Passes 0.00 cfs of 0.35 cfs potential flow)
└**2=OCS-(DMH#40188)** (Controls 0.00 cfs)
└**3=UNDERDRAIN** (Controls 0.00 cfs)

Pond 1P: EX. BIORETENTION BASIN



Summary for Pond 2P: EX Stormwater Wetland

Inflow Area = 15.664 ac, 33.94% Impervious, Inflow Depth = 2.22" for 10-yr event
Inflow = 19.08 cfs @ 12.56 hrs, Volume= 2.904 af
Outflow = 16.15 cfs @ 12.78 hrs, Volume= 2.901 af, Atten= 15%, Lag= 13.1 min
Primary = 16.15 cfs @ 12.78 hrs, Volume= 2.901 af
Routed to Pond 50097 : EX-CB#50097

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.84' @ 12.78 hrs Surf.Area= 10,868 sf Storage= 12,226 cf

Plug-Flow detention time= 10.4 min calculated for 2.901 af (100% of inflow)
Center-of-Mass det. time= 9.8 min (878.5 - 868.7)

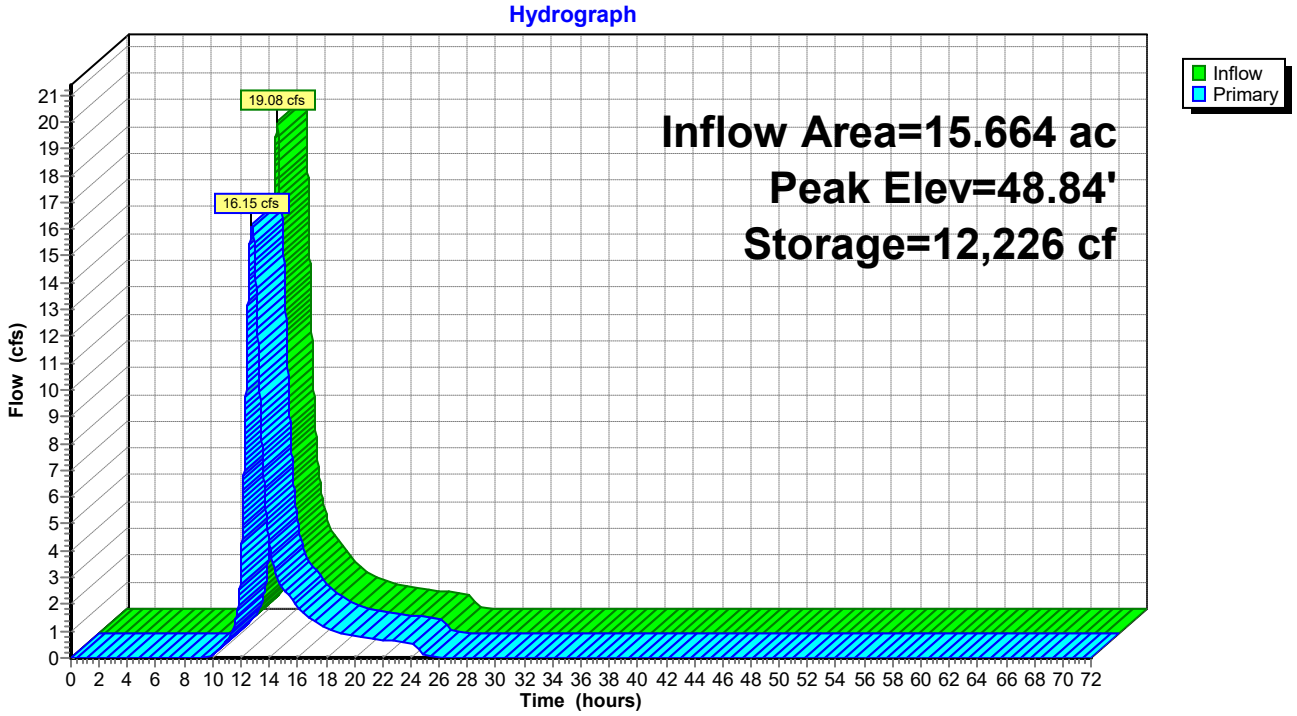
Volume	Invert	Avail.Storage	Storage Description
#1	46.50'	95,891 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
46.50	562	178.0	0	0	562
47.00	1,100	219.0	408	408	1,861
47.50	3,348	456.0	1,061	1,469	14,593
48.00	8,162	675.0	2,790	4,259	34,305
49.00	11,426	714.0	9,748	14,007	38,671
49.50	12,989	745.0	6,100	20,107	42,289
50.00	15,390	697.0	7,086	27,193	47,809
52.00	19,514	680.0	34,823	62,016	50,125
53.60	22,875	700.0	33,876	95,891	52,584

Device	Routing	Invert	Outlet Devices
#1	Primary	46.70'	**28.0" Round Culvert** L= 68.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.70' / 45.90' S= 0.0118 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 4.28 sf
#2	Device 1	49.50'	**6.0" Vert. 6" Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	51.00'	**36.0" W x 8.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	46.50'	**4.0" W x 4.0" H Vert. Grate X 11.00 columns** X 11 rows with 5.0" cc spacing C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=16.15 cfs @ 12.78 hrs HW=48.84' (Free Discharge)
└**1=Culvert** (Inlet Controls 16.15 cfs @ 3.93 fps)
  ├**2=6" Orifice** (Controls 0.00 cfs)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Grate** (Passes 16.15 cfs of 34.51 cfs potential flow)

Pond 2P: EX Stormwater Wetland



Summary for Pond 317: EX-DMH#317

[79] Warning: Submerged Pond 1008 Primary device # 1 OUTLET by 1.80'

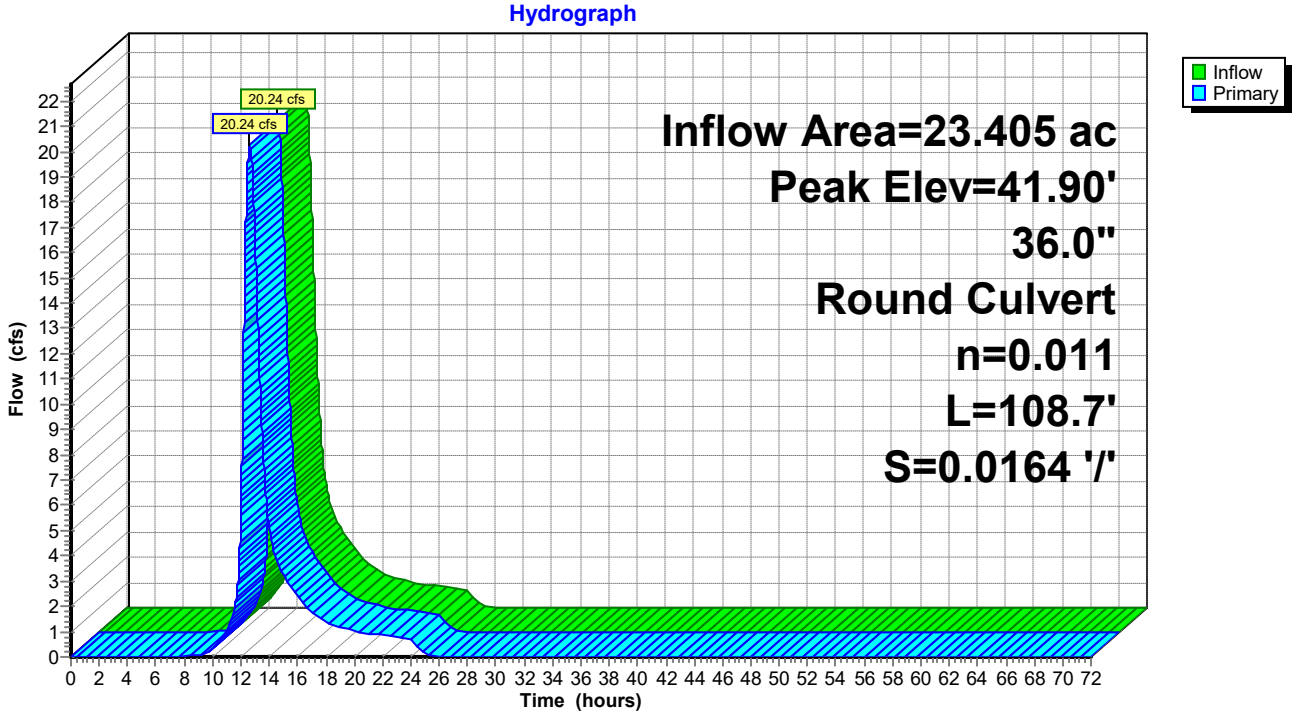
Inflow Area = 23.405 ac, 33.43% Impervious, Inflow Depth = 1.93" for 10-yr event
Inflow = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af
Outflow = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af, Atten= 0%, Lag= 0.0 min
Primary = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af
Routed to Link OP-1 : WETLAND AREA

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 41.90' @ 12.62 hrs
Flood Elev= 45.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	40.10'	**36.0" Round Culvert** L= 108.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 40.10' / 38.32' S= 0.0164 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=20.24 cfs @ 12.62 hrs HW=41.90' (Free Discharge)
1=Culvert (Inlet Controls 20.24 cfs @ 4.57 fps)

Pond 317: EX-DMH#317



Summary for Pond 1002: EX-DMH#1002

[79] Warning: Submerged Pond 50097 Primary device # 1 by 1.20'

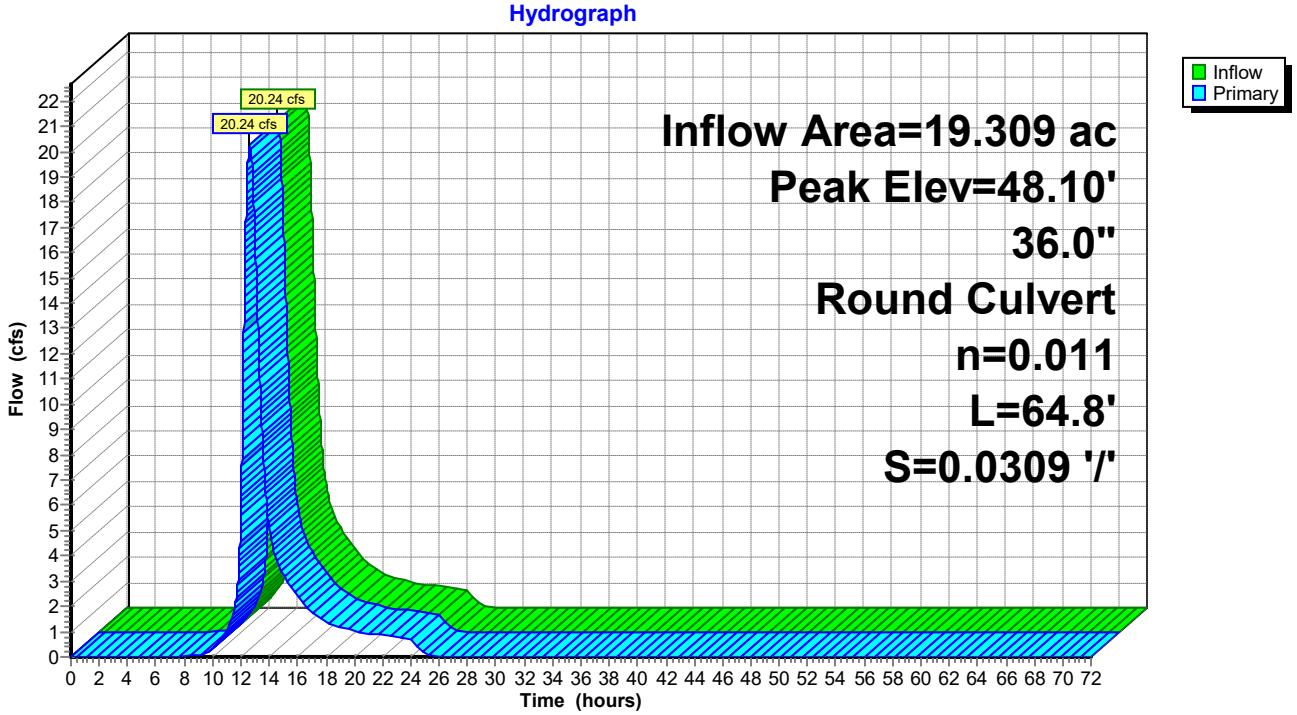
Inflow Area = 19.309 ac, 37.80% Impervious, Inflow Depth = 2.34" for 10-yr event
Inflow = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af
Outflow = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af, Atten= 0%, Lag= 0.0 min
Primary = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af
Routed to Pond 1008 : EX-DMH#1008

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.10' @ 12.62 hrs
Flood Elev= 58.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.30'	**36.0" Round Culvert** L= 64.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 46.30' / 44.30' S= 0.0309 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=20.23 cfs @ 12.62 hrs HW=48.10' (Free Discharge)
1=Culvert (Inlet Controls 20.23 cfs @ 4.57 fps)

Pond 1002: EX-DMH#1002



Summary for Pond 1008: EX-DMH#1008

[79] Warning: Submerged Pond 1P Primary device # 1 OUTLET by 1.20'
[79] Warning: Submerged Pond 1002 Primary device # 1 OUTLET by 1.50'

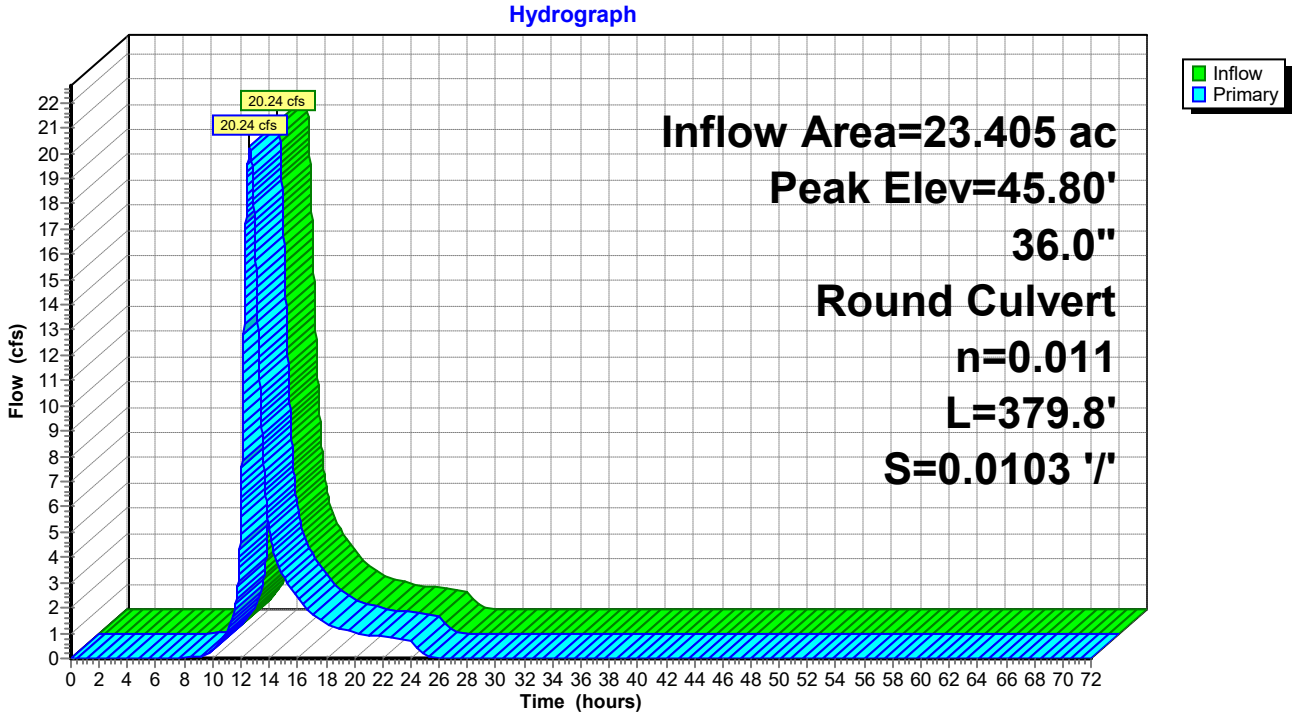
Inflow Area = 23.405 ac, 33.43% Impervious, Inflow Depth = 1.93" for 10-yr event
Inflow = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af
Outflow = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af, Atten= 0%, Lag= 0.0 min
Primary = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af
Routed to Pond 317 : EX-DMH#317

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 45.80' @ 12.62 hrs
Flood Elev= 57.37'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	**36.0" Round Culvert** L= 379.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 40.10' S= 0.0103 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=20.23 cfs @ 12.62 hrs HW=45.80' (Free Discharge)
1=Culvert (Inlet Controls 20.23 cfs @ 4.57 fps)

Pond 1008: EX-DMH#1008



Summary for Pond 40370: EX-CB#40370

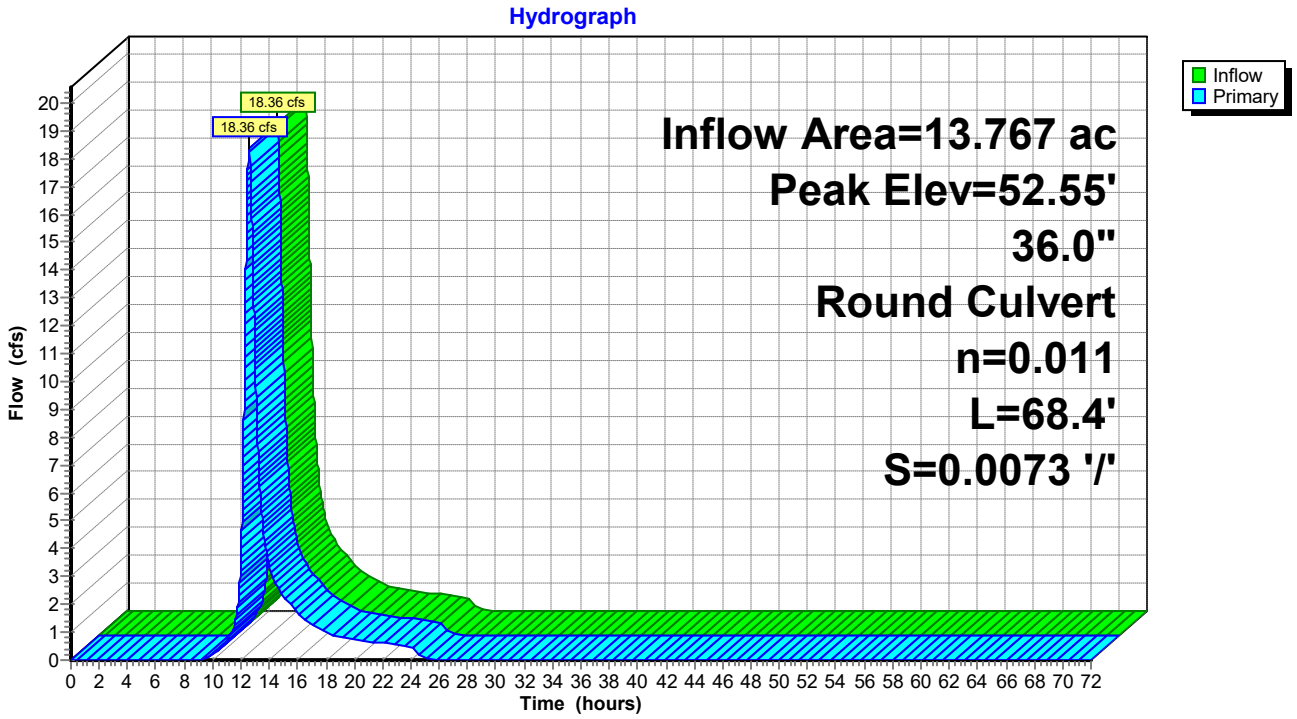
Inflow Area = 13.767 ac, 38.08% Impervious, Inflow Depth = 2.34" for 10-yr event
Inflow = 18.36 cfs @ 12.56 hrs, Volume= 2.689 af
Outflow = 18.36 cfs @ 12.56 hrs, Volume= 2.689 af, Atten= 0%, Lag= 0.0 min
Primary = 18.36 cfs @ 12.56 hrs, Volume= 2.689 af
Routed to Pond 50078 : EX-DMH#50078

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.55' @ 12.56 hrs
Flood Elev= 58.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.70'	**36.0" Round Culvert** L= 68.4' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 50.70' / 50.20' S= 0.0073 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=18.35 cfs @ 12.56 hrs HW=52.55' (Free Discharge)
1=Culvert (Barrel Controls 18.35 cfs @ 5.74 fps)

Pond 40370: EX-CB#40370



Summary for Pond 50078: EX-DMH#50078

[79] Warning: Submerged Pond 40370 Primary device # 1 INLET by 1.30'

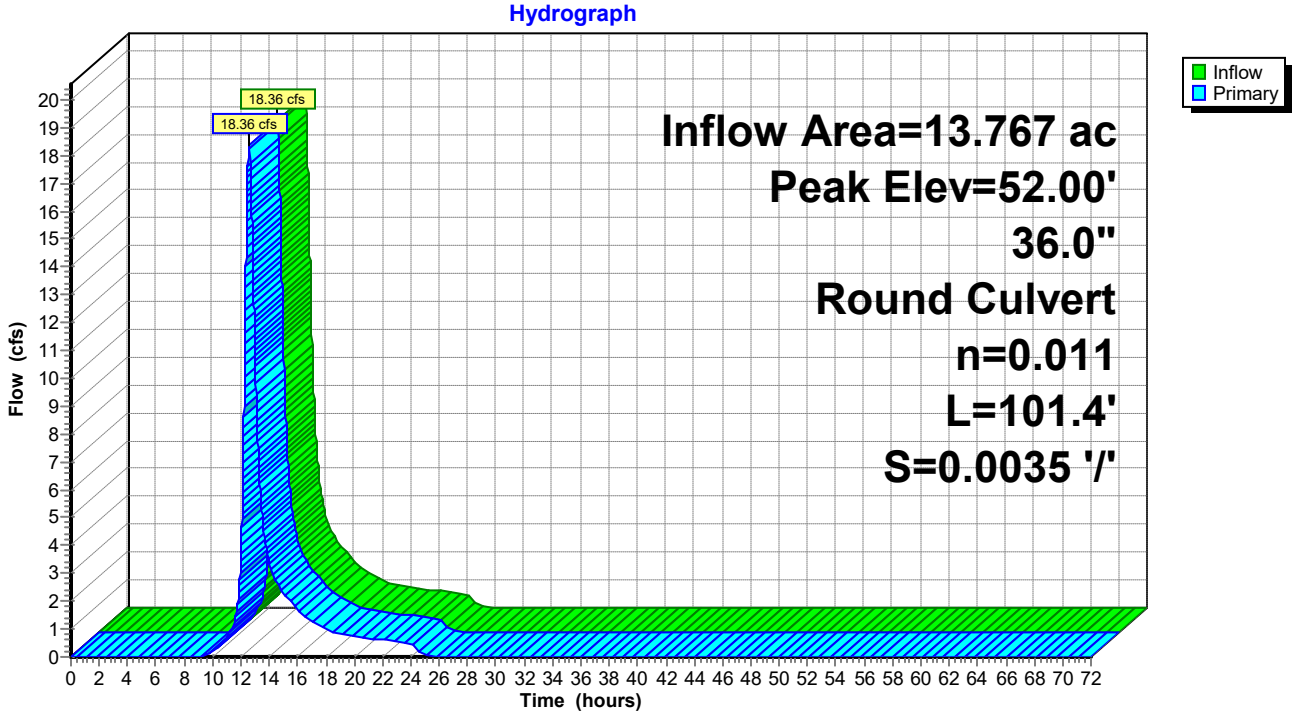
Inflow Area = 13.767 ac, 38.08% Impervious, Inflow Depth = 2.34" for 10-yr event
Inflow = 18.36 cfs @ 12.56 hrs, Volume= 2.689 af
Outflow = 18.36 cfs @ 12.56 hrs, Volume= 2.689 af, Atten= 0%, Lag= 0.0 min
Primary = 18.36 cfs @ 12.56 hrs, Volume= 2.689 af
Routed to Pond 2P : EX Stormwater Wetland

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.00' @ 12.56 hrs
Flood Elev= 57.16'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**36.0" Round Culvert** L= 101.4' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 50.00' / 49.65' S= 0.0035 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=18.35 cfs @ 12.56 hrs HW=52.00' (Free Discharge)
1=Culvert (Barrel Controls 18.35 cfs @ 5.20 fps)

Pond 50078: EX-DMH#50078



Summary for Pond 50097: EX-CB#50097

[81] Warning: Exceeded Pond 2P by 0.51' @ 9.17 hrs

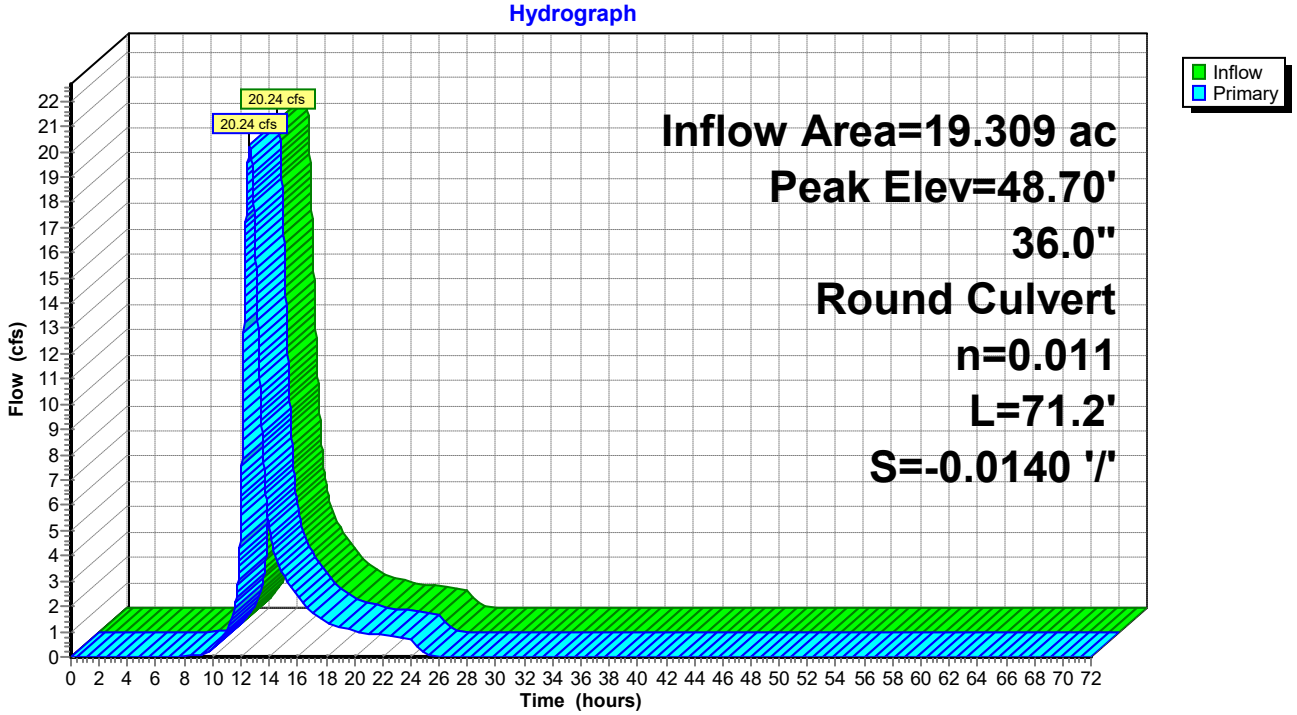
Inflow Area = 19.309 ac, 37.80% Impervious, Inflow Depth = 2.34" for 10-yr event
Inflow = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af
Outflow = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af, Atten= 0%, Lag= 0.0 min
Primary = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af
Routed to Pond 1002 : EX-DMH#1002

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.70' @ 12.62 hrs
Flood Elev= 57.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.90'	**36.0" Round Culvert** L= 71.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 45.90' / 46.90' S= -0.0140 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=20.23 cfs @ 12.62 hrs HW=48.70' (Free Discharge)
1=Culvert (Inlet Controls 20.23 cfs @ 4.57 fps)

Pond 50097: EX-CB#50097



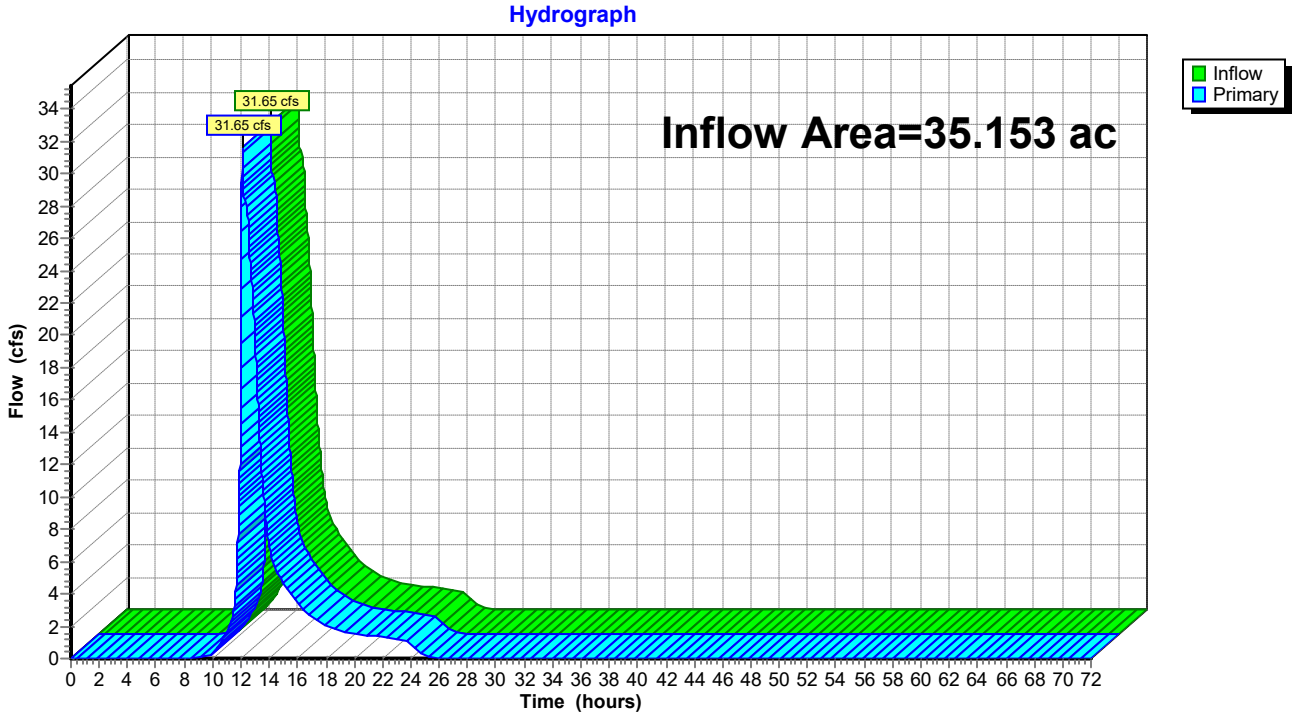
Summary for Link OP-1: WETLAND AREA

AREA IS COMPOSED OF THE ENTIRE EASTERN END OF THE PARCEL THAT IS MADE UP BY WETLANDS AND WOODED AREA

Inflow Area = 35.153 ac, 24.96% Impervious, Inflow Depth = 1.91" for 10-yr event
Inflow = 31.65 cfs @ 12.11 hrs, Volume= 5.601 af
Primary = 31.65 cfs @ 12.11 hrs, Volume= 5.601 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link OP-1: WETLAND AREA



Section 2.1: Developed Conditions

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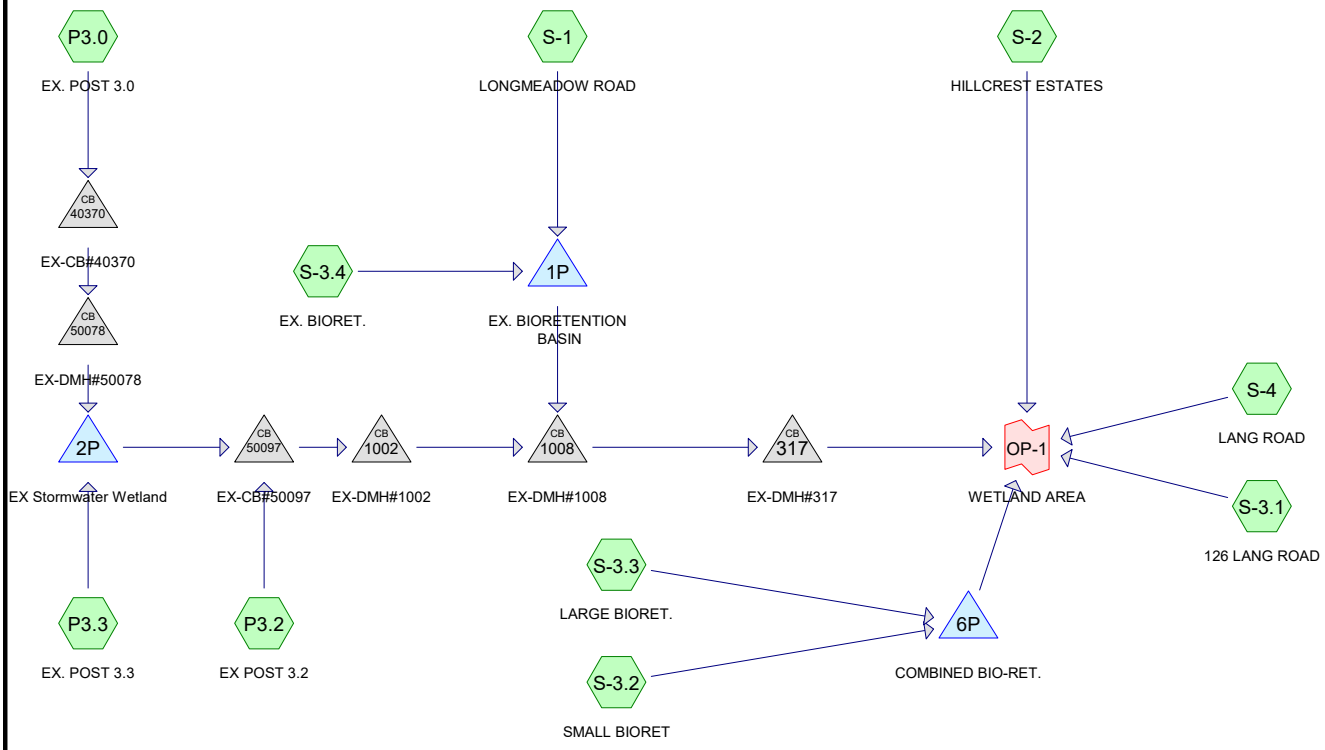


Subcat Reach Pond Link

Routing Diagram for 24-1787DV00
Prepared by McClure, Printed 5/4/2025
HydroCAD® 10.20-2h s/n 12811 © 2024 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type III 24-hr		Default	24.00	1	3.74	2
2	10-yr	Type III 24-hr		Default	24.00	1	4.87	2
3	25-yr	Type III 24-hr		Default	24.00	1	7.19	2
4	50-yr	Type III 24-hr		Default	24.00	1	8.61	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
14.688	61	>75% Grass cover, Good, HSG B (P3.0, P3.2, P3.3, S-1, S-3.1, S-4)
2.560	74	>75% Grass cover, Good, HSG C (S-3.1, S-3.2, S-3.3, S-3.4)
7.501	98	Paved parking, HSG B (P3.0, P3.2, P3.3, S-1, S-3.4, S-4)
1.776	98	Paved parking, HSG C (S-3.2, S-3.3, S-3.4)
0.893	98	Roofs, HSG B (P3.0, P3.2, P3.3)
0.926	98	Roofs, HSG C (S-3.2, S-3.3)
0.022	98	Unconnected pavement, HSG C (S-3.1)
3.754	55	Woods, Good, HSG B (P3.0, S-1, S-2, S-3.1, S-4)
3.032	70	Woods, Good, HSG C (S-2, S-3.1)
35.153	**74**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
26.837	HSG B	P3.0, P3.2, P3.3, S-1, S-2, S-3.1, S-3.4, S-4
8.316	HSG C	S-2, S-3.1, S-3.2, S-3.3, S-3.4
0.000	HSG D	
0.000	Other	
35.153		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	14.688	2.560	0.000	0.000	17.248	>75% Grass cover, Good	P3.0, P3.2, P3.3, S-1, S-3.1, S-3.2, S-3.3, S-3.4, S-4
0.000	7.501	1.776	0.000	0.000	9.278	Paved parking	P3.0, P3.2, P3.3, S-1, S-3.2, S-3.3, S-3.4, S-4
0.000	0.893	0.926	0.000	0.000	1.819	Roofs	P3.0, P3.2, P3.3, S-3.2, S-3.3
0.000	0.000	0.022	0.000	0.000	0.022	Unconnected pavement	S-3.1
0.000	3.754	3.032	0.000	0.000	6.787	Woods, Good	P3.0, S-1, S-2, S-3.1, S-4
0.000	**26.837**	**8.316**	**0.000**	**0.000**	**35.153**	**TOTAL AREA**	

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 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 P3.0: EX. POST 3.0 Runoff Area=599,696 sf 38.08% Impervious Runoff Depth=1.47"
Flow Length=735' Slope=0.0050 '/' Tc=40.8 min CN=75 Runoff=11.30 cfs 1.691 af

Subcatchment P3.2: EX POST 3.2 Runoff Area=158,779 sf 54.40% Impervious Runoff Depth=1.90"
Flow Length=1,000' Slope=0.0147 '/' Tc=25.4 min CN=81 Runoff=4.94 cfs 0.579 af

Subcatchment P3.3: EX. POST 3.3 Runoff Area=82,637 sf 3.87% Impervious Runoff Depth=0.73"
Flow Length=456' Slope=0.1316 '/' Tc=7.7 min CN=62 Runoff=1.22 cfs 0.116 af

Subcatchment S-1: LONGMEADOW ROAD Runoff Area=129,521 sf 22.62% Impervious Runoff Depth=1.04"
Flow Length=1,018' Slope=0.0196 '/' Tc=32.4 min CN=68 Runoff=1.82 cfs 0.259 af

Subcatchment S-2: HILLCREST ESTATES Runoff Area=34,020 sf 0.00% Impervious Runoff Depth=0.47"
Flow Length=524' Slope=0.0419 '/' Tc=17.7 min CN=56 Runoff=0.18 cfs 0.031 af

Subcatchment S-3.1: 126 LANG ROAD Runoff Area=310,246 sf 0.31% Impervious Runoff Depth=0.88"
Flow Length=597' Slope=0.0301 '/' Tc=18.5 min CN=65 Runoff=4.39 cfs 0.523 af

Subcatchment S-3.2: SMALL BIORET Runoff Area=55,893 sf 76.86% Impervious Runoff Depth=2.87"
Flow Length=357' Slope=0.0336 '/' Tc=6.0 min CN=92 Runoff=4.17 cfs 0.307 af

Subcatchment S-3.3: LARGE BIORET. Runoff Area=105,742 sf 56.96% Impervious Runoff Depth=2.49"
Flow Length=565' Slope=0.0248 '/' Tc=9.7 min CN=88 Runoff=6.20 cfs 0.503 af

Subcatchment S-3.4: EX. BIORET. Runoff Area=19,256 sf 94.71% Impervious Runoff Depth=3.39"
Flow Length=215' Slope=0.0093 '/' Tc=6.0 min CN=97 Runoff=1.59 cfs 0.125 af

Subcatchment S-4: LANG ROAD Runoff Area=35,463 sf 41.45% Impervious Runoff Depth=1.54"
Flow Length=606' Slope=0.0404 '/' Tc=11.9 min CN=76 Runoff=1.19 cfs 0.105 af

Pond 1P: EX. BIORETENTION BASIN Peak Elev=51.47' Storage=9,347 cf Inflow=2.19 cfs 0.384 af
Discarded=0.33 cfs 0.295 af Primary=0.00 cfs 0.000 af Outflow=0.33 cfs 0.295 af

Pond 2P: EX Stormwater Wetland Peak Elev=48.27' Storage=6,537 cf Inflow=11.69 cfs 1.807 af
Outflow=10.26 cfs 1.804 af

Pond 6P: COMBINED BIO-RET. Peak Elev=51.52' Storage=11,217 cf Inflow=10.01 cfs 0.810 af
Discarded=2.09 cfs 0.810 af Primary=0.00 cfs 0.000 af Outflow=2.09 cfs 0.810 af

Pond 317: EX-DMH#317 Peak Elev=41.50' Inflow=13.01 cfs 2.383 af
36.0" Round Culvert n=0.011 L=108.7' S=0.0164 '/' Outflow=13.01 cfs 2.383 af

Pond 1002: EX-DMH#1002 Peak Elev=47.70' Inflow=13.01 cfs 2.383 af
36.0" Round Culvert n=0.011 L=64.8' S=0.0309 '/' Outflow=13.01 cfs 2.383 af

Pond 1008: EX-DMH#1008 Peak Elev=45.40' Inflow=13.01 cfs 2.383 af
36.0" Round Culvert n=0.011 L=379.8' S=0.0103 '/' Outflow=13.01 cfs 2.383 af

Pond 40370: EX-CB#40370 Peak Elev=52.08' Inflow=11.30 cfs 1.691 af
36.0" Round Culvert n=0.011 L=68.4' S=0.0073 '/' Outflow=11.30 cfs 1.691 af

Pond 50078: EX-DMH#50078 Peak Elev=51.51' Inflow=11.30 cfs 1.691 af
36.0" Round Culvert n=0.011 L=101.4' S=0.0035 '/' Outflow=11.30 cfs 1.691 af

Pond 50097: EX-CB#50097 Peak Elev=48.30' Inflow=13.01 cfs 2.383 af
36.0" Round Culvert n=0.011 L=71.2' S=-0.0140 '/' Outflow=13.01 cfs 2.383 af

Link OP-1: WETLAND AREA Inflow=16.65 cfs 3.041 af
Primary=16.65 cfs 3.041 af

Total Runoff Area = 35.153 ac Runoff Volume = 4.237 af Average Runoff Depth = 1.45"
68.37% Pervious = 24.034 ac 31.63% Impervious = 11.118 ac

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 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 P3.0: EX. POST 3.0 Runoff Area=599,696 sf 38.08% Impervious Runoff Depth=2.34"
Flow Length=735' Slope=0.0050 '/' Tc=40.8 min CN=75 Runoff=18.36 cfs 2.689 af

Subcatchment P3.2: EX POST 3.2 Runoff Area=158,779 sf 54.40% Impervious Runoff Depth=2.87"
Flow Length=1,000' Slope=0.0147 '/' Tc=25.4 min CN=81 Runoff=7.47 cfs 0.872 af

Subcatchment P3.3: EX. POST 3.3 Runoff Area=82,637 sf 3.87% Impervious Runoff Depth=1.36"
Flow Length=456' Slope=0.1316 '/' Tc=7.7 min CN=62 Runoff=2.60 cfs 0.215 af

Subcatchment S-1: LONGMEADOW ROAD Runoff Area=129,521 sf 22.62% Impervious Runoff Depth=1.79"
Flow Length=1,018' Slope=0.0196 '/' Tc=32.4 min CN=68 Runoff=3.29 cfs 0.443 af

Subcatchment S-2: HILLCREST ESTATES Runoff Area=34,020 sf 0.00% Impervious Runoff Depth=0.98"
Flow Length=524' Slope=0.0419 '/' Tc=17.7 min CN=56 Runoff=0.51 cfs 0.063 af

Subcatchment S-3.1: 126 LANG ROAD Runoff Area=310,246 sf 0.31% Impervious Runoff Depth=1.57"
Flow Length=597' Slope=0.0301 '/' Tc=18.5 min CN=65 Runoff=8.56 cfs 0.930 af

Subcatchment S-3.2: SMALL BIORET Runoff Area=55,893 sf 76.86% Impervious Runoff Depth=3.96"
Flow Length=357' Slope=0.0336 '/' Tc=6.0 min CN=92 Runoff=5.67 cfs 0.424 af

Subcatchment S-3.3: LARGE BIORET. Runoff Area=105,742 sf 56.96% Impervious Runoff Depth=3.55"
Flow Length=565' Slope=0.0248 '/' Tc=9.7 min CN=88 Runoff=8.73 cfs 0.717 af

Subcatchment S-3.4: EX. BIORET. Runoff Area=19,256 sf 94.71% Impervious Runoff Depth=4.52"
Flow Length=215' Slope=0.0093 '/' Tc=6.0 min CN=97 Runoff=2.09 cfs 0.166 af

Subcatchment S-4: LANG ROAD Runoff Area=35,463 sf 41.45% Impervious Runoff Depth=2.43"
Flow Length=606' Slope=0.0404 '/' Tc=11.9 min CN=76 Runoff=1.90 cfs 0.165 af

Pond 1P: EX. BIORETENTION BASIN Peak Elev=52.53' Storage=14,497 cf Inflow=3.80 cfs 0.609 af
Discarded=0.58 cfs 0.521 af Primary=0.00 cfs 0.000 af Outflow=0.58 cfs 0.521 af

Pond 2P: EX Stormwater Wetland Peak Elev=48.84' Storage=12,226 cf Inflow=19.08 cfs 2.904 af
Outflow=16.15 cfs 2.901 af

Pond 6P: COMBINED BIO-RET. Peak Elev=52.17' Storage=14,946 cf Inflow=13.91 cfs 1.141 af
Discarded=2.30 cfs 1.063 af Primary=3.55 cfs 0.078 af Outflow=5.86 cfs 1.141 af

Pond 317: EX-DMH#317 Peak Elev=41.90' Inflow=20.24 cfs 3.773 af
36.0" Round Culvert n=0.011 L=108.7' S=0.0164 '/' Outflow=20.24 cfs 3.773 af

Pond 1002: EX-DMH#1002 Peak Elev=48.10' Inflow=20.24 cfs 3.773 af
36.0" Round Culvert n=0.011 L=64.8' S=0.0309 '/' Outflow=20.24 cfs 3.773 af

Pond 1008: EX-DMH#1008 Peak Elev=45.80' Inflow=20.24 cfs 3.773 af
36.0" Round Culvert n=0.011 L=379.8' S=0.0103 '/' Outflow=20.24 cfs 3.773 af

Pond 40370: EX-CB#40370 Peak Elev=52.55' Inflow=18.36 cfs 2.689 af
36.0" Round Culvert n=0.011 L=68.4' S=0.0073 '/' Outflow=18.36 cfs 2.689 af

Pond 50078: EX-DMH#50078 Peak Elev=52.00' Inflow=18.36 cfs 2.689 af
36.0" Round Culvert n=0.011 L=101.4' S=0.0035 '/' Outflow=18.36 cfs 2.689 af

Pond 50097: EX-CB#50097 Peak Elev=48.70' Inflow=20.24 cfs 3.773 af
36.0" Round Culvert n=0.011 L=71.2' S=-0.0140 '/' Outflow=20.24 cfs 3.773 af

Link OP-1: WETLAND AREA Inflow=30.68 cfs 5.010 af
Primary=30.68 cfs 5.010 af

Total Runoff Area = 35.153 ac Runoff Volume = 6.685 af Average Runoff Depth = 2.28"
68.37% Pervious = 24.034 ac 31.63% Impervious = 11.118 ac

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 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 P3.0: EX. POST 3.0 Runoff Area=599,696 sf 38.08% Impervious Runoff Depth=4.32"
Flow Length=735' Slope=0.0050 '/' Tc=40.8 min CN=75 Runoff=34.04 cfs 4.953 af

Subcatchment P3.2: EX POST 3.2 Runoff Area=158,779 sf 54.40% Impervious Runoff Depth=4.98"
Flow Length=1,000' Slope=0.0147 '/' Tc=25.4 min CN=81 Runoff=12.85 cfs 1.513 af

Subcatchment P3.3: EX. POST 3.3 Runoff Area=82,637 sf 3.87% Impervious Runoff Depth=2.94"
Flow Length=456' Slope=0.1316 '/' Tc=7.7 min CN=62 Runoff=6.06 cfs 0.465 af

Subcatchment S-1: LONGMEADOW ROAD Runoff Area=129,521 sf 22.62% Impervious Runoff Depth=3.56"
Flow Length=1,018' Slope=0.0196 '/' Tc=32.4 min CN=68 Runoff=6.75 cfs 0.883 af

Subcatchment S-2: HILLCREST ESTATES Runoff Area=34,020 sf 0.00% Impervious Runoff Depth=2.34"
Flow Length=524' Slope=0.0419 '/' Tc=17.7 min CN=56 Runoff=1.43 cfs 0.152 af

Subcatchment S-3.1: 126 LANG ROAD Runoff Area=310,246 sf 0.31% Impervious Runoff Depth=3.25"
Flow Length=597' Slope=0.0301 '/' Tc=18.5 min CN=65 Runoff=18.69 cfs 1.929 af

Subcatchment S-3.2: SMALL BIORET Runoff Area=55,893 sf 76.86% Impervious Runoff Depth=6.24"
Flow Length=357' Slope=0.0336 '/' Tc=6.0 min CN=92 Runoff=8.70 cfs 0.667 af

Subcatchment S-3.3: LARGE BIORET. Runoff Area=105,742 sf 56.96% Impervious Runoff Depth=5.78"
Flow Length=565' Slope=0.0248 '/' Tc=9.7 min CN=88 Runoff=13.89 cfs 1.169 af

Subcatchment S-3.4: EX. BIORET. Runoff Area=19,256 sf 94.71% Impervious Runoff Depth=6.83"
Flow Length=215' Slope=0.0093 '/' Tc=6.0 min CN=97 Runoff=3.11 cfs 0.252 af

Subcatchment S-4: LANG ROAD Runoff Area=35,463 sf 41.45% Impervious Runoff Depth=4.43"
Flow Length=606' Slope=0.0404 '/' Tc=11.9 min CN=76 Runoff=3.48 cfs 0.300 af

Pond 1P: EX. BIORETENTION BASIN Peak Elev=54.34' Storage=25,297 cf Inflow=7.57 cfs 1.135 af
Discarded=0.98 cfs 0.892 af Primary=0.78 cfs 0.155 af Outflow=1.76 cfs 1.046 af

Pond 2P: EX Stormwater Wetland Peak Elev=50.31' Storage=32,034 cf Inflow=35.51 cfs 5.418 af
Outflow=25.40 cfs 5.415 af

Pond 6P: COMBINED BIO-RET. Peak Elev=52.79' Storage=19,141 cf Inflow=21.86 cfs 1.836 af
Discarded=2.50 cfs 1.405 af Primary=9.98 cfs 0.432 af Outflow=12.48 cfs 1.836 af

Pond 317: EX-DMH#317 Peak Elev=42.51' Inflow=32.24 cfs 7.083 af
36.0" Round Culvert n=0.011 L=108.7' S=0.0164 '/' Outflow=32.24 cfs 7.083 af

Pond 1002: EX-DMH#1002 Peak Elev=48.71' Inflow=32.24 cfs 6.928 af
36.0" Round Culvert n=0.011 L=64.8' S=0.0309 '/' Outflow=32.24 cfs 6.928 af

Pond 1008: EX-DMH#1008 Peak Elev=46.41' Inflow=32.24 cfs 7.083 af
36.0" Round Culvert n=0.011 L=379.8' S=0.0103 '/' Outflow=32.24 cfs 7.083 af

Pond 40370: EX-CB#40370 Peak Elev=53.46' Inflow=34.04 cfs 4.953 af
36.0" Round Culvert n=0.011 L=68.4' S=0.0073 '/' Outflow=34.04 cfs 4.953 af

Pond 50078: EX-DMH#50078 Peak Elev=52.96' Inflow=34.04 cfs 4.953 af
36.0" Round Culvert n=0.011 L=101.4' S=0.0035 '/' Outflow=34.04 cfs 4.953 af

Pond 50097: EX-CB#50097 Peak Elev=49.31' Inflow=32.24 cfs 6.928 af
36.0" Round Culvert n=0.011 L=71.2' S=-0.0140 '/' Outflow=32.24 cfs 6.928 af

Link OP-1: WETLAND AREA Inflow=60.97 cfs 9.897 af
Primary=60.97 cfs 9.897 af

Total Runoff Area = 35.153 ac Runoff Volume = 12.284 af Average Runoff Depth = 4.19"
68.37% Pervious = 24.034 ac 31.63% Impervious = 11.118 ac

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 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 P3.0: EX. POST 3.0 Runoff Area=599,696 sf 38.08% Impervious Runoff Depth=5.60"
Flow Length=735' Slope=0.0050 '/' Tc=40.8 min CN=75 Runoff=43.97 cfs 6.419 af

Subcatchment P3.2: EX POST 3.2 Runoff Area=158,779 sf 54.40% Impervious Runoff Depth=6.32"
Flow Length=1,000' Slope=0.0147 '/' Tc=25.4 min CN=81 Runoff=16.18 cfs 1.920 af

Subcatchment P3.3: EX. POST 3.3 Runoff Area=82,637 sf 3.87% Impervious Runoff Depth=4.04"
Flow Length=456' Slope=0.1316 '/' Tc=7.7 min CN=62 Runoff=8.41 cfs 0.638 af

Subcatchment S-1: LONGMEADOW ROAD Runoff Area=129,521 sf 22.62% Impervious Runoff Depth=4.75"
Flow Length=1,018' Slope=0.0196 '/' Tc=32.4 min CN=68 Runoff=9.03 cfs 1.178 af

Subcatchment S-2: HILLCREST ESTATES Runoff Area=34,020 sf 0.00% Impervious Runoff Depth=3.33"
Flow Length=524' Slope=0.0419 '/' Tc=17.7 min CN=56 Runoff=2.10 cfs 0.216 af

Subcatchment S-3.1: 126 LANG ROAD Runoff Area=310,246 sf 0.31% Impervious Runoff Depth=4.39"
Flow Length=597' Slope=0.0301 '/' Tc=18.5 min CN=65 Runoff=25.45 cfs 2.607 af

Subcatchment S-3.2: SMALL BIORET Runoff Area=55,893 sf 76.86% Impervious Runoff Depth=7.65"
Flow Length=357' Slope=0.0336 '/' Tc=6.0 min CN=92 Runoff=10.54 cfs 0.818 af

Subcatchment S-3.3: LARGE BIORET. Runoff Area=105,742 sf 56.96% Impervious Runoff Depth=7.17"
Flow Length=565' Slope=0.0248 '/' Tc=9.7 min CN=88 Runoff=17.02 cfs 1.449 af

Subcatchment S-3.4: EX. BIORET. Runoff Area=19,256 sf 94.71% Impervious Runoff Depth=8.25"
Flow Length=215' Slope=0.0093 '/' Tc=6.0 min CN=97 Runoff=3.73 cfs 0.304 af

Subcatchment S-4: LANG ROAD Runoff Area=35,463 sf 41.45% Impervious Runoff Depth=5.72"
Flow Length=606' Slope=0.0404 '/' Tc=11.9 min CN=76 Runoff=4.46 cfs 0.388 af

Pond 1P: EX. BIORETENTION BASIN Peak Elev=55.30' Storage=32,357 cf Inflow=10.04 cfs 1.481 af
Discarded=1.20 cfs 1.045 af Primary=1.21 cfs 0.348 af Outflow=2.42 cfs 1.393 af

Pond 2P: EX Stormwater Wetland Peak Elev=51.29' Storage=48,723 cf Inflow=45.94 cfs 7.057 af
Outflow=30.08 cfs 7.054 af

Pond 6P: COMBINED BIO-RET. Peak Elev=53.43' Storage=23,929 cf Inflow=26.68 cfs 2.267 af
Discarded=2.66 cfs 1.608 af Primary=10.54 cfs 0.659 af Outflow=13.20 cfs 2.267 af

Pond 317: EX-DMH#317 Peak Elev=42.91' Inflow=39.28 cfs 9.322 af
36.0" Round Culvert n=0.011 L=108.7' S=0.0164 '/' Outflow=39.28 cfs 9.322 af

Pond 1002: EX-DMH#1002 Peak Elev=49.07' Inflow=38.69 cfs 8.974 af
36.0" Round Culvert n=0.011 L=64.8' S=0.0309 '/' Outflow=38.69 cfs 8.974 af

Pond 1008: EX-DMH#1008 Peak Elev=46.81' Inflow=39.28 cfs 9.322 af
36.0" Round Culvert n=0.011 L=379.8' S=0.0103 '/' Outflow=39.28 cfs 9.322 af

Pond 40370: EX-CB#40370 Peak Elev=54.05' Inflow=43.97 cfs 6.419 af
36.0" Round Culvert n=0.011 L=68.4' S=0.0073 '/' Outflow=43.97 cfs 6.419 af

Pond 50078: EX-DMH#50078 Peak Elev=53.65' Inflow=43.97 cfs 6.419 af
36.0" Round Culvert n=0.011 L=101.4' S=0.0035 '/' Outflow=43.97 cfs 6.419 af

Pond 50097: EX-CB#50097 Peak Elev=49.67' Inflow=38.69 cfs 8.974 af
36.0" Round Culvert n=0.011 L=71.2' S=-0.0140 '/' Outflow=38.69 cfs 8.974 af

Link OP-1: WETLAND AREA Inflow=75.92 cfs 13.193 af
Primary=75.92 cfs 13.193 af

Total Runoff Area = 35.153 ac Runoff Volume = 15.937 af Average Runoff Depth = 5.44"
68.37% Pervious = 24.034 ac 31.63% Impervious = 11.118 ac

Section 2.2: Developed Conditions
10-year Storm – Full Summary

25 New Hampshire Ave, Suite 255, Portsmouth, New Hampshire 03801
P 603.766.0435 | mcclurevision.com

Summary for Subcatchment P3.0: EX. POST 3.0

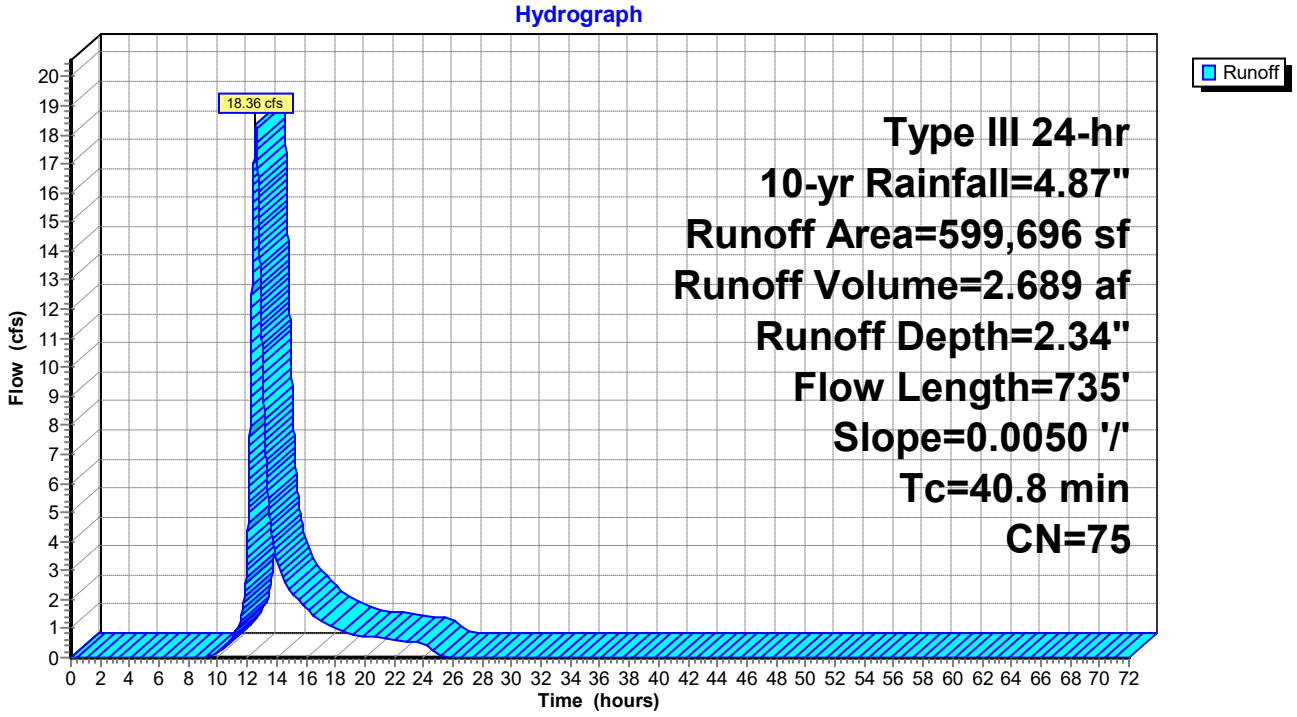
Runoff = 18.36 cfs @ 12.56 hrs, Volume= 2.689 af, Depth= 2.34"
Routed to Pond 40370 : EX-CB#40370

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.87"

Area (sf)	CN	Description
342,999	61	>75% Grass cover, Good, HSG B
195,405	98	Paved parking, HSG B
28,340	55	Woods, Good, HSG B
32,952	98	Roofs, HSG B
599,696	75	Weighted Average
371,339		61.92% Pervious Area
228,357		38.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
40.8	735	0.0050	0.30		**Lag/CN Method,**

Subcatchment P3.0: EX. POST 3.0



Summary for Subcatchment P3.2: EX POST 3.2

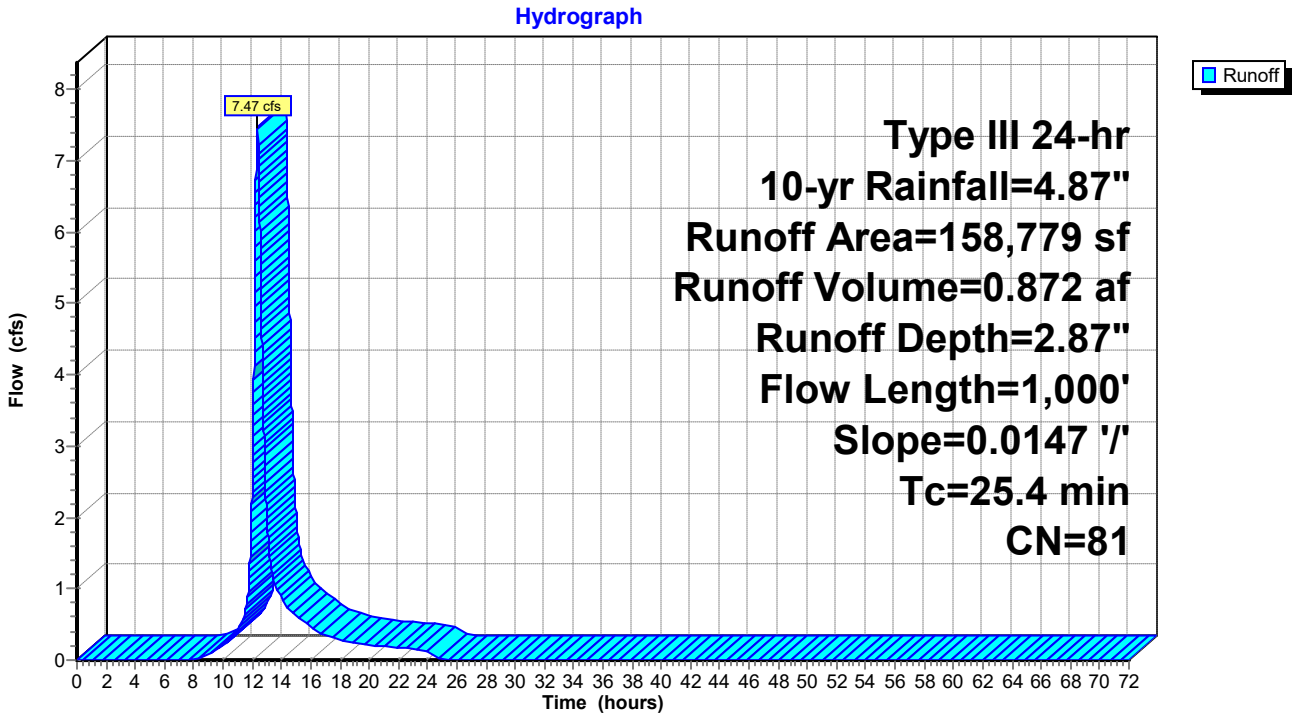
Runoff = 7.47 cfs @ 12.34 hrs, Volume= 0.872 af, Depth= 2.87"
Routed to Pond 50097 : EX-CB#50097

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.87"

Area (sf)	CN	Description
72,397	61	>75% Grass cover, Good, HSG B
81,496	98	Paved parking, HSG B
4,886	98	Roofs, HSG B
158,779	81	Weighted Average
72,397		45.60% Pervious Area
86,382		54.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.4	1,000	0.0147	0.66		**Lag/CN Method,**

Subcatchment P3.2: EX POST 3.2



Summary for Subcatchment P3.3: EX. POST 3.3

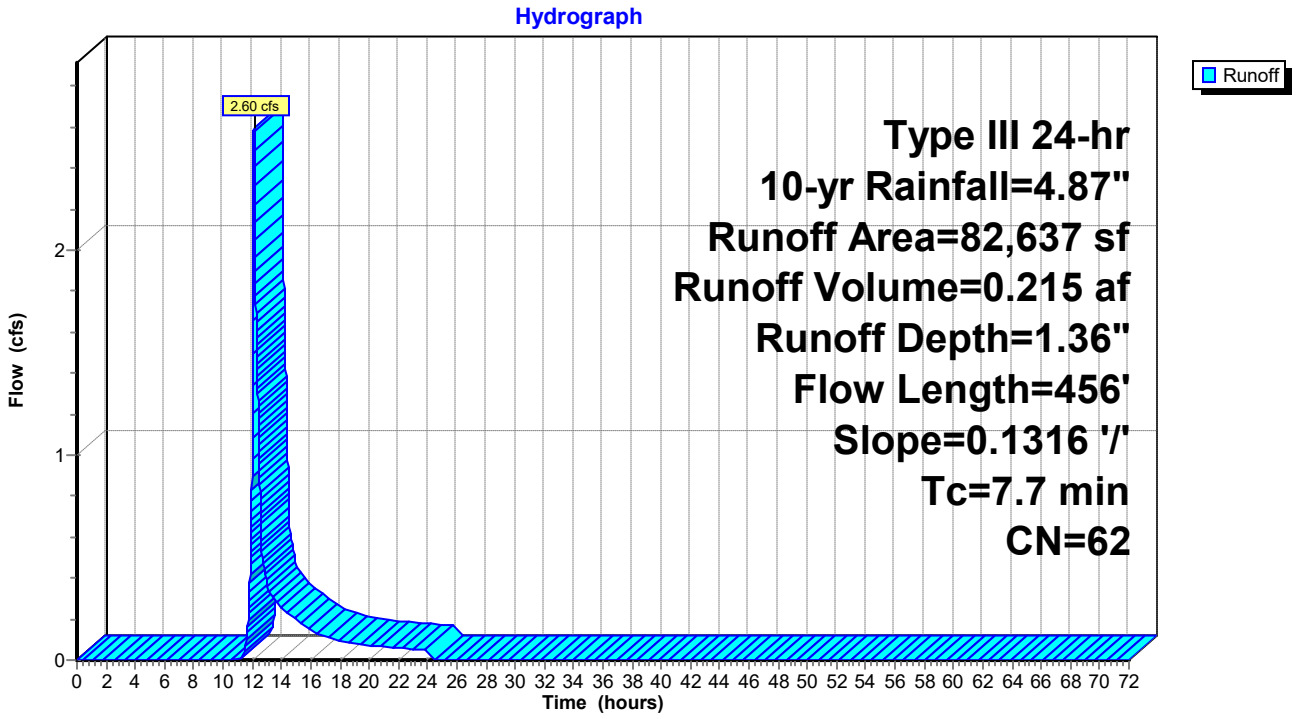
Runoff = 2.60 cfs @ 12.12 hrs, Volume= 0.215 af, Depth= 1.36"
Routed to Pond 2P : EX Stormwater Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.87"

Area (sf)	CN	Description
79,438	61	>75% Grass cover, Good, HSG B
2,132	98	Paved parking, HSG B
1,067	98	Roofs, HSG B
82,637	62	Weighted Average
79,438		96.13% Pervious Area
3,199		3.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7	456	0.1316	0.99		**Lag/CN Method,**

Subcatchment P3.3: EX. POST 3.3



Summary for Subcatchment S-1: LONGMEADOW ROAD

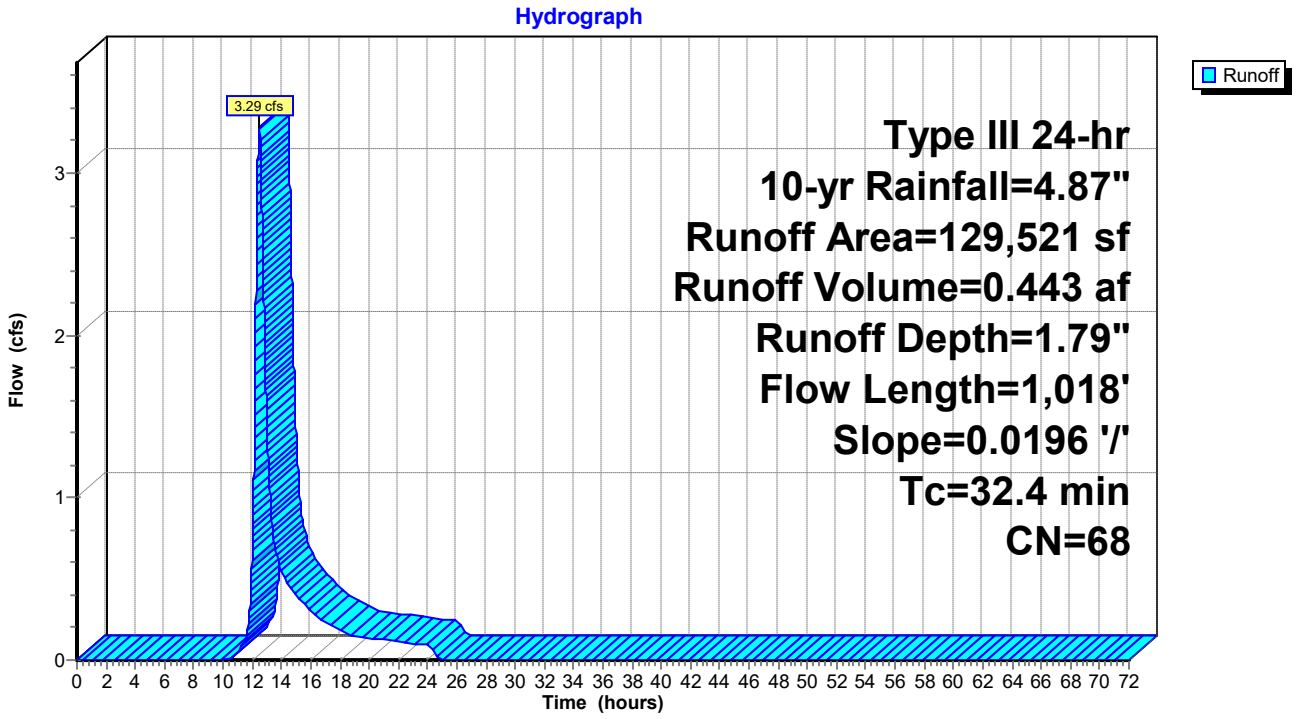
Runoff = 3.29 cfs @ 12.49 hrs, Volume= 0.443 af, Depth= 1.79"
Routed to Pond 1P : EX. BIORETENTION BASIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.87"

Area (sf)	CN	Description
79,288	61	>75% Grass cover, Good, HSG B
20,938	55	Woods, Good, HSG B
29,295	98	Paved parking, HSG B
129,521	68	Weighted Average
100,226		77.38% Pervious Area
29,295		22.62% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
32.4	1,018	0.0196	0.52		**Lag/CN Method,**

Subcatchment S-1: LONGMEADOW ROAD



Summary for Subcatchment S-2: HILLCREST ESTATES

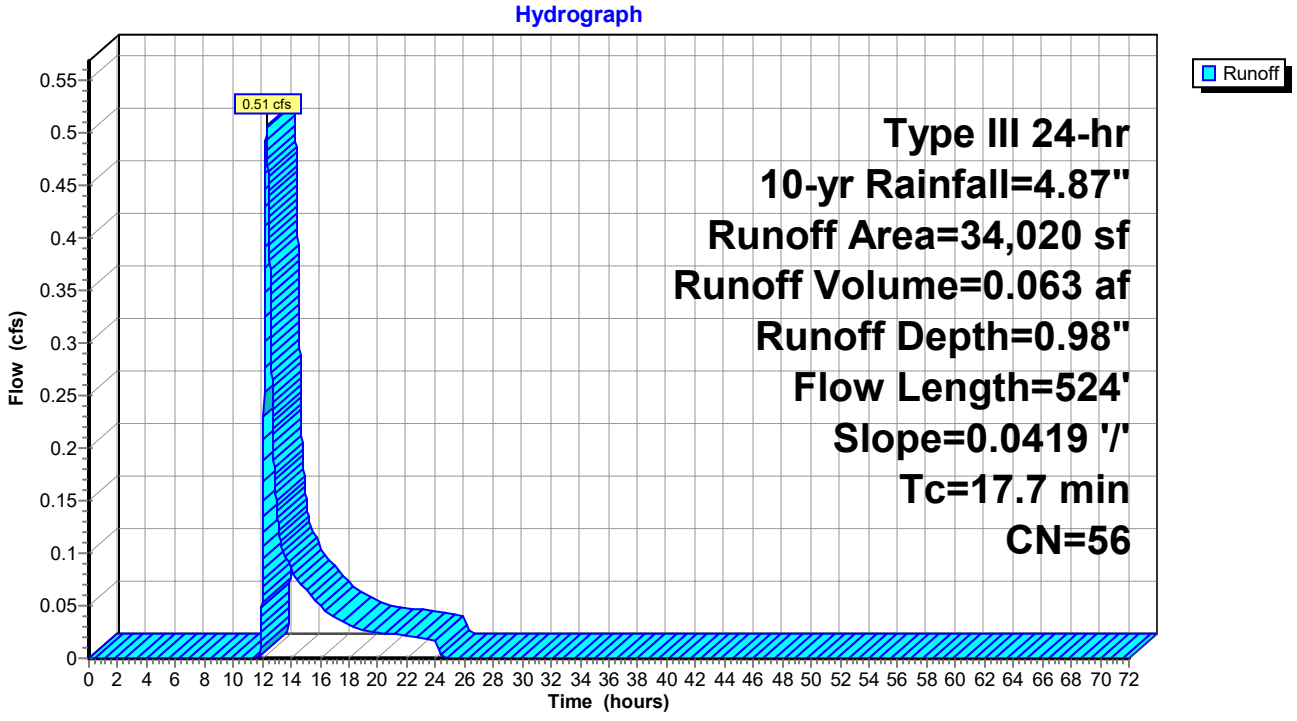
Runoff = 0.51 cfs @ 12.29 hrs, Volume= 0.063 af, Depth= 0.98"
Routed to Link OP-1 : WETLAND AREA

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.87"

Area (sf)	CN	Description
30,638	55	Woods, Good, HSG B
3,382	70	Woods, Good, HSG C
34,020	56	Weighted Average
34,020		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.7	524	0.0419	0.49		**Lag/CN Method,**

Subcatchment S-2: HILLCREST ESTATES



Summary for Subcatchment S-3.1: 126 LANG ROAD

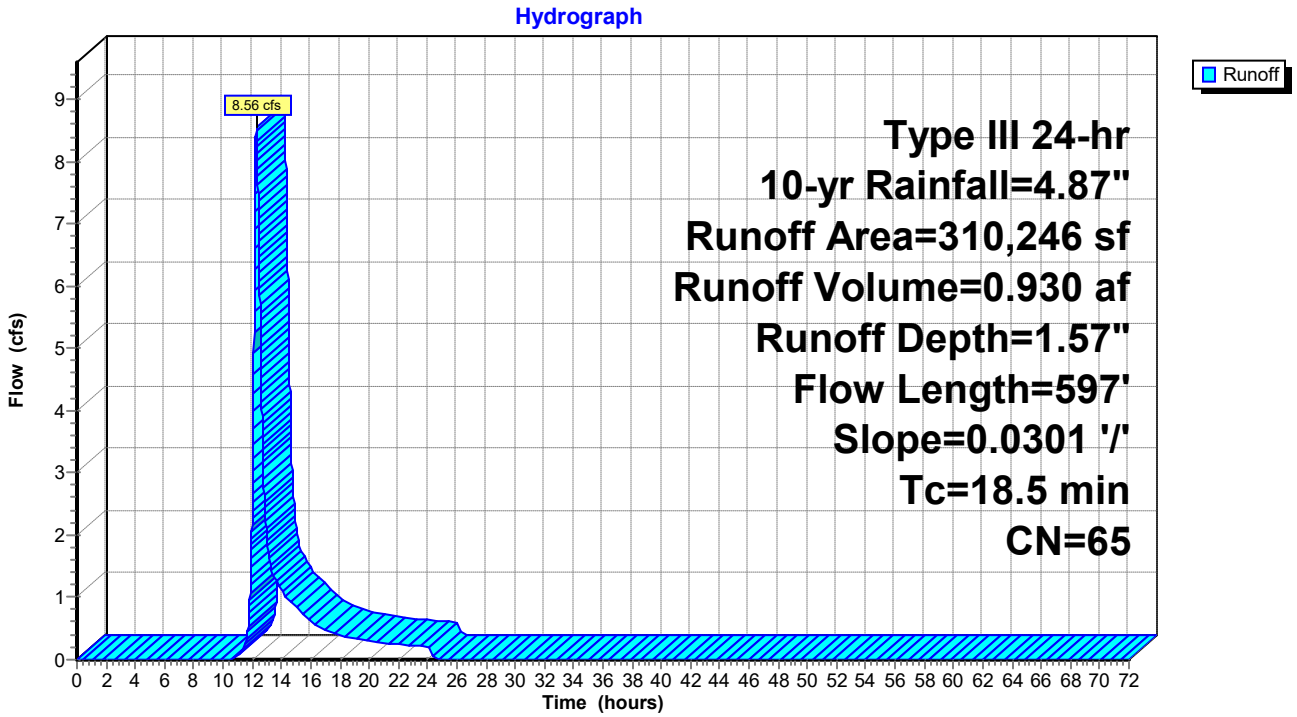
Runoff = 8.56 cfs @ 12.27 hrs, Volume= 0.930 af, Depth= 1.57"
Routed to Link OP-1 : WETLAND AREA

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.87"

Area (sf)	CN	Description
45,528	61	>75% Grass cover, Good, HSG B
52,032	74	>75% Grass cover, Good, HSG C
83,030	55	Woods, Good, HSG B
128,700	70	Woods, Good, HSG C
956	98	Unconnected pavement, HSG C
310,246	65	Weighted Average
309,290		99.69% Pervious Area
956		0.31% Impervious Area
956		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.5	597	0.0301	0.54		**Lag/CN Method,**

Subcatchment S-3.1: 126 LANG ROAD



Summary for Subcatchment S-3.2: SMALL BIORET

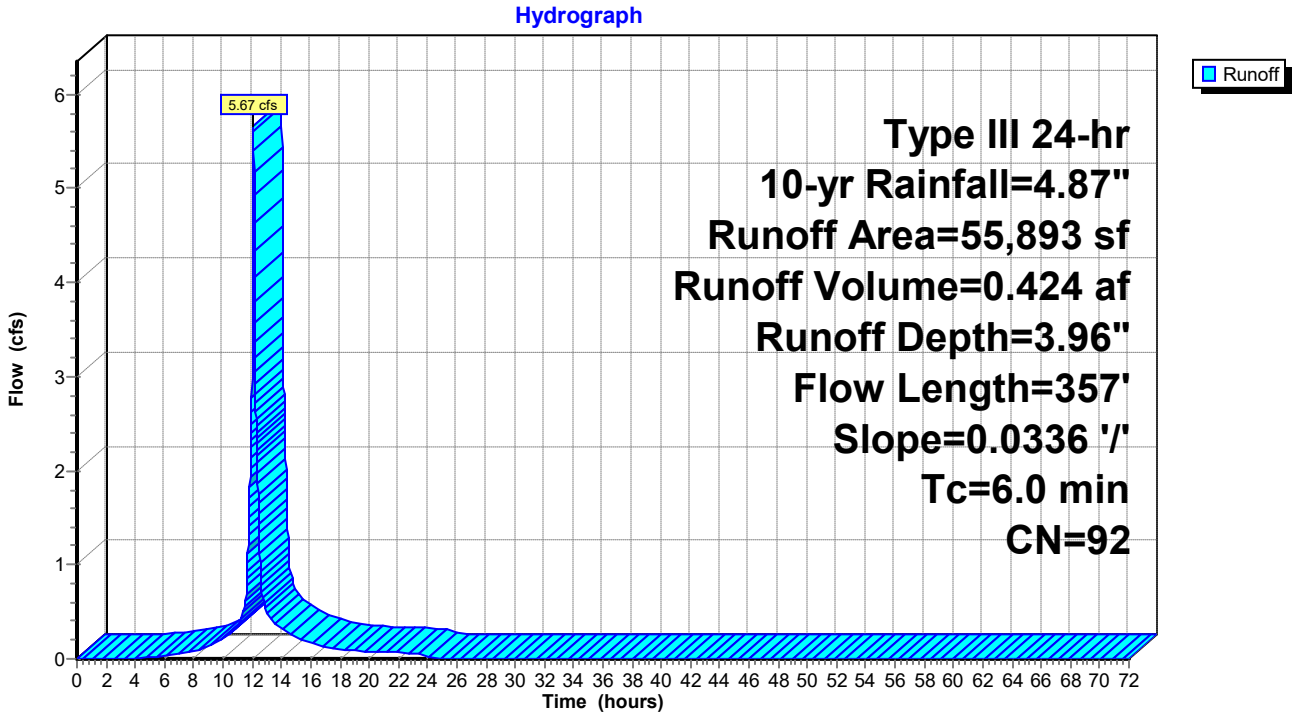
Runoff = 5.67 cfs @ 12.08 hrs, Volume= 0.424 af, Depth= 3.96"
Routed to Pond 6P : COMBINED BIO-RET.

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.87"

Area (sf)	CN	Description
12,933	74	>75% Grass cover, Good, HSG C
22,796	98	Paved parking, HSG C
20,164	98	Roofs, HSG C
55,893	92	Weighted Average
12,933		23.14% Pervious Area
42,960		76.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	357	0.0336	1.21		**Lag/CN Method,**
4.9	357	Total, Increased to minimum Tc = 6.0 min			

Subcatchment S-3.2: SMALL BIORET



Summary for Subcatchment S-3.3: LARGE BIORET.

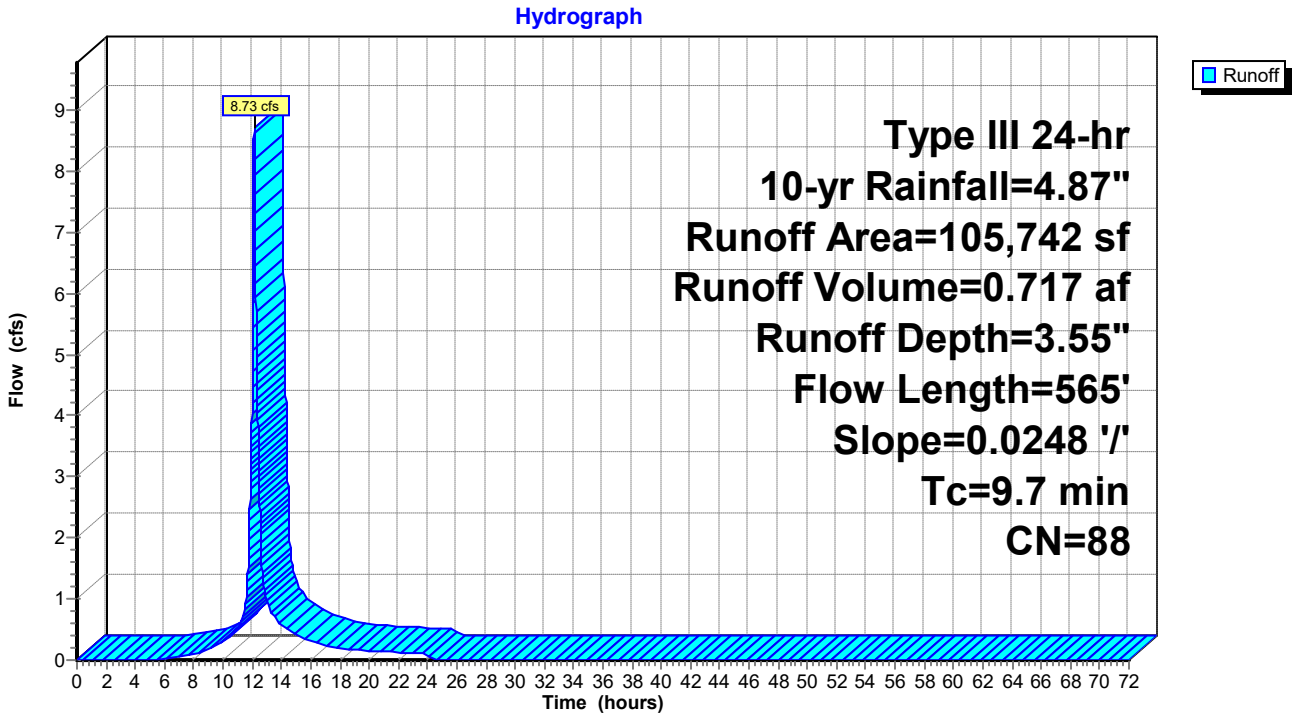
Runoff = 8.73 cfs @ 12.13 hrs, Volume= 0.717 af, Depth= 3.55"
Routed to Pond 6P : COMBINED BIO-RET.

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.87"

Area (sf)	CN	Description
45,511	74	>75% Grass cover, Good, HSG C
40,068	98	Paved parking, HSG C
20,163	98	Roofs, HSG C
105,742	88	Weighted Average
45,511		43.04% Pervious Area
60,231		56.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7	565	0.0248	0.97		**Lag/CN Method,**

Subcatchment S-3.3: LARGE BIORET.



Summary for Subcatchment S-3.4: EX. BIORET.

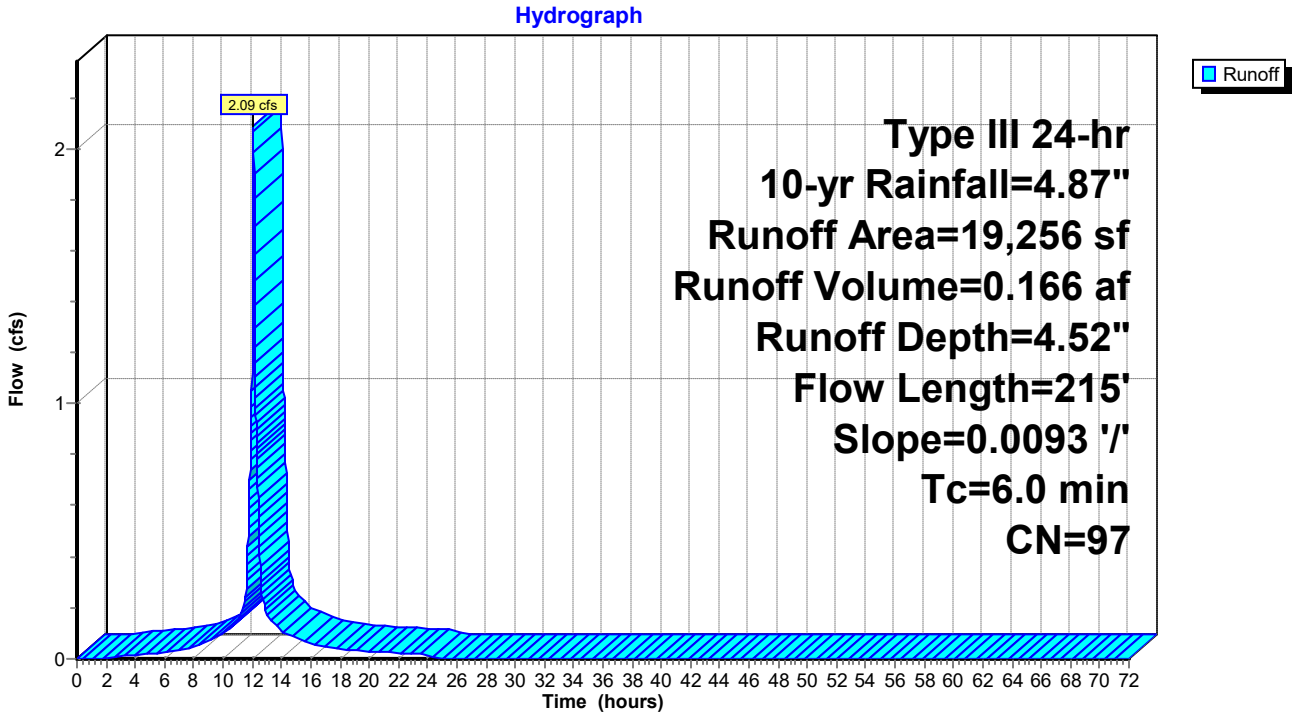
Runoff = 2.09 cfs @ 12.08 hrs, Volume= 0.166 af, Depth= 4.52"
Routed to Pond 1P : EX. BIORETENTION BASIN

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.87"

Area (sf)	CN	Description
1,018	74	>75% Grass cover, Good, HSG C
3,719	98	Paved parking, HSG B
14,519	98	Paved parking, HSG C
19,256	97	Weighted Average
1,018		5.29% Pervious Area
18,238		94.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.8	215	0.0093	0.74		**Lag/CN Method,**
4.8	215	Total, Increased to minimum Tc = 6.0 min			

Subcatchment S-3.4: EX. BIORET.



Summary for Subcatchment S-4: LANG ROAD

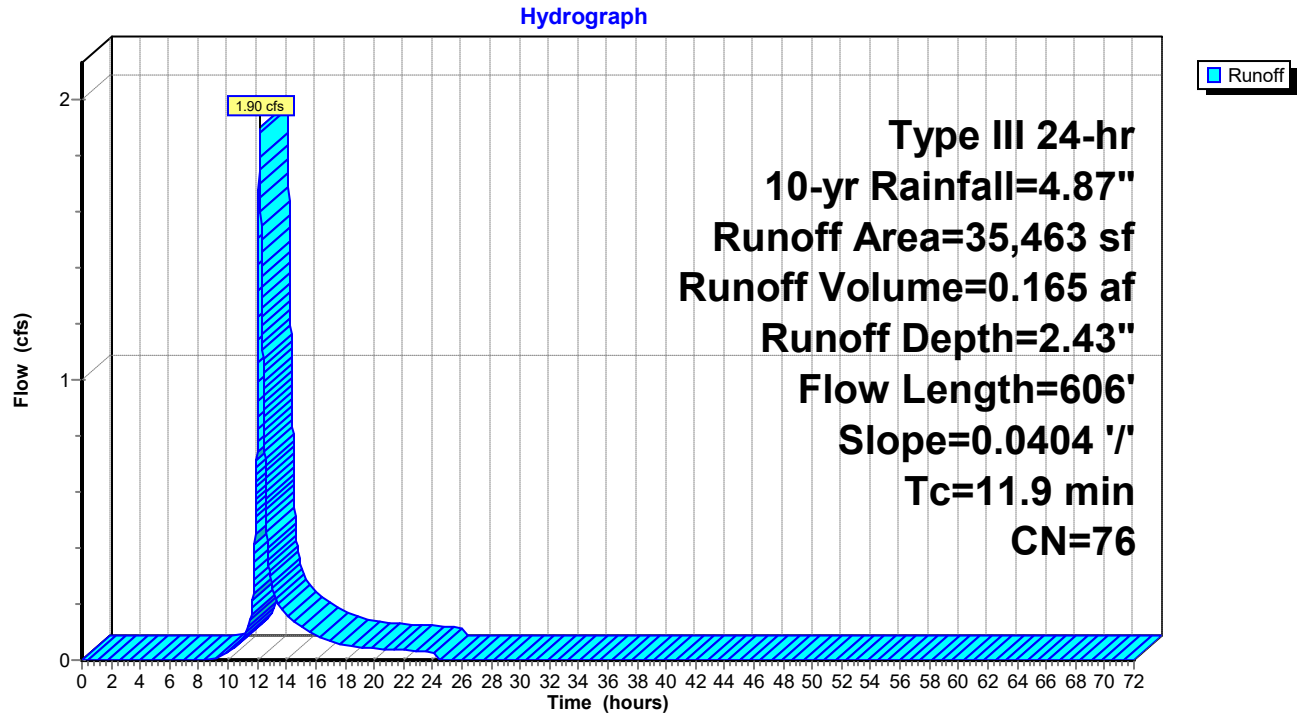
Runoff = 1.90 cfs @ 12.17 hrs, Volume= 0.165 af, Depth= 2.43"
Routed to Link OP-1 : WETLAND AREA

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-yr Rainfall=4.87"

Area (sf)	CN	Description
20,165	61	>75% Grass cover, Good, HSG B
599	55	Woods, Good, HSG B
14,699	98	Paved parking, HSG B
35,463	76	Weighted Average
20,764		58.55% Pervious Area
14,699		41.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.9	606	0.0404	0.85		**Lag/CN Method,**

Subcatchment S-4: LANG ROAD



Summary for Pond 1P: EX. BIORETENTION BASIN

Inflow Area = 3.415 ac, 31.95% Impervious, Inflow Depth = 2.14" for 10-yr event
Inflow = 3.80 cfs @ 12.42 hrs, Volume= 0.609 af
Outflow = 0.58 cfs @ 14.38 hrs, Volume= 0.521 af, Atten= 85%, Lag= 117.1 min
Discarded = 0.58 cfs @ 14.38 hrs, Volume= 0.521 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond 1008 : EX-DMH#1008

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.53' @ 14.38 hrs Surf.Area= 8,591 sf Storage= 14,497 cf
Flood Elev= 55.00' Surf.Area= 10,982 sf Storage= 30,024 cf

Plug-Flow detention time= 390.0 min calculated for 0.521 af (85% of inflow)
Center-of-Mass det. time= 323.8 min (1,169.1 - 845.4)

Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	413 cf	**FOREBAY (Irregular)** Listed below (Recalc)
#2	50.00'	33,799 cf	**ABOVE GROUND STORAGE (Irregular)** Listed below (Recalc)
#3	46.83'	3,837 cf	**TREATMENT BAY (Irregular)** Listed below (Recalc) 9,611 cf Overall - 18 cf Embedded = 9,593 cf x 40.0% Voids
#4	47.17'	18 cf	**6.0" Round UNDERDRAIN** Inside #3 L= 92.5'
		38,067 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
50.00	34	23.9	0	0	34
50.50	105	40.2	33	33	119
51.00	192	53.8	73	106	223
51.50	302	66.6	122	229	349
52.00	438	80.6	184	413	517

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
50.00	3,032	247.0	0	0	3,032
52.00	4,660	290.0	7,634	7,634	4,946
54.00	6,509	327.0	11,118	18,752	6,865
56.00	8,586	364.0	15,047	33,799	9,014

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
46.83	3,032	247.0	0	0	3,032
50.00	3,032	247.0	9,611	9,611	3,815

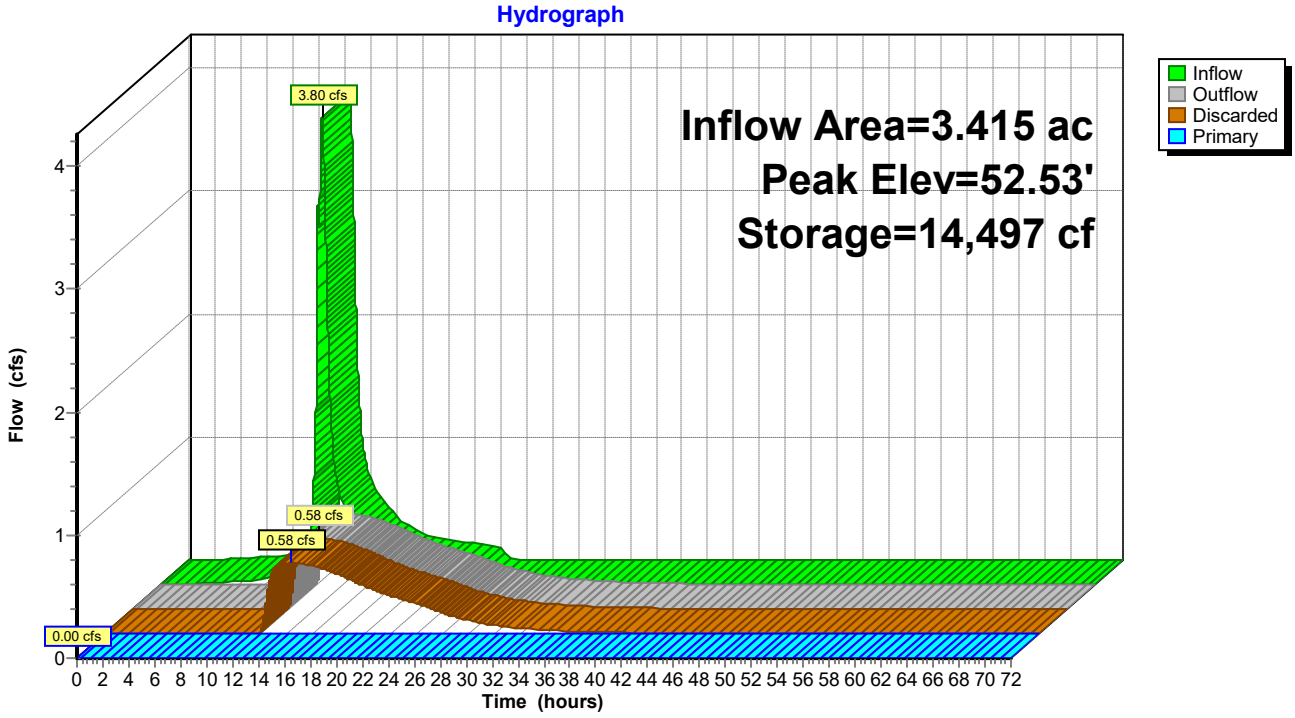
Device	Routing	Invert	Outlet Devices
#1	Primary	46.50'	**12.0" Round Culvert** L= 55.1' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.50' / 44.60' S= 0.0345 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

#2	Device 1	53.66'	**14.2" x 14.2" Horiz. OCS-(DMH#40188)** C= 0.600 Limited to weir flow at low heads
#3	Device 2	47.17'	**6.0" Vert. UNDERDRAIN** C= 0.600 Limited to weir flow at low heads
#4	Discarded	50.00'	**10.000 in/hr Exfiltration over Surface area above 50.00'** Excluded Surface area = 6,098 sf Phase-In= 0.01'

Discarded OutFlow Max=0.58 cfs @ 14.38 hrs HW=52.53' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.58 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=46.83' (Free Discharge)
└**1=Culvert** (Passes 0.00 cfs of 0.35 cfs potential flow)
└**2=OCS-(DMH#40188)** (Controls 0.00 cfs)
└**3=UNDERDRAIN** (Controls 0.00 cfs)

Pond 1P: EX. BIORETENTION BASIN



Summary for Pond 2P: EX Stormwater Wetland

Inflow Area = 15.664 ac, 33.94% Impervious, Inflow Depth = 2.22" for 10-yr event
Inflow = 19.08 cfs @ 12.56 hrs, Volume= 2.904 af
Outflow = 16.15 cfs @ 12.78 hrs, Volume= 2.901 af, Atten= 15%, Lag= 13.1 min
Primary = 16.15 cfs @ 12.78 hrs, Volume= 2.901 af
Routed to Pond 50097 : EX-CB#50097

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.84' @ 12.78 hrs Surf.Area= 10,868 sf Storage= 12,226 cf

Plug-Flow detention time= 10.4 min calculated for 2.901 af (100% of inflow)
Center-of-Mass det. time= 9.8 min (878.5 - 868.7)

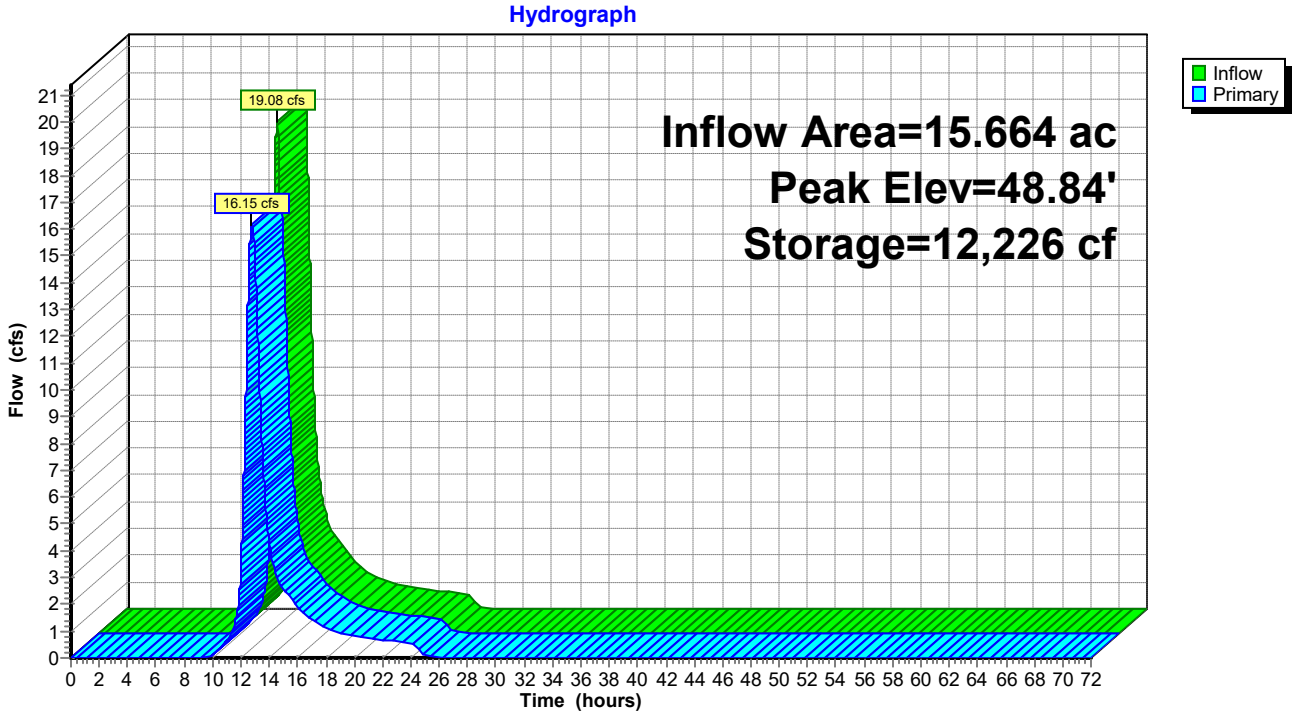
Volume	Invert	Avail.Storage	Storage Description
#1	46.50'	95,891 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
46.50	562	178.0	0	0	562
47.00	1,100	219.0	408	408	1,861
47.50	3,348	456.0	1,061	1,469	14,593
48.00	8,162	675.0	2,790	4,259	34,305
49.00	11,426	714.0	9,748	14,007	38,671
49.50	12,989	745.0	6,100	20,107	42,289
50.00	15,390	697.0	7,086	27,193	47,809
52.00	19,514	680.0	34,823	62,016	50,125
53.60	22,875	700.0	33,876	95,891	52,584

Device	Routing	Invert	Outlet Devices
#1	Primary	46.70'	**28.0" Round Culvert** L= 68.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 46.70' / 45.90' S= 0.0118 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 4.28 sf
#2	Device 1	49.50'	**6.0" Vert. 6" Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	51.00'	**36.0" W x 8.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	46.50'	**4.0" W x 4.0" H Vert. Grate X 11.00 columns** X 11 rows with 5.0" cc spacing C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=16.15 cfs @ 12.78 hrs HW=48.84' (Free Discharge)
└**1=Culvert** (Inlet Controls 16.15 cfs @ 3.93 fps)
  ├**2=6" Orifice** (Controls 0.00 cfs)
  ├**3=Orifice/Grate** (Controls 0.00 cfs)
  └**4=Grate** (Passes 16.15 cfs of 34.51 cfs potential flow)

Pond 2P: EX Stormwater Wetland



Summary for Pond 6P: COMBINED BIO-RET.

Inflow Area = 3.711 ac, 63.84% Impervious, Inflow Depth = 3.69" for 10-yr event
Inflow = 13.91 cfs @ 12.11 hrs, Volume= 1.141 af
Outflow = 5.86 cfs @ 12.38 hrs, Volume= 1.141 af, Atten= 58%, Lag= 15.9 min
Discarded = 2.30 cfs @ 12.38 hrs, Volume= 1.063 af
Primary = 3.55 cfs @ 12.38 hrs, Volume= 0.078 af
Routed to Link OP-1 : WETLAND AREA

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.17' @ 12.38 hrs Surf.Area= 9,945 sf Storage= 14,946 cf

Plug-Flow detention time= 51.5 min calculated for 1.141 af (100% of inflow)
Center-of-Mass det. time= 51.5 min (846.8 - 795.3)

Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	20,838 cf	**ABOVE GROUND STORAGE (Irregular)** Listed below (Recalc)
#2	47.00'	4,073 cf	**Custom Stage Data (Irregular)** Listed below (Recalc) 10,182 cf Overall x 40.0% Voids
#3	50.00'	3,110 cf	**ABOVE GROUND STORAGE-SMALL (Irregular)** Listed below (Recalc)
#4	47.00'	349 cf	**TREATMENT-SMALL (Irregular)** Listed below (Recalc) 873 cf Overall x 40.0% Voids
#5	52.00'	194 cf	**15.0" Round Pipe Storage** L= 158.0'
		28,563 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
50.00	3,394	375.9	0	0	3,394
52.00	5,179	493.6	8,510	8,510	11,584
54.00	7,204	519.0	12,327	20,838	13,868

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
47.00	3,394	376.0	0	0	3,394
50.00	3,394	376.0	10,182	10,182	4,522

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
50.00	291	88.0	0	0	291
52.00	747	138.0	1,003	1,003	1,218
54.00	1,393	180.3	2,107	3,110	2,336

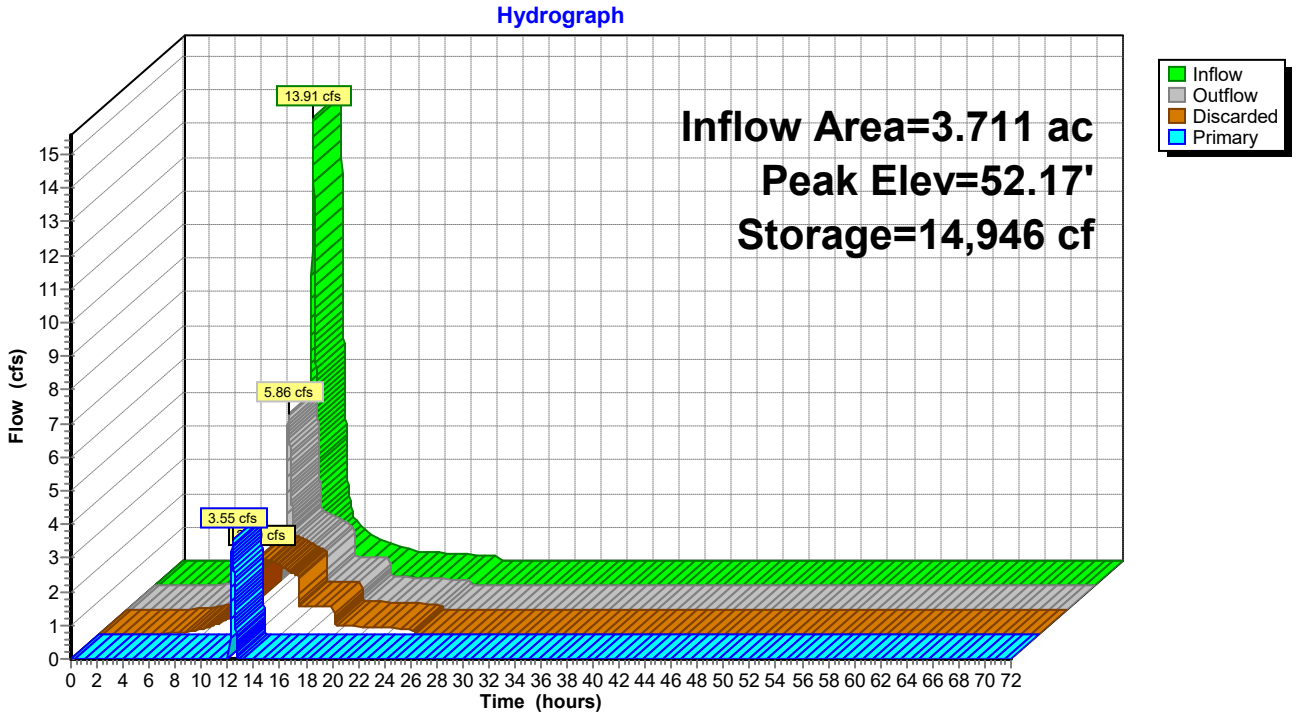
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
47.00	291	88.0	0	0	291
50.00	291	88.0	873	873	555

Device	Routing	Invert	Outlet Devices
#1	Discarded	47.00'	**10.000 in/hr Exfiltration over Surface area** Phase-In= 0.01'
#2	Primary	47.00'	**15.0" Round Culvert** L= 176.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 47.00' / 46.00' S= 0.0057 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf
#3	Device 2	52.00'	**48.0" x 48.0" Horiz. OCS** C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=2.30 cfs @ 12.38 hrs HW=52.17' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 2.30 cfs)

Primary OutFlow Max=3.51 cfs @ 12.38 hrs HW=52.17' (Free Discharge)
└**2=Culvert** (Passes 3.51 cfs of 9.40 cfs potential flow)
└**3=OCS** (Weir Controls 3.51 cfs @ 1.33 fps)

Pond 6P: COMBINED BIO-RET.



Summary for Pond 317: EX-DMH#317

[79] Warning: Submerged Pond 1008 Primary device # 1 OUTLET by 1.80'

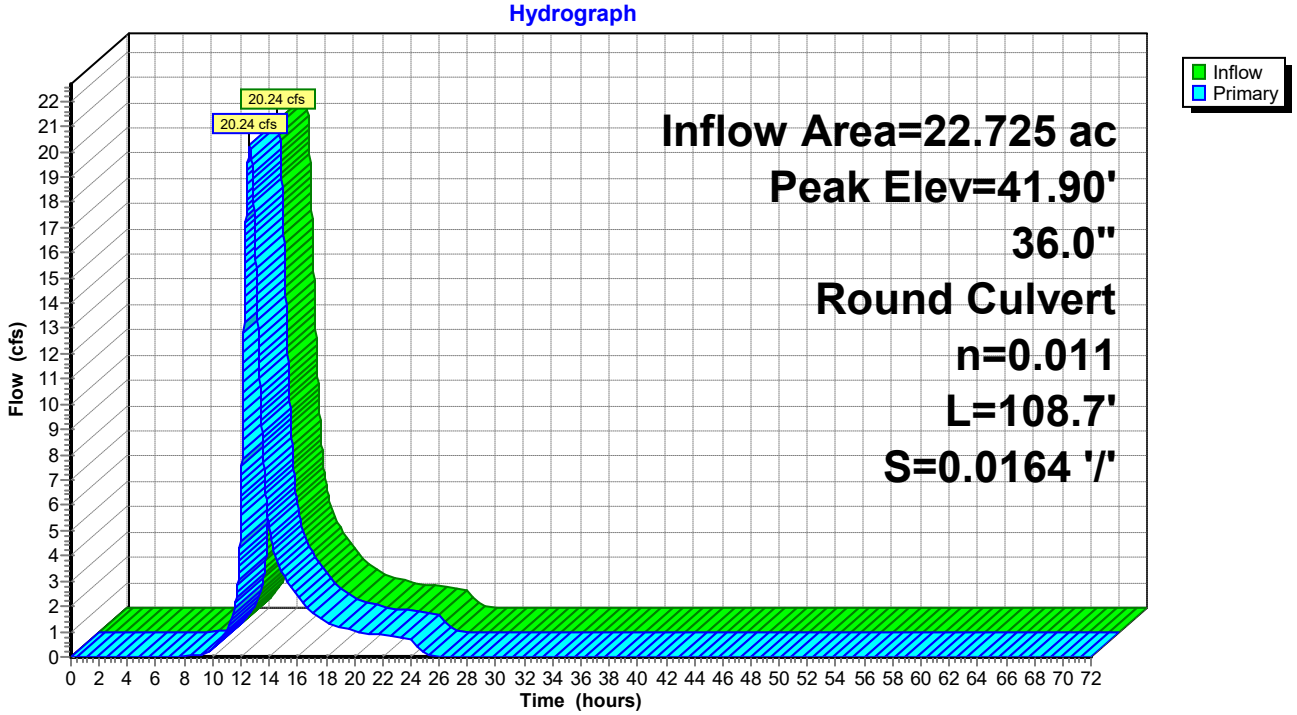
Inflow Area = 22.725 ac, 36.92% Impervious, Inflow Depth = 1.99" for 10-yr event
Inflow = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af
Outflow = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af, Atten= 0%, Lag= 0.0 min
Primary = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af
Routed to Link OP-1 : WETLAND AREA

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 41.90' @ 12.62 hrs
Flood Elev= 45.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	40.10'	**36.0" Round Culvert** L= 108.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 40.10' / 38.32' S= 0.0164 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=20.24 cfs @ 12.62 hrs HW=41.90' (Free Discharge)
1=Culvert (Inlet Controls 20.24 cfs @ 4.57 fps)

Pond 317: EX-DMH#317



Summary for Pond 1002: EX-DMH#1002

[79] Warning: Submerged Pond 50097 Primary device # 1 by 1.20'

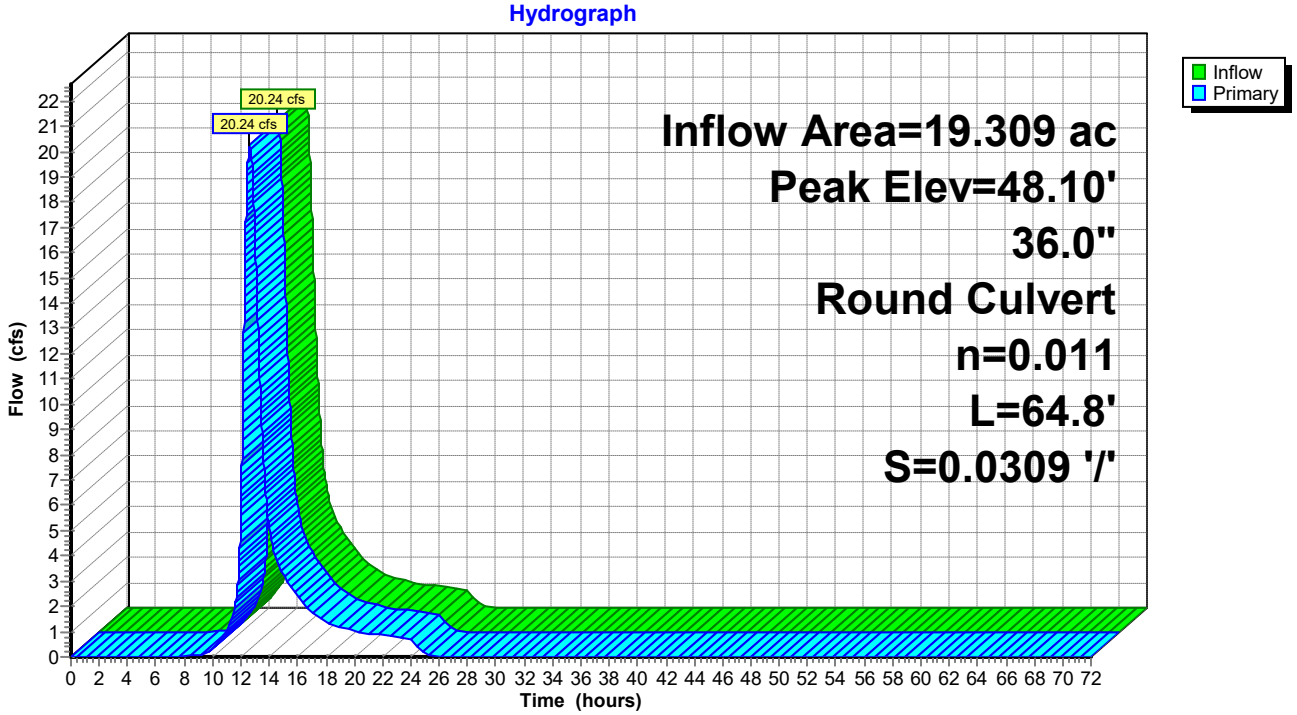
Inflow Area = 19.309 ac, 37.80% Impervious, Inflow Depth = 2.34" for 10-yr event
Inflow = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af
Outflow = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af, Atten= 0%, Lag= 0.0 min
Primary = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af
Routed to Pond 1008 : EX-DMH#1008

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.10' @ 12.62 hrs
Flood Elev= 58.10'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.30'	**36.0" Round Culvert** L= 64.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 46.30' / 44.30' S= 0.0309 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=20.23 cfs @ 12.62 hrs HW=48.10' (Free Discharge)
1=Culvert (Inlet Controls 20.23 cfs @ 4.57 fps)

Pond 1002: EX-DMH#1002



Summary for Pond 1008: EX-DMH#1008

[79] Warning: Submerged Pond 1P Primary device # 1 OUTLET by 1.20'
[79] Warning: Submerged Pond 1002 Primary device # 1 OUTLET by 1.50'

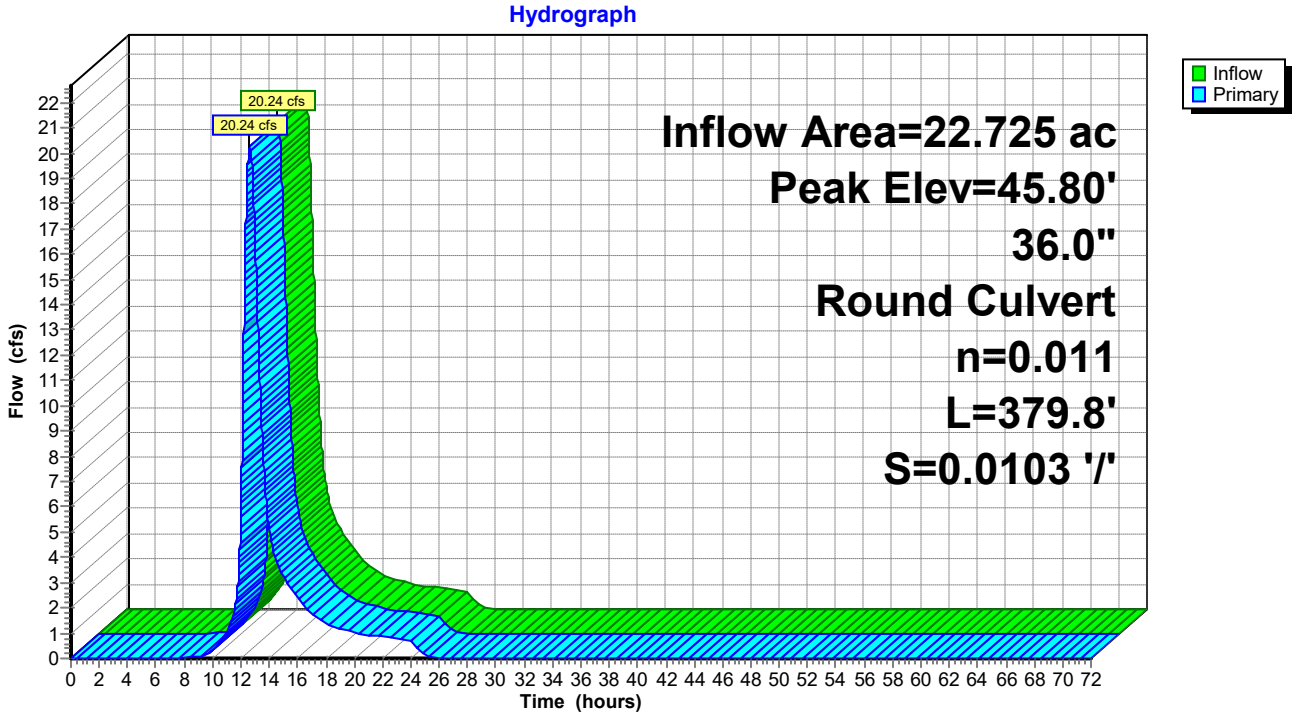
Inflow Area = 22.725 ac, 36.92% Impervious, Inflow Depth = 1.99" for 10-yr event
Inflow = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af
Outflow = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af, Atten= 0%, Lag= 0.0 min
Primary = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af
Routed to Pond 317 : EX-DMH#317

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 45.80' @ 12.62 hrs
Flood Elev= 57.37'

Device	Routing	Invert	Outlet Devices
#1	Primary	44.00'	**36.0" Round Culvert** L= 379.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 44.00' / 40.10' S= 0.0103 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=20.23 cfs @ 12.62 hrs HW=45.80' (Free Discharge)
1=Culvert (Inlet Controls 20.23 cfs @ 4.57 fps)

Pond 1008: EX-DMH#1008



Summary for Pond 40370: EX-CB#40370

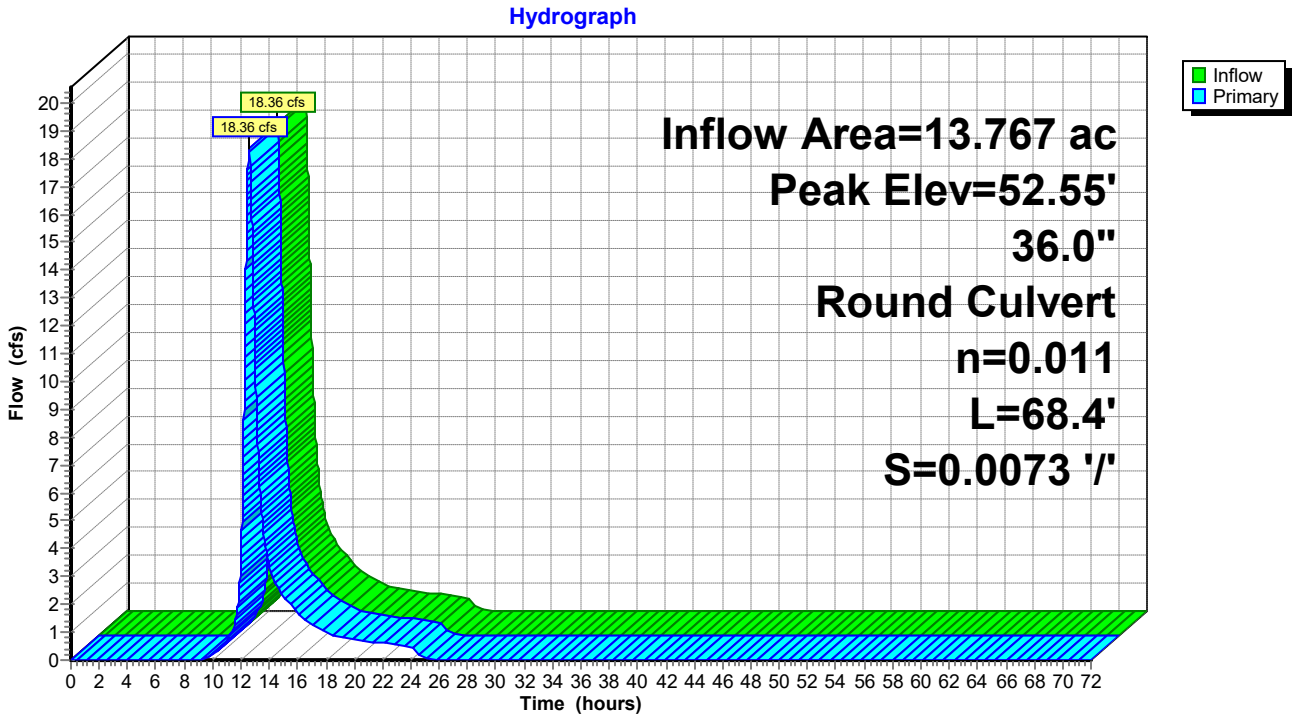
Inflow Area = 13.767 ac, 38.08% Impervious, Inflow Depth = 2.34" for 10-yr event
Inflow = 18.36 cfs @ 12.56 hrs, Volume= 2.689 af
Outflow = 18.36 cfs @ 12.56 hrs, Volume= 2.689 af, Atten= 0%, Lag= 0.0 min
Primary = 18.36 cfs @ 12.56 hrs, Volume= 2.689 af
Routed to Pond 50078 : EX-DMH#50078

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.55' @ 12.56 hrs
Flood Elev= 58.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.70'	**36.0" Round Culvert** L= 68.4' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 50.70' / 50.20' S= 0.0073 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=18.35 cfs @ 12.56 hrs HW=52.55' (Free Discharge)
1=Culvert (Barrel Controls 18.35 cfs @ 5.74 fps)

Pond 40370: EX-CB#40370



Summary for Pond 50078: EX-DMH#50078

[79] Warning: Submerged Pond 40370 Primary device # 1 INLET by 1.30'

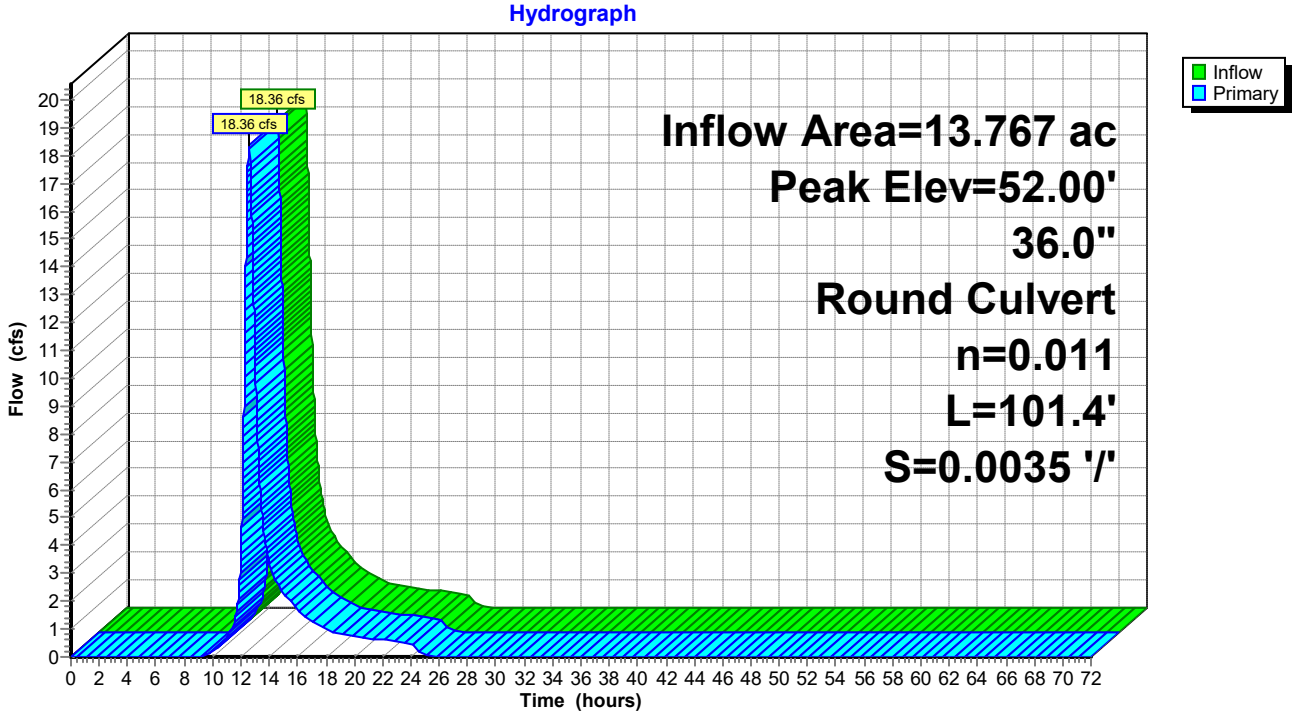
Inflow Area = 13.767 ac, 38.08% Impervious, Inflow Depth = 2.34" for 10-yr event
Inflow = 18.36 cfs @ 12.56 hrs, Volume= 2.689 af
Outflow = 18.36 cfs @ 12.56 hrs, Volume= 2.689 af, Atten= 0%, Lag= 0.0 min
Primary = 18.36 cfs @ 12.56 hrs, Volume= 2.689 af
Routed to Pond 2P : EX Stormwater Wetland

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 52.00' @ 12.56 hrs
Flood Elev= 57.16'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.00'	**36.0" Round Culvert** L= 101.4' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 50.00' / 49.65' S= 0.0035 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=18.35 cfs @ 12.56 hrs HW=52.00' (Free Discharge)
1=Culvert (Barrel Controls 18.35 cfs @ 5.20 fps)

Pond 50078: EX-DMH#50078



Summary for Pond 50097: EX-CB#50097

[81] Warning: Exceeded Pond 2P by 0.51' @ 9.17 hrs

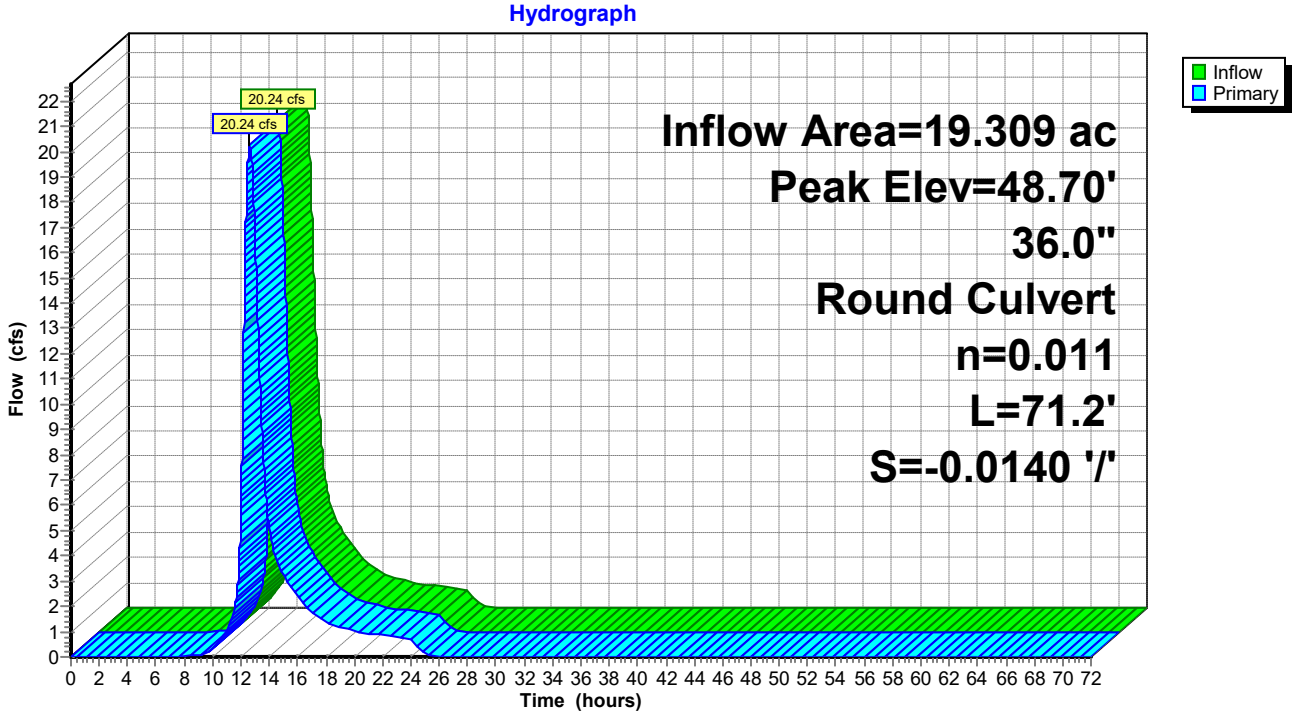
Inflow Area = 19.309 ac, 37.80% Impervious, Inflow Depth = 2.34" for 10-yr event
Inflow = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af
Outflow = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af, Atten= 0%, Lag= 0.0 min
Primary = 20.24 cfs @ 12.62 hrs, Volume= 3.773 af
Routed to Pond 1002 : EX-DMH#1002

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 48.70' @ 12.62 hrs
Flood Elev= 57.82'

Device	Routing	Invert	Outlet Devices
#1	Primary	46.90'	**36.0" Round Culvert** L= 71.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 45.90' / 46.90' S= -0.0140 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 7.07 sf

Primary OutFlow Max=20.23 cfs @ 12.62 hrs HW=48.70' (Free Discharge)
1=Culvert (Inlet Controls 20.23 cfs @ 4.57 fps)

Pond 50097: EX-CB#50097



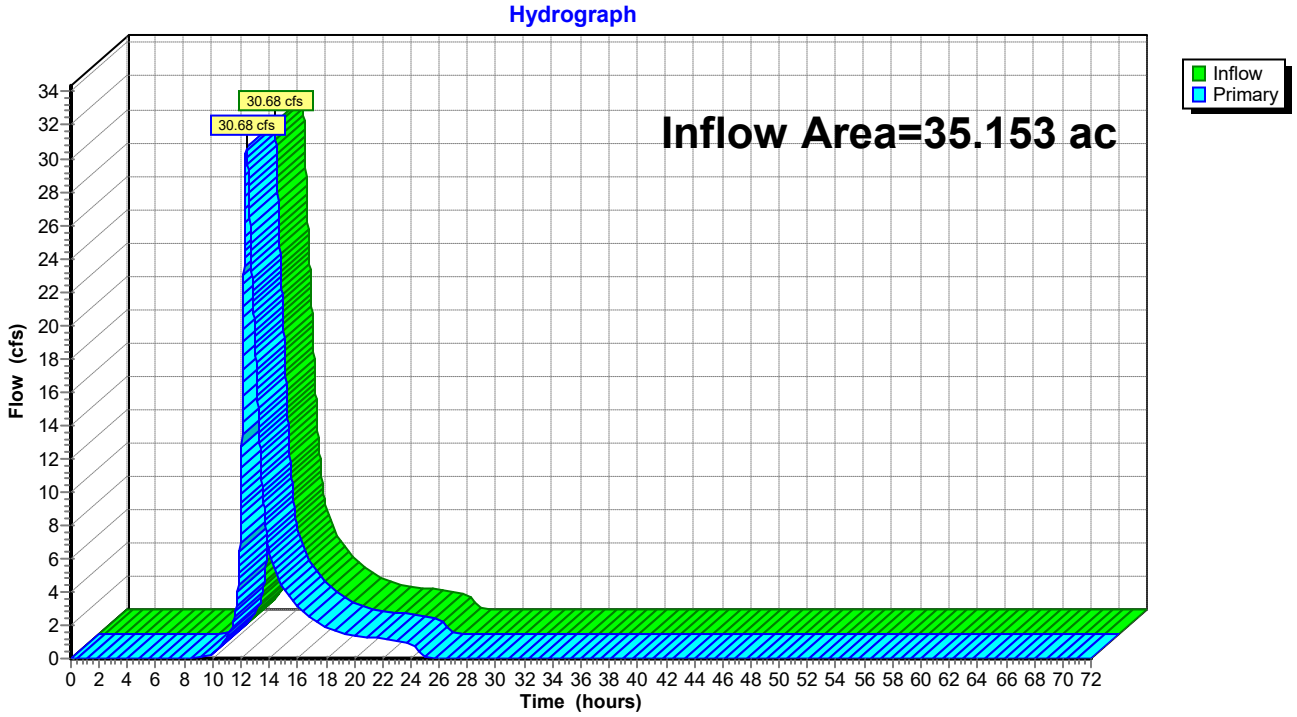
Summary for Link OP-1: WETLAND AREA

AREA IS COMPOSED OF THE ENTIRE EASTERN END OF THE PARCEL THAT IS MADE UP BY WETLANDS AND WOODED AREA

Inflow Area = 35.153 ac, 31.63% Impervious, Inflow Depth = 1.71" for 10-yr event
Inflow = 30.68 cfs @ 12.39 hrs, Volume= 5.010 af
Primary = 30.68 cfs @ 12.39 hrs, Volume= 5.010 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link OP-1: WETLAND AREA



Section 3.1: Inspection & Maintenance Manual

25 New Hampshire Ave, Suite 255, Portsmouth, New Hampshire 03801
P 603.766.0435 | mcclurevision.com

Proposed Workforce Housing Development – Phase 1
Preservation of Affordable Housing
Map 291 Lot 1-1
Portsmouth, New Hampshire
Storm Water Management System
Inspection and Maintenance Manual

Introduction:

The operation and maintenance of a storm water management system and its individual components is as critical to system performance as the design. Without proper maintenance, best management practices (BMPs) are likely to become functionally impaired or to fail, providing reduced or no treatment of storm water. Proper operation and maintenance will ensure that the storm water system and individual BMPs will remain effective at removing pollutants as designed and meeting New Hampshire's water quality objectives. Proper maintenance will:

- Maintain the volume of storm water treated over the long term;
- Sustain the pollutant removal efficiency of the BMP;
- Reduce the risk of re-suspending sediment and other pollutants captured by the BMP;
- Prevent structural deterioration of the BMP and minimize the need for expensive repairs;
- Decrease the potential for failure of the BMP.

The NH Department of Environmental Services Alteration of Terrain (AoT) regulations (Env-Wq 1500) require the long-term maintenance of storm water practices and stipulate the establishment of a mechanism to provide for ongoing inspections and maintenance.

25 New Hampshire Ave, Suite 255, Portsmouth, New Hampshire 03801
P 603.766.0435 | **mcclurevision.com**

Facilities Information:

Owner of Record: Service Credit Union
3003 Lafayette Road
Portsmouth, NH 03801

Report Information:

- Every effort has been made to provide a comprehensive operation and maintenance plan for this project. All measures and guidelines presented within this plan are the minimum efforts required to achieve the intent of the erosion and sedimentation control program and minimize off site impacts.
- Should any omissions or inconsistencies arise in the plan, the owner, and governing officials are expected to use reasonable and experienced judgment in the field relative to evaluation and implementing measures based on the intent of this plan.
- This manual does not preclude any requirements for additional controls identified in the approved plan set or support documents or any other appropriate techniques to limit erosion and sedimentation of the site.
- Any measures deemed necessary by the town planning board, conservation commission, zoning board, or the town's representative shall become part of this inspection and maintenance plan.
- Preservation of Affordable Housing (POAH) will be responsible for implementing the required reporting, inspection, and maintenance activities identified in this Inspection and Maintenance (I&M) manual.
- Preservation of Affordable Housing (POAH) shall maintain all record keeping required by the I&M manual. Any transfer of responsibility for I&M activities or transfer in ownership shall be documented to the DES in writing.
- Inspection and maintenance reports shall be completed after each inspection. Copies of the report forms to be completed by the inspector are attached at the end of this manual, including:
    - Inspection checklist to be used during each inspection;
    - Inspection and maintenance logs to document each inspection and maintenance activity;
- A plan showing the locations of all the storm water practices described in the I&M manual is attached at the end of this manual.
- Inspection and maintenance records must be provided to DES upon request.

Storm water management systems present at Proposed Workforce Housing Development – Phase 1

Description:

The on-site stormwater management system includes an existing Bio-Retention Basin as well as two (2) additional Bio-Retention Basins, which will be interconnected, designed to capture stormwater runoff from resulting from Longmeadow Road as well as the new impervious areas on-site.

Maintenance:

1. Regular inspection and routine maintenance are necessary to ensure that the storm water management system continues to control and treat runoff.
2. Structural components of the site's drainage system must be inspected and maintained on an annual basis (minimum).
3. The outlets of the storm water management system must be inspected bi-annually.
4. All outfalls shall be cleaned of all siltation and debris at the completion of the construction process when the site has been stabilized with loam, seed, and landscaping.
5. Any evidence of erosion, structural damage to the outlet, or other damage must be reported to the appropriate on-site representative and repaired as soon as possible.
6. Any sediment and/or trash should be removed from the outlet structures and pipes cleaned of all silt.
7. Subsurface pipe detention systems must be inspected and maintained on an annual basis (minimum).

Bioretention System

Description:

A bioretention system (sometimes referred to as a "rain garden") is a type of filtration BMP designed to collect and filter moderate amounts of stormwater runoff using conditioned planting soil beds, gravel beds and vegetation within shallow depressions. The bioretention system may be designed with an underdrain, to collect treated water and convey it to discharge, or it may be designed to infiltrate the treated water directly to the subsoil. Bioretention cells can reduce sediment, nutrients, oil and grease, and trace metals. Bioretention systems should be sited near the origin of the stormwater runoff to be treated.

The major difference between bioretention systems and other filtration systems is the use of vegetation. A typical surface sand filter is designed to be maintained with no vegetation, whereas a bioretention cell is planted with a variety of shrubs and perennials whose roots assist with pollutant uptake. The use of vegetation allows these systems to blend in with other landscaping features.

Maintenance:

1. Systems should be inspected at least twice annually and following any rainfall event exceeding 2.5 inches in a 24 hour period, with maintenance or rehabilitation conducted as warranted by such inspection.
2. Pretreatment measures should be inspected at least twice annually, and cleaned of accumulated sediment as warranted by inspection, but no less than once annually.
3. Trash and debris should be removed at each inspection.
4. At least once annually, system should be inspected for drawdown time. If bioretention system does not drain within 72-hours following a rainfall event, then a qualified professional should assess the condition of the facility to determine measures required to restore filtration function or infiltration function (as applicable), including but not limited to removal of accumulated sediments or reconstruction of the filter media.
5. Vegetation should be inspected at least annually, and maintained in healthy condition, including pruning, removal and replacement of dead or diseased vegetation, and removal of invasive species.

Inspection Checklist and Maintenance Report
Bioretention system

Practice Location: _____

Date: _____

Performed By: _____ Signature _____

Inspection Checklist		
Presence of trash or debris	❑ Yes	❒ No
Presence of accumulated sediment	❑ Yes	❒ No
Structural damage at inlet or outlet	❑ Yes	❒ No
Drains with 72 hours of rainfall	❑ Yes	❒ No
Presence of invasive species	❑ Yes	❒ No

Maintenance Performed

Sediment Forebay

Description:

A sediment forebay is an impoundment, basin, or other storage structure designed to dissipate the energy of incoming runoff and allow for initial settling of coarse sediments. Forebays are used for pretreatment of runoff prior to discharge into the primary water quality treatment BMP. In some cases, forebays may be constructed as separate structures but often, they are integrated into the design of larger stormwater management structures.

Maintenance:

1. Forebays help reduce the sediment load to downstream BMPs and will therefore require more frequent cleaning.
2. Inspect at least annually;
3. Conduct periodic mowing of embankments (generally two times per year) to control growth of woody vegetation on embankments;
4. Remove debris from outlet structures at least once annually;
5. Remove and dispose of accumulated sediment based on inspection;
6. Install and maintain a staff gage or other measuring device, to indicate depth of sediment accumulation and level at which clean-out is required.

Inspection Checklist and Maintenance Report
Sediment Forebay

Practice Location: _____

Date: _____

Performed By: _____ Signature _____

Inspection Checklist		
Presence of erosion or vegetation loss	❑ Yes	❒ No
Presence of accumulated sediment	❑ Yes	❒ No
Presence of trash or debris	❑ Yes	❒ No

Maintenance Performed

Conveyance Swales

Description:

Conveyance swales are stabilized channels designed to convey runoff at non-erosive velocities. They may be stabilized using vegetation, riprap, or a combination, or with an alternative lining designed to accommodate design flows while protecting the integrity of the sides and bottom of the channel. Conveyance channels may provide incidental water quality benefits but are not specifically designed to provide treatment. Conveyance swales are not considered a Treatment or Pretreatment Practice under the AoT regulations, unless they are also designed to meet the requirements of an acceptable Treatment/Pretreatment Practice as described elsewhere in this Chapter.

Maintenance:

1. Grassed channels should be inspected periodically (at least annually) for sediment accumulation, erosion, and condition of surface lining (vegetation or riprap).
2. Repairs, including stone or vegetation replacement, should be made based on this inspection.
3. Remove sediment and debris annually, or more frequently as warranted by inspection.
4. Mow vegetated channels based on frequency specified by design. Mowing at least once per year is required to control establishment of woody vegetation. It is recommended to cut grass no shorter than 4 inches.

Inspection Checklist and Maintenance Report
Conveyance Swales

Practice Location: _____

Date: _____

Performed By: _____ Signature _____

Inspection Checklist		
Presence of erosion or vegetation loss	❑ Yes	❒ No
Presence of accumulated sediment	❑ Yes	❒ No
Presence of trash or debris	❑ Yes	❒ No

Maintenance Performed

Permanent Outlet Protection

Description:

Outlet protection is typically provided at stormwater discharge conduits from structural best management practices to reduce the velocity of concentrated stormwater flows to prevent scour and minimize the potential for downstream erosion. Outlet protection is also provided where conduits discharge runoff into an in-ground stormwater management practice (e.g., pond or swale) to prevent scour where flow enters the BMP.

Standard engineering practices allow for many different types of outlet protection which provide energy dissipation. Common outlet protection measures include:

- Riprap aprons, the design of which is covered within this section;
- Riprap lined scour holes, stilling basins or plunge pools. Design references for stilling basins are provided under 'Design References'.

Maintenance:

1. Inspect the outlet protection annually for damage and deterioration. Repair damages immediately.

Inspection Checklist and Maintenance Report
Permanent Outlet Protection

Practice Location: _____

Date: _____

Performed By: _____ Signature _____

Inspection Checklist		
Presence of accumulated sediment	❑ Yes	❒ No
Damage to outlet	❑ Yes	❒ No
Presence of trash or debris	❑ Yes	❒ No

Maintenance Performed

Invasive Species Information:

UNIVERSITY of NEW HAMPSHIRE COOPERATIVE EXTENSION

Methods for Disposing Non-Native Invasive Plants

Prepared by the Invasives Species Outreach Group, volunteers interested in helping people control invasive plants. Assistance provided by the Piscataquog Land Conservancy and the NH Invasives Species Committee. Edited by Karen Bennett, Extension Forestry Professor and Specialist.



Tatarian honeysuckle
Lonicera tatarica
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions.* Vol. 3: 282.

Non-native invasive plants crowd out natives in natural and managed landscapes. They cost taxpayers billions of dollars each year from lost agricultural and forest crops, decreased biodiversity, impacts to natural resources and the environment, and the cost to control and eradicate them.

Invasive plants grow well even in less than desirable conditions such as sandy soils along roadsides, shaded wooded areas, and in wetlands. In ideal conditions, they grow and spread even faster. There are many ways to remove these non-native invasives, but once removed, care is needed to dispose the removed plant material so the plants don't grow where disposed.

Knowing how a particular plant reproduces helps determine the appropriate disposal method. Most are spread by seed and are dispersed by wind, water, animals, or people. Some reproduce by vegetative means from pieces of stems or roots forming new plants. Others spread through both seed and vegetative means.

Because movement and disposal of viable plant parts is restricted (see NH Regulations), viable invasive parts can't be brought to most transfer stations in the state. Check with your transfer station to see if there is an approved, designated area for invasives disposal. This fact sheet gives recommendations for rendering plant parts non-viable.

Control of invasives is beyond the scope of this fact sheet. For information about control visit www.nhinvasives.org or contact your UNH Cooperative Extension office.

New Hampshire Regulations

Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1 of the New Hampshire prohibited invasive species list. (Agr 3802.01)

How and When to Dispose of Invasives?

To prevent seed from spreading remove invasive plants before seeds are set (produced). Some plants continue to grow, flower and set seed even after pulling or cutting. Seeds can remain viable in the ground for many years. If the plant has flowers or seeds, place the flowers and seeds in a heavy plastic bag "head first" at the weeding site and transport to the disposal site. The following are general descriptions of disposal methods. See the chart for recommendations by species.

Burning: Large woody branches and trunks can be used as firewood or burned in piles. For outside burning, a written fire permit from the local forest fire warden is required unless the ground is covered in snow. Brush larger than 5 inches in diameter can't be burned. Invasive plants with easily airborne seeds like black swallow-wort with mature seed pods (indicated by their brown color) shouldn't be burned as the seeds may disperse by the hot air created by the fire.



Japanese knotweed
Polygonum cuspidatum
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 1: 676.

Bagging (solarization): Use this technique with softer-tissue plants. Use heavy black or clear plastic bags (contractor grade), making sure that no parts of the plants poke through. Allow the bags to sit in the sun for several weeks and on dark pavement for the best effect.

Tarping and Drying: Pile material on a sheet of plastic and cover with a tarp, fastening the tarp to the ground and monitoring it for escapes. Let it dry for several weeks.

Chipping: Use this method for woody plants that don't reproduce vegetatively.

Burying: This is risky, but can be done with watchful diligence. Lay thick plastic in a deep pit before placing the cut up plant material in the hole. Place the material away from the edge of the plastic before covering it with more heavy plastic. Eliminate as much air as possible and toss in soil to weight down the material in the pit. Note that the top of the buried material should be at least three feet underground. Japanese knotweed should be at least 5 feet underground!

Drowning: Fill a large barrel with water and place soft-tissue plants in the water. Check after a few weeks and look for rotted plant material (roots, stems, leaves, flowers). Well-rotted plant material may be composted. A word of caution- seeds may still be viable after using this method. Do this before seeds are set. This method isn't used often. Be prepared for an awful stink!

Composting: Invasive plants can take root in compost. Don't compost any invasives unless you know there is no viable (living) plant material left. Use one of the above techniques (bagging, tarping, drying, chipping, or drowning) to render the plants non-viable before composting. Closely examine the plant before composting and avoid composting seeds.

Finally, *be diligent* looking for seedlings for *years* in areas where removal and disposal took place.

Suggested Disposal Methods for Non-Native Invasive Plants

This table provides information concerning the disposal of removed invasive plant material. If the infestation is treated with herbicide and left in place, these guidelines don't apply. Don't bring invasives to a local transfer station, unless there is a designated area for their disposal, or they have been rendered non-viable. This listing includes wetland and upland plants from the New Hampshire Prohibited Invasive Species List. The disposal of aquatic plants isn't addressed.

Plant Name	Method of Reproducing	Time of Year To Dispose	Methods of Disposal
Woody Plants*	**Fruit/Seeds**		
Norway Maple *(Acer platanoides)* European Barberry *(Berberis vulgaris)* Japanese Barberry *(Berberis thunbergii)* Autumn Olive *(Elaeagnus umbellata)* Burning Bush *(Euonymus alatus)*		Prior to fruit/seed ripening	Seedlings and small plants. ▪ Pull or cut and leave on site with roots up. No special care needed. Larger plants ▪ Use as firewood. ▪ Make a brush pile. ▪ Chip. ▪ Burn.
Morrow's Honeysuckle *(Lonicera morrowii)* Tatarian Honeysuckle *(Lonicera tatarica)* Showy Bush Honeysuckle *(Lonicera x bella)* Common Buckthorn *(Rhamnus cathartica)* Glossy Buckthorn *(Frangula alnus)*		After fruit/seed is ripe	Don't remove from site. ▪ Burn. ▪ Make a covered brush pile. ▪ Chip once all fruit has dropped from branches. ▪ Leave resulting chips on site and monitor.
Woody Plants*	**Fruits/Seeds/Plant Fragments**		
Oriental Bittersweet *(Celastrus orbiculatus)* Multiflora Rose *(Rosa multiflora)*		Prior to fruit/seed ripening	Seedlings and small plants. ▪ Pull or cut and leave on site with roots up. No special care needed. Larger plants ▪ Make a brush pile. ▪ Burn.
		After fruit/seed is ripe	Don't remove from site. ▪ Burn. ▪ Make a covered brush pile. ▪ Chip – only after material has fully dried (1 year) and all fruit has dropped from branches. Leave resulting chips on site and monitor.

Plant Name	Method of Reproducing	Time of Year To Dispose	Methods of Disposal
Non-woody plants	**Fruits/Seeds**		
Garlic Mustard *(Alliaria petiolata)* Spotted Knapweed *(Centaurea maculosa)* ▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling. Black Swallow-wort *(Cynanchum nigrum)* ▪ May cause skin rash. Wear gloves and long sleeves when handling. Pale swallow-wort *(Cynanchum rossicum)* Giant Hogweed *(Heracleum mantegazzianum)* ▪ Can cause major skin rash. Wear gloves and long sleeves when handling. Dame's Rocket *(Hesperis matronalis)* Perennial Pepperweed *(Lepidium latifolium)* Purple loosestrife *(Lythrum salicaria)* Japanese Stilt Grass *(Microstegium vimineum)* Mile-a-Minute Weed *(Polygonum perfoliatum)*		Prior to flowering	Depends on scale of infestation Small infestation: ▪ Remove and scatter Large infestation: ▪ Remove and pile. (You can pile on or cover with plastic sheeting) ▪ Monitor. Remove any re-sprouting material
		During and following flowering	Do nothing until the following year; Or Remove flowering heads and bag and let rot. Small infestation: ▪ Remove and scatter remaining material Large infestation: ▪ Remove and pile remaining material. (You can pile on or cover with plastic sheeting) ▪ Monitor. Remove any re-sprouting material
Non-woody plants *	**Fruits/seeds/plant parts**		
Common Reed (*Phragmites australis*) Japanese Knotweed *(Polygonum cuspidatum)* Bohemian Knotweed *(Polygonum x bohemicum)*	Primary means of spread in these species is by plant parts. Although all care should be given to preventing the dispersal of seed during control activities, the presence of seed doesn't materially influence disposal activities.		Small infestation: ▪ Bag all plant material and let rot. ▪ Never pile and use resulting material as compost. ▪ Burn Large infestation: ▪ Remove material to unsuitable habitat (dry, hot sunny or dry shaded location) and scatter or pile. • Monitor and remove any sprouting material. • Pile, let dry, and burn.

October, 2009

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Deicing Log

Access Drives & Parking Areas

Do Not Apply Sand To Permeable Pavements

Date: _____

Performed By: _____ Signature _____

Maintenance Performed:

Air Temperature	Pavement Temperature	Relative Humidity	Dew Point	Sky

Reason for applying:

Chemical:

Application Time:

Application Amount:

Observation (first day):

Observation (after event):

Observation (before next application):

Inspection and Maintenance Log					
	BMP	**Inspection Date**	**Inspected By**	**Maintenance Required?**	**Maintenance Performed**
1				❑Yes ❑No	
2				❑Yes ❑No	
3				❑Yes ❑No	
4				❑Yes ❑No	
5				❑Yes ❑No	
6				❑Yes ❑No	
7				❑Yes ❑No	
8				❑Yes ❑No	
9				❑Yes ❑No	

Section 3.2: Site Specific Soil Report & Test Pits

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GOVE ENVIRONMENTAL SERVICES, INC

SITE-SPECIFIC SOIL SURVEY REPORT
For
126 Lang Road, Portsmouth, NH
By
GES, Inc.
Project # 2024112
Date: 04-24-2025

1. MAPPING STANDARDS

Site-Specific Soil Mapping Standards for New Hampshire and Vermont. SSSNNE Special Publication No. 3, Version 7.0, July, 2021.

This map product is within the technical standards of the National Cooperative Soil Survey. It is a special purpose product, intended for infiltration requirements by the NH DES Alteration of Terrain Bureau. The soil map was produced by a professional soil scientist and is not a product of the USDA Natural Resources Conservation Service. This report accompanies the soil map.

The site-specific soil map (SSSM) was produced 04-24-2025; prepared by JP Gove, CSS #004, GES, Inc.

Soils were identified with the New Hampshire State-wide Numerical Soils Legend, USDA NRCS, Durham, NH. Issue # 10, January 2011.

Hydrologic Soil Group was determined using SSSNNE Special Publication No. 5, Ksat Values for New Hampshire Soils, September 2009.

High Intensity Soil Map symbols, based upon SSSNNE Special Publication 1, December 2017, were added to the Soil Legend.

Scale of soil map: Approximately 1" = 40"

Contours Interval: 2 feet

2. LANDFORMS & EXISTING CONDITIONS:

The site is located on a sloping hillside that is shallow to bedrock. The central portion of the site has been used as both borrow, dumping and material storage. As expected, soil profiles are inconsistent. However, virtually all encountered bedrock. The remaining forested portions of the site are natural soils, but also have bedrock within 60" of the soil surface.

3. DATE SOIL MAP PRODUCED

Date(s) of on-site field work: 04-16-2025 (Wetlands flagged earlier in 2024).

Date(s) of test pits: 04-16-2025

Test pits recorded by: James Gove, CSS # 004

4. GEOGRAPHIC LOCATION AND SIZE OF SITE

City or town where soil mapping was conducted: Portsmouth

Location: 126 Lang Road

Size of area: Approximately 18 acres

Was the map for the entire lot? No

If no, where was the mapping conducted on the parcel: In the uplands to the west of the flagged wetlands.

5. PURPOSE OF THE SOIL MAP

Was the map prepared to meet the requirement of Alteration of Terrain? Yes

If no, what was the purpose of the map? n/a

Who was the map prepared for? McClure Engineering Company

6. SOIL IDENTIFICATION LEGEND

Map Unit Symbol	Map Unit Name	HISS Symbol	Hydrologic Soil Group
87	Chatfield very stony	227	B
129	Woodbridge very stony	323	C
500/caecc	Udorthents, loamy	263	C
600/eaecc	Endoaquents, loamy	563	C
727	Rubble land	n/a	n/a

Supplemental Symbols Legend

Well drained, no natural soil, bedrock within 60", low Ksat, HSG C --------caecc

Somewhat poorly drained, no natural soil, bedrock within 60", low Ksat, HSG C --------- eaecc

SLOPE PHASE:

0-8%	B	8-15%	C	15-25%	D
25%-50%	E	50%+	F		

7. NARRATIVE MAP UNIT DESCRIPTIONS

SITE-SPECIFIC MAP UNIT: 87

CORRELATED SOIL SERIES: Chatfield very stony

LANDSCAPE SETTING: Forested hill

CHARACTERISTIC SURFACE FEATURES: Many exposed rock

DRAINAGE CLASS: Well Drained

PARENT MATERIAL: Glacial till/bedrock

NATURE OF DISSIMILAR INCLUSIONS: Hollis, Rock Outcrop, Canton

ESTIMATED PERCENTAGE OF DISSIMILAR INCLUSIONS: 15%

SOIL PROFILE DESCRIPTIONS- horizon designation, depth, soil texture, Munsell color notation, Munsell color of redox features, soil structure, soil consistence, estimated coarse fragments, estimated seasonal high water table (ESHWT), observed water table (OBSWT), kind of water table (perched, apparent, or both), depth to lithic or paralithic contact:

Test Pit No.	**1**	Soils Series:	Chatfield, fsl
ESHWT::	none	Landscape:	Forested hill
Termination @	24"	Slope:	B slope
Refusal:	24"	Parent Material:	Glacial till/bedrock
Obs. Water:	0'	Hydrologic Soil Group:	B

Horizon	Color (Munsell)	Texture	Structure-Consistence-Redox
A	O to 10" 10YR3/2	fine sandy loam	granular -friable- none
B	10 to 24" 10YR4/6	fine sandy loam	granular -friable-none
R	24" (slopes to surface)		

SITE-SPECIFIC MAP UNIT: 129

CORRELATED SOIL SERIES: Woodbridge very stony

LANDSCAPE SETTING: Forested lower slopes

CHARACTERISTIC SURFACE FEATURES: Numerous surface stones

DRAINAGE CLASS: Moderately well drained

PARENT MATERIAL: Dense Glacial Till/Bedrock

NATURE OF DISSIMILAR INCLUSIONS: Chatfield, Newfields

ESTIMATED PERCENTAGE OF DISSIMILAR INCLUSIONS: 15%

SOIL PROFILE DESCRIPTIONS- horizon designation, depth, soil texture , Munsell color notation, Munsell color of redox features, soil structure, soil consistence, estimated coarse fragments, estimated seasonal high water table (ESHWT), observed water table (OBSWT), kind of water table (perched, apparent, or both), depth to lithic or paralithic contact:

ESHWT::	36"	Landscape:	Forested plain
Termination @	48"	Slope:	B slope
Refusal:	48"	Parent Material:	Dense glacial till
Obs. Water:	0'	Hydrologic Soil Group:	C

Horizon	Color (Munsell)	Texture	Structure-Consistence-Redox
A 0 to 5"	10YR3/2	fie sandy loam	granular -friable- none
B 5 to 36"	10YR4/6	fine sandy loam	granular -friable-none
Cd 36 to 48"	10YR4/6	fine sandy loam	platy-firm- 5YR5/6

R 48" (sloping toward surface)

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SITE-SPECIFIC MAP UNIT: 500/caecc

CORRELATED SOIL SERIES: Udorthents, loamy

LANDSCAPE SETTING: Graded hillside

CHARACTERISTIC SURFACE FEATURES: Surface rocks common

DRAINAGE CLASS: Well drained

PARENT MATERIAL: Fill

NATURE OF DISSIMILAR INCLUSIONS: Chatfield

ESTIMATED PERCENTAGE OF DISSIMILAR INCLUSIONS: 5%

SOIL PROFILE DESCRIPTIONS- horizon designation, depth, soil texture, Munsell color notation, Munsell color of redox features, soil structure, soil consistence, estimated coarse fragments, estimated seasonal high water table (ESHWT), observed water table (OBSWT), kind of water table (perched, apparent, or both), depth to lithic or paralithic contact:

ESHWT::	50"	Landscape:	Graded area
Termination @	66"	Slope:	D slope
Refusal:	66"	Parent Material:	Fill over soft bedrock
Obs. Water:	none	Hydrologic Soil Group:	B

Horizon	Color (Munsell)	Texture	Structure-Consistence-Redox
^ A 0 to 50"	10YR4/6	gravelly fine sandy loam	granular -friable- none
R1 50-66"	2.5Y5/3	very gravelly sandy loam	massive -firm- 10YR5/6
R2 66" (hard bedrock)			

SITE-SPECIFIC MAP UNIT: 600/eaccc

CORRELATED SOIL SERIES: Endoaquents, loamy

LANDSCAPE SETTING: Graded flats near wetlands

CHARACTERISTIC SURFACE FEATURES: Surface stones, seepage

DRAINAGE CLASS: Somewhat poorly drained

PARENT MATERIAL: Silt/clay fill

NATURE OF DISSIMILAR INCLUSIONS: Woodbridge

ESTIMATED PERCENTAGE OF DISSIMILAR INCLUSIONS: 10%

SOIL PROFILE DESCRIPTIONS- horizon designation, depth, soil texture, Munsell color notation, Munsell color of redox features, soil structure, soil consistence, estimated coarse fragments, estimated seasonal high water table (ESHWT), observed water table (OBSWT), kind of water table (perched, apparent, or both), depth to lithic or paralithic contact:

ESHWT::	0"	Landscape:	Graded area
Termination @	50"	Slope:	B slope
Refusal:	50"	Parent Material:	Clayey fill
Obs. Water:	0"	Hydrologic Soil Group:	D

Horizon	Color (Munsell)	Texture	Structure-Consistence-Redox
^A 0 to 42"	2.5Y5/2	silty clay loam	massive-firm-5YR5/6
B 42 to 50"	10YR5/6	fine sandy loam	massive-friable-none
R 50"			

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SITE-SPECIFIC MAP UNIT: 727

CORRELATED SOIL SERIES: Rubble land

LANDSCAPE SETTING: Piles of broken bedrock

CHARACTERISTIC SURFACE FEATURES: Steep to very steep

DRAINAGE CLASS: N/A

PARENT MATERIAL: Blasted bedrock

NATURE OF DISSIMILAR INCLUSIONS: N/A

ESTIMATED PERCENTAGE OF DISSIMILAR INCLUSIONS: N/A

SOIL PROFILE DESCRIPTIONS- horizon designation, depth, soil texture, Munsell color notation, Munsell color of redox features, soil structure, soil consistence, estimated coarse fragments, estimated seasonal high water table (ESHWT), observed water table (OBSWT), kind of water table (perched, apparent, or both), depth to lithic or paralithic contact:

ESHWT::	none	Landscape:	Blasted bedrock
Termination @	42"	Slope:	B slope
Refusal:	42"	Parent Material:	Bedrock
Obs. Water:	None	Hydrologic Soil Group:	none

Horizon	Color (Munsell)	Texture	Structure-Consistence-Redox
0 to 42"	10Ur4/4	gravelly rock	none

8. RESPONSIBLE SOIL SCIENTIST

Name: James Gove

Certified Soil Scientist Number: 004

9. CERTIFIED SOIL SCIENTIST STAMP

8 Continental Dr Unit H, Exeter, NH 03833-7507
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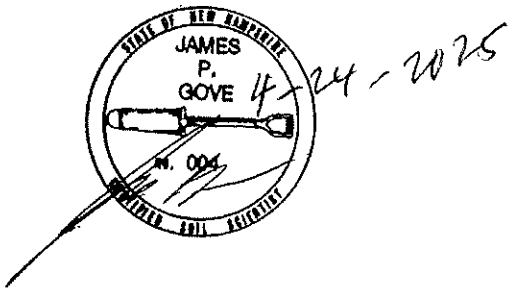
STATE OF NEW HAMPSHIRE
JAMES
P.
GOVE
4-24-2025
NO. 004
CERTIFIED SOIL SCIENTIST

Section 3.3: Drainage Area Plans

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LEGEND: EXISTING CONDITIONS

EX 1R	REACH
EX 1S	SUBCATCHMENT
EX 1P	POND
OP-1	OBSERVATION POINT
	SUB-CATCHMENT DELINEATION

	Tc - TIME OF CONCENTRATION PATH
	EXISTING 2' CONTOUR INTERVAL
	EXISTING 10' CONTOUR INTERVAL
	NRCS SOIL DELINEATION
	EXISTING TREELINE
	SOILS LABEL

SOIL IDENTIFICATION LEGEND

MAP UNIT SYMBOL	MAP UNIT NAME	HISS SYMBOL	HYDROLOGIC SOIL GROUP (HSG)
87	CHATFIELD VERY STONY	227	B
129	WOODBRIDGE VERY STONY	323	C
500/caecc	UDORTHENS, LOAMY	263	C
600/caecc	ENDOAQUENTS, LOAMY	563	C
727	RUBBLY LAND	N/A	N/A

N

70 35 0 70

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REVISIONS

PROJECT INFO
2024002213

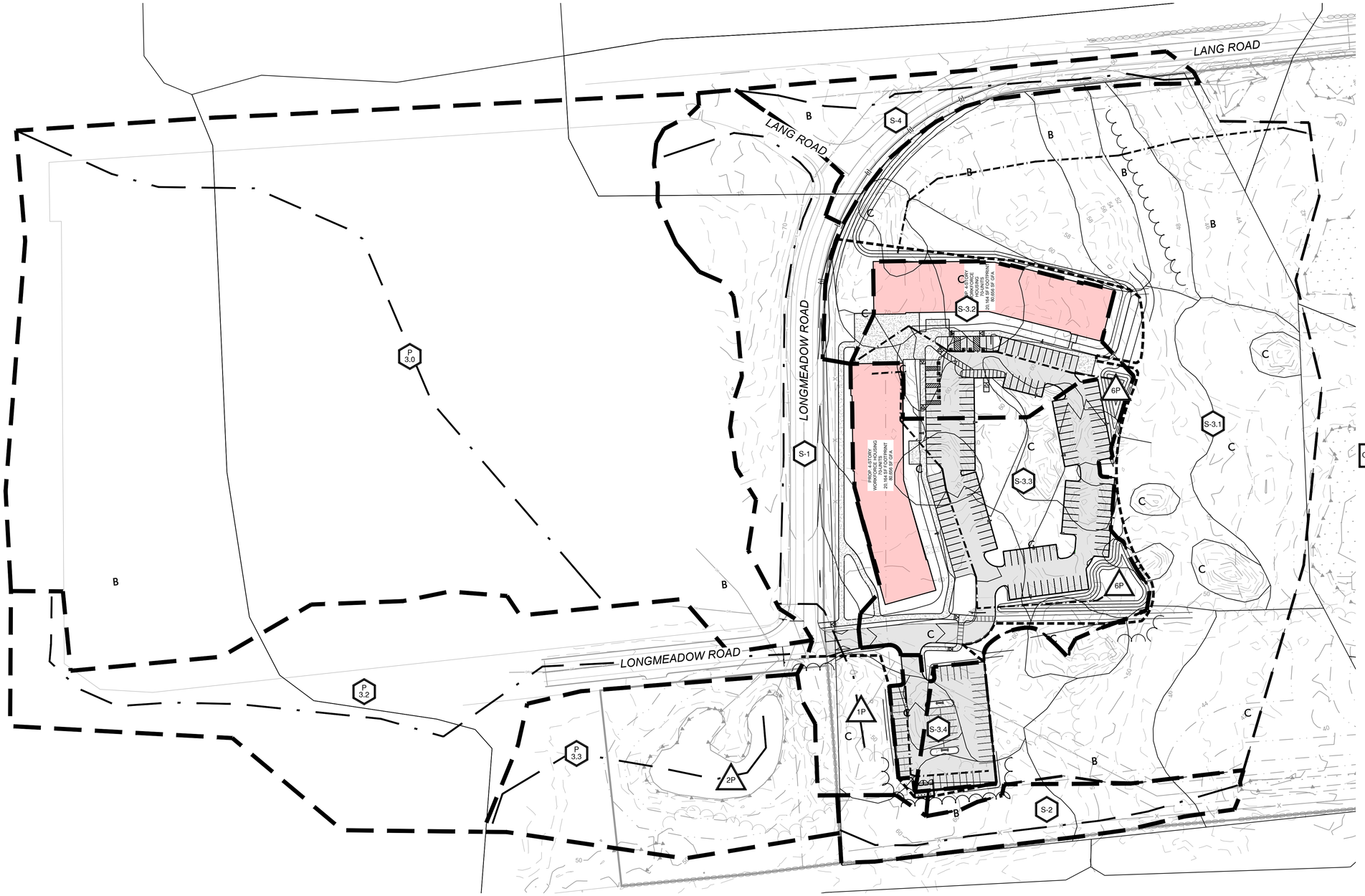
ENGINEER	DRAWN BY	CHECKED BY
N. DUQUETTE	B. RICHARDS	N. DUQUETTE

PROPOSED WORKFORCE HOUSING DEVELOPMENT
126 LANG ROAD
PORTSMOUTH, NH 03801

PRE-DEVELOPED DRAINAGE

P:\2024001787\04-DRAWINGS\DWG\PLANS\24-1787_DRN.DWG

DRAWING NO.
C701



LEGEND: EXISTING CONDITIONS

EX 1R	REACH		Tc - TIME OF CONCENTRATION PATH
EX 1S	SUBCATCHMENT		EXISTING 2' CONTOUR INTERVAL
EX 1P	POND		EXISTING 10' CONTOUR INTERVAL
OP-1	OBSERVATION POINT		NRCS SOIL DELINEATION
	SUB-CATCHMENT DELINEATION		EXISTING TREELINE
		XXX	SOILS LABEL

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600/caecc	ENDOAQUENTS, LOAMY	563	C
727	RUBBLY LAND	N/A	N/A

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REVISIONS

PROJECT INFO
2024002213

ENGINEER	DRAWN BY	CHECKED BY
N. DUQUETTE	B. RICHARDS	N. DUQUETTE

PROPOSED WORKFORCE HOUSING DEVELOPMENT
126 LANG ROAD
PORTSMOUTH, NH 03801

DEVELOPED DRAINAGE

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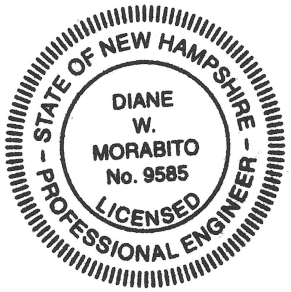
DRAWING NO.
C702

TRAFFIC IMPACT STUDY

SERVICE CREDIT UNION MIXED-USE DEVELOPMENT

126 LANG ROAD, PORTSMOUTH, NH

May 5, 2025



Prepared for:

McClure
25 New Hampshire Avenue, Suite 255
Portsmouth, NH 03801

Prepared by:

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INTRODUCTION

The purpose of this report is to summarize a traffic impact study conducted for a proposed mixed-use development at 126 Lang Road in Portsmouth, NH. The site location is shown in the map in Figure 1. The proposed development consists of:

- 240 apartment dwelling units for work force and veteran's housing
- 30 attached townhomes
- 75-student daycare facility

Access to the site will be proved by two drives. One drive will be to Longmeadow Road, at the southern portion of the site, creating a T-intersection at the existing bend in Longmeadow Road. The second access drive will be to Lang Road, east of the intersection of Longmeadow Road. Lang Road is a two-lane road with a 30-mph speed limit as is Longmeadow Road. Currently, the southbound Longmeadow Road approach at the bend south of Lang Road is under stop control. Consistent with that stop control, the development proposes that the intersection of Longmeadow Road and the site drive be an all-way stop condition to improve safety.

The development is expected to be occupied in 2027. As a result, 2027 and 2037 were selected as the analysis years for occupancy and the 10-year post occupancy horizon.

TRIP GENERATION ANALYSIS

The number of trips to be generated by the proposed mixed-use development was estimated utilizing the latest Institute of Transportation Engineers (ITE) "Trip Generation, 11th edition". Land use code (LUC) 223 – Affordable Housing was utilized on the basis of 240 Dwelling Units (DUs) for the workforce and veteran's housing. The attached townhomes were estimated using LUC 215 – Single-Family Attached Housing based on 30 Dwelling Units. The Daycare facility was estimated using LUC 565 – Day Care Center based on 75 students. The results are summarized in the following table:

EXPECTED TRIP GENERATION (One-Way Trip-Ends)

Time Period	Affordable Housing	Townhomes	Daycare	Total Trips
Weekday	1036	216	314	1566
AM Peak Hour – Adjacent Street	120	14	59	193
Entering	35	4	31	70
Exiting	85	10	28	123

Time Period	Affordable Housing	Townhomes	Daycare	Total Trips
PM Peak Hour – Adjacent Street	110	17	59	186
Entering	65	10	28	103
Exiting	45	7	31	83
AM Peak Hour – Generator	120	18	59	197
Entering	31	4	31	66
Exiting	89	14	28	131
PM Peak Hour – Generator	120	21	61	202
Entering	70	13	29	112
Exiting	50	8	32	90

As seen above, the mixed-use development at completion and full occupancy is expected to generate 1,566 one-way trips, or 783 roundtrips, daily. Peak hour trips are estimated to range from 186 to 202. Residential trips are primary (or new) with no-pass by components. While day care facilities would be expected to generate some pass-by trips, there is no ITE pass-by data for this land use code, so all trips were assumed to be primary. These estimates are expected to be conservative since some residents would be expected to utilize the on-site day care facility thus reducing off-site trips.

OTHER DEVELOPMENT

The City of Portsmouth Planning & Sustainability Department was contacted to determine if there are any other approved (but unbuilt) developments, expected to significantly impact future traffic volumes in the vicinity of the site, which should be considered in the traffic analysis. No other approved developments were identified in the area.

TRAFFIC VOLUMES

Turning movement counts were conducted by NDS (National Data & Surveying Services) during peak hours at the following intersections as detailed below:

Intersection	Count Date	Count Period	Peak Hour
Longmeadow Road & Lang Road	4/15/2025	6:00 – 9:00 AM	7:30 – 8:30
Longmeadow Road & Lang Road	4/15/2025	3:00 – 6:00 PM	3:30 – 4:30
US 1 & Longmeadow Road	4/15/2025	6:00 – 9:00 AM	7:30 – 8:30
US 1 & Longmeadow Road	4/15/2025	3:00 – 6:00 PM	4:00 – 5:00
US 1 & Lang Road	4/15/2025	6:00 – 9:00 AM	7:30 – 8:30
US 1 & Lang Road	4/15/2025	3:00 – 6:00 PM	3:30 – 4:30

The count records are included in the appendix. The counts were seasonally adjusted to peak summer conditions using NHDOT Group 4 factors. The April counts were increased by 9.0 % to obtain peak summer volumes. These results are summarized in Figure 2.

Average annual daily traffic (AADT) data for the area was obtained from NHDOT's Traffic Data Management System. The historical AADT data in the vicinity of the site is compiled in the following tables:

	Average Annual Daily Traffic				
Location Description	2011	2014	2017	2020	2023
US 1 (LAFAYETTE RD) AT RYE TL	17,000	21,000	17,725	15,268	14,814
US 1 BYPASS NORTH OF COTTAGE ST	--	22,000	20,090	17,391	17,876
Location Description	2010	2013	2016	2019	2022
US 1 (LAFAYETTE RD) NORTH OF OCEAN RD	21,000	17,000	19,093	18,484	15,546
US 1 BYPASS SOUTH OF GREENLEAF AVENUE	19,000	11,000	11,155	17,176	9,859
Location Description	2012	2015	2018	2021	2024
US 1 BYPASS UNDER B&M RAILROAD	37,000	21,000	18,997	16,080	16,239

As seen above, traffic volumes on Route 1/Route 1 Bypass have declined at the site, as well as north and south of the site, during the long-term period 2010 to 2024. However, the NHDOT projected traffic growth rate for this Region is 0.88%. Given this, to be conservative, a 1 % annual traffic growth rate was utilized to project the 2025 volumes to No Build 2027 and 2037 conditions. These projected No Build volumes are shown in Figures 3 and 4.

The trip assignments were based upon the travel patterns recorded during the counts. These patterns are summarized below:

To and from via	Percentage
North via Route 1	40 %
South via Route 1	28 %
West via Ocean Road	20 %
East via Lang Road	12 %

The resulting trip assignments are shown in Figure 5 for the AM and PM peak hours. Based upon the trip assignments, the study area was defined as extending from the site through the Route 1 intersections of Longmeadow Road and Lang Road.

CAPACITY ANALYSES

Traffic operations are evaluated in terms of level of service (LOS). Level of service is a qualitative measure that describes operations by letter designation. The levels range from A - very little delay to F - extreme delays. Level of service "D" is generally considered acceptable in urban locations while LOS "E" is generally considered the capacity of a facility and the minimum tolerable level. The level of service for signalized intersections is based upon the average control or signal delay per vehicle. These criteria are defined in the following table excerpted from the "Highway Capacity Manual":

Signalized Intersection Level of Service

LOS	Delay Range
A	< = 10.0 seconds
B	> 10.0 and <= 20.0
C	> 20.0 and <= 35.0
D	> 35.0 and <= 55.0
E	> 55.0 and <= 80.0
F	> 80.0

The level of service for unsignalized intersections is based upon average control delay per vehicle for each minor, opposed movement, as defined in the following table:

Unsignalized Intersection Level of Service

LOS	Delay Range
A	< = 10.0 seconds
B	> 10.0 and <= 15.0
C	> 15.0 and <= 25.0
D	> 25.0 and <= 35.0
E	> 35.0 and <= 50.0
F	> 50.0

SIGNALIZED INTERSECTION ANALYSIS

The level of service (LOS) was calculated for the signalized intersection of Route 1, Longmeadow Road and Ocean Road for existing 2025 and projected 2027 and 2037 No Build and Build conditions using Synchro/ SimTraffic, the average of ten (10) runs. Given that NHDOT is currently in the design process for improvements to Route 1, an alternative scenario was also run for the future volumes reflecting those planned improvements, which will add an additional through lane to Route 1 in the southbound direction and require traffic signal timing changes. The results are summarized in the following tables:

Route 1, Ocean Road & Longmeadow Road
AM Peak Hour Level of Service

Approach/Lane	2025 Existing	2027 No Build	2027 Build	2027 Build Alt
Eastbound Ocean Road Lefts/Throughs	D (39.6)	D (40.0)	D (41.2)	D (40.0)
Eastbound Ocean Road Rights	A (7.4)	A (7.5)	A (8.7)	A (3.5)
Eastbound Ocean Road Overall	C (26.3)	C (26.7)	C (28.5)	C (25.8)
Westbound Longmeadow Road	C (29.4)	C (30.0)	D (36.2)	C (28.0)
Northbound Route 1 Lefts	D (40.2)	D (41.4)	D (52.9)	D (38.3)
Northbound Route 1 Throughs/Rights	C (21.5)	C (23.6)	C (34.4)	C (31.9)
Northbound Route 1 Overall	C (24.4)	C (26.4)	D (37.2)	C (32.9)
Southbound Route 1 Lefts	D (43.8)	D (49.0)	E (55.9)	D (45.5)
Southbound Route 1 Throughs	--	--	--	B (17.5)
Southbound Route 1 Throughs/Rights	C (22.7)	C (24.0)	C (27.7)	B (17.0)
Southbound Route 1 Overall	C (23.5)	C (24.9)	C (29.0)	B (18.5)
Intersection Overall	C (24.9)	C (26.3)	C (33.1)	C (27.3)

As seen above, the SimTraffic analysis shows that all lanes operate acceptably under existing 2025 volumes during the AM peak hour, with the overall intersection operating at LOS “C”. Similar lane operations are projected under 2027 No Build volumes with the same LOS “C” overall. Under 2027 Build volumes, with the proposed housing development and daycare facility full occupied, the southbound Route 1 left turn drops to an “E”, but this is a minor movement with a low volume. The intersection will continue to operate at LOS C” overall with all other lanes at LOS “D” or better, indicating no significant constraints. With the planned Route 1 improvements all lanes would operate at LOS “D” or better in the AM peak hour.

Route 1, Ocean Road & Longmeadow Road
PM Peak Hour Level of Service

Approach/Lane	2025 Existing	2027 No Build	2027 Build	2027 Build Alt
Eastbound Ocean Road Lefts/Throughs	E (63.5)	E (62.6)	E (66.3)	D (40.0)
Eastbound Ocean Road Rights	B (17.3)	B (18.1)	B (18.6)	A (5.0)
Eastbound Ocean Road Overall	D (41.0)	D (41.7)	D (44.8)	C (24.0)
Westbound Longmeadow Road	D (53.2)	D (51.1)	E (79.0)	C (29.1)
Northbound Route 1 Lefts	D (52.3)	D (51.7)	E (64.5)	D (37.1)
Northbound Route 1 Throughs/Rights	B (17.4)	B (17.8)	C (22.8)	C (22.9)
Northbound Route 1 Overall	C (23.9)	C (24.4)	C (30.5)	C (25.6)

Approach/Lane	2025 Existing	2027 No Build	2027 Build	2027 Build Alt
Southbound Route 1 Lefts	D (51.4)	D (53.6)	D (54.6)	D (43.5)
Southbound Route 1 Throughs	--	--	--	B (18.9)
Southbound Route 1 Throughs/Rights	D (41.5)	D (40.7)	D (53.3)	C (20.1)
Southbound Route 1 Overall	D (41.8)	D (41.1)	D (53.4)	C (20.4)
Intersection Overall	D (36.3)	D (36.0)	D (46.3)	C (23.8)

As seen above, the are some minor lane constraints during the PM peak hour under existing, No Build and Build 2027 volumes, for lefts/throughs off Ocean Road. All other lanes operate at LOS "D" or better as well as the intersection overall. With the Planned Route 1 improvement project, all lanes would operate at LOS "D" or better, and the overall intersection would improve to a "C" under 2027 Build volumes.

It is common practice in New Hampshire to also assesses traffic operations ten (10) years post-occupancy to assure acceptable operations longer term. Hence, the SimTraffic analysis was repeated for the projected 2037 No Build and Build volumes. Build conditions were also assessed with the planned Route 1 improvement project, which adds an additional southbound through lane to Route 1.

Route 1, Ocean Road & Longmeadow Road
AM Peak Hour Level of Service

Approach/Lane	2037 No Build	2037 Build	2037 Build Alt
Eastbound Ocean Road Lefts/Throughs	D (51.3)	D (51.2)	E (57.7)
Eastbound Ocean Road Rights	A (8.4)	B (10.2)	A (4.0)
Eastbound Ocean Road Overall	C (34.6)	D (35.5)	D (37.2)
Westbound Longmeadow Road	C (32.9)	D (42.7)	C (31.6)
Northbound Route 1 Lefts	D (46.7)	E (63.4)	D (41.1)
Northbound Route 1 Throughs/Rights	C (33.9)	E (59.1)	D (47.7)
Northbound Route 1 Overall	D (35.8)	E (59.7)	D (46.6)
Southbound Route 1 Lefts	D (48.8)	E (63.1)	D (47.0)
Southbound Route 1 Throughs	--	--	B (18.5)
Southbound Route 1 Throughs/Rights	C (26.4)	D (36.5)	B (19.0)
Southbound Route 1 Overall	C (27.3)	D (37.7)	B (19.9)
Intersection Overall	C (33.2)	D (47.1)	D (36.5)

Route 1, Ocean Road & Longmeadow Road
PM Peak Hour Level of Service

Approach/Lane	2037 No Build	2037 Build	2037 Build Alt
Eastbound Ocean Road Lefts/Throughs	F (107.1)	F (105.6)	D (50.1)
Eastbound Ocean Road Rights	B (18.6)	B (19.6)	A (6.3)
Eastbound Ocean Road Overall	E (64.8)	E (65.6)	C (29.7)
Westbound Longmeadow Road	F (87.5)	F (104.7)	C (31.7)
Northbound Route 1 Lefts	D (54.1)	E (64.1)	D (37.8)
Northbound Route 1 Throughs/Rights	B (20.0)	C (27.0)	C (34.1)
Northbound Route 1 Overall	C (26.4)	C (34.1)	C (34.8)
Southbound Route 1 Lefts	D (54.1)	E (56.0)	D (42.9)
Southbound Route 1 Throughs	--	--	C (20.4)
Southbound Route 1 Throughs/Rights	E (71.4)	F (87.2)	C (21.9)
Southbound Route 1 Overall	E (70.9)	F (86.2)	C (22.0)
Intersection Overall	D (55.0)	E (65.1)	C (29.0)

As seen above, by 2037 there will be several LOS "E" and "F" lanes under both No Build and Build volumes during the AM and PM peak hours. With the planned Route 1 improvements, all lanes will operate at levels of service "D" or better with one exception, lefts/throughs off Ocean Road. The signalized intersection will operate at LOS "C" overall in the PM peak hour indicating no significant concerns or constraints with the planned Route 1 project.

Additional analysis by Sewall indicates that under the planned Route 1 improvements, the intersection will function better with a change in lane uses eastbound on Ocean Road. Currently, this approach contains a left-through lane and a right turn lane. Operations would be further improved if the NHDOT altered these lanes to left and through-right. Under the altered lanes, no lanes would be below LOS "D" in either the AM or PM peak hour under 2037 Build volumes.

UNSIGNALIZED INTERSECTION ANALYSIS

The level of service (LOS) was similarly calculated for the unsignalized study area intersections for existing 2025 and projected 2027 and 2037 conditions using Synchro/ SimTraffic. The results are summarized in the following tables:

Route 1 and Lang Road
AM Peak Hour Level of Service

Approach/Lane	2025 Existing	2027 No Build	2027 Build	2027 Build Alt
Westbound Lang Road Rights	B (12.4)	B (13.8)	C (17.7)	B (14.4)
Northbound Route 1 Throughs/Rights	A (5.1)	A (5.2)	A (5.9)	A (5.8)
Southbound Route 1 Lefts	A (9.1)	A (9.9)	B (11.8)	B (10.2)
Southbound Route 1 Throughs	A (2.3)	A (2.4)	A (2.8)	A (1.8)

Route 1 & Lang Road
PM Peak Hour Level of Service

Approach/Lane	2025 Existing	2027 No Build	2027 Build	2027 Build Alt
Westbound Lang Road Rights	B (12.8)	B (14.3)	C (15.9)	B (14.4)
Northbound Route 1 Throughs/Rights	A (4.3)	A (4.4)	A (4.9)	A (5.1)
Southbound Route 1 Lefts	A (8.1)	A (8.7)	A (9.9)	A (8.7)
Southbound Route 1 Throughs	A (6.9)	A (6.2)	B (12.9)	A (3.7)

Longmeadow Road & Lang Road
AM Peak Hour Level of Service

Approach/Lane	2025 Existing	2027 No Build	2027 Build	2027 Build Alt
Eastbound Longmeadow Road	A (0.4)	A (0.5)	A (1.5)	A (1.4)
Westbound Lang Road	A (1.0)	A (1.1)	A (1.1)	A (1.2)
Southbound Lang Road	A (6.6)	A (6.5)	A (6.8)	A (6.7)

Longmeadow Road & Lang Road
PM Peak Hour Level of Service

Approach/Lane	2025 Existing	2027 No Build	2027 Build	2027 Build Alt
Eastbound Longmeadow Road	A (0.7)	A (0.7)	A (1.6)	A (1.5)
Westbound Lang Road	A (0.9)	A (0.9)	A (0.9)	A (1.0)
Southbound Lang Road	A (7.3)	A (7.4)	A (8.1)	A (8.0)

Longmeadow Road & Site Drive
AM Peak Hour Level of Service

Approach/Lane	2025 Existing	2027 No Build	2027 Build	2027 Build Alt
Eastbound Longmeadow Road	A (1.8)	A (1.9)	A (3.7)	A (3.7)
Westbound Site Drive	--	--	A (5.0)	A (4.8)
Southbound Longmeadow Road	A (3.3)	A (3.4)	A (3.7)	A (3.8)

Longmeadow Road & Site Drive
PM Peak Hour Level of Service

Approach/Lane	2025 Existing	2027 No Build	2027 Build	2027 Build Alt
Eastbound Longmeadow Road	A (2.7)	A (2.5)	A (6.1)	A (5.7)
Westbound Site Drive	--	--	A (4.8)	A (4.8)
Southbound Longmeadow Road	A (3.1)	A (3.1)	A (3.7)	A (3.7)

As seen in the preceding tables, there are no capacity concerns at any of the unsignalized study area intersections during either the AM or PM peak hour under 2027 Build volumes. All lanes will function at LOS "B" or better. The analyses were repeated for the 2037 horizon year with the results summarized in the following tables:

Route 1 and Lang Road
AM Peak Hour Level of Service

Approach/Lane	2037 No Build	2037 Build	2037 Build Alt
Westbound Lang Road Rights	C (18.6)	C (24.1)	C (20.9)
Northbound Route 1 Throughs/Rights	A (5.8)	A (6.4)	A (6.3)
Southbound Route 1 Lefts	B (12.8)	B (14.6)	B (13.0)
Southbound Route 1 Throughs	A (2.7)	A (3.4)	A (2.0)

Route 1 and Lang Road
PM Peak Hour Level of Service

Approach/Lane	2037 No Build	2037 Build	2037 Build Alt
Westbound Lang Road Rights	C (19.4)	C (24.3)	C (22.5)
Northbound Route 1 Throughs/Rights	A (4.8)	A (5.5)	A (5.9)
Southbound Route 1 Lefts	B (10.6)	B (11.3)	B (12.7)
Southbound Route 1 Throughs	F (70.2)	F (117.4)	A (4.7)

Longmeadow Road & Lang Road
AM Peak Hour Level of Service

Approach/Lane	2037 No Build	2037 Build	2037 Build Alt
Eastbound Longmeadow Road	A (0.5)	A (1.5)	A (1.5)
Westbound Lang Road	A (1.2)	A (1.3)	A (1.3)
Southbound Lang Road	A (7.0)	A (7.4)	A (7.4)

Longmeadow Road & Lang Road
PM Peak Hour Level of Service

Approach/Lane	2037 No Build	2037 Build	2037 Build Alt
Eastbound Longmeadow Road	A (0.9)	A (1.9)	A (1.6)
Westbound Lang Road	A (1.0)	A (1.0)	A (1.1)
Southbound Lang Road	A (8.6)	A (9.9)	A (9.4)

Longmeadow Road & Site Drive
AM Peak Hour Level of Service

Approach/Lane	2037 No Build	2037 Build	2037 Build Alt
Eastbound Longmeadow Road	A (1.9)	A (3.8)	A (3.8)
Westbound Site Drive	--	A (5.1)	A (5.0)
Southbound Longmeadow Road	A (3.5)	A (3.9)	A (4.0)

Longmeadow Road & Site Drive
PM Peak Hour Level of Service

Approach/Lane	2037 No Build	2037 Build	2037 Build Alt
Eastbound Longmeadow Road	A (2.8)	A (6.0)	A (5.8)
Westbound Site Drive	--	A (4.8)	A (4.7)
Southbound Longmeadow Road	A (3.2)	A (3.7)	A (3.7)

As seen in the preceding tables, the only constraint in 2037 at the unsignalized intersections is southbound Route 1 throughs at Lang Road during the PM peak hour. This is due to queuing from the signal at Longmeadow and Ocean Roads. With the planned Route 1 improvements implemented, the LOS improves to an “A” with no capacity constraints.

QUEUE ANALYSIS

In addition to level of service, queues were also evaluated using SimTraffic for the signalized intersection of Route 1, Longmeadow Road and Ocean Road to evaluate the adequacy of existing turn lane lengths. The results are summarized below:

AM Peak Hour – 95th Percentile Queues

Approach/Lane	Available Storage	2025 Existing	2027 No Build	2027 Build	2027 Build Alt
Eastbound Ocean Road Lefts/Thrus	--	283’	290’	307’	306’
Eastbound Ocean Road Rights	200’	179’	194’	210’	179’
Westbound Longmeadow Road	--	143’	136’	203’	176’
Northbound Route 1 Lefts	350’	203’	221’	322’	280’
Northbound Route 1 Thrus/Rights	--	380’	419’	601’	543’
Southbound Route 1 Lefts	225’	81’	89’	126’	54’
Southbound Route 1 Thrus	--	--	--	--	149’
Southbound Route 1 Thrus/Rights	--	325’	338’	373’	169’

PM Peak Hour – 95th Percentile Queues

Approach/Lane	Available Storage	2025 Existing	2027 No Build	2027 Build	2027 Build Alt
Eastbound Ocean Road Lefts/Thrus	--	370’	319’	395’	228’
Eastbound Ocean Road Rights	200’	212’	217’	239’	144’
Westbound Longmeadow Road	--	250’	238’	389’	205’
Northbound Route 1 Lefts	350’	193’	205’	250’	190’
Northbound Route 1 Thrus/Rights	--	314’	306’	368’	331’
Southbound Route 1 Lefts	225’	125’	149’	163’	62’
Southbound Route 1 Thrus	--	--	--	--	188’
Southbound Route 1 Thrus/Rights	--	661’	634’	750’	203’

As seen above, based upon the SimTraffic results, the existing left-turn lanes are adequate to store the queues. Under the planned NHDOT Route 1 improvements project, the queues at the intersection are significantly reduced.

AM Peak Hour – 95th Percentile Queues

Approach/Lane	Available Storage	2037 No Build	2037 Build	2037 Build Alt
Eastbound Ocean Road Lefts/Thrus	--	424’	439’	456’
Eastbound Ocean Road Rights	200’	251’	267’	257’
Westbound Longmeadow Road	--	162’	255’	202’
Northbound Route 1 Lefts	350’	315’	414’	391’
Northbound Route 1 Thrus/Rights	--	640’	1049’	806’
Southbound Route 1 Lefts	225’	66’	162’	57’
Southbound Route 1 Thrus	--	--	--	166’
Southbound Route 1 Thrus/Rights	--	366’	488’	185’

PM Peak Hour – 95th Percentile Queues

Approach/Lane	Available Storage	2037 No Build	2037 Build	2037 Build Alt
Eastbound Ocean Road Lefts/Thrus	--	609’	616’	317’
Eastbound Ocean Road Rights	200’	265’	271’	191’
Westbound Longmeadow Road	--	389’	519’	217’
Northbound Route 1 Lefts	350’	219’	289’	315’
Northbound Route 1 Thrus/Rights	--	351’	467’	526’
Southbound Route 1 Lefts	225’	166’	180’	76’
Southbound Route 1 Thrus	--	--	--	214’
Southbound Route 1 Thrus/Rights	--	816’	786’	233’

Under the projected 2037 volumes, some of the left-turn lanes are inadequate to store the projected queues. With the planned Route 1 project, and some timing changes and recommended lane use changes on Ocean Road, no significant queue issues are expected.

DRIVEWAY SIGHT DISTANCE

One of the most important safety factors to consider for a project is sight distance from the access drives. The City of Portsmouth’s Site Plan Review Regulations require that driveway sight distance meet AASTHO standards, which is generally considered to be 10’ per mph. The posted speed limit is 30 mph on both Lang Road and Longmeadow Road. Hence, 300’ of sight distance is recommended. Sewall measured sight distance from the two proposed site drive locations. The results are summarized I the following table:

Drive Description	Available Sight Distance To Left	To Right
Proposed Lang Road Drive	287'*	500'+
Proposed Longmeadow Drive	500'+ to Route 1	500'+ to Lang Road

*Sight distance to left can be improved to 300' by removal of a clump of trees growing along property line

Since sight distances will meet or exceed the standard with removal of some trees, there are no sight distance concerns. It is important that no signage or landscaping be located in the driveway sight triangles which could obscure or limit the driveway sight distances in the future and that the sight lines are maintained.

SUMMARY AND RECOMMENDATIONS

The proposed mixed-use development with up to 240 apartment homes, 30 townhomes and a day care facility for 75 students is expected to generate 1,566 one-way trips daily or 783 roundtrips. The overall development will generate from 186 to 202 one-way trips in peak hours. These estimates are expected to be conservative since some of the day care users would be expected to be from the on-site residences.

The NHDOT is in the process of designing improvements to Route 1 in this area so future conditions were evaluated with and without these planned improvements. There are some minor capacity constraints for some lanes at the signalized intersection of Route 1, Ocean Road and Longmeadow Road in 2027 without the Route 1 improvement project. However, the intersection will function at LOS "C" overall in the AM peak hour and at LOS "D" in the PM peak hour.

There are greater lane constraints in the horizon year 2037 with the intersection functioning at LOS "D" during the AM peak hour and at capacity at LOS "E" in the PM Peak hour. With the Route 1 improvement project implemented, all levels of service will be acceptable under Build volumes during both the AM and PM peak hour.

In terms of safety, adequate sight distance can be obtained from the two proposed site drives with some clearing on Lang Road. It is important that no signage or landscaping be located in the driveway sight triangles which could obscure or limit the driveway sight distances in the future, and that the sight lines are maintained. Control at the intersection of Longmeadow Road and the site drive, a new T-intersection, is proposed to be all-way stop for improved safety and given the existing southbound stop condition.



Figure 1

Site Location Map

Lang Road Development

Portsmouth, New Hampshire

Sewall
The evolution of expertise
A TFIC Company

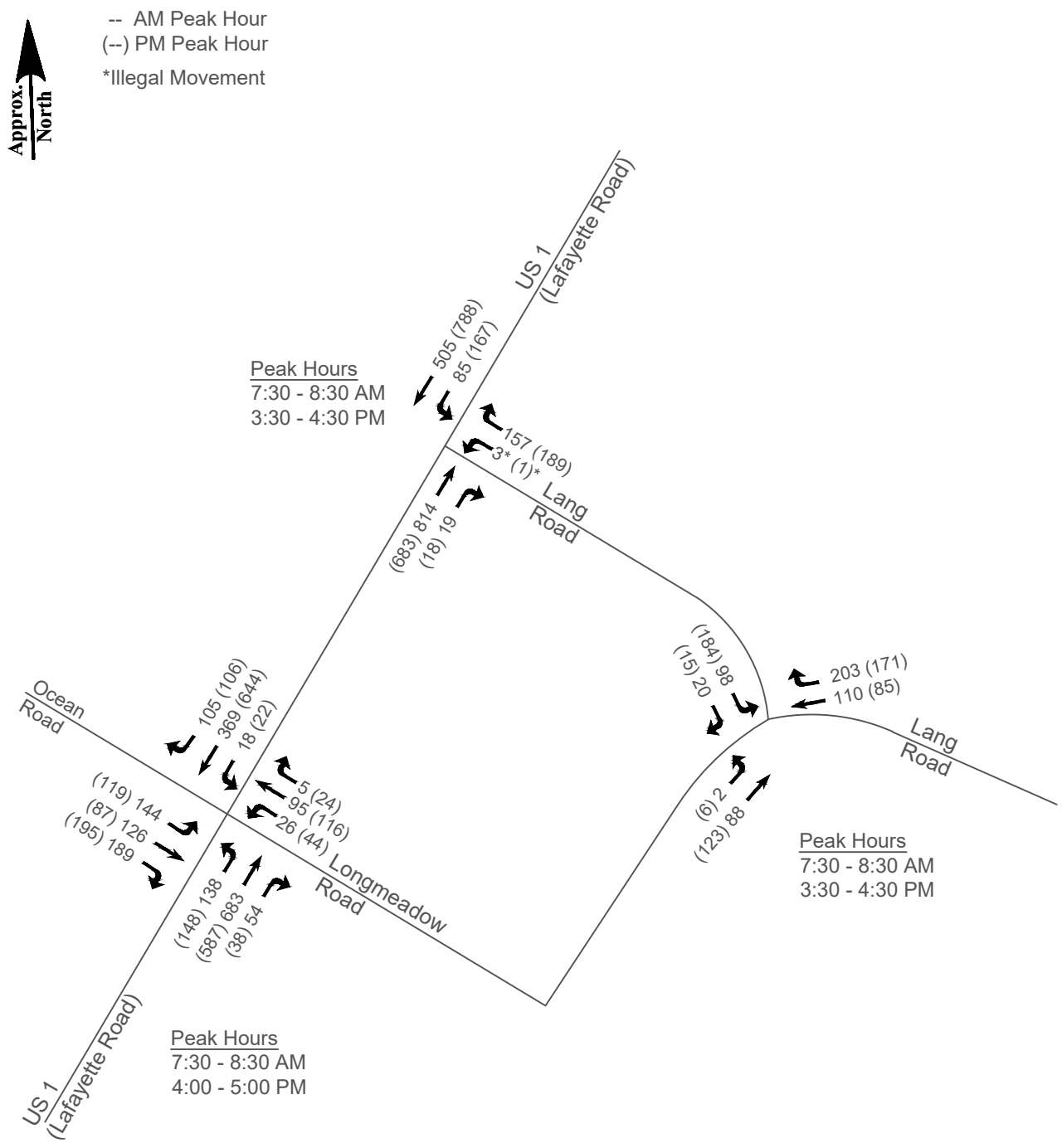


Figure 2

2025 Existing Volumes
Lang Road Development
Portsmouth, New Hampshire

Sewall
The evolution of expertise
A TFIC Company

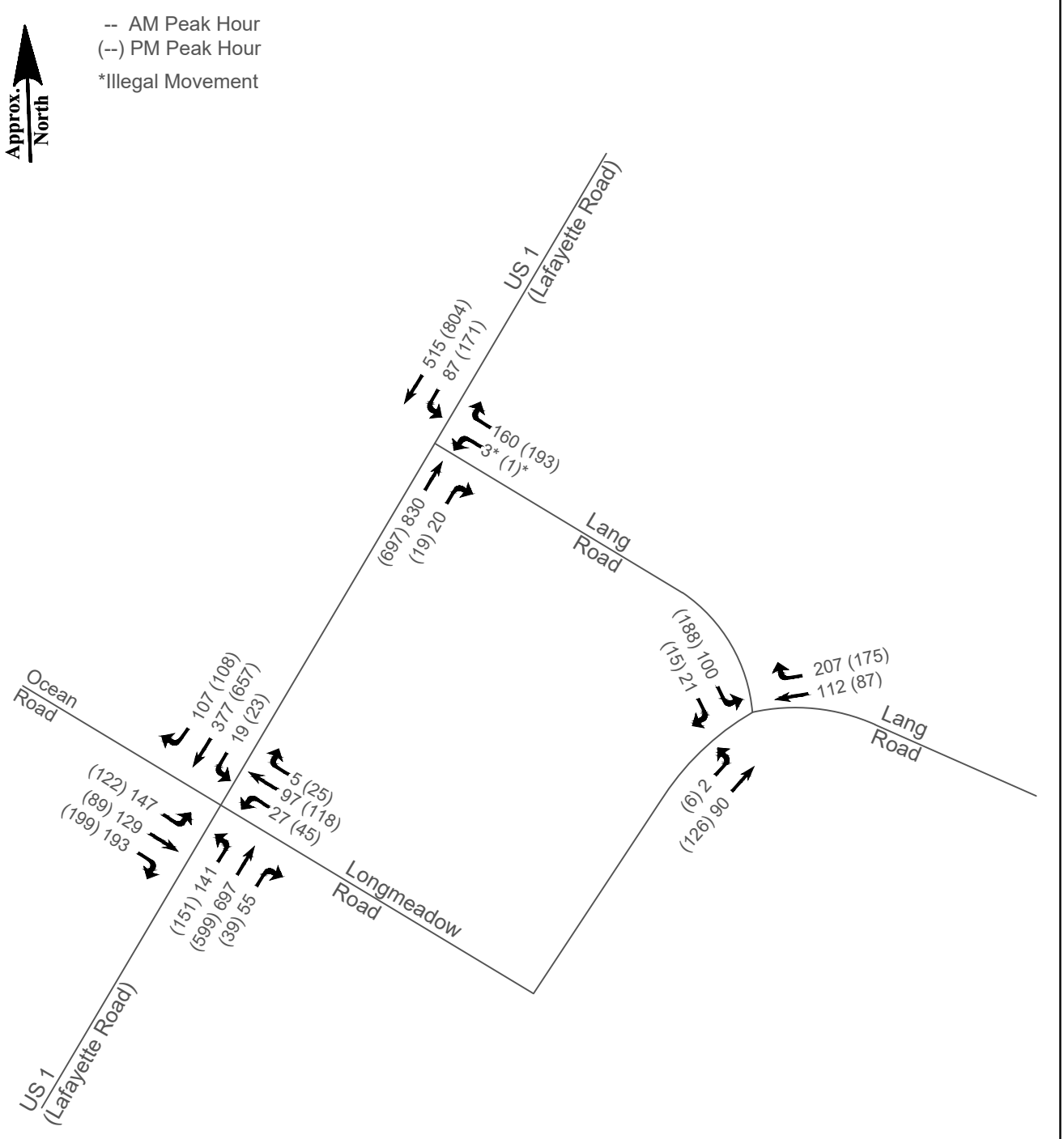


Figure 3

2027 No Build Volumes
Lang Road Development
Portsmouth, New Hampshire

Sewall
The evolution of expertise
A TRC company

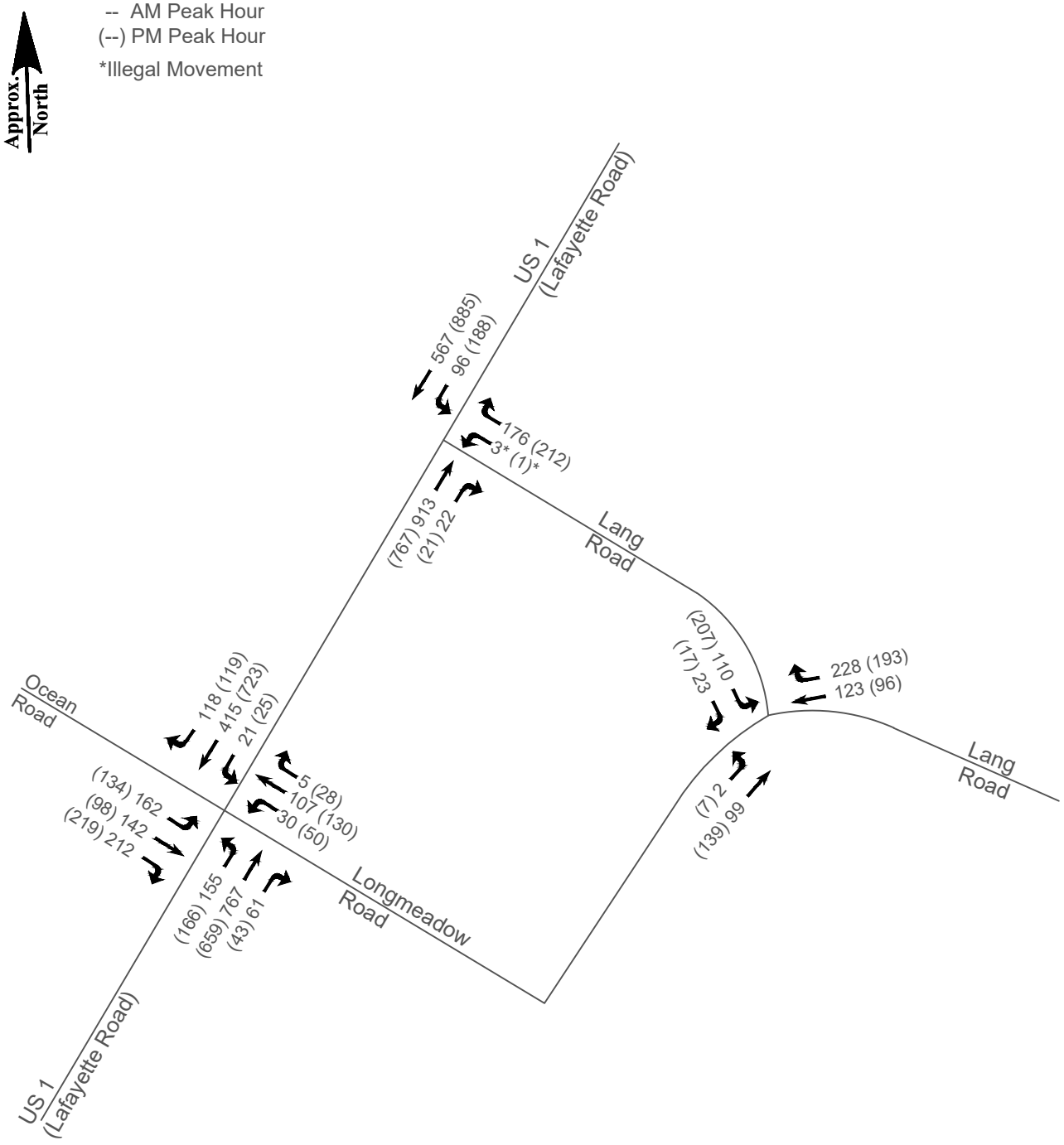


Figure 4

2037 No Build Volumes
Lang Road Development
Portsmouth, New Hampshire

Sewall
The evolution of expertise
A TPIC Company

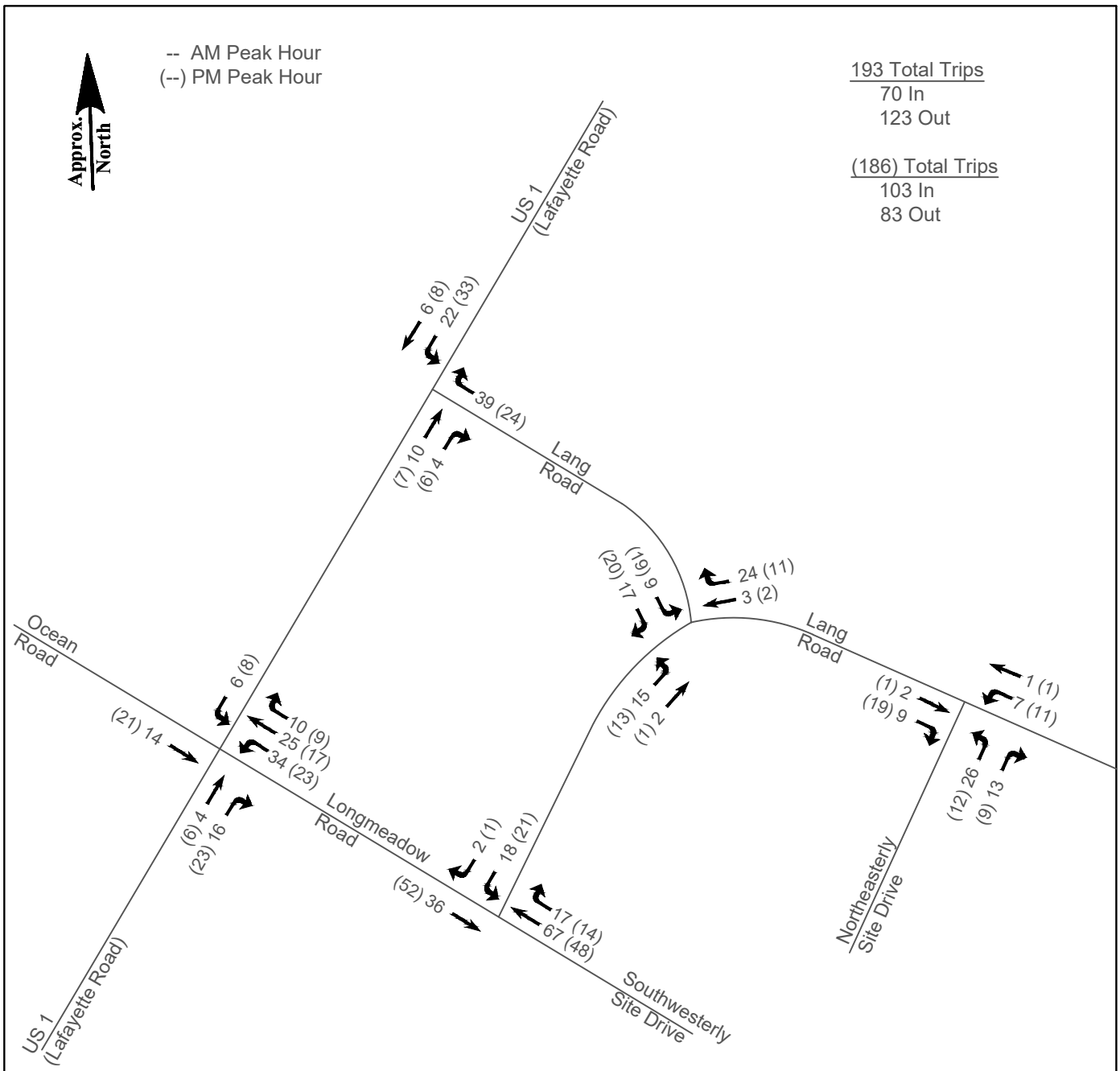


Figure 5

AM & PM Peak Hour Trip Assignments
Lang Road Development
Portsmouth, New Hampshire

Sewall
The evolution of expertise
A TPIC company

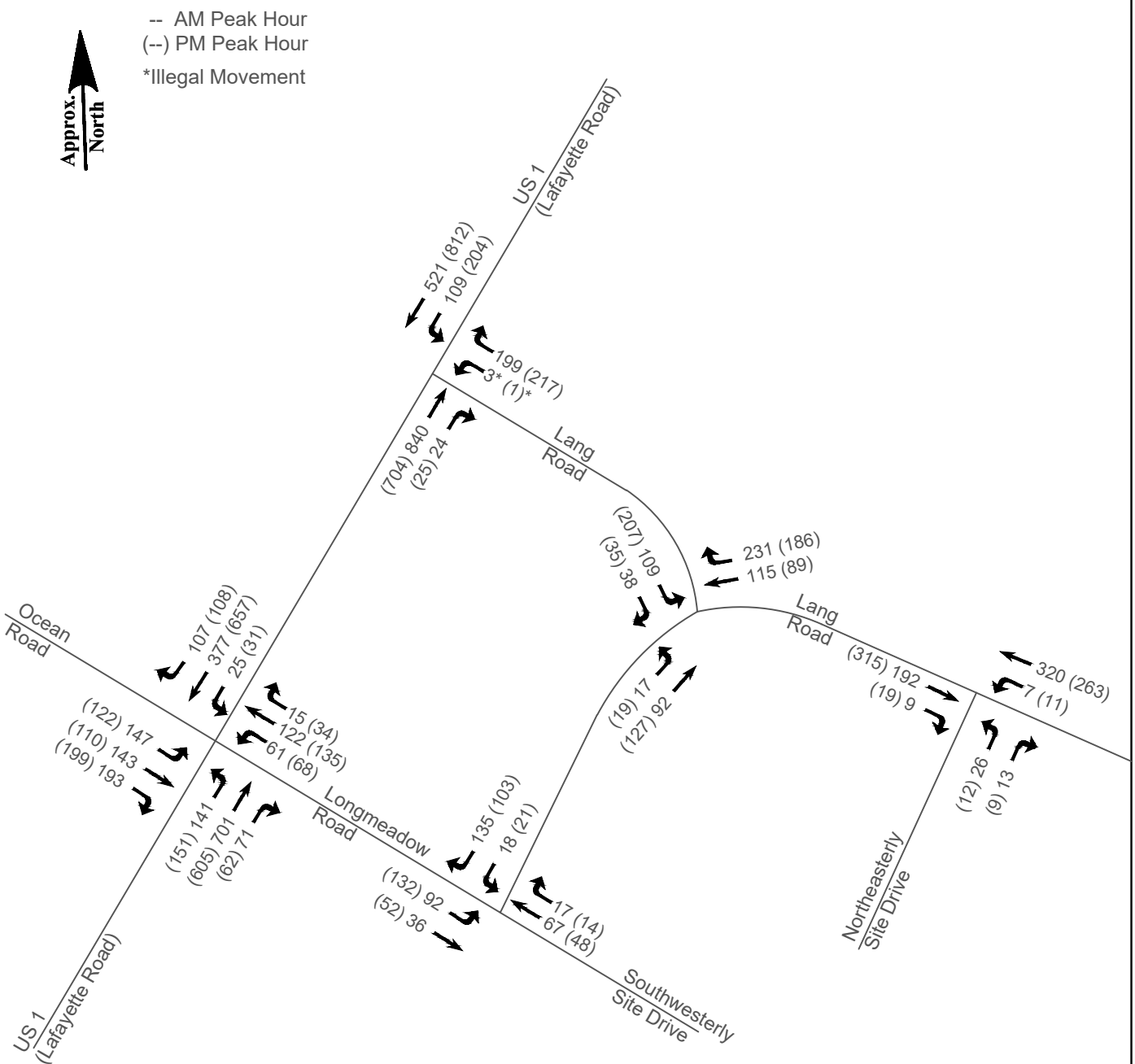


Figure 6

2027 Build Volumes

Lang Road Development

Portsmouth, New Hampshire

Sewall
The evolution of expertise
A TFC Company

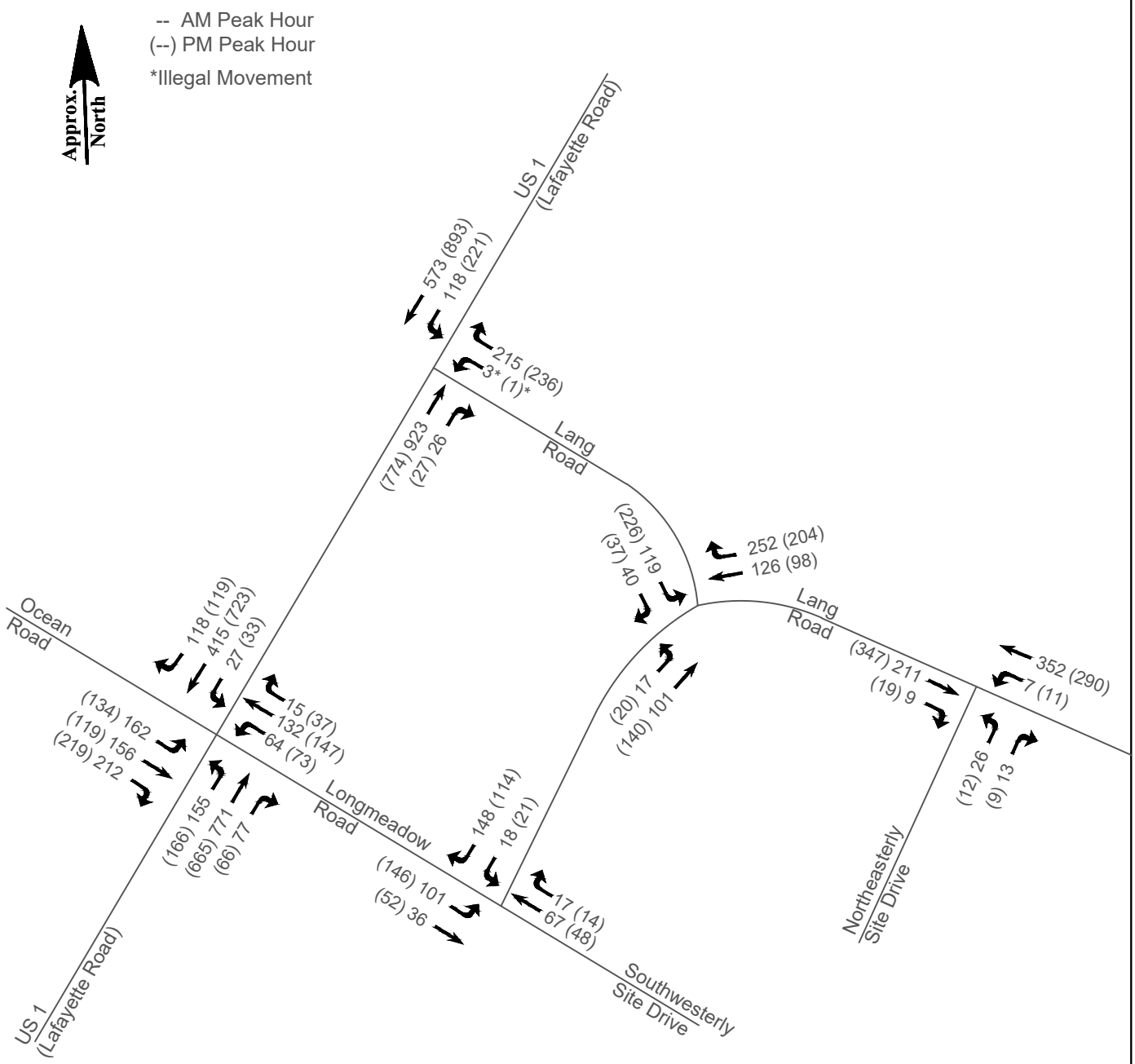


Figure 7

2037 Build Volumes
Lang Road Development
Portsmouth, New Hampshire

Sewall
The evolution of expertise
ATFIC Company

APPENDIX

Turning Movement Counts

Capacity Analysis

Preliminary Site Plan

Prepared by National Data & Surveying Services

Lafayette Rd/US 1 & Longmeadow Rd/Ocean Rd

-All Group 4
-Peak summer Factor: 1.09

Peak Hour Turning Movement Count

ID: 25-600003-002
City: Portsmouth

Day: Tuesday
Date: 4/15/2025

PEAK HOURS
AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 04:00 PM - 05:00 PM

COUNT PERIODS
AM: 6:00 AM - 09:00 AM
NOON: NONE
PM: 3:00 PM - 06:00 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	1786	0	1953
PHF	0.97		0.98

SOUTHBOUND (Lafayette Rd/US 1)

AM	96 (105)	338 (369)	16 (18)	0	762	AM
NOON	0	0	0	0	0	NOON
PM	97 (106)	591 (644)	20 (22)	0	669	PM
	0	1	1	0		

EASTBOUND (Longmeadow Rd/Ocean Rd)

	AM	NOON	PM	
	309	0	339	
	0	0	0	0
	144 132	0	119 109	0
	126 115	0	87 80	1
	173 189	0	179 195	1
	AM	NOON	PM	

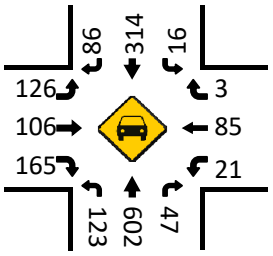
WESTBOUND (Longmeadow Rd/Ocean Rd)

	PM	NOON	AM
0	22 (24)	0	4 (5)
1	106 (116)	0	87 (95)
0	40 (44)	0	24 (26)
0	0	0	0
	135	0	180
	PM	NOON	AM

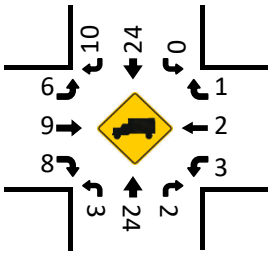
NORTHBOUND (Lafayette Rd/US 1)

PM	810	0	148 136	587 538	38 35	PM
NOON	0	0	0	0	0	NOON
AM	535	0	138 126	683 626	54 49	AM
		0	1	1	0	

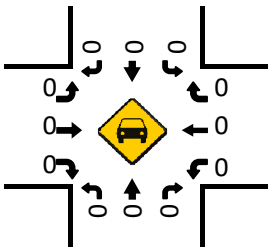
Cars (AM)



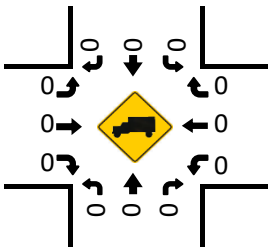
HT (AM)



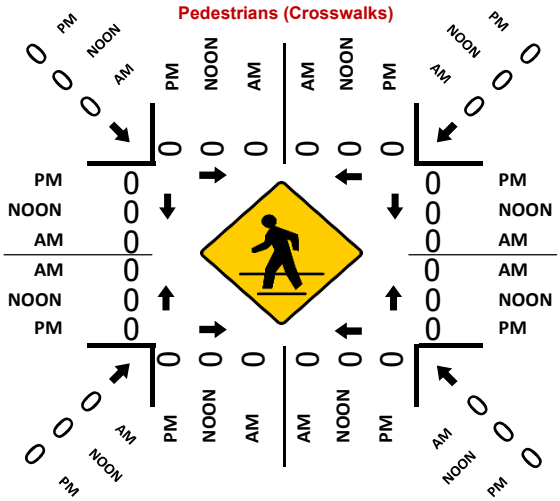
Cars (NOON)



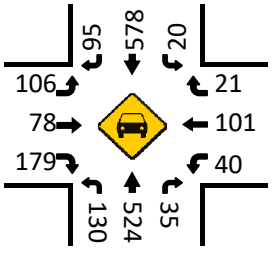
HT (NOON)



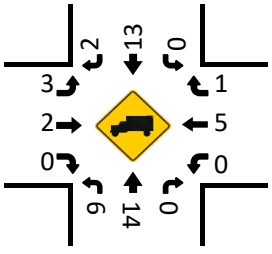
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Lafayette Rd/US 1 & Lang Rd

Peak Hour Turning Movement Count

-All Group 4
-Peak summer Factor: 1.09

ID: 25-600003-003
City: Portsmouth

Day: Tuesday
Date: 4/15/2025

PEAK HOURS

AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 03:30 PM - 04:30 PM

COUNT PERIODS

AM: 6:00 AM - 09:00 AM
NOON: NONE
PM: 3:00 PM - 06:00 PM

CONTROL: 1-Way Stop(WB)

	AM	NOON	PM
TEV	1481	0	1663
PHF	0.95		0.95

SOUTHBOUND (Lafayette Rd/US 1)

AM	0	463 (505)	78 (85)	0	920	AM
NOON	0	0	0	0	0	NOON
PM	0	723 (788)	153 (167)	0	770	PM

WESTBOUND (Lang Rd)

	PM	NOON	AM
	144 (157)	0	173 (189)
	0	0	0
	1 (1)	0	3 (3)
	0	0	0
	169	0	95

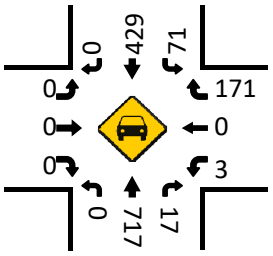
EASTBOUND (Lang Rd)

	AM	NOON	PM
	0	0	0
	0	0	0
	0	0	0
	0	0	0
	0	0	0

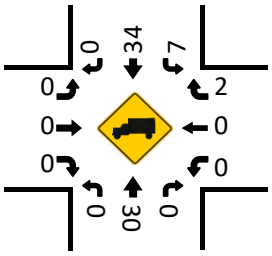
NORTHBOUND (Lafayette Rd/US 1)

PM	724	0	0	626 (683)	16 (18)	PM
NOON	0	0	0	0	0	NOON
AM	466	0	0	747 (814)	17 (19)	AM

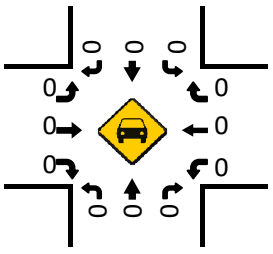
Cars (AM)



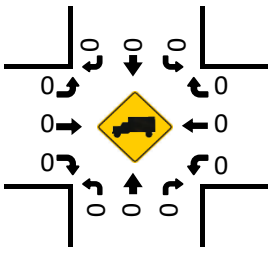
HT (AM)



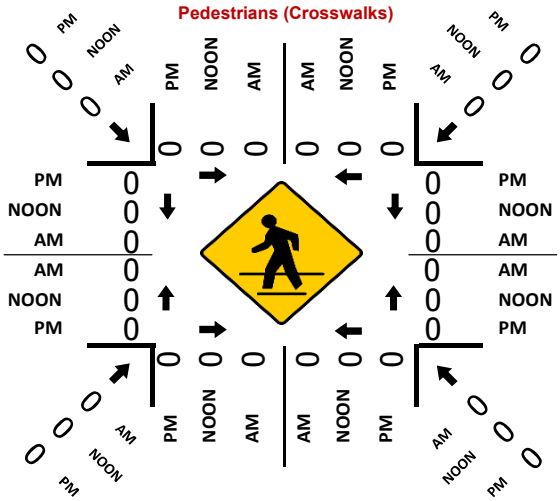
Cars (NOON)



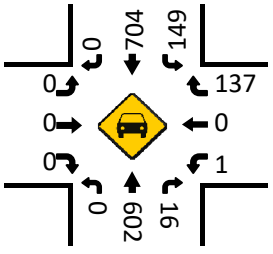
HT (NOON)



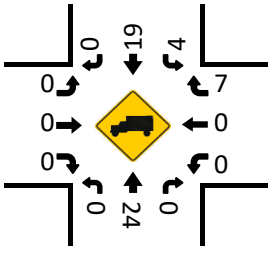
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Longmeadow Rd & Lang Rd

Peak Hour Turning Movement Count

-All Group 4
-Peak summer Factor: 1.09

ID: 25-600003-001
City: Portsmouth

Day: Tuesday
Date: 4/15/2025

PEAK HOURS		COUNT PERIODS
07:30 AM - 08:30 AM	AM	6:00 AM - 09:00 AM
NONE	NOON	NONE
03:30 PM - 04:30 PM	PM	3:00 PM - 06:00 PM

SOUTHBOUND (Longmeadow Rd)

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM
	0	0	0	0		

EASTBOUND (Lang Rd)

AM	NOON	PM	
188	0	162	
0	0	0	0
0	0	0	0
98 90	0	184 169	1
18 20	0	14 15	0

WESTBOUND (Lang Rd)

	PM	NOON	AM
0	0	0	0
1	171 157	0	203 186
0	78 85	0	101 110
0	1 1	0	0
	283	0	171

CONTROL

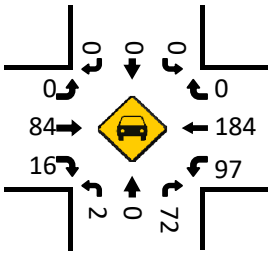
1-Way Stop(EB)

TEV	478	0	537
	AM	NOON	PM
PHF	0.85		0.88

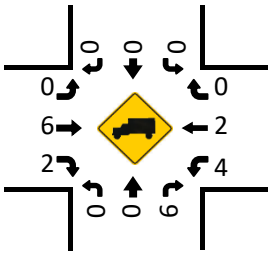
NORTHBOUND (Longmeadow Rd)

	0	0	1	0		
PM	92	0	6 5	0	123 113	PM
NOON	0	0	0	0	0	NOON
AM	119	0	2 2	0	88 81	AM

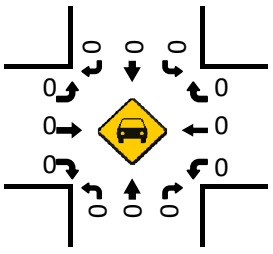
Cars (AM)



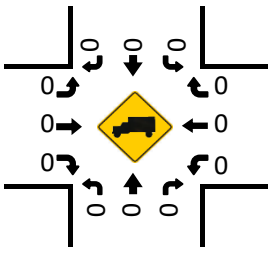
HT (AM)



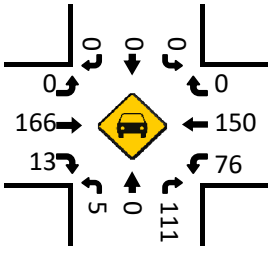
Cars (NOON)



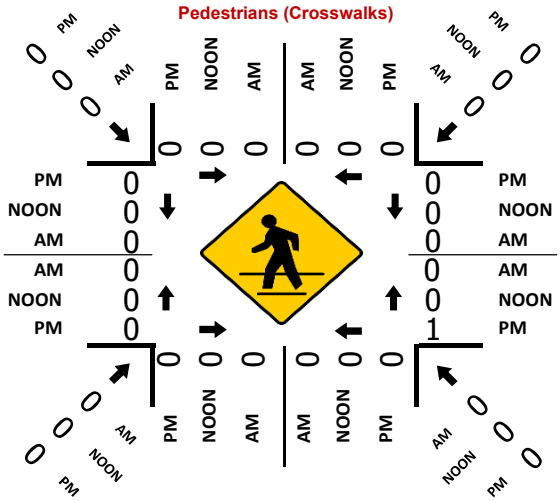
HT (NOON)



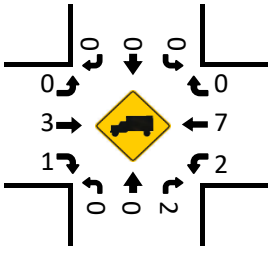
Cars (PM)



Pedestrians (Crosswalks)



HT (PM)



Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:55	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2214	2318	2221	2217	2214	2238	2321
Vehs Exited	2225	2310	2221	2212	2216	2228	2329
Starting Vehs	74	69	66	70	61	59	79
Ending Vehs	63	77	66	75	59	69	71
Travel Distance (mi)	1772	1867	1764	1763	1768	1781	1835
Travel Time (hr)	66.1	71.5	66.2	64.0	65.5	66.7	69.7
Total Delay (hr)	18.6	21.8	18.7	16.9	18.2	18.9	20.4
Total Stops	1628	1788	1661	1553	1594	1637	1753
Fuel Used (gal)	59.0	62.1	57.9	58.0	58.1	58.9	61.0

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2225	2247	2263	2248
Vehs Exited	2220	2265	2256	2248
Starting Vehs	73	85	61	68
Ending Vehs	78	67	68	68
Travel Distance (mi)	1778	1800	1798	1793
Travel Time (hr)	67.1	67.2	67.7	67.2
Total Delay (hr)	19.4	19.0	19.5	19.1
Total Stops	1689	1606	1676	1660
Fuel Used (gal)	58.8	60.2	59.6	59.4

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2214	2318	2221	2217	2214	2238	2321
Vehs Exited	2225	2310	2221	2212	2216	2228	2329
Starting Vehs	74	69	66	70	61	59	79
Ending Vehs	63	77	66	75	59	69	71
Travel Distance (mi)	1772	1867	1764	1763	1768	1781	1835
Travel Time (hr)	66.1	71.5	66.2	64.0	65.5	66.7	69.7
Total Delay (hr)	18.6	21.8	18.7	16.9	18.2	18.9	20.4
Total Stops	1628	1788	1661	1553	1594	1637	1753
Fuel Used (gal)	59.0	62.1	57.9	58.0	58.1	58.9	61.0

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2225	2247	2263	2248
Vehs Exited	2220	2265	2256	2248
Starting Vehs	73	85	61	68
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Travel Distance (mi)	1778	1800	1798	1793
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Total Delay (hr)	19.4	19.0	19.5	19.1
Total Stops	1689	1606	1676	1660
Fuel Used (gal)	58.8	60.2	59.6	59.4

5: Route 1 & Lang Road Performance by lane

Lane	WB	NB	SB	SB	All
Movements Served	R	TR	L	T	
Denied Del/Veh (s)					0.3
Total Del/Veh (s)	12.4	5.1	9.1	2.3	5.3

8: Longmeadow Road & Lang Road Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.4	1.0	6.6	2.2

10: Longmeadow Road & Southwesterly Site Drive Performance by lane

Lane	EB	SB	All
Movements Served	LT	LR	
Denied Del/Veh (s)			0.0
Total Del/Veh (s)	1.8	3.3	2.4

11: Route 1 & Ocean Road/Longmeadow Road Performance by lane

Lane	EB	EB	WB	NB	NB	SB	SB	All
Movements Served	LT	R	LTR	L	TR	L	TR	
Denied Del/Veh (s)								1.0
Total Del/Veh (s)	39.6	7.4	29.4	40.2	21.5	43.8	22.7	24.9

13: Northeasterly Site Drive & Lang Road Performance by lane

Lane	EB	WB	All
Movements Served	TR	LT	
Denied Del/Veh (s)			0.2
Total Del/Veh (s)	0.6	0.6	0.6

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	28.7

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB
Directions Served	R	TR	L
Maximum Queue (ft)	143	13	93
Average Queue (ft)	61	1	36
95th Queue (ft)	115	9	72
Link Distance (ft)	1032	682	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	32	92
Average Queue (ft)	1	44
95th Queue (ft)	13	74
Link Distance (ft)	582	1032
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	SB
Directions Served	LR
Maximum Queue (ft)	77
Average Queue (ft)	38
95th Queue (ft)	61
Link Distance (ft)	582
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	348	214	180	298	436	132	377
Average Queue (ft)	161	77	77	96	212	22	192
95th Queue (ft)	283	179	143	203	380	81	325
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	5	0		0	2	0	5
Queuing Penalty (veh)	10	0		0	2	0	1

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 13

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	15.0	50.0	30.0	15.0	50.0	30.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	12.0	39.5	23.1	7.2	52.4	23.1
g/C Ratio	-0.01	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	5	0	0	68	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	33	23	28	0	69	28
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary
Average Cycle Length (s): NA

Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:55	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2214	2318	2221	2217	2214	2238	2321
Vehs Exited	2225	2310	2221	2212	2216	2228	2329
Starting Vehs	74	69	66	70	61	59	79
Ending Vehs	63	77	66	75	59	69	71
Travel Distance (mi)	1772	1867	1764	1763	1768	1781	1835
Travel Time (hr)	66.1	71.5	66.2	64.0	65.5	66.7	69.7
Total Delay (hr)	18.6	21.8	18.7	16.9	18.2	18.9	20.4
Total Stops	1628	1788	1661	1553	1594	1637	1753
Fuel Used (gal)	59.0	62.1	57.9	58.0	58.1	58.9	61.0

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2225	2247	2263	2248
Vehs Exited	2220	2265	2256	2248
Starting Vehs	73	85	61	68
Ending Vehs	78	67	68	68
Travel Distance (mi)	1778	1800	1798	1793
Travel Time (hr)	67.1	67.2	67.7	67.2
Total Delay (hr)	19.4	19.0	19.5	19.1
Total Stops	1689	1606	1676	1660
Fuel Used (gal)	58.8	60.2	59.6	59.4

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2214	2318	2221	2217	2214	2238	2321
Vehs Exited	2225	2310	2221	2212	2216	2228	2329
Starting Vehs	74	69	66	70	61	59	79
Ending Vehs	63	77	66	75	59	69	71
Travel Distance (mi)	1772	1867	1764	1763	1768	1781	1835
Travel Time (hr)	66.1	71.5	66.2	64.0	65.5	66.7	69.7
Total Delay (hr)	18.6	21.8	18.7	16.9	18.2	18.9	20.4
Total Stops	1628	1788	1661	1553	1594	1637	1753
Fuel Used (gal)	59.0	62.1	57.9	58.0	58.1	58.9	61.0

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2225	2247	2263	2248
Vehs Exited	2220	2265	2256	2248
Starting Vehs	73	85	61	68
Ending Vehs	78	67	68	68
Travel Distance (mi)	1778	1800	1798	1793
Travel Time (hr)	67.1	67.2	67.7	67.2
Total Delay (hr)	19.4	19.0	19.5	19.1
Total Stops	1689	1606	1676	1660
Fuel Used (gal)	58.8	60.2	59.6	59.4

5: Route 1 & Lang Road Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.8	0.3
Total Del/Veh (s)	12.4	5.1	3.3	5.3

8: Longmeadow Road & Lang Road Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.4	1.0	6.6	2.2

10: Longmeadow Road & Southwesterly Site Drive Performance by approach

Approach	EB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	1.8	3.3	2.4

11: Route 1 & Ocean Road/Longmeadow Road Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.9	0.0	1.2	0.0	1.0
Total Del/Veh (s)	26.3	29.2	24.4	23.5	24.9

13: Northeasterly Site Drive & Lang Road Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.2	0.2
Total Del/Veh (s)	0.6	0.6	0.6

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	28.7

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB
Directions Served	R	TR	L
Maximum Queue (ft)	143	13	93
Average Queue (ft)	61	1	36
95th Queue (ft)	115	9	72
Link Distance (ft)	1032	682	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	32	92
Average Queue (ft)	1	44
95th Queue (ft)	13	74
Link Distance (ft)	582	1032
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	SB
Directions Served	LR
Maximum Queue (ft)	77
Average Queue (ft)	38
95th Queue (ft)	61
Link Distance (ft)	582
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	348	214	180	298	436	132	377
Average Queue (ft)	161	77	77	96	212	22	192
95th Queue (ft)	283	179	143	203	380	81	325
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	5	0		0	2	0	5
Queuing Penalty (veh)	10	0		0	2	0	1

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 13

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	15.0	50.0	30.0	15.0	50.0	30.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	12.0	39.5	23.1	7.2	52.4	23.1
g/C Ratio	-0.01	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	5	0	0	68	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	33	23	28	0	69	28
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary
Average Cycle Length (s): NA

Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	3:55	3:55	3:55	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2484	2490	2471	2484	2457	2570	2545
Vehs Exited	2477	2475	2470	2477	2460	2525	2518
Starting Vehs	75	69	69	63	87	73	78
Ending Vehs	82	84	70	70	84	118	105
Travel Distance (mi)	2029	2035	2013	2042	1999	2083	2069
Travel Time (hr)	78.3	81.9	79.5	81.7	81.3	90.0	84.6
Total Delay (hr)	24.8	27.8	26.3	26.9	27.9	34.7	29.6
Total Stops	1812	2038	1976	2062	1963	2217	2100
Fuel Used (gal)	67.2	68.9	68.1	68.8	67.6	71.3	70.2

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2540	2556	2470	2506
Vehs Exited	2558	2554	2476	2500
Starting Vehs	97	84	67	77
Ending Vehs	79	86	61	82
Travel Distance (mi)	2083	2104	2013	2047
Travel Time (hr)	88.3	92.7	80.0	83.8
Total Delay (hr)	33.2	36.8	26.2	29.4
Total Stops	2251	2479	1939	2085
Fuel Used (gal)	71.6	72.9	67.9	69.5

Interval #0 Information Seeding

Start Time	3:55
End Time	4:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2484	2490	2471	2484	2457	2570	2545
Vehs Exited	2477	2475	2470	2477	2460	2525	2518
Starting Vehs	75	69	69	63	87	73	78
Ending Vehs	82	84	70	70	84	118	105
Travel Distance (mi)	2029	2035	2013	2042	1999	2083	2069
Travel Time (hr)	78.3	81.9	79.5	81.7	81.3	90.0	84.6
Total Delay (hr)	24.8	27.8	26.3	26.9	27.9	34.7	29.6
Total Stops	1812	2038	1976	2062	1963	2217	2100
Fuel Used (gal)	67.2	68.9	68.1	68.8	67.6	71.3	70.2

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2540	2556	2470	2506
Vehs Exited	2558	2554	2476	2500
Starting Vehs	97	84	67	77
Ending Vehs	79	86	61	82
Travel Distance (mi)	2083	2104	2013	2047
Travel Time (hr)	88.3	92.7	80.0	83.8
Total Delay (hr)	33.2	36.8	26.2	29.4
Total Stops	2251	2479	1939	2085
Fuel Used (gal)	71.6	72.9	67.9	69.5

5: Route 1 & Lang Road Performance by lane

Lane	WB	NB	SB	SB	All
Movements Served	R	TR	L	T	
Denied Del/Veh (s)					0.7
Total Del/Veh (s)	12.8	4.3	8.1	6.9	6.6

8: Longmeadow Road & Lang Road Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.7	0.9	7.3	3.0

10: Longmeadow Road & Southwesterly Site Drive Performance by lane

Lane	EB	SB	All
Movements Served	LT	LR	
Denied Del/Veh (s)			0.0
Total Del/Veh (s)	2.7	3.1	2.9

11: Route 1 & Ocean Road/Longmeadow Road Performance by lane

Lane	EB	EB	WB	NB	NB	SB	SB	All
Movements Served	LT	R	LTR	L	TR	L	TR	
Denied Del/Veh (s)								0.8
Total Del/Veh (s)	63.5	17.3	53.2	52.3	17.4	51.4	41.5	36.3

13: Northeasterly Site Drive & Lang Road Performance by lane

Lane	EB	WB	All
Movements Served	TR	LT	
Denied Del/Veh (s)			0.1
Total Del/Veh (s)	0.6	0.5	0.6

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	39.8

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB	SB
Directions Served	R	TR	L	T
Maximum Queue (ft)	155	6	127	99
Average Queue (ft)	68	0	53	22
95th Queue (ft)	120	5	108	150
Link Distance (ft)	1032	682		2056
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)			0	2
Queuing Penalty (veh)			0	3

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	28	118
Average Queue (ft)	2	51
95th Queue (ft)	15	89
Link Distance (ft)	582	1032
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	SB
Directions Served	LR
Maximum Queue (ft)	70
Average Queue (ft)	35
95th Queue (ft)	57
Link Distance (ft)	582
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	422	218	296	234	351	179	637
Average Queue (ft)	171	105	137	107	175	34	399
95th Queue (ft)	370	212	250	193	314	125	661
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)	0						2
Queuing Penalty (veh)	0						14
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	8	0			0		27
Queuing Penalty (veh)	16	0			1		6

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 40

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	20.0	62.0	30.0	20.0	62.0	30.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	15.2	58.6	27.4	6.8	74.5	27.4
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	48	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	24	70	60	0	86	60
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary
Average Cycle Length (s): NA

Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	3:55	3:55	3:55	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2484	2490	2471	2484	2457	2570	2545
Vehs Exited	2477	2475	2470	2477	2460	2525	2518
Starting Vehs	75	69	69	63	87	73	78
Ending Vehs	82	84	70	70	84	118	105
Travel Distance (mi)	2029	2035	2013	2042	1999	2083	2069
Travel Time (hr)	78.3	81.9	79.5	81.7	81.3	90.0	84.6
Total Delay (hr)	24.8	27.8	26.3	26.9	27.9	34.7	29.6
Total Stops	1812	2038	1976	2062	1963	2217	2100
Fuel Used (gal)	67.2	68.9	68.1	68.8	67.6	71.3	70.2

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2540	2556	2470	2506
Vehs Exited	2558	2554	2476	2500
Starting Vehs	97	84	67	77
Ending Vehs	79	86	61	82
Travel Distance (mi)	2083	2104	2013	2047
Travel Time (hr)	88.3	92.7	80.0	83.8
Total Delay (hr)	33.2	36.8	26.2	29.4
Total Stops	2251	2479	1939	2085
Fuel Used (gal)	71.6	72.9	67.9	69.5

Interval #0 Information Seeding

Start Time	3:55
End Time	4:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2484	2490	2471	2484	2457	2570	2545
Vehs Exited	2477	2475	2470	2477	2460	2525	2518
Starting Vehs	75	69	69	63	87	73	78
Ending Vehs	82	84	70	70	84	118	105
Travel Distance (mi)	2029	2035	2013	2042	1999	2083	2069
Travel Time (hr)	78.3	81.9	79.5	81.7	81.3	90.0	84.6
Total Delay (hr)	24.8	27.8	26.3	26.9	27.9	34.7	29.6
Total Stops	1812	2038	1976	2062	1963	2217	2100
Fuel Used (gal)	67.2	68.9	68.1	68.8	67.6	71.3	70.2

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2540	2556	2470	2506
Vehs Exited	2558	2554	2476	2500
Starting Vehs	97	84	67	77
Ending Vehs	79	86	61	82
Travel Distance (mi)	2083	2104	2013	2047
Travel Time (hr)	88.3	92.7	80.0	83.8
Total Delay (hr)	33.2	36.8	26.2	29.4
Total Stops	2251	2479	1939	2085
Fuel Used (gal)	71.6	72.9	67.9	69.5

5: Route 1 & Lang Road Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	1.3	0.7
Total Del/Veh (s)	12.7	4.3	7.1	6.6

8: Longmeadow Road & Lang Road Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.7	0.9	7.3	3.0

10: Longmeadow Road & Southwesterly Site Drive Performance by approach

Approach	EB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	2.7	3.1	2.9

11: Route 1 & Ocean Road/Longmeadow Road Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	2.1	0.1	1.1	0.0	0.8
Total Del/Veh (s)	41.0	53.2	23.9	41.8	36.3

13: Northeasterly Site Drive & Lang Road Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.2	0.1
Total Del/Veh (s)	0.6	0.5	0.6

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	39.8

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB	SB
Directions Served	R	TR	L	T
Maximum Queue (ft)	155	6	127	99
Average Queue (ft)	68	0	53	22
95th Queue (ft)	120	5	108	150
Link Distance (ft)	1032	682		2056
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)			0	2
Queuing Penalty (veh)			0	3

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	28	118
Average Queue (ft)	2	51
95th Queue (ft)	15	89
Link Distance (ft)	582	1032
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	SB
Directions Served	LR
Maximum Queue (ft)	70
Average Queue (ft)	35
95th Queue (ft)	57
Link Distance (ft)	582
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	422	218	296	234	351	179	637
Average Queue (ft)	171	105	137	107	175	34	399
95th Queue (ft)	370	212	250	193	314	125	661
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)	0						2
Queuing Penalty (veh)	0						14
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	8	0			0		27
Queuing Penalty (veh)	16	0			1		6

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 40

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	20.0	62.0	30.0	20.0	62.0	30.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	15.2	58.6	27.4	6.8	74.5	27.4
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	48	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	24	70	60	0	86	60
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary
Average Cycle Length (s): NA

Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:55	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2228	2394	2264	2233	2266	2273	2338
Vehs Exited	2239	2377	2260	2238	2270	2263	2361
Starting Vehs	77	70	71	80	68	65	87
Ending Vehs	66	87	75	75	64	75	64
Travel Distance (mi)	1786	1905	1804	1780	1816	1814	1853
Travel Time (hr)	66.5	76.3	67.9	65.5	68.5	67.9	70.8
Total Delay (hr)	18.6	25.2	19.6	18.0	19.9	19.2	21.0
Total Stops	1609	1927	1642	1624	1655	1651	1783
Fuel Used (gal)	59.6	63.9	59.2	58.6	60.1	60.4	61.9

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2276	2306	2305	2290
Vehs Exited	2271	2325	2297	2292
Starting Vehs	75	94	65	74
Ending Vehs	80	75	73	74
Travel Distance (mi)	1819	1851	1831	1826
Travel Time (hr)	69.0	71.3	70.4	69.4
Total Delay (hr)	20.1	21.9	21.3	20.5
Total Stops	1724	1802	1772	1720
Fuel Used (gal)	60.1	62.1	61.1	60.7

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2228	2394	2264	2233	2266	2273	2338
Vehs Exited	2239	2377	2260	2238	2270	2263	2361
Starting Vehs	77	70	71	80	68	65	87
Ending Vehs	66	87	75	75	64	75	64
Travel Distance (mi)	1786	1905	1804	1780	1816	1814	1853
Travel Time (hr)	66.5	76.3	67.9	65.5	68.5	67.9	70.8
Total Delay (hr)	18.6	25.2	19.6	18.0	19.9	19.2	21.0
Total Stops	1609	1927	1642	1624	1655	1651	1783
Fuel Used (gal)	59.6	63.9	59.2	58.6	60.1	60.4	61.9

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2276	2306	2305	2290
Vehs Exited	2271	2325	2297	2292
Starting Vehs	75	94	65	74
Ending Vehs	80	75	73	74
Travel Distance (mi)	1819	1851	1831	1826
Travel Time (hr)	69.0	71.3	70.4	69.4
Total Delay (hr)	20.1	21.9	21.3	20.5
Total Stops	1724	1802	1772	1720
Fuel Used (gal)	60.1	62.1	61.1	60.7

5: Route 1 & Lang Road Performance by lane

Lane	WB	NB	SB	SB	All
Movements Served	R	TR	L	T	
Denied Del/Veh (s)					0.3
Total Del/Veh (s)	13.8	5.2	9.9	2.4	5.7

8: Longmeadow Road & Lang Road Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.5	1.1	6.5	2.2

10: Longmeadow Road & Southwesterly Site Drive Performance by lane

Lane	EB	SB	All
Movements Served	LT	LR	
Denied Del/Veh (s)			0.0
Total Del/Veh (s)	1.9	3.4	2.5

11: Route 1 & Ocean Road/Longmeadow Road Performance by lane

Lane	EB	EB	WB	NB	NB	SB	SB	All
Movements Served	LT	R	LTR	L	TR	L	TR	
Denied Del/Veh (s)								1.0
Total Del/Veh (s)	40.0	7.5	29.8	41.4	23.6	49.0	24.0	26.3

13: Northeasterly Site Drive & Lang Road Performance by lane

Lane	EB	WB	All
Movements Served	TR	LT	
Denied Del/Veh (s)			0.2
Total Del/Veh (s)	0.6	0.6	0.6

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	30.1

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB
Directions Served	R	TR	L
Maximum Queue (ft)	178	26	98
Average Queue (ft)	66	1	37
95th Queue (ft)	127	12	77
Link Distance (ft)	1032	682	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	22	94
Average Queue (ft)	1	45
95th Queue (ft)	11	75
Link Distance (ft)	582	1032
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	SB
Directions Served	LR
Maximum Queue (ft)	76
Average Queue (ft)	39
95th Queue (ft)	63
Link Distance (ft)	582
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	362	224	167	290	475	161	394
Average Queue (ft)	165	84	76	103	230	22	201
95th Queue (ft)	290	194	136	221	419	89	338
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	5	0		0	3	0	6
Queuing Penalty (veh)	11	0		0	4	0	1

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 16

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	15.0	50.0	30.0	15.0	50.0	30.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	12.1	40.1	24.2	7.0	53.0	24.2
g/C Ratio	-0.01	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	3	0	0	68	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	34	26	34	0	74	34
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary
Average Cycle Length (s): NA

Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:55	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2228	2394	2264	2233	2266	2273	2338
Vehs Exited	2239	2377	2260	2238	2270	2263	2361
Starting Vehs	77	70	71	80	68	65	87
Ending Vehs	66	87	75	75	64	75	64
Travel Distance (mi)	1786	1905	1804	1780	1816	1814	1853
Travel Time (hr)	66.5	76.3	67.9	65.5	68.5	67.9	70.8
Total Delay (hr)	18.6	25.2	19.6	18.0	19.9	19.2	21.0
Total Stops	1609	1927	1642	1624	1655	1651	1783
Fuel Used (gal)	59.6	63.9	59.2	58.6	60.1	60.4	61.9

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2276	2306	2305	2290
Vehs Exited	2271	2325	2297	2292
Starting Vehs	75	94	65	74
Ending Vehs	80	75	73	74
Travel Distance (mi)	1819	1851	1831	1826
Travel Time (hr)	69.0	71.3	70.4	69.4
Total Delay (hr)	20.1	21.9	21.3	20.5
Total Stops	1724	1802	1772	1720
Fuel Used (gal)	60.1	62.1	61.1	60.7

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2228	2394	2264	2233	2266	2273	2338
Vehs Exited	2239	2377	2260	2238	2270	2263	2361
Starting Vehs	77	70	71	80	68	65	87
Ending Vehs	66	87	75	75	64	75	64
Travel Distance (mi)	1786	1905	1804	1780	1816	1814	1853
Travel Time (hr)	66.5	76.3	67.9	65.5	68.5	67.9	70.8
Total Delay (hr)	18.6	25.2	19.6	18.0	19.9	19.2	21.0
Total Stops	1609	1927	1642	1624	1655	1651	1783
Fuel Used (gal)	59.6	63.9	59.2	58.6	60.1	60.4	61.9

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2276	2306	2305	2290
Vehs Exited	2271	2325	2297	2292
Starting Vehs	75	94	65	74
Ending Vehs	80	75	73	74
Travel Distance (mi)	1819	1851	1831	1826
Travel Time (hr)	69.0	71.3	70.4	69.4
Total Delay (hr)	20.1	21.9	21.3	20.5
Total Stops	1724	1802	1772	1720
Fuel Used (gal)	60.1	62.1	61.1	60.7

5: Route 1 & Lang Road Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.8	0.3
Total Del/Veh (s)	13.8	5.3	3.5	5.7

8: Longmeadow Road & Lang Road Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.5	1.1	6.4	2.2

10: Longmeadow Road & Southwesterly Site Drive Performance by approach

Approach	EB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	1.9	3.4	2.5

11: Route 1 & Ocean Road/Longmeadow Road Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.9	0.0	1.2	0.0	1.0
Total Del/Veh (s)	26.7	30.0	26.4	24.9	26.3

13: Northeasterly Site Drive & Lang Road Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.2	0.2
Total Del/Veh (s)	0.6	0.6	0.6

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	30.1

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB
Directions Served	R	TR	L
Maximum Queue (ft)	178	26	98
Average Queue (ft)	66	1	37
95th Queue (ft)	127	12	77
Link Distance (ft)	1032	682	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	22	94
Average Queue (ft)	1	45
95th Queue (ft)	11	75
Link Distance (ft)	582	1032
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	SB
Directions Served	LR
Maximum Queue (ft)	76
Average Queue (ft)	39
95th Queue (ft)	63
Link Distance (ft)	582
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	362	224	167	290	475	161	394
Average Queue (ft)	165	84	76	103	230	22	201
95th Queue (ft)	290	194	136	221	419	89	338
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	5	0		0	3	0	6
Queuing Penalty (veh)	11	0		0	4	0	1

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 16

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	15.0	50.0	30.0	15.0	50.0	30.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	12.1	40.1	24.2	7.0	53.0	24.2
g/C Ratio	-0.01	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	3	0	0	68	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	34	26	34	0	74	34
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary
Average Cycle Length (s): NA

Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	3:55	3:55	3:55	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2587	2423	2545	2503	2529	2650	2552
Vehs Exited	2610	2419	2554	2495	2520	2618	2541
Starting Vehs	96	82	93	77	78	70	69
Ending Vehs	73	86	84	85	87	102	80
Travel Distance (mi)	2134	1974	2112	2042	2066	2134	2079
Travel Time (hr)	86.9	76.4	85.4	81.2	84.3	90.3	84.5
Total Delay (hr)	30.1	23.9	29.5	26.9	29.5	33.3	29.2
Total Stops	2140	1848	2093	2024	2067	2323	2044
Fuel Used (gal)	72.5	66.0	71.2	68.0	69.6	72.9	70.3

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2487	2553	2617	2545
Vehs Exited	2485	2559	2593	2539
Starting Vehs	86	79	79	79
Ending Vehs	88	73	103	85
Travel Distance (mi)	2025	2098	2125	2079
Travel Time (hr)	81.6	87.1	93.0	85.1
Total Delay (hr)	27.7	31.2	36.2	29.7
Total Stops	1979	2156	2419	2109
Fuel Used (gal)	68.2	70.9	73.3	70.3

Interval #0 Information Seeding

Start Time	3:55
End Time	4:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2587	2423	2545	2503	2529	2650	2552
Vehs Exited	2610	2419	2554	2495	2520	2618	2541
Starting Vehs	96	82	93	77	78	70	69
Ending Vehs	73	86	84	85	87	102	80
Travel Distance (mi)	2134	1974	2112	2042	2066	2134	2079
Travel Time (hr)	86.9	76.4	85.4	81.2	84.3	90.3	84.5
Total Delay (hr)	30.1	23.9	29.5	26.9	29.5	33.3	29.2
Total Stops	2140	1848	2093	2024	2067	2323	2044
Fuel Used (gal)	72.5	66.0	71.2	68.0	69.6	72.9	70.3

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2487	2553	2617	2545
Vehs Exited	2485	2559	2593	2539
Starting Vehs	86	79	79	79
Ending Vehs	88	73	103	85
Travel Distance (mi)	2025	2098	2125	2079
Travel Time (hr)	81.6	87.1	93.0	85.1
Total Delay (hr)	27.7	31.2	36.2	29.7
Total Stops	1979	2156	2419	2109
Fuel Used (gal)	68.2	70.9	73.3	70.3

5: Route 1 & Lang Road Performance by lane

Lane	WB	NB	SB	SB	All
Movements Served	R	TR	L	T	
Denied Del/Veh (s)					0.7
Total Del/Veh (s)	14.3	4.4	8.7	6.2	6.5

8: Longmeadow Road & Lang Road Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.7	0.9	7.4	3.1

10: Longmeadow Road & Southwesterly Site Drive Performance by lane

Lane	EB	SB	All
Movements Served	LT	LR	
Denied Del/Veh (s)			0.0
Total Del/Veh (s)	2.5	3.1	2.8

11: Route 1 & Ocean Road/Longmeadow Road Performance by lane

Lane	EB	EB	WB	NB	NB	SB	SB	All
Movements Served	LT	R	LTR	L	TR	L	TR	
Denied Del/Veh (s)								0.8
Total Del/Veh (s)	62.6	18.1	51.1	51.7	17.8	53.6	40.7	36.0

13: Northeasterly Site Drive & Lang Road Performance by lane

Lane	EB	WB	All
Movements Served	TR	LT	
Denied Del/Veh (s)			0.1
Total Del/Veh (s)	0.6	0.5	0.6

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	39.6

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB	SB
Directions Served	R	TR	L	T
Maximum Queue (ft)	167	30	127	112
Average Queue (ft)	68	1	53	13
95th Queue (ft)	125	13	101	107
Link Distance (ft)	1032	682		2056
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)			0	1
Queuing Penalty (veh)			0	1

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	33	2	102
Average Queue (ft)	2	0	52
95th Queue (ft)	15	2	85
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	SB
Directions Served	LR
Maximum Queue (ft)	67
Average Queue (ft)	33
95th Queue (ft)	54
Link Distance (ft)	582
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	390	225	271	253	346	230	656
Average Queue (ft)	173	108	138	115	179	40	400
95th Queue (ft)	319	217	238	205	306	149	634
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)							1
Queuing Penalty (veh)							8
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	8	0			0		28
Queuing Penalty (veh)	17	0			0		6

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 34

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	20.0	62.0	30.0	20.0	62.0	30.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	15.7	60.2	28.5	7.4	74.9	28.5
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	50	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	28	76	66	0	86	66
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary
Average Cycle Length (s): NA

Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	3:55	3:55	3:55	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2587	2423	2545	2503	2529	2650	2552
Vehs Exited	2610	2419	2554	2495	2520	2618	2541
Starting Vehs	96	82	93	77	78	70	69
Ending Vehs	73	86	84	85	87	102	80
Travel Distance (mi)	2134	1974	2112	2042	2066	2134	2079
Travel Time (hr)	86.9	76.4	85.4	81.2	84.3	90.3	84.5
Total Delay (hr)	30.1	23.9	29.5	26.9	29.5	33.3	29.2
Total Stops	2140	1848	2093	2024	2067	2323	2044
Fuel Used (gal)	72.5	66.0	71.2	68.0	69.6	72.9	70.3

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2487	2553	2617	2545
Vehs Exited	2485	2559	2593	2539
Starting Vehs	86	79	79	79
Ending Vehs	88	73	103	85
Travel Distance (mi)	2025	2098	2125	2079
Travel Time (hr)	81.6	87.1	93.0	85.1
Total Delay (hr)	27.7	31.2	36.2	29.7
Total Stops	1979	2156	2419	2109
Fuel Used (gal)	68.2	70.9	73.3	70.3

Interval #0 Information Seeding

Start Time	3:55
End Time	4:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2587	2423	2545	2503	2529	2650	2552
Vehs Exited	2610	2419	2554	2495	2520	2618	2541
Starting Vehs	96	82	93	77	78	70	69
Ending Vehs	73	86	84	85	87	102	80
Travel Distance (mi)	2134	1974	2112	2042	2066	2134	2079
Travel Time (hr)	86.9	76.4	85.4	81.2	84.3	90.3	84.5
Total Delay (hr)	30.1	23.9	29.5	26.9	29.5	33.3	29.2
Total Stops	2140	1848	2093	2024	2067	2323	2044
Fuel Used (gal)	72.5	66.0	71.2	68.0	69.6	72.9	70.3

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2487	2553	2617	2545
Vehs Exited	2485	2559	2593	2539
Starting Vehs	86	79	79	79
Ending Vehs	88	73	103	85
Travel Distance (mi)	2025	2098	2125	2079
Travel Time (hr)	81.6	87.1	93.0	85.1
Total Delay (hr)	27.7	31.2	36.2	29.7
Total Stops	1979	2156	2419	2109
Fuel Used (gal)	68.2	70.9	73.3	70.3

5: Route 1 & Lang Road Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	1.3	0.7
Total Del/Veh (s)	14.3	4.4	6.7	6.5

8: Longmeadow Road & Lang Road Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.7	0.9	7.5	3.1

10: Longmeadow Road & Southwesterly Site Drive Performance by approach

Approach	EB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	2.5	3.1	2.8

11: Route 1 & Ocean Road/Longmeadow Road Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	2.0	0.1	1.2	0.0	0.8
Total Del/Veh (s)	41.7	51.1	24.4	41.1	36.0

13: Northeasterly Site Drive & Lang Road Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.2	0.1
Total Del/Veh (s)	0.6	0.5	0.6

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	39.6

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB	SB
Directions Served	R	TR	L	T
Maximum Queue (ft)	167	30	127	112
Average Queue (ft)	68	1	53	13
95th Queue (ft)	125	13	101	107
Link Distance (ft)	1032	682		2056
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)			0	1
Queuing Penalty (veh)			0	1

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	33	2	102
Average Queue (ft)	2	0	52
95th Queue (ft)	15	2	85
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	SB
Directions Served	LR
Maximum Queue (ft)	67
Average Queue (ft)	33
95th Queue (ft)	54
Link Distance (ft)	582
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	390	225	271	253	346	230	656
Average Queue (ft)	173	108	138	115	179	40	400
95th Queue (ft)	319	217	238	205	306	149	634
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)							1
Queuing Penalty (veh)							8
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	8	0			0		28
Queuing Penalty (veh)	17	0			0		6

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 34

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	20.0	62.0	30.0	20.0	62.0	30.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	15.7	60.2	28.5	7.4	74.9	28.5
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	50	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	28	76	66	0	86	66
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary
Average Cycle Length (s): NA

Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:55	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2542	2519	2437	2507	2501	2561	2574
Vehs Exited	2525	2519	2438	2495	2483	2565	2561
Starting Vehs	84	77	91	85	68	73	65
Ending Vehs	101	77	90	97	86	69	78
Travel Distance (mi)	1976	1982	1901	1945	1966	2012	2010
Travel Time (hr)	81.3	79.1	77.5	79.6	81.1	81.8	85.1
Total Delay (hr)	27.2	25.3	25.5	26.8	27.8	27.3	30.7
Total Stops	2371	2172	2252	2236	2293	2277	2490
Fuel Used (gal)	67.8	67.1	64.9	66.5	67.8	68.4	69.4

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2474	2505	2531	2518
Vehs Exited	2464	2490	2512	2504
Starting Vehs	71	81	81	74
Ending Vehs	81	96	100	82
Travel Distance (mi)	1925	1963	1971	1965
Travel Time (hr)	80.3	79.5	80.0	80.5
Total Delay (hr)	28.2	25.9	26.5	27.1
Total Stops	2293	2327	2306	2302
Fuel Used (gal)	66.3	67.0	67.4	67.3

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2542	2519	2437	2507	2501	2561	2574
Vehs Exited	2525	2519	2438	2495	2483	2565	2561
Starting Vehs	84	77	91	85	68	73	65
Ending Vehs	101	77	90	97	86	69	78
Travel Distance (mi)	1976	1982	1901	1945	1966	2012	2010
Travel Time (hr)	81.3	79.1	77.5	79.6	81.1	81.8	85.1
Total Delay (hr)	27.2	25.3	25.5	26.8	27.8	27.3	30.7
Total Stops	2371	2172	2252	2236	2293	2277	2490
Fuel Used (gal)	67.8	67.1	64.9	66.5	67.8	68.4	69.4

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2474	2505	2531	2518
Vehs Exited	2464	2490	2512	2504
Starting Vehs	71	81	81	74
Ending Vehs	81	96	100	82
Travel Distance (mi)	1925	1963	1971	1965
Travel Time (hr)	80.3	79.5	80.0	80.5
Total Delay (hr)	28.2	25.9	26.5	27.1
Total Stops	2293	2327	2306	2302
Fuel Used (gal)	66.3	67.0	67.4	67.3

5: Route 1 & Lang Road Performance by lane

Lane	WB	NB	SB	SB	All
Movements Served	R	TR	L	T	
Denied Del/Veh (s)					0.3
Total Del/Veh (s)	17.7	5.9	11.8	2.8	7.0

8: Longmeadow Road & Lang Road Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	1.5	1.1	6.8	2.6

10: Longmeadow Road & Southwesterly Site Drive Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	3.7	5.0	3.7	3.9

11: Route 1 & Ocean Road/Longmeadow Road Performance by lane

Lane	EB	EB	WB	NB	NB	SB	SB	All
Movements Served	LT	R	LTR	L	TR	L	TR	
Denied Del/Veh (s)								0.9
Total Del/Veh (s)	41.2	8.7	36.0	52.9	34.4	55.9	27.7	33.1

13: Northeasterly Site Drive & Lang Road Performance by lane

Lane	EB	WB	NB	All
Movements Served	TR	LT	LR	
Denied Del/Veh (s)				0.2
Total Del/Veh (s)	0.6	0.6	5.3	0.9

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	36.7

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB	SB
Directions Served	R	TR	L	T
Maximum Queue (ft)	196	18	112	22
Average Queue (ft)	83	1	46	1
95th Queue (ft)	155	9	90	21
Link Distance (ft)	1032	682		2056
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	49	104
Average Queue (ft)	7	48
95th Queue (ft)	32	81
Link Distance (ft)	582	1032
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	92	63	70
Average Queue (ft)	44	33	41
95th Queue (ft)	72	53	63
Link Distance (ft)	955	352	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	366	225	231	374	672	232	424
Average Queue (ft)	182	92	122	145	335	37	230
95th Queue (ft)	307	210	203	322	601	126	373
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	8	0		0	8		10
Queuing Penalty (veh)	15	0		0	11		2

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	29	42
Average Queue (ft)	2	21
95th Queue (ft)	15	43
Link Distance (ft)	1111	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 28

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	15.0	52.0	45.0	5.0	62.0	45.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	13.1	48.6	34.7	5.3	61.9	34.7
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	52	0	0
Cycles @ Minimum (%)	0	0	0	48	0	0
Cycles Maxed Out (%)	45	52	23	48	71	23
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary
Average Cycle Length (s): NA
Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:55	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2542	2519	2437	2507	2501	2561	2574
Vehs Exited	2525	2519	2438	2495	2483	2565	2561
Starting Vehs	84	77	91	85	68	73	65
Ending Vehs	101	77	90	97	86	69	78
Travel Distance (mi)	1976	1982	1901	1945	1966	2012	2010
Travel Time (hr)	81.3	79.1	77.5	79.6	81.1	81.8	85.1
Total Delay (hr)	27.2	25.3	25.5	26.8	27.8	27.3	30.7
Total Stops	2371	2172	2252	2236	2293	2277	2490
Fuel Used (gal)	67.8	67.1	64.9	66.5	67.8	68.4	69.4

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2474	2505	2531	2518
Vehs Exited	2464	2490	2512	2504
Starting Vehs	71	81	81	74
Ending Vehs	81	96	100	82
Travel Distance (mi)	1925	1963	1971	1965
Travel Time (hr)	80.3	79.5	80.0	80.5
Total Delay (hr)	28.2	25.9	26.5	27.1
Total Stops	2293	2327	2306	2302
Fuel Used (gal)	66.3	67.0	67.4	67.3

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2542	2519	2437	2507	2501	2561	2574
Vehs Exited	2525	2519	2438	2495	2483	2565	2561
Starting Vehs	84	77	91	85	68	73	65
Ending Vehs	101	77	90	97	86	69	78
Travel Distance (mi)	1976	1982	1901	1945	1966	2012	2010
Travel Time (hr)	81.3	79.1	77.5	79.6	81.1	81.8	85.1
Total Delay (hr)	27.2	25.3	25.5	26.8	27.8	27.3	30.7
Total Stops	2371	2172	2252	2236	2293	2277	2490
Fuel Used (gal)	67.8	67.1	64.9	66.5	67.8	68.4	69.4

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2474	2505	2531	2518
Vehs Exited	2464	2490	2512	2504
Starting Vehs	71	81	81	74
Ending Vehs	81	96	100	82
Travel Distance (mi)	1925	1963	1971	1965
Travel Time (hr)	80.3	79.5	80.0	80.5
Total Delay (hr)	28.2	25.9	26.5	27.1
Total Stops	2293	2327	2306	2302
Fuel Used (gal)	66.3	67.0	67.4	67.3

5: Route 1 & Lang Road Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.9	0.3
Total Del/Veh (s)	17.8	5.9	4.4	7.0

8: Longmeadow Road & Lang Road Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.5	1.1	6.8	2.6

10: Longmeadow Road & Southwesterly Site Drive Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0
Total Del/Veh (s)	3.7	5.0	3.8	3.9

11: Route 1 & Ocean Road/Longmeadow Road Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.8	0.0	1.2	0.0	0.9
Total Del/Veh (s)	28.5	36.2	37.2	29.0	33.1

13: Northeasterly Site Drive & Lang Road Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.3	0.1	0.2
Total Del/Veh (s)	0.6	0.6	5.3	0.9

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	36.7

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB	SB
Directions Served	R	TR	L	T
Maximum Queue (ft)	196	18	112	22
Average Queue (ft)	83	1	46	1
95th Queue (ft)	155	9	90	21
Link Distance (ft)	1032	682		2056
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	49	104
Average Queue (ft)	7	48
95th Queue (ft)	32	81
Link Distance (ft)	582	1032
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	92	63	70
Average Queue (ft)	44	33	41
95th Queue (ft)	72	53	63
Link Distance (ft)	955	352	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	366	225	231	374	672	232	424
Average Queue (ft)	182	92	122	145	335	37	230
95th Queue (ft)	307	210	203	322	601	126	373
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	8	0		0	8		10
Queuing Penalty (veh)	15	0		0	11		2

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	29	42
Average Queue (ft)	2	21
95th Queue (ft)	15	43
Link Distance (ft)	1111	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 28

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	15.0	52.0	45.0	5.0	62.0	45.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	13.1	48.6	34.7	5.3	61.9	34.7
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	52	0	0
Cycles @ Minimum (%)	0	0	0	48	0	0
Cycles Maxed Out (%)	45	52	23	48	71	23
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary
Average Cycle Length (s): NA
Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	3:55	3:55	3:55	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2723	2786	2744	2686	2680	2715	2781
Vehs Exited	2726	2776	2696	2690	2665	2713	2777
Starting Vehs	76	89	81	78	93	91	95
Ending Vehs	73	99	129	74	108	93	99
Travel Distance (mi)	2202	2236	2160	2162	2156	2193	2232
Travel Time (hr)	92.8	103.4	100.2	91.6	98.1	96.8	107.8
Total Delay (hr)	33.6	42.9	41.8	33.0	39.8	37.5	47.8
Total Stops	2603	2920	2849	2570	2868	2733	3069
Fuel Used (gal)	75.2	78.8	76.4	73.9	75.3	75.8	79.3

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2753	2765	2785	2739
Vehs Exited	2759	2762	2770	2732
Starting Vehs	90	100	91	88
Ending Vehs	84	103	106	97
Travel Distance (mi)	2207	2211	2224	2198
Travel Time (hr)	105.3	107.0	94.8	99.8
Total Delay (hr)	45.8	47.2	34.4	40.4
Total Stops	3100	3126	2743	2858
Fuel Used (gal)	78.3	78.7	77.0	76.9

Interval #0 Information Seeding

Start Time	3:55
End Time	4:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2723	2786	2744	2686	2680	2715	2781
Vehs Exited	2726	2776	2696	2690	2665	2713	2777
Starting Vehs	76	89	81	78	93	91	95
Ending Vehs	73	99	129	74	108	93	99
Travel Distance (mi)	2202	2236	2160	2162	2156	2193	2232
Travel Time (hr)	92.8	103.4	100.2	91.6	98.1	96.8	107.8
Total Delay (hr)	33.6	42.9	41.8	33.0	39.8	37.5	47.8
Total Stops	2603	2920	2849	2570	2868	2733	3069
Fuel Used (gal)	75.2	78.8	76.4	73.9	75.3	75.8	79.3

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2753	2765	2785	2739
Vehs Exited	2759	2762	2770	2732
Starting Vehs	90	100	91	88
Ending Vehs	84	103	106	97
Travel Distance (mi)	2207	2211	2224	2198
Travel Time (hr)	105.3	107.0	94.8	99.8
Total Delay (hr)	45.8	47.2	34.4	40.4
Total Stops	3100	3126	2743	2858
Fuel Used (gal)	78.3	78.7	77.0	76.9

5: Route 1 & Lang Road Performance by lane

Lane	WB	NB	SB	SB	All
Movements Served	R	TR	L	T	
Denied Del/Veh (s)					0.7
Total Del/Veh (s)	15.9	4.9	9.9	12.9	9.9

8: Longmeadow Road & Lang Road Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	1.6	0.9	8.1	3.7

10: Longmeadow Road & Southwesterly Site Drive Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	6.1	4.8	3.7	5.1

11: Route 1 & Ocean Road/Longmeadow Road Performance by lane

Lane	EB	EB	WB	NB	NB	SB	SB	All
Movements Served	LT	R	LTR	L	TR	L	TR	
Denied Del/Veh (s)								0.8
Total Del/Veh (s)	66.3	18.6	79.0	64.5	22.8	54.6	53.3	46.3

13: Northeasterly Site Drive & Lang Road Performance by lane

Lane	EB	WB	NB	All
Movements Served	TR	LT	LR	
Denied Del/Veh (s)				0.1
Total Del/Veh (s)	0.8	0.7	6.3	0.9

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	50.2

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB	SB
Directions Served	R	TR	L	T
Maximum Queue (ft)	191	21	159	419
Average Queue (ft)	83	1	75	76
95th Queue (ft)	157	10	153	348
Link Distance (ft)	1032	682		2056
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)			0	5
Queuing Penalty (veh)			3	10

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	50	2	123
Average Queue (ft)	8	0	57
95th Queue (ft)	33	2	95
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	107	70	66
Average Queue (ft)	52	32	36
95th Queue (ft)	86	58	55
Link Distance (ft)	955	352	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	461	224	426	330	400	232	690
Average Queue (ft)	201	120	216	132	221	52	476
95th Queue (ft)	395	239	389	250	368	163	750
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)							5
Queuing Penalty (veh)							39
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	13	0			1		35
Queuing Penalty (veh)	26	1			2		11

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	44	35
Average Queue (ft)	4	15
95th Queue (ft)	24	39
Link Distance (ft)	1111	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 91

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	15.0	63.0	34.0	15.0	63.0	34.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	13.9	62.2	32.8	7.6	72.7	32.8
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	32	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	61	82	79	0	93	79
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary
Average Cycle Length (s): NA

Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	3:55	3:55	3:55	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2723	2786	2744	2686	2680	2715	2781
Vehs Exited	2726	2776	2696	2690	2665	2713	2777
Starting Vehs	76	89	81	78	93	91	95
Ending Vehs	73	99	129	74	108	93	99
Travel Distance (mi)	2202	2236	2160	2162	2156	2193	2232
Travel Time (hr)	92.8	103.4	100.2	91.6	98.1	96.8	107.8
Total Delay (hr)	33.6	42.9	41.8	33.0	39.8	37.5	47.8
Total Stops	2603	2920	2849	2570	2868	2733	3069
Fuel Used (gal)	75.2	78.8	76.4	73.9	75.3	75.8	79.3

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2753	2765	2785	2739
Vehs Exited	2759	2762	2770	2732
Starting Vehs	90	100	91	88
Ending Vehs	84	103	106	97
Travel Distance (mi)	2207	2211	2224	2198
Travel Time (hr)	105.3	107.0	94.8	99.8
Total Delay (hr)	45.8	47.2	34.4	40.4
Total Stops	3100	3126	2743	2858
Fuel Used (gal)	78.3	78.7	77.0	76.9

Interval #0 Information Seeding

Start Time	3:55
End Time	4:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2723	2786	2744	2686	2680	2715	2781
Vehs Exited	2726	2776	2696	2690	2665	2713	2777
Starting Vehs	76	89	81	78	93	91	95
Ending Vehs	73	99	129	74	108	93	99
Travel Distance (mi)	2202	2236	2160	2162	2156	2193	2232
Travel Time (hr)	92.8	103.4	100.2	91.6	98.1	96.8	107.8
Total Delay (hr)	33.6	42.9	41.8	33.0	39.8	37.5	47.8
Total Stops	2603	2920	2849	2570	2868	2733	3069
Fuel Used (gal)	75.2	78.8	76.4	73.9	75.3	75.8	79.3

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2753	2765	2785	2739
Vehs Exited	2759	2762	2770	2732
Starting Vehs	90	100	91	88
Ending Vehs	84	103	106	97
Travel Distance (mi)	2207	2211	2224	2198
Travel Time (hr)	105.3	107.0	94.8	99.8
Total Delay (hr)	45.8	47.2	34.4	40.4
Total Stops	3100	3126	2743	2858
Fuel Used (gal)	78.3	78.7	77.0	76.9

5: Route 1 & Lang Road Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	1.4	0.7
Total Del/Veh (s)	15.9	4.9	12.3	9.9

8: Longmeadow Road & Lang Road Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.6	0.9	8.2	3.7

10: Longmeadow Road & Southwesterly Site Drive Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0
Total Del/Veh (s)	6.1	4.8	3.7	5.1

11: Route 1 & Ocean Road/Longmeadow Road Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	2.0	0.3	1.2	0.0	0.8
Total Del/Veh (s)	44.8	78.6	30.5	53.4	46.3

13: Northeasterly Site Drive & Lang Road Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.2	0.1	0.1
Total Del/Veh (s)	0.8	0.7	6.3	0.9

Total Network Performance

Denied Del/Veh (s)	1.2
Total Del/Veh (s)	50.2

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB	SB
Directions Served	R	TR	L	T
Maximum Queue (ft)	191	21	159	419
Average Queue (ft)	83	1	75	76
95th Queue (ft)	157	10	153	348
Link Distance (ft)	1032	682		2056
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)			0	5
Queuing Penalty (veh)			3	10

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	50	2	123
Average Queue (ft)	8	0	57
95th Queue (ft)	33	2	95
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	107	70	66
Average Queue (ft)	52	32	36
95th Queue (ft)	86	58	55
Link Distance (ft)	955	352	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	461	224	426	330	400	232	690
Average Queue (ft)	201	120	216	132	221	52	476
95th Queue (ft)	395	239	389	250	368	163	750
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)							5
Queuing Penalty (veh)							39
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	13	0			1		35
Queuing Penalty (veh)	26	1			2		11

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	44	35
Average Queue (ft)	4	15
95th Queue (ft)	24	39
Link Distance (ft)	1111	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 91

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	15.0	63.0	34.0	15.0	63.0	34.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	13.9	62.2	32.8	7.6	72.7	32.8
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	32	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	61	82	79	0	93	79
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary
Average Cycle Length (s): NA

Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:55	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2481	2504	2466	2443	2474	2498	2550
Vehs Exited	2469	2480	2462	2450	2441	2487	2539
Starting Vehs	79	80	71	80	58	64	73
Ending Vehs	91	104	75	73	91	75	84
Travel Distance (mi)	1935	1964	1930	1911	1945	1952	1986
Travel Time (hr)	76.6	75.5	73.8	74.0	77.6	74.3	77.3
Total Delay (hr)	23.7	22.3	21.3	22.0	25.2	21.3	23.2
Total Stops	2366	2233	2187	2257	2362	2166	2312
Fuel Used (gal)	66.1	66.6	64.9	65.2	66.2	65.2	67.7

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2482	2477	2561	2493
Vehs Exited	2480	2449	2533	2478
Starting Vehs	75	67	72	69
Ending Vehs	77	95	100	82
Travel Distance (mi)	1933	1920	2008	1948
Travel Time (hr)	74.1	73.1	78.7	75.5
Total Delay (hr)	21.5	20.7	24.2	22.5
Total Stops	2205	2202	2344	2261
Fuel Used (gal)	65.5	64.8	68.4	66.1

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2481	2504	2466	2443	2474	2498	2550
Vehs Exited	2469	2480	2462	2450	2441	2487	2539
Starting Vehs	79	80	71	80	58	64	73
Ending Vehs	91	104	75	73	91	75	84
Travel Distance (mi)	1935	1964	1930	1911	1945	1952	1986
Travel Time (hr)	76.6	75.5	73.8	74.0	77.6	74.3	77.3
Total Delay (hr)	23.7	22.3	21.3	22.0	25.2	21.3	23.2
Total Stops	2366	2233	2187	2257	2362	2166	2312
Fuel Used (gal)	66.1	66.6	64.9	65.2	66.2	65.2	67.7

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2482	2477	2561	2493
Vehs Exited	2480	2449	2533	2478
Starting Vehs	75	67	72	69
Ending Vehs	77	95	100	82
Travel Distance (mi)	1933	1920	2008	1948
Travel Time (hr)	74.1	73.1	78.7	75.5
Total Delay (hr)	21.5	20.7	24.2	22.5
Total Stops	2205	2202	2344	2261
Fuel Used (gal)	65.5	64.8	68.4	66.1

5: Route 1 & Lang Road Performance by lane

Lane	WB	NB	SB	SB	SB	All
Movements Served	R	TR	L	T	T	
Denied Del/Veh (s)						0.2
Total Del/Veh (s)	14.4	5.8	10.2	1.8	0.5	5.9

8: Longmeadow Road & Lang Road Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	1.4	1.2	6.7	2.6

10: Longmeadow Road & Southwesterly Site Drive Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	3.7	4.8	3.8	3.9

11: Route 1 & Ocean Road/Longmeadow Road Performance by lane

Lane	EB	EB	WB	NB	NB	SB	SB	SB	All
Movements Served	LT	R	LTR	L	TR	L	T	TR	
Denied Del/Veh (s)									0.9
Total Del/Veh (s)	40.0	3.5	28.0	38.3	31.9	45.5	17.5	17.0	27.3

13: Northeasterly Site Drive & Lang Road Performance by lane

Lane	EB	WB	NB	All
Movements Served	TR	LT	LR	
Denied Del/Veh (s)				0.2
Total Del/Veh (s)	0.6	0.6	5.7	0.9

Total Network Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	30.8

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB
Directions Served	R	TR	L
Maximum Queue (ft)	147	30	104
Average Queue (ft)	74	1	42
95th Queue (ft)	130	16	84
Link Distance (ft)	1032	681	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	55	10	92
Average Queue (ft)	6	1	48
95th Queue (ft)	31	7	79
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	82	58	73
Average Queue (ft)	43	33	41
95th Queue (ft)	68	51	64
Link Distance (ft)	955	352	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	T	TR
Maximum Queue (ft)	397	224	205	357	650	70	179	205
Average Queue (ft)	170	68	105	118	300	21	87	100
95th Queue (ft)	306	179	176	280	543	54	149	169
Link Distance (ft)	849		955		2095		681	681
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		200		350		225		
Storage Blk Time (%)	6	0		0	6		0	
Queuing Penalty (veh)	12	0		0	8		0	

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	24	42
Average Queue (ft)	1	21
95th Queue (ft)	12	44
Link Distance (ft)	1111	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 21

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	18.0	35.0	29.0	5.0	48.0	29.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	12.6	33.9	25.4	6.1	46.3	25.4
g/C Ratio	-0.01	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	5	0	0	58	0	0
Cycles @ Minimum (%)	0	0	0	38	0	0
Cycles Maxed Out (%)	15	45	48	43	73	48
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:55	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2481	2504	2466	2443	2474	2498	2550
Vehs Exited	2469	2480	2462	2450	2441	2487	2539
Starting Vehs	79	80	71	80	58	64	73
Ending Vehs	91	104	75	73	91	75	84
Travel Distance (mi)	1935	1964	1930	1911	1945	1952	1986
Travel Time (hr)	76.6	75.5	73.8	74.0	77.6	74.3	77.3
Total Delay (hr)	23.7	22.3	21.3	22.0	25.2	21.3	23.2
Total Stops	2366	2233	2187	2257	2362	2166	2312
Fuel Used (gal)	66.1	66.6	64.9	65.2	66.2	65.2	67.7

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2482	2477	2561	2493
Vehs Exited	2480	2449	2533	2478
Starting Vehs	75	67	72	69
Ending Vehs	77	95	100	82
Travel Distance (mi)	1933	1920	2008	1948
Travel Time (hr)	74.1	73.1	78.7	75.5
Total Delay (hr)	21.5	20.7	24.2	22.5
Total Stops	2205	2202	2344	2261
Fuel Used (gal)	65.5	64.8	68.4	66.1

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2481	2504	2466	2443	2474	2498	2550
Vehs Exited	2469	2480	2462	2450	2441	2487	2539
Starting Vehs	79	80	71	80	58	64	73
Ending Vehs	91	104	75	73	91	75	84
Travel Distance (mi)	1935	1964	1930	1911	1945	1952	1986
Travel Time (hr)	76.6	75.5	73.8	74.0	77.6	74.3	77.3
Total Delay (hr)	23.7	22.3	21.3	22.0	25.2	21.3	23.2
Total Stops	2366	2233	2187	2257	2362	2166	2312
Fuel Used (gal)	66.1	66.6	64.9	65.2	66.2	65.2	67.7

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2482	2477	2561	2493
Vehs Exited	2480	2449	2533	2478
Starting Vehs	75	67	72	69
Ending Vehs	77	95	100	82
Travel Distance (mi)	1933	1920	2008	1948
Travel Time (hr)	74.1	73.1	78.7	75.5
Total Delay (hr)	21.5	20.7	24.2	22.5
Total Stops	2205	2202	2344	2261
Fuel Used (gal)	65.5	64.8	68.4	66.1

5: Route 1 & Lang Road Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.5	0.2
Total Del/Veh (s)	14.5	5.8	2.8	5.9

8: Longmeadow Road & Lang Road Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.5	1.2	6.7	2.6

10: Longmeadow Road & Southwesterly Site Drive Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0
Total Del/Veh (s)	3.7	4.8	3.8	3.9

11: Route 1 & Ocean Road/Longmeadow Road Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.8	0.0	1.2	0.0	0.9
Total Del/Veh (s)	25.8	28.0	32.9	18.5	27.3

13: Northeasterly Site Drive & Lang Road Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.3	0.1	0.2
Total Del/Veh (s)	0.6	0.6	5.7	0.9

Total Network Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	30.8

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB
Directions Served	R	TR	L
Maximum Queue (ft)	147	30	104
Average Queue (ft)	74	1	42
95th Queue (ft)	130	16	84
Link Distance (ft)	1032	681	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	55	10	92
Average Queue (ft)	6	1	48
95th Queue (ft)	31	7	79
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	82	58	73
Average Queue (ft)	43	33	41
95th Queue (ft)	68	51	64
Link Distance (ft)	955	352	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	T	TR
Maximum Queue (ft)	397	224	205	357	650	70	179	205
Average Queue (ft)	170	68	105	118	300	21	87	100
95th Queue (ft)	306	179	176	280	543	54	149	169
Link Distance (ft)	849		955		2095		681	681
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		200		350		225		
Storage Blk Time (%)	6	0		0	6		0	
Queuing Penalty (veh)	12	0		0	8		0	

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	24	42
Average Queue (ft)	1	21
95th Queue (ft)	12	44
Link Distance (ft)	1111	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 21

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	18.0	35.0	29.0	5.0	48.0	29.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	12.6	33.9	25.4	6.1	46.3	25.4
g/C Ratio	-0.01	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	5	0	0	58	0	0
Cycles @ Minimum (%)	0	0	0	38	0	0
Cycles Maxed Out (%)	15	45	48	43	73	48
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	3:55	3:55	3:55	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2709	2787	2686	2715	2694	2670	2744
Vehs Exited	2736	2799	2685	2726	2692	2675	2734
Starting Vehs	91	90	76	75	79	87	61
Ending Vehs	64	78	77	64	81	82	71
Travel Distance (mi)	2207	2226	2134	2180	2182	2158	2200
Travel Time (hr)	80.6	83.2	77.9	81.9	80.8	81.1	81.5
Total Delay (hr)	21.3	22.9	20.3	22.9	21.6	23.0	22.3
Total Stops	2430	2504	2349	2441	2443	2457	2430
Fuel Used (gal)	73.8	74.6	71.7	73.0	73.3	72.6	73.6

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2790	2762	2766	2731
Vehs Exited	2779	2745	2771	2734
Starting Vehs	73	84	89	77
Ending Vehs	84	101	84	74
Travel Distance (mi)	2222	2219	2206	2193
Travel Time (hr)	83.6	82.8	83.6	81.7
Total Delay (hr)	23.3	22.9	23.6	22.4
Total Stops	2529	2505	2582	2466
Fuel Used (gal)	74.7	75.2	74.9	73.7

Interval #0 Information Seeding

Start Time	3:55
End Time	4:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2709	2787	2686	2715	2694	2670	2744
Vehs Exited	2736	2799	2685	2726	2692	2675	2734
Starting Vehs	91	90	76	75	79	87	61
Ending Vehs	64	78	77	64	81	82	71
Travel Distance (mi)	2207	2226	2134	2180	2182	2158	2200
Travel Time (hr)	80.6	83.2	77.9	81.9	80.8	81.1	81.5
Total Delay (hr)	21.3	22.9	20.3	22.9	21.6	23.0	22.3
Total Stops	2430	2504	2349	2441	2443	2457	2430
Fuel Used (gal)	73.8	74.6	71.7	73.0	73.3	72.6	73.6

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2790	2762	2766	2731
Vehs Exited	2779	2745	2771	2734
Starting Vehs	73	84	89	77
Ending Vehs	84	101	84	74
Travel Distance (mi)	2222	2219	2206	2193
Travel Time (hr)	83.6	82.8	83.6	81.7
Total Delay (hr)	23.3	22.9	23.6	22.4
Total Stops	2529	2505	2582	2466
Fuel Used (gal)	74.7	75.2	74.9	73.7

5: Route 1 & Lang Road Performance by lane

Lane	WB	NB	SB	SB	SB	All
Movements Served	R	TR	L	T	T	
Denied Del/Veh (s)						0.3
Total Del/Veh (s)	14.4	5.1	8.7	3.7	0.9	5.4

8: Longmeadow Road & Lang Road Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	1.5	1.0	8.0	3.7

10: Longmeadow Road & Southwesterly Site Drive Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	5.7	4.8	3.7	4.9

11: Route 1 & Ocean Road/Longmeadow Road Performance by lane

Lane	EB	EB	WB	NB	NB	SB	SB	SB	All
Movements Served	LT	R	LTR	L	TR	L	T	TR	
Denied Del/Veh (s)									0.8
Total Del/Veh (s)	40.0	5.0	28.9	37.1	22.9	43.5	18.9	20.1	23.8

13: Northeasterly Site Drive & Lang Road Performance by lane

Lane	EB	WB	NB	All
Movements Served	TR	LT	LR	
Denied Del/Veh (s)				0.1
Total Del/Veh (s)	0.8	0.7	5.7	0.9

Total Network Performance

Denied Del/Veh (s)	0.9
Total Del/Veh (s)	27.9

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB
Directions Served	R	TR	L
Maximum Queue (ft)	180	15	147
Average Queue (ft)	78	1	58
95th Queue (ft)	146	7	108
Link Distance (ft)	1032	681	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			0
Queuing Penalty (veh)			1

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	48	2	119
Average Queue (ft)	7	0	60
95th Queue (ft)	31	3	98
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	86	68	70
Average Queue (ft)	48	32	37
95th Queue (ft)	74	58	59
Link Distance (ft)	955	352	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	T	TR
Maximum Queue (ft)	270	180	233	288	411	72	218	224
Average Queue (ft)	130	59	120	98	197	28	122	136
95th Queue (ft)	228	144	205	190	331	62	188	203
Link Distance (ft)	849		955		2095		681	681
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		200		350		225		
Storage Blk Time (%)	2	0			1		0	
Queuing Penalty (veh)	5	0			1		0	

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	42	37
Average Queue (ft)	4	15
95th Queue (ft)	24	39
Link Distance (ft)	1111	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 7

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	14.0	32.0	26.0	6.0	40.0	26.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	11.6	31.2	22.7	5.8	42.0	22.7
g/C Ratio	-0.01	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	2	0	0	47	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	40	60	51	21	77	51
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	3:55	3:55	3:55	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2709	2787	2686	2715	2694	2670	2744
Vehs Exited	2736	2799	2685	2726	2692	2675	2734
Starting Vehs	91	90	76	75	79	87	61
Ending Vehs	64	78	77	64	81	82	71
Travel Distance (mi)	2207	2226	2134	2180	2182	2158	2200
Travel Time (hr)	80.6	83.2	77.9	81.9	80.8	81.1	81.5
Total Delay (hr)	21.3	22.9	20.3	22.9	21.6	23.0	22.3
Total Stops	2430	2504	2349	2441	2443	2457	2430
Fuel Used (gal)	73.8	74.6	71.7	73.0	73.3	72.6	73.6

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2790	2762	2766	2731
Vehs Exited	2779	2745	2771	2734
Starting Vehs	73	84	89	77
Ending Vehs	84	101	84	74
Travel Distance (mi)	2222	2219	2206	2193
Travel Time (hr)	83.6	82.8	83.6	81.7
Total Delay (hr)	23.3	22.9	23.6	22.4
Total Stops	2529	2505	2582	2466
Fuel Used (gal)	74.7	75.2	74.9	73.7

Interval #0 Information Seeding

Start Time	3:55
End Time	4:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2709	2787	2686	2715	2694	2670	2744
Vehs Exited	2736	2799	2685	2726	2692	2675	2734
Starting Vehs	91	90	76	75	79	87	61
Ending Vehs	64	78	77	64	81	82	71
Travel Distance (mi)	2207	2226	2134	2180	2182	2158	2200
Travel Time (hr)	80.6	83.2	77.9	81.9	80.8	81.1	81.5
Total Delay (hr)	21.3	22.9	20.3	22.9	21.6	23.0	22.3
Total Stops	2430	2504	2349	2441	2443	2457	2430
Fuel Used (gal)	73.8	74.6	71.7	73.0	73.3	72.6	73.6

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2790	2762	2766	2731
Vehs Exited	2779	2745	2771	2734
Starting Vehs	73	84	89	77
Ending Vehs	84	101	84	74
Travel Distance (mi)	2222	2219	2206	2193
Travel Time (hr)	83.6	82.8	83.6	81.7
Total Delay (hr)	23.3	22.9	23.6	22.4
Total Stops	2529	2505	2582	2466
Fuel Used (gal)	74.7	75.2	74.9	73.7

5: Route 1 & Lang Road Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.5	0.3
Total Del/Veh (s)	14.4	5.1	3.6	5.4

8: Longmeadow Road & Lang Road Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.5	1.0	8.1	3.7

10: Longmeadow Road & Southwesterly Site Drive Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0
Total Del/Veh (s)	5.7	4.8	3.7	4.9

11: Route 1 & Ocean Road/Longmeadow Road Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	2.0	0.1	1.1	0.0	0.8
Total Del/Veh (s)	24.0	29.1	25.6	20.4	23.8

13: Northeasterly Site Drive & Lang Road Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.2	0.1	0.1
Total Del/Veh (s)	0.8	0.7	6.0	0.9

Total Network Performance

Denied Del/Veh (s)	0.9
Total Del/Veh (s)	27.9

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB
Directions Served	R	TR	L
Maximum Queue (ft)	180	15	147
Average Queue (ft)	78	1	58
95th Queue (ft)	146	7	108
Link Distance (ft)	1032	681	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			0
Queuing Penalty (veh)			1

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	48	2	119
Average Queue (ft)	7	0	60
95th Queue (ft)	31	3	98
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	86	68	70
Average Queue (ft)	48	32	37
95th Queue (ft)	74	58	59
Link Distance (ft)	955	352	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	T	TR
Maximum Queue (ft)	270	180	233	288	411	72	218	224
Average Queue (ft)	130	59	120	98	197	28	122	136
95th Queue (ft)	228	144	205	190	331	62	188	203
Link Distance (ft)	849		955		2095		681	681
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		200		350		225		
Storage Blk Time (%)	2	0			1		0	
Queuing Penalty (veh)	5	0			1		0	

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	42	37
Average Queue (ft)	4	15
95th Queue (ft)	24	39
Link Distance (ft)	1111	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 7

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	14.0	32.0	26.0	6.0	40.0	26.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	11.6	31.2	22.7	5.8	42.0	22.7
g/C Ratio	-0.01	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	2	0	0	47	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	40	60	51	21	77	51
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:55	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2492	2583	2442	2539	2514	2579	2601
Vehs Exited	2490	2590	2441	2542	2514	2567	2582
Starting Vehs	79	100	82	80	83	71	71
Ending Vehs	81	93	83	77	83	83	90
Travel Distance (mi)	1965	2067	1947	2030	2004	2040	2043
Travel Time (hr)	78.0	85.1	77.6	79.7	78.7	87.2	86.7
Total Delay (hr)	25.3	29.8	25.5	25.6	25.4	32.3	31.5
Total Stops	1944	2227	2018	1970	1903	2351	2234
Fuel Used (gal)	66.4	70.2	65.4	67.7	67.1	70.2	69.5

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2547	2495	2493	2527
Vehs Exited	2534	2519	2484	2526
Starting Vehs	85	103	71	82
Ending Vehs	98	79	80	84
Travel Distance (mi)	2034	1986	1994	2011
Travel Time (hr)	81.5	78.6	82.2	81.5
Total Delay (hr)	27.0	25.1	28.9	27.6
Total Stops	2041	1968	2197	2082
Fuel Used (gal)	68.2	67.4	68.0	68.0

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2492	2583	2442	2539	2514	2579	2601
Vehs Exited	2490	2590	2441	2542	2514	2567	2582
Starting Vehs	79	100	82	80	83	71	71
Ending Vehs	81	93	83	77	83	83	90
Travel Distance (mi)	1965	2067	1947	2030	2004	2040	2043
Travel Time (hr)	78.0	85.1	77.6	79.7	78.7	87.2	86.7
Total Delay (hr)	25.3	29.8	25.5	25.6	25.4	32.3	31.5
Total Stops	1944	2227	2018	1970	1903	2351	2234
Fuel Used (gal)	66.4	70.2	65.4	67.7	67.1	70.2	69.5

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2547	2495	2493	2527
Vehs Exited	2534	2519	2484	2526
Starting Vehs	85	103	71	82
Ending Vehs	98	79	80	84
Travel Distance (mi)	2034	1986	1994	2011
Travel Time (hr)	81.5	78.6	82.2	81.5
Total Delay (hr)	27.0	25.1	28.9	27.6
Total Stops	2041	1968	2197	2082
Fuel Used (gal)	68.2	67.4	68.0	68.0

5: Route 1 & Lang Road Performance by lane

Lane	WB	NB	SB	SB	All
Movements Served	R	TR	L	T	
Denied Del/Veh (s)					0.3
Total Del/Veh (s)	18.6	5.8	12.8	2.7	6.8

8: Longmeadow Road & Lang Road Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.5	1.2	7.0	2.4

10: Longmeadow Road & Southwesterly Site Drive Performance by lane

Lane	EB	SB	All
Movements Served	LT	LR	
Denied Del/Veh (s)			0.0
Total Del/Veh (s)	1.9	3.5	2.5

11: Route 1 & Ocean Road/Longmeadow Road Performance by lane

Lane	EB	EB	WB	NB	NB	SB	SB	All
Movements Served	LT	R	LTR	L	TR	L	TR	
Denied Del/Veh (s)								1.0
Total Del/Veh (s)	51.3	8.4	32.7	46.7	33.9	48.8	26.4	33.2

13: Northeasterly Site Drive & Lang Road Performance by lane

Lane	EB	WB	All
Movements Served	TR	LT	
Denied Del/Veh (s)			0.2
Total Del/Veh (s)	0.6	0.7	0.6

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	37.0

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB
Directions Served	R	TR	L
Maximum Queue (ft)	186	23	111
Average Queue (ft)	80	1	43
95th Queue (ft)	150	10	86
Link Distance (ft)	1032	682	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	20	4	113
Average Queue (ft)	1	0	45
95th Queue (ft)	11	3	81
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	SB
Directions Served	LR
Maximum Queue (ft)	80
Average Queue (ft)	41
95th Queue (ft)	65
Link Distance (ft)	582
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	494	225	192	374	692	106	419
Average Queue (ft)	222	115	88	141	328	21	229
95th Queue (ft)	424	251	162	315	640	66	366
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	13	0		0	8		10
Queuing Penalty (veh)	28	0		0	13		2

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 43

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	15.0	50.0	30.0	15.0	50.0	30.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	12.8	43.7	27.2	6.9	56.5	27.2
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	60	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	49	37	60	0	89	60
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary
Average Cycle Length (s): NA

Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:55	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2492	2583	2442	2539	2514	2579	2601
Vehs Exited	2490	2590	2441	2542	2514	2567	2582
Starting Vehs	79	100	82	80	83	71	71
Ending Vehs	81	93	83	77	83	83	90
Travel Distance (mi)	1965	2067	1947	2030	2004	2040	2043
Travel Time (hr)	78.0	85.1	77.6	79.7	78.7	87.2	86.7
Total Delay (hr)	25.3	29.8	25.5	25.6	25.4	32.3	31.5
Total Stops	1944	2227	2018	1970	1903	2351	2234
Fuel Used (gal)	66.4	70.2	65.4	67.7	67.1	70.2	69.5

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2547	2495	2493	2527
Vehs Exited	2534	2519	2484	2526
Starting Vehs	85	103	71	82
Ending Vehs	98	79	80	84
Travel Distance (mi)	2034	1986	1994	2011
Travel Time (hr)	81.5	78.6	82.2	81.5
Total Delay (hr)	27.0	25.1	28.9	27.6
Total Stops	2041	1968	2197	2082
Fuel Used (gal)	68.2	67.4	68.0	68.0

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2492	2583	2442	2539	2514	2579	2601
Vehs Exited	2490	2590	2441	2542	2514	2567	2582
Starting Vehs	79	100	82	80	83	71	71
Ending Vehs	81	93	83	77	83	83	90
Travel Distance (mi)	1965	2067	1947	2030	2004	2040	2043
Travel Time (hr)	78.0	85.1	77.6	79.7	78.7	87.2	86.7
Total Delay (hr)	25.3	29.8	25.5	25.6	25.4	32.3	31.5
Total Stops	1944	2227	2018	1970	1903	2351	2234
Fuel Used (gal)	66.4	70.2	65.4	67.7	67.1	70.2	69.5

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2547	2495	2493	2527
Vehs Exited	2534	2519	2484	2526
Starting Vehs	85	103	71	82
Ending Vehs	98	79	80	84
Travel Distance (mi)	2034	1986	1994	2011
Travel Time (hr)	81.5	78.6	82.2	81.5
Total Delay (hr)	27.0	25.1	28.9	27.6
Total Stops	2041	1968	2197	2082
Fuel Used (gal)	68.2	67.4	68.0	68.0

5: Route 1 & Lang Road Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.8	0.3
Total Del/Veh (s)	18.6	5.8	4.1	6.8

8: Longmeadow Road & Lang Road Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.5	1.2	7.1	2.4

10: Longmeadow Road & Southwesterly Site Drive Performance by approach

Approach	EB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	1.9	3.5	2.5

11: Route 1 & Ocean Road/Longmeadow Road Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.9	0.0	1.3	0.0	1.0
Total Del/Veh (s)	34.6	32.9	35.8	27.3	33.2

13: Northeasterly Site Drive & Lang Road Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.3	0.2
Total Del/Veh (s)	0.6	0.7	0.6

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	37.0

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB
Directions Served	R	TR	L
Maximum Queue (ft)	186	23	111
Average Queue (ft)	80	1	43
95th Queue (ft)	150	10	86
Link Distance (ft)	1032	682	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	20	4	113
Average Queue (ft)	1	0	45
95th Queue (ft)	11	3	81
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	SB
Directions Served	LR
Maximum Queue (ft)	80
Average Queue (ft)	41
95th Queue (ft)	65
Link Distance (ft)	582
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	494	225	192	374	692	106	419
Average Queue (ft)	222	115	88	141	328	21	229
95th Queue (ft)	424	251	162	315	640	66	366
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	13	0		0	8		10
Queuing Penalty (veh)	28	0		0	13		2

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 43

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	15.0	50.0	30.0	15.0	50.0	30.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	12.8	43.7	27.2	6.9	56.5	27.2
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	60	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	49	37	60	0	89	60
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary
Average Cycle Length (s): NA

Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	3:55	3:55	3:55	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2723	2807	2783	2788	2754	2768	2821
Vehs Exited	2727	2730	2766	2695	2735	2718	2772
Starting Vehs	94	90	97	88	101	78	93
Ending Vehs	90	167	114	181	120	128	142
Travel Distance (mi)	2220	2257	2273	2219	2244	2244	2262
Travel Time (hr)	91.8	139.0	100.0	134.2	102.3	117.8	137.1
Total Delay (hr)	32.8	78.9	39.7	74.7	42.7	58.0	76.7
Total Stops	2225	4136	2496	3588	2516	3194	3949
Fuel Used (gal)	75.3	87.2	77.8	84.9	78.2	81.5	87.4

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2768	2744	2861	2781
Vehs Exited	2702	2682	2799	2734
Starting Vehs	85	110	107	91
Ending Vehs	151	172	169	146
Travel Distance (mi)	2247	2183	2312	2246
Travel Time (hr)	114.9	147.1	133.0	121.7
Total Delay (hr)	55.1	88.7	71.3	61.9
Total Stops	3140	4183	3890	3333
Fuel Used (gal)	80.2	87.7	87.0	82.7

Interval #0 Information Seeding

Start Time	3:55
End Time	4:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2723	2807	2783	2788	2754	2768	2821
Vehs Exited	2727	2730	2766	2695	2735	2718	2772
Starting Vehs	94	90	97	88	101	78	93
Ending Vehs	90	167	114	181	120	128	142
Travel Distance (mi)	2220	2257	2273	2219	2244	2244	2262
Travel Time (hr)	91.8	139.0	100.0	134.2	102.3	117.8	137.1
Total Delay (hr)	32.8	78.9	39.7	74.7	42.7	58.0	76.7
Total Stops	2225	4136	2496	3588	2516	3194	3949
Fuel Used (gal)	75.3	87.2	77.8	84.9	78.2	81.5	87.4

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2768	2744	2861	2781
Vehs Exited	2702	2682	2799	2734
Starting Vehs	85	110	107	91
Ending Vehs	151	172	169	146
Travel Distance (mi)	2247	2183	2312	2246
Travel Time (hr)	114.9	147.1	133.0	121.7
Total Delay (hr)	55.1	88.7	71.3	61.9
Total Stops	3140	4183	3890	3333
Fuel Used (gal)	80.2	87.7	87.0	82.7

5: Route 1 & Lang Road Performance by lane

Lane	WB	NB	SB	SB	All
Movements Served	R	TR	L	T	
Denied Del/Veh (s)					1.0
Total Del/Veh (s)	19.4	4.8	10.6	70.2	34.6

8: Longmeadow Road & Lang Road Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	0.9	1.0	8.6	3.5

10: Longmeadow Road & Southwesterly Site Drive Performance by lane

Lane	EB	SB	All
Movements Served	LT	LR	
Denied Del/Veh (s)			0.0
Total Del/Veh (s)	2.8	3.2	3.0

11: Route 1 & Ocean Road/Longmeadow Road Performance by lane

Lane	EB	EB	WB	NB	NB	SB	SB	All
Movements Served	LT	R	LTR	L	TR	L	TR	
Denied Del/Veh (s)								1.3
Total Del/Veh (s)	107.1	18.6	87.5	54.1	20.0	54.1	71.4	55.0

13: Northeasterly Site Drive & Lang Road Performance by lane

Lane	EB	WB	All
Movements Served	TR	LT	
Denied Del/Veh (s)			0.1
Total Del/Veh (s)	0.7	0.6	0.6

Total Network Performance

Denied Del/Veh (s)	1.9
Total Del/Veh (s)	75.5

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB	SB
Directions Served	R	TR	L	T
Maximum Queue (ft)	192	14	173	1283
Average Queue (ft)	89	1	102	570
95th Queue (ft)	159	8	202	1664
Link Distance (ft)	1032	682		2056
Upstream Blk Time (%)				2
Queuing Penalty (veh)				0
Storage Bay Dist (ft)			150	
Storage Blk Time (%)			0	23
Queuing Penalty (veh)			2	43

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	42	2	134
Average Queue (ft)	3	0	59
95th Queue (ft)	20	2	100
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	SB
Directions Served	LR
Maximum Queue (ft)	63
Average Queue (ft)	35
95th Queue (ft)	56
Link Distance (ft)	582
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	678	225	424	286	412	234	688
Average Queue (ft)	275	143	195	124	206	47	588
95th Queue (ft)	609	265	389	219	351	166	816
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)	2						16
Queuing Penalty (veh)	0						144
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	23	1			1	0	45
Queuing Penalty (veh)	50	1			1	0	11

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 252

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	20.0	62.0	30.0	20.0	62.0	30.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	17.1	61.8	29.9	7.5	77.2	29.9
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	46	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	43	93	89	0	96	89
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	3:55	3:55	3:55	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2723	2807	2783	2788	2754	2768	2821
Vehs Exited	2727	2730	2766	2695	2735	2718	2772
Starting Vehs	94	90	97	88	101	78	93
Ending Vehs	90	167	114	181	120	128	142
Travel Distance (mi)	2220	2257	2273	2219	2244	2244	2262
Travel Time (hr)	91.8	139.0	100.0	134.2	102.3	117.8	137.1
Total Delay (hr)	32.8	78.9	39.7	74.7	42.7	58.0	76.7
Total Stops	2225	4136	2496	3588	2516	3194	3949
Fuel Used (gal)	75.3	87.2	77.8	84.9	78.2	81.5	87.4

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2768	2744	2861	2781
Vehs Exited	2702	2682	2799	2734
Starting Vehs	85	110	107	91
Ending Vehs	151	172	169	146
Travel Distance (mi)	2247	2183	2312	2246
Travel Time (hr)	114.9	147.1	133.0	121.7
Total Delay (hr)	55.1	88.7	71.3	61.9
Total Stops	3140	4183	3890	3333
Fuel Used (gal)	80.2	87.7	87.0	82.7

Interval #0 Information Seeding

Start Time	3:55
End Time	4:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2723	2807	2783	2788	2754	2768	2821
Vehs Exited	2727	2730	2766	2695	2735	2718	2772
Starting Vehs	94	90	97	88	101	78	93
Ending Vehs	90	167	114	181	120	128	142
Travel Distance (mi)	2220	2257	2273	2219	2244	2244	2262
Travel Time (hr)	91.8	139.0	100.0	134.2	102.3	117.8	137.1
Total Delay (hr)	32.8	78.9	39.7	74.7	42.7	58.0	76.7
Total Stops	2225	4136	2496	3588	2516	3194	3949
Fuel Used (gal)	75.3	87.2	77.8	84.9	78.2	81.5	87.4

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2768	2744	2861	2781
Vehs Exited	2702	2682	2799	2734
Starting Vehs	85	110	107	91
Ending Vehs	151	172	169	146
Travel Distance (mi)	2247	2183	2312	2246
Travel Time (hr)	114.9	147.1	133.0	121.7
Total Delay (hr)	55.1	88.7	71.3	61.9
Total Stops	3140	4183	3890	3333
Fuel Used (gal)	80.2	87.7	87.0	82.7

5: Route 1 & Lang Road Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	1.9	1.0
Total Del/Veh (s)	19.4	4.8	60.3	34.6

8: Longmeadow Road & Lang Road Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.9	1.0	8.6	3.5

10: Longmeadow Road & Southwesterly Site Drive Performance by approach

Approach	EB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	2.8	3.2	3.0

11: Route 1 & Ocean Road/Longmeadow Road Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	4.2	0.8	1.2	0.0	1.3
Total Del/Veh (s)	64.8	87.5	26.4	70.9	55.0

13: Northeasterly Site Drive & Lang Road Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.3	0.1
Total Del/Veh (s)	0.7	0.6	0.6

Total Network Performance

Denied Del/Veh (s)	1.9
Total Del/Veh (s)	75.5

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB	SB
Directions Served	R	TR	L	T
Maximum Queue (ft)	192	14	173	1283
Average Queue (ft)	89	1	102	570
95th Queue (ft)	159	8	202	1664
Link Distance (ft)	1032	682		2056
Upstream Blk Time (%)				2
Queuing Penalty (veh)				0
Storage Bay Dist (ft)			150	
Storage Blk Time (%)			0	23
Queuing Penalty (veh)			2	43

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	42	2	134
Average Queue (ft)	3	0	59
95th Queue (ft)	20	2	100
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	SB
Directions Served	LR
Maximum Queue (ft)	63
Average Queue (ft)	35
95th Queue (ft)	56
Link Distance (ft)	582
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	678	225	424	286	412	234	688
Average Queue (ft)	275	143	195	124	206	47	588
95th Queue (ft)	609	265	389	219	351	166	816
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)	2						16
Queuing Penalty (veh)	0						144
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	23	1			1	0	45
Queuing Penalty (veh)	50	1			1	0	11

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 252

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	20.0	62.0	30.0	20.0	62.0	30.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	17.1	61.8	29.9	7.5	77.2	29.9
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	46	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	43	93	89	0	96	89
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:55	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2751	2781	2686	2687	2699	2803	2742
Vehs Exited	2742	2761	2662	2650	2652	2779	2732
Starting Vehs	103	87	80	87	84	82	89
Ending Vehs	112	107	104	124	131	106	99
Travel Distance (mi)	2139	2178	2087	2077	2082	2195	2143
Travel Time (hr)	97.0	99.0	91.8	94.3	93.2	101.5	107.4
Total Delay (hr)	38.6	39.8	34.3	37.7	36.2	41.7	49.2
Total Stops	2877	2856	2630	2722	2798	2966	3244
Fuel Used (gal)	75.4	76.8	72.6	73.2	72.7	77.2	78.6

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2755	2748	2710	2735
Vehs Exited	2742	2714	2705	2714
Starting Vehs	95	78	87	84
Ending Vehs	108	112	92	108
Travel Distance (mi)	2156	2143	2104	2130
Travel Time (hr)	99.7	101.7	92.2	97.8
Total Delay (hr)	41.2	43.1	35.1	39.7
Total Stops	2856	3031	2566	2852
Fuel Used (gal)	76.5	76.9	72.6	75.3

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2751	2781	2686	2687	2699	2803	2742
Vehs Exited	2742	2761	2662	2650	2652	2779	2732
Starting Vehs	103	87	80	87	84	82	89
Ending Vehs	112	107	104	124	131	106	99
Travel Distance (mi)	2139	2178	2087	2077	2082	2195	2143
Travel Time (hr)	97.0	99.0	91.8	94.3	93.2	101.5	107.4
Total Delay (hr)	38.6	39.8	34.3	37.7	36.2	41.7	49.2
Total Stops	2877	2856	2630	2722	2798	2966	3244
Fuel Used (gal)	75.4	76.8	72.6	73.2	72.7	77.2	78.6

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2755	2748	2710	2735
Vehs Exited	2742	2714	2705	2714
Starting Vehs	95	78	87	84
Ending Vehs	108	112	92	108
Travel Distance (mi)	2156	2143	2104	2130
Travel Time (hr)	99.7	101.7	92.2	97.8
Total Delay (hr)	41.2	43.1	35.1	39.7
Total Stops	2856	3031	2566	2852
Fuel Used (gal)	76.5	76.9	72.6	75.3

5: Route 1 & Lang Road Performance by lane

Lane	WB	NB	SB	SB	All
Movements Served	R	TR	L	T	
Denied Del/Veh (s)					0.3
Total Del/Veh (s)	24.1	6.4	14.6	3.4	8.6

8: Longmeadow Road & Lang Road Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	1.5	1.3	7.4	2.8

10: Longmeadow Road & Southwesterly Site Drive Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	3.8	5.1	3.9	4.0

11: Route 1 & Ocean Road/Longmeadow Road Performance by lane

Lane	EB	EB	WB	NB	NB	SB	SB	All
Movements Served	LT	R	LTR	L	TR	L	TR	
Denied Del/Veh (s)								1.0
Total Del/Veh (s)	51.2	10.2	42.7	63.4	59.1	63.1	36.5	47.1

13: Northeasterly Site Drive & Lang Road Performance by lane

Lane	EB	WB	NB	All
Movements Served	TR	LT	LR	
Denied Del/Veh (s)				0.2
Total Del/Veh (s)	0.7	0.7	5.7	1.0

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	49.6

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB	SB
Directions Served	R	TR	L	T
Maximum Queue (ft)	215	29	129	47
Average Queue (ft)	104	1	53	2
95th Queue (ft)	189	15	103	33
Link Distance (ft)	1032	682		2056
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)			0	0
Queuing Penalty (veh)			1	0

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	66	4	113
Average Queue (ft)	9	0	53
95th Queue (ft)	39	3	91
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	94	63	84
Average Queue (ft)	45	32	42
95th Queue (ft)	73	55	68
Link Distance (ft)	955	352	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	554	225	298	375	1067	249	555
Average Queue (ft)	246	131	148	205	541	49	297
95th Queue (ft)	439	267	255	414	1049	162	488
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)							0
Queuing Penalty (veh)							0
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	15	0		0	22		18
Queuing Penalty (veh)	33	1		1	34		5

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	30	48
Average Queue (ft)	2	22
95th Queue (ft)	16	44
Link Distance (ft)	1111	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 74

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	15.0	52.0	45.0	5.0	62.0	45.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	13.9	51.1	39.5	5.2	63.9	39.5
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	41	0	0
Cycles @ Minimum (%)	0	0	0	59	0	0
Cycles Maxed Out (%)	62	72	45	59	93	45
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:55	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2751	2781	2686	2687	2699	2803	2742
Vehs Exited	2742	2761	2662	2650	2652	2779	2732
Starting Vehs	103	87	80	87	84	82	89
Ending Vehs	112	107	104	124	131	106	99
Travel Distance (mi)	2139	2178	2087	2077	2082	2195	2143
Travel Time (hr)	97.0	99.0	91.8	94.3	93.2	101.5	107.4
Total Delay (hr)	38.6	39.8	34.3	37.7	36.2	41.7	49.2
Total Stops	2877	2856	2630	2722	2798	2966	3244
Fuel Used (gal)	75.4	76.8	72.6	73.2	72.7	77.2	78.6

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2755	2748	2710	2735
Vehs Exited	2742	2714	2705	2714
Starting Vehs	95	78	87	84
Ending Vehs	108	112	92	108
Travel Distance (mi)	2156	2143	2104	2130
Travel Time (hr)	99.7	101.7	92.2	97.8
Total Delay (hr)	41.2	43.1	35.1	39.7
Total Stops	2856	3031	2566	2852
Fuel Used (gal)	76.5	76.9	72.6	75.3

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2751	2781	2686	2687	2699	2803	2742
Vehs Exited	2742	2761	2662	2650	2652	2779	2732
Starting Vehs	103	87	80	87	84	82	89
Ending Vehs	112	107	104	124	131	106	99
Travel Distance (mi)	2139	2178	2087	2077	2082	2195	2143
Travel Time (hr)	97.0	99.0	91.8	94.3	93.2	101.5	107.4
Total Delay (hr)	38.6	39.8	34.3	37.7	36.2	41.7	49.2
Total Stops	2877	2856	2630	2722	2798	2966	3244
Fuel Used (gal)	75.4	76.8	72.6	73.2	72.7	77.2	78.6

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2755	2748	2710	2735
Vehs Exited	2742	2714	2705	2714
Starting Vehs	95	78	87	84
Ending Vehs	108	112	92	108
Travel Distance (mi)	2156	2143	2104	2130
Travel Time (hr)	99.7	101.7	92.2	97.8
Total Delay (hr)	41.2	43.1	35.1	39.7
Total Stops	2856	3031	2566	2852
Fuel Used (gal)	76.5	76.9	72.6	75.3

5: Route 1 & Lang Road Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.9	0.3
Total Del/Veh (s)	24.1	6.4	5.2	8.6

8: Longmeadow Road & Lang Road Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.5	1.3	7.4	2.8

10: Longmeadow Road & Southwesterly Site Drive Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.2	0.0	0.0
Total Del/Veh (s)	3.8	5.1	3.9	4.0

11: Route 1 & Ocean Road/Longmeadow Road Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.9	0.0	1.3	0.0	1.0
Total Del/Veh (s)	35.5	42.7	59.7	37.7	47.1

13: Northeasterly Site Drive & Lang Road Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.3	0.1	0.2
Total Del/Veh (s)	0.7	0.7	5.9	1.0

Total Network Performance

Denied Del/Veh (s)	1.1
Total Del/Veh (s)	49.6

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB	SB
Directions Served	R	TR	L	T
Maximum Queue (ft)	215	29	129	47
Average Queue (ft)	104	1	53	2
95th Queue (ft)	189	15	103	33
Link Distance (ft)	1032	682		2056
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)			0	0
Queuing Penalty (veh)			1	0

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	66	4	113
Average Queue (ft)	9	0	53
95th Queue (ft)	39	3	91
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	94	63	84
Average Queue (ft)	45	32	42
95th Queue (ft)	73	55	68
Link Distance (ft)	955	352	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	554	225	298	375	1067	249	555
Average Queue (ft)	246	131	148	205	541	49	297
95th Queue (ft)	439	267	255	414	1049	162	488
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)							0
Queuing Penalty (veh)							0
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	15	0		0	22		18
Queuing Penalty (veh)	33	1		1	34		5

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	30	48
Average Queue (ft)	2	22
95th Queue (ft)	16	44
Link Distance (ft)	1111	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 74

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	15.0	52.0	45.0	5.0	62.0	45.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	13.9	51.1	39.5	5.2	63.9	39.5
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	41	0	0
Cycles @ Minimum (%)	0	0	0	59	0	0
Cycles Maxed Out (%)	62	72	45	59	93	45
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	3:55	3:55	3:55	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2987	2963	2893	3020	2996	2992	3041
Vehs Exited	2917	2892	2855	2916	2903	2914	2958
Starting Vehs	95	108	86	86	83	90	114
Ending Vehs	165	179	124	190	176	168	197
Travel Distance (mi)	2389	2337	2299	2366	2351	2357	2389
Travel Time (hr)	139.8	161.8	112.4	138.4	161.5	157.7	164.0
Total Delay (hr)	75.1	99.3	50.7	74.6	98.0	93.9	99.6
Total Stops	4313	4456	3226	4268	4271	4753	4808
Fuel Used (gal)	90.3	95.1	82.1	89.8	95.0	94.5	97.3

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	3024	2957	2987	2987
Vehs Exited	2939	2901	2912	2912
Starting Vehs	114	93	106	93
Ending Vehs	199	149	181	169
Travel Distance (mi)	2375	2353	2354	2357
Travel Time (hr)	187.8	138.7	160.6	152.3
Total Delay (hr)	123.2	75.0	97.3	88.7
Total Stops	5070	4424	4402	4398
Fuel Used (gal)	102.5	89.2	95.0	93.1

Interval #0 Information Seeding

Start Time	3:55
End Time	4:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2987	2963	2893	3020	2996	2992	3041
Vehs Exited	2917	2892	2855	2916	2903	2914	2958
Starting Vehs	95	108	86	86	83	90	114
Ending Vehs	165	179	124	190	176	168	197
Travel Distance (mi)	2389	2337	2299	2366	2351	2357	2389
Travel Time (hr)	139.8	161.8	112.4	138.4	161.5	157.7	164.0
Total Delay (hr)	75.1	99.3	50.7	74.6	98.0	93.9	99.6
Total Stops	4313	4456	3226	4268	4271	4753	4808
Fuel Used (gal)	90.3	95.1	82.1	89.8	95.0	94.5	97.3

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	3024	2957	2987	2987
Vehs Exited	2939	2901	2912	2912
Starting Vehs	114	93	106	93
Ending Vehs	199	149	181	169
Travel Distance (mi)	2375	2353	2354	2357
Travel Time (hr)	187.8	138.7	160.6	152.3
Total Delay (hr)	123.2	75.0	97.3	88.7
Total Stops	5070	4424	4402	4398
Fuel Used (gal)	102.5	89.2	95.0	93.1

5: Route 1 & Lang Road Performance by lane

Lane	WB	NB	SB	SB	All
Movements Served	R	TR	L	T	
Denied Del/Veh (s)					8.1
Total Del/Veh (s)	24.3	5.5	11.3	117.4	54.2

8: Longmeadow Road & Lang Road Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	1.9	1.0	9.9	4.4

10: Longmeadow Road & Southwesterly Site Drive Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	6.0	4.8	3.7	5.1

11: Route 1 & Ocean Road/Longmeadow Road Performance by lane

Lane	EB	EB	WB	NB	NB	SB	SB	All
Movements Served	LT	R	LTR	L	TR	L	TR	
Denied Del/Veh (s)								1.4
Total Del/Veh (s)	105.6	19.6	104.3	64.1	27.0	56.0	87.2	65.1

13: Northeasterly Site Drive & Lang Road Performance by lane

Lane	EB	WB	NB	All
Movements Served	TR	LT	LR	
Denied Del/Veh (s)				0.1
Total Del/Veh (s)	0.8	0.7	5.9	0.9

Total Network Performance

Denied Del/Veh (s)	7.1
Total Del/Veh (s)	96.7

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB	SB
Directions Served	R	TR	L	T
Maximum Queue (ft)	250	23	175	1824
Average Queue (ft)	104	1	132	991
95th Queue (ft)	200	12	225	2279
Link Distance (ft)	1032	682		2056
Upstream Blk Time (%)				14
Queuing Penalty (veh)				0
Storage Bay Dist (ft)			150	
Storage Blk Time (%)			1	34
Queuing Penalty (veh)			5	74

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	67	10	149
Average Queue (ft)	10	1	70
95th Queue (ft)	41	6	124
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	100	66	70
Average Queue (ft)	51	31	38
95th Queue (ft)	83	56	59
Link Distance (ft)	955	352	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	680	225	517	343	553	250	700
Average Queue (ft)	294	152	268	159	272	56	663
95th Queue (ft)	616	271	519	289	467	180	786
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)	1						24
Queuing Penalty (veh)	0						216
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	27	1			3	0	52
Queuing Penalty (veh)	58	2			6	0	17

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	53	38
Average Queue (ft)	4	14
95th Queue (ft)	25	38
Link Distance (ft)	1111	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 379

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	17.0	61.0	34.0	12.0	66.0	34.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	16.4	62.4	34.2	7.6	75.4	34.2
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	33	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	70	100	93	0	96	93
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	3:55	3:55	3:55	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2987	2963	2893	3020	2996	2992	3041
Vehs Exited	2917	2892	2855	2916	2903	2914	2958
Starting Vehs	95	108	86	86	83	90	114
Ending Vehs	165	179	124	190	176	168	197
Travel Distance (mi)	2389	2337	2299	2366	2351	2357	2389
Travel Time (hr)	139.8	161.8	112.4	138.4	161.5	157.7	164.0
Total Delay (hr)	75.1	99.3	50.7	74.6	98.0	93.9	99.6
Total Stops	4313	4456	3226	4268	4271	4753	4808
Fuel Used (gal)	90.3	95.1	82.1	89.8	95.0	94.5	97.3

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	3024	2957	2987	2987
Vehs Exited	2939	2901	2912	2912
Starting Vehs	114	93	106	93
Ending Vehs	199	149	181	169
Travel Distance (mi)	2375	2353	2354	2357
Travel Time (hr)	187.8	138.7	160.6	152.3
Total Delay (hr)	123.2	75.0	97.3	88.7
Total Stops	5070	4424	4402	4398
Fuel Used (gal)	102.5	89.2	95.0	93.1

Interval #0 Information Seeding

Start Time	3:55
End Time	4:00
Total Time (min)	5

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2987	2963	2893	3020	2996	2992	3041
Vehs Exited	2917	2892	2855	2916	2903	2914	2958
Starting Vehs	95	108	86	86	83	90	114
Ending Vehs	165	179	124	190	176	168	197
Travel Distance (mi)	2389	2337	2299	2366	2351	2357	2389
Travel Time (hr)	139.8	161.8	112.4	138.4	161.5	157.7	164.0
Total Delay (hr)	75.1	99.3	50.7	74.6	98.0	93.9	99.6
Total Stops	4313	4456	3226	4268	4271	4753	4808
Fuel Used (gal)	90.3	95.1	82.1	89.8	95.0	94.5	97.3

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	3024	2957	2987	2987
Vehs Exited	2939	2901	2912	2912
Starting Vehs	114	93	106	93
Ending Vehs	199	149	181	169
Travel Distance (mi)	2375	2353	2354	2357
Travel Time (hr)	187.8	138.7	160.6	152.3
Total Delay (hr)	123.2	75.0	97.3	88.7
Total Stops	5070	4424	4402	4398
Fuel Used (gal)	102.5	89.2	95.0	93.1

5: Route 1 & Lang Road Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	15.9	8.1
Total Del/Veh (s)	24.3	5.5	97.5	54.2

8: Longmeadow Road & Lang Road Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.9	1.0	9.9	4.4

10: Longmeadow Road & Southwesterly Site Drive Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0
Total Del/Veh (s)	6.0	4.8	3.8	5.1

11: Route 1 & Ocean Road/Longmeadow Road Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	2.3	4.3	1.3	0.0	1.4
Total Del/Veh (s)	65.6	104.7	34.1	86.2	65.1

13: Northeasterly Site Drive & Lang Road Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.2	0.1	0.1
Total Del/Veh (s)	0.8	0.7	6.1	0.9

Total Network Performance

Denied Del/Veh (s)	7.1
Total Del/Veh (s)	96.7

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB	SB
Directions Served	R	TR	L	T
Maximum Queue (ft)	250	23	175	1824
Average Queue (ft)	104	1	132	991
95th Queue (ft)	200	12	225	2279
Link Distance (ft)	1032	682		2056
Upstream Blk Time (%)				14
Queuing Penalty (veh)				0
Storage Bay Dist (ft)			150	
Storage Blk Time (%)			1	34
Queuing Penalty (veh)			5	74

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	67	10	149
Average Queue (ft)	10	1	70
95th Queue (ft)	41	6	124
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	100	66	70
Average Queue (ft)	51	31	38
95th Queue (ft)	83	56	59
Link Distance (ft)	955	352	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	TR
Maximum Queue (ft)	680	225	517	343	553	250	700
Average Queue (ft)	294	152	268	159	272	56	663
95th Queue (ft)	616	271	519	289	467	180	786
Link Distance (ft)	861		955		2094		682
Upstream Blk Time (%)	1						24
Queuing Penalty (veh)	0						216
Storage Bay Dist (ft)		200		350		225	
Storage Blk Time (%)	27	1			3	0	52
Queuing Penalty (veh)	58	2			6	0	17

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	53	38
Average Queue (ft)	4	14
95th Queue (ft)	25	38
Link Distance (ft)	1111	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 379

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	17.0	61.0	34.0	12.0	66.0	34.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	16.4	62.4	34.2	7.6	75.4	34.2
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	33	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	70	100	93	0	96	93
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:55	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2765	2800	2666	2715	2702	2731	2675
Vehs Exited	2768	2770	2664	2673	2626	2710	2664
Starting Vehs	98	80	96	70	68	67	74
Ending Vehs	95	110	98	112	144	88	85
Travel Distance (mi)	2156	2174	2081	2103	2086	2117	2082
Travel Time (hr)	93.1	88.7	88.0	88.8	86.7	89.2	86.2
Total Delay (hr)	34.4	29.5	31.1	31.5	29.9	31.7	29.7
Total Stops	2956	2612	2643	2766	2726	2757	2613
Fuel Used (gal)	75.2	74.2	71.5	73.1	71.3	72.8	71.9

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2684	2722	2717	2718
Vehs Exited	2682	2705	2696	2698
Starting Vehs	84	91	68	77
Ending Vehs	86	108	89	97
Travel Distance (mi)	2125	2134	2103	2116
Travel Time (hr)	89.9	92.9	87.3	89.1
Total Delay (hr)	32.2	34.8	30.5	31.5
Total Stops	2805	2950	2648	2746
Fuel Used (gal)	73.9	74.8	72.0	73.1

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2765	2800	2666	2715	2702	2731	2675
Vehs Exited	2768	2770	2664	2673	2626	2710	2664
Starting Vehs	98	80	96	70	68	67	74
Ending Vehs	95	110	98	112	144	88	85
Travel Distance (mi)	2156	2174	2081	2103	2086	2117	2082
Travel Time (hr)	93.1	88.7	88.0	88.8	86.7	89.2	86.2
Total Delay (hr)	34.4	29.5	31.1	31.5	29.9	31.7	29.7
Total Stops	2956	2612	2643	2766	2726	2757	2613
Fuel Used (gal)	75.2	74.2	71.5	73.1	71.3	72.8	71.9

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2684	2722	2717	2718
Vehs Exited	2682	2705	2696	2698
Starting Vehs	84	91	68	77
Ending Vehs	86	108	89	97
Travel Distance (mi)	2125	2134	2103	2116
Travel Time (hr)	89.9	92.9	87.3	89.1
Total Delay (hr)	32.2	34.8	30.5	31.5
Total Stops	2805	2950	2648	2746
Fuel Used (gal)	73.9	74.8	72.0	73.1

5: Route 1 & Lang Road Performance by lane

Lane	WB	NB	SB	SB	SB	All
Movements Served	R	TR	L	T	T	
Denied Del/Veh (s)						0.2
Total Del/Veh (s)	20.9	6.3	13.0	2.0	0.6	7.3

8: Longmeadow Road & Lang Road Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	1.5	1.3	7.4	2.7

10: Longmeadow Road & Southwesterly Site Drive Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	3.8	5.0	4.0	4.1

11: Route 1 & Ocean Road/Longmeadow Road Performance by lane

Lane	EB	EB	WB	NB	NB	SB	SB	SB	All
Movements Served	LT	R	LTR	L	TR	L	T	TR	
Denied Del/Veh (s)									1.0
Total Del/Veh (s)	57.7	4.0	31.4	41.1	47.7	47.0	18.5	19.0	36.5

13: Northeasterly Site Drive & Lang Road Performance by lane

Lane	EB	WB	NB	All
Movements Served	TR	LT	LR	
Denied Del/Veh (s)				0.2
Total Del/Veh (s)	0.7	0.7	5.7	1.0

Total Network Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	39.6

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB
Directions Served	R	TR	L
Maximum Queue (ft)	201	37	115
Average Queue (ft)	95	2	50
95th Queue (ft)	170	17	96
Link Distance (ft)	1032	681	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	54	6	104
Average Queue (ft)	8	0	51
95th Queue (ft)	35	3	87
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	88	67	84
Average Queue (ft)	46	33	43
95th Queue (ft)	73	55	68
Link Distance (ft)	955	352	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	T	TR
Maximum Queue (ft)	573	225	235	374	968	77	204	209
Average Queue (ft)	241	111	117	178	434	23	99	114
95th Queue (ft)	456	257	202	391	806	57	166	185
Link Distance (ft)	849		955		2095		681	681
Upstream Blk Time (%)	0							
Queuing Penalty (veh)	0							
Storage Bay Dist (ft)		200		350		225		
Storage Blk Time (%)	19	0		0	17		0	
Queuing Penalty (veh)	40	1		0	26		0	

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	31	48
Average Queue (ft)	2	22
95th Queue (ft)	14	46
Link Distance (ft)	1111	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 67

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	18.0	35.0	29.0	5.0	48.0	29.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	13.7	34.5	27.4	5.5	48.6	27.4
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	54	0	0
Cycles @ Minimum (%)	0	0	0	43	0	0
Cycles Maxed Out (%)	26	55	74	46	92	74
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	6:55	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2765	2800	2666	2715	2702	2731	2675
Vehs Exited	2768	2770	2664	2673	2626	2710	2664
Starting Vehs	98	80	96	70	68	67	74
Ending Vehs	95	110	98	112	144	88	85
Travel Distance (mi)	2156	2174	2081	2103	2086	2117	2082
Travel Time (hr)	93.1	88.7	88.0	88.8	86.7	89.2	86.2
Total Delay (hr)	34.4	29.5	31.1	31.5	29.9	31.7	29.7
Total Stops	2956	2612	2643	2766	2726	2757	2613
Fuel Used (gal)	75.2	74.2	71.5	73.1	71.3	72.8	71.9

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	2684	2722	2717	2718
Vehs Exited	2682	2705	2696	2698
Starting Vehs	84	91	68	77
Ending Vehs	86	108	89	97
Travel Distance (mi)	2125	2134	2103	2116
Travel Time (hr)	89.9	92.9	87.3	89.1
Total Delay (hr)	32.2	34.8	30.5	31.5
Total Stops	2805	2950	2648	2746
Fuel Used (gal)	73.9	74.8	72.0	73.1

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2765	2800	2666	2715	2702	2731	2675
Vehs Exited	2768	2770	2664	2673	2626	2710	2664
Starting Vehs	98	80	96	70	68	67	74
Ending Vehs	95	110	98	112	144	88	85
Travel Distance (mi)	2156	2174	2081	2103	2086	2117	2082
Travel Time (hr)	93.1	88.7	88.0	88.8	86.7	89.2	86.2
Total Delay (hr)	34.4	29.5	31.1	31.5	29.9	31.7	29.7
Total Stops	2956	2612	2643	2766	2726	2757	2613
Fuel Used (gal)	75.2	74.2	71.5	73.1	71.3	72.8	71.9

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	2684	2722	2717	2718
Vehs Exited	2682	2705	2696	2698
Starting Vehs	84	91	68	77
Ending Vehs	86	108	89	97
Travel Distance (mi)	2125	2134	2103	2116
Travel Time (hr)	89.9	92.9	87.3	89.1
Total Delay (hr)	32.2	34.8	30.5	31.5
Total Stops	2805	2950	2648	2746
Fuel Used (gal)	73.9	74.8	72.0	73.1

5: Route 1 & Lang Road Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.4	0.2
Total Del/Veh (s)	20.8	6.3	3.3	7.3

8: Longmeadow Road & Lang Road Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.5	1.3	7.3	2.7

10: Longmeadow Road & Southwesterly Site Drive Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.2	0.0	0.0
Total Del/Veh (s)	3.8	5.0	4.0	4.1

11: Route 1 & Ocean Road/Longmeadow Road Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.8	0.0	1.4	0.0	1.0
Total Del/Veh (s)	37.2	31.6	46.6	19.9	36.5

13: Northeasterly Site Drive & Lang Road Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.3	0.1	0.2
Total Del/Veh (s)	0.7	0.7	5.8	1.0

Total Network Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	39.6

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB
Directions Served	R	TR	L
Maximum Queue (ft)	201	37	115
Average Queue (ft)	95	2	50
95th Queue (ft)	170	17	96
Link Distance (ft)	1032	681	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			150
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	54	6	104
Average Queue (ft)	8	0	51
95th Queue (ft)	35	3	87
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	88	67	84
Average Queue (ft)	46	33	43
95th Queue (ft)	73	55	68
Link Distance (ft)	955	352	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	T	TR
Maximum Queue (ft)	573	225	235	374	968	77	204	209
Average Queue (ft)	241	111	117	178	434	23	99	114
95th Queue (ft)	456	257	202	391	806	57	166	185
Link Distance (ft)	849		955		2095		681	681
Upstream Blk Time (%)	0							
Queuing Penalty (veh)	0							
Storage Bay Dist (ft)		200		350		225		
Storage Blk Time (%)	19	0		0	17		0	
Queuing Penalty (veh)	40	1		0	26		0	

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	31	48
Average Queue (ft)	2	22
95th Queue (ft)	14	46
Link Distance (ft)	1111	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 67

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	18.0	35.0	29.0	5.0	48.0	29.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	13.7	34.5	27.4	5.5	48.6	27.4
g/C Ratio	NA	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	0	0	0	54	0	0
Cycles @ Minimum (%)	0	0	0	43	0	0
Cycles Maxed Out (%)	26	55	74	46	92	74
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary

Average Cycle Length (s): NA
Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	3:55	3:55	3:55	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2982	3081	3005	3001	3010	2944	3078
Vehs Exited	2971	3078	2985	2982	3014	2964	3089
Starting Vehs	93	89	71	86	72	93	98
Ending Vehs	104	92	91	105	68	73	87
Travel Distance (mi)	2413	2500	2404	2409	2423	2389	2481
Travel Time (hr)	98.4	96.8	94.0	94.2	94.1	92.7	98.2
Total Delay (hr)	33.2	29.8	29.5	29.0	28.9	28.1	31.6
Total Stops	3105	2890	2949	2847	2805	2805	2915
Fuel Used (gal)	82.9	84.9	82.1	81.9	82.4	81.3	84.7

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	3017	2905	2966	2999
Vehs Exited	3008	2910	2961	2995
Starting Vehs	105	101	97	92
Ending Vehs	114	96	102	92
Travel Distance (mi)	2416	2341	2408	2419
Travel Time (hr)	96.6	89.4	96.4	95.1
Total Delay (hr)	31.5	25.9	31.2	29.9
Total Stops	2942	2680	3020	2895
Fuel Used (gal)	82.7	79.6	82.5	82.5

Interval #0 Information Seeding

Start Time	3:55
End Time	4:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2982	3081	3005	3001	3010	2944	3078
Vehs Exited	2971	3078	2985	2982	3014	2964	3089
Starting Vehs	93	89	71	86	72	93	98
Ending Vehs	104	92	91	105	68	73	87
Travel Distance (mi)	2413	2500	2404	2409	2423	2389	2481
Travel Time (hr)	98.4	96.8	94.0	94.2	94.1	92.7	98.2
Total Delay (hr)	33.2	29.8	29.5	29.0	28.9	28.1	31.6
Total Stops	3105	2890	2949	2847	2805	2805	2915
Fuel Used (gal)	82.9	84.9	82.1	81.9	82.4	81.3	84.7

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	3017	2905	2966	2999
Vehs Exited	3008	2910	2961	2995
Starting Vehs	105	101	97	92
Ending Vehs	114	96	102	92
Travel Distance (mi)	2416	2341	2408	2419
Travel Time (hr)	96.6	89.4	96.4	95.1
Total Delay (hr)	31.5	25.9	31.2	29.9
Total Stops	2942	2680	3020	2895
Fuel Used (gal)	82.7	79.6	82.5	82.5

5: Route 1 & Lang Road Performance by lane

Lane	WB	NB	SB	SB	SB	All
Movements Served	R	TR	L	T	T	
Denied Del/Veh (s)						0.3
Total Del/Veh (s)	22.5	5.9	12.7	4.7	1.1	7.2

8: Longmeadow Road & Lang Road Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	1.6	1.1	9.4	4.3

10: Longmeadow Road & Southwesterly Site Drive Performance by lane

Lane	EB	WB	SB	All
Movements Served	LT	TR	LR	
Denied Del/Veh (s)				0.0
Total Del/Veh (s)	5.8	4.7	3.7	5.0

11: Route 1 & Ocean Road/Longmeadow Road Performance by lane

Lane	EB	EB	WB	NB	NB	SB	SB	SB	All
Movements Served	LT	R	LTR	L	TR	L	T	TR	
Denied Del/Veh (s)									0.9
Total Del/Veh (s)	50.1	6.3	31.7	37.8	34.1	42.9	20.4	21.9	29.0

13: Northeasterly Site Drive & Lang Road Performance by lane

Lane	EB	WB	NB	All
Movements Served	TR	LT	LR	
Denied Del/Veh (s)				0.1
Total Del/Veh (s)	0.8	0.8	6.4	1.0

Total Network Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	33.9

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB	SB	SB
Directions Served	R	TR	L	T	T
Maximum Queue (ft)	213	26	162	44	30
Average Queue (ft)	100	1	73	2	2
95th Queue (ft)	181	12	130	45	39
Link Distance (ft)	1032	681		2056	2056
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			150		
Storage Blk Time (%)			1		
Queuing Penalty (veh)			4		

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	46	6	148
Average Queue (ft)	8	0	67
95th Queue (ft)	33	3	115
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	90	66	70
Average Queue (ft)	49	30	37
95th Queue (ft)	76	54	59
Link Distance (ft)	955	352	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	T	TR
Maximum Queue (ft)	405	218	249	356	556	116	242	263
Average Queue (ft)	163	79	131	143	288	30	142	159
95th Queue (ft)	317	191	217	315	526	76	214	233
Link Distance (ft)	849		955		2095		681	681
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		200		350		225		
Storage Blk Time (%)	7	0		0	7	0	0	
Queuing Penalty (veh)	15	0		0	11	0	0	

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	55	38
Average Queue (ft)	5	14
95th Queue (ft)	27	38
Link Distance (ft)	1111	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 31

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	14.0	32.0	26.0	6.0	40.0	26.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	12.2	32.1	24.3	6.0	44.2	24.3
g/C Ratio	-0.01	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	2	0	0	48	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	51	74	66	30	95	66
Cycles with Peds (%)	0	0	0	0	0	0

Controller Summary
Average Cycle Length (s): NA

Number of Complete Cycles : 0

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	3:55	3:55	3:55	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1	1
Vehs Entered	2982	3081	3005	3001	3010	2944	3078
Vehs Exited	2971	3078	2985	2982	3014	2964	3089
Starting Vehs	93	89	71	86	72	93	98
Ending Vehs	104	92	91	105	68	73	87
Travel Distance (mi)	2413	2500	2404	2409	2423	2389	2481
Travel Time (hr)	98.4	96.8	94.0	94.2	94.1	92.7	98.2
Total Delay (hr)	33.2	29.8	29.5	29.0	28.9	28.1	31.6
Total Stops	3105	2890	2949	2847	2805	2805	2915
Fuel Used (gal)	82.9	84.9	82.1	81.9	82.4	81.3	84.7

Summary of All Intervals

Run Number	8	9	10	Avg
Start Time	3:55	3:55	3:55	3:55
End Time	5:00	5:00	5:00	5:00
Total Time (min)	65	65	65	65
Time Recorded (min)	60	60	60	60
# of Intervals	2	2	2	2
# of Recorded Intervals	1	1	1	1
Vehs Entered	3017	2905	2966	2999
Vehs Exited	3008	2910	2961	2995
Starting Vehs	105	101	97	92
Ending Vehs	114	96	102	92
Travel Distance (mi)	2416	2341	2408	2419
Travel Time (hr)	96.6	89.4	96.4	95.1
Total Delay (hr)	31.5	25.9	31.2	29.9
Total Stops	2942	2680	3020	2895
Fuel Used (gal)	82.7	79.6	82.5	82.5

Interval #0 Information Seeding

Start Time	3:55
End Time	4:00
Total Time (min)	5

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2982	3081	3005	3001	3010	2944	3078
Vehs Exited	2971	3078	2985	2982	3014	2964	3089
Starting Vehs	93	89	71	86	72	93	98
Ending Vehs	104	92	91	105	68	73	87
Travel Distance (mi)	2413	2500	2404	2409	2423	2389	2481
Travel Time (hr)	98.4	96.8	94.0	94.2	94.1	92.7	98.2
Total Delay (hr)	33.2	29.8	29.5	29.0	28.9	28.1	31.6
Total Stops	3105	2890	2949	2847	2805	2805	2915
Fuel Used (gal)	82.9	84.9	82.1	81.9	82.4	81.3	84.7

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	8	9	10	Avg
Vehs Entered	3017	2905	2966	2999
Vehs Exited	3008	2910	2961	2995
Starting Vehs	105	101	97	92
Ending Vehs	114	96	102	92
Travel Distance (mi)	2416	2341	2408	2419
Travel Time (hr)	96.6	89.4	96.4	95.1
Total Delay (hr)	31.5	25.9	31.2	29.9
Total Stops	2942	2680	3020	2895
Fuel Used (gal)	82.7	79.6	82.5	82.5

5: Route 1 & Lang Road Performance by approach

Approach	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.5	0.3
Total Del/Veh (s)	22.5	5.9	4.8	7.2

8: Longmeadow Road & Lang Road Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.6	1.1	9.5	4.3

10: Longmeadow Road & Southwesterly Site Drive Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.0	0.0
Total Del/Veh (s)	5.8	4.7	3.7	5.0

11: Route 1 & Ocean Road/Longmeadow Road Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	2.1	0.1	1.3	0.0	0.9
Total Del/Veh (s)	29.7	31.5	34.8	22.0	29.0

13: Northeasterly Site Drive & Lang Road Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.3	0.1	0.1
Total Del/Veh (s)	0.8	0.8	6.4	1.0

Total Network Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	33.9

Intersection: 5: Route 1 & Lang Road

Movement	WB	NB	SB	SB	SB
Directions Served	R	TR	L	T	T
Maximum Queue (ft)	213	26	162	44	30
Average Queue (ft)	100	1	73	2	2
95th Queue (ft)	181	12	130	45	39
Link Distance (ft)	1032	681		2056	2056
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			150		
Storage Blk Time (%)			1		
Queuing Penalty (veh)			4		

Intersection: 8: Longmeadow Road & Lang Road

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	46	6	148
Average Queue (ft)	8	0	67
95th Queue (ft)	33	3	115
Link Distance (ft)	582	328	1032
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Longmeadow Road & Southwesterly Site Drive

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	90	66	70
Average Queue (ft)	49	30	37
95th Queue (ft)	76	54	59
Link Distance (ft)	955	352	582
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Movement	EB	EB	WB	NB	NB	SB	SB	SB
Directions Served	LT	R	LTR	L	TR	L	T	TR
Maximum Queue (ft)	405	218	249	356	556	116	242	263
Average Queue (ft)	163	79	131	143	288	30	142	159
95th Queue (ft)	317	191	217	315	526	76	214	233
Link Distance (ft)	849		955		2095		681	681
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		200		350		225		
Storage Blk Time (%)	7	0		0	7	0	0	
Queuing Penalty (veh)	15	0		0	11	0	0	

Intersection: 13: Northeasterly Site Drive & Lang Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	55	38
Average Queue (ft)	5	14
95th Queue (ft)	27	38
Link Distance (ft)	1111	303
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 31

Intersection: 11: Route 1 & Ocean Road/Longmeadow Road

Phase	1	2	4	5	6	8
Movement(s) Served	NBL	SBT	WBTL	SBL	NBT	EBTL
Maximum Green (s)	14.0	32.0	26.0	6.0	40.0	26.0
Minimum Green (s)	5.0	10.0	8.0	5.0	10.0	6.0
Recall	None	Min	None	None	Min	None
Avg. Green (s)	12.2	32.1	24.3	6.0	44.2	24.3
g/C Ratio	-0.01	NA	NA	-0.01	NA	NA
Cycles Skipped (%)	2	0	0	48	0	0
Cycles @ Minimum (%)	0	0	0	0	0	0
Cycles Maxed Out (%)	51	74	66	30	95	66
Cycles with Peds (%)	0	0	0	0	0	0

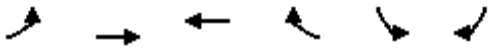
Controller Summary
Average Cycle Length (s): NA

Number of Complete Cycles : 0



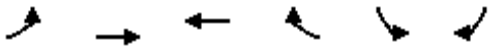
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	157	814	19	85	505
Future Volume (vph)	0	157	814	19	85	505
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	150	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.997			
Flt Protected					0.950	
Satd. Flow (prot)	0	1627	1821	0	1671	1759
Flt Permitted					0.950	
Satd. Flow (perm)	0	1627	1821	0	1671	1759
Link Speed (mph)	30		45			45
Link Distance (ft)	1094		740			2085
Travel Time (s)	24.9		11.2			31.6
Peak Hour Factor	0.72	0.72	0.98	0.98	0.88	0.88
Heavy Vehicles (%)	1%	1%	4%	4%	8%	8%
Adj. Flow (vph)	0	218	831	19	97	574
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	218	850	0	97	574
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		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
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	88	110	203	98	20
Future Volume (vph)	2	88	110	203	98	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.912		0.977	
Flt Protected		0.999			0.960	
Satd. Flow (prot)	0	1710	1699	0	1650	0
Flt Permitted		0.999			0.960	
Satd. Flow (perm)	0	1710	1699	0	1650	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		631	397		1094	
Travel Time (s)		14.3	9.0		24.9	
Peak Hour Factor	0.83	0.83	0.77	0.77	0.90	0.90
Heavy Vehicles (%)	11%	11%	2%	2%	8%	8%
Adj. Flow (vph)	2	106	143	264	109	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	108	407	0	131	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

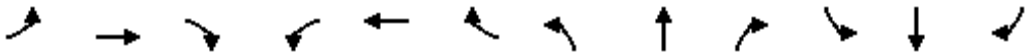
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.6%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	90	0	0	0	0	130
Future Volume (vph)	90	0	0	0	0	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected		0.950				
Satd. Flow (prot)	0	1703	1881	0	1550	0
Flt Permitted		0.950				
Satd. Flow (perm)	0	1703	1881	0	1550	0
Link Speed (mph)		25	25		30	
Link Distance (ft)		1011	387		631	
Travel Time (s)		27.6	10.6		14.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	1%	1%	6%	6%
Adj. Flow (vph)	98	0	0	0	0	141
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	98	0	0	141	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.7%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	126	189	26	95	5	138	683	54	18	369	105
Future Volume (vph)	144	126	189	26	95	5	138	683	54	18	369	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	350		0	225		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.987			0.989			0.967	
Flt Protected		0.974			0.990		0.950			0.950		
Satd. Flow (prot)	0	1746	1524	0	1751	0	1736	1807	0	1671	1701	0
Flt Permitted		0.678			0.763		0.950			0.950		
Satd. Flow (perm)	0	1215	1524	0	1350	0	1736	1807	0	1671	1701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			225		5			5			16	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		897			1011			2133			740	
Travel Time (s)		20.4			23.0			32.3			11.2	
Peak Hour Factor	0.84	0.84	0.84	0.67	0.67	0.25	0.89	0.89	0.89	0.88	0.88	0.88
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	4%	4%	4%	8%	8%	8%
Adj. Flow (vph)	171	150	225	39	142	20	155	767	61	20	419	119
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	321	225	0	201	0	155	828	0	20	538	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			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		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	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)		94			94			94			94	
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	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	

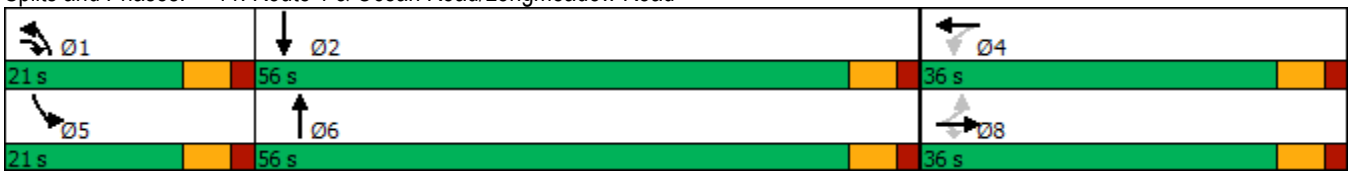


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	5.0	8.0	8.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	12.0	12.0	11.0	14.0	14.0		11.0	16.0		11.0	32.0	
Total Split (s)	36.0	36.0	21.0	36.0	36.0		21.0	56.0		21.0	56.0	
Total Split (%)	31.9%	31.9%	18.6%	31.9%	31.9%		18.6%	49.6%		18.6%	49.6%	
Maximum Green (s)	30.0	30.0	15.0	30.0	30.0		15.0	50.0		15.0	50.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)											4.0	
Flash Dont Walk (s)											22.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)		30.2	49.2		30.2		12.9	52.9		6.8	39.2	
Actuated g/C Ratio		0.30	0.49		0.30		0.13	0.53		0.07	0.39	
v/c Ratio		0.88	0.26		0.49		0.70	0.87		0.18	0.80	
Control Delay		61.2	3.2		34.9		60.0	33.5		50.6	36.5	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		61.2	3.2		34.9		60.0	33.5		50.6	36.5	
LOS		E	A		C		E	C		D	D	
Approach Delay		37.3			34.9			37.6			37.0	
Approach LOS		D			C			D			D	
90th %ile Green (s)	30.0	30.0	15.0	30.0	30.0		15.0	56.1		8.9	50.0	
90th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Gap	Max	
70th %ile Green (s)	30.0	30.0	15.0	30.0	30.0		15.0	50.3		7.5	42.8	
70th %ile Term Code	Max	Max	Max	Hold	Hold		Max	Hold		Gap	Gap	
50th %ile Green (s)	30.0	30.0	14.3	30.0	30.0		14.3	57.1		0.0	36.8	
50th %ile Term Code	Max	Max	Gap	Hold	Hold		Gap	Hold		Skip	Gap	
30th %ile Green (s)	30.0	30.0	11.7	30.0	30.0		11.7	50.0		0.0	32.3	
30th %ile Term Code	Max	Max	Gap	Hold	Hold		Gap	Max		Skip	Hold	
10th %ile Green (s)	30.0	30.0	9.0	30.0	30.0		9.0	50.0		0.0	35.0	
10th %ile Term Code	Max	Max	Gap	Hold	Hold		Gap	Max		Skip	Hold	
Queue Length 50th (ft)		191	0		101		93	380		12	297	
Queue Length 95th (ft)		#375	33		139		#191	#796		39	419	
Internal Link Dist (ft)		817			931			2053			660	
Turn Bay Length (ft)			200				350			225		
Base Capacity (vph)		365	889		409		261	954		251	860	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.88	0.25		0.49		0.59	0.87		0.08	0.63	

Intersection Summary

Area Type:	Other		
Cycle Length: 113			
Actuated Cycle Length: 100.4			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 37.2		Intersection LOS: D	
Intersection Capacity Utilization 84.7%		ICU Level of Service E	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 113			
70th %ile Actuated Cycle: 105.8			
50th %ile Actuated Cycle: 99.1			
30th %ile Actuated Cycle: 92			
10th %ile Actuated Cycle: 92			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 11: Route 1 & Ocean Road/Longmeadow Road





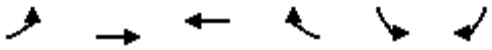
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	186	0	0	313	0	0
Future Volume (vph)	186	0	0	313	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1712	0	0	1863	1881	0
Flt Permitted						
Satd. Flow (perm)	1712	0	0	1863	1881	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	397			1132	335	
Travel Time (s)	9.0			25.7	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	11%	2%	2%	1%	1%
Adj. Flow (vph)	202	0	0	340	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	202	0	0	340	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	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
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.8%		ICU Level of Service A	
Analysis Period (min) 15			



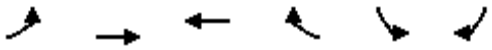
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	189	683	18	167	788
Future Volume (vph)	0	189	683	18	167	788
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	150	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.997			
Flt Protected					0.950	
Satd. Flow (prot)	0	1565	1821	0	1752	1845
Flt Permitted					0.950	
Satd. Flow (perm)	0	1565	1821	0	1752	1845
Link Speed (mph)	30		45			45
Link Distance (ft)	1094		740			2085
Travel Time (s)	24.9		11.2			31.6
Peak Hour Factor	0.77	0.77	0.90	0.90	0.94	0.94
Heavy Vehicles (%)	5%	5%	4%	4%	3%	3%
Adj. Flow (vph)	0	245	759	20	178	838
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	245	779	0	178	838
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		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
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.4%		ICU Level of Service B	
Analysis Period (min) 15			



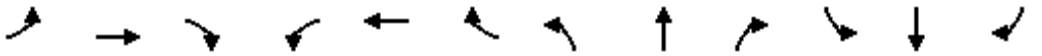
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	6	123	85	171	184	15
Future Volume (vph)	6	123	85	171	184	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.910		0.990	
Flt Protected		0.998			0.956	
Satd. Flow (prot)	0	1859	1662	0	1746	0
Flt Permitted		0.998			0.956	
Satd. Flow (perm)	0	1859	1662	0	1746	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		631	397		1094	
Travel Time (s)		14.3	9.0		24.9	
Peak Hour Factor	0.80	0.80	0.77	0.77	0.88	0.88
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Adj. Flow (vph)	8	154	110	222	209	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	162	332	0	226	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.7%		ICU Level of Service A	
Analysis Period (min) 15			

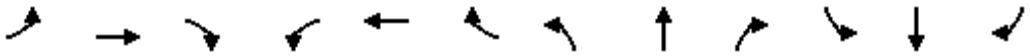


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	129	0	0	0	0	100
Future Volume (vph)	129	0	0	0	0	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected		0.950				
Satd. Flow (prot)	0	1770	1827	0	1580	0
Flt Permitted		0.950				
Satd. Flow (perm)	0	1770	1827	0	1580	0
Link Speed (mph)		25	25		30	
Link Distance (ft)		1011	387		631	
Travel Time (s)		27.6	10.6		14.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	4%	4%	4%	4%
Adj. Flow (vph)	140	0	0	0	0	109
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	140	0	0	109	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.0%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	87	195	44	116	24	148	587	38	22	644	106
Future Volume (vph)	119	87	195	44	116	24	148	587	38	22	644	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		100	350		0	225		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.982			0.991			0.979	
Flt Protected		0.972			0.988		0.950			0.950		
Satd. Flow (prot)	0	1811	1583	0	1773	0	1752	1828	0	1770	1824	0
Flt Permitted		0.599			0.722		0.950			0.950		
Satd. Flow (perm)	0	1116	1583	0	1295	0	1752	1828	0	1770	1824	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			179		5			3			9	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		897			1011			2133			740	
Travel Time (s)		20.4			23.0			32.3			11.2	
Peak Hour Factor	0.93	0.93	0.93	0.84	0.84	0.84	0.90	0.90	0.90	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	128	94	210	52	138	29	164	652	42	22	657	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	222	210	0	219	0	164	694	0	22	765	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			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		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	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)		94			94			94			94	
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	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	

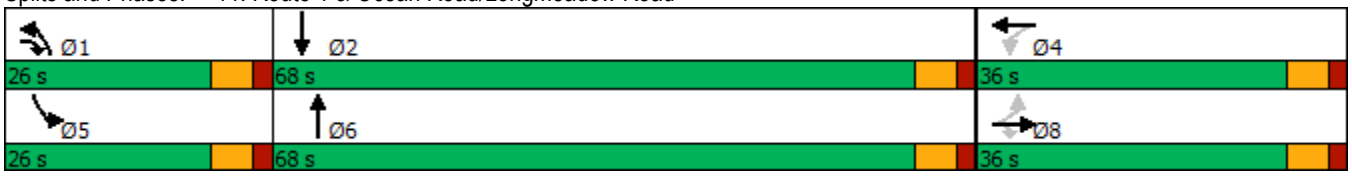


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	5.0	8.0	8.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	12.0	12.0	11.0	14.0	14.0		11.0	16.0		11.0	32.0	
Total Split (s)	36.0	36.0	26.0	36.0	36.0		26.0	68.0		26.0	68.0	
Total Split (%)	27.7%	27.7%	20.0%	27.7%	27.7%		20.0%	52.3%		20.0%	52.3%	
Maximum Green (s)	30.0	30.0	20.0	30.0	30.0		20.0	62.0		20.0	62.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)											4.0	
Flash Dont Walk (s)											22.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)		26.9	48.9		26.9		15.8	67.4		7.2	53.0	
Actuated g/C Ratio		0.24	0.43		0.24		0.14	0.59		0.06	0.46	
v/c Ratio		0.85	0.27		0.71		0.68	0.64		0.20	0.90	
Control Delay		72.5	6.0		55.8		64.6	20.6		61.0	43.5	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		72.5	6.0		55.8		64.6	20.6		61.0	43.5	
LOS		E	A		E		E	C		E	D	
Approach Delay		40.1			55.8			29.0			44.0	
Approach LOS		D			E			C			D	
90th %ile Green (s)	30.0	30.0	20.0	30.0	30.0		20.0	72.7		9.3	62.0	
90th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Gap	Max	
70th %ile Green (s)	30.0	30.0	19.9	30.0	30.0		19.9	73.9		8.0	62.0	
70th %ile Term Code	Max	Max	Gap	Max	Max		Gap	Hold		Gap	Max	
50th %ile Green (s)	30.0	30.0	17.1	30.0	30.0		17.1	70.2		7.0	60.1	
50th %ile Term Code	Max	Max	Gap	Hold	Hold		Gap	Hold		Gap	Gap	
30th %ile Green (s)	26.6	26.6	13.6	26.6	26.6		13.6	68.9		0.0	49.3	
30th %ile Term Code	Gap	Gap	Gap	Hold	Hold		Gap	Hold		Skip	Gap	
10th %ile Green (s)	18.0	18.0	9.4	18.0	18.0		9.4	49.0		0.0	33.6	
10th %ile Term Code	Gap	Gap	Gap	Hold	Hold		Gap	Hold		Skip	Gap	
Queue Length 50th (ft)		172	15		159		128	379		17	534	
Queue Length 95th (ft)		#328	63		241		209	540		47	#814	
Internal Link Dist (ft)		817			931			2053			660	
Turn Bay Length (ft)			200				350			225		
Base Capacity (vph)		303	840		355		317	1139		321	1029	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.73	0.25		0.62		0.52	0.61		0.07	0.74	

Intersection Summary

Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 114.3			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 38.8		Intersection LOS: D	
Intersection Capacity Utilization 87.3%		ICU Level of Service E	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 130			
70th %ile Actuated Cycle: 129.9			
50th %ile Actuated Cycle: 125.2			
30th %ile Actuated Cycle: 107.5			
10th %ile Actuated Cycle: 79			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 11: Route 1 & Ocean Road/Longmeadow Road





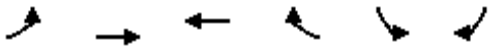
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	307	0	0	256	0	0
Future Volume (vph)	307	0	0	256	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1845	0	0	1827	1881	0
Flt Permitted						
Satd. Flow (perm)	1845	0	0	1827	1881	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	397			1132	335	
Travel Time (s)	9.0			25.7	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	4%	4%	1%	1%
Adj. Flow (vph)	334	0	0	278	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	334	0	0	278	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	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
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.5%		ICU Level of Service A	
Analysis Period (min) 15			



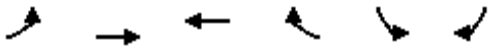
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	160	830	20	87	515
Future Volume (vph)	0	160	830	20	87	515
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	150	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.997			
Flt Protected					0.950	
Satd. Flow (prot)	0	1627	1821	0	1671	1759
Flt Permitted					0.950	
Satd. Flow (perm)	0	1627	1821	0	1671	1759
Link Speed (mph)	30		45			45
Link Distance (ft)	1094		740			2085
Travel Time (s)	24.9		11.2			31.6
Peak Hour Factor	0.72	0.72	0.98	0.98	0.88	0.88
Heavy Vehicles (%)	1%	1%	4%	4%	8%	8%
Adj. Flow (vph)	0	222	847	20	99	585
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	222	867	0	99	585
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		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
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		



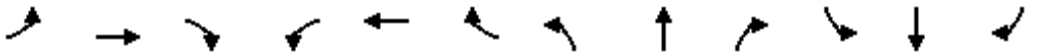
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	90	112	207	100	21
Future Volume (vph)	2	90	112	207	100	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.912		0.977	
Flt Protected		0.999			0.960	
Satd. Flow (prot)	0	1710	1699	0	1650	0
Flt Permitted		0.999			0.960	
Satd. Flow (perm)	0	1710	1699	0	1650	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		631	397		1094	
Travel Time (s)		14.3	9.0		24.9	
Peak Hour Factor	0.83	0.83	0.77	0.77	0.90	0.90
Heavy Vehicles (%)	11%	11%	2%	2%	8%	8%
Adj. Flow (vph)	2	108	145	269	111	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	110	414	0	134	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.1%		ICU Level of Service A	
Analysis Period (min) 15			

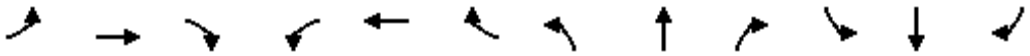


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	92	0	0	0	0	133
Future Volume (vph)	92	0	0	0	0	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected		0.950				
Satd. Flow (prot)	0	1703	1881	0	1550	0
Flt Permitted		0.950				
Satd. Flow (perm)	0	1703	1881	0	1550	0
Link Speed (mph)		25	25		30	
Link Distance (ft)		1011	387		631	
Travel Time (s)		27.6	10.6		14.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	1%	1%	6%	6%
Adj. Flow (vph)	100	0	0	0	0	145
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	100	0	0	145	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.0%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	129	193	27	97	5	141	697	55	19	377	107
Future Volume (vph)	147	129	193	27	97	5	141	697	55	19	377	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	350		0	225		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.987			0.989			0.967	
Flt Protected		0.974			0.990		0.950			0.950		
Satd. Flow (prot)	0	1746	1524	0	1751	0	1736	1807	0	1671	1701	0
Flt Permitted		0.672			0.736		0.950			0.950		
Satd. Flow (perm)	0	1205	1524	0	1302	0	1736	1807	0	1671	1701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			230		5			5			16	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		897			1011			2133			740	
Travel Time (s)		20.4			23.0			32.3			11.2	
Peak Hour Factor	0.84	0.84	0.84	0.67	0.67	0.25	0.89	0.89	0.89	0.88	0.88	0.88
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	4%	4%	4%	8%	8%	8%
Adj. Flow (vph)	175	154	230	40	145	20	158	783	62	22	428	122
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	329	230	0	205	0	158	845	0	22	550	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			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		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	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)		94			94			94			94	
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	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	

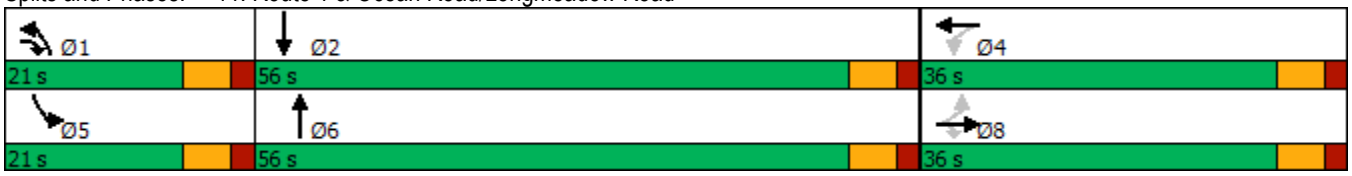


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	5.0	8.0	8.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	12.0	12.0	11.0	14.0	14.0		11.0	16.0		11.0	32.0	
Total Split (s)	36.0	36.0	21.0	36.0	36.0		21.0	56.0		21.0	56.0	
Total Split (%)	31.9%	31.9%	18.6%	31.9%	31.9%		18.6%	49.6%		18.6%	49.6%	
Maximum Green (s)	30.0	30.0	15.0	30.0	30.0		15.0	50.0		15.0	50.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)											4.0	
Flash Dont Walk (s)											22.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)		30.2	49.3		30.2		13.1	53.5		6.9	39.7	
Actuated g/C Ratio		0.30	0.49		0.30		0.13	0.53		0.07	0.39	
v/c Ratio		0.92	0.27		0.52		0.71	0.88		0.19	0.81	
Control Delay		67.5	3.2		36.5		60.9	34.7		51.2	37.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		67.5	3.2		36.5		60.9	34.7		51.2	37.4	
LOS		E	A		D		E	C		D	D	
Approach Delay		41.0			36.5			38.8			37.9	
Approach LOS		D			D			D			D	
90th %ile Green (s)	30.0	30.0	15.0	30.0	30.0		15.0	55.9		9.1	50.0	
90th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Gap	Max	
70th %ile Green (s)	30.0	30.0	15.0	30.0	30.0		15.0	52.3		7.7	45.0	
70th %ile Term Code	Max	Max	Max	Hold	Hold		Max	Hold		Gap	Gap	
50th %ile Green (s)	30.0	30.0	14.6	30.0	30.0		14.6	58.4		0.0	37.8	
50th %ile Term Code	Max	Max	Gap	Hold	Hold		Gap	Hold		Skip	Gap	
30th %ile Green (s)	30.0	30.0	12.0	30.0	30.0		12.0	50.0		0.0	32.0	
30th %ile Term Code	Max	Max	Gap	Hold	Hold		Gap	Max		Skip	Hold	
10th %ile Green (s)	30.0	30.0	9.2	30.0	30.0		9.2	50.0		0.0	34.8	
10th %ile Term Code	Max	Max	Gap	Hold	Hold		Gap	Max		Skip	Hold	
Queue Length 50th (ft)		203	0		106		96	394		14	310	
Queue Length 95th (ft)		#389	34		143		#197	#824		41	433	
Internal Link Dist (ft)		817			931			2053			660	
Turn Bay Length (ft)			200				350			225		
Base Capacity (vph)		359	887		392		259	959		249	855	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.92	0.26		0.52		0.61	0.88		0.09	0.64	

Intersection Summary

Area Type:	Other		
Cycle Length: 113			
Actuated Cycle Length: 101.1			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 38.9		Intersection LOS: D	
Intersection Capacity Utilization 86.0%		ICU Level of Service E	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 113			
70th %ile Actuated Cycle: 108			
50th %ile Actuated Cycle: 100.4			
30th %ile Actuated Cycle: 92			
10th %ile Actuated Cycle: 92			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 11: Route 1 & Ocean Road/Longmeadow Road





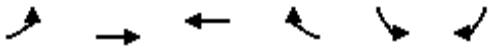
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	190	0	0	319	0	0
Future Volume (vph)	190	0	0	319	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1712	0	0	1863	1881	0
Flt Permitted						
Satd. Flow (perm)	1712	0	0	1863	1881	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	397			1132	335	
Travel Time (s)	9.0			25.7	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	11%	2%	2%	1%	1%
Adj. Flow (vph)	207	0	0	347	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	207	0	0	347	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	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
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.1%		ICU Level of Service A	
Analysis Period (min) 15			



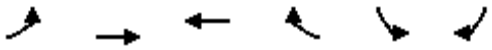
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	193	697	19	171	804
Future Volume (vph)	0	193	697	19	171	804
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	150	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.996			
Flt Protected					0.950	
Satd. Flow (prot)	0	1565	1820	0	1752	1845
Flt Permitted					0.950	
Satd. Flow (perm)	0	1565	1820	0	1752	1845
Link Speed (mph)	30		45			45
Link Distance (ft)	1094		740			2085
Travel Time (s)	24.9		11.2			31.6
Peak Hour Factor	0.77	0.77	0.90	0.90	0.94	0.94
Heavy Vehicles (%)	5%	5%	4%	4%	3%	3%
Adj. Flow (vph)	0	251	774	21	182	855
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	251	795	0	182	855
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		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
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	6	126	87	175	188	15
Future Volume (vph)	6	126	87	175	188	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.910		0.990	
Flt Protected		0.998			0.956	
Satd. Flow (prot)	0	1859	1662	0	1746	0
Flt Permitted		0.998			0.956	
Satd. Flow (perm)	0	1859	1662	0	1746	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		631	397		1094	
Travel Time (s)		14.3	9.0		24.9	
Peak Hour Factor	0.80	0.80	0.77	0.77	0.88	0.88
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Adj. Flow (vph)	8	158	113	227	214	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	166	340	0	231	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

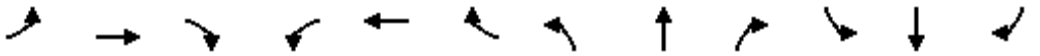
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.3%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	132	0	0	0	0	102
Future Volume (vph)	132	0	0	0	0	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected		0.950				
Satd. Flow (prot)	0	1770	1827	0	1580	0
Flt Permitted		0.950				
Satd. Flow (perm)	0	1770	1827	0	1580	0
Link Speed (mph)		25	25		30	
Link Distance (ft)		1011	387		631	
Travel Time (s)		27.6	10.6		14.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	4%	4%	4%	4%
Adj. Flow (vph)	143	0	0	0	0	111
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	143	0	0	111	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 20.3%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	89	199	45	118	25	151	599	39	23	657	108
Future Volume (vph)	122	89	199	45	118	25	151	599	39	23	657	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		100	350		0	225		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.982			0.991			0.979	
Flt Protected		0.972			0.988		0.950			0.950		
Satd. Flow (prot)	0	1811	1583	0	1773	0	1752	1828	0	1770	1824	0
Flt Permitted		0.594			0.704		0.950			0.950		
Satd. Flow (perm)	0	1106	1583	0	1263	0	1752	1828	0	1770	1824	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			172		6			3			9	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		897			1011			2133			740	
Travel Time (s)		20.4			23.0			32.3			11.2	
Peak Hour Factor	0.93	0.93	0.93	0.84	0.84	0.84	0.90	0.90	0.90	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	131	96	214	54	140	30	168	666	43	23	670	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	227	214	0	224	0	168	709	0	23	780	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			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		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	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)		94			94			94			94	
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	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	

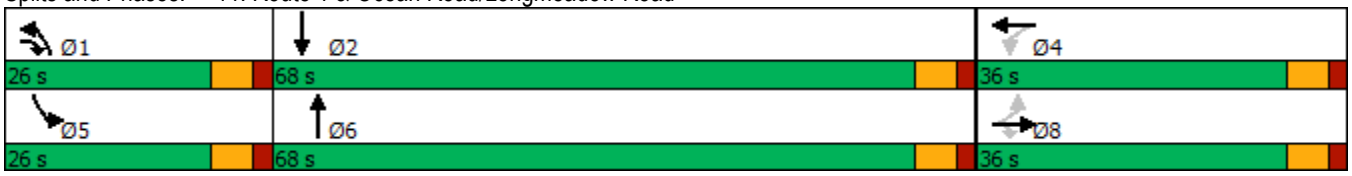


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	5.0	8.0	8.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	12.0	12.0	11.0	14.0	14.0		11.0	16.0		11.0	32.0	
Total Split (s)	36.0	36.0	26.0	36.0	36.0		26.0	68.0		26.0	68.0	
Total Split (%)	27.7%	27.7%	20.0%	27.7%	27.7%		20.0%	52.3%		20.0%	52.3%	
Maximum Green (s)	30.0	30.0	20.0	30.0	30.0		20.0	62.0		20.0	62.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)											4.0	
Flash Dont Walk (s)											22.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)		27.9	50.0		27.9		16.0	68.9		7.2	54.4	
Actuated g/C Ratio		0.24	0.43		0.24		0.14	0.59		0.06	0.47	
v/c Ratio		0.86	0.28		0.73		0.70	0.66		0.21	0.91	
Control Delay		74.9	6.7		57.8		66.7	21.2		61.7	45.5	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		74.9	6.7		57.8		66.7	21.2		61.7	45.5	
LOS		E	A		E		E	C		E	D	
Approach Delay		41.8			57.8			29.9			46.0	
Approach LOS		D			E			C			D	
90th %ile Green (s)	30.0	30.0	20.0	30.0	30.0		20.0	72.6		9.4	62.0	
90th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Gap	Max	
70th %ile Green (s)	30.0	30.0	20.0	30.0	30.0		20.0	74.0		8.0	62.0	
70th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Gap	Max	
50th %ile Green (s)	30.0	30.0	17.4	30.0	30.0		17.4	72.3		7.1	62.0	
50th %ile Term Code	Max	Max	Gap	Hold	Hold		Gap	Hold		Gap	Max	
30th %ile Green (s)	29.1	29.1	14.1	29.1	29.1		14.1	71.8		0.0	51.7	
30th %ile Term Code	Gap	Gap	Gap	Hold	Hold		Gap	Hold		Skip	Gap	
10th %ile Green (s)	20.0	20.0	9.7	20.0	20.0		9.7	51.9		0.0	36.2	
10th %ile Term Code	Gap	Gap	Gap	Hold	Hold		Gap	Hold		Skip	Gap	
Queue Length 50th (ft)		181	20		168		134	393		19	555	
Queue Length 95th (ft)		#339	70		#249		213	559		49	#842	
Internal Link Dist (ft)		817			931			2053			660	
Turn Bay Length (ft)			200				350			225		
Base Capacity (vph)		292	831		338		308	1123		311	999	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.78	0.26		0.66		0.55	0.63		0.07	0.78	

Intersection Summary

Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 116.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 40.3		Intersection LOS: D	
Intersection Capacity Utilization 88.9%		ICU Level of Service E	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 130			
70th %ile Actuated Cycle: 130			
50th %ile Actuated Cycle: 127.4			
30th %ile Actuated Cycle: 112.9			
10th %ile Actuated Cycle: 83.9			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 11: Route 1 & Ocean Road/Longmeadow Road





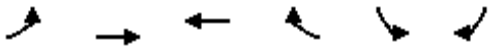
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	314	0	0	262	0	0
Future Volume (vph)	314	0	0	262	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1845	0	0	1827	1881	0
Flt Permitted						
Satd. Flow (perm)	1845	0	0	1827	1881	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	397			1132	335	
Travel Time (s)	9.0			25.7	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	4%	4%	1%	1%
Adj. Flow (vph)	341	0	0	285	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	341	0	0	285	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	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
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 19.9%		ICU Level of Service A	
Analysis Period (min) 15			



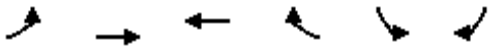
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	199	840	24	109	521
Future Volume (vph)	0	199	840	24	109	521
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	150	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.996			
Flt Protected					0.950	
Satd. Flow (prot)	0	1627	1820	0	1671	1759
Flt Permitted					0.950	
Satd. Flow (perm)	0	1627	1820	0	1671	1759
Link Speed (mph)	30		45			45
Link Distance (ft)	1094		740			2085
Travel Time (s)	24.9		11.2			31.6
Peak Hour Factor	0.72	0.72	0.98	0.98	0.88	0.88
Heavy Vehicles (%)	1%	1%	4%	4%	8%	8%
Adj. Flow (vph)	0	276	857	24	124	592
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	276	881	0	124	592
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		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
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 64.7%		ICU Level of Service C	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	92	115	231	109	38
Future Volume (vph)	17	92	115	231	109	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.910		0.965	
Flt Protected		0.992			0.964	
Satd. Flow (prot)	0	1698	1695	0	1637	0
Flt Permitted		0.992			0.964	
Satd. Flow (perm)	0	1698	1695	0	1637	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		631	397		1094	
Travel Time (s)		14.3	9.0		24.9	
Peak Hour Factor	0.83	0.83	0.77	0.77	0.90	0.90
Heavy Vehicles (%)	11%	11%	2%	2%	8%	8%
Adj. Flow (vph)	20	111	149	300	121	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	131	449	0	163	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

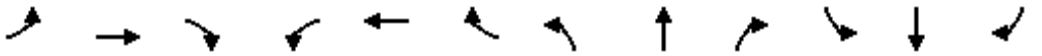
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.3%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	92	36	67	17	18	135
Future Volume (vph)	92	36	67	17	18	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.973		0.881	
Flt Protected		0.965			0.994	
Satd. Flow (prot)	0	1730	1830	0	1570	0
Flt Permitted		0.965			0.994	
Satd. Flow (perm)	0	1730	1830	0	1570	0
Link Speed (mph)		25	25		30	
Link Distance (ft)		1011	387		631	
Travel Time (s)		27.6	10.6		14.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	1%	1%	6%	6%
Adj. Flow (vph)	100	39	73	18	20	147
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	139	91	0	167	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Stop	Stop		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.7%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	143	193	61	122	15	141	701	71	25	377	107
Future Volume (vph)	147	143	193	61	122	15	141	701	71	25	377	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	350		0	225		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.976			0.986			0.967	
Flt Protected		0.975			0.987		0.950			0.950		
Satd. Flow (prot)	0	1748	1524	0	1727	0	1736	1801	0	1671	1701	0
Flt Permitted		0.602			0.566		0.950			0.950		
Satd. Flow (perm)	0	1079	1524	0	990	0	1736	1801	0	1671	1701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			230		9			5			13	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		897			1011			2133			740	
Travel Time (s)		20.4			23.0			32.3			11.2	
Peak Hour Factor	0.84	0.84	0.84	0.67	0.67	0.25	0.89	0.89	0.89	0.88	0.88	0.88
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	4%	4%	4%	8%	8%	8%
Adj. Flow (vph)	175	170	230	91	182	60	158	788	80	28	428	122
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	345	230	0	333	0	158	868	0	28	550	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			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		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	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)		94			94			94			94	
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	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	

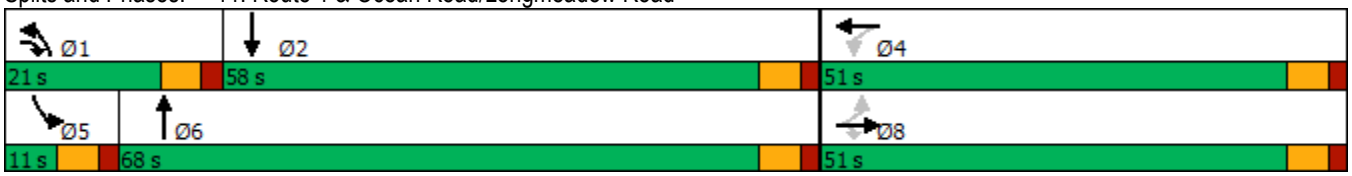


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	5.0	8.0	8.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	12.0	12.0	11.0	14.0	14.0		11.0	16.0		11.0	32.0	
Total Split (s)	51.0	51.0	21.0	51.0	51.0		21.0	68.0		11.0	58.0	
Total Split (%)	39.2%	39.2%	16.2%	39.2%	39.2%		16.2%	52.3%		8.5%	44.6%	
Maximum Green (s)	45.0	45.0	15.0	45.0	45.0		15.0	62.0		5.0	52.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)											4.0	
Flash Dont Walk (s)											22.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)		42.9	62.9		42.9		14.0	62.3		5.0	48.5	
Actuated g/C Ratio		0.35	0.51		0.35		0.11	0.50		0.04	0.39	
v/c Ratio		0.92	0.26		0.95		0.80	0.95		0.41	0.81	
Control Delay		70.6	2.8		77.4		83.1	51.5		79.0	44.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		70.6	2.8		77.4		83.1	51.5		79.0	44.4	
LOS		E	A		E		F	D		E	D	
Approach Delay		43.5			77.4			56.4			46.0	
Approach LOS		D			E			E			D	
90th %ile Green (s)	45.0	45.0	15.0	45.0	45.0		15.0	62.0		5.0	52.0	
90th %ile Term Code	Max	Max	Max	Max	Max		Max	Max		Max	Max	
70th %ile Green (s)	45.0	45.0	15.0	45.0	45.0		15.0	62.0		5.0	52.0	
70th %ile Term Code	Max	Max	Max	Max	Max		Max	Max		Max	Max	
50th %ile Green (s)	45.0	45.0	15.0	45.0	45.0		15.0	62.0		5.0	52.0	
50th %ile Term Code	Max	Max	Max	Max	Max		Max	Max		Max	Hold	
30th %ile Green (s)	45.0	45.0	14.5	45.0	45.0		14.5	62.0		0.0	41.5	
30th %ile Term Code	Hold	Hold	Gap	Max	Max		Gap	Max		Skip	Hold	
10th %ile Green (s)	34.7	34.7	10.9	34.7	34.7		10.9	62.0		0.0	45.1	
10th %ile Term Code	Hold	Hold	Gap	Gap	Gap		Gap	Max		Skip	Hold	
Queue Length 50th (ft)		278	0		267		132	~729		24	396	
Queue Length 95th (ft)		#417	31		263		#241	#996		#57	532	
Internal Link Dist (ft)		817			931			2053			660	
Turn Bay Length (ft)			200				350			225		
Base Capacity (vph)		395	900		368		211	910		68	727	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.87	0.26		0.90		0.75	0.95		0.41	0.76	

Intersection Summary

Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 123.5			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 53.8		Intersection LOS: D	
Intersection Capacity Utilization 91.7%		ICU Level of Service F	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 130			
70th %ile Actuated Cycle: 130			
50th %ile Actuated Cycle: 130			
30th %ile Actuated Cycle: 119			
10th %ile Actuated Cycle: 108.7			
~ 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.			

Splits and Phases: 11: Route 1 & Ocean Road/Longmeadow Road





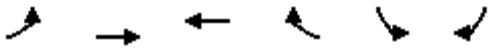
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	192	9	7	320	26	13
Future Volume (vph)	192	9	7	320	26	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994				0.955	
Flt Protected				0.999	0.968	
Satd. Flow (prot)	1701	0	0	1861	1739	0
Flt Permitted				0.999	0.968	
Satd. Flow (perm)	1701	0	0	1861	1739	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	397			1132	335	
Travel Time (s)	9.0			25.7	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	11%	2%	2%	1%	1%
Adj. Flow (vph)	209	10	8	348	28	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	219	0	0	356	42	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	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
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.5%		ICU Level of Service A	
Analysis Period (min) 15			



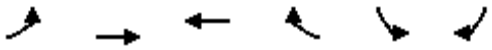
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	217	704	25	204	812
Future Volume (vph)	0	217	704	25	204	812
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	150	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.995			
Flt Protected					0.950	
Satd. Flow (prot)	0	1565	1818	0	1752	1845
Flt Permitted					0.950	
Satd. Flow (perm)	0	1565	1818	0	1752	1845
Link Speed (mph)	30		45			45
Link Distance (ft)	1094		740			2085
Travel Time (s)	24.9		11.2			31.6
Peak Hour Factor	0.77	0.77	0.90	0.90	0.94	0.94
Heavy Vehicles (%)	5%	5%	4%	4%	3%	3%
Adj. Flow (vph)	0	282	782	28	217	864
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	282	810	0	217	864
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		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
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 58.7%		ICU Level of Service B	
Analysis Period (min) 15			



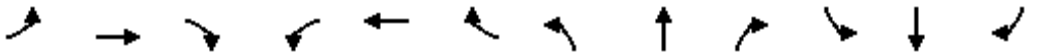
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	127	89	186	207	35
Future Volume (vph)	19	127	89	186	207	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.909		0.980	
Flt Protected		0.993			0.959	
Satd. Flow (prot)	0	1850	1661	0	1734	0
Flt Permitted		0.993			0.959	
Satd. Flow (perm)	0	1850	1661	0	1734	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		631	397		1094	
Travel Time (s)		14.3	9.0		24.9	
Peak Hour Factor	0.80	0.80	0.77	0.77	0.88	0.88
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Adj. Flow (vph)	24	159	116	242	235	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	183	358	0	275	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.0%		ICU Level of Service A	
Analysis Period (min) 15			

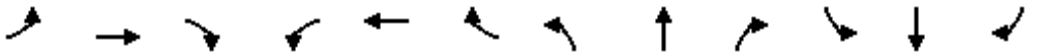


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	132	52	48	14	21	103
Future Volume (vph)	132	52	48	14	21	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.970		0.888	
Flt Protected		0.965			0.992	
Satd. Flow (prot)	0	1798	1772	0	1609	0
Flt Permitted		0.965			0.992	
Satd. Flow (perm)	0	1798	1772	0	1609	0
Link Speed (mph)		25	25		30	
Link Distance (ft)		1011	387		631	
Travel Time (s)		27.6	10.6		14.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	4%	4%	4%	4%
Adj. Flow (vph)	143	57	52	15	23	112
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	200	67	0	135	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Stop	Stop		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.9%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	110	199	68	135	34	151	605	62	31	657	108
Future Volume (vph)	122	110	199	68	135	34	151	605	62	31	657	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		100	350		0	225		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.981			0.986			0.979	
Flt Protected		0.974			0.986		0.950			0.950		
Satd. Flow (prot)	0	1814	1583	0	1767	0	1752	1819	0	1770	1824	0
Flt Permitted		0.599			0.625		0.950			0.950		
Satd. Flow (perm)	0	1116	1583	0	1120	0	1752	1819	0	1770	1824	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			178		6			6			9	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		897			1011			2133			740	
Travel Time (s)		20.4			23.0			32.3			11.2	
Peak Hour Factor	0.93	0.93	0.93	0.84	0.84	0.84	0.90	0.90	0.90	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	131	118	214	81	161	40	168	672	69	32	670	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	249	214	0	282	0	168	741	0	32	780	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			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		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	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)		94			94			94			94	
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	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	

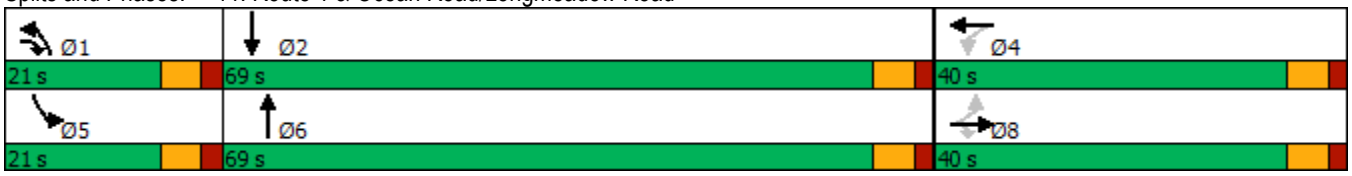


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	5.0	8.0	8.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	12.0	12.0	11.0	14.0	14.0		11.0	16.0		11.0	32.0	
Total Split (s)	40.0	40.0	21.0	40.0	40.0		21.0	69.0		21.0	69.0	
Total Split (%)	30.8%	30.8%	16.2%	30.8%	30.8%		16.2%	53.1%		16.2%	53.1%	
Maximum Green (s)	34.0	34.0	15.0	34.0	34.0		15.0	63.0		15.0	63.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)											4.0	
Flash Dont Walk (s)											22.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)		34.2	54.6		34.2		14.3	68.3		7.7	56.5	
Actuated g/C Ratio		0.28	0.44		0.28		0.12	0.55		0.06	0.46	
v/c Ratio		0.80	0.27		0.90		0.83	0.73		0.29	0.93	
Control Delay		63.8	6.3		73.9		85.4	27.1		63.9	49.0	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		63.8	6.3		73.9		85.4	27.1		63.9	49.0	
LOS		E	A		E		F	C		E	D	
Approach Delay		37.2			73.9			37.9			49.6	
Approach LOS		D			E			D			D	
90th %ile Green (s)	34.0	34.0	15.0	34.0	34.0		15.0	67.5		10.5	63.0	
90th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Gap	Max	
70th %ile Green (s)	34.0	34.0	15.0	34.0	34.0		15.0	69.1		8.9	63.0	
70th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Gap	Max	
50th %ile Green (s)	34.0	34.0	15.0	34.0	34.0		15.0	70.3		7.7	63.0	
50th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Gap	Max	
30th %ile Green (s)	34.0	34.0	15.0	34.0	34.0		15.0	74.8		0.0	53.8	
30th %ile Term Code	Hold	Hold	Max	Max	Max		Max	Hold		Skip	Gap	
10th %ile Green (s)	34.0	34.0	11.6	34.0	34.0		11.6	58.9		0.0	41.3	
10th %ile Term Code	Hold	Hold	Gap	Max	Max		Gap	Hold		Skip	Gap	
Queue Length 50th (ft)		200	18		230		141	462		26	570	
Queue Length 95th (ft)		#352	68		#366		#264	662		60	#830	
Internal Link Dist (ft)		817			931			2053			660	
Turn Bay Length (ft)			200				350			225		
Base Capacity (vph)		310	809		315		215	1025		217	944	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.80	0.26		0.90		0.78	0.72		0.15	0.83	

Intersection Summary

Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 123.1			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 45.7		Intersection LOS: D	
Intersection Capacity Utilization 86.8%		ICU Level of Service E	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 130			
70th %ile Actuated Cycle: 130			
50th %ile Actuated Cycle: 130			
30th %ile Actuated Cycle: 120.8			
10th %ile Actuated Cycle: 104.9			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 11: Route 1 & Ocean Road/Longmeadow Road





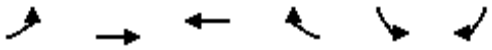
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	315	19	11	263	12	9
Future Volume (vph)	315	19	11	263	12	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992				0.941	
Flt Protected				0.998	0.973	
Satd. Flow (prot)	1830	0	0	1823	1722	0
Flt Permitted				0.998	0.973	
Satd. Flow (perm)	1830	0	0	1823	1722	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	397			1132	335	
Travel Time (s)	9.0			25.7	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	4%	4%	1%	1%
Adj. Flow (vph)	342	21	12	286	13	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	363	0	0	298	23	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	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
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.8%		ICU Level of Service A	
Analysis Period (min) 15			



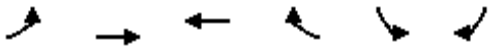
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	199	840	24	109	521
Future Volume (vph)	0	199	840	24	109	521
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	150	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Frt		0.865	0.996			
Flt Protected					0.950	
Satd. Flow (prot)	0	1627	1820	0	1671	3343
Flt Permitted					0.950	
Satd. Flow (perm)	0	1627	1820	0	1671	3343
Link Speed (mph)	30		45			45
Link Distance (ft)	1094		740			2085
Travel Time (s)	24.9		11.2			31.6
Peak Hour Factor	0.72	0.72	0.98	0.98	0.88	0.88
Heavy Vehicles (%)	1%	1%	4%	4%	8%	8%
Adj. Flow (vph)	0	276	857	24	124	592
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	276	881	0	124	592
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		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
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 64.7%		ICU Level of Service C	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	92	115	231	109	38
Future Volume (vph)	17	92	115	231	109	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.910		0.965	
Flt Protected		0.992			0.964	
Satd. Flow (prot)	0	1698	1695	0	1637	0
Flt Permitted		0.992			0.964	
Satd. Flow (perm)	0	1698	1695	0	1637	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		631	397		1094	
Travel Time (s)		14.3	9.0		24.9	
Peak Hour Factor	0.83	0.83	0.77	0.77	0.90	0.90
Heavy Vehicles (%)	11%	11%	2%	2%	8%	8%
Adj. Flow (vph)	20	111	149	300	121	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	131	449	0	163	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

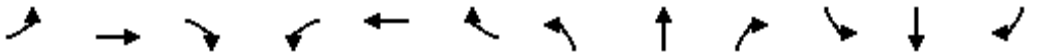
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.3%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	92	36	67	17	18	135
Future Volume (vph)	92	36	67	17	18	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.973		0.881	
Flt Protected		0.965			0.994	
Satd. Flow (prot)	0	1730	1830	0	1570	0
Flt Permitted		0.965			0.994	
Satd. Flow (perm)	0	1730	1830	0	1570	0
Link Speed (mph)		25	25		30	
Link Distance (ft)		1011	387		631	
Travel Time (s)		27.6	10.6		14.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	1%	1%	6%	6%
Adj. Flow (vph)	100	39	73	18	20	147
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	139	91	0	167	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Stop	Stop		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.7%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	143	193	61	122	15	141	701	71	25	377	107
Future Volume (vph)	147	143	193	61	122	15	141	701	71	25	377	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	350		0	225		0
Storage Lanes	1		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.914			0.976			0.986			0.967	
Flt Protected	0.950				0.987		0.950			0.950		
Satd. Flow (prot)	1703	1638	0	0	1727	0	1736	1801	0	1671	3232	0
Flt Permitted	0.458				0.419		0.950			0.950		
Satd. Flow (perm)	821	1638	0	0	733	0	1736	1801	0	1671	3232	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		69			11			7			40	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		897			1011			2133			740	
Travel Time (s)		20.4			23.0			32.3			11.2	
Peak Hour Factor	0.84	0.84	0.84	0.67	0.67	0.25	0.89	0.89	0.89	0.88	0.88	0.88
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	4%	4%	4%	8%	8%	8%
Adj. Flow (vph)	175	170	230	91	182	60	158	788	80	28	428	122
Shared Lane Traffic (%)												
Lane Group Flow (vph)	175	400	0	0	333	0	158	868	0	28	550	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)		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		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	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)		94			94			94			94	
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	
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8			4								
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		8.0	8.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	12.0	12.0		14.0	14.0		11.0	16.0		11.0	32.0	
Total Split (s)	35.0	35.0		35.0	35.0		24.0	54.0		11.0	41.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		24.0%	54.0%		11.0%	41.0%	
Maximum Green (s)	29.0	29.0		29.0	29.0		18.0	48.0		5.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0			6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None		None	None		None	Min		None	Min	
Walk Time (s)											4.0	
Flash Dont Walk (s)											22.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)	29.1	29.1			29.1		13.6	48.2		5.0	34.9	
Actuated g/C Ratio	0.30	0.30			0.30		0.14	0.50		0.05	0.37	
v/c Ratio	0.70	0.73			1.45		0.64	0.95		0.32	0.46	
Control Delay	48.0	34.6			251.5		51.2	45.4		55.7	23.2	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	48.0	34.6			251.5		51.2	45.4		55.7	23.2	
LOS	D	C			F		D	D		E	C	
Approach Delay		38.7			251.5			46.3			24.8	
Approach LOS		D			F			D			C	
90th %ile Green (s)	29.0	29.0		29.0	29.0		18.0	48.0		5.0	35.0	
90th %ile Term Code	Max	Max		Max	Max		Max	Max		Max	Hold	
70th %ile Green (s)	29.0	29.0		29.0	29.0		16.5	48.0		5.0	36.5	
70th %ile Term Code	Max	Max		Max	Max		Gap	Max		Max	Hold	
50th %ile Green (s)	29.0	29.0		29.0	29.0		14.3	48.0		5.0	38.7	
50th %ile Term Code	Hold	Hold		Max	Max		Gap	Max		Max	Hold	
30th %ile Green (s)	29.0	29.0		29.0	29.0		11.3	48.0		0.0	30.7	
30th %ile Term Code	Hold	Hold		Max	Max		Gap	Max		Skip	Hold	
10th %ile Green (s)	29.0	29.0		29.0	29.0		8.5	48.0		0.0	33.5	
10th %ile Term Code	Hold	Hold		Max	Max		Gap	Max		Skip	Hold	
Queue Length 50th (ft)	100	194			~295		96	531		18	123	
Queue Length 95th (ft)	#184	277			#310		155	#800		45	176	
Internal Link Dist (ft)		817			931			2053			660	
Turn Bay Length (ft)							350			225		
Base Capacity (vph)	250	546			230		328	910		87	1245	
Starvation Cap Reductn	0	0			0		0	0		0	0	
Spillback Cap Reductn	0	0			0		0	0		0	0	
Storage Cap Reductn	0	0			0		0	0		0	0	
Reduced v/c Ratio	0.70	0.73			1.45		0.48	0.95		0.32	0.44	

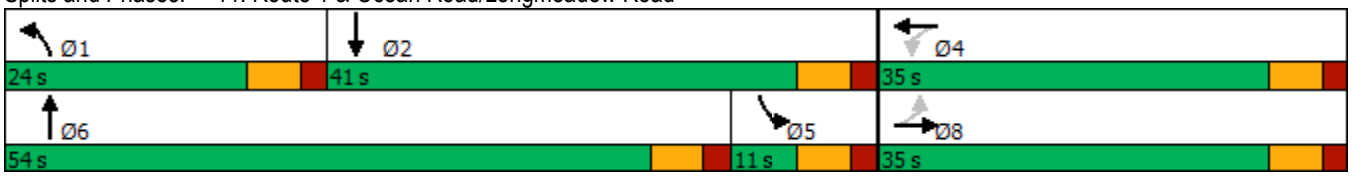
Intersection Summary

Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 95.6			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.45			
Intersection Signal Delay: 66.8		Intersection LOS: E	
Intersection Capacity Utilization 95.4%		ICU Level of Service F	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 100			
70th %ile Actuated Cycle: 100			
50th %ile Actuated Cycle: 100			
30th %ile Actuated Cycle: 89			
10th %ile Actuated Cycle: 89			

~ 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.

Splits and Phases: 11: Route 1 & Ocean Road/Longmeadow Road





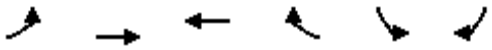
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	192	9	7	320	26	13
Future Volume (vph)	192	9	7	320	26	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994				0.955	
Flt Protected				0.999	0.968	
Satd. Flow (prot)	1701	0	0	1861	1739	0
Flt Permitted				0.999	0.968	
Satd. Flow (perm)	1701	0	0	1861	1739	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	397			1132	335	
Travel Time (s)	9.0			25.7	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	11%	2%	2%	1%	1%
Adj. Flow (vph)	209	10	8	348	28	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	219	0	0	356	42	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	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
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.5%		ICU Level of Service A	
Analysis Period (min) 15			



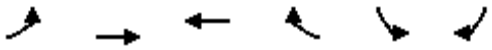
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	217	704	25	204	812
Future Volume (vph)	0	217	704	25	204	812
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	150	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Frt		0.865	0.995			
Flt Protected					0.950	
Satd. Flow (prot)	0	1565	1818	0	1752	3505
Flt Permitted					0.950	
Satd. Flow (perm)	0	1565	1818	0	1752	3505
Link Speed (mph)	30		45			45
Link Distance (ft)	1094		740			2085
Travel Time (s)	24.9		11.2			31.6
Peak Hour Factor	0.77	0.77	0.90	0.90	0.94	0.94
Heavy Vehicles (%)	5%	5%	4%	4%	3%	3%
Adj. Flow (vph)	0	282	782	28	217	864
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	282	810	0	217	864
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		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
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 58.7%		ICU Level of Service B	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	127	89	186	207	35
Future Volume (vph)	19	127	89	186	207	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.909		0.980	
Flt Protected		0.993			0.959	
Satd. Flow (prot)	0	1850	1661	0	1734	0
Flt Permitted		0.993			0.959	
Satd. Flow (perm)	0	1850	1661	0	1734	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		631	397		1094	
Travel Time (s)		14.3	9.0		24.9	
Peak Hour Factor	0.80	0.80	0.77	0.77	0.88	0.88
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Adj. Flow (vph)	24	159	116	242	235	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	183	358	0	275	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

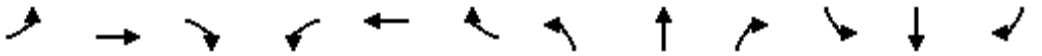
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.0%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	132	52	48	14	21	103
Future Volume (vph)	132	52	48	14	21	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.970		0.888	
Flt Protected		0.965			0.992	
Satd. Flow (prot)	0	1798	1772	0	1609	0
Flt Permitted		0.965			0.992	
Satd. Flow (perm)	0	1798	1772	0	1609	0
Link Speed (mph)		25	25		30	
Link Distance (ft)		1011	387		631	
Travel Time (s)		27.6	10.6		14.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	4%	4%	4%	4%
Adj. Flow (vph)	143	57	52	15	23	112
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	200	67	0	135	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Stop	Stop		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.9%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	110	199	68	135	34	151	605	62	31	657	108
Future Volume (vph)	122	110	199	68	135	34	151	605	62	31	657	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		100	350		0	225		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.981			0.986			0.979	
Flt Protected		0.974			0.986		0.950			0.950		
Satd. Flow (prot)	0	1814	1583	0	1767	0	1752	1819	0	1770	3465	0
Flt Permitted		0.628			0.681		0.950			0.950		
Satd. Flow (perm)	0	1170	1583	0	1220	0	1752	1819	0	1770	3465	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			89		9			7			23	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		897			1011			2133			740	
Travel Time (s)		20.4			23.0			32.3			11.2	
Peak Hour Factor	0.93	0.93	0.93	0.84	0.84	0.84	0.90	0.90	0.90	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	131	118	214	81	161	40	168	672	69	32	670	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	249	214	0	282	0	168	741	0	32	780	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			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		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	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)		94			94			94			94	
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	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	

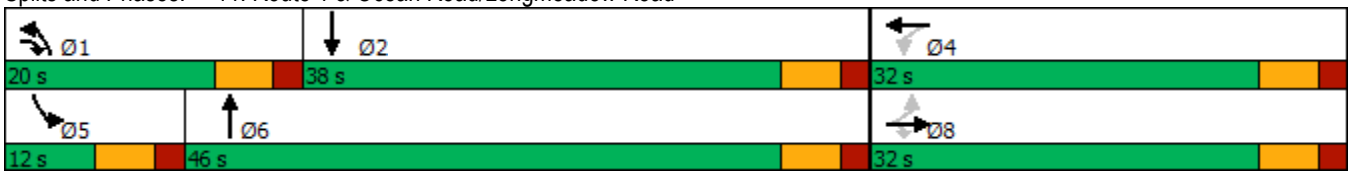


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	5.0	8.0	8.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	12.0	12.0	11.0	14.0	14.0		11.0	16.0		11.0	32.0	
Total Split (s)	32.0	32.0	20.0	32.0	32.0		20.0	46.0		12.0	38.0	
Total Split (%)	35.6%	35.6%	22.2%	35.6%	35.6%		22.2%	51.1%		13.3%	42.2%	
Maximum Green (s)	26.0	26.0	14.0	26.0	26.0		14.0	40.0		6.0	32.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)											4.0	
Flash Dont Walk (s)											22.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)		20.9	39.1		20.9		11.8	37.9		6.1	26.1	
Actuated g/C Ratio		0.27	0.50		0.27		0.15	0.49		0.08	0.34	
v/c Ratio		0.79	0.25		0.84		0.63	0.83		0.23	0.66	
Control Delay		47.5	7.9		50.9		45.3	30.0		43.5	24.9	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		47.5	7.9		50.9		45.3	30.0		43.5	24.9	
LOS		D	A		D		D	C		D	C	
Approach Delay		29.2			50.9			32.8			25.6	
Approach LOS		C			D			C			C	
90th %ile Green (s)	26.0	26.0	14.0	26.0	26.0		14.0	40.0		6.0	32.0	
90th %ile Term Code	Max	Max	Max	Max	Max		Max	Max		Max	Max	
70th %ile Green (s)	26.0	26.0	14.0	26.0	26.0		14.0	40.0		6.0	32.0	
70th %ile Term Code	Max	Max	Max	Max	Max		Max	Max		Max	Hold	
50th %ile Green (s)	24.6	24.6	13.7	24.6	24.6		13.7	40.0		6.0	32.3	
50th %ile Term Code	Hold	Hold	Gap	Gap	Gap		Gap	Max		Max	Hold	
30th %ile Green (s)	17.7	17.7	10.3	17.7	17.7		10.3	37.2		0.0	20.9	
30th %ile Term Code	Hold	Hold	Gap	Gap	Gap		Gap	Hold		Skip	Gap	
10th %ile Green (s)	12.0	12.0	7.5	12.0	12.0		7.5	28.8		0.0	15.3	
10th %ile Term Code	Hold	Hold	Gap	Gap	Gap		Gap	Hold		Skip	Gap	
Queue Length 50th (ft)		128	36		143		89	366		17	178	
Queue Length 95th (ft)		#243	75		#241		#158	#617		47	247	
Internal Link Dist (ft)		817			931			2053			660	
Turn Bay Length (ft)			200				350			225		
Base Capacity (vph)		410	894		433		330	984		143	1509	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.61	0.24		0.65		0.51	0.75		0.22	0.52	

Intersection Summary

Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 77.7			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 31.8		Intersection LOS: C	
Intersection Capacity Utilization 77.1%		ICU Level of Service D	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 90			
70th %ile Actuated Cycle: 90			
50th %ile Actuated Cycle: 88.6			
30th %ile Actuated Cycle: 66.9			
10th %ile Actuated Cycle: 52.8			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 11: Route 1 & Ocean Road/Longmeadow Road





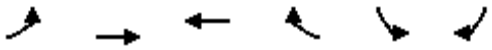
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	315	19	11	263	12	9
Future Volume (vph)	315	19	11	263	12	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992				0.941	
Flt Protected				0.998	0.973	
Satd. Flow (prot)	1830	0	0	1823	1722	0
Flt Permitted				0.998	0.973	
Satd. Flow (perm)	1830	0	0	1823	1722	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	397			1132	335	
Travel Time (s)	9.0			25.7	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	4%	4%	1%	1%
Adj. Flow (vph)	342	21	12	286	13	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	363	0	0	298	23	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	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
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.8%		ICU Level of Service A	
Analysis Period (min) 15			



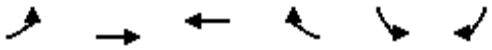
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	176	913	22	96	567
Future Volume (vph)	0	176	913	22	96	567
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	150	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.997			
Flt Protected					0.950	
Satd. Flow (prot)	0	1627	1821	0	1671	1759
Flt Permitted					0.950	
Satd. Flow (perm)	0	1627	1821	0	1671	1759
Link Speed (mph)	30		45			45
Link Distance (ft)	1094		740			2085
Travel Time (s)	24.9		11.2			31.6
Peak Hour Factor	0.72	0.72	0.98	0.98	0.88	0.88
Heavy Vehicles (%)	1%	1%	4%	4%	8%	8%
Adj. Flow (vph)	0	244	932	22	109	644
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	244	954	0	109	644
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		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
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 66.9%		ICU Level of Service C	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	2	99	123	228	110	23
Future Volume (vph)	2	99	123	228	110	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.912		0.976	
Flt Protected		0.999			0.960	
Satd. Flow (prot)	0	1710	1699	0	1648	0
Flt Permitted		0.999			0.960	
Satd. Flow (perm)	0	1710	1699	0	1648	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		631	397		1094	
Travel Time (s)		14.3	9.0		24.9	
Peak Hour Factor	0.83	0.83	0.77	0.77	0.90	0.90
Heavy Vehicles (%)	11%	11%	2%	2%	8%	8%
Adj. Flow (vph)	2	119	160	296	122	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	121	456	0	148	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

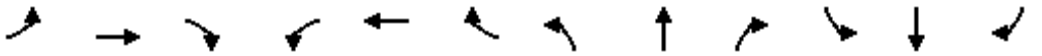
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.6%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	101	0	0	0	0	146
Future Volume (vph)	101	0	0	0	0	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected		0.950				
Satd. Flow (prot)	0	1703	1881	0	1550	0
Flt Permitted		0.950				
Satd. Flow (perm)	0	1703	1881	0	1550	0
Link Speed (mph)		25	25		30	
Link Distance (ft)		1011	387		631	
Travel Time (s)		27.6	10.6		14.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	1%	1%	6%	6%
Adj. Flow (vph)	110	0	0	0	0	159
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	110	0	0	159	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.3%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	142	212	30	107	5	155	767	61	21	415	118
Future Volume (vph)	162	142	212	30	107	5	155	767	61	21	415	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	350		0	225		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.988			0.989			0.967	
Flt Protected		0.974			0.990		0.950			0.950		
Satd. Flow (prot)	0	1746	1524	0	1753	0	1736	1807	0	1671	1701	0
Flt Permitted		0.641			0.612		0.950			0.950		
Satd. Flow (perm)	0	1149	1524	0	1084	0	1736	1807	0	1671	1701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			252		4			5			16	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		897			1011			2133			740	
Travel Time (s)		20.4			23.0			32.3			11.2	
Peak Hour Factor	0.84	0.84	0.84	0.67	0.67	0.25	0.89	0.89	0.89	0.88	0.88	0.88
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	4%	4%	4%	8%	8%	8%
Adj. Flow (vph)	193	169	252	45	160	20	174	862	69	24	472	134
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	362	252	0	225	0	174	931	0	24	606	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			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		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	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)		94			94			94			94	
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	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	

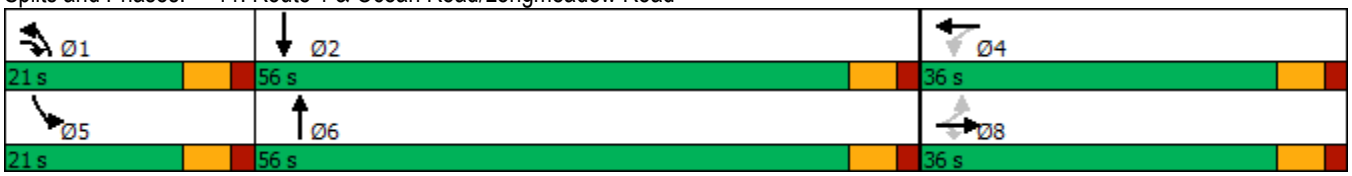


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	5.0	8.0	8.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	12.0	12.0	11.0	14.0	14.0		11.0	16.0		11.0	32.0	
Total Split (s)	36.0	36.0	21.0	36.0	36.0		21.0	56.0		21.0	56.0	
Total Split (%)	31.9%	31.9%	18.6%	31.9%	31.9%		18.6%	49.6%		18.6%	49.6%	
Maximum Green (s)	30.0	30.0	15.0	30.0	30.0		15.0	50.0		15.0	50.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)											4.0	
Flash Dont Walk (s)											22.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)		30.2	49.9		30.2		13.7	56.8		7.1	42.5	
Actuated g/C Ratio		0.29	0.48		0.29		0.13	0.54		0.07	0.41	
v/c Ratio		1.09	0.29		0.71		0.77	0.95		0.21	0.86	
Control Delay		113.8	3.3		49.0		67.7	42.7		53.0	41.5	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		113.8	3.3		49.0		67.7	42.7		53.0	41.5	
LOS		F	A		D		E	D		D	D	
Approach Delay		68.4			49.0			46.6			41.9	
Approach LOS		E			D			D			D	
90th %ile Green (s)	30.0	30.0	15.0	30.0	30.0		15.0	55.7		9.3	50.0	
90th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Gap	Max	
70th %ile Green (s)	30.0	30.0	15.0	30.0	30.0		15.0	57.0		8.0	50.0	
70th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Gap	Max	
50th %ile Green (s)	30.0	30.0	15.0	30.0	30.0		15.0	64.3		0.0	43.3	
50th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Skip	Gap	
30th %ile Green (s)	30.0	30.0	13.5	30.0	30.0		13.5	56.3		0.0	36.8	
30th %ile Term Code	Max	Max	Gap	Hold	Hold		Gap	Hold		Skip	Gap	
10th %ile Green (s)	30.0	30.0	10.1	30.0	30.0		10.1	50.0		0.0	33.9	
10th %ile Term Code	Max	Max	Gap	Hold	Hold		Gap	Max		Skip	Hold	
Queue Length 50th (ft)		~284	0		136		115	477		16	362	
Queue Length 95th (ft)		#455	34		166		#224	#962		43	500	
Internal Link Dist (ft)		817			931			2053			660	
Turn Bay Length (ft)			200				350			225		
Base Capacity (vph)		332	876		315		250	984		241	827	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		1.09	0.29		0.71		0.70	0.95		0.10	0.73	

Intersection Summary

Area Type:	Other		
Cycle Length: 113			
Actuated Cycle Length: 104.5			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.09			
Intersection Signal Delay: 50.9		Intersection LOS: D	
Intersection Capacity Utilization 92.3%		ICU Level of Service F	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 113			
70th %ile Actuated Cycle: 113			
50th %ile Actuated Cycle: 106.3			
30th %ile Actuated Cycle: 98.3			
10th %ile Actuated Cycle: 92			
~ 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.			

Splits and Phases: 11: Route 1 & Ocean Road/Longmeadow Road





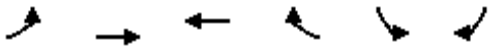
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	209	0	0	351	0	0
Future Volume (vph)	209	0	0	351	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1712	0	0	1863	1881	0
Flt Permitted						
Satd. Flow (perm)	1712	0	0	1863	1881	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	397			1132	335	
Travel Time (s)	9.0			25.7	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	11%	2%	2%	1%	1%
Adj. Flow (vph)	227	0	0	382	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	227	0	0	382	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	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
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.8%		ICU Level of Service A	
Analysis Period (min) 15			



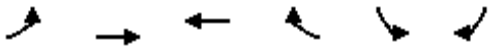
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	212	767	21	188	885
Future Volume (vph)	0	212	767	21	188	885
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	150	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.996			
Flt Protected					0.950	
Satd. Flow (prot)	0	1565	1820	0	1752	1845
Flt Permitted					0.950	
Satd. Flow (perm)	0	1565	1820	0	1752	1845
Link Speed (mph)	30		45			45
Link Distance (ft)	1094		740			2085
Travel Time (s)	24.9		11.2			31.6
Peak Hour Factor	0.77	0.77	0.90	0.90	0.94	0.94
Heavy Vehicles (%)	5%	5%	4%	4%	3%	3%
Adj. Flow (vph)	0	275	852	23	200	941
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	275	875	0	200	941
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		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
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.4%		ICU Level of Service B	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	7	139	96	193	207	17
Future Volume (vph)	7	139	96	193	207	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.910		0.990	
Flt Protected		0.998			0.956	
Satd. Flow (prot)	0	1859	1662	0	1746	0
Flt Permitted		0.998			0.956	
Satd. Flow (perm)	0	1859	1662	0	1746	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		631	397		1094	
Travel Time (s)		14.3	9.0		24.9	
Peak Hour Factor	0.80	0.80	0.77	0.77	0.88	0.88
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Adj. Flow (vph)	9	174	125	251	235	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	183	376	0	254	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

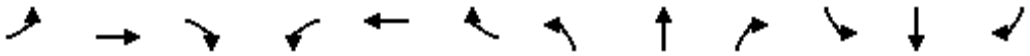
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.1%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	146	0	0	0	0	113
Future Volume (vph)	146	0	0	0	0	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.865	
Flt Protected		0.950				
Satd. Flow (prot)	0	1770	1827	0	1580	0
Flt Permitted		0.950				
Satd. Flow (perm)	0	1770	1827	0	1580	0
Link Speed (mph)		25	25		30	
Link Distance (ft)		1011	387		631	
Travel Time (s)		27.6	10.6		14.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	4%	4%	4%	4%
Adj. Flow (vph)	159	0	0	0	0	123
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	159	0	0	123	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.8%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	98	219	50	130	28	166	659	43	25	723	119
Future Volume (vph)	134	98	219	50	130	28	166	659	43	25	723	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		100	350		0	225		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.982			0.991			0.979	
Flt Protected		0.972			0.988		0.950			0.950		
Satd. Flow (prot)	0	1811	1583	0	1773	0	1752	1828	0	1770	1824	0
Flt Permitted		0.559			0.611		0.950			0.950		
Satd. Flow (perm)	0	1041	1583	0	1096	0	1752	1828	0	1770	1824	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			142		6			3			9	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		897			1011			2133			740	
Travel Time (s)		20.4			23.0			32.3			11.2	
Peak Hour Factor	0.93	0.93	0.93	0.84	0.84	0.84	0.90	0.90	0.90	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	144	105	235	60	155	33	184	732	48	26	738	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	249	235	0	248	0	184	780	0	26	859	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			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		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	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)		94			94			94			94	
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	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	

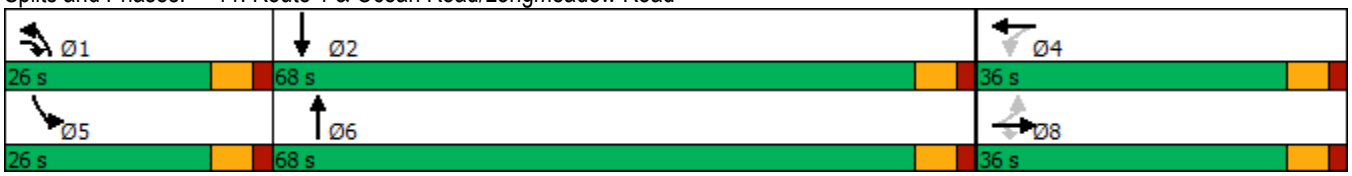


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	5.0	8.0	8.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	12.0	12.0	11.0	14.0	14.0		11.0	16.0		11.0	32.0	
Total Split (s)	36.0	36.0	26.0	36.0	36.0		26.0	68.0		26.0	68.0	
Total Split (%)	27.7%	27.7%	20.0%	27.7%	27.7%		20.0%	52.3%		20.0%	52.3%	
Maximum Green (s)	30.0	30.0	20.0	30.0	30.0		20.0	62.0		20.0	62.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)											4.0	
Flash Dont Walk (s)											22.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)		30.0	53.3		30.0		17.2	76.2		7.4	61.4	
Actuated g/C Ratio		0.24	0.42		0.24		0.14	0.60		0.06	0.48	
v/c Ratio		1.01	0.31		0.94		0.77	0.71		0.25	0.97	
Control Delay		108.6	10.6		89.3		74.7	23.5		63.6	55.5	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		108.6	10.6		89.3		74.7	23.5		63.6	55.5	
LOS		F	B		F		E	C		E	E	
Approach Delay		61.0			89.3			33.2			55.7	
Approach LOS		E			F			C			E	
90th %ile Green (s)	30.0	30.0	20.0	30.0	30.0		20.0	72.2		9.8	62.0	
90th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Gap	Max	
70th %ile Green (s)	30.0	30.0	20.0	30.0	30.0		20.0	73.7		8.3	62.0	
70th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Gap	Max	
50th %ile Green (s)	30.0	30.0	18.8	30.0	30.0		18.8	73.5		7.3	62.0	
50th %ile Term Code	Max	Max	Gap	Max	Max		Gap	Hold		Gap	Max	
30th %ile Green (s)	30.0	30.0	15.9	30.0	30.0		15.9	83.9		0.0	62.0	
30th %ile Term Code	Max	Max	Gap	Max	Max		Gap	Hold		Skip	Max	
10th %ile Green (s)	30.0	30.0	11.8	30.0	30.0		11.8	76.6		0.0	58.8	
10th %ile Term Code	Max	Max	Gap	Hold	Hold		Gap	Hold		Skip	Gap	
Queue Length 50th (ft)		~222	47		201		149	464		21	678	
Queue Length 95th (ft)		#397	105		#338		#233	664		52	#988	
Internal Link Dist (ft)		817			931			2053			660	
Turn Bay Length (ft)			200				350			225		
Base Capacity (vph)		247	779		264		277	1099		279	898	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		1.01	0.30		0.94		0.66	0.71		0.09	0.96	

Intersection Summary

Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 126.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 51.5		Intersection LOS: D	
Intersection Capacity Utilization 96.2%		ICU Level of Service F	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 130			
70th %ile Actuated Cycle: 130			
50th %ile Actuated Cycle: 128.8			
30th %ile Actuated Cycle: 125.9			
10th %ile Actuated Cycle: 118.6			
~ 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.			

Splits and Phases: 11: Route 1 & Ocean Road/Longmeadow Road





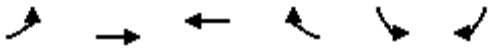
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	346	0	0	289	0	0
Future Volume (vph)	346	0	0	289	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1845	0	0	1827	1881	0
Flt Permitted						
Satd. Flow (perm)	1845	0	0	1827	1881	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	397			1132	335	
Travel Time (s)	9.0			25.7	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	4%	4%	1%	1%
Adj. Flow (vph)	376	0	0	314	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	376	0	0	314	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	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
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.5%		ICU Level of Service A	
Analysis Period (min) 15			



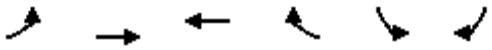
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	215	923	26	118	573
Future Volume (vph)	0	215	923	26	118	573
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	150	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.996			
Flt Protected					0.950	
Satd. Flow (prot)	0	1627	1820	0	1671	1759
Flt Permitted					0.950	
Satd. Flow (perm)	0	1627	1820	0	1671	1759
Link Speed (mph)	30		45			45
Link Distance (ft)	1094		740			2085
Travel Time (s)	24.9		11.2			31.6
Peak Hour Factor	0.72	0.72	0.98	0.98	0.88	0.88
Heavy Vehicles (%)	1%	1%	4%	4%	8%	8%
Adj. Flow (vph)	0	299	942	27	134	651
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	299	969	0	134	651
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		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
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 70.1%		ICU Level of Service C	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	101	126	252	119	40
Future Volume (vph)	17	101	126	252	119	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.910		0.966	
Flt Protected		0.993			0.964	
Satd. Flow (prot)	0	1700	1695	0	1638	0
Flt Permitted		0.993			0.964	
Satd. Flow (perm)	0	1700	1695	0	1638	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		631	397		1094	
Travel Time (s)		14.3	9.0		24.9	
Peak Hour Factor	0.83	0.83	0.77	0.77	0.90	0.90
Heavy Vehicles (%)	11%	11%	2%	2%	8%	8%
Adj. Flow (vph)	20	122	164	327	132	44
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	142	491	0	176	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

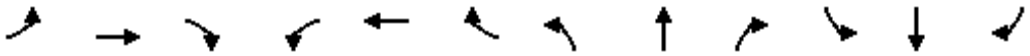
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.8%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	101	36	67	17	18	148
Future Volume (vph)	101	36	67	17	18	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.973		0.880	
Flt Protected		0.964			0.995	
Satd. Flow (prot)	0	1728	1830	0	1569	0
Flt Permitted		0.964			0.995	
Satd. Flow (perm)	0	1728	1830	0	1569	0
Link Speed (mph)		25	25		30	
Link Distance (ft)		1011	387		631	
Travel Time (s)		27.6	10.6		14.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	1%	1%	6%	6%
Adj. Flow (vph)	110	39	73	18	20	161
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	149	91	0	181	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Stop	Stop		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.0%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	156	212	64	132	15	155	771	77	27	415	118
Future Volume (vph)	162	156	212	64	132	15	155	771	77	27	415	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	350		0	225		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.977			0.986			0.967	
Flt Protected		0.975			0.987		0.950			0.950		
Satd. Flow (prot)	0	1748	1524	0	1728	0	1736	1801	0	1671	1701	0
Flt Permitted		0.592			0.516		0.950			0.950		
Satd. Flow (perm)	0	1061	1524	0	904	0	1736	1801	0	1671	1701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			234		9			5			13	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		897			1011			2133			740	
Travel Time (s)		20.4			23.0			32.3			11.2	
Peak Hour Factor	0.84	0.84	0.84	0.67	0.67	0.25	0.89	0.89	0.89	0.88	0.88	0.88
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	4%	4%	4%	8%	8%	8%
Adj. Flow (vph)	193	186	252	96	197	60	174	866	87	31	472	134
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	379	252	0	353	0	174	953	0	31	606	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			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		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	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)		94			94			94			94	
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	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	5.0	8.0	8.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	12.0	12.0	11.0	14.0	14.0		11.0	16.0		11.0	32.0	
Total Split (s)	51.0	51.0	21.0	51.0	51.0		21.0	68.0		11.0	58.0	
Total Split (%)	39.2%	39.2%	16.2%	39.2%	39.2%		16.2%	52.3%		8.5%	44.6%	
Maximum Green (s)	45.0	45.0	15.0	45.0	45.0		15.0	62.0		5.0	52.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)											4.0	
Flash Dont Walk (s)											22.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)		45.1	65.6		45.1		14.6	63.2		5.0	49.0	
Actuated g/C Ratio		0.36	0.52		0.36		0.12	0.50		0.04	0.39	
v/c Ratio		1.01	0.28		1.08		0.87	1.06		0.47	0.91	
Control Delay		89.3	3.6		111.8		93.3	78.5		83.8	55.2	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		89.3	3.6		111.8		93.3	78.5		83.8	55.2	
LOS		F	A		F		F	E		F	E	
Approach Delay		55.1			111.8			80.8			56.6	
Approach LOS		E			F			F			E	
90th %ile Green (s)	45.0	45.0	15.0	45.0	45.0		15.0	62.0		5.0	52.0	
90th %ile Term Code	Max	Max	Max	Max	Max		Max	Max		Max	Max	
70th %ile Green (s)	45.0	45.0	15.0	45.0	45.0		15.0	62.0		5.0	52.0	
70th %ile Term Code	Max	Max	Max	Max	Max		Max	Max		Max	Max	
50th %ile Green (s)	45.0	45.0	15.0	45.0	45.0		15.0	62.0		5.0	52.0	
50th %ile Term Code	Max	Max	Max	Max	Max		Max	Max		Max	Max	
30th %ile Green (s)	45.0	45.0	15.0	45.0	45.0		15.0	67.4		0.0	46.4	
30th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Skip	Gap	
10th %ile Green (s)	45.0	45.0	12.9	45.0	45.0		12.9	62.0		0.0	43.1	
10th %ile Term Code	Max	Max	Gap	Max	Max		Gap	Max		Skip	Hold	
Queue Length 50th (ft)		~342	7		~335		146	~914		26	460	
Queue Length 95th (ft)		#484	40		#322		#273	#1151		#66	#654	
Internal Link Dist (ft)		817			931			2053			660	
Turn Bay Length (ft)			200				350			225		
Base Capacity (vph)		377	906		327		205	900		66	706	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		1.01	0.28		1.08		0.85	1.06		0.47	0.86	

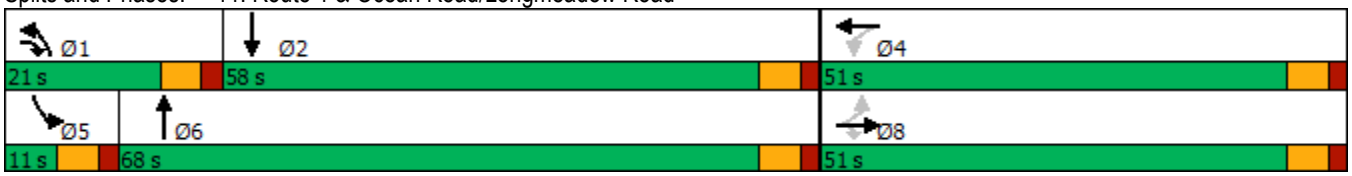
Intersection Summary

Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 126.7			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 73.3		Intersection LOS: E	
Intersection Capacity Utilization 98.0%		ICU Level of Service F	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 130			
70th %ile Actuated Cycle: 130			
50th %ile Actuated Cycle: 130			
30th %ile Actuated Cycle: 124.4			
10th %ile Actuated Cycle: 119			

~ 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.

Splits and Phases: 11: Route 1 & Ocean Road/Longmeadow Road





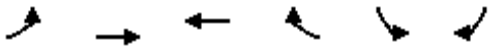
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	211	9	7	352	26	13
Future Volume (vph)	211	9	7	352	26	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994				0.955	
Flt Protected				0.999	0.968	
Satd. Flow (prot)	1701	0	0	1861	1739	0
Flt Permitted				0.999	0.968	
Satd. Flow (perm)	1701	0	0	1861	1739	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	397			1132	335	
Travel Time (s)	9.0			25.7	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	11%	2%	2%	1%	1%
Adj. Flow (vph)	229	10	8	383	28	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	0	0	391	42	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	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
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.1%		ICU Level of Service A	
Analysis Period (min) 15			



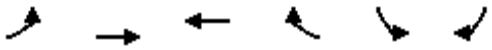
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	236	774	27	221	893
Future Volume (vph)	0	236	774	27	221	893
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	150	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.995			
Flt Protected					0.950	
Satd. Flow (prot)	0	1565	1818	0	1752	1845
Flt Permitted					0.950	
Satd. Flow (perm)	0	1565	1818	0	1752	1845
Link Speed (mph)	30		45			45
Link Distance (ft)	1094		740			2085
Travel Time (s)	24.9		11.2			31.6
Peak Hour Factor	0.77	0.77	0.90	0.90	0.94	0.94
Heavy Vehicles (%)	5%	5%	4%	4%	3%	3%
Adj. Flow (vph)	0	306	860	30	235	950
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	306	890	0	235	950
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		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
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.7%		ICU Level of Service B	
Analysis Period (min) 15			



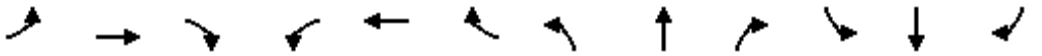
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	20	140	98	204	226	37
Future Volume (vph)	20	140	98	204	226	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.909		0.981	
Flt Protected		0.994			0.959	
Satd. Flow (prot)	0	1852	1661	0	1735	0
Flt Permitted		0.994			0.959	
Satd. Flow (perm)	0	1852	1661	0	1735	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		631	397		1094	
Travel Time (s)		14.3	9.0		24.9	
Peak Hour Factor	0.80	0.80	0.77	0.77	0.88	0.88
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Adj. Flow (vph)	25	175	127	265	257	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	200	392	0	299	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.7%		ICU Level of Service A	
Analysis Period (min) 15			

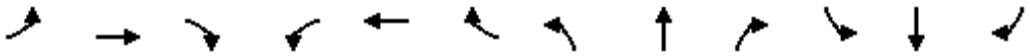


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	146	52	48	14	21	114
Future Volume (vph)	146	52	48	14	21	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.970		0.886	
Flt Protected		0.965			0.992	
Satd. Flow (prot)	0	1798	1772	0	1606	0
Flt Permitted		0.965			0.992	
Satd. Flow (perm)	0	1798	1772	0	1606	0
Link Speed (mph)		25	25		30	
Link Distance (ft)		1011	387		631	
Travel Time (s)		27.6	10.6		14.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	4%	4%	4%	4%
Adj. Flow (vph)	159	57	52	15	23	124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	216	67	0	147	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Stop	Stop		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.4%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	119	219	73	147	37	166	665	66	33	723	119
Future Volume (vph)	134	119	219	73	147	37	166	665	66	33	723	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		100	350		0	225		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.981			0.987			0.979	
Flt Protected		0.974			0.986		0.950			0.950		
Satd. Flow (prot)	0	1814	1583	0	1767	0	1752	1821	0	1770	1824	0
Flt Permitted		0.567			0.539		0.950			0.950		
Satd. Flow (perm)	0	1056	1583	0	966	0	1752	1821	0	1770	1824	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			137		6			6			9	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		897			1011			2133			740	
Travel Time (s)		20.4			23.0			32.3			11.2	
Peak Hour Factor	0.93	0.93	0.93	0.84	0.84	0.84	0.90	0.90	0.90	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	144	128	235	87	175	44	184	739	73	34	738	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	272	235	0	306	0	184	812	0	34	859	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			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		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	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)		94			94			94			94	
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	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	

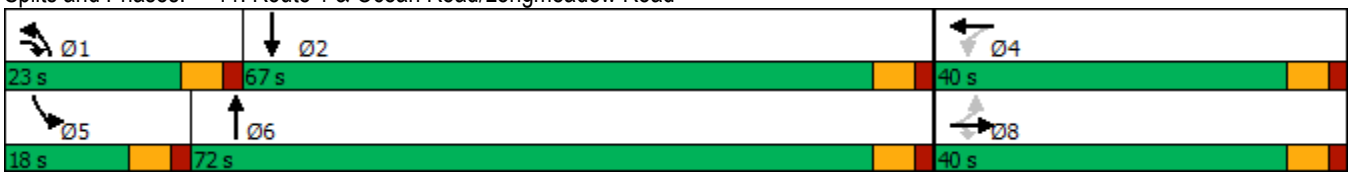


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	5.0	8.0	8.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	12.0	12.0	11.0	14.0	14.0		11.0	16.0		11.0	32.0	
Total Split (s)	40.0	40.0	23.0	40.0	40.0		23.0	72.0		18.0	67.0	
Total Split (%)	30.8%	30.8%	17.7%	30.8%	30.8%		17.7%	55.4%		13.8%	51.5%	
Maximum Green (s)	34.0	34.0	17.0	34.0	34.0		17.0	66.0		12.0	61.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)											4.0	
Flash Dont Walk (s)											22.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)		34.0	56.2		34.0		16.2	74.1		7.9	61.0	
Actuated g/C Ratio		0.26	0.43		0.26		0.13	0.57		0.06	0.47	
v/c Ratio		0.98	0.31		1.18		0.84	0.78		0.31	0.99	
Control Delay		96.7	10.7		155.9		85.9	29.1		65.2	62.8	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		96.7	10.7		155.9		85.9	29.1		65.2	62.8	
LOS		F	B		F		F	C		E	E	
Approach Delay		56.8			155.9			39.6			62.9	
Approach LOS		E			F			D			E	
90th %ile Green (s)	34.0	34.0	17.0	34.0	34.0		17.0	67.3		10.7	61.0	
90th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Gap	Max	
70th %ile Green (s)	34.0	34.0	17.0	34.0	34.0		17.0	69.0		9.0	61.0	
70th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Gap	Max	
50th %ile Green (s)	34.0	34.0	17.0	34.0	34.0		17.0	70.1		7.9	61.0	
50th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Gap	Max	
30th %ile Green (s)	34.0	34.0	17.0	34.0	34.0		17.0	84.0		0.0	61.0	
30th %ile Term Code	Max	Max	Max	Max	Max		Max	Hold		Skip	Max	
10th %ile Green (s)	34.0	34.0	12.9	34.0	34.0		12.9	79.9		0.0	61.0	
10th %ile Term Code	Max	Max	Gap	Max	Max		Gap	Hold		Skip	Max	
Queue Length 50th (ft)		229	49		~308		153	545		28	702	
Queue Length 95th (ft)		#413	107		#447		#274	#797		62	#1000	
Internal Link Dist (ft)		817			931			2053			660	
Turn Bay Length (ft)			200				350			225		
Base Capacity (vph)		278	775		259		230	1047		164	866	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.98	0.30		1.18		0.80	0.78		0.21	0.99	

Intersection Summary

Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 129.2			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 63.7		Intersection LOS: E	
Intersection Capacity Utilization 94.1%		ICU Level of Service F	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 130			
70th %ile Actuated Cycle: 130			
50th %ile Actuated Cycle: 130			
30th %ile Actuated Cycle: 130			
10th %ile Actuated Cycle: 125.9			
~ 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.			

Splits and Phases: 11: Route 1 & Ocean Road/Longmeadow Road





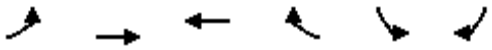
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	347	19	11	290	12	9
Future Volume (vph)	347	19	11	290	12	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993				0.941	
Flt Protected				0.998	0.973	
Satd. Flow (prot)	1832	0	0	1823	1722	0
Flt Permitted				0.998	0.973	
Satd. Flow (perm)	1832	0	0	1823	1722	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	397			1132	335	
Travel Time (s)	9.0			25.7	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	4%	4%	1%	1%
Adj. Flow (vph)	377	21	12	315	13	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	398	0	0	327	23	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	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
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.2%		ICU Level of Service A	
Analysis Period (min) 15			



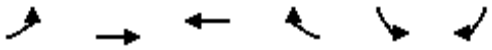
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	215	923	26	118	573
Future Volume (vph)	0	215	923	26	118	573
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	150	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Frt		0.865	0.996			
Flt Protected					0.950	
Satd. Flow (prot)	0	1627	1820	0	1671	3343
Flt Permitted					0.950	
Satd. Flow (perm)	0	1627	1820	0	1671	3343
Link Speed (mph)	30		45			45
Link Distance (ft)	1094		740			2085
Travel Time (s)	24.9		11.2			31.6
Peak Hour Factor	0.72	0.72	0.98	0.98	0.88	0.88
Heavy Vehicles (%)	1%	1%	4%	4%	8%	8%
Adj. Flow (vph)	0	299	942	27	134	651
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	299	969	0	134	651
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		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
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		



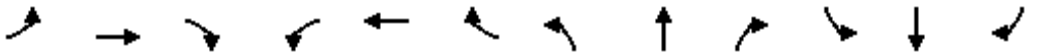
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	101	126	252	119	40
Future Volume (vph)	17	101	126	252	119	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.910		0.966	
Flt Protected		0.993			0.964	
Satd. Flow (prot)	0	1700	1695	0	1638	0
Flt Permitted		0.993			0.964	
Satd. Flow (perm)	0	1700	1695	0	1638	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		631	397		1094	
Travel Time (s)		14.3	9.0		24.9	
Peak Hour Factor	0.83	0.83	0.77	0.77	0.90	0.90
Heavy Vehicles (%)	11%	11%	2%	2%	8%	8%
Adj. Flow (vph)	20	122	164	327	132	44
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	142	491	0	176	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.8%		ICU Level of Service A	
Analysis Period (min) 15			

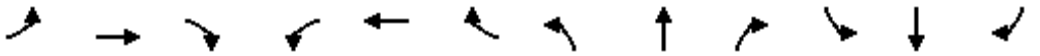


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	101	36	67	17	18	148
Future Volume (vph)	101	36	67	17	18	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.973		0.880	
Flt Protected		0.964			0.995	
Satd. Flow (prot)	0	1728	1830	0	1569	0
Flt Permitted		0.964			0.995	
Satd. Flow (perm)	0	1728	1830	0	1569	0
Link Speed (mph)		25	25		30	
Link Distance (ft)		1011	387		631	
Travel Time (s)		27.6	10.6		14.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	1%	1%	6%	6%
Adj. Flow (vph)	110	39	73	18	20	161
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	149	91	0	181	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Stop	Stop		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.0%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	156	212	64	132	15	155	771	77	27	415	118
Future Volume (vph)	162	156	212	64	132	15	155	771	77	27	415	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		0	350		0	225		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.977			0.986			0.967	
Flt Protected		0.975			0.987		0.950			0.950		
Satd. Flow (prot)	0	1748	1524	0	1728	0	1736	1801	0	1671	3232	0
Flt Permitted		0.577			0.447		0.950			0.950		
Satd. Flow (perm)	0	1034	1524	0	783	0	1736	1801	0	1671	3232	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			252		10			7			40	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		897			1011			2133			740	
Travel Time (s)		20.4			23.0			32.3			11.2	
Peak Hour Factor	0.84	0.84	0.84	0.67	0.67	0.25	0.89	0.89	0.89	0.88	0.88	0.88
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	4%	4%	4%	8%	8%	8%
Adj. Flow (vph)	193	186	252	96	197	60	174	866	87	31	472	134
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	379	252	0	353	0	174	953	0	31	606	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			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		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	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)		94			94			94			94	
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	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4								
Detector Phase	8	8	8	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	6.0	8.0	8.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	12.0	12.0	12.0	14.0	14.0		11.0	16.0		11.0	32.0	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		24.0	54.0		11.0	41.0	
Total Split (%)	35.0%	35.0%	35.0%	35.0%	35.0%		24.0%	54.0%		11.0%	41.0%	
Maximum Green (s)	29.0	29.0	29.0	29.0	29.0		18.0	48.0		5.0	35.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lead/Lag							Lead	Lead		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)											4.0	
Flash Dont Walk (s)											22.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)		29.1	29.1		29.1		14.2	48.2		5.0	34.2	
Actuated g/C Ratio		0.30	0.30		0.30		0.15	0.50		0.05	0.36	
v/c Ratio		1.21	0.39		1.44		0.67	1.05		0.36	0.51	
Control Delay		152.0	5.6		249.0		52.2	68.6		57.3	24.6	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		152.0	5.6		249.0		52.2	68.6		57.3	24.6	
LOS		F	A		F		D	E		E	C	
Approach Delay		93.5			249.0			66.1			26.2	
Approach LOS		F			F			E			C	
90th %ile Green (s)	29.0	29.0	29.0	29.0	29.0		18.0	48.0		5.0	35.0	
90th %ile Term Code	Max	Max	Max	Max	Max		Max	Max		Max	Hold	
70th %ile Green (s)	29.0	29.0	29.0	29.0	29.0		17.5	48.0		5.0	35.5	
70th %ile Term Code	Max	Max	Max	Max	Max		Gap	Max		Max	Hold	
50th %ile Green (s)	29.0	29.0	29.0	29.0	29.0		15.2	48.0		5.0	37.8	
50th %ile Term Code	Max	Max	Max	Max	Max		Gap	Max		Max	Hold	
30th %ile Green (s)	29.0	29.0	29.0	29.0	29.0		12.0	48.0		0.0	30.0	
30th %ile Term Code	Max	Max	Max	Max	Max		Gap	Max		Skip	Hold	
10th %ile Green (s)	29.0	29.0	29.0	29.0	29.0		9.1	48.0		0.0	32.9	
10th %ile Term Code	Max	Max	Max	Max	Max		Gap	Max		Skip	Hold	
Queue Length 50th (ft)		~306	0		~313		106	~692		20	142	
Queue Length 95th (ft)		#440	44		#323		169	#919		49	196	
Internal Link Dist (ft)		817			931			2053			660	
Turn Bay Length (ft)			200				350			225		
Base Capacity (vph)		314	638		245		328	910		87	1233	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		1.21	0.39		1.44		0.53	1.05		0.36	0.49	

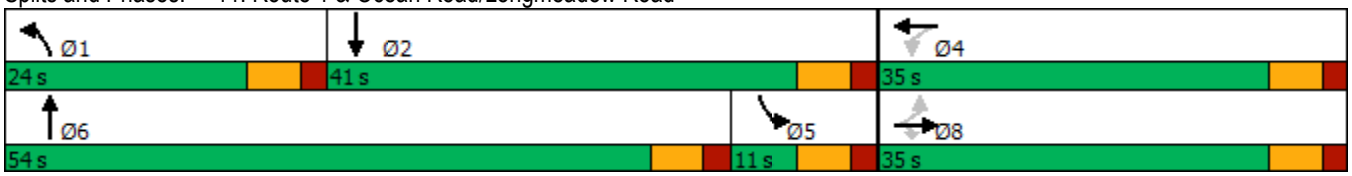
Intersection Summary

Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 95.6			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.44			
Intersection Signal Delay: 86.6		Intersection LOS: F	
Intersection Capacity Utilization 98.0%		ICU Level of Service F	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 100			
70th %ile Actuated Cycle: 100			
50th %ile Actuated Cycle: 100			
30th %ile Actuated Cycle: 89			
10th %ile Actuated Cycle: 89			

~ 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.

Splits and Phases: 11: Route 1 & Ocean Road/Longmeadow Road





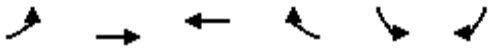
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	211	9	7	352	26	13
Future Volume (vph)	211	9	7	352	26	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994				0.955	
Flt Protected				0.999	0.968	
Satd. Flow (prot)	1701	0	0	1861	1739	0
Flt Permitted				0.999	0.968	
Satd. Flow (perm)	1701	0	0	1861	1739	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	397			1132	335	
Travel Time (s)	9.0			25.7	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	11%	2%	2%	1%	1%
Adj. Flow (vph)	229	10	8	383	28	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	0	0	391	42	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	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
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.1%		ICU Level of Service A	
Analysis Period (min) 15			



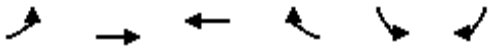
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	236	774	27	221	893
Future Volume (vph)	0	236	774	27	221	893
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	150	
Storage Lanes	0	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Frt		0.865	0.995			
Flt Protected					0.950	
Satd. Flow (prot)	0	1565	1818	0	1752	3505
Flt Permitted					0.950	
Satd. Flow (perm)	0	1565	1818	0	1752	3505
Link Speed (mph)	30		45			45
Link Distance (ft)	1094		740			2085
Travel Time (s)	24.9		11.2			31.6
Peak Hour Factor	0.77	0.77	0.90	0.90	0.94	0.94
Heavy Vehicles (%)	5%	5%	4%	4%	3%	3%
Adj. Flow (vph)	0	306	860	30	235	950
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	306	890	0	235	950
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		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
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.7%		ICU Level of Service B	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	20	140	98	204	226	37
Future Volume (vph)	20	140	98	204	226	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.909		0.981	
Flt Protected		0.994			0.959	
Satd. Flow (prot)	0	1852	1661	0	1735	0
Flt Permitted		0.994			0.959	
Satd. Flow (perm)	0	1852	1661	0	1735	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		631	397		1094	
Travel Time (s)		14.3	9.0		24.9	
Peak Hour Factor	0.80	0.80	0.77	0.77	0.88	0.88
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Adj. Flow (vph)	25	175	127	265	257	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	200	392	0	299	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

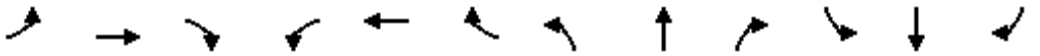
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.7%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	146	52	48	14	21	114
Future Volume (vph)	146	52	48	14	21	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.970		0.886	
Flt Protected		0.965			0.992	
Satd. Flow (prot)	0	1798	1772	0	1606	0
Flt Permitted		0.965			0.992	
Satd. Flow (perm)	0	1798	1772	0	1606	0
Link Speed (mph)		25	25		30	
Link Distance (ft)		1011	387		631	
Travel Time (s)		27.6	10.6		14.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	4%	4%	4%	4%
Adj. Flow (vph)	159	57	52	15	23	124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	216	67	0	147	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		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
Turning Speed (mph)	15			9	15	9
Sign Control		Stop	Stop		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.4%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	119	219	73	147	37	166	665	66	33	723	119
Future Volume (vph)	134	119	219	73	147	37	166	665	66	33	723	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		200	0		100	350		0	225		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.981			0.987			0.979	
Flt Protected		0.974			0.986		0.950			0.950		
Satd. Flow (prot)	0	1814	1583	0	1767	0	1752	1821	0	1770	3465	0
Flt Permitted		0.606			0.640		0.950			0.950		
Satd. Flow (perm)	0	1129	1583	0	1147	0	1752	1821	0	1770	3465	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			68		9			7			23	
Link Speed (mph)		30			30			45			45	
Link Distance (ft)		897			1011			2133			740	
Travel Time (s)		20.4			23.0			32.3			11.2	
Peak Hour Factor	0.93	0.93	0.93	0.84	0.84	0.84	0.90	0.90	0.90	0.98	0.98	0.98
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	144	128	235	87	175	44	184	739	73	34	738	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	272	235	0	306	0	184	812	0	34	859	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			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		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	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)		94			94			94			94	
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	
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8	1		4		1	6		5	2	

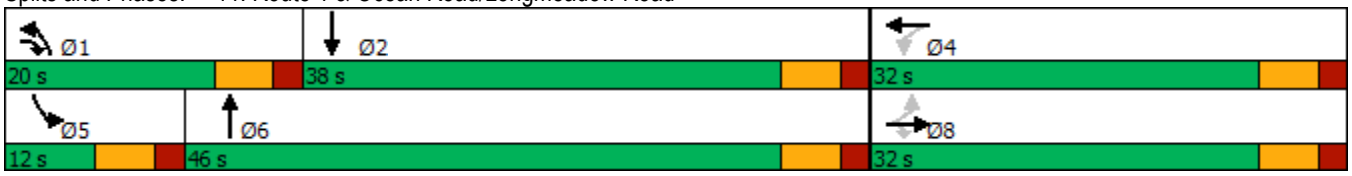


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8		8	4								
Detector Phase	8	8	1	4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0	5.0	8.0	8.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	12.0	12.0	11.0	14.0	14.0		11.0	16.0		11.0	32.0	
Total Split (s)	32.0	32.0	20.0	32.0	32.0		20.0	46.0		12.0	38.0	
Total Split (%)	35.6%	35.6%	22.2%	35.6%	35.6%		22.2%	51.1%		13.3%	42.2%	
Maximum Green (s)	26.0	26.0	14.0	26.0	26.0		14.0	40.0		6.0	32.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lead/Lag			Lead				Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes				Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	4.0		3.0	4.0	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Walk Time (s)											4.0	
Flash Dont Walk (s)											22.0	
Pedestrian Calls (#/hr)											0	
Act Effct Green (s)		23.9	42.4		23.9		12.4	41.1		5.9	29.3	
Actuated g/C Ratio		0.29	0.51		0.29		0.15	0.49		0.07	0.35	
v/c Ratio		0.85	0.28		0.92		0.71	0.91		0.27	0.70	
Control Delay		54.2	9.5		63.9		51.3	37.9		45.4	27.0	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay		54.2	9.5		63.9		51.3	37.9		45.4	27.0	
LOS		D	A		E		D	D		D	C	
Approach Delay		33.5			63.9			40.3			27.7	
Approach LOS		C			E			D			C	
90th %ile Green (s)	26.0	26.0	14.0	26.0	26.0		14.0	40.0		6.0	32.0	
90th %ile Term Code	Max	Max	Max	Max	Max		Max	Max		Max	Max	
70th %ile Green (s)	26.0	26.0	14.0	26.0	26.0		14.0	40.0		6.0	32.0	
70th %ile Term Code	Max	Max	Max	Max	Max		Max	Max		Max	Max	
50th %ile Green (s)	26.0	26.0	14.0	26.0	26.0		14.0	40.0		6.0	32.0	
50th %ile Term Code	Max	Max	Max	Max	Max		Max	Max		Max	Hold	
30th %ile Green (s)	24.5	24.5	12.0	24.5	24.5		12.0	43.6		0.0	25.6	
30th %ile Term Code	Hold	Hold	Gap	Gap	Gap		Gap	Hold		Skip	Gap	
10th %ile Green (s)	17.3	17.3	8.6	17.3	17.3		8.6	39.5		0.0	24.9	
10th %ile Term Code	Hold	Hold	Gap	Gap	Gap		Gap	Gap		Skip	Hold	
Queue Length 50th (ft)		144	49		163		100	444		19	210	
Queue Length 95th (ft)		#283	94		#286		#187	#708		49	278	
Internal Link Dist (ft)		817			931			2053			660	
Turn Bay Length (ft)			200				350			225		
Base Capacity (vph)		354	865		366		296	899		128	1352	
Starvation Cap Reductn		0	0		0		0	0		0	0	
Spillback Cap Reductn		0	0		0		0	0		0	0	
Storage Cap Reductn		0	0		0		0	0		0	0	
Reduced v/c Ratio		0.77	0.27		0.84		0.62	0.90		0.27	0.64	

Intersection Summary

Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 83.8			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 37.5		Intersection LOS: D	
Intersection Capacity Utilization 82.8%		ICU Level of Service E	
Analysis Period (min) 15			
90th %ile Actuated Cycle: 90			
70th %ile Actuated Cycle: 90			
50th %ile Actuated Cycle: 90			
30th %ile Actuated Cycle: 80.1			
10th %ile Actuated Cycle: 68.8			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 11: Route 1 & Ocean Road/Longmeadow Road





Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	347	19	11	290	12	9
Future Volume (vph)	347	19	11	290	12	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993				0.941	
Flt Protected				0.998	0.973	
Satd. Flow (prot)	1832	0	0	1823	1722	0
Flt Permitted				0.998	0.973	
Satd. Flow (perm)	1832	0	0	1823	1722	0
Link Speed (mph)	30			30	25	
Link Distance (ft)	397			1132	335	
Travel Time (s)	9.0			25.7	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	4%	4%	1%	1%
Adj. Flow (vph)	377	21	12	315	13	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	398	0	0	327	23	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	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
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.2%		ICU Level of Service A	
Analysis Period (min) 15			

LANDSCAPE
ER EASEMENT
4322, PAGE 2025

LONGMEADOW ROAD

75' RESIDENTIAL
BUFFER

N55°40'40"W
266.45'

N56°37'10"W
86.14'

N53°33'49"W
104.71'

3'10"W
11.54'

N53°56'
213.

PHASE 1
PHASE 2

PHASE 1
PHASE 2

LANG ROAD

N

40 20 0 40

McCLURE™

25 New Hampshire Avenue
Suite 255
Portsmouth, NH 03801
P 603-766-0435

Ankeny,IA | Carroll,IA
Cedar Rapids,IA | Clive,IA
Coralville,IA | Council Bluffs,IA
Fort Dodge,IA | Sioux City,IA
Columbia,MO | Macon,MO
North Kansas City,MO
Lenexa, KS
Portsmouth, NH | Boston, MA

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REVISIONS

PROJECT INFO
2024002213

ENGINEER	DRAWN BY	CHECKED BY
N. DUQUETTE	B. RICHARDS	N. DUQUETTE

SERVICE CREDIT UNION
126 LANG ROAD
PORTSMOUTH, NH 03801

SITE PLAN-PH. 2

P:\2024001787\04-DRAWINGS\DWG\PLANS\24-1787_PHASE 2\24-1787_SITE PLAN-PH2.DWG

DRAWING NO.
C200