SITE PLAN REVIEW TECHNICAL ADVISORY COMMITTEE
PORTSMOUTH, NEW HAMPSHIRE

CONFERENCE ROOM A
CITY HALL, MUNICIPAL COMPLEX, 1 JUNKINS AVENUE

**Members of the public also have the option to join this meeting over Zoom; a unique meeting ID and password will be provided once you register. To register, click on the link below or copy and paste this link into your web browser:*

https://us06web.zoom.us/webinar/register/WN_y2umoGNlRsO0rwGuwoxRJw

2:00 PM **October 6, 2026**

AGENDA

I. APPROVAL OF MINUTES

A. Approval of the September 1, 2026 Site Plan Review Technical Advisory Committee meeting minutes.

B. Approval of the September 8, 2026 Work Session meeting minutes.

II. OLD BUSINESS

A. The request of **Rafferty Investment Group LLC (Owner)**, for property located at **64 Bridge Street** requesting Site Plan Review approval for demolition of the existing structure and construction of a ten (10) room three-story Inn with associated site improvements. Said property is located on Assessor Map 126 Lot 55 and lies within the Mixed Residential Business (MRB) District, Character District 4 (CD4) and Downtown Overlay District. (LU-26-36)

B. The request of **Colonial Properties LLC (Owner)**, for property located at **833 Islington Street** requesting a Parking Conditional Use Permit to allow 9 parking spaces where 21 are required. Said property is located on Assessor Map 165 Lot 6 and lies within the Character District 4-W (CD4-W). (LU-26-85)

C. The request of **St. Nicholas Greek Orthodox Church** (Owner), for property located at **0 Lafayette Road** (*Ledgewood Drive*) requesting Site Plan Review approval for the construction of a 15 unit, 3-story apartment building with associated site improvements. Said property is located on Assessor Map 229 Lot 6A and lies within the Gateway Corridor (G1) District. (LU-26-112)

III. NEW BUSINESS

A. The request of **Ryan Trust (Owner)**, for property located at **221 Woodbury Avenue** requesting Preliminary and Final Subdivision Approval to subdivide one lot into two lots with associated site improvements. Said property is located on Assessor Map 175 Lot 10 and lies within the General Residence A (GRA) District. (LU-26-57)

B. The request of **Road to the West, LLC (Owner)**, for property located at **140 West Road** requesting Site Plan Approval for site improvements including parking, outdoor dining, lighting, drainage, and landscaping. Said property is located on Assessor Map 252 Lot 2-1301 and lies within the Industrial (I) District. (LU-26-107)

IV. ADJOURNMENT

Scan to sign up for our new **E-Alert System** and choose how you'd like to receive meeting notifications: by email, text, or both!

SITE PLAN REVIEW TECHNICAL ADVISORY COMMITTEE
PORTSMOUTH, NEW HAMPSHIRE

CONFERENCE ROOM A
CITY HALL, MUNICIPAL COMPLEX, 1 JUNKINS AVENUE

2:00 PM **September 1, 2026**

MEMBERS PRESENT:
Peter Stith, Chairperson, Assistant Planning Director; David Desfosses, Project Manager – Engineering & Operations; Chad Putney, Acting Deputy Fire Chief; Peter Britz, Director of Planning & Sustainability; Shanti Wolph, Chief Building Inspector; Zachary Cronin, Assistant City Engineer; Mike Maloney; Deputy Police Chief; Vincent Hayes; Planner II – Development Compliance

MEMBERS ABSENT: Eric Eby, Parking and Transportation Engineer

ADDITIONAL STAFF PRESENT: Kate Homet, Environmental Planner and Sustainability Coordinator; Stefanie Casella, Senior Planner; Jennifer Crockett, Administrative Assistant I

MINUTES

I. APPROVAL OF MINUTES

A. Approval of the **August 4, 2026** meeting minutes.

P. Britz moved to approve the August 4, 2026 meeting minutes as presented, seconded by D. Desfosses. The motion passed unanimously.

B. Approval of the **August 11, 2026** Work Session meeting minutes.

P. Britz moved to approve the August 11, 2026 Work Session meeting minutes as presented, seconded by D. Desfosses. The motion passed unanimously.

Chair Stith announced the applications that had been postponed. He noted that if 64 Bridge Street and 833 Islington Street do not come to next month's meeting, then they should be withdrawn and come back when they are ready.

II. OLD BUSINESS

A. REQUEST TO POSTPONE The request of **Rafferty Investment Group LLC (Owner)**, for property located at **64 Bridge Street** requesting Site Plan Review approval for demolition of the existing structure and construction of a ten (10) room three-story Inn with associated site improvements. Said property is located on Assessor Map 126 Lot 55 and lies within the Mixed Residential Business (MRB) District, Character District 4 (CD4) and Downtown Overlay District. **REQUEST TO POSTPONE** (LU-26-36)

B. The request of **Marissa Valverde (Owner)**, for property located at **20 Central Avenue** requesting Preliminary and Final Subdivision approval and Site Plan Review approval for the subdivision of one lot into three lots, each with a single-family dwelling and associated site improvements. Said property is located on **Assessor Map 209 Lot 30** and lies within the General Residence A (GRA) and Highway Noise Overlay Districts. (LU-26-84)

SPEAKING TO THE APPLICATION

[Timestamp 6:45] Engineer Drew Olehowski from Haley Ward came to present the application. Mr. Olehowski went over the discussion points and changes made from the last TAC meeting. He then reviewed staff comments and noted that they would iron out the easement details before going to the Planning Board. Z. Cronin stated that on lot 3 water and sewer services were running directly through the stormwater ponds and that they recommended moving them out of the ponds. Mr. Olehowski stated they would update the plans with the services completely out of the ponds. C. Putney said he would recommend to the Planning Board that each driveway should be 16 feet. TAC members and Mr. Olehowski discussed the fences regarding landscaping, height, placement, and ownership. D. Desfosses stated that DPW wants to see the plans after revisions have been made and sign off on it before submittal to the Planning Board.

PUBLIC HEARING

[Timestamp 13:14] The public hearing was opened, no one spoke, the public hearing was then closed.

DISCUSSION AND DECISION OF THE BOARD

D. Desfosses made a motion to recommend approval of this application to the Planning Board with the following conditions:

1. *DPW shall review and approve final plan set before submission to the Planning Board*

2. *The 3 new lots will each require new driveway permits*

3. *City drainage easement language will need to be amended and approved by the City Council to allow driveway use.*

4. *Please demonstrate the proposed impact to the State easement is permissible under the easement language.*

5. *Please provide details for the proposed fence.*

6. *Confirm location of guy wire for utility pole is correctly positioned.*

7. *Show location of water service to Lot 1 on property.*

8. *State size of water and sewer services.*

9. *City advises moving water and sewer services outside of stormwater ponds (Lot 3). If not moved then ensure adequate cover of utilities installed.*

10. *Water, sewer, and stormwater connection permits required for each lot.*

11. *Submit a final easement plan and written statement from NHDOT*

P. Britz seconded the motion. The motion passed unanimously.

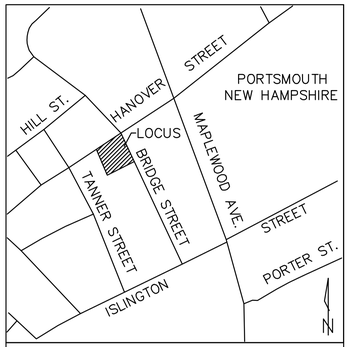
C. REQUEST TO POSTPONE The request of **Colonial Properties LLC (Owner)**, for property located at **833 Islington Street** requesting a Parking Conditional Use Permit to allow 9 parking spaces where 21 are required. Said property is located on Assessor Map 165 Lot 6 and lies within the Character District 4-W (CD4-W). **REQUEST TO POSTPONE** (LU-26-85)

III. NEW BUSINESS

A. REQUEST TO POSTPONE The request of **St. Nicholas Greek Orthodox Church** (Owner), for property located at **0 Lafayette Road** (*Ledgewood Drive*) requesting Site Plan Review approval for the construction of a 15 unit, 3-story apartment building with associated site improvements. Said property is located on Assessor Map 229 Lot 6A and lies within the Gateway Corridor (G1) District. **REQUEST TO POSTPONE** (LU-26-112)

IV. ADJOURNMENT

The meeting adjourned at 2:14 PM.



LOCATION PLAN
(NO SCALE)

SITE PLAN
FOR
BRIDGE STREET INN

TAX MAP 126, LOT 55

64 BRIDGE STREET

PORTSMOUTH, NH 03801

SEPTEMBER 21, 2026

OWNER/APPLICANT

STEPHEN MATEUX &
CHRISTINE MATEUX
64 BRIDGE STREET
PORTSMOUTH, NH 03801

SITE CIVIL ENGINEER

CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

LAND SURVEYOR

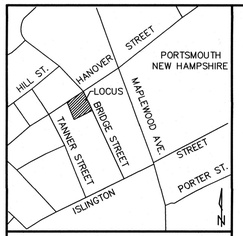
MCENEANEY SURVEY ASSOCIATES OF NEW ENGLAND
P.O. BOX 681
24 CHESTNUT STREET
DOVER, NH 03820
(603) 742-0911

ARCHITECT

ARTFORM ARCHITECTURE, LLC
P.O. BOX 535
NORTH HAMPTON, NH 03862

CIVIL SHEET INDEX	SHEET
COVER SHEET	1
EXISTING CONDITIONS PLAN (BY MCENEANEY SURVEY)	2
DEMOLITION PLANS	3
SITE PLAN	4
GRADING, DRAINAGE & EROSION CONTROL PLAN	5
UTILITY PLAN	6
EROSION CONTROL NOTES	7
DETAILS	8-9

ARCHITECTURAL SHEET INDEX	
PLANS	-



LOCATION PLAN
(NO SCALE)

SEWER SCHEDULE:
(I.D. NAMES FROM G.I.S.)

SMH 2303 HANOVER ST.
RIM = 11.20'
INV. IN 8" PVC = 6.15' TANNER ST. SE)
INV. IN 15" PVC = 5.75' (SW)
INV. OUT 15" PVC = 5.64' SMH 2301
SUMP = 5.64'

SMH 2301 BRIDGE / HANOVER INTX.
RIM = 9.29'
(INVERTS DERIVED FROM G.I.S., DID NOT OPEN)
INV. IN 15" PVC DROP = 4.4' SMH 2303
INV. IN 12" PVC = 2.1' SMH 5928
INV. IN 15" PVC = 2.1' SMH 1489
INV. OUT 24" PVC = 2.0' BRIDGE ST. (NW)

SMH 6093 BRIDGE ST.
RIM = 21.29'
INV. IN 12" PVC DROP = 16.57' (NE)
INV. IN 12" PVC = 13.37' (NE)
INV. OUT 12" PVC = 13.24' SMH 5928
SHELF = 14.27'
TRENCH = 13.24'

SMH 5928 BRIDGE ST.
RIM = 10.30'
INV. IN 12" PVC = 4.05' SMH 6093
INV. OUT 12" PVC = 3.84' SMH 2301
SHELF = 5.04'
TRENCH = 4.09'

INVERT OUT OF SUBJECT BUILDING = 8.50'

LEGEND

I.R.(fnd) O – IRON ROD (FOUND)
I.P.(fnd) O – IRON PIPE (FOUND)
C.B.(fnd) – CONCRETE BOUND (FOUND)
D.H.(tbs) O – DRILL HOLE (TO BE SET)
M.N.(tbs) O – MAGNETIC NAIL (TO BE SET)
DYL – DOUBLE YELLOW LINE
Ⓣ TMH – TELEPHONE MANHOLE
Ⓢ SMH – SEWER MANHOLE
Ⓒ CMH – COMMUNICATIONS MANHOLE
Ⓔ EMH – ELECTRIC MANHOLE
Ⓔ – ELECTRIC METER
⊠ – PULL BOX
□ CB – CATCH BASIN
Ⓓ DMH – DRAIN MANHOLE
△ TBM – TEMPORARY BENCHMARK
—OHU— – OVERHEAD UTILITIES
AC – AIR CONDITIONER
GV – GAS VALVE
WV – WATER GATE VALVE
☼ – LIGHT POST
—S— – SEWER LINE
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—G— – GAS LINE
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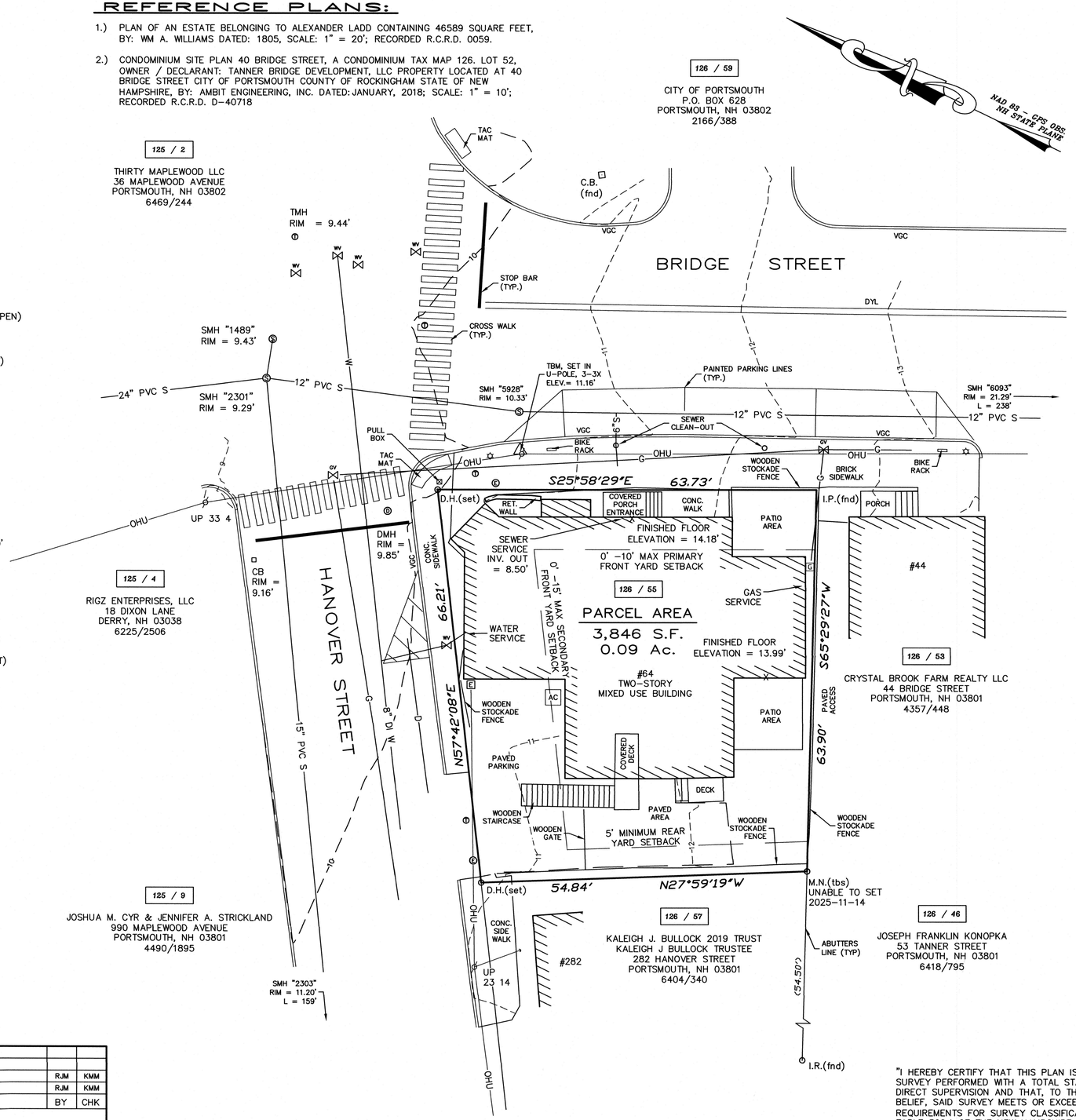
RET. – RETAINING
CONC. – CONCRETE
S.F. – SQUARE FEET
AC – AIR CONDITIONING UNIT
VGC – VERTICAL GRANITE CURB
S.F. – SQUARE FEET
Ac. – ACRE
(TYP.) – TYPICAL
± – MORE OR LESS
ø – DIAMETER
R.C.R.D. – ROCKINGHAM COUNTY REGISTRY OF DEEDS
UP 33 4 – UTILITY POLE W/ I.D. Nos.
Ⓖ – GAS METER

REFERENCE PLANS:

1.) PLAN OF AN ESTATE BELONGING TO ALEXANDER LADD CONTAINING 46589 SQUARE FEET, BY: WM A. WILLIAMS DATED: 1805, SCALE: 1" = 20'; RECORDED R.C.R.D. 0059.

2.) CONDOMINIUM SITE PLAN 40 BRIDGE STREET, A CONDOMINIUM TAX MAP 126. LOT 52, OWNER / DECLARANT: TANNER BRIDGE DEVELOPMENT, LLC PROPERTY LOCATED AT 40 BRIDGE STREET CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM STATE OF NEW HAMPSHIRE, BY: AMBIT ENGINEERING, INC. DATED: JANUARY, 2018; SCALE: 1" = 10'; RECORDED R.C.R.D. D-40718



NOTES:

1.) OWNER OF RECORD:
RAFFERTY INVESTMENT GROUP LLC
369 ISLINGTON STREET, SUITE A,
PORTSMOUTH, NEW HAMPSHIRE 03801
R.C.R.D. VOLUME 6641, PAGE 2274

2.) 126 / 55 – DENOTES TAX MAP AND PARCEL NUMBER.

3.) PARCEL AREA = 3,846 S.F. / 0.09 Ac.

4.) THE INTENT OF THIS PLAN IS TO DEPICT THE PARCEL BOUNDARY AND EXISTING SITE CONDITIONS AS OF JUNE 12, 2025, WITH UPDATES THROUGH FEBRUARY 10, 2026.

5.) ZONING DISTRICT: CHARACTER DISTRICT 4, DOWNTOWN OVERLAY

DISTRICT (CD4)
DEVELOPMENT STANDARDS:

BUILDING PLACEMENT – PRINCIPAL BUILDING
MAXIMUM PRINCIPAL FRONT YARD = 10 FEET
MAXIMUM SECONDARY FRONT YARD = 15 FEET
SIDE YARD = NR
MINIMUM REAR YARD = GREATER OF 5 FT. FROM REAR LOT LINE OR 10 FT. FROM CENTERLINE OF ALLEY
FRONT LOT LINE BUILDOUT = 50 PERCENT MINIMUM
MAXIMUM BUILDING HEIGHT
BUILDING AND LOT OCCUPATION
MAXIMUM BUILDING BLOCK LENGTH = 200 FEET
MAXIMUM FACADE MODULATION LENGTH = 80 FEET (SEE SECTION 10.5A43.20)
MAXIMUM ENTRANCE SPACING = 50 FEET
MAXIMUM BUILDING COVERAGE = 90 PERCENT
MAXIMUM BUILDING FOOTPRINT = 15,000 S.F. (OR AS ALLOWED BY SECTION 10.5A43.40)
MINIMUM LOT AREA = NR
MINIMUM LOT AREA PER DWELLING UNIT = NR
MINIMUM OPENSPACE = 10 PERCENT
MAXIMUM GROUND FLOOR GFA PER USE = 15,000 S.F.

BUILDING FORM – PRINCIPAL BUILDING
BUILDING HEIGHT = 2–3 STORIES, 3 STORIES & 40' FEET MAXIMUM
MAXIMUM FINISHED FLOOR SURFACE OF GROUND FLOOR ABOVE SIDEWALK GRADE = 36 INCHES
MINIMUM GROUND STORY HEIGHT = 12 FEET
MINIMUM SECOND STORY HEIGHT = 10 FEET

6.) THE SUBJECT PARCEL IS OUTSIDE OF THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 33015C0259F; EFFECTIVE DATE JANUARY 29, 2021.

7.) BASIS OF BEARING IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION DATED JUNE 12, 2025.
VERTICAL DATUM IS NAVD88 BASED ON GPS OBSERVATION DATED JUNE 12, 2025.

8.) THIS PLAN SHOWS ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT ON THE DATE OF THE SURVEY. THE ABSENCE OF SUBSURFACE STRUCTURES, UTILITIES, ETC. FROM THIS PLAN, BUT IN EXISTENCE, IS NOT INTENDED OR IMPLIED.

"I HEREBY CERTIFY THAT THIS PLAN IS BASED ON AN ACTUAL GROUND SURVEY PERFORMED WITH A TOTAL STATION, BY ME OR THOSE UNDER MY DIRECT SUPERVISION AND THAT, TO THE BEST OF MY KNOWLEDGE AND BELIEF, SAID SURVEY MEETS OR EXCEEDS THE MINIMUM PRECISION REQUIREMENTS FOR SURVEY CLASSIFICATION "U" AS SET FORTH IN TABLE 500.1 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS."

NO.	DATE	DESCRIPTION	BY	CHK
2	2/11/26	UPDATE OWNER, ADD SEWER DATA	RJM	KMM
1	11-18-25	UPDATE FOR MONUMENTS SET	RJM	KMM

REVISIONS

PROJECT NO	TYPE	FIELDBOOK & PAGES	
25066	SUBDIVISION	25-06	10-13

EXISTING CONDITIONS PLAN
PREPARED FOR
RAFFERTY INVESTMENT GROUP LLC
TAX MAP 126, LOT No. 55
64 BRIDGE STREET
CITY of PORTSMOUTH
COUNTY of ROCKINGHAM
STATE of NEW HAMPSHIRE

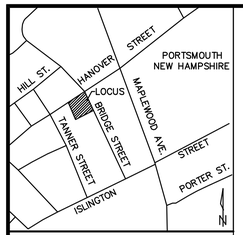
DRAWN BY: JJH | FILE: P\25066\DWG\25066 ECSB
SCALE: 1" = 10' | DATE: AUGUST 27, 2025

10 5 0 5 10 20 30 40

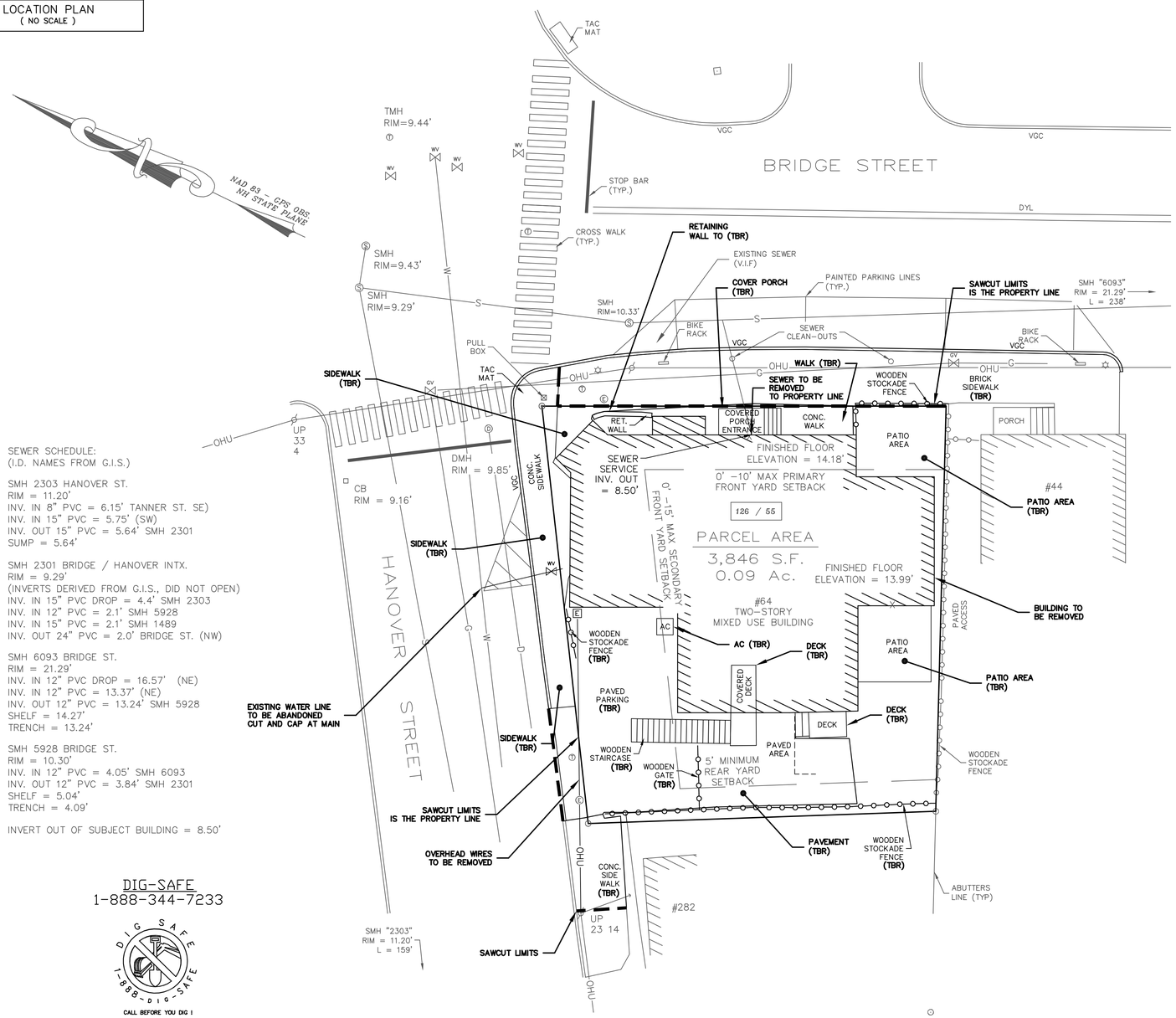
STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 661 KEVIN M. McENEANEY SIGNATURE

McEneaney Survey Associates of NEW ENGLAND
P.O. Box 1166 – 181 WATSON ROAD
DOVER, NH 03820 (603) 742-0911
SURVEYING – PLANNING – CONSULTING

2/11/2026 15:30:24 File: P:\25066 - 64 Bridge Street Portsmouth, NH - Scott Rafferty\Survey\Drawings\25066 ec with setbacks.dwg Layout: MS-A2024 - CNE-22x34



LOCATION PLAN
(NO SCALE)



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TRENCH = 4.09'

INVERT OUT OF SUBJECT BUILDING = 8.50'

DIG-SAFE
1-888-344-7233

CALL BEFORE YOU DIG !

NOTE:
CONTRACTOR IS REQUIRED TO CALL DIGSAFE AND COORDINATE LOCATIONS OF EXISTING UTILITY SERVICES A MINIMUM OF 72 HOURS PRIOR TO STARTING ANY WORK ON SITE.

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)

DEMOLITION NOTES:

1. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
2. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR SHALL NOTIFY "DIG SAFE" PRIOR TO ANY DEMOLITION/ CONSTRUCTION ACTIVITIES. (1–888–DIG–SAFE)
4. IT IS THE CONTRACTORS RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
5. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS NOT ALREADY OBTAINED BY THE OWNER AND ARRANGE AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF–SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
7. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF–SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL CODES.
8. EXISTING UTILITIES SHALL BE LOCATED PRIOR TO DEMOLITION. THE PROJECT PROPONENT, IN COORDINATION WITH THE UTILITY COMPANY, SHALL DETERMINE IF THE WATER AND SEWER SERVICE CAN BE REUSED. UTILITIES THAT REQUIRE DEMOLITION SHALL BE REMOVED IN ACCORDANCE WITH THE CORRESPONDING UTILITY COMPANY REQUIREMENTS.

LEGEND

DYL – DOUBLE YELLOW LINE
Ⓣ TMH – TELEPHONE MANHOLE
Ⓢ SMH – SEWER MANHOLE
Ⓒ CMH – COMMUNICATIONS MANHOLE
Ⓔ EMH – ELECTRIC MANHOLE
Ⓔ – ELECTRIC METER
⊠ – PULL BOX
□ CB – CATCH BASIN
Ⓓ DMH – DRAIN MANHOLE
—OHU— – OVERHEAD UTILITIES
AC – AIR CONDITIONER
GV – GAS VALVE
WV – WATER GATE VALVE
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VGC – VERTICAL GRANITE CURB
S.F. – SQUARE FEET
Ac. – ACRE
(TYP.) – TYPICAL
UP 33 4 – UTILITY POLE W/ I.D. Nos.

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

GNE
CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE

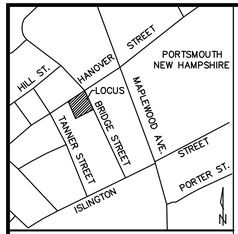
DATE: 9–21–26
SCALE: 1"=10'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY:SJH
PROJECT NO: 25068
FILE: SITE.DWG

STATE OF NEW HAMPSHIRE
STEPHEN J. HAIGHT
No. 7978
LICENSED
PROFESSIONAL ENGINEER

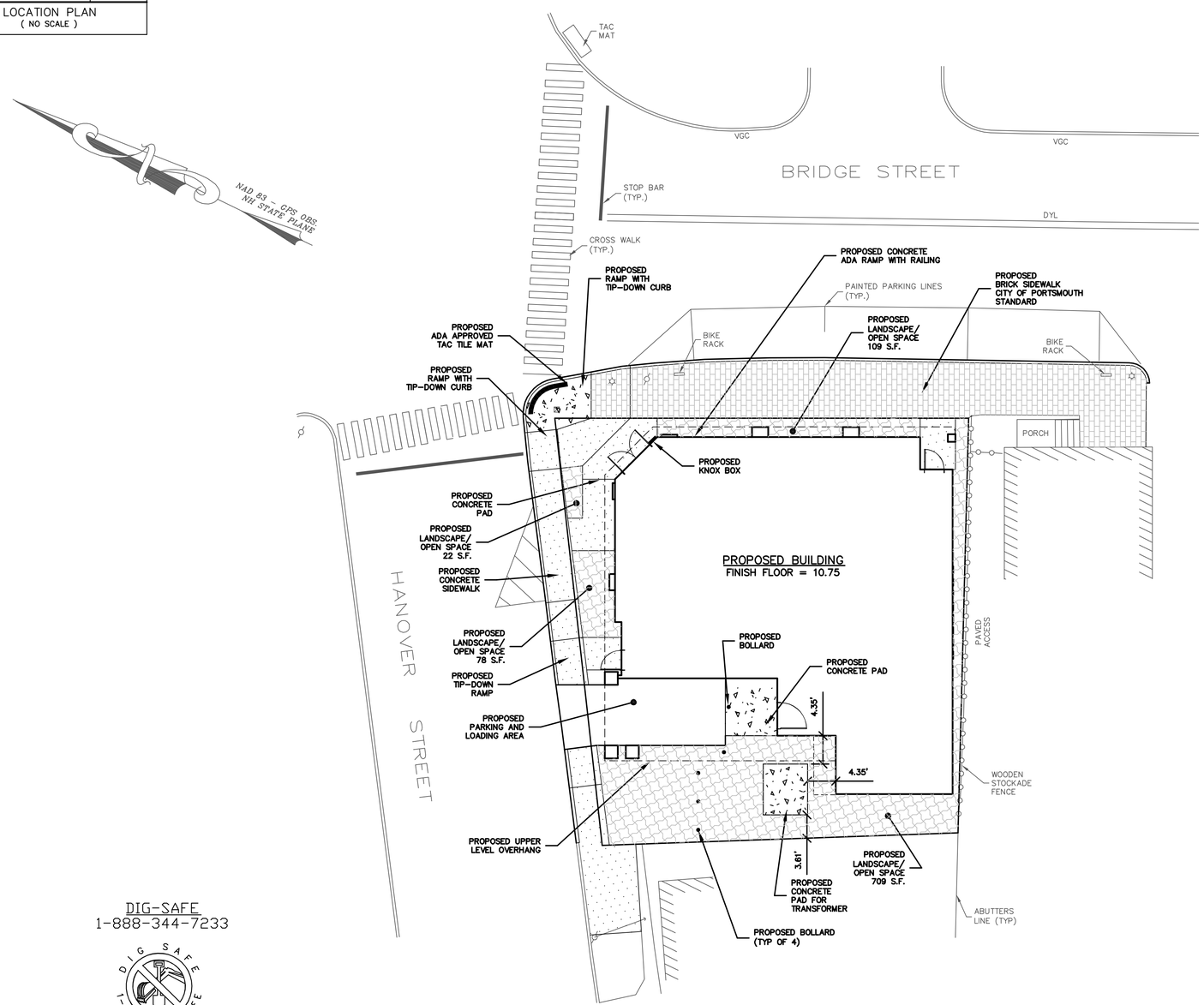
STEPHEN MATEUX & CHRISTINE MAYEUX
64 BRIDGE STREET
PORTSMOUTH, NH

BRIDGE STREET INN
64 BRIDGE STREET
PORTSMOUTH, NH

DEMOLITION PLAN



LOCATION PLAN
(NO SCALE)



GENERAL NOTES:

1. PARCEL AREA = 3,846 S.F. / 0.09 Ac.
2. ZONING DISTRICT: CHARACTER DISTRICT 4, DOWNTOWN OVERLAY DISTRICT (CD4)

DEVELOPMENT STANDARDS:	REQUIRED	PROPOSED
BUILDING PLACEMENT – PRINCIPAL BUILDING		
MAXIMUM PRINCIPAL FRONT YARD	10 FEET	5'
MAXIMUM SECONDARY FRONT YARD	15 FEET	.6'
SIDE YARD	NR	1.2'
MINIMUM REAR YARD	GREATER OF 5 FT. FROM REAR LOT LINE OR 10 FT. FROM CENTERLINE OF ALLEY	–
FRONT LOT LINE BUILDOUT	50 PERCENT MINIMUM	–
MAXIMUM BUILDING HEIGHT	–	–
BUILDING AND LOT OCCUPATION		
MAXIMUM BUILDING BLOCK LENGTH	200 FEET	–
MAXIMUM FACADE MODULATION LENGTH	80 FEET (SEE SECTION 10.5A43.20)	–
MAXIMUM ENTRANCE SPACING	50 FEET	–
MAXIMUM BUILDING COVERAGE	90 PERCENT	–
MAXIMUM BUILDING FOOTPRINT	15,000 S.F. (OR AS ALLOWED BY SECTION 10.5A43.40)	–
MINIMUM LOT AREA	NR	–
MINIMUM LOT AREA PER DWELLING UNIT	NR	–
MINIMUM OPENSPACE	10 PERCENT (384.6 S.F.)	±918 S.F. (23.8%)
MAXIMUM GROUND FLOOR GFA PER USE	15,000 S.F.	–
BUILDING FORM – PRINCIPAL BUILDING		
BUILDING HEIGHT	2–3 STORIES, 3 STORIES & 40' FEET MAXIMUM	–
MAXIMUM FINISHED FLOOR SURFACE OF GROUND FLOOR ABOVE SIDEWALK GRADE	36 INCHES	–
MINIMUM GROUND STORY HEIGHT	12 FEET	–
MINIMUM SECOND STORY HEIGHT	10 FEET	–

SITE NOTES:

1. THE INTENT OF THIS PLAN IS TO DEPICT THE PARCEL BOUNDARY AND EXISTING SITE CONDITIONS AS OF JUNE 12, 2025.
2. THE SITE LIGHTING WILL CONSIST OF PROPOSED NIGHT SKY COMPLIANT LED SITE LIGHTING AND ACCESS LIGHTS FOR THE PROPOSED BUILDING.
3. DUST WILL LIKELY BE CREATED DURING CONSTRUCTION BUT WILL BE MINIMAL ONCE THE SITE HAS BEEN REGRADED AND STABILIZED.
4. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE CONSTRUCTION PROCEDURES AND SEQUENCE TO ENSURE THE SAFETY OF THE FACILITIES AND THEIR COMPONENTS DURING DEMOLITION AND CONSTRUCTION UNLESS OTHERWISE DIRECTED BY THE OWNERS REPRESENTATIVE. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIE–DOWNS. SUCH MATERIALS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AT THE COMPLETION OF THE PROJECT.
5. METHODS OF DEMOLITION, CONSTRUCTION AND ERECTION ARE THE CONTRACTOR'S RESPONSIBILITY UNLESS OTHERWISE SPECIFIED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE AND MAINTAIN ENVIRONMENTAL CONTROLS AS REQUIRED BY FEDERAL, STATE AND MUNICIPAL REGULATIONS AND PERMITS. ENVIRONMENTAL CONTROLS SHALL INCLUDE BUT SHALL NOT BE LIMITED TO DUST CONTROL AND SILT BARRIERS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE TO STRUCTURES OR UTILITIES OR INJURIES TO THE PUBLIC DURING THE CONSTRUCTION PHASE CAUSED BY HIMSELF, HIS EMPLOYEES, HIS SUBCONTRACTORS OR EMPLOYEES OF SAME. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPORARY FACILITIES FOR THE PROTECTION OF THE WORK, WORKERS AND PUBLIC SAFETY.
7. ALL LAYOUT SHALL BE PERFORMED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR UNDER CONTRACT WITH THE CONTRACTOR.
8. NO HAZARDOUS MATERIALS SHALL BE STORED ON–SITE WITHOUT PROPERLY IMPLEMENTED BEST MANAGEMENT PRACTICES.
9. MAINTENANCE OF STORMWATER MANAGEMENT SYSTEM IS THE RESPONSIBILITY OF THE SITE OWNER.
10. THE SUBJECT PARCEL IS OUTSIDE OF THE 0.2 PERCENT ANNUAL CHANCE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 33015C0259F; EFFECTIVE DATE JANUARY 29, 2021.
11. BASIS OF BEARING IS NH STATE PLANE (NAD83) BASED ON GPS OBSERVATION DATED JUNE 12, 2025. VERTICAL DATUM IS NAVD88 BASED ON GPS OBSERVATION DATED JUNE 12, 2025.
12. THIS PLAN SHOWS ONLY THOSE FEATURES THAT WERE VISUALLY APPARENT ON THE DATE OF THE SURVEY.

LEGEND

DYL – DOUBLE YELLOW LINE
☼ – LIGHT POST
VGC – VERTICAL GRANITE CURB
S.F. – SQUARE FEET
(TYP.) – TYPICAL
± – MORE OR LESS

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CALL BEFORE YOU DIG !

NOTE:
CONTRACTOR IS REQUIRED TO CALL DIGSAFE AND COORDINATE LOCATIONS OF EXISTING UTILITY SERVICES A MINIMUM OF 72 HOURS PRIOR TO STARTING ANY WORK ON SITE.

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)

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CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE

DATE: 9–21–26
SCALE: 1"=10'
DRAWN BY: SRD
DESIGN BY: SRD
APPROVED BY: SJH
PROJECT NO: 25066
FILE: SITE.DWG

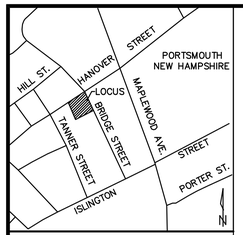
STATE OF NEW HAMPSHIRE – STEPHEN J. HAIGHT No. 7978 – LICENSED PROFESSIONAL ENGINEER

SITE PLAN

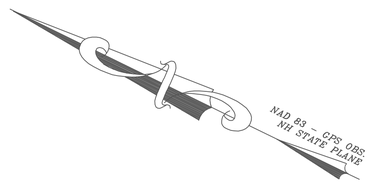
STEPHEN MATEUX & CHRISTINE MAYEUX
64 BRIDGE STREET
PORTSMOUTH, NH

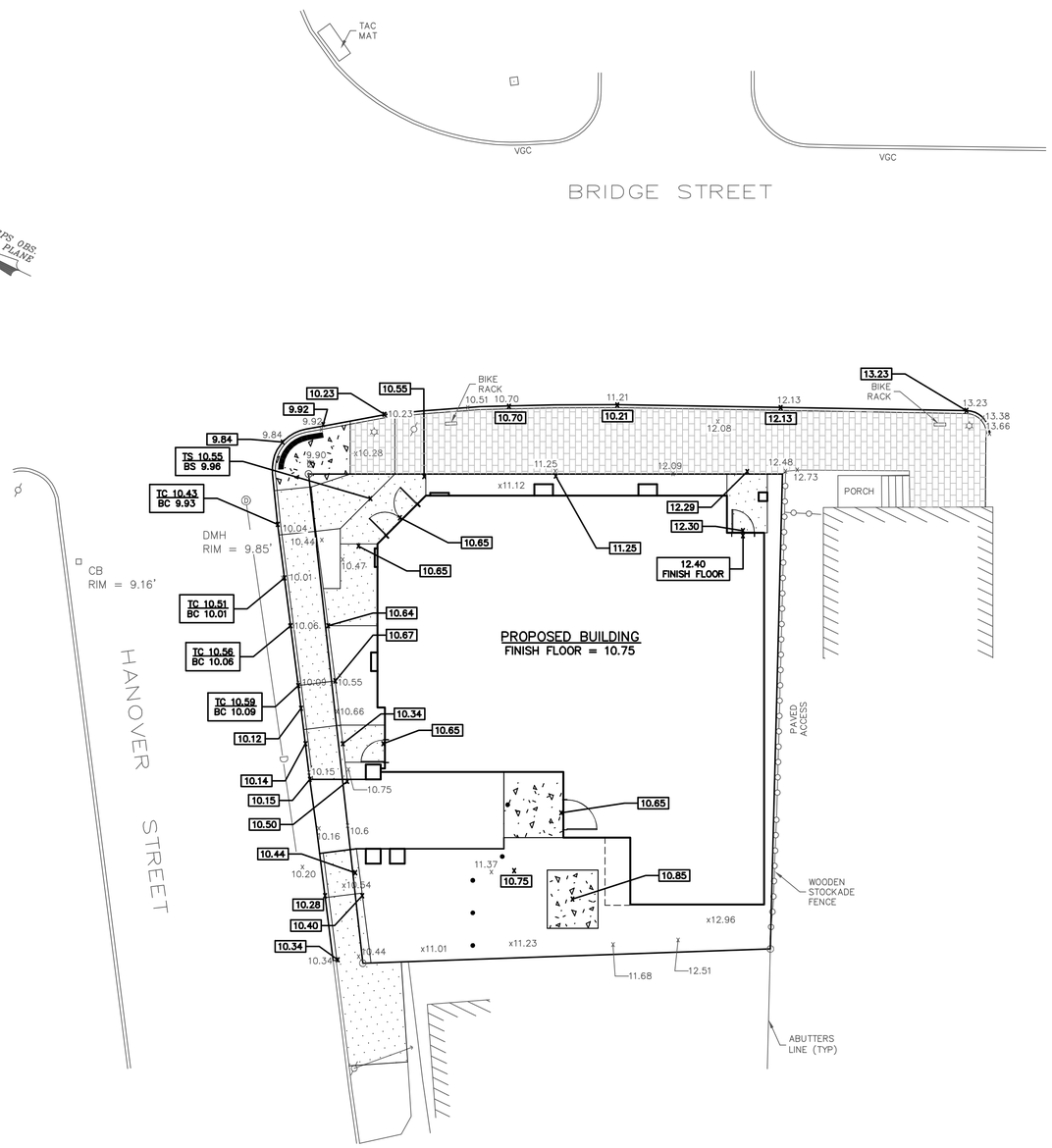
BRIDGE STREET INN
64 BRIDGE STREET
PORTSMOUTH, NH

4



LOCATION PLAN
(NO SCALE)





GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)

GRADING NOTES:

1. ALL ROAD DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR CONSTRUCTION OF THE CITY OF PORTSMOUTH N.H. AND "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION", LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL APPLY.
2. CONTRACTOR SHALL RETAIN A GEOTECHNICAL ENGINEERING CONSULTANT APPROVED BY THE OWNER, TO CONDUCT COMPACTION TESTING AND FILL GRADATION MONITORING PER THE ABOVE REFERENCED "STANDARD SPECIFICATIONS".
3. SEE EROSION CONTROL NOTES & DETAIL SHEET FOR TEMPORARY AND PERMANENT EROSION CONTROL MEASURES.
4. ALL DRAINAGE PIPES SHALL BE HDPE OR APPROVED EQUAL UNLESS OTHERWISE NOTED.
5. ALL DISTURBED AREAS NOT OTHERWISE CALLED FOR SURFACE TREATMENT SHALL RECEIVE 6" OF HIGH QUALITY LOAM AND SHALL BE SEEDED WITH GRASS.
6. ALL SITEWORK CONSTRUCTION SHALL BE ADVANCED USING "BEST MANAGEMENT PRACTICES" SANCTIONED BY THE USDA SCS AND NHDES.
7. TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED, UTILIZED AND MAINTAINED UNTIL BASE MATERIALS ARE CONSTRUCTED.
8. CONTRACTOR SHALL PROVIDE A FINISH GRADED SURFACE FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCE AND UNDER RAISED STRUCTURES.
9. DENSITY REQUIREMENTS:

LOCATION	MINIMUM DENSITY
BELOW PAVED OR CONCRETE AREAS	95%
TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL	95%
BELOW LOAM AND SEED AREA	90%

*ALL PERCENTAGES SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH AASHTO STANDARD 180, METHOD C. FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH AASHTO STANDARD T–191, T–204, OR T–238 AND T–239.

10. SEE GENERAL EROSION CONTROL NOTES ON DETAIL SHEET.
11. PROVIDE INLET PROTECTION BARRIERS AROUND ALL EXISTING AND PROPOSED STORM DRAINAGE INLETS WITHIN THE WORK LIMITS AND AS SHOWN ON PLAN. MAINTAIN FOR THE DURATION OF THE PROJECT UNTIL PAVEMENT HAS BEEN INSTALLED AND UPSTREAM AREAS HAVE BEEN STABILIZED.

LEGEND

I.R.(fnd) ○ – IRON ROD (FOUND)
I.P.(fnd) ○ – IRON PIPE (FOUND)
C.B.(fnd) – CONCRETE BOUND (FOUND)
D.H.(tbs) ○ – DRILL HOLE (TO BE SET)
M.N.(tbs) ○ – MAGNETIC NAIL (TO BE SET)
DYL – DOUBLE YELLOW LINE
□ CB – CATCH BASIN
Ⓓ DMH – DRAIN MANHOLE
△ TBM – TEMPORARY BENCHMARK
—— OHU —— – OVERHEAD UTILITIES
☼ – LIGHT POST
RET. – RETAINING
CONC. – CONCRETE
S.F. – SQUARE FEET
AC – AIR CONDITIONING UNIT
VGC – VERTICAL GRANITE CURB
S.F. – SQUARE FEET
Ac. – ACRE
(TYP.) – TYPICAL
± – MORE OR LESS
ø – DIAMETER
R.C.R.D. – ROCKINGHAM COUNTY REGISTRY OF DEEDS
UP 33 4 – UTILITY POLE W/ I.D. Nos.
10.16 – PROPOSED SPOT GRADE

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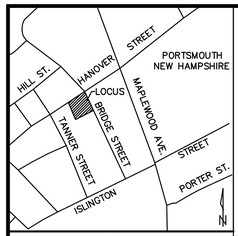
64 BRIDGE STREET
PORTSMOUTH, NH

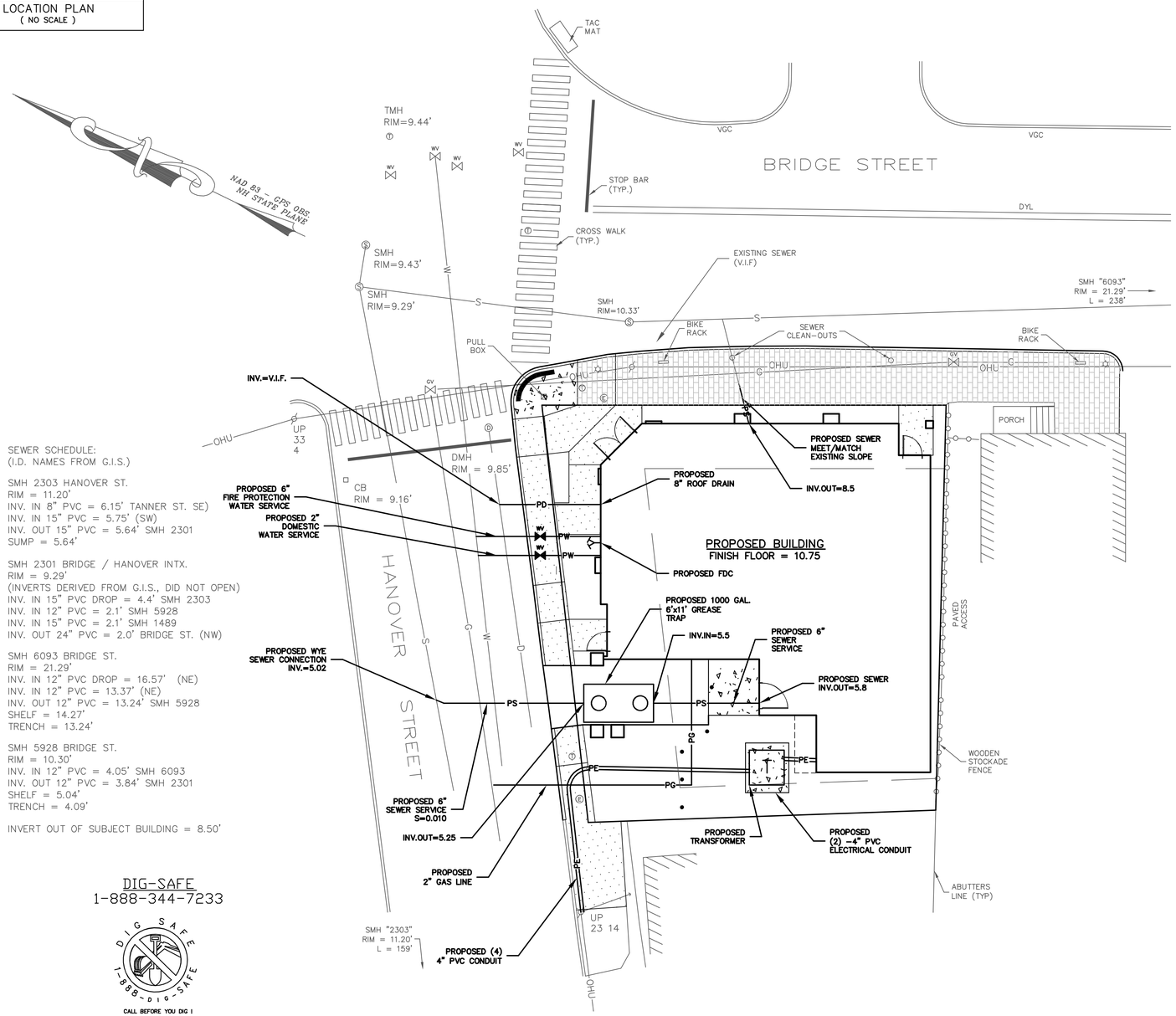
BRIDGE STREET INN
64 BRIDGE STREET
PORTSMOUTH, NH

GRADING PLAN

5



LOCATION PLAN
(NO SCALE)



SEWER SCHEDULE:
(I.D. NAMES FROM G.I.S.)

SMH 2303 HANOVER ST.
RIM = 11.20'
INV. IN 8" PVC = 6.15' TANNER ST. SE)
INV. IN 15" PVC = 5.75' (SW)
INV. OUT 15" PVC = 5.64' SMH 2301
SUMP = 5.64'

SMH 2301 BRIDGE / HANOVER INTX.
RIM = 9.29'
(INVERTS DERIVED FROM G.I.S., DID NOT OPEN)
INV. IN 15" PVC DROP = 4.4' SMH 2303
INV. IN 12" PVC = 2.1' SMH 5928
INV. IN 15" PVC = 2.1' SMH 1489
INV. OUT 24" PVC = 2.0' BRIDGE ST. (NW)

SMH 6093 BRIDGE ST.
RIM = 21.29'
INV. IN 12" PVC DROP = 16.57' (NE)
INV. IN 12" PVC = 13.37' (NE)
INV. OUT 12" PVC = 13.24' SMH 5928
SHELF = 14.27'
TRENCH = 13.24'

SMH 5928 BRIDGE ST.
RIM = 10.30'
INV. IN 12" PVC = 4.05' SMH 6093
INV. OUT 12" PVC = 3.84' SMH 2301
SHELF = 5.04'
TRENCH = 4.09'

INVERT OUT OF SUBJECT BUILDING = 8.50'

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GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)

UTILITY NOTES

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
2. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
3. THE INSTALLATION OF ELECTRIC POWER, CABLE TELEVISION AND TELEPHONE LINES SHALL BE UNDERGROUND THROUGHOUT THE SITE FOR WHICH DEVELOPMENT IS PROPOSED.
4. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
5. THE SUBJECT PARCEL IS SERVED BY MUNICIPAL WATER AND SEWER.
6. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
7. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, DOUBLE CEMENT LINED DUCTILE IRON PIPE OR TYPE "K" COPPER, OR CITY APPROVED MATERIAL.
8. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE CITY OF PORTSMOUTH WATER DEPARTMENT.
9. ALL GRAVITY SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE NOTED AND CONFORM TO THE REQUIREMENTS OF THE CITY OF PORTSMOUTH SEWER DISTRICT STANDARDS.
10. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
11. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE UTILITY COMPANIES.
12. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
13. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.
14. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
15. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES. COORDINATE WITH GAS COMPANY.
16. THE CONTRACTOR SHALL CONTACT "DIG–SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG–SAFE" NUMBER ON SITE AT ALL TIMES.
17. SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
18. GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
19. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH SEWER DISTRICT.
20. CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
21. CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
22. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PREPARED BY THE PROJECT ELECTRICAL ENGINEER.
23. APPROVED BACKFLOW PREVENTORS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
24. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE CITY AND STATE CODES.
25. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY. PROPOSED INSTALLATION OF UNDERGROUND CONDUITS FOR TELEPHONE, AND ELECTRIC SERVICE SHALL BE COORDINATED WITH THE RESPECTIVE CONTACTS ARE AS FOLLOWS:

ELECTRIC:	EVERSOURCE 1.800.362.7764
CABLE:	COMCAST 603.334.3615
GAS:	UNITIL: 888.301.7700
PORTSMOUTH NH WATER:	603.427.1530
PORTSMOUTH SEWER DISTRICT:	603.828–5273

LEGEND

DYL – DOUBLE YELLOW LINE	WV – WATER GATE VALVE
TMH – TELEPHONE MANHOLE	– LIGHT POST
SMH – SEWER MANHOLE	—S— – SEWER LINE
CMH – COMMUNICATIONS MANHOLE	—D— – DRAIN LINE
EMH – ELECTRIC MANHOLE	—G— – GAS LINE
E – ELECTRIC METER	—W— – WATER LINE
– PULL BOX	VGC – VERTICAL GRANITE CURB
CB – CATCH BASIN	S.F. – SQUARE FEET
DMH – DRAIN MANHOLE	(TYP.) – TYPICAL
—OHU— – OVERHEAD UTILITIES	± – MORE OR LESS
AC – AIR CONDITIONER	UP 33 4 – UTILITY POLE W/ I.D. Nos.
GV – GAS VALVE	—PW— – PROPOSED WATER LINE
	—PG— – PROPOSED GAS LINE
	—PE— – PROPOSED ELECTRIC LINES
	—PS— – PROPOSED SEWER LINE

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NO.	REVISION	APP'D	DATE

DATE: 9–21–26
SCALE: 1"=10'
DRAWN BY: SRD
DESIGN BY: SRD
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PROJECT NO: 25068
FILE: SITE.DWG

STATE OF NEW HAMPSHIRE
STEPHEN J. HAIGHT
No. 7978
LICENSED
PROFESSIONAL ENGINEER

STEPHEN MATEUX &
CHRISTINE MAYEUX
64 BRIDGE STREET
PORTSMOUTH, NH

BRIDGE STREET INN
64 BRIDGE STREET
PORTSMOUTH, NH

UTILITY PLAN

DESCRIPTION

1. THE INTENT OF THIS PLAN IS TO SHOW SITE IMPROVEMENTS ASSOCIATED WITH THE CONSTRUCTION OF A 3,000 S.F. BUILDING, UTILITIES, AND SITE IMPROVEMENTS.

PROJECT NAME AND LOCATION

BRIDGE STREET INN
64 BRIDGE STREET
PORTSMOUTH, NH 03801

LATITUDE N43° 04' 34"
LONGITUDE W70° 45' 09"

DISTURBED AREA

±3.800 S.F.

NOTES:

1. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 1 ACRE AT ANY TIME BEFORE DISTURBED AREAS ARE STABILIZED.
2. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.

SEQUENCE OF MAJOR ACTIVITIES

1. PLACE TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S PRIOR TO EARTH MOVING ACTIVITIES.
2. ALL EROSION CONTROL AND PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO COMMENCING EARTH MOVING OPERATIONS.
3. SELECTIVE DEMOLITION.
4. REGRADE SITE TO SUBGRADE.
5. TEMPORARY WATER DIVERSION (SWALES, BASINS) MUST BE USED AS NECCESSARY UNTIL AREAS ARE STABILIZED.
6. SWALES AND PONDS (AS APPLICABLE) SHALL BE CONSTRUCTED EARLY ON IN THE CONSTRUCTION SEQUENCE AND BEFORE ROUGH GRADING OF THE SITE AND ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
7. INSTALL DRAINAGE STRUCTURES AND CONTROLS AS APPLICABLE.
8. INSTALL FOUNDATION FOOTINGS AND WALLS.
9. INSTALL UTILITIES.
10. PLACE GRAVELS AND FINE GRADE.
11. STABILIZE PAVED AREAS WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
12. ALL CUT AND FILL SLOPES SHALL BE LOAMED AND SEEDED (AS APPLICABLE) WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
13. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EVERY 1/2" OF RAINFALL.
14. IN ALL CASES THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION AND IN NO CASE SHALL EXCEED 1 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.

DEFINITIONS

AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED.

1. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED
2. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
3. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP-RAP HAS BEEN INSTALLED; OR
4. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED

INSTALLATION, MAINTENANCE, AND INSPECTION PROCEDURES OF EROSION AND SEDIMENT CONTROLS

A. SILT BARRIER

1. INSTALLATION
   a. USE SILT BARRIER AS PERIMETER CONTROLS, PARTICULARLY AT THE LOWER OR DOWN SLOPE EDGE OF A DISTURBED AREA.
   b. LEAVE SPACE FOR MAINTENANCE BETWEEN TOE AND SLOPE OF SILT BARRIER.
   c. TRENCH IN THE SILT BARRIER ON THE UPHILL SIDE (6 INCHES DEEP BY 6 INCHES WIDE).
   d. INSTALL STAKES ON THE DOWNHILL SIDE OF THE SILT BARRIER.
   e. CURVE THE END OF THE SILT BARRIER UP-GRADIENT TO HELP IT CONTAIN RUNOFF.
2. SEQUENCE OF INSTALLATION
   a. SEDIMENT BARRIERS SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM.
3. MAINTENANCE
   a. SILT BARRIERS SHOULD BE INSPECTED AND MAINTAINED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
   b. SILT BARRIERS HAVE A USEFUL LIFE OF ONE SEASON. ON LONGER CONSTRUCTION PROJECTS, SILT BARRIERS SHOULD BE REPLACED PERIODICALLY TO MAINTAIN EFFECTIVENESS.
   c. REMOVE SEDIMENT WHEN IT REACHES ONE-THIRD (1/3) THE HEIGHT OF THE SILT BARRIER.
   d. REPLACE THE SILT BARRIERS WHERE THEY ARE TORN, WORN, OR OTHERWISED DAMAGED AND MONITOR PERFORMANCE TO ENSURE EFFECTIVE PERFORMANCE.
   e. RETRENCH OR REPLACE ANY SILT BARRIER THAT IS NOT PROPERLY ANCHORED TO THE GROUND.
   f. IF THERE IS EVIDENCE OF END FLOW ON PROPERLY INSTALLED BARRIERS, EXTEND BARRIERS UPHILL OR CONSIDER REPLACING THEM WITH OTHER MEASURES, SUCH AS TEMPORARY DIVERSIONS AND SEDIMENT TRAPS.
   g. SILT BARRIERS SHOULD BE REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SILT BARRIERS SHOULD BE REPLACED WITH A TEMPORARY CHECK DAM.

B. MULCHING

1. TIMING
   a. APPLY MULCH PRIOR TO ANY STORM EVENT. IT WILL BE NECESSARY TO CLOSELY MONITOR WEATHER PREDICTIONS TO HAVE ADEQUATE WARNING OF SIGNIFICANT STORMS.
   b. IN OTHER AREAS, THE TIME PERIOD CAN RANGE FROM 14 TO 30 DAYS OF INACTIVITY ON A AREA. THE LENGTH OF TIME VARYING WITH SITE CONDITIONS. PROFESSIONAL JUDGEMENT SHALL BE USED TO EVALUATE THE INTERACTION OF SITE CONDITIONS (SOIL ERODIBILITY, SEASON OF YEAR, EXTENT OF DISTURBANCE, PROXIMITY TO SENSITIVE RESOURCES, ETC.) AND THE POTENTIAL IMPACT OF EROSION ON ADJACENT AREAS TO CHOOSE AN APPROPRIATE TIME RESTRICTION.
   c. WITHIN 100 FEET OF RIVERS, STREAMS, WETLANDS, AND IN LAKE AND POND WATERSHEDS, THE TIME PERIOD OF WHICH MULCHING SHOULD TAKE OCCUR SHOULD BE NO GREATER THAN SEVEN (7) DAYS. THIS SEVEN DAY LIMIT SHOULD BE REDUCED FURTHER DURING WET WEATHER PERIODS.
2. APPLICATION RATE
   a. MULCH SHALL BE APPLIED AT A RATE OF BETWEEN 1.5 TO 2 TONS PER ACRE, OR 70 TO 90 POUNDS PER 1000 SQUARE FEET.
   b. GUIDELINES FOR WINTER MULCH APPLICATION. WHEN MULCH IS APPLIED TO PROVIDE PROTECTION OVER WINTER (PAST THE GROWING SEASON) IT SHALL BE AT A RATE OF 150-200 POUNDS OF HAY OR STRAW PER ACRE WITH ABOUT 4 INCHES IN DEPTH. A TACKIFIER MAY BE ADDED TO THE MULCH.
3. MAINTENANCE
   a. ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS. CHECK FOR SIGNS OF EROSION OR DISPLACEMENT OF THE MULCH. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED.
   b. NETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR FAILURE AND SHOULD BE REPAIRED AS NECCESSARY.
   c. INSPECTIONS SHOULD TAKE PLACE UNTIL THE SITE IS ESTABLISHED.
   d. EROSION CONTROL MIX MULCH USED FOR TEMPORARY STABILIZATION SHOULD BE LEFT IN PLACE. VEGETATION ADDS STABILITY AND SHOULD BE PROMOTED.

C. TEMPORARY SEEDING

1. SEEDBED PREPARATION
   a. STONES AND TRASH SHOULD BE REMOVED SO AS NOT TO INTERFERE WITH THE SEEDING AREA.
   b. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
   c. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS.
      i) APPLY FERTILIZER AT A RATE OF 600 POUNDS PER ACRE OR 13.8 POUNDS PER 1,000 SQUARE FEET OF LOW PHOSPHATE FERTILIZER OR EQUIVALENT.
      ii) APPLY LIMESTONE AT A RATE OF 3 TONS PER ACRE OR 138 POUNDS PER 1,000 SQUARE FEET.
2. SEEDING
   a. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SUMMARY INCLUDING SEED AND FERTILIZER) WITH A SEEDING DEPTH FROM A QUARTER (1/4) TO A HALF (1/2) INCH.
   b. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.
   c. TEMPORARY SEEDING BETWEEN MAY 15TH AND AUGUST 15TH SHOULD BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE.
   d. VEGETATED GROWTH COVERING 85% OF THE DISTURBED AREA SHOULD BE ACHIEVED PRIOR TO OCTOBER 15TH.
3. MAINTENANCE
   a. TEMPORARY SEEDING SHALL BE INSPECTED PERIODICALLY. AT A MINIMUM, 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHALL BE MADE AND OTHER TEMPORARY MEASURES USED IN THE INTERIM (MULCH, FILTER FABRICS, CHECK DAMS, ETC.).

D. PERMANENT SEEDING

1. BEDDING — STONES LARGER THAN 2 INCHES, TRASH, ROOTS, AND OTHER DEBRIS INTERFERRING WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA SHOULD BE REMOVED. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF 4" TO PREPARE A SEEDBED AND MIX FERTILIZER INTO THE SOIL.
2. FERTILIZER
   a. LIME AND FERTILIZER SHOULD BE WORKED INTO THE SOIL TO A DEPTH OF 4 INCHES USING A DISC, SPRING TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT PRIOR TO OR AT THE SAME TIME OF SEEDING.
   b. FERTILIZER SHOULD BE RESTRICTED TO A LOW PHOSPHATE, SLOW RELEASE NITORGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 FEET AND 250 FEET FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHOULD BE APPLIED WITHIN 25 FEET OF THE SURFACE WATER.
   c. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
      AGRICULTURAL LIMESTONE @ 138 LBS. PER 1,000 S.F.
      LOW PHOSPHATE (N-P205-K20) FERTILIZER @ 13.8 LBS. PER 1,000 S.F.
3. SEED MIXTURE (RECOMMENDED)
   RATE:

TYPE	LBS. PER ACRE	LBS. PER 1,000 S.F.
TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
BIRDSFOOT TREFOIL	8	0.20
TOTAL	48	1.10

4. SEEDING
   a. SPRING SEEDING USUALLY GIVES THE BEST RESULTS FOR ALL SEED MIXES OR WITH LEGUMES. PERMANENT SEEDING SHOULD BE COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST.
   b. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL, CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER) WITH A SEEDING DEPTH FROM A QUARTER (1/4) TO A HALF (1/2) INCH.
   c. VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED SHOULD BE ACHIEVED PRIOR TO OCTOBER 15TH. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION.
5. HYDROSEEDING
   a. LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. THE USE OF STRAW MULCH ON CRITICAL AREAS IS PREFERRED SINCE IT GRANTS BETTER SLOPE PROTECTION BY USING ADHESIVE MATERIALS.
   b. SLOPES MUST BE NO STEEPER THAN 2 TO 1 (2 FEET HORIZONTALLY TO 1 FOOT VERTICALLY).
   c. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.
6. MAINTENANCE
   a. PERMANENT SEEDED AREAS SHOULD BE INSPECTED AT LEAST MONTHLY DURING THE COURSE OF CONSTRUCTION. INSPECTIONS, MAINTENANCE, AND CORRECTIVE ACTIONS SHOULD CONTINUE UNTIL THE OWNER ASSUMES PERMANENT OPERATION OF THE SITE.
   b. SEEDED AREAS SHOULD BE MOWED AS REQUIRED TO MAINTAIN A HEALTHY STAND OF VEGETATION, WITH MOWING HEIGHT AND FREQUENCY DEPENDENT ON TYPE OF GRASS COVER.
   c. BASED ON INSPECTION, AREAS SHOULD BE RESEEDED TO ACHIEVE FULL STABALIZATION OF EXPOSED SOILS.
   d. IF EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS RESEEDED. WITH OTHER TEMPORARY MEASURES USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.
   e. AT A MINIMUM, 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION.

E. STORM DRAIN INLET PROTECTION

1. SPECIFICATIONS
   a. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE BARRIER SHOULD BE LESS THAN ONE ACRE.
   b. ANY RESULTANT PONDING OF STORMWATER MUST NOT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT AREAS OR STRUCTURES.
2. INSTALLATION
   a. INSTALL INLET PROTECTION AS SOON AS STORM DRAIN INLETS ARE INSTALLED AND BEFORE LAND-DISTURBANCE ACTIVITIES BEGIN IN AREAS WITH EXISTING STORM DRAIN SYSTEMS.
   b. PROTECT ALL INLETS THAT COULD RECEIVE STORMWATER FROM YOUR CONSTRUCTION PROJECT.
   c. USE IN CONJUNCTION WITH OTHER EROSION PREVENTION AND SEDIMENT CONTROL BMPS.
   d. DESIGN YOUR INLET PROTECTION TO HANDLE THE VOLUME OF WATER FROM THE AREA BEING DRAINED. ENSURE THAT THE DESIGN IS SIZED APPROPRIATELY.
3. MAINTENANCE
   a. INSPECT INLETS BARRIERS FREQUENTLY, BEFORE AND AFTER EACH RAINFALL EVENT AND REPAIR WHEN NECESSARY.
   b. SEDIMENT SHOULD BE REMOVED AND THE STORM DRAIN SEDIMENT BARRIER RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE BARRIER.
   c. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
   d. SWEEP STREETS, SIDEWALKS, AND OTHER PAVED AREAS REGULARLY.
   e. ALL CATCH BASINS AND STORM DRAIN INLETS MUST BE CLEANED AT THE END OF CONSTRUCTION AND AFTER THE SITE HAS BEEN FULLY STABILIZED

TIMING OF CONTROLS/MEASURES

AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES THE SILT BARRIERS SHALL BE INSTALLED PRIOR TO COMMENCING ANY CLEARING OR GRADING OF THE SITE. STRUCTURAL CONTROLS SHALL BE INSTALLED CONCURRENTLY WITH THE APPLICABLE ACTIVITY. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN TWENTY ONE (21) DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN FOURTEEN (14) DAYS OF THE LAST DISTURBANCE. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, SILT FENCES AND ANY EARTH/DIKES WILL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED. ALL AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.

WASTE DISPOSAL

a. WASTE MATERIALS
   ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN A DUMPSTER. NO CONSTRUCTION WASTE MATERIALS WILL BE BURIED ON SITE. ALL PERSONEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
b. HAZARDOUS WASTE
   ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
c. SANITARY WASTE
   ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

MAINTENACE OF STORMWATER MANAGEMENT FACILITIES

THE PROJECT PROPONENT IS RESPONSIBLE FOR THE MAINTENANCE OF ALL STORMWATER FACILITIES DURING CONSTRUCTION AND THE PROPERTY OWNER IS RESPONSIBLE AFTER CONSTRUCTION IS COMPLETE.

CATCH BASINS & STORMWATER TREATMENT STRUCTURES

1. CATCH BASINS & STORMWATER TREATMENT STRUCTURES SHOULD BE INSPECTED ON A MONTHLY BASIS AND/OR AFTER A MAJOR RAINFALL EVENT TO ASSURE THAT DEBRIS OR SEDIMENTS DO NOT REDUCE THE EFFECTIVENESS OF THE SYSTEM.

SPIL PREVENTION

A. MATERIAL MANAGEMENT PRACTICES

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RICK OF SPILLS OR OTHER ACCIDENTAL SANITARY EXPOSURE OF MATERIALS AND SUBSTANCE DURING CONSTRUCTION TO STORMWATER RUNOFF:
GOOD HOUSEKEEPING:
THE FOLLOWING GOOD HOUSEKEEPING PRACTICES THAT WILL BE FOLLOWED ON SITE DURING

1. THE CONSTRUCTION PROJECT:
   a. AN EFFORT WILL BE MADE TO STORE ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB.
   b. ALL MATERIALS STORED ON SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
   c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
   d. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS.
   e. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
   f. WHENEVER POSSIBLE ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
2. HAZARDOUS PRODUCTS:
   a. THE FOLLOWING PRACTICES WILL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
   b. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
   c. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION.
   d. SURPLUS PRODUCT THAT MUST BE DISPOSED OF WILL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.

B. PRODUCT SPECIFICATION PRACTICES

THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ON SITE:

1. PETROLEUM PRODUCTS:
   a. ALL ON SITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENACE TO REDUCE LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
2. FERTILIZERS:
   a. FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER. STORAGE WILL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
3. PAINTS:
   a. ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE DISPOSED OF PROPERLY ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
4. CONCRETE TRUCKS:
   a. CONCRETE TRUCKS WILL DISCHARGE AND WASH OUT SURPLUS CONCRETE OR DRUM WASH WATER IN A CONTAINED AREA ON SITE.

C. SPILL CONTROL PRACTICES

IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST, AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
c. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.
d. THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OF LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
f. THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM RECURRING AND HOW TO CLEANUP THE SPILL IF IT OCCURS. A DESCRIPTION OF THE SPILL, ITS CAUSE, AND THE CLEANUP MEASURES WILL BE INCLUDED.
g. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.

THE PROJECT PROPONENT IS REQUIRED TO MANAGE CONSTRUCTION TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO CONTROLLING INVASIVE SPECIES AND CONTROLLING FUGITIVE DUST IN ACCORDANCE WITH ENV-A 1002.

AGR 3800 PROHIBITED INVASIVE PLANT SPECIES RULES

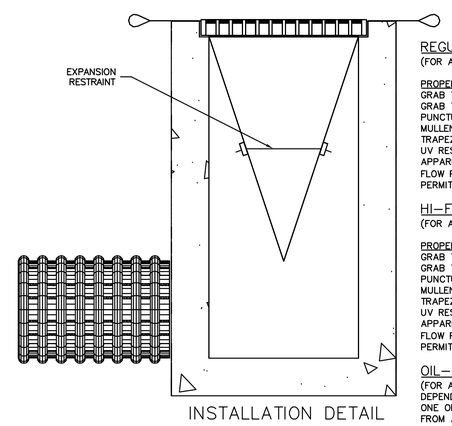
THE RULE, AGR 3800, STATES: NO PERSON SHALL COLLECT, TRANSPORT, IMPORT, EXPORT, MOVE, BUY SELL, DISTRIBUTE, PROPAGATE OR TRANSPLANT ANY LIVING AND VIABLE PORTION OF ANY PLANT SPECIES, WHICH INCLUDED ALL OF THEIR CULTIVARS AND VARIETIES, LISTED IN TABLE 3800.1, NEW HAMPSHIRE PROHIBITED INVASIVE SPECIES LIST'. A COMPLETE COPY OF THE RULES CAN BE ACCESSED ON THE INTERNET AT
HTTP://AGRICULTURE.NH.GOV/TOPICS/PLANTS_INSECTS.HTM.

ENV-A 1002 FUGITIVE DUST: PRECAUTIONS TO PREVENT, ABATE, AND CONTROL FUGITIVE DUST.

a. ANY PERSON ENGAGED IN ANY ACTIVITY WITHIN THE STATE EMITS FUGITIVE DUST, OTHER THAT THOSE LISTED IN ENV-A 1002.02 (b), SHALL TAKE PRECAUTIONS THROUGHOUT THE DURATION OF THE ACTIVITY IN ORDER TO PREVENT, ABATE, AND CONTROL THE EMISSION OF FUGITIVE DUST.
b. PRECUATIONS REQUIRED BY (a) ABOVE, SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
   i) THE USE OF WATER OR HYDROPHILIC MATERIAL ON OPERATIONS OR SURFACES, OR BOTH;
   ii) THE APPLICATION OF ASPHALT, WATER, OR HYDROPHILIC MATERIAL, OR TARPS OR OTHER SUCH COVERS TO MATERIAL STOCKPILES;
   iii) THE USE OF HOODS, FANS, FABRIC FILTERS, OR OTHER DEVICES TO ENCLOSE AND VENT AREAS WHERE MATERIALS PRONE TO PRODUCING FUGITIVE DUST ARE HANDLED;
   iv) THE USE OF CONTAINMENT METHODS FOR SANDBLASTING OR SIMILAR OPERATIONS; AND
   v) THE USE OF VACUUMS OR OTHER SUCTION DEVICES TO COLLECT AIRBORNE PARTICULATE MATTER.

WINTER CONSTRUCTION NOTES

1. ALL PROPOSED POST-DEVELOPMENT VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY 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 PLACEMENT OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT.
2. ALL DITCHES & SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH SHALL BE STABILIZED WITH STONE OR EROSION CONTROL BLANKETS.
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD AND PARKING SURFACES SHALL BE PROTECTED WITH A MINIMUM OF 3-INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT.



INSTALLATION DETAIL

DETAIL OF INLET SEDIMENT CONTROL DEVICE

N.T.S.

SILTSACK®

SPECIFICATIONS

NOTE: THE SILTSACK® WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS. AS SUPPLIED BY AH HARRIS OF PORTSMOUTH OR APPROVED EQUAL

REGULAR FLOW SILTSACK®

(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80%
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

HI-FLOW SILTSACK®

(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90 %
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

OIL-ABSORBANT SILTSACK®

(FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUN-OFF OR SPILLS)
DEPENDING ON YOUR PARTICULAR APPLICATION, THE SILTSACK® CAN BE MADE FROM EITHER ONE OF THE ABOVE FABRICS WITH AN OIL-ABSORBANT PILLOW INSERT OR, MADE COMPLETELY FROM AN OIL-ABSORBANT SILTSACK®, WITH A WOVEN PILLOW INSERT.

NOT FOR CONSTRUCTION FOR PERMIT USE ONLY

GNE CIVILWORKS NEW ENGLAND
CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE

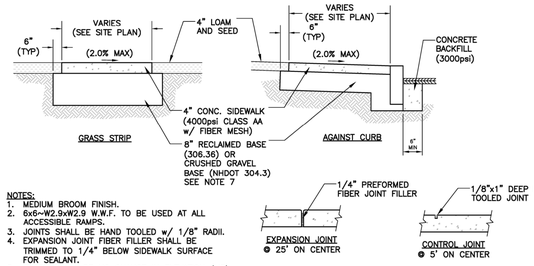
PROJECT NO: 25066
FILE: 9-21-26
APPROVED BY: XX
DESIGN BY: XX
DRAWN BY: XX
SCALE: XX
DATE: 9-21-26

STATE OF NEW HAMPSHIRE
STEPHEN J. HAIGHT
No. 7978
LICENSED
PROFESSIONAL ENGINEER

STEPHEN MATEUX & CHRISTINE MAYEUX
64 BRIDGE STREET
PORTSMOUTH, NH

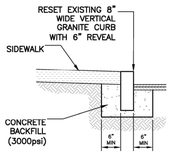
BRIDGE STREET INN
64 BRIDGE STREET
PORTSMOUTH, NH

EROSION CONTROL NOTES



NOTES:
1. MEDIUM BROOM FINISH.
2. 6x6~W2.9xW2.9 W.W.F. TO BE USED AT ALL ACCESSIBLE RAMPS.
3. JOINTS SHALL BE HAND TOOLED w/ 1/8" RADII.
4. EXPANSION JOINT FIBER FILLER SHALL BE TRIMMED TO 1/4" BELOW SIDEWALK SURFACE FOR SEALANT.
5. THERE SHALL BE NO CHANGE IN ELEVATION (LIP) OR GAPS IN THE SIDEWALK GREATER THAN 1/4".
6. SIDEWALK CONCRETE SHALL BE TREATED WITH SILOXANE SEALER.
7. RECLAIMED BASE MATERIAL SHALL BE USED UNLESS DIRECTED BY THE ENGINEER, OR IF QUANTITIES HAVE BEEN DEPLETED.

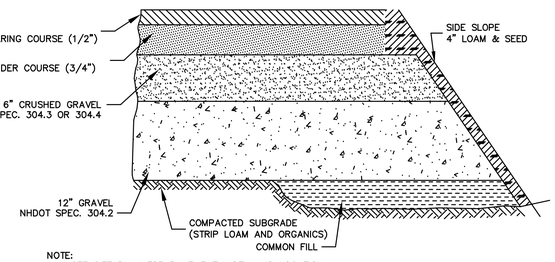
CONCRETE SIDEWALK
SCALE: N.T.S



RADIUS	MAX. LENGTH
<20'	USE CURVED CURB
21'–25'	3'
26'–30'	4'
31'–35'	5'
36'–40'	6'
41'–50'	7'
51'–56'	8'
56'–60'	9'
OVER 60'	10'

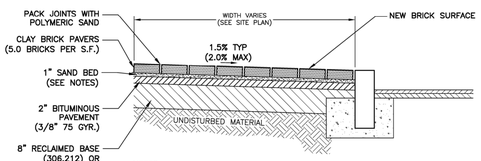
NOTES:
1. CURB TO BE SET TO LINE AND GRADE SPECIFIED.
2. ALL RADII 20 FEET AND SMALLER SHALL USE CURVED SECTIONS.
3. CURB AT FLUSH SECTION OF SIDEWALK SHALL BE SET TO 1.5% (2.0% MAX.) SLOPE. CURB AT RAMPS SHALL BE SET TO 8.0% (8.3% MAX.). IT IS THE CURB CONTRACTORS RESPONSIBILITY TO VERIFY SLOPES WITH A SMART LEVEL.
4. VERTICAL GRANITE JOINTS SHALL BE MORTARED.
5. SEE CHART FOR MAX / MIN STONE LENGTHS.
6. RESET EXISTING CURB. ANY MISSING OR DAMAGED CURB SHALL BE REPLACED WITH MATAING CURB SIZE.
7. NO CURB LESS THAN 3' IN LENGTH WILL BE ALLOWED.
8. CURB MATERIAL SHALL BE FROM THE SAME LOT OF GRANITE. VARIANCES IN COLOR AND TYPE WILL NOT BE ACCEPTED.

VERTICAL GRANITE CURB
SCALE: N.T.S



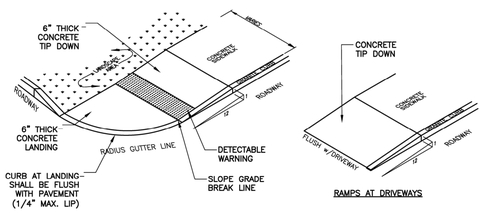
NOTE:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. GEOTEXTILE FABRIC MAYBE REQUIRED UNDER THE ROADWAY AND /OR THE PARKING AREAS AS REQUIRED BY THE ENGINEER BASED UPON SITE CONDITIONS.

TYPICAL PAVEMENT SECTION
N.T.S.



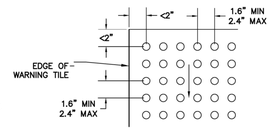
NOTES:
1. PINEHALL PAVERS ARE REQUIRED. CONTRACTOR SHALL SUBMIT SAMPLE OF BRICKS FOR APPROVAL BY THE CITY OF PORTSMOUTH.
2. IN AREAS WHERE BRICK DOES NOT ABUT CURBING, EDGING SHALL BE INSTALLED TO HOLD BRICKS IN PLACE.
3. SAND BEDDING: 3 PARTS SAND MIX AND 1 PART PORTLAND CEMENT.
4. BRICKS SHALL BE CLASS SX, TYPE 1, APPLICATION PX. BRICKS SHALL BE NO.1, WIRE CUT FOR PAVING w/COMPRESSIVE STRENGTH OF 6,000psi (MIN.). BRICKS SHALL NOT BE CORED OR HAVE FROGS AND SHALL BE STANDARD SIZE (2.25"x3.625"x7.625").
5. BASE MATERIAL SHALL BE REHANDLED RECLAIMED BASE MATERIAL. IN THE EVENT THE RECLAIMED MATERIAL IS UNSUITABLE, OR QUANTITIES HAVE BEEN DEPLETED, 304.3 CRUSHED GRAVEL BASE SHALL BE USED.

BRICK SIDEWALK
SCALE: N.T.S

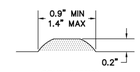


CURB RAMPS AT STREETS

RAMPS AT DRIVEWAYS

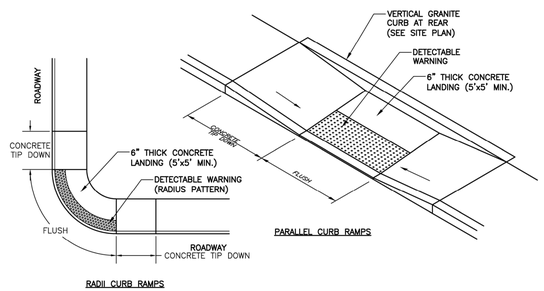


DETECTABLE WARNING TILE



DOME SECTION

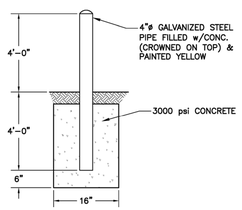
NOTES:
1. ALL CURB RAMPS AND SIDEWALKS SHALL COMPLY WITH ADA (AMERICANS WITH DISABILITIES ACT).
2. TIP DOWNS SHALL HAVE A RUNNING SLOPE OF 7.5% (8.3% MAX.) AND CROSS SLOPE OF 1.5% (2.0% MAX.).
3. THERE SHALL BE NO CHANGE IN ELEVATION (LIP) OR GAPS IN THE SIDEWALK RAMPS GREATER THAN 1/4".
4. LANDINGS AND AREAS OF CHANGE IN DIRECTION SHALL HAVE A SLOPE OF 1.5% (2.0%) IN ALL DIRECTIONS.
5. DETECTABLE WARNINGS SHALL INSTALLED SO THAT PATTERN IS IN LINE WITH DIRECTION OF TRAVEL TO THE EXTENT POSSIBLE.
6. DETECTABLE WARNING TILES SHALL BE PLACED SO THAT THE EDGE CLOSEST TO THE CURB IS BETWEEN 6"–8" FROM CURB LINE.
7. DETECTABLE WARNING TILE SHALL SPAN THE FULL WIDTH OF THE RAMP AND A MINIMUM OF 24" DEEP.
8. DETECTABLE WARNING TILE SHALL BE CAST IRON, NEENAH FOUNDRY OR APPROVED EQUAL. RADIUS ADA CURB RAMPS SHALL HAVE DETECTABLE WARNING TILES IN A RADIUS PATTERN USING TUFTILE OR APPROVED EQUAL.
9. CONCRETE AT DETECTABLE WARNING RAMPS SHALL BE FIBER REINFORCED WITH A MEDIUM BROOM FINISH.
10. BASE MATERIAL FOR CONCRETE SECTIONS SHALL BE EITHER 8" THK RECLAIM BASE (306.36), OR 8" THK CRUSHED GRAVEL BASE (NHDOT 304.3).



RADII CURB RAMPS

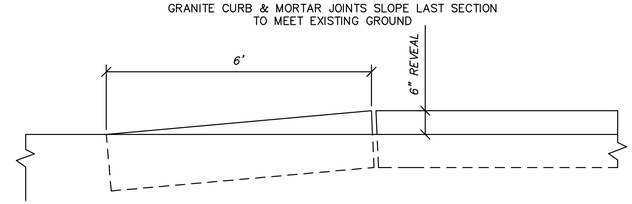
PARALLEL CURB RAMPS

CURB RAMP DETAILS
SCALE: N.T.S



NOTES:
1. SEE SITE PLAN FOR LOCATIONS.
2. DISTURBED AREA AROUND BOLLARD SHALL BE RESTORED TO MATCH EXISTING.

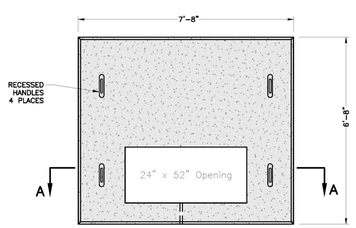
BOLLARD
SCALE: N.T.S



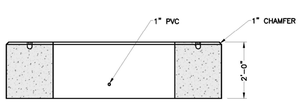
"TIP-DOWN" CURB DETAIL
N.T.S.

SHEA CONCRETE PRODUCTS — New England's Premier Precaster — 800-696-7432 (SHEA) — www.sheaconcrete.com — MAILING ADDRESS: 87 HAVERHILL RD AMESBURY, MA 01913

EVERSOURCE–NH 53–111 3–PHASE TRANSFORMER PAD 75–500 KVA



PLAN



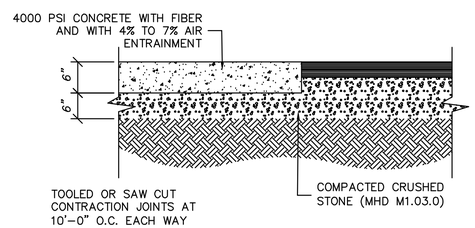
SECTION A–A

NOTES:
1. CONCRETE: 4,000 PSI MIN. AFTER 28 DAYS
2. REINFORCEMENT STEEL CONFORMS TO ASTM A615 GRADE 60 #6 REBAR.
3. PAD MEETS OR EXCEEDS EVERSOURCE SPECIFICATIONS

SHEA PRODUCT ID: 53–111	FILE NAME: ES–NH TP 53–111		
WEIGHT (LBS): 12,600#	DRAWN BY: NMB	DATE: 03/21/2018	PAGE: III.C.3

773 Salem Street–Wilmington, MA | 153 Cranberry Hwy–Rochester, MA | 87 Haverhill Road–Amesbury, MA | 160 Old Turnpike Rd–Nottingham, NH

Specifications subject to change without notice



CONCRETE PAD DETAIL
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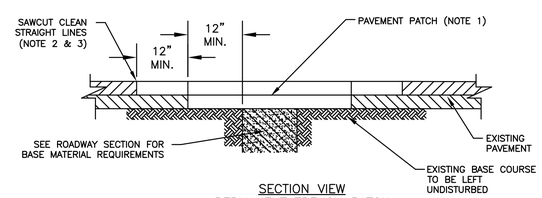

SECTION VIEW
PERMANENT TRENCH PATCH
N.T.S.

NOTES (PERMANENT):
1. PERMANENT PAVEMENT PATCH SHALL BE 3/4" BINDER FOR THE FULL THICKNESS. THICKNESS SHALL BE 4" OR MATCH EXISTING (WHICHEVER IS GREATER), PLACED AND COMPACTED IN TWO LIFTS. THICKNESS MUST BE APPROVED BY THE ENGINEER.
2. PERMANENT PAVEMENT PATCH SHALL BE MILLED 1.5" AFTER SUFFICIENT TIME FOR ANY SETTLEMENT. MILL AREA SHALL EXTEND 12" BEYOND THE BINDER EDGE.
3. PERMANENT PAVEMENT PATCH REQUIRES RUBBER JOINT SEALANT ON ALL JOINTS AFTER WEARING COURSE HAS BEEN PLACED.
4. EXTENT OF PAVING MAY EXTEND BEYOND DIMENSIONS SHOWN IN THE DETAIL AS DIRECTED BY THE ENGINEER.

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CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
603.749.0443

NO.	REVISION	APP'D	DATE

DATE: 9–21–26
SCALE: XX
DRAWN BY: XX
DESIGN BY: XX
APPROVED BY:XX
PROJECT NO: 25066
FILE: 9–21–26

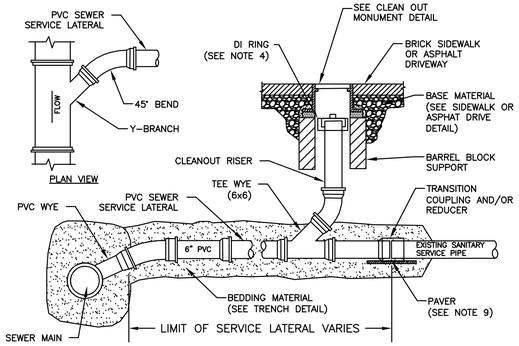
STATE OF NEW HAMPSHIRE — STEPHEN J. HAIGHT No. 7978 — LICENSED PROFESSIONAL ENGINEER

STEPHEN MATEUX &
CHRISTINE MAYEUX
64 BRIDGE STREET
PORTSMOUTH, NH

BRIDGE STREET INN
64 BRIDGE STREET
PORTSMOUTH, NH

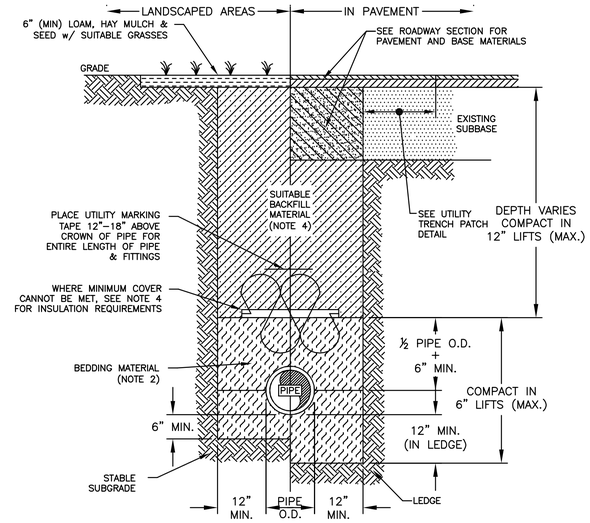
DETAILS

8



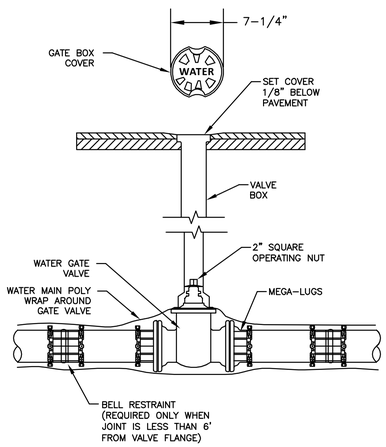
NOTES:
1. SEWER SERVICE LATERAL SHALL SLOPE AT A MINIMUM OF 1/4" PER FOOT.
2. WARNING TAPE SHALL BE PLACED 12" ABOVE SERVICE LATERAL.
3. 10" DIA. CAST IRON MONUMENT BOX SHALL BE INSTALLED WHEN CLEANOUT IS AT PAVED (ASPHALT, CONCRETE OR BRICK) SURFACE.
4. WHEN CLEANOUT IS PLACED IN LAWN AREA, IT SHALL BE CAPPED 6" BELOW GRADE. A 6" LENGTH OF 8" DIA. DI PIPE SHALL BE PLACED AROUND CLEANOUT WHEN CLEANOUT IS BURIED AND NO DI COVER USED.
5. COVER / BARREL BLOCK TRANSITION SHALL BE PARGED AND SEALED WITH MORTAR.
6. CLEANOUT TO BE USED TO PLUG & TEST ALL NEW LATERALS.
7. EXISTING SEWER LATERALS AT AREAS WHERE NO NEW SEWER MAIN IS TO BE INSTALLED THAT IS DAMAGED DUE TO OTHER PIPE INSTALLATION SHALL BE REPAIRED AT NO ADDITIONAL COST.
8. PVC TO PVC REPAIRS SHALL BE DONE WITH PVC GASKETED REPAIR COUPLINGS. COUPLINGS TO TRANSITION FROM ANY OTHER TYPE OF PIPE MATERIAL TO PVC MUST BE A MAXADAPTOR (BY GRIPPER GASKET, OR APPROVED EQUAL)
9. RUBBER BOOT CONNECTIONS (FERNCO) ONLY ALLOWED WHEN APPROVED BY CITY DPW. RUBBER BOOT CONNECTIONS REQUIRE A 16x8x2 SOLID PAVER BLOCK PLACED UNDER THE BOOT, CENTERED ON THE JOINT.

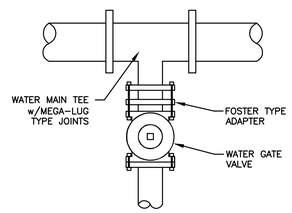
SEWER SERVICE CONNECTION
N.T.S



NOTES:
1. PIPE AND FITTING MATERIALS (UNLESS OTHERWISE INDICATED ON THE PLANS):
   WATER – CLASS 52 DUCTILE IRON
   SEWER – PVC SDR35
   DRAIN – HIGH DENSITY POLYETHYLENE (HDPE)
2. BEDDING MATERIAL (FULL WIDTH OF TRENCH):
   WATER – SAND (NHDOT 304.1)
   SEWER – 3/4" WASHED CRUSHED STONE
   DRAIN – 3/4" WASHED CRUSHED STONE
3. SAND SHALL NOT BE DIRECTLY PLACED ON CRUSHED STONE. IN THE EVENT FINELY GRADED BACKFILL OR SAND IS USED ABOVE STONE, GEOTEXTILE FABRIC SHALL BE PLACED TO SEPARATE.
4. SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, MUCK, PEAT OR CLAY, EXCAVATED LEDGE MATERIAL, AND ANY OTHER ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIALS DEEMED TO BE UNACCEPTABLE BY THE ENGINEER.
5. DEPTH OF COVER SHALL BE:
   WATER – 5' MIN. & 7' MAX. (<5' REQ. RIGID INS.)
   SEWER – AS INDICATED ON PLANS (<6' REQ. RIGID INS.)
   DRAIN – AS INDICATED ON PLANS
   2" RIGID FOAM INSULATION SHALL BE PLACED ON TOP OF BEDDING MATERIAL. BEDDING MATERIAL SHALL BE MADE SMOOTH TO ALLOW FOAM BOARD TO SIT WITHOUT VOIDS BENEATH. FOAM SHALL BE INSTALLED THE FULL WIDTH OF THE TRENCH, NOT TO EXCEED 4' WIDE.
6. DUCTILE IRON WATER MAIN SHALL BE POLY WRAPPED AND HAVE THREE BRASS WEDGES (FOR CONTINUITY AND TRACING) AT ALL NON MECHANICAL CONNECTIONS.
7. ALL PIPES GREATER THAN 12" DIA. WITH STONE BEDDING, BEDDING SHALL BE WRAPPED IN GEOTEXTILE FABRIC. GEOTEXTILE FABRIC SHALL BE MIRAFI 140N OR APPROVED EQUAL. FABRIC SHALL BE WRAPPED COMPLETELY AROUND STONE w/12" (MIN) OVERLAP AT SEAMS.

GENERAL UTILITY TRENCH
N.T.S

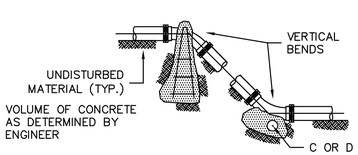




GATE VALVE AT TEE

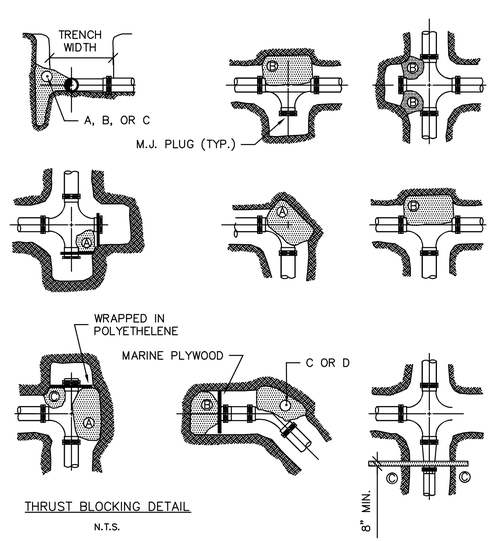
NOTES:
1. WATER GATE VALVES SHALL OPEN RIGHT (CITY OF PORTSMOUTH) AND OPEN LEFT (PEASE TRADEPORT).
2. VALVE BOXES SHALL BE HEAVY PATTERN CAST IRON, TWO PIECE, SLIP TYPE, 5-INCH DIAMETER SHAFT WITH EXTENSIONS PIECES TO ALLOW FOR SUFFICIENT COVER.
3. THE UPPER SECTION OF THE BOX SHALL BE TOP-FLANGE TYPE TO PREVENT SETTLEMENT.
4. THE LOWER SECTION OF THE BOX SHALL BE BELLED-TYPE TO ENCLOSE THE OPERATING NUT OF THE VALVE.
5. THE COVER SHALL BE CAST IRON WITH THE WORD "WATER" PLAINLY CAST.
6. WHEN A PROJECT REQUIRES GATE BOX TOP TO TEMPORARILY BE SET TO BINDER DEPTH, THEN RAISED TO FINAL GRADE, RISER RINGS ARE NOT PERMITTED. CONTRACTOR SHALL RAISE THE ENTIRE TOP SECTION OF THE VALVE BOX TO FINAL GRADE. ASPHALT MATCHING THE THICKNESS OF THE BINDER SHALL BE PLACED AND COMPACTED BENEATH THE GATE BOX TOP FLANGE.
7. WHEN RISER RINGS ARE THE ONLY OPTION, ONLY FLANGED RISERS WILL BE PERMITTED.
8. WHEN FOSTER ADAPTOR CONNECTION IS NOT POSSIBLE, VALVES SHALL BE ANCHORED BACK TO MECHANICAL JOINTS WITH THREADED RODS.

WATER GATE VALVE
N.T.S

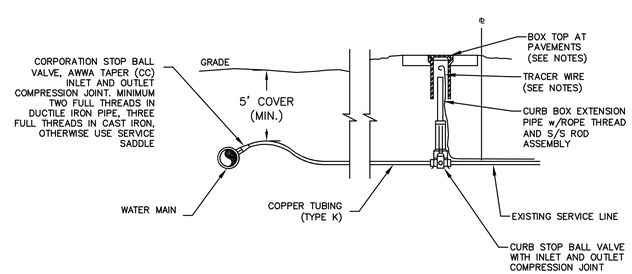


TEST PRESSURE = 200psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL					
	REACTION TYPE	PIPE SIZE				
		4"	6"	8"	10"	12"
	A 90°	0.89	2.19	3.82	11.14	17.24
	B 180°	0.65	1.55	2.78	8.38	12.00
	C 45°	0.48	1.19	2.12	6.02	9.32
	D 22-1/2°	0.25	0.60	1.06	3.08	4.74
	E 11-1/4°	0.13	0.30	0.54	1.54	2.38

NOTES:
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
4. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.



THRUST BLOCKING DETAIL
N.T.S.



NOTES:
1. SERVICE SIZE SHALL BE EQUAL TO EXISTING, OR 1"ø MINIMUM, WHICHEVER IS LARGER.
2. PROVIDE NEW LINE USING CONTINUOUS LENGTHS OF COPPER. NO COUPLING ALLOWED IN ROADWAY WITHOUT APPROVAL OF ENGINEER.
3. TAP ORIENTATION TO BE MADE AT APPROXIMATELY 2:00 AND 10:00.
4. PROVIDE FOR SERVICE LINE CONTRACTION AND EXPANSION BY INSTALLING "S" IN SERVICE LINE NEAR MAIN.
5. 2" RIGID FOAM INSULATION REQUIRED OVER SECTIONS OF SERVICE PIPES WITH LESS THAN 4' OF COVER.
6. REMOVE EXISTING CURB STOP AND REPLACE.
7. CONNECT CURB STOP TO EXISTING SERVICE LINE AT PROPERTY LINE, BACK SIDE OF SIDEWALK, OR AT LOCATION APPROVED BY THE ENGINEER AFTER PRESSURE TESTING AND DISINFECTION.
8. SERVICE CONNECTIONS OF 1-1/4" AND LARGER SHALL USE A SERVICES SADDLE.
9. CONTRACTOR SHALL COORDINATE SERVICE INSTALLATIONS WITH HOMEOWNERS TO ALLOW ADEQUATE ADVANCED NOTICE OF WATER SERVICE INTERUPTIONS.
10. CONTRACTOR SHALL NOTIFY THE CITY PUBLIC WORKS IMMEDIATELY IN THE EVENT GALVANIZED STEEL PIPE IS ENCOUNTERED. CONTRACTOR SHALL TAKE PHOTOS OF THE CURB STOP CLEARLY IDENTIFYING THE PIPES THAT ARE GALVANIZED STEEL.
11. CURB BOX TOPS INSTALLATION SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
    IN GRASS – STANDARD HAYES TOP.
    IN SIDEWALK AND DRIVEWAYS – OPERATING PIPE SHALL EXTEND TO APPROXIMATELY 2"-3" BELOW FINISHED GRADE AND COVERED WITH A PLASTIC CAP. A BUFFALO BOX TOP (24" DEPTH) SHALL BE PLACED OVER THE OPERATING PIPE AND BROUGHT TO FINISHED SIDEWALK GRADE.
    IN ROADWAY – OPERATING PIPE SHALL EXTEND TO APPROXIMATELY 2"-3" BELOW FINISHED GRADE AND COVERED WITH A PLASTIC CAP. A GATE BOX TOP (24" DEPTH) SHALL BE PLACED OVER THE OPERATING PIPE AND BROUGHT TO FINISHED ROADWAY GRADE.
12. TRACER WIRE ON PRIVATE PROPERTY SIDE SHALL BE BROUGHT TO GRADE AND LEFT IN BOX WHEN PRIVATE SIDE IS PLASTIC. TRACER WIRE SHALL NOT PLACED IN THE OPERATING ROD PIPE.
13. ROD ASSEMBLY: OPERATING ROD AND COTTER PINS SHALL BE STAINLESS STEEL.

WATER SERVICE CONNECTION
N.T.S

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CIVIL & WATERFRONT ENGINEERING
181 Watson Road, PO Box 1166
Dover, New Hampshire 03821
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NO.	REVISION	APP'D	DATE

DATE: 9-21-26
SCALE: XX
DRAWN BY: XX
DESIGN BY: XX
APPROVED BY:XX
PROJECT NO: 25066
FILE: 9-21-26

STATE OF NEW HAMPSHIRE
STEPHEN J. HAIGHT No. 7978
LICENSED PROFESSIONAL ENGINEER

DETAILS

STEPHEN MATEUX & CHRISTINE MAYEUX
64 BRIDGE STREET
PORTSMOUTH, NH

BRIDGE STREET INN
64 BRIDGE STREET
PORTSMOUTH, NH

8/17/2026

Preliminary - 64 Bridge St. Portsmouth, NH

000.500 (8/17/2026)

NOTE: To scale as noted only if printed on 11x17 paper with "no scaling" (do not "Fit").

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Note: Adjacent structures and site features are shown for conceptual rendering purposes only and have not been field measured. Surrounding buildings, sidewalks, streetscape, and landscaping may not be accurately scaled or positioned. Refer to the architectural elevations for scaled representations of the proposed building.

8/17/2026

Preliminary - 64 Bridge St. Portsmouth, NH

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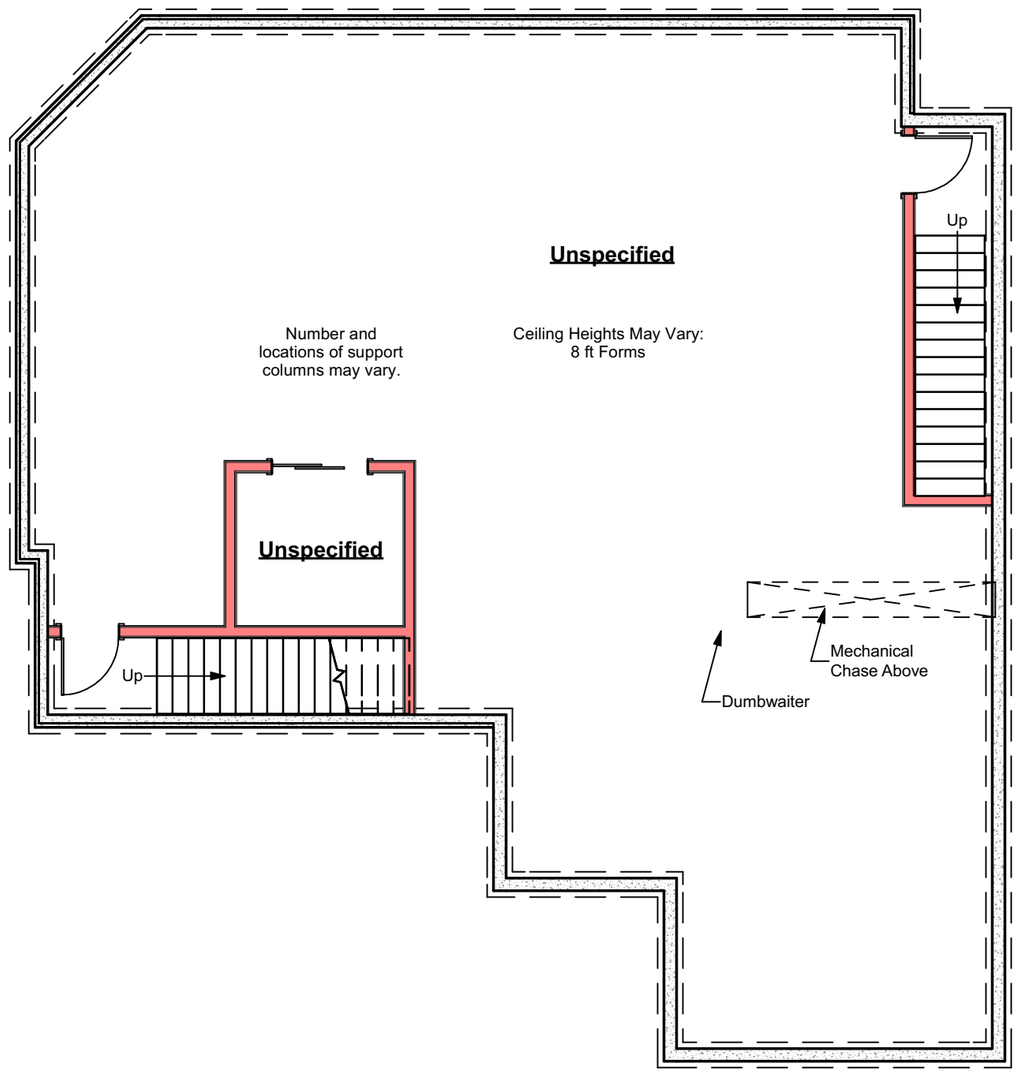

Foundation Floor Plan

Scale: 1/8" = 1'-0"

8/17/2026

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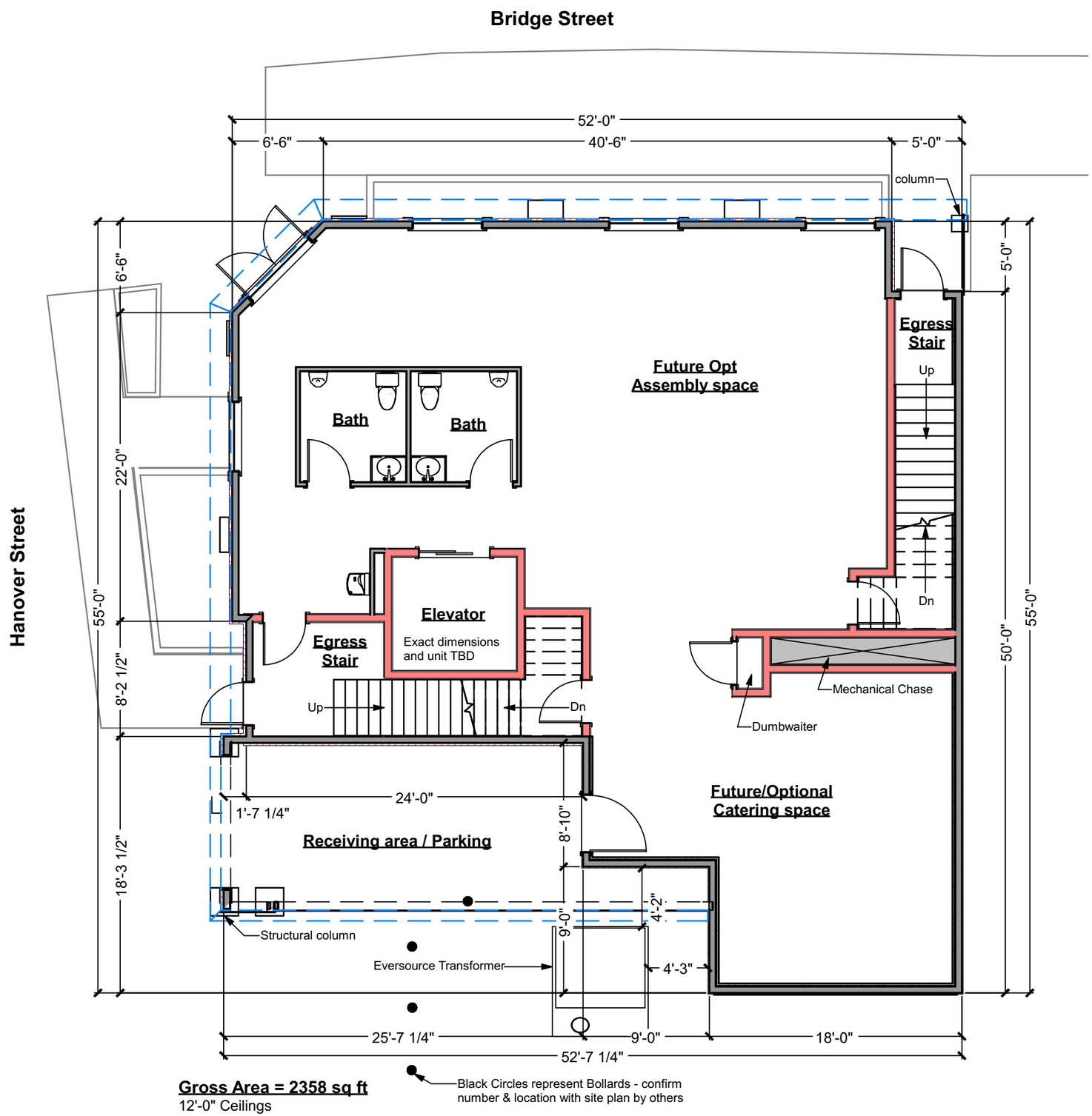

Gross Area = 2358 sq ft
12'-0" Ceilings

First Floor Plan

Scale: 1/8" = 1'-0"

8/17/2026

Preliminary - 64 Bridge St. Portsmouth, NH

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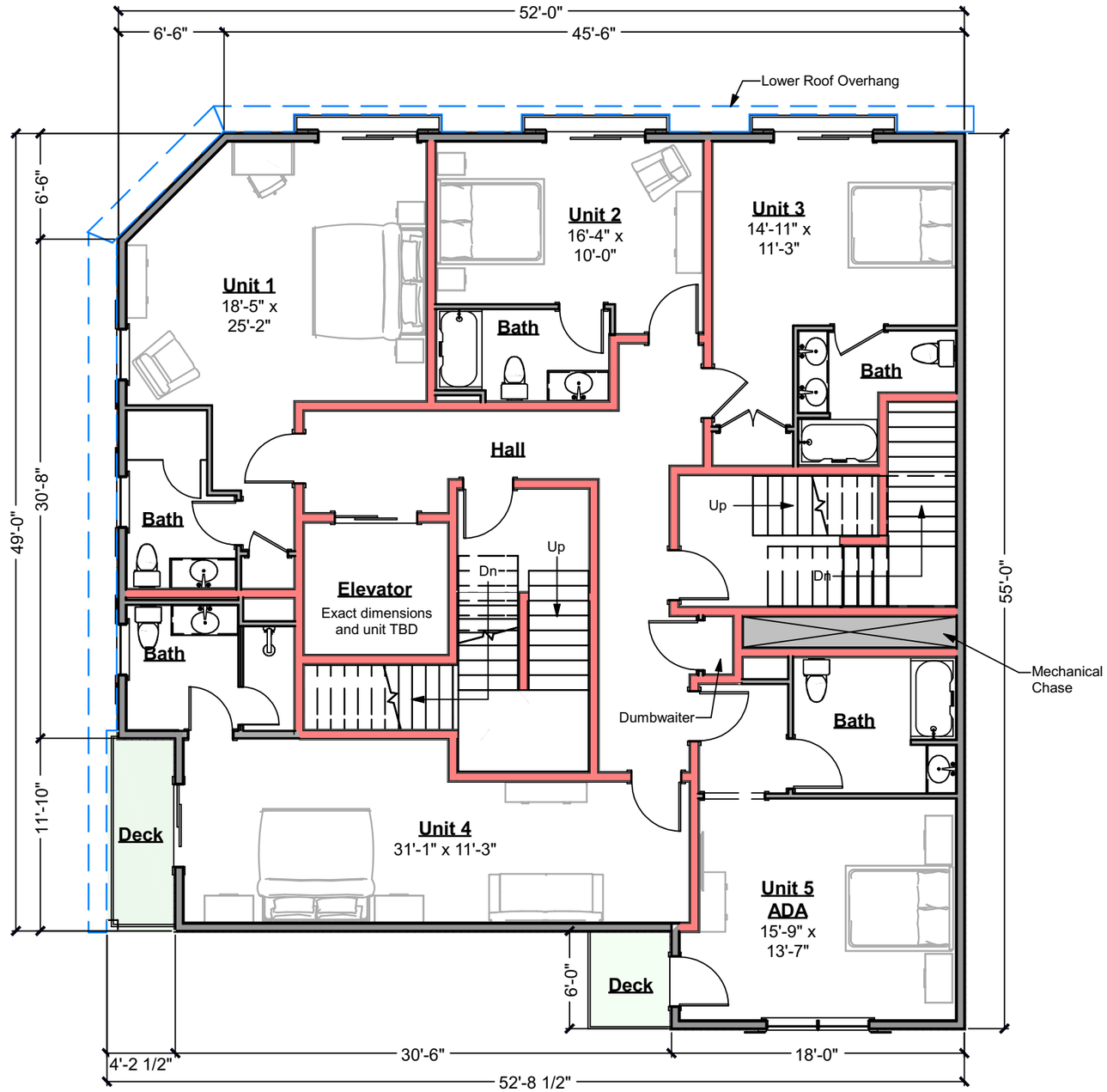

Gross Area = 2760 sq ft
10'-0" Ceilings

Second Floor Plan

Scale: 1/8" = 1'-0"

8/17/2026

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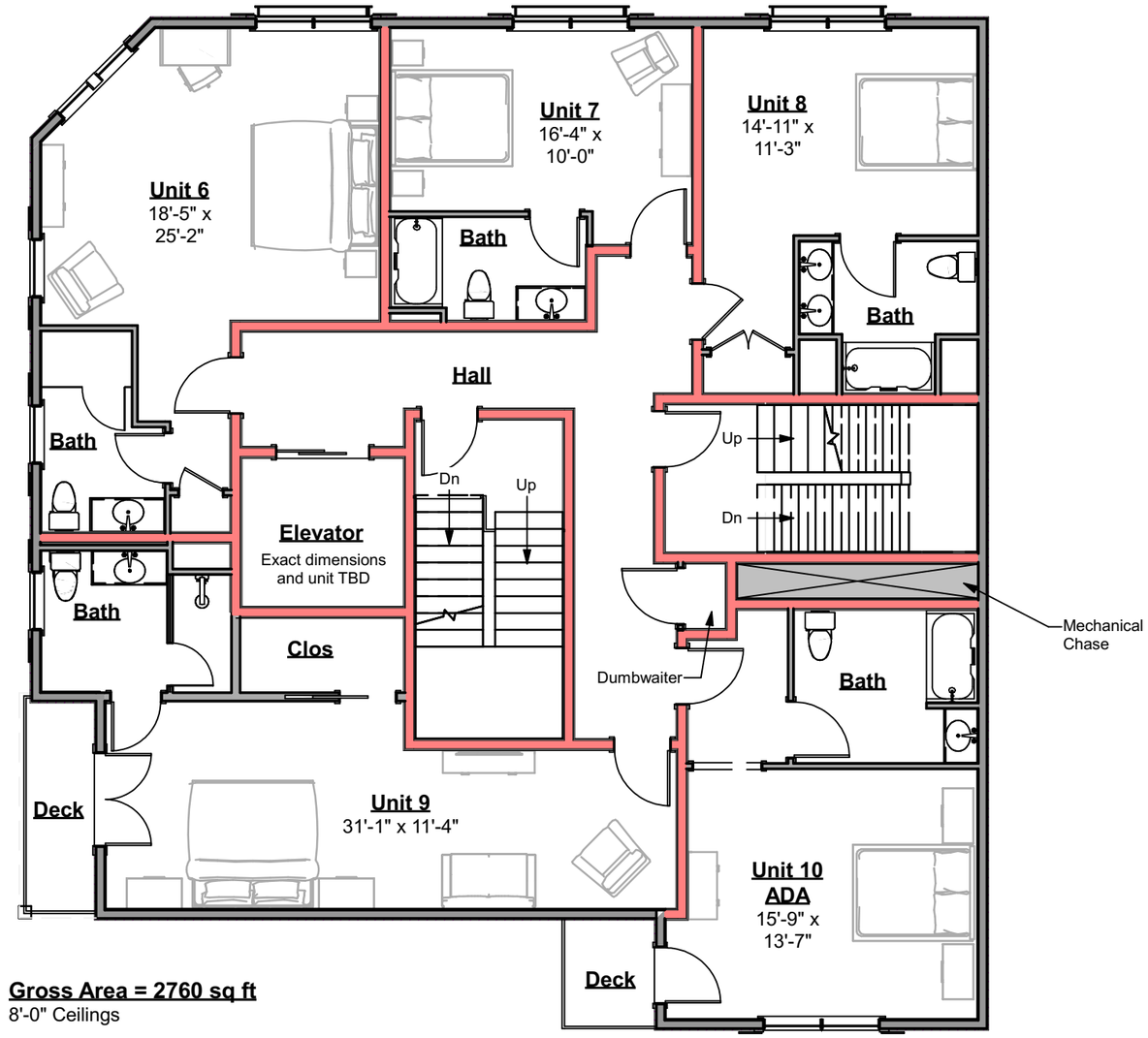

Gross Area = 2760 sq ft
8'-0" Ceilings

Third Floor Plan

Scale: 1/8" = 1'-0"

8/17/2026

Preliminary - 64 Bridge St. Portsmouth, NH

000.500 (8/17/2026)

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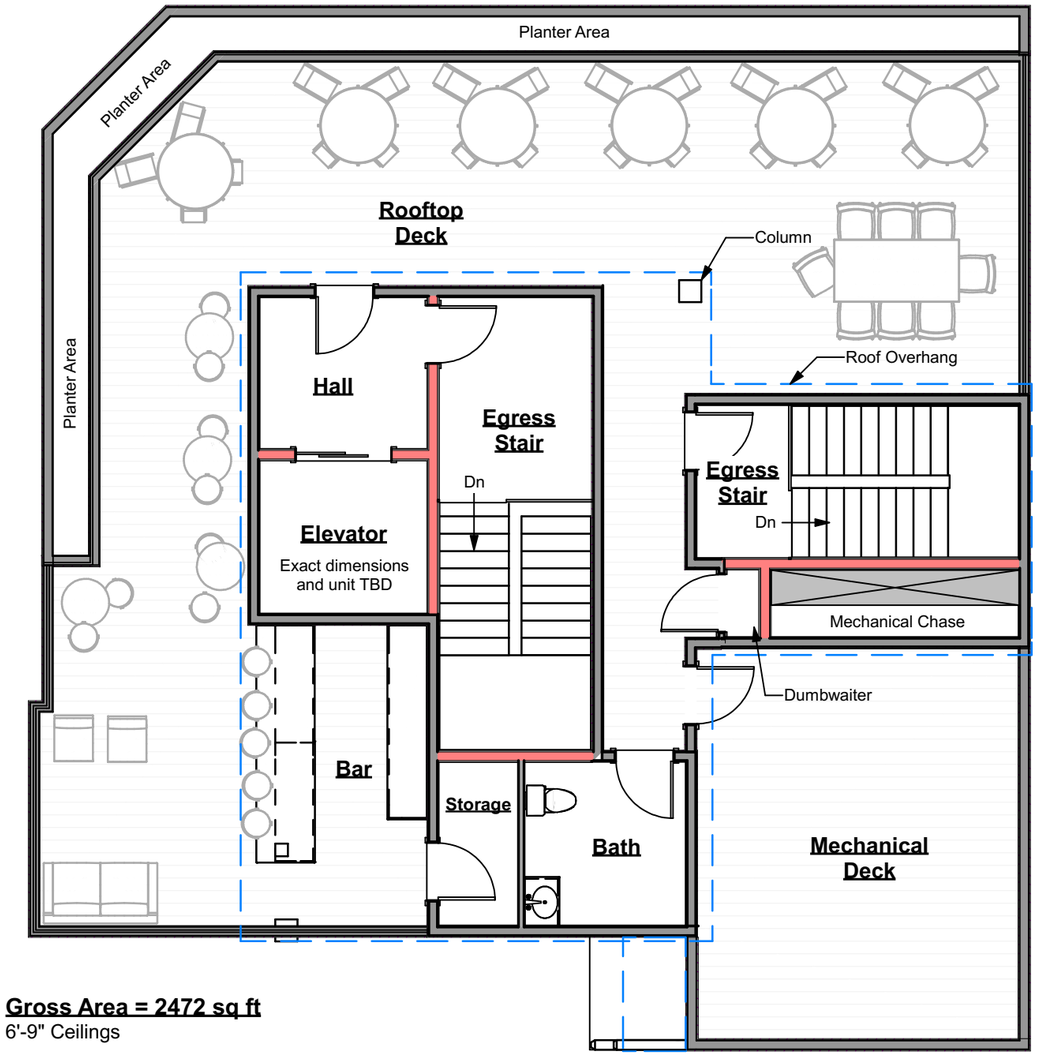

Gross Area = 2472 sq ft
6'-9" Ceilings

Roof Top Floor Plan

Scale: 1/8" = 1'-0"

8/17/2026

Preliminary - 64 Bridge St. Portsmouth, NH

000.500 (8/17/2026)

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Front Elevation

Scale: 1/8" = 1'-0"

8/17/2026

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000.500 (8/17/2026)

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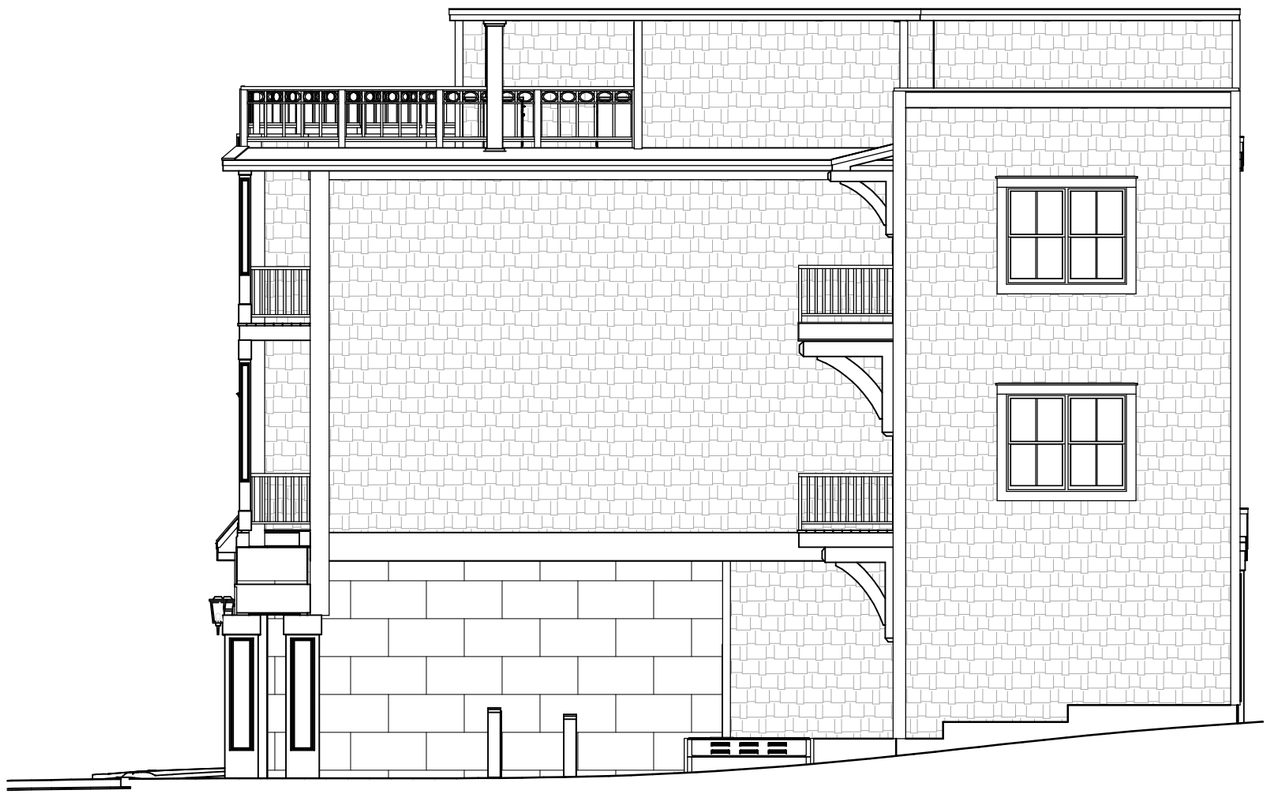

Rear Elevation

Scale: 1/8" = 1'-0"

Preliminary - 64 Bridge St. Portsmouth, NH

000.500 (8/17/2026)

NOTE: To scale as noted only if printed on 11x17 paper with "no scaling" (do not "Fit").

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Right Elevation

Scale: 1/8" = 1'-0"

8/17/2026

Preliminary - 64 Bridge St. Portsmouth, NH

000.500 (8/17/2026)

NOTE: To scale as noted only if printed on 11x17 paper with "no scaling" (do not "Fit").

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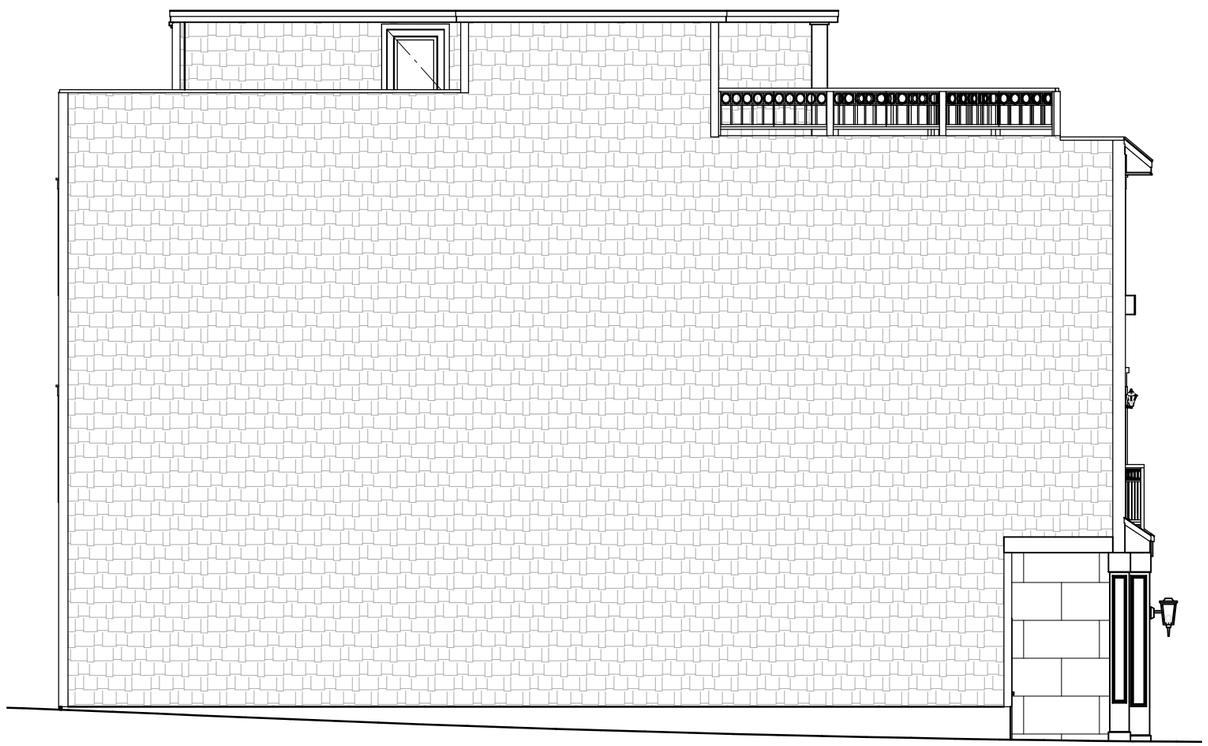

Left Elevation

Scale: 1/8" = 1'-0"

EVERSOURCE ENERGY

1700 Lafayette Road
Portsmouth, NH 03801

Trevor S Emmons
603-332-7515
Trevor.emmons@eversource.com

September 17th, 2026
Scott Rafferty - Rafferty Investment Group
833 Islington St
Portsmouth, NH 03801

Dear Scott Rafferty,

I am responding to your request to confirm the availability of electric service for the proposed 64 Bridge Street Portsmouth NH 03801 project being constructed for/by Rafferty Investment Group.

The proposed project consists of a 3-story commercial building and rooftop deck with approximately 7878 s/f of restaurant/lodging space. The proposed development will be constructed along 64 Bridge St (corner of Hanover and Bridge Street).

The developer will be responsible for the installation of all underground/overhead facilities and infrastructure required to service the new building. The service will be as shown on attached marked up Site Plan provided by Civil Works New England project #25066. The proposed building service will be fed from location determined by Eversource Engineering as depicted on site plan #25066. The developer will work with Eversource to obtain all necessary easements and licenses for the proposed underground/overhead facilities listed above.

This letter serves as confirmation that Eversource has sufficient capacity in the area to provide service to this proposed development. The cost of extending service to the aforementioned location and any associated infrastructure improvements necessary to provide service will be borne by the developer unless otherwise agreed upon.

The attached drawing titled "Site Plan" dated 4/24/26, shows transformer locations to service your proposed project.

Eversource approves the locations shown; assuming the final installed locations meet all clearances, physical protection, and access requirements as outlined in Eversource's "Information & Requirements For Electric Supply" (https://www.eversource.com/content/docs/default-source/pdfs/requirements-for-electric-service connections.pdf?sfvrsn=2).

If you require additional information or I can be of further assistance please do not hesitate to contact me at our Portsmouth Office, 603-332-7515

Respectfully.

Trevor Emmons
NH Eastern Regional Engineer, Eversource

cc: (via e-mail)
Thomas Boulter, Eastern Region Operations Manager, Eversource
Nickolai Kosko, Field Supervisor, Electric Design, Eversource

City of Portsmouth, New Hampshire

Site Plan Application Checklist

This site plan application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. The checklist is required to be completed and uploaded to the Site Plan application in the City's online permitting system. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan review regulations for full details.

Applicant Responsibilities (Section 2.5.2): Applicable fees are due upon application submittal along with required attachments. The application shall be complete as submitted and provide adequate information for evaluation of the proposed site development. Waiver requests must be submitted in writing with appropriate justification.

Name of Applicant: **Rafferty Investment Group LLC** Date Submitted: August 19, 2026

Application # (in City's online permitting): **LU-26-36**

Site Address: **64 Bridge Street** Map: **0126** Lot: **0055**

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
☒	Complete application form submitted via the City's web-based permitting program (2.5.2.1**(2.5.2.3A)**		N/A
☒	All application documents, plans, supporting documentation and other materials uploaded to the application form in viewpoint in digital Portable Document Format (PDF). One hard copy of all plans and materials shall be submitted to the Planning Department by the published deadline. **(2.5.2.8)**		N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☒	Statement that lists and describes "green" building components and systems. **(2.5.3.1B)**	**Site Plan / Civil**	
☒	Existing and proposed gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. **(2.5.3.1C)**	**Site Plan / Civil**	N/A
☒	Tax map and lot number, and current zoning of all parcels under Site Plan Review. **(2.5.3.1D)**	**Site Plan / Civil**	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. **(2.5.3.1E)**		N/A
☒	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. **(2.5.3.1F)**	**Site Plan / Civil**	N/A
☒	Names, addresses and telephone numbers of all professionals involved in the site plan design. **(2.5.3.1G)**	**City Application / Page 16**	N/A
☒	List of reference plans. **(2.5.3.1H)**	**Site Plan / Civil**	N/A
☒	List of names and contact information of all public or private utilities servicing the site. **(2.5.3.1I)**	**Site Plan / Civil**	N/A

Site Plan Specifications			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☒	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director.. **(2.5.4.1A)**	Required on all plan sheets	N/A
☒	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. **(2.5.4.1B)**	Required on all plan sheets	N/A
☒	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. **(2.5.4.1C)**	**Site Plan / Civil**	N/A
☒	Plans shall be drawn to scale and stamped by a NH licensed civil engineer. **(2.5.4.1D)**	Required on all plan sheets	N/A
☒	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. **(2.5.4.1E)**	**Site Plan / Civil**	N/A
☒	Title (name of development project), north point, scale, legend. **(2.5.4.2A)**	**Site Plan / Civil**	N/A
☒	Date plans first submitted, date and explanation of revisions. **(2.5.4.2B)**	**3/23/2026 Transformer Location change**	N/A
☒	Individual plan sheet title that clearly describes the information that is displayed. **(2.5.4.2C)**	Required on all plan sheets	N/A
☒	Source and date of data displayed on the plan. **(2.5.4.2D)**	**Site Plan / Civil**	N/A

x	Site Plan Specifications – Required Exhibits and Data		
☑ x	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
x	**1. Existing Conditions: (2.5.4.3A)** • Surveyed plan of site showing existing natural and built features; • Existing building footprints and gross floor area; • Existing parking areas and number of parking spaces provided; • Zoning district boundaries; • Existing, required, and proposed dimensional zoning requirements including building and open space coverage, yards and/or setbacks, and dwelling units per acre; • Existing impervious and disturbed areas; • Limits and type of existing vegetation; • Wetland delineation, wetland function and value assessment (including vernal pools); • SFHA, 100-year flood elevation line and BFE data, as required.	**Site Plan/ Civil**	
x	**2. Buildings and Structures: (2.5.4.3B)** • Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation; • Elevations: Height, massing, placement, materials, lighting, façade treatments; • Total Floor Area; • Number of Usable Floors; • Gross floor area by floor and use.	**TW Plans**	
x	**3. Access and Circulation: (2.5.4.3C)** • Location/width of access ways within site; • Location of curbing, right of ways, edge of pavement and sidewalks; • Location, type, size and design of traffic signing (pavement markings); • Names/layout of existing abutting streets; • Driveway curb cuts for abutting prop. and public roads; • If subdivision; Names of all roads, right of way lines and easements noted; • AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	**Site Plan/ Civil**	
x	**4. Parking and Loading: (2.5.4.3D)** • Location of off street parking/loading areas, landscaped areas/buffers; • Parking Calculations (# required and the # provided).	**Site Plan/ Civil/ TW**	
x	**5. Water Infrastructure: (2.5.4.3E)** • Size, type and location of water mains, shut-offs, hydrants & Engineering data; • Location of wells and monitoring wells (include protective radii).	**Site Plan/ Civil**	
x	**6. Sewer Infrastructure: (2.5.4.3F)** • Size, type and location of sanitary sewage facilities & Engineering data, including any onsite temporary facilities during construction period.	**Site Plan/ Civil**	

☒	**7. Utilities: (2.5.4.3G)** • The size, type and location of all above & below ground utilities; • Size type and location of generator pads, transformers and other fixtures.	**Site Plan / Civil**	
☒	**8. Solid Waste Facilities: (2.5.4.3H)**	**Site Plan/ Civil**	
	• The size, type and location of solid waste facilities.	**Site Plan/ Civil**	
☒	**9. Storm water Management: (2.5.4.3I)** • The location, elevation and layout of all storm-water drainage. • The location of onsite snow storage areas and/or proposed off-site snow removal provisions. • Location and containment measures for any salt storage facilities • Location of proposed temporary and permanent material storage locations and distance from wetlands, water bodies, and stormwater structures.	**Site Plan/ Civil**	
☒	**10. Outdoor Lighting: (2.5.4.3J)** • Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and photometric plan.	**TBD**	
☒	**11.** Indicate where dark sky friendly lighting measures have been implemented. **(10.1)**	**TBD**	
☒	**12. Landscaping: (2.5.4.3K)** • Identify all undisturbed area, existing vegetation and that which is to be retained; • Location of any irrigation system and water source.	**No existing vegetation Landscaping TBD**	
☒	**13. Contours and Elevation: (2.5.4.3L)** • Existing/Proposed contours (2 foot minimum) and finished grade elevations.	**Site Plan/ Civil**	
☒	**14. Open Space: (2.5.4.3M)** • Type, extent and location of all existing/proposed open space.	**Site Plan/ Civil/ TW**	
☒	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**	**Site Plan/ Civil**	
☒	**16. Character/Civic District (All following information shall be included): (2.5.4.3P)** • Applicable Building Height (10.5A21.20 & 10.5A43.30); • Applicable Special Requirements (10.5A21.30); • Proposed building form/type (10.5A43); • Proposed community space (10.5A46).	**Site Plan TW**	
☒	**17. Special Flood Hazard Areas (2.5.4.3Q)** • The proposed development is consistent with the need to minimize flood damage; • All public utilities and facilities are located and construction to minimize or eliminate flood damage; • Adequate drainage is provided so as to reduce exposure to flood hazards.	**Site Plan/ Civil**	

Other Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☒	Traffic Impact Study or Trip Generation Report, as required. **(3.2.1-2)**	**NA**	**NA**
☒	Indicate where Low Impact Development Design practices have been incorporated. **(7.1)**	**Site Plan/ TW**	
☒	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. **(7.3.1)**	**Site Plan/ Civil**	
☒	Stormwater Management and Erosion Control Plan. **(7.4)**	**Site Plan/ Civil**	
☒	Inspection and Maintenance Plan **(7.6.5)**	**TBD**	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	All local approvals, permits, easements and licenses required, including but not limited to: • Waivers; • Driveway permits; • Special exceptions; • Variances granted; • Easements; • Licenses. **(2.5.3.2A)**		**NA**
☒	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: • Calculations relating to stormwater runoff; • Information on composition and quantity of water demand and wastewater generated; • Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; • Estimates of traffic generation and counts pre- and post-construction; • Estimates of noise generation; • A Stormwater Management and Erosion Control Plan; • Endangered species and archaeological / historical studies; • Wetland and water body (coastal and inland) delineations; • Environmental impact studies. **(2.5.3.2B)**	**Per TAC workshop stormwater management plan would not be needed City requested us to tie in**	
☒	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. **(2.5.3.2D)**	**Site Plan/ Civil**	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	A list of any required state and federal permit applications required for the project and the status of same. **(2.5.3.2E)**	**NA**	
☒	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." **(2.5.4.2E)**		N/A
☒	For site plans that involve land designated as "Special Flood Hazard Areas" (SFHA) by the National Flood Insurance Program (NFIP) confirmation that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. **(2.5.4.2F)**		**Not in flood zone**
☐	Plan sheets submitted for recording shall include the following notes: a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "All improvements shown on this Site Plan shall be constructed and maintained in accordance with the Plan by the property owner and all future property owners. No changes shall be made to this Site Plan without the express approval of the Portsmouth Planning Director." **(2.13.3)**		N/A

Applicant's Signature: Scott Rafferty **Date:** 08/19/2026

JONES & BEACH ENGINEERS INC.
100 Domain Drive, Suite 201, Exeter, NH 03833
603.772.4746 – JonesandBeach.com

September 23, 2026

City of Portsmouth Planning and Sustainability Department
Attn: Peter Britz, Director
1 Junkins Avenue, Suite 3rd Floor
Portsmouth, NH 03801

RE: Response Letter
0 Ledgewood Drive, Portsmouth, NH
Tax Map 222, Lot 6A
JBE Project No. 25071.1

Dear Mr. Britz,

We are in receipt of comments from the Technical Advisory Committee dated August 31, 2026. Review comments are listed below with our responses in bold.

1. *Dumpster needs to comply with Section 10.575*
   Response: As noted on Sheet C2, the dumpster has been relocated to conform with the setbacks per Section 10.575 of the Zoning Ordinance.

2. *Please show the drainage in the rear of the property does not leave site.*
   Response: Drainage from onsite and offsite areas reaches the rear of the property in the existing condition, and sits in the low area created by the existing bermed trail that is being taken down before eventually cresting over a break in the berm. The stormwater management system has been designed to mimic this slow stormwater discharge that happens in the existing condition post-construction. In effect, there will be a decrease in the peak flow rate and volume leaving the site to the east during the 2-, 10-, 25-, and 50-year 24-hour storm events in accordance with Section 7 of the site plan review regulations.

3. *Please consider the use of solar on roof.*
   Response: The roof will have a south-facing shed exposure for an effective solar-ready roof.

4. *Please provide a green building statement.*
   Response: A green building statement is included with this resubmission.

5. *Removal of any city trees will need to go to Trees and Greenery.*
   Response: Noted, we will coordinate with Tree and Greenery for this work.

6. *Bike racks are required per section 10.1116.11. Please consider putting them outside.*
   Response: An external bike rack has been added to the plan.

7. *Straighten sidewalk alignment along building.*
   Response: The sidewalk alignment has been straightened along the front of the building.

8. *Remove "pocket pond" from City property. In addition, it is placed over the sewer main.*
   Response: As discussed at the TAC work session on September 8th, the purpose of this "pocket pond" is to provide a shallow depression to detain and infiltrate runoff from offsite that reaches this area. The full extent of the offsite contributing watershed area that drains on to the subject parcel and the wide right of way in front of it is depicted on the existing and proposed watershed plans within the drainage report for the proposed development. It should not be construed from the terminology that this is a stormwater treatment feature; it is a grassed depression that will blend into the surroundings and look like a mowed lawn.

   In the existing condition, drainage from offsite areas sits in the low area created by the existing bermed trail before eventually cresting over a break in the berm. This existing berm is being taken out so that the proposed building can be constructed. The intent of the pocket pond in front of the property is to replicate post-construction the existing detention of offsite runoff that is occurring due to the presence of the existing berm. Without the pocket pond, there would be an increase in the peak flow rate and runoff volume post-construction, and this is not possible to replicate on-site where on-site drainage features are already being used to treat and infiltrate runoff from the impervious surface associated with the proposed development.

   After this was explained at the September 8th TAC work session, it was amenable to the pocket pond being provided in the right of way. We have adjusted the pocket pond to not be placed directly over the sewer main.

9. *Confirm internal drop connection for sewer service into SMH. Add note to plan sheet stating internal drop connection.*
   Response: We have revised the sewer service to the proposed building to tie into the sewer main directly and not into the SMH.

10. *Fire and domestic water services must have their own connections to the water main.*
    Response: Fire and domestic services are now shown with separate connections to the extended water main on Sheet C4.

11. *Extend DI water main beyond proposed driveway.*
    Response: There is already a privately owned 6" cast iron water main beyond the existing reducer. We are now extending the existing 8" D.I. water main to a convenient tapping location for the building and stubbing the water main just past that point.

12. *Coordinate with off site improvements (retaining wall along edge of property, sidewalk, etc.)*
    Response: The offsite sidewalk and retaining wall being designed by others is shown on the plan set, and our proposed sidewalk ties into it.

13. *Confirm location of existing sewer, upstream manhole to the east does not have invert info and location may not be accurate.*
    Response: The location, rim, and inverts of the upstream manhole have been confirmed and are shown on the revised existing conditions plan.

14. *Confirm 1" water service is adequate for 15 unit building. May be undersized.*
    Response: We have upgraded to a 2" domestic water service.

15. *Confirm 4" fire service is adequate.*
    Response: Our initial assessment is a 4" fire service will be sufficient for a building of this size. This must be confirmed with water pressure data before finalizing. Once pressure data is acquired the hydraulic design can be completed and fire service size confirmed.

16. *Coordinate with assessing regarding the address of the property.*
    Response: The assessing department has been made aware of the issue and we are awaiting the updating information.

Included with this response letter are the following:

1. One (1) Full Size Revised Plan Set.
2. One (1) Revised Drainage Analysis.
3. Revised Architectural Plans and Elevations.
4. Green Building Statement.
5. Site Review Checklist.
6. Trip Generation Memo.

If you have any questions or need any additional information, please feel free to contact our office. Thank you very much for your time.

Very truly yours,
JONES & BEACH ENGINEERS, INC.

Erik Poulin
Associate Principal

cc: Stefanie Casella, Portsmouth Planning Department (via email)
Ben Middleton, Martini Northern LLC (via email)
Peter Middleton, Martini Northern LLC (via email)
Glen Lambert, Winter Holben (via email)
Brandon Holben, Winter Holben (via email)

City of Portsmouth, New Hampshire

Site Plan Application Checklist

This site plan application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. The checklist is required to be completed and uploaded to the Site Plan application in the City's online permitting system. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan review regulations for full details.

Applicant Responsibilities (Section 2.5.2): Applicable fees are due upon application submittal along with required attachments. The application shall be complete as submitted and provide adequate information for evaluation of the proposed site development. Waiver requests must be submitted in writing with appropriate justification.

Name of Applicant: Martini Northern LLC Date Submitted: 9-23-26

Application # (in City's online permitting): _____

Site Address: 0 Lafayette Road (Ledgewood Drive) Map: 229 Lot: 6A

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
☒	Complete application form submitted via the City's web-based permitting program (2.5.2.1**(2.5.2.3A)**		N/A
☒	All application documents, plans, supporting documentation and other materials uploaded to the application form in viewpoint in digital Portable Document Format (PDF). One hard copy of all plans and materials shall be submitted to the Planning Department by the published deadline. **(2.5.2.8)**		N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Statement that lists and describes "green" building components and systems. **(2.5.3.1B)**	Pending	
☒	Existing and proposed gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. **(2.5.3.1C)**	Architecturals	N/A
☒	Tax map and lot number, and current zoning of all parcels under Site Plan Review. **(2.5.3.1D)**	Cover Sheet & Sheet C2	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. **(2.5.3.1E)**	Cover and Application	N/A
☒	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. **(2.5.3.1F)**	Sheet C1	N/A
☒	Names, addresses and telephone numbers of all professionals involved in the site plan design. **(2.5.3.1G)**	Cover Sheet	N/A
☒	List of reference plans. **(2.5.3.1H)**	Sheet C1	N/A
☒	List of names and contact information of all public or private utilities servicing the site. **(2.5.3.1I)**	Cover Sheet	N/A

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☒	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. **(2.5.4.1B)**	Required on all plan sheets	N/A
☒	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. **(2.5.4.1C)**	Sheet C1	N/A
☒	Plans shall be drawn to scale and stamped by a NH licensed civil engineer. **(2.5.4.1D)**	Required on all plan sheets	N/A
☐	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. **(2.5.4.1E)**	Sheet C1	N/A
☒	Title (name of development project), north point, scale, legend. **(2.5.4.2A)**	Cover Sheet and Sheet C2	N/A
☒	Date plans first submitted, date and explanation of revisions. **(2.5.4.2B)**	All Sheets	N/A
☒	Individual plan sheet title that clearly describes the information that is displayed. **(2.5.4.2C)**	Required on all plan sheets	N/A
☒	Source and date of data displayed on the plan. **(2.5.4.2D)**	Sheet C1	N/A

Site Plan Specifications – Required Exhibits and Data			
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☒	**1. Existing Conditions: (2.5.4.3A)** • Surveyed plan of site showing existing natural and built features; • Existing building footprints and gross floor area; • Existing parking areas and number of parking spaces provided; • Zoning district boundaries; • Existing, required, and proposed dimensional zoning requirements including building and open space coverage, yards and/or setbacks, and dwelling units per acre; • Existing impervious and disturbed areas; • Limits and type of existing vegetation; • Wetland delineation, wetland function and value assessment (including vernal pools); • SFHA, 100-year flood elevation line and BFE data, as required.	Sheet C1	
☒	**2. Buildings and Structures: (2.5.4.3B)** • Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation; • Elevations: Height, massing, placement, materials, lighting, façade treatments; • Total Floor Area; • Number of Usable Floors; • Gross floor area by floor and use.	Architecturals	
☒	**3. Access and Circulation: (2.5.4.3C)** • Location/width of access ways within site; • Location of curbing, right of ways, edge of pavement and sidewalks; • Location, type, size and design of traffic signing (pavement markings); • Names/layout of existing abutting streets; • Driveway curb cuts for abutting prop. and public roads; • If subdivision; Names of all roads, right of way lines and easements noted; • AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	Sheet C2 & T1	
☒	**4. Parking and Loading: (2.5.4.3D)** • Location of off street parking/loading areas, landscaped areas/buffers; • Parking Calculations (# required and the # provided).	Sheet C2	
☒	**5. Water Infrastructure: (2.5.4.3E)** • Size, type and location of water mains, shut-offs, hydrants & Engineering data; • Location of wells and monitoring wells (include protective radii).	Sheet C4	
☒	**6. Sewer Infrastructure: (2.5.4.3F)** • Size, type and location of sanitary sewage facilities & Engineering data, including any onsite temporary facilities during construction period.	Sheet C4	

☒	**7. Utilities: (2.5.4.3G)** • The size, type and location of all above & below ground utilities; • Size type and location of generator pads, transformers and other fixtures.	Sheet C4	
☒	**8. Solid Waste Facilities: (2.5.4.3H)**		
	• The size, type and location of solid waste facilities.	Sheet C2	
☒	**9. Storm water Management: (2.5.4.3I)** • The location, elevation and layout of all storm-water drainage. • The location of onsite snow storage areas and/or proposed off-site snow removal provisions. • Location and containment measures for any salt storage facilities • Location of proposed temporary and permanent material storage locations and distance from wetlands, water bodies, and stormwater structures.	Sheet C3	
☒	**10. Outdoor Lighting: (2.5.4.3J)** • Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and photometric plan.	Sheet L1	
☒	**11.** Indicate where dark sky friendly lighting measures have been implemented. **(10.1)**	Sheet L1 Note 7	
☒	**12. Landscaping: (2.5.4.3K)** • Identify all undisturbed area, existing vegetation and that which is to be retained; • Location of any irrigation system and water source.	Sheet L2	
☒	**13. Contours and Elevation: (2.5.4.3L)** • Existing/Proposed contours (2 foot minimum) and finished grade elevations.	Sheet C3	
☐	**14. Open Space: (2.5.4.3M)** • Type, extent and location of all existing/proposed open space.	NA	
☐	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**	NA	
☐	**16. Character/Civic District (All following information shall be included): (2.5.4.3P)** • Applicable Building Height (10.5A21.20 & 10.5A43.30); • Applicable Special Requirements (10.5A21.30); • Proposed building form/type (10.5A43); • Proposed community space (10.5A46).	NA	
☐	**17. Special Flood Hazard Areas (2.5.4.3Q)** • The proposed development is consistent with the need to minimize flood damage; • All public utilities and facilities are located and construction to minimize or eliminate flood damage; • Adequate drainage is provided so as to reduce exposure to flood hazards.	NA	

Other Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☒	Traffic Impact Study or Trip Generation Report, as required. **(3.2.1-2)**	Attached	
☒	Indicate where Low Impact Development Design practices have been incorporated. **(7.1)**	Sheet C3 & Report	
☒	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. **(7.3.1)**	Sheet C2 Note 20	
☒	Stormwater Management and Erosion Control Plan. **(7.4)**	Sheet C3,E1,E2	
☒	Inspection and Maintenance Plan **(7.6.5)**	Drainage Report	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	All local approvals, permits, easements and licenses required, including but not limited to: • Waivers; • Driveway permits; • Special exceptions; • Variances granted; • Easements; • Licenses. **(2.5.3.2A)**	Pending	
☒	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: • Calculations relating to stormwater runoff; • Information on composition and quantity of water demand and wastewater generated; • Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; • Estimates of traffic generation and counts pre- and post-construction; • Estimates of noise generation; • A Stormwater Management and Erosion Control Plan; • Endangered species and archaeological / historical studies; • Wetland and water body (coastal and inland) delineations; • Environmental impact studies. **(2.5.3.2B)**	Drainage Report	
☐	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. **(2.5.3.2D)**	Pending	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	A list of any required state and federal permit applications required for the project and the status of same. **(2.5.3.2E)**	NA	
☒	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." **(2.5.4.2E)**	Sheet C2 Note 19	N/A
☐	For site plans that involve land designated as "Special Flood Hazard Areas" (SFHA) by the National Flood Insurance Program (NFIP) confirmation that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. **(2.5.4.2F)**	NA	
☒	Plan sheets submitted for recording shall include the following notes: a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "All improvements shown on this Site Plan shall be constructed and maintained in accordance with the Plan by the property owner and all future property owners. No changes shall be made to this Site Plan without the express approval of the Portsmouth Planning Director." **(2.13.3)**	Sheet C2 Note 18	N/A

Applicant's Signature: _____ **Date:** 9-23-26

Letter of Authorization

I, Ben Middleton, Martini Northern, LLC, 10 Main Street, Newfields, NH 03856, developer of property located in Portsmouth, NH, known as Tax Map 229, Lot 6A, do hereby authorize Jones & Beach Engineers, Inc., PO Box 219, Stratham, NH, to act on my behalf concerning the previously-mentioned property. The parcel is located on Lafayette Road in Portsmouth, NH.

I hereby appoint Jones & Beach Engineers, Inc., as my agent to act on my behalf in the review process, to include any required signatures.

Witness	Ben Middleton Martini Northern, LLC	6/24/2026 Date

Docusign Envelope ID: 1E76A637-4D64-8F3E-80E5-64FE1C7FAA64

Letter of Authorization

St. Nicholas Greek Orthodox Church, 40 Andrew Jarvis Drive, Portsmouth, NH 03801, owner of property located in Portsmouth, NH, known as Tax Map 229, Lot 6A, do hereby authorize Jones & Beach Engineers, Inc., PO Box 219, Stratham, NH, to act on my behalf concerning the previously-mentioned property. The parcel is located on Lafayette Road in Portsmouth, NH.

I hereby appoint Jones & Beach Engineers, Inc., as my agent to act on my behalf in the review process, to include any required signatures.

DocuSigned by:
Caitlin Burke
729E64F0CBEA4AE...
Witness

Signed by:
Gregory Kanteres
7A6C9AB0C748C45...
St. Nicholas Greek Orthodox Church

6/24/2026
Date

By signing this Letter of Authorization, the undersigned grants permission for the project to proceed. This authorization does not constitute an agreement to pay for any portion of the project and does not create any financial obligation for the undersigned.

KNOW ALL MEN BY THESE PRESENTS, That I, Thomas B. Kremp, being single, of 545 Lafayette Road, Portsmouth, County of Rockingham and State of New Hampshire

BK2410 P0505

for consideration paid, grant to St. Nicholas Greek Orthodox Church of Portsmouth, Inc., a corporation located in Portsmouth, County of Rockingham and State of New Hampshire,

with **warranty covenants**

06113

APR 15 11 09 AM '82

A certain tract or parcel of land situated on the northerly side of Ledgewood Drive in the City of Portsmouth, County of Rockingham and State of New Hampshire, more particularly bounded and described as follows:

Beginning at an iron pin on the northerly side of a 100' right-of-way owned by the City of Portsmouth and being the division line between the premises herein conveyed and other land of Thomas B. Kremp known as Lot #1, thence:

1. North 00° 00' one hundred eighty-one (181) feet, more or less, to an iron pin at land now or formerly of Roger and Mildred Chapdelaine.

2. South 82° 00' East two hundred thirty-eight and fifty hundredths (238.50) feet, more or less, by land now or formerly of Chapdelaine to an iron pin at land of the St. Nicholas Greek Orthodox Church and land of the City of Portsmouth.

3. South 00° 05' 25" West one hundred eighty-seven and ninety hundredths (187.90) feet, more or less, by land of the City of Portsmouth to an iron pin at the City of Portsmouth's 100' right-of-way.

4. North 79° 58' 56" West two hundred forty (240) feet, more or less, by the City of Portsmouth 100' right-of-way to an iron pin at the point of beginning.

Being Lot #2 containing 1.01 acres as more particularly described on "Plan of Land in Portsmouth, N.H., County of Rockingham, as Surveyed for Thomas B. Kremp, Lafayette Road, Portsmouth, N.H." by Town Planning and Engineering Associates, Inc. dated January, 1982, to be recorded herewith.

Being a portion of the premises conveyed to Thomas B. Kremp by deed of Jennie A. D'Errico dated March 17, 1978, and recorded in Rockingham County Registry of Deeds at Book 2306, Page 1055.

STATE OF NEW HAMPSHIRE
TAX ON TRANSFER OF REAL PROPERTY
R.S.A. 78-B
STATE TAX COMMISSION
100.00
APR 15 '82
REC. PROG
850660

, husband wife of said grantor, release to said grantee all rights of homestead and other interests therein.

Witness, my *hand* ~~xxxxxxx~~ *this day of* , *19* 82

Witness

Thomas B. Kremp L.S.

L.S.

L.S.

State of New Hampshire

Rockingham *ss.:* *A. D. 19* 82

Personally appeared Thomas B. Kremp

known to me, or satisfactorily proven, to be the person whose name subscribed to the foregoing instrument and acknowledged that he executed the same for the purposes therein contained.

Before me, Gerald F. Stiles

Justice of the Peace – ~~*Notary Public*~~

WINTER HOLBEN
architecture + design

SUSTAINABLE DESIGN FEATURES

Date:	September 21, 2026
Project:	Ledgewood Dr

ARCHITECTURE

- South-facing shed roof exposure for an effective solar-ready roof
- Energy efficient extruded fiberglass windows to reduce heat loss and provide a highly durable interior and exterior with easy operation
- Exterior walls insulated with wood fiber batt insulation for a low carbon footprint and increased R-value
- High quality composite cladding materials and siding with a long lifespan will help to reduce maintenance and life-cycle costs.
- Energy-efficient LED lighting throughout the interior will lower energy consumption.
- Low-VOC emitting interior materials provide a healthier indoor environment for the occupants.

TRAFFIC IMPACT STATEMENT

ITE TRIP GENERATION ESTIMATES

"Martini Apartments"
Ledgewood Drive
Portsmouth, NH 03801
Tax Map 229, Lot 6A

Prepared for:

Martini Northern LLC
Attn. Ben Middleton
10 Main Street
Newfields, NH 03856

Prepared by:
Jones & Beach Engineers, Inc.
100 Domain Drive
Suite 201
Exeter, NH 03833
(603) 772-4746

August 17, 2026
JBE Project No. 25071.2

EXECUTIVE SUMMARY

Martini Northern LLC proposes to construct a 15-unit apartment building on a 0.99-acre parcel of land located on Ledgewood Drive in Portsmouth, NH. The subject parcel is vacant in the existing condition.

The proposed use for the lot was assumed to be "Multifamily Housing (Low Rise)" (Land Use Code 220, defined by the ITE Manual as "A residential building with two or three floors (levels) of residences." The ITE Manual provides different estimates for such uses that are and aren't close to rail transit. There is not rail transit available within walking distance of the proposed unit.

Trip generation estimates for the full day on a typical weekday, Saturday, and Sunday were calculated for the existing and proposed scenarios, as were trip generation estimates for the Peak Hour of Generator on a weekday, Saturday, and Sunday. For weekdays, the peak hour data was further broken down into peak hour AM and peak hour PM, corresponding with typical morning and evening commutes, and data for the Peak Hour on an Adjacent Street was also available.

Per-dwelling unit trip generation estimates for each of the aforementioned scenarios are included in the appendix, with a range of data presented. The Average Rate value for each scenario for the proposed use was used for this analysis. In the following table, the multifamily housing average rate estimates have been multiplied by fifteen (15) to arrive at the trip generation estimate for the proposed use.

Average Estimate

	Full Day (Trips/Day)	**Peak Hour Generator (Trips/Hour)**	**Peak Hour Adjacent Street (Trips/Hour)**
Weekday	93.2		
Saturday	68.3	7.4	
Sunday	58.0	5.4	
Weekday AM		7.1	6.2
Weekday PM		9.3	7.8

CONCLUSION

Based on the above table, under normal circumstances this development would generate **93** additional trips on a weekday, **68** additional trips on a Saturday, and **58** additional trips on a Sunday. Peak hour estimates vary but in general they all show an increase of **5-9** additional trips during the peak hour of the generator and the same number of additional trips during the peak hour of adjacent street under normal circumstances. Ledgewood Drive directly feeds into Route 1, which receives moderate traffic in the existing condition. The existing Winchester Place Apartments further down along Ledgewood also dwarf the intended use of the subject parcel. It is unlikely that this development alone will substantially impact the existing traffic on Route 1 or 1A, or on Ledgewood Drive.

Respectfully submitted,
JONES & BEACH ENGINEERS, INC.

Daniel Meditz

Daniel Meditz, P.E.
Lead Design Engineer

Trip generation estimates used for this analysis were taken from the Trip Generation Manual, 12th Edition, published by the Institute of Traffic Engineers in August 2025.

Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

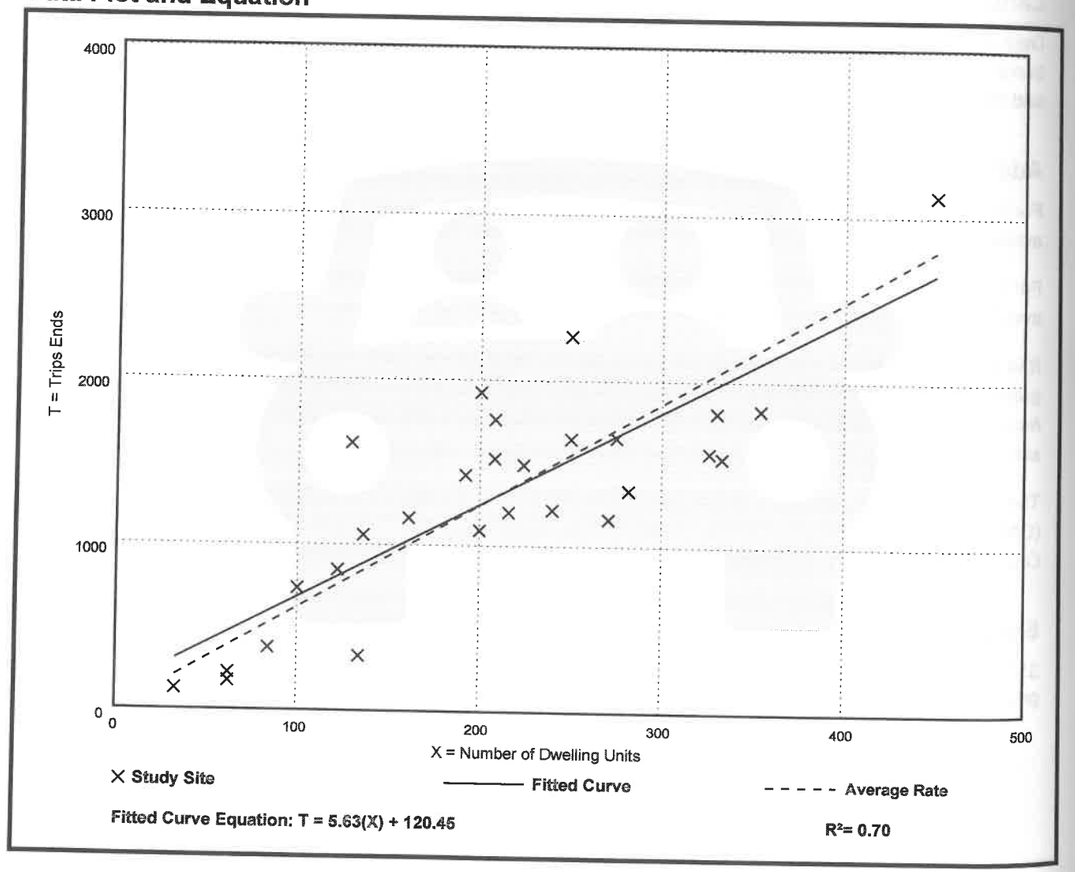
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 28
Avg. Num. of Dwelling Units: 208
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
6.21	2.46 - 12.50	1.87

Data Plot and Equation



Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

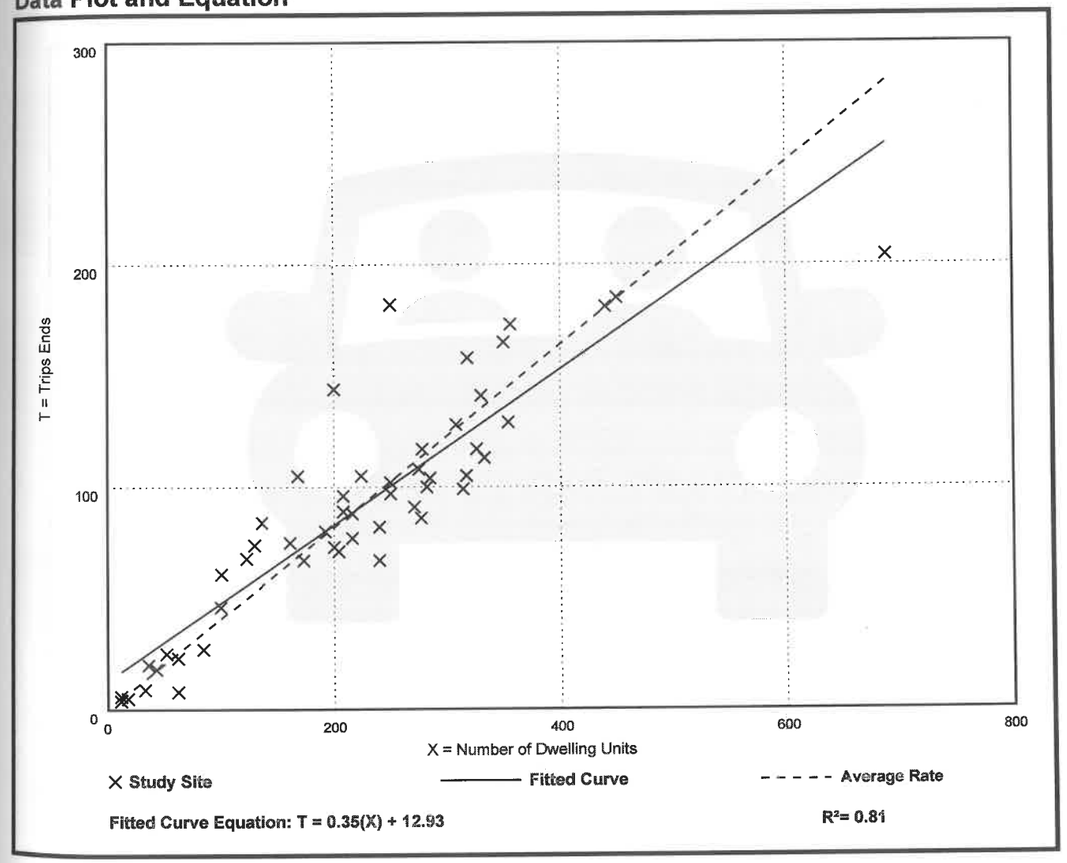
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: **General Urban/Suburban**
Number of Studies: 51
Avg. Num. of Dwelling Units: 219
Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.41	0.13 - 0.73	0.10

Data Plot and Equation



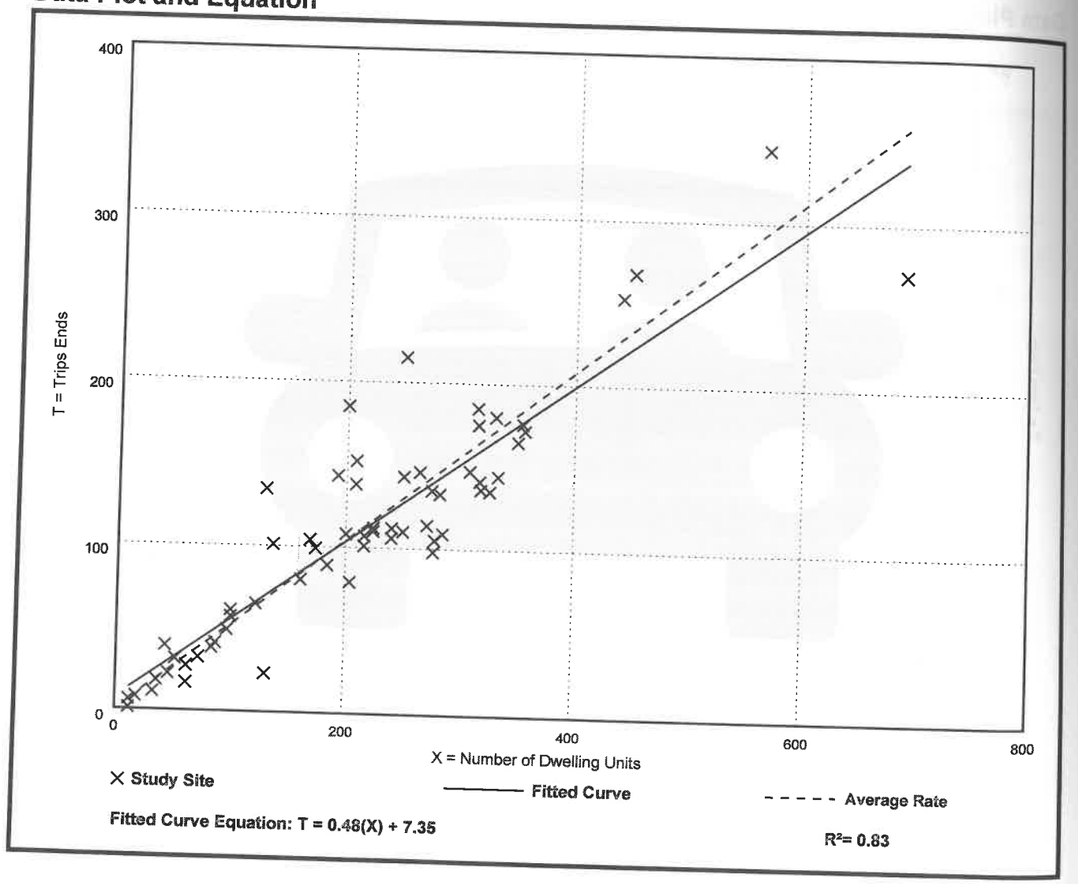
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 61
Avg. Num. of Dwelling Units: 215
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.52	0.08 - 1.04	0.13

Data Plot and Equation



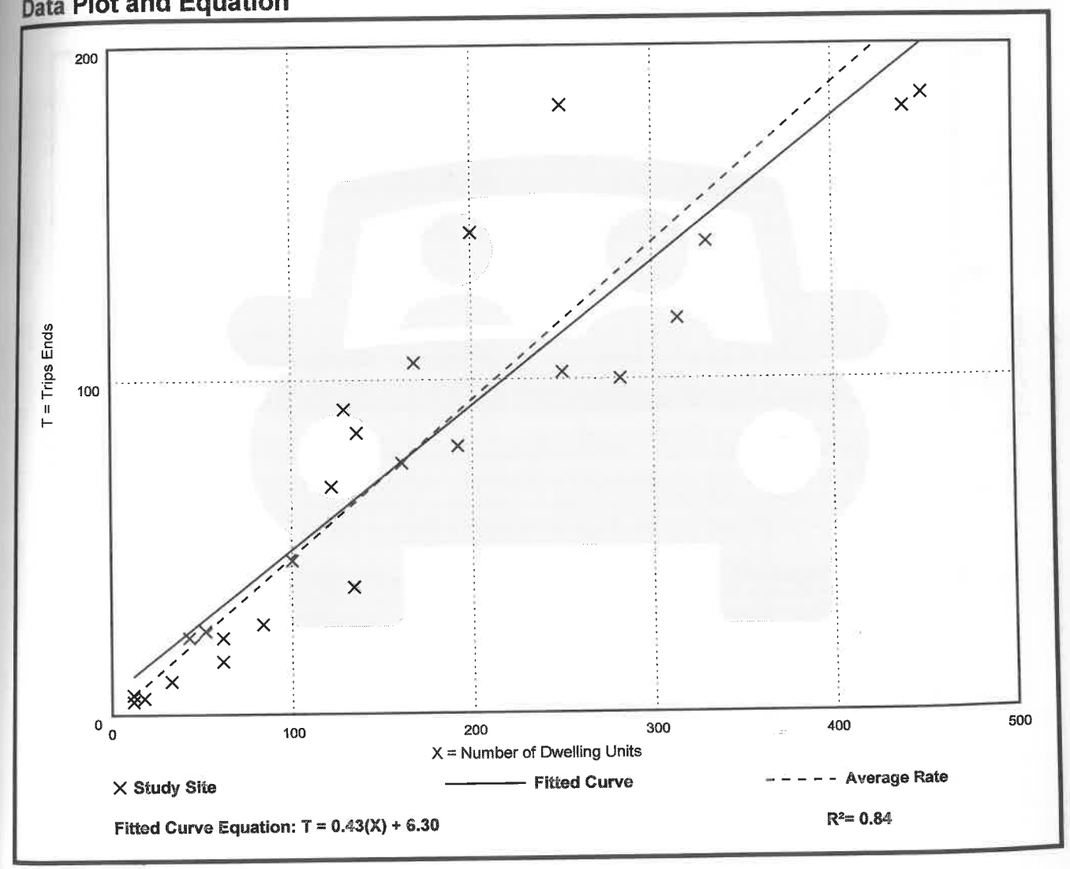
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
AM Peak Hour of Generator
Setting/Location: **General Urban/Suburban**
Number of Studies: 25
Avg. Num. of Dwelling Units: 161
Directional Distribution: 27% entering, 73% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.47	0.26 - 0.73	0.13

Data Plot and Equation



Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

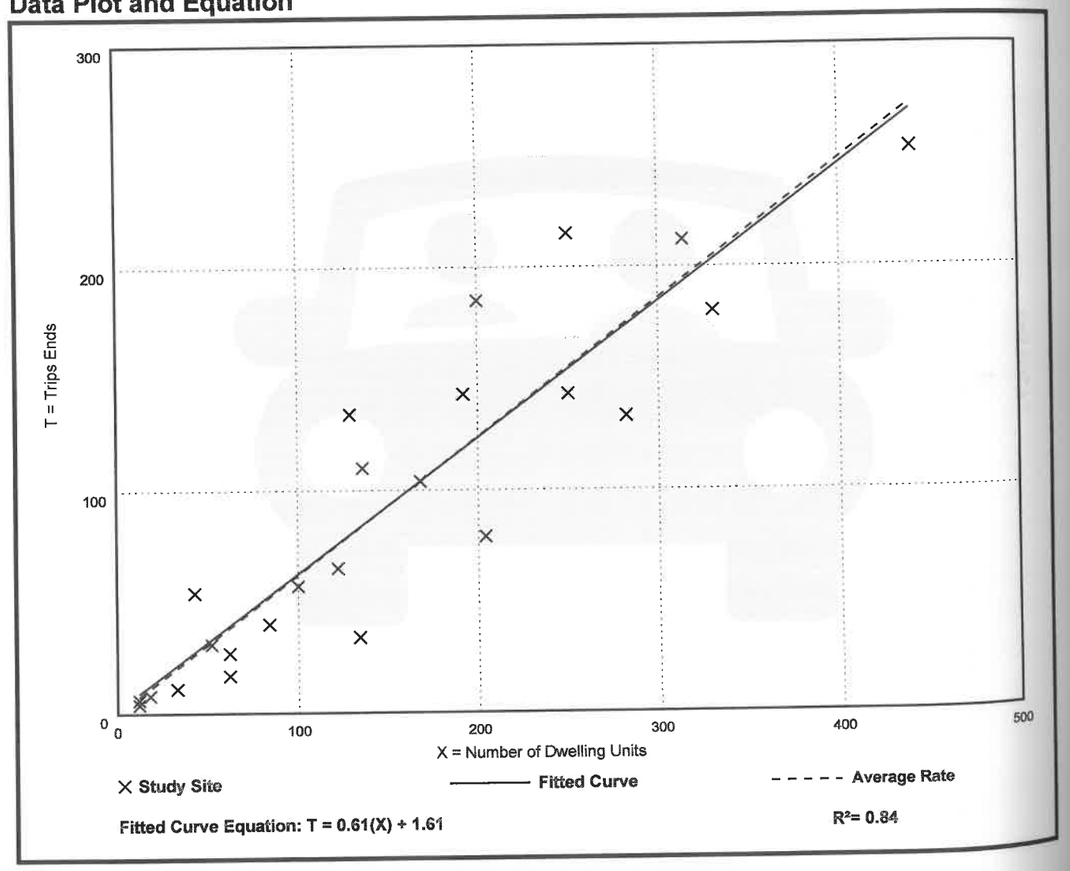
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 24
Avg. Num. of Dwelling Units: 151
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.62	0.25 - 1.26	0.20

Data Plot and Equation



Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Saturday**

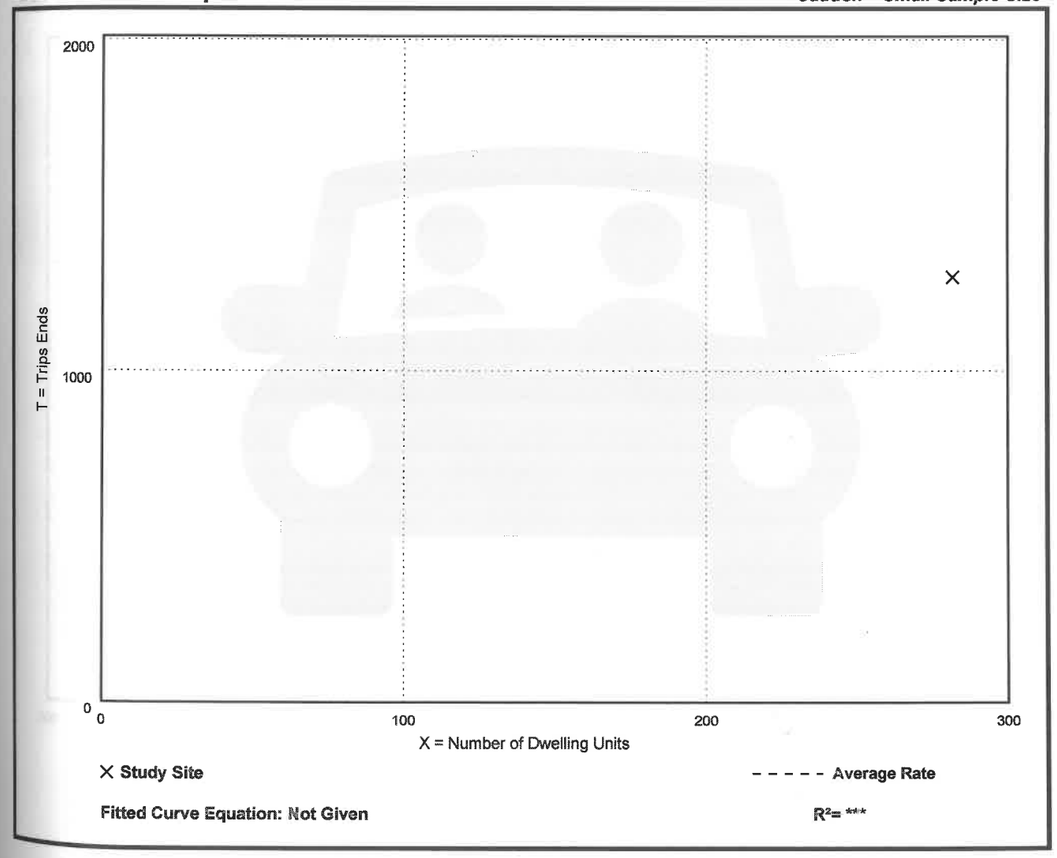
Setting/Location: **General Urban/Suburban**
Number of Studies: 1
Avg. Num. of Dwelling Units: 282
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
4.55	4.55 - 4.55	***

Data Plot and Equation

Caution – Small Sample Size



Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Saturday, Peak Hour of Generator**

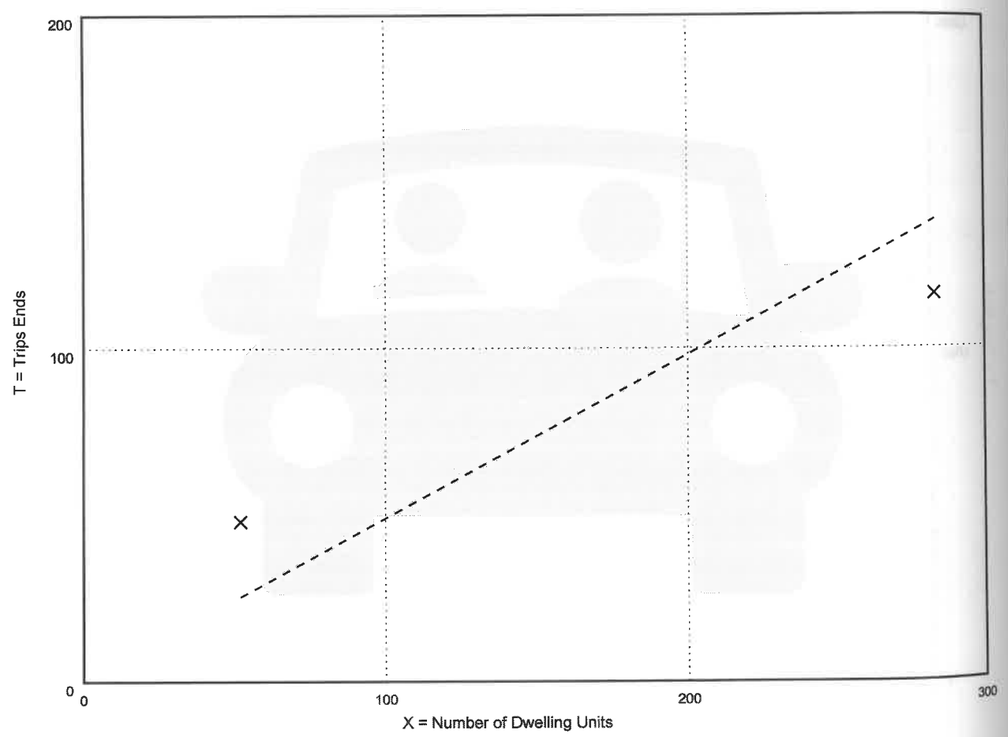
Setting/Location: **General Urban/Suburban**
Number of Studies: 2
Avg. Num. of Dwelling Units: 167
Directional Distribution: 38% entering, 62% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.49	0.41 - 0.92	***

Data Plot and Equation

Caution – Small Sample Size



× **Study Site**
- - - - - **Average Rate**

Fitted Curve Equation: Not Given
R^2= ***

Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Sunday**

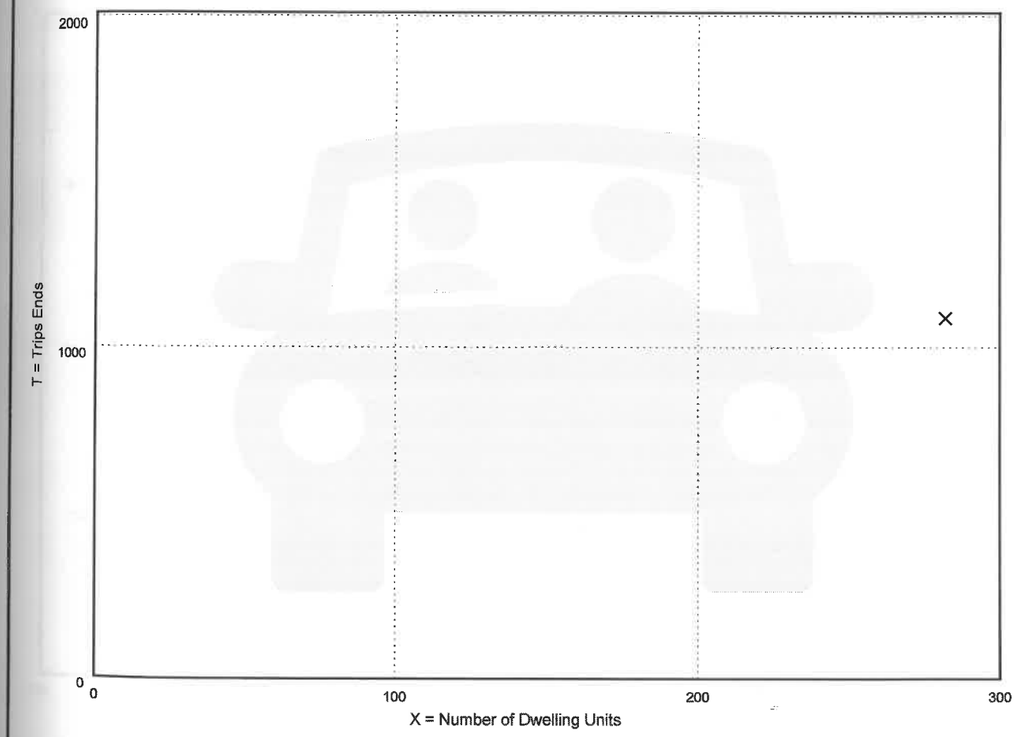
Setting/Location: **General Urban/Suburban**
Number of Studies: 1
Avg. Num. of Dwelling Units: 282
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
3.86	3.86 - 3.86	***

Data Plot and Equation

Caution – Small Sample Size



× **Study Site**
- - - - - **Average Rate**

Fitted Curve Equation: Not Given
R^2= ***

Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Sunday, Peak Hour of Generator**

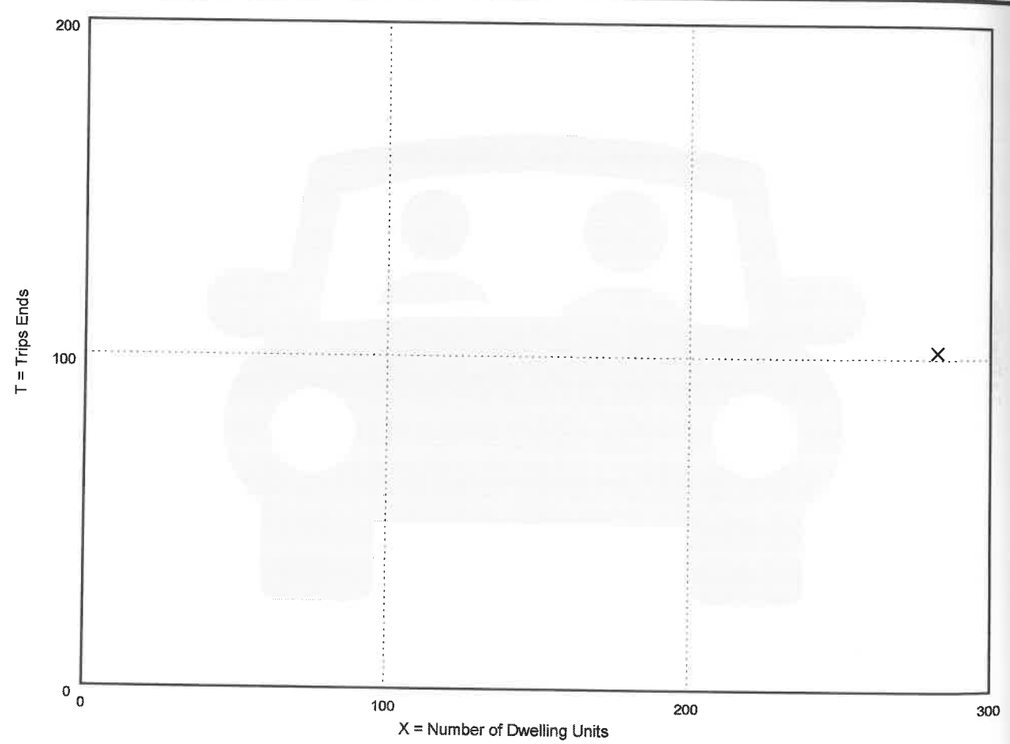
Setting/Location: **General Urban/Suburban**
Number of Studies: 1
Avg. Num. of Dwelling Units: 282
Directional Distribution: Not Available

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.36 - 0.36	***

Data Plot and Equation

Caution – Small Sample Size



× **Study Site**
- - - - - **Average Rate**

Fitted Curve Equation: Not Given
R^2= *

Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Residents**
On a: **Weekday**

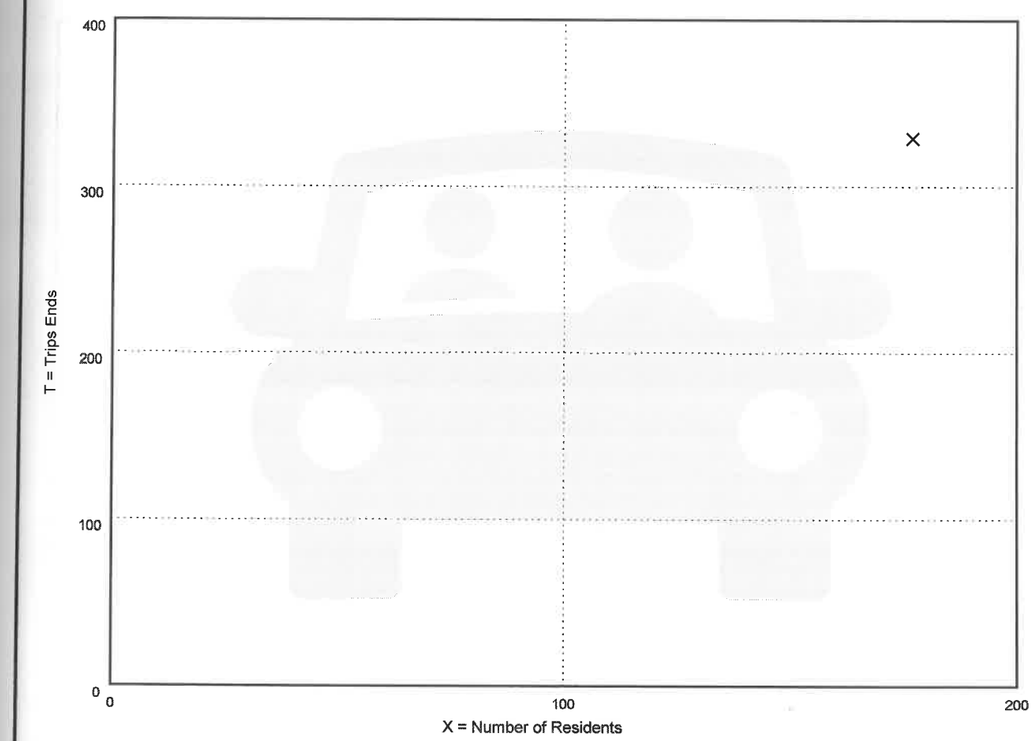
Setting/Location: **General Urban/Suburban**
Number of Studies: 1
Avg. Num. of Residents: 177
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Resident

Average Rate	Range of Rates	Standard Deviation
1.86	1.86 - 1.86	***

Data Plot and Equation

Caution – Small Sample Size



× **Study Site**
- - - - - **Average Rate**

Fitted Curve Equation: Not Given
R^2= *

JONES & BEACH ENGINEERS INC.
100 Domain Drive, Suite 201, Exeter, NH 03833
603.772.4746 – JonesandBeach.com

DRAINAGE ANALYSIS

SEDIMENT AND EROSION CONTROL PLAN

"Ledgewood Drive LLC"
Ledgewood Drive
Portsmouth, NH 03801
Tax Map 229, Lot 6A

Prepared for:

Ledgewood Drive LLC
Attn. Ben Middleton
10 Main Street
Newfields, NH 03856

STATE OF NEW HAMPSHIRE
DANIEL JAMES MEDITZ
No.18152
LICENSED
PROFESSIONAL ENGINEER
09/22/2026

Prepared by:
Jones & Beach Engineers, Inc.
100 Domain Drive
Suite 201
Exeter, NH 03833
(603) 772-4746
August 6, 2026
Last Revised September 22, 2026
JBE Project No. 25071.2

EXECUTIVE SUMMARY

Ledgewood Drive LLC proposes to construct an apartment building with associated indoor and outdoor parking, drainage, and utilities on the subject parcel with access from Ledgewood Drive in Portsmouth, NH. In the existing condition, the subject parcel is vacant and wooded, but surrounded by existing developed sites including a dentist's office to the west on abutting Tax Map 229, Lot 6, a residential subdivision immediately to the north, and the Portsmouth High School athletic field immediately to the east. This is important because the site receives significant offsite contributing watershed runoff from the north and west, and ultimately drains toward the east.

The intent of this analysis is to meet the requirements of Section 7 of the Portsmouth Site Plan Review Regulations, specifically as they relate to on-site stormwater management, and to mitigate the potential for adverse impacts to the subject parcel and downstream properties and water features resulting from the quality, quantity, and peak rate of runoff resulting from the proposed development as well as from upstream contributing watershed areas.

A drainage analysis of the subject parcel as well as offsite contributing watershed area was conducted for the purpose of estimating the peak rate and volume of stormwater runoff in the pre- and post-construction conditions, and to subsequently design adequate drainage structures so that the above-mentioned requirements could be met. Two models were compiled, one for this area in its existing (pre-construction) condition, and a second for the area in its proposed (post-construction) condition. A summary of the pre- and post-construction conditions peak rates of runoff toward the single analysis point, representing a wooded area just downstream of the subject parcel and adjacent to the Portsmouth High School ball field, in units of cubic feet per second (cfs) is as follows:

Analysis Point	2 Year		10 Year		25 Year		50 Year	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Analysis Point #1	2.01	1.99	4.75	4.72	9.48	9.41	15.16	14.97
Analysis Point #2	0.31	0.35	0.51	0.56	0.67	0.72	0.81	0.88

A similar summary of the existing and proposed peak volumes in units of acre-feet is as follows:

Analysis Point	2 Year		10 Year		25 Year		50 Year	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Analysis Point #1	0.188	0.178	0.571	0.540	0.989	0.934	1.424	1.347
Analysis Point #2	0.023	0.026	0.039	0.043	0.052	0.057	0.064	0.070

Per the above tables, the post-construction peak rate and volume of runoff is maintained or reduced toward Analysis Point 1 during the 2-, 10-, 25-, and 50-year 24-hour storms. The slight flow and volume increases toward Analysis Point 2 are due to the concurrent offsite sidewalk project by others and the 5' wide proposed paved apron in the right of way that is pitched toward Ledgewood Drive to keep road runoff off the site. The runoff resulting from the paved apron alone is negligible, and the increase toward Analysis Point 2 resulting from the offsite sidewalk project is outside of our control. Furthermore, runoff from all proposed impervious surfaces except for the aforementioned paved apron is treated post-construction, and the required pollutant removal thresholds have been met. The stormwater management system as designed meets all requirements of the City of Portsmouth stormwater regulations per Section 7 of the Site Plan Review Regulations.

TABLE OF CONTENTS

Executive Summary

1.0 Rainfall Characteristics

2.0 Existing Conditions Analysis

3.0 Proposed Conditions Analysis

4.0 Conclusion

Appendix I Existing Conditions Analysis

2 Year - 24 Hour Summary
10 Year - 24 Hour Complete
25 Year - 24 Hour Summary
50 Year - 24 Hour Complete

Appendix II Proposed Conditions Analysis

2 Year - 24 Hour Summary
10 Year - 24 Hour Complete
25 Year - 24 Hour Summary
50 Year - 24 Hour Complete

Appendix III Test Pit Logs
Appendix IV NRCS Soil Map
Appendix V Extreme Precipitation Estimates
Appendix VI Rip Rap Calculations
Appendix VII BMP Worksheets
Appendix VIII Pollutant Removal Calculations
Appendix IX Stormwater Operations and Maintenance Manual
Appendix X Pre- and Post-Construction Watershed Plans

1.0 RAINFALL CHARACTERISTICS

This drainage report includes an existing conditions analysis of the area involved in the proposed development, as well as a proposed condition, or post-construction analysis, of the same area. These analyses were accomplished using the USDA SCS TR-20 Method within the HydroCAD 10.20-6a Stormwater Modeling System. The curve numbers were developed using the SCS TR-55 Runoff Curve numbers for Urban Areas. A Type III SCS 24-hour rainfall distribution was utilized in analyzing the data for the 2 Year – 24 Hour (3.71"), 10 Year – 24 Hour (5.63"), 25 Year – 24 Hour (7.13"), and 50 Year – 24 Hour (8.54") storm events. This data was taken from the Extreme Precipitation Tables developed by the Northeast Regional Climate Center (NRCC), and the values have been increased by 15% due to the project being within the Coastal/Great Bay Region.

Post-construction peak rates and volumes of runoff will be equal to or less than pre-construction peak rates and volumes of runoff toward Analysis Point 1, stormwater runoff from proposed impervious surfaces will be treated as practicable, and required pollutant removal thresholds will be met, thereby minimizing any potential for a negative impact on abutting properties.

2.0 EXISTING CONDITIONS ANALYSIS

In the existing condition, the subject parcel is vacant and wooded, but surrounded by existing developed sites including a dentist's office to the west on abutting Tax Map 229, Lot 6, a residential subdivision immediately to the north, and the Portsmouth High School athletic field immediately to the east. This is important because the site receives significant offsite contributing watershed runoff from the north and west, which ultimately drains toward the east.

There are ultimately two analysis points toward which all runoff from the subject parcel and offsite contributing watershed areas as well as a stretch of Ledgewood Drive that was considered for the analysis, together referred to from this point forward as simply the "study area", drain.

Analysis point 1 (AP1) represents a small wetland pocket in the southeast corner of the subject parcel. Downstream of analysis point 1, runoff from the site flows on to the Portsmouth High School athletic field immediately to the east of the site. Therefore, it is very important that stormwater is not discharged from the site at a higher peak rate or volume post-construction as compared with the pre-construction condition so as to avoid discharging excessive water into the athletic field. Runoff from the entire subject parcel as well as offsite contributing watershed areas ultimately drains toward Analysis Point 1.

Analysis Point 2 (AP2) represents the outfall from the existing closed drainage system in Ledgewood Drive. Although runoff from the subject parcel itself does not drain toward Analysis Point 2, Analysis Point 2 has been analyzed as the proposed site driveway comes from a curb cut on Ledgewood Drive and therefore results in a slight modification to the watershed of Analysis Point 2 post-construction.

Existing on-site and offsite topography and drainage features in the area that drains through the site toward analysis point 1 divide the study area into three subcatchments. Subcatchment 3S represents the portion of the study area that drains directly toward AP1 without first passing through some sort of drainage feature.

Two existing drainage features were identified within the watershed of Analysis Point 1. The first, Pond 1P, is a shallow low area just to the east of the center of the subject parcel. Although this is only

a shallow area, there is a variable height berm with an existing trail on top just to the east of Pond 1P that stops water from overflowing directly toward Analysis Point 1. Near the northeast corner of the subject parcel there is a small opening in the berm that acts as an overflow and is modelled in the drainage calculations as a broad-crested rectangular weir outlet. Ponded water below this weir is modelled to directly infiltrate into the soil. Analysis Point 1 is modelled directly downstream of the broad crested rectangular weir outlet of Pond 1P in the existing conditions analysis.

The land within the study area from which runoff drains toward Pond 1P is modelled as Subcatchment 1S, which includes the bulk of the subject parcel as well as significant offsite contributing watershed area.

The second drainage feature, Pond 2P, appears to exist on the privately owned parcel that Legewood Drive passes through, right at the corner of Lafayette Road and Ledgewood Drive in front of the dentist office that is located on abutting Tax Map 229 Lot 6. Pond 2P has a culvert outlet, through which any water that overflows from the pond is discharged toward previously described Pond 1P, where it is further detained before ultimately infiltrating to groundwater or cresting over the existing berm break toward Analysis Point 1.

The land within the study area from which runoff drains toward Pond 2P is modelled as Subcatchment 2S, which includes the bulk of the existing dentist office site located at the corner of Lafayette Road and Ledgewood Drive and some of the Lafayette Road right of way and the privately-owned parcel that Ledgewood Drive passes through.

Two existing catch basins in Ledgewood Drive separate the watershed draining toward Analysis Point 2 into two subcatchments. The areas from which runoff drains toward catch basins 1 and 2, modelled as CB1 and CB2, respectively, are modelled as Subcatchments 4S and 5S.

NRCS Web Soil Survey was used to determine existing soil types on both the subject parcel itself and offsite contributing watershed areas within the study area. Through the use of this tool, it was determined that existing soil type that comprises the predominant majority of both the onsite and offsite components of the study area consists of the "Urban land – Canton complex" (SSSM symbol 799). While urban land complexes are typically not assigned a hydrologic soil group, one had to be assumed for the purposes of stormwater modelling. Due to the presence of Canton soils in the complex, it was assumed that the complex would behave similarly to Canton soils, which are classified as Hydrologic Soil Group B (HSG B) according to "Ksat Values for New Hampshire Soils," Special Publication No. 5 sponsored by the Society of Soil Scientists of Northern New England (SSSNNE). According to the same publication, Canton soils have a saturated hydraulic conductivity (Ksat) range of 2.0-6.0 inches per hour in the B horizon and a Ksat range of 6.0-20.0 inches per hour in the C horizon. The decision to model these study area as HSG B is further justified by the test pits that were performed on the subject parcel in 2025, indicating the presence of well-draining sandy loam and loamy sand components in the soil profile along with some sporadic silt loam or sandy clay loam inclusions in the periphery of the subject parcel, moderately deep seasonal high water tables, and no refusal observed to a depth of at least 50-70 inches.

A small part of the study area was shown by NRCS Web Soil Survey to consist of smoothed Udorthents and Urban land (SSSM symbols 299 and 699, respectively). While it is not possible to assign hydrologic soil groupings or saturated hydraulic conductivity ratings for these human-made soil descriptions, these areas were also modelled as HSG B as the great majority of the study area, which consists of the Urban land-Canton complex is modelled as HSG B due to the presence of Canton soils,

and the soil profile is assumed to be relatively consistent throughout the study area. Furthermore, infiltrating practices that are proposed are in the SSSM symbol 799 area, and the 299 and 699 areas are relatively small by comparison.

In accordance with standard engineering practice, the lowest published Ksat value provided for Canton soils (2.0 inches per hour) was divided by a factor of safety of two to determine the infiltration rate of 1.0 inches per hour to use for design due to the potential for sporadic inconsistencies in the soil profile.

3.0 PROPOSED CONDITIONS ANALYSIS

The construction of infrastructure associated with the proposed conservation subdivision as described in the executive summary divides the subject parcel into 11 subcatchments, all draining toward the same two analysis points as previously described. A stormwater management system consisting of two proprietary biofiltration systems with downstream chambers, as well as a filtration drip edge designed for roof runoff and a pocket pond in the right of way, has been designed to mimic pre-development hydrologic patterns in the post-construction condition, to ensure that there is no net increase in the peak flow or volume of runoff directed toward Analysis Point 1 resultant to the 2-, 10-, 25- or 50-year 24-hour storm events, and to meet the other stormwater design requirements for new developments per Section 7 of the Portsmouth Site Plan Review Regulations.

The existing berm that defines the low area modelled as Pond 1P in the existing conditions analysis is being removed for the proposed development. Due to this unique situation, a detention pond is proposed offsite in the private Ledgewood Drive parcel that has been designed to mimic the stormwater attenuation caused by the low area and berm that are being removed and built over. This detention pond is modelled as 1P in the post-construction analysis as it is intended to replicate pre-construction pond 1P, with the subcatchment from which runoff drains directly toward the proposed modelled as Subcatchment 1S.

Other than this, Subcatchments 2S-5S as well as Pond 2P and the two catch basins in Ledgewood Drive modelled as CB1 and CB2 are functionally the same as in the existing conditions analysis in terms of their hydrologic routing, but their outlines, areas, and surface covers have been altered due to the proposed development.

Subcatchment 6S represents the area from which runoff drains toward Focal Point 1, modelled as Pond 3P, in the post-construction condition. This subcatchment consists of the section of the proposed site driveway to the south of the high point, as well as the part the roof of the proposed building that is pitched such that runoff from it will drain via downspouts toward the Focal Point modelled as Pond 3P.

The "Focal Point" is a proprietary biofiltration system manufactured by Ferguson Waterworks that features a high-flow filter media so that it can be sized significantly smaller than a traditional bioretention system while still providing the same level of treatment. The proposed Focal Point modelled as Pond 3P will be lined and underdrained, and the runoff discharged from the underdrain and overflow structure of the Focal Point will drain through an outlet pipe toward a downstream subsurface chamber system modelled as Pond 4P.

Pond 4P is designed to infiltrate stormwater directed toward it to the extent practicable, and has been designed with an overflow pipe to gradually release any stormwater that cannot be infiltrated directly to groundwater. The overflow pipe from Pond 4P is connected to a closed drainage system consisting

of three drain manholes (DMH 1-3) through which the outflow is routed toward Analysis Point 1 in the northeast corner of the site.

Subcatchment 7S represents the area from which runoff drains toward Focal Point 2, modelled as Pond 5P. The part of the proposed development site to the north of the high point of the proposed driveway as well as the proposed outdoor parking lot and adjacent landscaped area is graded to drain directly toward Focal Point 2 and is therefore represented in Subcatchment 7S. Additionally, a large part of the roof of the proposed apartment building is pitched toward downspouts that drain into land area that is graded such that runoff drains toward Focal Point 2, so this roof sector is additionally included within Subcatchment 7S.

Focal Point 2 (Pond 5P) is lined and underdrain, and includes an overflow mechanism, similarly to the design of Focal Point 1 (Pond 3P). The outflow from the Pond 5P, including any overflow as well as treated runoff from the underdrain, is routed via a drain pipe toward an underground chamber system modelled as Pond 6P. This chamber system is unlined and is intended to infiltrate runoff directed toward it to the extent practicable. All outflow from Pond 6P that is not infiltrated to groundwater is routed via the same closed drainage system as the outflow from Pond 4P is routed into toward Analysis Point 1 at a lower rate and volume than in the existing condition. The intent is to combine the outflows from the two chamber systems and have one point of discharge for the stormwater management system.

Subcatchment 8S represents the easternmost part of the roof of the proposed building, to the east of the ridge of the section of the structure that is perpendicular to Ledgewood Drive. Runoff from Subcatchment 8S drains toward a filtration drip edge modelled as Pond 8P. The filtration drip edge is proposed adjacent to only part of the east face of the building roof so that wetland impacts can be avoided. However, several proposed downspouts along the east face of the proposed building will be connected to a roof leader that is proposed to drain into the filtration drip edge modelled as Pond 8P.

A "filtration drip edge" combines the filtration function of a bioretention pond with the infiltration function of a stone drip edge for improved water quality treatment, and so that the device can be designed closer to the water table due to site constraints. Filtration practices can be designed with a filter course as little as 1' above the seasonal high water table, while infiltration practices that rely on infiltration alone for water quality treatment require 3' separation from the bottom of stone to the seasonal high water table (or 4' in groundwater protection areas). Therefore, this device will have the dual benefit of providing enhanced treatment of runoff from the section of the roof directed to it as compared with a standard stone drip edge, and can be constructed in line with the existing grades and seasonal high water table elevations on site without causing a wetland impact.

Because the subject parcel happens to be situated at a point where it directly receives significant runoff from offsite watershed areas, diversion swales and culverts are proposed along the north and west edges of the subject parcel to keep runoff from offsite out of the stormwater management system for the proposed development itself.

Subcatchment 9S represents the contributing watershed area to a proposed diversion swale on the west end of the subject parcel to the north of the high point of the proposed driveway. This diversion swale is graded toward a low point, and a yard drain modelled as Pond YD is proposed at this low point. Subcatchment 9S is a sector of the same area from Subcatchment 1S in the pre-development model that is rerouted due to the proposed development.

Subcatchment 10S represents the contributing watershed area to a proposed diversion swale on the north end of the site that is graded to drain toward the east and ultimately into a proposed diversion culvert that is modelled as Pond 9P. Subcatchment 10S is a sector of the same area from Subcatchment 1S in the pre-development model that is rerouted due to the proposed development.

The outlet pipe from the yard drain modelled as Pond YD and the diversion culvert modelled as Pond 9P both daylight into proposed drain manhole 4, modelled as DMH4. Downstream of the outlet pipe from DMH 4, runoff flows through another diversion swale modelled as Reach 2R toward a proposed culvert, modelled as Pond 10P, pitched toward the east and running underneath the beginning of the proposed site driveway.

The land area from which runoff drains directly toward the proposed driveway culvert modelled as Pond 10P is represented as Subcatchment 11S. Subcatchment 11S is a sector of the same area from Subcatchment 1S in the pre-development model that is rerouted due to the proposed development.

As a result of the implementation of this stormwater management system, peak flows and runoff volumes are reduced toward Analysis Point 1 during all analyzed storm events in the proposed condition as compared with the existing condition. The NHDES Alteration of Terrain Bureau allows an increase in runoff volume of up to 0.1 acre-feet during the 2-year 24-hour storm event. We are decreasing runoff volumes and therefore this would be approvable by the AOT Bureau if the project needed an AOT permit (which it does not as the area of disturbance is below 100,000 SF).

Furthermore, the project as designed exceeds the AOT Bureau's groundwater recharge volume requirement. A GRV worksheet is contained within the appendix of this report in order to illustrate this. Therefore, we have designed the drainage system to avoid adverse impacts to abutting infrastructure and the requirement per Section 7.1 of the Site Plan Review Regulations to "design practices to the maximum extent practical (MEP) to reduce stormwater runoff volumes, maintain predevelopment site hydrology, and protect water quality in receiving waters" is met, and low impact development (LID) devices such as biofiltration practices, subsurface detention systems, and a filtration drip edge are used.

EPA Region 1 credits the same pollutant removal efficiencies for the Focal Point biofiltration system as for an enhanced biofiltration system with an internal storage reservoir. Specifically, this a 76% phosphorous load reduction and a 75% nitrogen load reduction are credited if the Focal Point biofiltration system has been designed for a 1" runoff from impervious areas, which has been done in accordance with the enclosed Focal Point design worksheet which includes the Focal Point design procedure that has been approved by NHDES. Direct infiltration practices that are designed per NHDES standards, such as but not limited to stone drip edges, feature a removal efficiency of nearly 100% for total suspended solids, total nitrogen, and total phosphorous according to the EPA performance curves included with the pollutant removal canulations in the appendix of this report. According to this document, filtration practices that are not underdrained and directly infiltrate treated runoff to groundwater can be counted as infiltration practices for the purpose of pollutant removal calculation, so the filtration drip edge is counted as an infiltration practice. Runoff from all proposed impervious surfaces is proposed to drain toward either a Focal Point or a filtration drip edge post-construction, with the exception of a small paved apron at the beginning of the proposed driveway that is pitched toward Ledgewood Drive. In effect, the required 80% TSS and 50% TN and TP pollutant removal thresholds will be met and exceeded. Pollutant removal calculations demonstrating this are included in the appendix of this report.

5.0 CONCLUSION

This proposed site development will have minimal adverse effect on abutting infrastructures, properties, and downstream wetlands by way of stormwater runoff or siltation. Appropriate steps will be taken to eliminate erosion and sedimentation; this will be accomplished through the of the above-described stormwater management system as well as temporary erosion control measures including but not limited to silt fence, a stabilized construction entrance, storm drain inlet protection, and temporary sediment traps during construction. Best Management Practices developed by the State of New Hampshire have been utilized in the design of this system and their application will be enforced throughout the construction process. Peak rates and volumes of runoff from the site will be reduced toward all analysis points during all analyzed storm events.

This project disturbs less than 100,000 S.F. and therefore does not require a NHDES Alteration of Terrain Permit.

Respectfully Submitted,
JONES & BEACH ENGINEERS, INC.

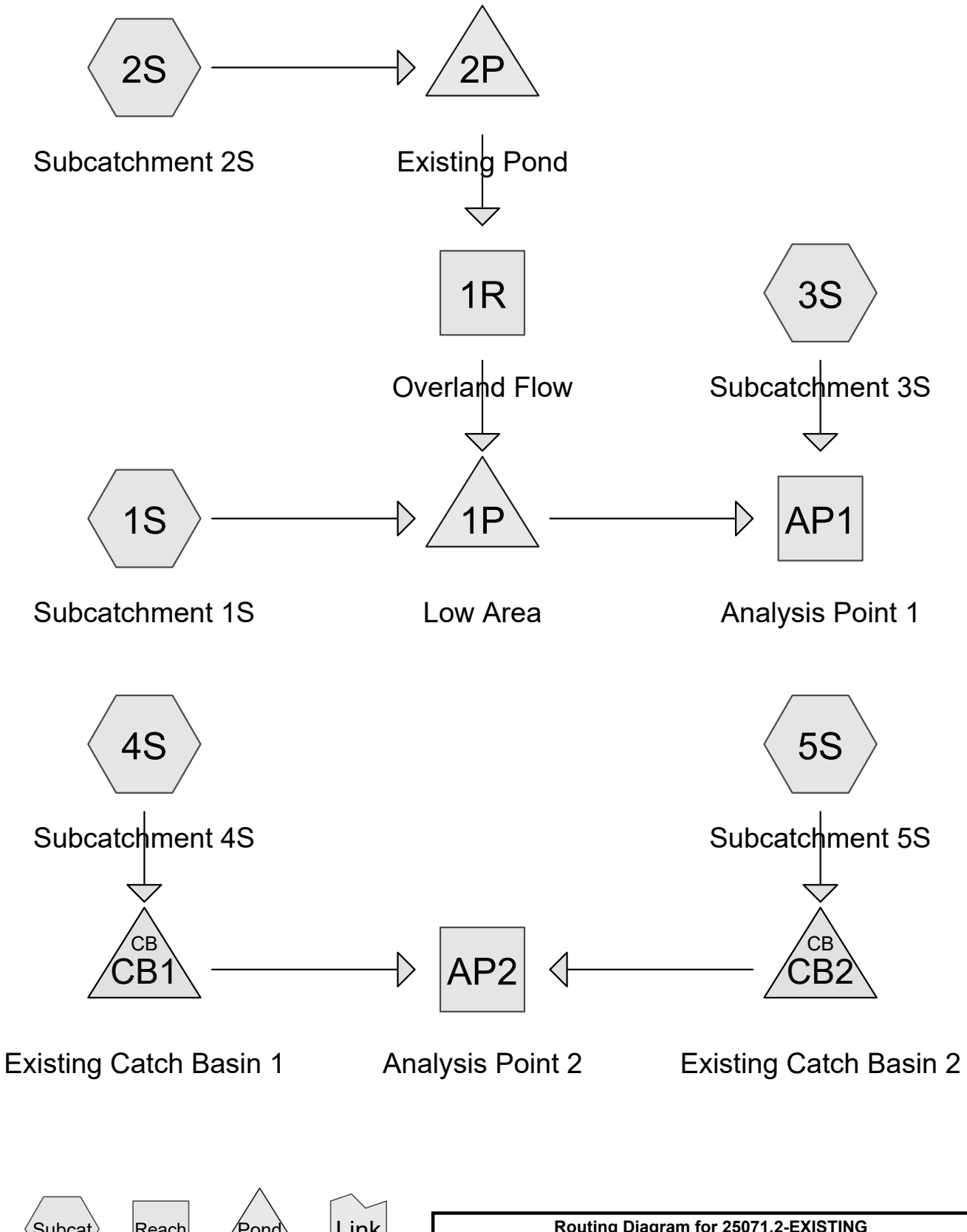
Daniel Meditz

Daniel Meditz, P.E
Lead Design Engineer

APPENDIX I

EXISTING CONDITIONS DRAINAGE ANALYSIS

Summary 2 YEAR
Complete 10 YEAR
Summary 25 YEAR
Complete 50 YEAR



Routing Diagram for 25071.2-EXISTING
Prepared by Jones & Beach Engineers Inc, Printed 9/22/2026
HydroCAD® 10.20-6a s/n 00762 © 2024 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.228	70	1/2 acre lots, 25% imp, HSG B (1S, 3S)
0.566	61	>75% Grass cover, Good, HSG B (1S, 2S, 4S, 5S)
0.086	48	Brush, Good, HSG B (2S)
0.177	98	Paved parking, HSG B (2S)
0.277	98	Paved roads w/curbs & sewers, HSG B (3S, 4S, 5S)
0.045	98	Roofs, HSG B (1S, 2S)
1.806	55	Woods, Good, HSG B (1S, 2S, 3S)
5.186	**66**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
5.186	HSG B	1S, 2S, 3S, 4S, 5S
0.000	HSG C	
0.000	HSG D	
0.000	Other	
5.186		**TOTAL AREA**

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Subcatchment1S Runoff Area=112,469 sf 9.32% Impervious Runoff Depth=0.67"
Flow Length=421' Tc=15.9 min CN=61 Runoff=1.13 cfs 0.144 af

Subcatchment2S: Subcatchment2S Runoff Area=22,794 sf 37.44% Impervious Runoff Depth=1.26"
Tc=6.0 min CN=72 Runoff=0.73 cfs 0.055 af

Subcatchment3S: Subcatchment3S Runoff Area=86,121 sf 27.21% Impervious Runoff Depth=1.14"
Flow Length=612' Tc=11.7 min CN=70 Runoff=2.01 cfs 0.188 af

Subcatchment4S: Subcatchment4S Runoff Area=1,897 sf 76.96% Impervious Runoff Depth=2.55"
Tc=6.0 min CN=89 Runoff=0.13 cfs 0.009 af

Subcatchment5S: Subcatchment5S Runoff Area=2,633 sf 80.71% Impervious Runoff Depth=2.74"
Tc=6.0 min CN=91 Runoff=0.19 cfs 0.014 af

Reach 1R: Overland Flow Avg. Flow Depth=0.10' Max Vel=0.24 fps Inflow=0.36 cfs 0.034 af
n=0.070 L=80.0' S=0.0050 '/' Capacity=12.03 cfs Outflow=0.34 cfs 0.034 af

Reach AP1: Analysis Point 1 Inflow=2.01 cfs 0.188 af
Outflow=2.01 cfs 0.188 af

Reach AP2: Analysis Point 2 Inflow=0.31 cfs 0.023 af
Outflow=0.31 cfs 0.023 af

Pond 1P: Low Area Peak Elev=20.28' Storage=3,058 cf Inflow=1.45 cfs 0.178 af
Discarded=0.23 cfs 0.178 af Primary=0.00 cfs 0.000 af Outflow=0.23 cfs 0.178 af

Pond 2P: Existing Pond Peak Elev=21.31' Storage=436 cf Inflow=0.73 cfs 0.055 af
Discarded=0.05 cfs 0.021 af Primary=0.36 cfs 0.034 af Outflow=0.41 cfs 0.055 af

Pond CB1: Existing Catch Basin 1 Peak Elev=23.59' Inflow=0.13 cfs 0.009 af
12.0" Round Culvert n=0.012 L=28.0' S=0.0075 '/' Outflow=0.13 cfs 0.009 af

Pond CB2: Existing Catch Basin 2 Peak Elev=19.30' Inflow=0.19 cfs 0.014 af
12.0" Round Culvert n=0.012 L=36.0' S=0.0078 '/' Outflow=0.19 cfs 0.014 af

Total Runoff Area = 5.186 ac Runoff Volume = 0.410 af Average Runoff Depth = 0.95"
79.62% Pervious = 4.129 ac 20.38% Impervious = 1.057 ac

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Subcatchment1S Runoff Area=112,469 sf 9.32% Impervious Runoff Depth=1.76"
Flow Length=421' Tc=15.9 min CN=61 Runoff=3.66 cfs 0.379 af

Subcatchment2S: Subcatchment2S Runoff Area=22,794 sf 37.44% Impervious Runoff Depth=2.69"
Tc=6.0 min CN=72 Runoff=1.62 cfs 0.117 af

Subcatchment3S: Subcatchment3S Runoff Area=86,121 sf 27.21% Impervious Runoff Depth=2.51"
Flow Length=612' Tc=11.7 min CN=70 Runoff=4.75 cfs 0.414 af

Subcatchment4S: Subcatchment4S Runoff Area=1,897 sf 76.96% Impervious Runoff Depth=4.38"
Tc=6.0 min CN=89 Runoff=0.21 cfs 0.016 af

Subcatchment5S: Subcatchment5S Runoff Area=2,633 sf 80.71% Impervious Runoff Depth=4.60"
Tc=6.0 min CN=91 Runoff=0.30 cfs 0.023 af

Reach 1R: Overland Flow Avg. Flow Depth=0.16' Max Vel=0.33 fps Inflow=0.99 cfs 0.086 af
n=0.070 L=80.0' S=0.0050 '/' Capacity=12.03 cfs Outflow=0.96 cfs 0.086 af

Reach AP1: Analysis Point 1 Inflow=4.75 cfs 0.571 af
Outflow=4.75 cfs 0.571 af

Reach AP2: Analysis Point 2 Inflow=0.51 cfs 0.039 af
Outflow=0.51 cfs 0.039 af

Pond 1P: Low Area Peak Elev=20.53' Storage=5,928 cf Inflow=4.61 cfs 0.465 af
Discarded=0.37 cfs 0.308 af Primary=2.20 cfs 0.157 af Outflow=2.57 cfs 0.465 af

Pond 2P: Existing Pond Peak Elev=21.54' Storage=831 cf Inflow=1.62 cfs 0.117 af
Discarded=0.06 cfs 0.031 af Primary=0.99 cfs 0.086 af Outflow=1.06 cfs 0.117 af

Pond CB1: Existing Catch Basin 1 Peak Elev=23.65' Inflow=0.21 cfs 0.016 af
12.0" Round Culvert n=0.012 L=28.0' S=0.0075 '/' Outflow=0.21 cfs 0.016 af

Pond CB2: Existing Catch Basin 2 Peak Elev=19.36' Inflow=0.30 cfs 0.023 af
12.0" Round Culvert n=0.012 L=36.0' S=0.0078 '/' Outflow=0.30 cfs 0.023 af

Total Runoff Area = 5.186 ac Runoff Volume = 0.950 af Average Runoff Depth = 2.20"
79.62% Pervious = 4.129 ac 20.38% Impervious = 1.057 ac

Summary for Subcatchment 1S: Subcatchment 1S

Runoff = 3.66 cfs @ 12.24 hrs, Volume= 0.379 af, Depth= 1.76"
Routed to Pond 1P : Low Area

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR STORM Rainfall=5.63"

Area (sf)	CN	Description
37,341	70	1/2 acre lots, 25% imp, HSG B
1,147	98	Roofs, HSG B
14,520	61	>75% Grass cover, Good, HSG B
59,461	55	Woods, Good, HSG B
112,469	61	Weighted Average
101,987		90.68% Pervious Area
10,482		9.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	15	0.1000	0.24		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.71"
7.2	35	0.0308	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.71"
0.6	30	0.0308	0.88		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	25	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.1	92	0.0217	0.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.9	51	0.0392	0.99		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.5	74	0.0270	0.82		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.3	99	0.0202	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
15.9	421	Total			

Summary for Subcatchment 2S: Subcatchment 2S

Runoff = 1.62 cfs @ 12.09 hrs, Volume= 0.117 af, Depth= 2.69"
Routed to Pond 2P : Existing Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR STORM Rainfall=5.63"

Area (sf)	CN	Description
7,719	98	Paved parking, HSG B
815	98	Roofs, HSG B
9,211	61	>75% Grass cover, Good, HSG B
1,310	55	Woods, Good, HSG B
3,739	48	Brush, Good, HSG B
22,794	72	Weighted Average
14,260		62.56% Pervious Area
8,534		37.44% Impervious Area

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

Summary for Subcatchment 3S: Subcatchment 3S

Runoff = 4.75 cfs @ 12.17 hrs, Volume= 0.414 af, Depth= 2.51"
Routed to Reach AP1 : Analysis Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR STORM Rainfall=5.63"

Area (sf)	CN	Description
17,892	55	Woods, Good, HSG B
8,500	98	Paved roads w/curbs & sewers, HSG B
59,729	70	1/2 acre lots, 25% imp, HSG B
86,121	70	Weighted Average
62,689		72.79% Pervious Area
23,432		27.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.71"
0.7	55	0.0364	1.34		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	59	0.0476	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	208	0.0260	3.27		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	33	0.0303	1.22		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.3	86	0.0233	1.07		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	52	0.0385	0.98		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	69	0.0290	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.7	612	Total			

Summary for Subcatchment 4S: Subcatchment 4S

Runoff = 0.21 cfs @ 12.09 hrs, Volume= 0.016 af, Depth= 4.38"
Routed to Pond CB1 : Existing Catch Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR STORM Rainfall=5.63"

Area (sf)	CN	Description
1,460	98	Paved roads w/curbs & sewers, HSG B
437	61	>75% Grass cover, Good, HSG B
1,897	89	Weighted Average
437		23.04% Pervious Area
1,460		76.96% Impervious Area

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

Summary for Subcatchment 5S: Subcatchment 5S

Runoff = 0.30 cfs @ 12.09 hrs, Volume= 0.023 af, Depth= 4.60"
Routed to Pond CB2 : Existing Catch Basin 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR STORM Rainfall=5.63"

Area (sf)	CN	Description
2,125	98	Paved roads w/curbs & sewers, HSG B
508	61	>75% Grass cover, Good, HSG B
2,633	91	Weighted Average
508		19.29% Pervious Area
2,125		80.71% Impervious Area

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

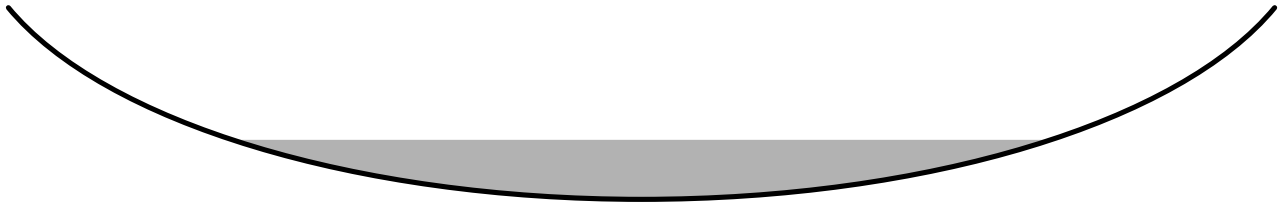
Summary for Reach 1R: Overland Flow

Inflow Area = 0.523 ac, 37.44% Impervious, Inflow Depth = 1.98" for 10-YR STORM event
Inflow = 0.99 cfs @ 12.20 hrs, Volume= 0.086 af
Outflow = 0.96 cfs @ 12.26 hrs, Volume= 0.086 af, Atten= 4%, Lag= 3.6 min
Routed to Pond 1P : Low Area

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 0.33 fps, Min. Travel Time= 4.0 min
Avg. Velocity = 0.10 fps, Avg. Travel Time= 14.0 min

Peak Storage= 231 cf @ 12.26 hrs
Average Depth at Peak Storage= 0.16' , Surface Width= 27.87'
Bank-Full Depth= 0.50' Flow Area= 16.7 sf, Capacity= 12.03 cfs

50.00' x 0.50' deep Parabolic Channel, n= 0.070 Medium-dense brush, winter
Length= 80.0' Slope= 0.0050 '/'
Inlet Invert= 20.50', Outlet Invert= 20.10'



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Summary for Reach AP1: Analysis Point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area =	5.082 ac,	19.17% Impervious,	Inflow Depth =	1.35"	for 10-YR STORM event
Inflow =	4.75 cfs @	12.17 hrs,	Volume=	0.571 af	
Outflow =	4.75 cfs @	12.17 hrs,	Volume=	0.571 af,	Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3

Summary for Reach AP2: Analysis Point 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area =	0.104 ac,	79.14% Impervious,	Inflow Depth =	4.50"	for 10-YR STORM event
Inflow =	0.51 cfs @	12.09 hrs,	Volume=	0.039 af	
Outflow =	0.51 cfs @	12.09 hrs,	Volume=	0.039 af,	Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3

Summary for Pond 1P: Low Area

[62] Hint: Exceeded Reach 1R OUTLET depth by 0.31' @ 12.65 hrs

Inflow Area =	3.105 ac,	14.06% Impervious,	Inflow Depth =	1.80"	for 10-YR STORM event
Inflow =	4.61 cfs @	12.24 hrs,	Volume=	0.465 af	
Outflow =	2.57 cfs @	12.56 hrs,	Volume=	0.465 af,	Atten= 44%, Lag= 19.2 min
Discarded =	0.37 cfs @	12.56 hrs,	Volume=	0.308 af	
Primary =	2.20 cfs @	12.56 hrs,	Volume=	0.157 af	

Routed to Reach AP1 : Analysis Point 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 20.53' @ 12.56 hrs Surf.Area= 14,054 sf Storage= 5,928 cf

Plug-Flow detention time= 147.0 min calculated for 0.465 af (100% of inflow)
Center-of-Mass det. time= 146.8 min (1,011.4 - 864.5)

Volume	Invert	Avail.Storage	Storage Description
#1	19.50'	26,604 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)
19.50	1,371	213.0	0	0	1,371
20.00	3,961	394.0	1,277	1,277	10,115
20.50	14,054	688.0	4,246	5,523	35,431
22.00	14,054	688.0	21,081	26,604	36,463

Device	Routing	Invert	Outlet Devices
#1	Primary	20.40'	**20.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	19.50'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 16.67' Phase-In= 0.10'

Discarded OutFlow Max=0.37 cfs @ 12.56 hrs HW=20.53' (Free Discharge)
└**2=Exfiltration** (Controls 0.37 cfs)

Primary OutFlow Max=2.19 cfs @ 12.56 hrs HW=20.53' TW=0.00' (Dynamic Tailwater)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 2.19 cfs @ 0.85 fps)

Summary for Pond 2P: Existing Pond

Pond areas, elevations, and culvert parameters are assumed.

Inflow Area = 0.523 ac, 37.44% Impervious, Inflow Depth = 2.69" for 10-YR STORM event
Inflow = 1.62 cfs @ 12.09 hrs, Volume= 0.117 af
Outflow = 1.06 cfs @ 12.20 hrs, Volume= 0.117 af, Atten= 35%, Lag= 6.5 min
Discarded = 0.06 cfs @ 12.20 hrs, Volume= 0.031 af
Primary = 0.99 cfs @ 12.20 hrs, Volume= 0.086 af
Routed to Reach 1R : Overland Flow

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 21.54' @ 12.20 hrs Surf.Area= 1,912 sf Storage= 831 cf

Plug-Flow detention time= 24.3 min calculated for 0.117 af (100% of inflow)
Center-of-Mass det. time= 23.9 min (860.4 - 836.6)

Volume	Invert	Avail.Storage	Storage Description
#1	21.00'	1,882 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)
21.00	1,209	140.0	0	0	1,209
22.00	2,647	210.0	1,882	1,882	3,166

Device	Routing	Invert	Outlet Devices
#1	Discarded	21.00'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 20.00' Phase-In= 0.10'
#2	Primary	21.00'	**15.0" Round Culvert** L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 21.00' / 20.50' S= 0.0167 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Discarded OutFlow Max=0.06 cfs @ 12.20 hrs HW=21.54' (Free Discharge)
└─**1=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.99 cfs @ 12.20 hrs HW=21.54' TW=20.65' (Dynamic Tailwater)
└─**2=Culvert** (Inlet Controls 0.99 cfs @ 1.97 fps)

Summary for Pond CB1: Existing Catch Basin 1

End invert of pipe is assumed as inverts have not been measured on downstream structure

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[58] Hint: Peaked 0.24' above defined flood level

Inflow Area = 0.044 ac, 76.96% Impervious, Inflow Depth = 4.38" for 10-YR STORM event
Inflow = 0.21 cfs @ 12.09 hrs, Volume= 0.016 af
Outflow = 0.21 cfs @ 12.09 hrs, Volume= 0.016 af, Atten= 0%, Lag= 0.0 min
Primary = 0.21 cfs @ 12.09 hrs, Volume= 0.016 af
Routed to Reach AP2 : Analysis Point 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 23.65' @ 12.09 hrs
Flood Elev= 23.41'

Device	Routing	Invert	Outlet Devices
#1	Primary	23.41'	**12.0" Round Culvert** L= 28.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 23.41' / 23.20' S= 0.0075 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.21 cfs @ 12.09 hrs HW=23.64' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.21 cfs @ 2.22 fps)

Summary for Pond CB2: Existing Catch Basin 2

End invert of pipe is assumed as inverts have not been measured on downstream structure

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Inflow Area = 0.060 ac, 80.71% Impervious, Inflow Depth = 4.60" for 10-YR STORM event
Inflow = 0.30 cfs @ 12.09 hrs, Volume= 0.023 af
Outflow = 0.30 cfs @ 12.09 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.0 min
Primary = 0.30 cfs @ 12.09 hrs, Volume= 0.023 af
Routed to Reach AP2 : Analysis Point 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 19.36' @ 12.09 hrs
Flood Elev= 22.23'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.08'	**12.0" Round Culvert** L= 36.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 19.08' / 18.80' S= 0.0078 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.29 cfs @ 12.09 hrs HW=19.36' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.29 cfs @ 2.49 fps)

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Subcatchment1S Runoff Area=112,469 sf 9.32% Impervious Runoff Depth=2.80"
Flow Length=421' Tc=15.9 min CN=61 Runoff=6.04 cfs 0.602 af

Subcatchment2S: Subcatchment2S Runoff Area=22,794 sf 37.44% Impervious Runoff Depth=3.94"
Tc=6.0 min CN=72 Runoff=2.37 cfs 0.172 af

Subcatchment3S: Subcatchment3S Runoff Area=86,121 sf 27.21% Impervious Runoff Depth=3.73"
Flow Length=612' Tc=11.7 min CN=70 Runoff=7.11 cfs 0.614 af

Subcatchment4S: Subcatchment4S Runoff Area=1,897 sf 76.96% Impervious Runoff Depth=5.84"
Tc=6.0 min CN=89 Runoff=0.28 cfs 0.021 af

Subcatchment5S: Subcatchment5S Runoff Area=2,633 sf 80.71% Impervious Runoff Depth=6.07"
Tc=6.0 min CN=91 Runoff=0.39 cfs 0.031 af

Reach 1R: Overland Flow Avg. Flow Depth=0.19' Max Vel=0.38 fps Inflow=1.54 cfs 0.134 af
n=0.070 L=80.0' S=0.0050 '/' Capacity=12.03 cfs Outflow=1.49 cfs 0.134 af

Reach AP1: Analysis Point 1 Inflow=9.48 cfs 0.989 af
Outflow=9.48 cfs 0.989 af

Reach AP2: Analysis Point 2 Inflow=0.67 cfs 0.052 af
Outflow=0.67 cfs 0.052 af

Pond 1P: Low Area Peak Elev=20.63' Storage=7,348 cf Inflow=7.53 cfs 0.735 af
Discarded=0.38 cfs 0.360 af Primary=5.30 cfs 0.375 af Outflow=5.67 cfs 0.735 af

Pond 2P: Existing Pond Peak Elev=21.69' Storage=1,133 cf Inflow=2.37 cfs 0.172 af
Discarded=0.07 cfs 0.038 af Primary=1.54 cfs 0.134 af Outflow=1.61 cfs 0.172 af

Pond CB1: Existing Catch Basin 1 Peak Elev=23.68' Inflow=0.28 cfs 0.021 af
12.0" Round Culvert n=0.012 L=28.0' S=0.0075 '/' Outflow=0.28 cfs 0.021 af

Pond CB2: Existing Catch Basin 2 Peak Elev=19.40' Inflow=0.39 cfs 0.031 af
12.0" Round Culvert n=0.012 L=36.0' S=0.0078 '/' Outflow=0.39 cfs 0.031 af

Total Runoff Area = 5.186 ac Runoff Volume = 1.439 af Average Runoff Depth = 3.33"
79.62% Pervious = 4.129 ac 20.38% Impervious = 1.057 ac

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Subcatchment1S Runoff Area=112,469 sf 9.32% Impervious Runoff Depth=3.86"
Flow Length=421' Tc=15.9 min CN=61 Runoff=8.48 cfs 0.831 af

Subcatchment2S: Subcatchment2S Runoff Area=22,794 sf 37.44% Impervious Runoff Depth=5.17"
Tc=6.0 min CN=72 Runoff=3.10 cfs 0.226 af

Subcatchment3S: Subcatchment3S Runoff Area=86,121 sf 27.21% Impervious Runoff Depth=4.93"
Flow Length=612' Tc=11.7 min CN=70 Runoff=9.42 cfs 0.813 af

Subcatchment4S: Subcatchment4S Runoff Area=1,897 sf 76.96% Impervious Runoff Depth=7.22"
Tc=6.0 min CN=89 Runoff=0.34 cfs 0.026 af

Subcatchment5S: Subcatchment5S Runoff Area=2,633 sf 80.71% Impervious Runoff Depth=7.46"
Tc=6.0 min CN=91 Runoff=0.48 cfs 0.038 af

Reach 1R: Overland Flow Avg. Flow Depth=0.22' Max Vel=0.41 fps Inflow=2.05 cfs 0.182 af
n=0.070 L=80.0' S=0.0050 '/' Capacity=12.03 cfs Outflow=2.00 cfs 0.182 af

Reach AP1: Analysis Point 1 Inflow=15.16 cfs 1.424 af
Outflow=15.16 cfs 1.424 af

Reach AP2: Analysis Point 2 Inflow=0.81 cfs 0.064 af
Outflow=0.81 cfs 0.064 af

Pond 1P: Low Area Peak Elev=20.71' Storage=8,481 cf Inflow=10.48 cfs 1.013 af
Discarded=0.38 cfs 0.401 af Primary=8.54 cfs 0.612 af Outflow=8.93 cfs 1.013 af

Pond 2P: Existing Pond Peak Elev=21.81' Storage=1,418 cf Inflow=3.10 cfs 0.226 af
Discarded=0.08 cfs 0.044 af Primary=2.05 cfs 0.182 af Outflow=2.14 cfs 0.226 af

Pond CB1: Existing Catch Basin 1 Peak Elev=23.71' Inflow=0.34 cfs 0.026 af
12.0" Round Culvert n=0.012 L=28.0' S=0.0075 '/' Outflow=0.34 cfs 0.026 af

Pond CB2: Existing Catch Basin 2 Peak Elev=19.44' Inflow=0.48 cfs 0.038 af
12.0" Round Culvert n=0.012 L=36.0' S=0.0078 '/' Outflow=0.48 cfs 0.038 af

Total Runoff Area = 5.186 ac Runoff Volume = 1.933 af Average Runoff Depth = 4.47"
79.62% Pervious = 4.129 ac 20.38% Impervious = 1.057 ac

Summary for Subcatchment 1S: Subcatchment 1S

Runoff = 8.48 cfs @ 12.23 hrs, Volume= 0.831 af, Depth= 3.86"
Routed to Pond 1P : Low Area

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR STORM Rainfall=8.54"

Area (sf)	CN	Description
37,341	70	1/2 acre lots, 25% imp, HSG B
1,147	98	Roofs, HSG B
14,520	61	>75% Grass cover, Good, HSG B
59,461	55	Woods, Good, HSG B
112,469	61	Weighted Average
101,987		90.68% Pervious Area
10,482		9.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	15	0.1000	0.24		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.71"
7.2	35	0.0308	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.71"
0.6	30	0.0308	0.88		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	25	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.1	92	0.0217	0.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.9	51	0.0392	0.99		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.5	74	0.0270	0.82		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.3	99	0.0202	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
15.9	421	Total			

Summary for Subcatchment 2S: Subcatchment 2S

Runoff = 3.10 cfs @ 12.09 hrs, Volume= 0.226 af, Depth= 5.17"
Routed to Pond 2P : Existing Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR STORM Rainfall=8.54"

Area (sf)	CN	Description
7,719	98	Paved parking, HSG B
815	98	Roofs, HSG B
9,211	61	>75% Grass cover, Good, HSG B
1,310	55	Woods, Good, HSG B
3,739	48	Brush, Good, HSG B
22,794	72	Weighted Average
14,260		62.56% Pervious Area
8,534		37.44% Impervious Area

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

Summary for Subcatchment 3S: Subcatchment 3S

Runoff = 9.42 cfs @ 12.16 hrs, Volume= 0.813 af, Depth= 4.93"
Routed to Reach AP1 : Analysis Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR STORM Rainfall=8.54"

Area (sf)	CN	Description
17,892	55	Woods, Good, HSG B
8,500	98	Paved roads w/curbs & sewers, HSG B
59,729	70	1/2 acre lots, 25% imp, HSG B
86,121	70	Weighted Average
62,689		72.79% Pervious Area
23,432		27.21% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.71"
0.7	55	0.0364	1.34		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	59	0.0476	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	208	0.0260	3.27		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	33	0.0303	1.22		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.3	86	0.0233	1.07		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	52	0.0385	0.98		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.4	69	0.0290	0.85		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.7	612	Total			

Summary for Subcatchment 4S: Subcatchment 4S

Runoff = 0.34 cfs @ 12.09 hrs, Volume= 0.026 af, Depth= 7.22"
Routed to Pond CB1 : Existing Catch Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR STORM Rainfall=8.54"

Area (sf)	CN	Description
1,460	98	Paved roads w/curbs & sewers, HSG B
437	61	>75% Grass cover, Good, HSG B
1,897	89	Weighted Average
437		23.04% Pervious Area
1,460		76.96% Impervious Area

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

Summary for Subcatchment 5S: Subcatchment 5S

Runoff = 0.48 cfs @ 12.09 hrs, Volume= 0.038 af, Depth= 7.46"
Routed to Pond CB2 : Existing Catch Basin 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR STORM Rainfall=8.54"

Area (sf)	CN	Description
2,125	98	Paved roads w/curbs & sewers, HSG B
508	61	>75% Grass cover, Good, HSG B
2,633	91	Weighted Average
508		19.29% Pervious Area
2,125		80.71% Impervious Area

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

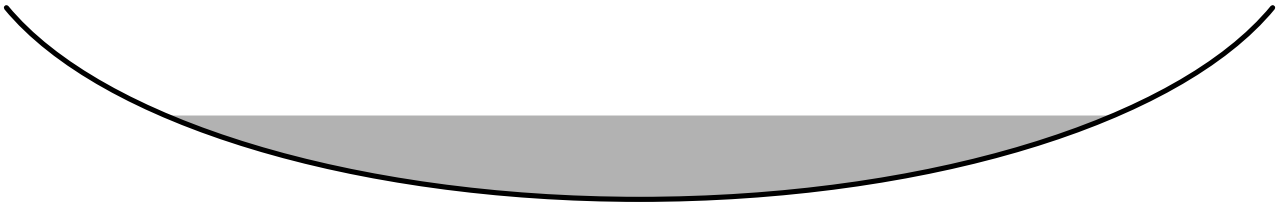
Summary for Reach 1R: Overland Flow

Inflow Area = 0.523 ac, 37.44% Impervious, Inflow Depth = 4.17" for 50-YR STORM event
Inflow = 2.05 cfs @ 12.18 hrs, Volume= 0.182 af
Outflow = 2.00 cfs @ 12.23 hrs, Volume= 0.182 af, Atten= 3%, Lag= 2.6 min
Routed to Pond 1P : Low Area

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 0.41 fps, Min. Travel Time= 3.2 min
Avg. Velocity = 0.11 fps, Avg. Travel Time= 11.6 min

Peak Storage= 385 cf @ 12.23 hrs
Average Depth at Peak Storage= 0.22' , Surface Width= 33.04'
Bank-Full Depth= 0.50' Flow Area= 16.7 sf, Capacity= 12.03 cfs

50.00' x 0.50' deep Parabolic Channel, n= 0.070 Medium-dense brush, winter
Length= 80.0' Slope= 0.0050 '/'
Inlet Invert= 20.50', Outlet Invert= 20.10'



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Summary for Reach AP1: Analysis Point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 5.082 ac, 19.17% Impervious, Inflow Depth = 3.36" for 50-YR STORM event
Inflow = 15.16 cfs @ 12.26 hrs, Volume= 1.424 af
Outflow = 15.16 cfs @ 12.26 hrs, Volume= 1.424 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3

Summary for Reach AP2: Analysis Point 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.104 ac, 79.14% Impervious, Inflow Depth = 7.36" for 50-YR STORM event
Inflow = 0.81 cfs @ 12.09 hrs, Volume= 0.064 af
Outflow = 0.81 cfs @ 12.09 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3

Summary for Pond 1P: Low Area

[63] Warning: Exceeded Reach 1R INLET depth by 0.01' @ 12.40 hrs
[64] Warning: Exceeded Reach 1R outlet bank by 0.11' @ 12.34 hrs

Inflow Area = 3.105 ac, 14.06% Impervious, Inflow Depth = 3.91" for 50-YR STORM event
Inflow = 10.48 cfs @ 12.23 hrs, Volume= 1.013 af
Outflow = 8.93 cfs @ 12.34 hrs, Volume= 1.013 af, Atten= 15%, Lag= 7.1 min
Discarded = 0.38 cfs @ 12.34 hrs, Volume= 0.401 af
Primary = 8.54 cfs @ 12.34 hrs, Volume= 0.612 af
Routed to Reach AP1 : Analysis Point 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 20.71' @ 12.34 hrs Surf.Area= 14,054 sf Storage= 8,481 cf

Plug-Flow detention time= 92.1 min calculated for 1.013 af (100% of inflow)

Center-of-Mass det. time= 92.0 min (935.3 - 843.4)

Volume	Invert	Avail.Storage	Storage Description
#1	19.50'	26,604 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)
19.50	1,371	213.0	0	0	1,371
20.00	3,961	394.0	1,277	1,277	10,115
20.50	14,054	688.0	4,246	5,523	35,431
22.00	14,054	688.0	21,081	26,604	36,463

Device	Routing	Invert	Outlet Devices
#1	Primary	20.40'	**20.0' long x 4.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32
#2	Discarded	19.50'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 16.67' Phase-In= 0.10'

Discarded OutFlow Max=0.38 cfs @ 12.34 hrs HW=20.71' (Free Discharge)
└**2=Exfiltration** (Controls 0.38 cfs)

Primary OutFlow Max=8.51 cfs @ 12.34 hrs HW=20.71' TW=0.00' (Dynamic Tailwater)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 8.51 cfs @ 1.37 fps)

Summary for Pond 2P: Existing Pond

Pond areas, elevations, and culvert parameters are assumed.

Inflow Area = 0.523 ac, 37.44% Impervious, Inflow Depth = 5.17" for 50-YR STORM event
Inflow = 3.10 cfs @ 12.09 hrs, Volume= 0.226 af
Outflow = 2.14 cfs @ 12.18 hrs, Volume= 0.226 af, Atten= 31%, Lag= 5.5 min
Discarded = 0.08 cfs @ 12.18 hrs, Volume= 0.044 af
Primary = 2.05 cfs @ 12.18 hrs, Volume= 0.182 af
Routed to Reach 1R : Overland Flow

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 21.81' @ 12.18 hrs Surf.Area= 2,337 sf Storage= 1,418 cf

Plug-Flow detention time= 19.8 min calculated for 0.225 af (100% of inflow)
Center-of-Mass det. time= 19.9 min (837.8 - 817.8)

Volume	Invert	Avail.Storage	Storage Description
#1	21.00'	1,882 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)
21.00	1,209	140.0	0	0	1,209
22.00	2,647	210.0	1,882	1,882	3,166

Device	Routing	Invert	Outlet Devices
#1	Discarded	21.00'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 20.00' Phase-In= 0.10'
#2	Primary	21.00'	**15.0" Round Culvert** L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 21.00' / 20.50' S= 0.0167 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Discarded OutFlow Max=0.08 cfs @ 12.18 hrs HW=21.81' (Free Discharge)
└─**1=Exfiltration** (Controls 0.08 cfs)

Primary OutFlow Max=2.04 cfs @ 12.18 hrs HW=21.81' TW=20.71' (Dynamic Tailwater)
└─**2=Culvert** (Inlet Controls 2.04 cfs @ 2.42 fps)

Summary for Pond CB1: Existing Catch Basin 1

End invert of pipe is assumed as inverts have not been measured on downstream structure

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[58] Hint: Peaked 0.30' above defined flood level

Inflow Area = 0.044 ac, 76.96% Impervious, Inflow Depth = 7.22" for 50-YR STORM event
Inflow = 0.34 cfs @ 12.09 hrs, Volume= 0.026 af
Outflow = 0.34 cfs @ 12.09 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.0 min
Primary = 0.34 cfs @ 12.09 hrs, Volume= 0.026 af
Routed to Reach AP2 : Analysis Point 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 23.71' @ 12.09 hrs
Flood Elev= 23.41'

Device	Routing	Invert	Outlet Devices
#1	Primary	23.41'	**12.0" Round Culvert** L= 28.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 23.41' / 23.20' S= 0.0075 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.33 cfs @ 12.09 hrs HW=23.71' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.33 cfs @ 2.50 fps)

Summary for Pond CB2: Existing Catch Basin 2

End invert of pipe is assumed as inverts have not been measured on downstream structure

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Inflow Area = 0.060 ac, 80.71% Impervious, Inflow Depth = 7.46" for 50-YR STORM event
Inflow = 0.48 cfs @ 12.09 hrs, Volume= 0.038 af
Outflow = 0.48 cfs @ 12.09 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min
Primary = 0.48 cfs @ 12.09 hrs, Volume= 0.038 af
Routed to Reach AP2 : Analysis Point 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 19.44' @ 12.09 hrs
Flood Elev= 22.23'

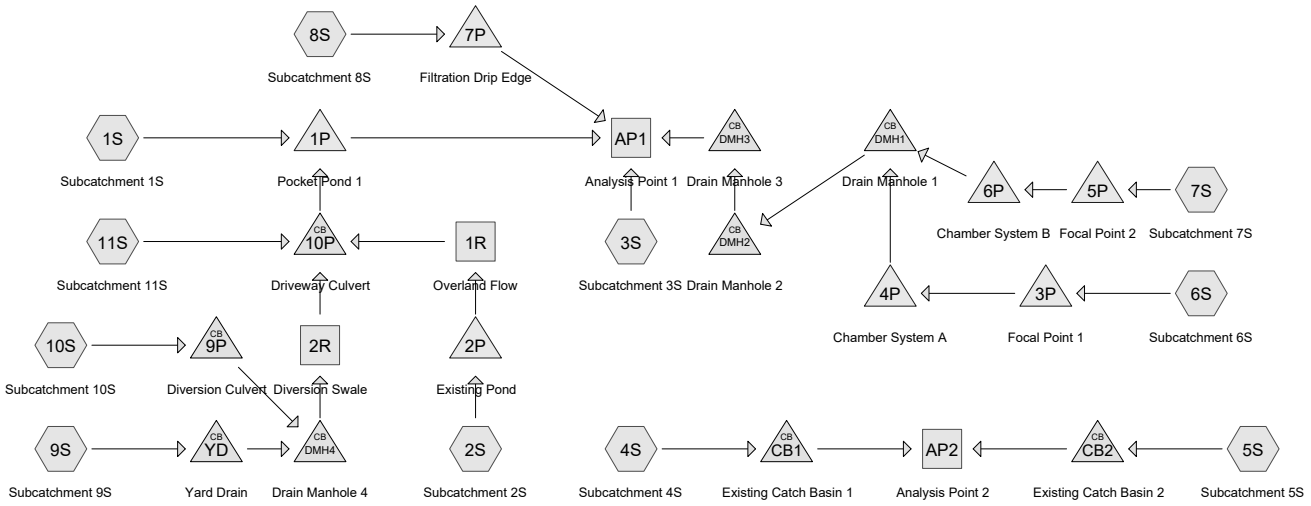
Device	Routing	Invert	Outlet Devices
#1	Primary	19.08'	**12.0" Round Culvert** L= 36.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 19.08' / 18.80' S= 0.0078 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

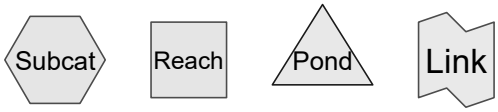
Primary OutFlow Max=0.46 cfs @ 12.09 hrs HW=19.43' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.46 cfs @ 2.79 fps)

APPENDIX II

PROPOSED CONDITIONS DRAINAGE ANALYSIS

Summary 2 YEAR
Complete 10 YEAR
Summary 25 YEAR
Complete 50 YEAR





Routing Diagram for 25071.2-PROPOSED
Prepared by Jones & Beach Engineers Inc, Printed 9/22/2026
HydroCAD® 10.20-6a s/n 00762 © 2024 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.228	70	1/2 acre lots, 25% imp, HSG B (3S, 10S)
0.908	61	>75% Grass cover, Good, HSG B (1S, 2S, 3S, 4S, 5S, 6S, 7S, 9S, 10S, 11S)
0.086	48	Brush, Good, HSG B (2S)
0.421	98	Paved parking, HSG B (2S, 6S, 7S)
0.299	98	Paved roads w/curbs & sewers, HSG B (1S, 3S, 4S, 5S)
0.336	98	Roofs, HSG B (2S, 6S, 8S, 10S)
0.034	98	Water Surface, 0% imp, HSG B (8S)
0.874	55	Woods, Good, HSG B (2S, 3S, 9S, 10S, 11S)
5.186	**71**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
5.186	HSG B	1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 9S, 10S, 11S
0.000	HSG C	
0.000	HSG D	
0.000	Other	
5.186		**TOTAL AREA**

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Subcatchment1S Runoff Area=6,934 sf 5.97% Impervious Runoff Depth=0.76"
Tc=6.0 min CN=63 Runoff=0.12 cfs 0.010 af

Subcatchment2S: Subcatchment2S Runoff Area=22,794 sf 37.44% Impervious Runoff Depth=1.26"
Tc=6.0 min CN=72 Runoff=0.73 cfs 0.055 af

Subcatchment3S: Subcatchment3S Runoff Area=81,653 sf 28.56% Impervious Runoff Depth=1.14"
Flow Length=599' Tc=10.5 min CN=70 Runoff=1.99 cfs 0.178 af

Subcatchment4S: Subcatchment4S Runoff Area=1,897 sf 80.02% Impervious Runoff Depth=2.74"
Tc=6.0 min CN=91 Runoff=0.13 cfs 0.010 af

Subcatchment5S: Subcatchment5S Runoff Area=2,929 sf 83.27% Impervious Runoff Depth=2.84"
Tc=6.0 min CN=92 Runoff=0.21 cfs 0.016 af

Subcatchment6S: Subcatchment6S Runoff Area=10,789 sf 86.15% Impervious Runoff Depth=2.94"
Tc=6.0 min CN=93 Runoff=0.80 cfs 0.061 af

Subcatchment7S: Subcatchment7S Runoff Area=7,556 sf 82.50% Impervious Runoff Depth=2.84"
Tc=6.0 min CN=92 Runoff=0.55 cfs 0.041 af

Subcatchment8S: Subcatchment8S Runoff Area=9,264 sf 83.81% Impervious Runoff Depth=3.48"
Tc=6.0 min CN=98 Runoff=0.75 cfs 0.062 af

Subcatchment9S: Subcatchment9S Runoff Area=3,563 sf 0.00% Impervious Runoff Depth=0.50"
Flow Length=79' Tc=8.0 min CN=57 Runoff=0.03 cfs 0.003 af

Subcatchment10S: Subcatchment10S Runoff Area=66,877 sf 16.06% Impervious Runoff Depth=0.92"
Flow Length=284' Tc=12.5 min CN=66 Runoff=1.16 cfs 0.117 af

Subcatchment11S: Subcatchment11S Runoff Area=11,665 sf 0.00% Impervious Runoff Depth=0.50"
Flow Length=120' Tc=8.0 min CN=57 Runoff=0.09 cfs 0.011 af

Reach 1R: Overland Flow Avg. Flow Depth=0.09' Max Vel=0.26 fps Inflow=0.36 cfs 0.034 af
n=0.070 L=66.0' S=0.0061 '/' Capacity=13.24 cfs Outflow=0.35 cfs 0.034 af

Reach 2R: Diversion Swale Avg. Flow Depth=0.31' Max Vel=1.31 fps Inflow=1.18 cfs 0.121 af
n=0.030 L=60.0' S=0.0050 '/' Capacity=12.47 cfs Outflow=1.18 cfs 0.121 af

Reach AP1: Analysis Point 1 Inflow=1.99 cfs 0.178 af
Outflow=1.99 cfs 0.178 af

Reach AP2: Analysis Point 2 Inflow=0.35 cfs 0.026 af
Outflow=0.35 cfs 0.026 af

Pond 1P: Pocket Pond 1 Peak Elev=19.80' Storage=3,054 cf Inflow=1.64 cfs 0.176 af
Discarded=0.25 cfs 0.176 af Primary=0.00 cfs 0.000 af Outflow=0.25 cfs 0.176 af

Pond 2P: Existing Pond Peak Elev=21.31' Storage=436 cf Inflow=0.73 cfs 0.055 af
Discarded=0.05 cfs 0.021 af Primary=0.36 cfs 0.034 af Outflow=0.41 cfs 0.055 af

Pond 3P: Focal Point 1 Peak Elev=22.58' Storage=59 cf Inflow=0.80 cfs 0.061 af
Outflow=0.80 cfs 0.061 af

Pond 4P: Chamber System A Peak Elev=19.76' Storage=968 cf Inflow=0.80 cfs 0.061 af
Discarded=0.15 cfs 0.061 af Primary=0.00 cfs 0.000 af Outflow=0.15 cfs 0.061 af

Pond 5P: Focal Point 2 Peak Elev=23.02' Storage=23 cf Inflow=0.55 cfs 0.041 af
Outflow=0.55 cfs 0.041 af

Pond 6P: Chamber System B Peak Elev=19.75' Storage=614 cf Inflow=0.55 cfs 0.041 af
Discarded=0.11 cfs 0.041 af Primary=0.00 cfs 0.000 af Outflow=0.11 cfs 0.041 af

Pond 7P: Filtration Drip Edge Peak Elev=20.82' Storage=960 cf Inflow=0.75 cfs 0.062 af
Discarded=0.27 cfs 0.051 af Primary=0.00 cfs 0.000 af Outflow=0.27 cfs 0.051 af

Pond 9P: Diversion Culvert Peak Elev=21.75' Inflow=1.16 cfs 0.117 af
18.0" Round Culvert n=0.013 L=20.0' S=0.0100 '/' Outflow=1.16 cfs 0.117 af

Pond 10P: Driveway Culvert Peak Elev=20.76' Inflow=1.56 cfs 0.166 af
18.0" Round Culvert n=0.013 L=36.0' S=0.0056 '/' Outflow=1.56 cfs 0.166 af

Pond CB1: Existing Catch Basin 1 Peak Elev=23.60' Inflow=0.13 cfs 0.010 af
12.0" Round Culvert n=0.012 L=28.0' S=0.0075 '/' Outflow=0.13 cfs 0.010 af

Pond CB2: Existing Catch Basin 2 Peak Elev=19.31' Inflow=0.21 cfs 0.016 af
12.0" Round Culvert n=0.012 L=36.0' S=0.0078 '/' Outflow=0.21 cfs 0.016 af

Pond DMH1: Drain Manhole 1 Peak Elev=20.15' Inflow=0.00 cfs 0.000 af
12.0" Round Culvert n=0.013 L=58.0' S=0.0052 '/' Outflow=0.00 cfs 0.000 af

Pond DMH2: Drain Manhole 2 Peak Elev=19.75' Inflow=0.00 cfs 0.000 af
12.0" Round Culvert n=0.013 L=140.0' S=0.0050 '/' Outflow=0.00 cfs 0.000 af

Pond DMH3: Drain Manhole 3 Peak Elev=18.95' Inflow=0.00 cfs 0.000 af
12.0" Round Culvert n=0.013 L=24.0' S=0.0062 '/' Outflow=0.00 cfs 0.000 af

Pond DMH4: Drain Manhole 4 Peak Elev=21.46' Inflow=1.18 cfs 0.121 af
18.0" Round Culvert n=0.013 L=92.0' S=0.0054 '/' Outflow=1.18 cfs 0.121 af

Pond YD: Yard Drain Peak Elev=21.78' Inflow=0.03 cfs 0.003 af
12.0" Round Culvert n=0.013 L=28.0' S=0.0107 '/' Outflow=0.03 cfs 0.003 af

Total Runoff Area = 5.186 ac Runoff Volume = 0.564 af Average Runoff Depth = 1.31"
68.90% Pervious = 3.574 ac 31.10% Impervious = 1.613 ac

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Subcatchment1S Runoff Area=6,934 sf 5.97% Impervious Runoff Depth=1.92"
Tc=6.0 min CN=63 Runoff=0.34 cfs 0.025 af

Subcatchment2S: Subcatchment2S Runoff Area=22,794 sf 37.44% Impervious Runoff Depth=2.69"
Tc=6.0 min CN=72 Runoff=1.62 cfs 0.117 af

Subcatchment3S: Subcatchment3S Runoff Area=81,653 sf 28.56% Impervious Runoff Depth=2.51"
Flow Length=599' Tc=10.5 min CN=70 Runoff=4.66 cfs 0.393 af

Subcatchment4S: Subcatchment4S Runoff Area=1,897 sf 80.02% Impervious Runoff Depth=4.60"
Tc=6.0 min CN=91 Runoff=0.22 cfs 0.017 af

Subcatchment5S: Subcatchment5S Runoff Area=2,929 sf 83.27% Impervious Runoff Depth=4.71"
Tc=6.0 min CN=92 Runoff=0.34 cfs 0.026 af

Subcatchment6S: Subcatchment6S Runoff Area=10,789 sf 86.15% Impervious Runoff Depth=4.82"
Tc=6.0 min CN=93 Runoff=1.27 cfs 0.099 af

Subcatchment7S: Subcatchment7S Runoff Area=7,556 sf 82.50% Impervious Runoff Depth=4.71"
Tc=6.0 min CN=92 Runoff=0.88 cfs 0.068 af

Subcatchment8S: Subcatchment8S Runoff Area=9,264 sf 83.81% Impervious Runoff Depth=5.39"
Tc=6.0 min CN=98 Runoff=1.15 cfs 0.096 af

Subcatchment9S: Subcatchment9S Runoff Area=3,563 sf 0.00% Impervious Runoff Depth=1.46"
Flow Length=79' Tc=8.0 min CN=57 Runoff=0.11 cfs 0.010 af

Subcatchment10S: Subcatchment10S Runoff Area=66,877 sf 16.06% Impervious Runoff Depth=2.17"
Flow Length=284' Tc=12.5 min CN=66 Runoff=3.03 cfs 0.278 af

Subcatchment11S: Subcatchment11S Runoff Area=11,665 sf 0.00% Impervious Runoff Depth=1.46"
Flow Length=120' Tc=8.0 min CN=57 Runoff=0.37 cfs 0.032 af

Reach 1R: Overland Flow Avg. Flow Depth=0.15' Max Vel=0.36 fps Inflow=0.99 cfs 0.086 af
n=0.070 L=66.0' S=0.0061 '/' Capacity=13.24 cfs Outflow=0.97 cfs 0.086 af

Reach 2R: Diversion Swale Avg. Flow Depth=0.51' Max Vel=1.73 fps Inflow=3.13 cfs 0.288 af
n=0.030 L=60.0' S=0.0050 '/' Capacity=12.47 cfs Outflow=3.14 cfs 0.288 af

Reach AP1: Analysis Point 1 Inflow=4.72 cfs 0.540 af
Outflow=4.72 cfs 0.540 af

Reach AP2: Analysis Point 2 Inflow=0.56 cfs 0.043 af
Outflow=0.56 cfs 0.043 af

Pond 1P: Pocket Pond 1 Peak Elev=20.71' Storage=6,020 cf Inflow=4.62 cfs 0.432 af
Discarded=0.40 cfs 0.291 af Primary=1.73 cfs 0.141 af Outflow=2.14 cfs 0.432 af

Pond 2P: Existing Pond Peak Elev=21.54' Storage=831 cf Inflow=1.62 cfs 0.117 af
Discarded=0.06 cfs 0.031 af Primary=0.99 cfs 0.086 af Outflow=1.06 cfs 0.117 af

Pond 3P: Focal Point 1 Peak Elev=22.63' Storage=64 cf Inflow=1.27 cfs 0.099 af
Outflow=1.27 cfs 0.099 af

Pond 4P: Chamber System A Peak Elev=20.59' Storage=1,629 cf Inflow=1.27 cfs 0.099 af
Discarded=0.20 cfs 0.097 af Primary=0.08 cfs 0.003 af Outflow=0.28 cfs 0.099 af

Pond 5P: Focal Point 2 Peak Elev=23.05' Storage=24 cf Inflow=0.88 cfs 0.068 af
Outflow=0.88 cfs 0.068 af

Pond 6P: Chamber System B Peak Elev=20.36' Storage=1,103 cf Inflow=0.88 cfs 0.068 af
Discarded=0.15 cfs 0.068 af Primary=0.00 cfs 0.000 af Outflow=0.15 cfs 0.068 af

Pond 7P: Filtration Drip Edge Peak Elev=21.25' Storage=1,219 cf Inflow=1.15 cfs 0.096 af
Discarded=0.31 cfs 0.081 af Primary=0.38 cfs 0.004 af Outflow=0.69 cfs 0.085 af

Pond 9P: Diversion Culvert Peak Elev=22.21' Inflow=3.03 cfs 0.278 af
18.0" Round Culvert n=0.013 L=20.0' S=0.0100 '/' Outflow=3.03 cfs 0.278 af

Pond 10P: Driveway Culvert Peak Elev=21.30' Inflow=4.39 cfs 0.406 af
18.0" Round Culvert n=0.013 L=36.0' S=0.0056 '/' Outflow=4.39 cfs 0.406 af

Pond CB1: Existing Catch Basin 1 Peak Elev=23.65' Inflow=0.22 cfs 0.017 af
12.0" Round Culvert n=0.012 L=28.0' S=0.0075 '/' Outflow=0.22 cfs 0.017 af

Pond CB2: Existing Catch Basin 2 Peak Elev=19.38' Inflow=0.34 cfs 0.026 af
12.0" Round Culvert n=0.012 L=36.0' S=0.0078 '/' Outflow=0.34 cfs 0.026 af

Pond DMH1: Drain Manhole 1 Peak Elev=20.31' Inflow=0.08 cfs 0.003 af
12.0" Round Culvert n=0.013 L=58.0' S=0.0052 '/' Outflow=0.08 cfs 0.003 af

Pond DMH2: Drain Manhole 2 Peak Elev=19.91' Inflow=0.08 cfs 0.003 af
12.0" Round Culvert n=0.013 L=140.0' S=0.0050 '/' Outflow=0.08 cfs 0.003 af

Pond DMH3: Drain Manhole 3 Peak Elev=19.11' Inflow=0.08 cfs 0.003 af
12.0" Round Culvert n=0.013 L=24.0' S=0.0062 '/' Outflow=0.08 cfs 0.003 af

Pond DMH4: Drain Manhole 4 Peak Elev=21.88' Inflow=3.13 cfs 0.288 af
18.0" Round Culvert n=0.013 L=92.0' S=0.0054 '/' Outflow=3.13 cfs 0.288 af

Pond YD: Yard Drain Peak Elev=21.95' Inflow=0.11 cfs 0.010 af
12.0" Round Culvert n=0.013 L=28.0' S=0.0107 '/' Outflow=0.11 cfs 0.010 af

Total Runoff Area = 5.186 ac Runoff Volume = 1.162 af Average Runoff Depth = 2.69"
68.90% Pervious = 3.574 ac 31.10% Impervious = 1.613 ac

Summary for Subcatchment 1S: Subcatchment 1S

Runoff = 0.34 cfs @ 12.10 hrs, Volume= 0.025 af, Depth= 1.92"
Routed to Pond 1P : Pocket Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR STORM Rainfall=5.63"

Area (sf)	CN	Description
6,520	61	>75% Grass cover, Good, HSG B
414	98	Paved roads w/curbs & sewers, HSG B
6,934	63	Weighted Average
6,520		94.03% Pervious Area
414		5.97% Impervious Area

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

Summary for Subcatchment 2S: Subcatchment 2S

Runoff = 1.62 cfs @ 12.09 hrs, Volume= 0.117 af, Depth= 2.69"
Routed to Pond 2P : Existing Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR STORM Rainfall=5.63"

Area (sf)	CN	Description
7,719	98	Paved parking, HSG B
815	98	Roofs, HSG B
9,211	61	>75% Grass cover, Good, HSG B
1,310	55	Woods, Good, HSG B
3,739	48	Brush, Good, HSG B
22,794	72	Weighted Average
14,260		62.56% Pervious Area
8,534		37.44% Impervious Area

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

Summary for Subcatchment 3S: Subcatchment 3S

Runoff = 4.66 cfs @ 12.15 hrs, Volume= 0.393 af, Depth= 2.51"
Routed to Reach AP1 : Analysis Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR STORM Rainfall=5.63"

Area (sf)	CN	Description
12,438	55	Woods, Good, HSG B
8,649	98	Paved roads w/curbs & sewers, HSG B
58,674	70	1/2 acre lots, 25% imp, HSG B
1,892	61	>75% Grass cover, Good, HSG B
81,653	70	Weighted Average
58,336		71.44% Pervious Area
23,318		28.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.71"
0.7	55	0.0364	1.34		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	59	0.0476	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	208	0.0260	3.27		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	33	0.0303	1.22		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.3	86	0.0233	1.07		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	50	0.0385	0.98		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	58	0.0090	3.35	16.73	**Trap/Vee/Rect Channel Flow, Diversion Swale** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.030 Earth, grassed & winding
10.5	599	Total			

Summary for Subcatchment 4S: Subcatchment 4S

Runoff = 0.22 cfs @ 12.09 hrs, Volume= 0.017 af, Depth= 4.60"
Routed to Pond CB1 : Existing Catch Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR STORM Rainfall=5.63"

Area (sf)	CN	Description
1,518	98	Paved roads w/curbs & sewers, HSG B
379	61	>75% Grass cover, Good, HSG B
1,897	91	Weighted Average
379		19.98% Pervious Area
1,518		80.02% Impervious Area

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

Summary for Subcatchment 5S: Subcatchment 5S

Runoff = 0.34 cfs @ 12.09 hrs, Volume= 0.026 af, Depth= 4.71"
Routed to Pond CB2 : Existing Catch Basin 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR STORM Rainfall=5.63"

Area (sf)	CN	Description
2,439	98	Paved roads w/curbs & sewers, HSG B
490	61	>75% Grass cover, Good, HSG B
2,929	92	Weighted Average
490		16.73% Pervious Area
2,439		83.27% Impervious Area

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

Summary for Subcatchment 6S: Subcatchment 6S

Runoff = 1.27 cfs @ 12.09 hrs, Volume= 0.099 af, Depth= 4.82"
Routed to Pond 3P : Focal Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR STORM Rainfall=5.63"

Area (sf)	CN	Description
4,405	98	Paved parking, HSG B
1,494	61	>75% Grass cover, Good, HSG B
4,890	98	Roofs, HSG B
10,789	93	Weighted Average
1,494		13.85% Pervious Area
9,295		86.15% Impervious Area

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

Summary for Subcatchment 7S: Subcatchment 7S

Runoff = 0.88 cfs @ 12.09 hrs, Volume= 0.068 af, Depth= 4.71"
Routed to Pond 5P : Focal Point 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR STORM Rainfall=5.63"

Area (sf)	CN	Description
6,234	98	Paved parking, HSG B
1,322	61	>75% Grass cover, Good, HSG B
7,556	92	Weighted Average
1,322		17.50% Pervious Area
6,234		82.50% Impervious Area

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

Summary for Subcatchment 8S: Subcatchment 8S

Runoff = 1.15 cfs @ 12.09 hrs, Volume= 0.096 af, Depth= 5.39"
Routed to Pond 7P : Filtration Drip Edge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR STORM Rainfall=5.63"

Area (sf)	CN	Description
7,764	98	Roofs, HSG B
1,500	98	Water Surface, 0% imp, HSG B
9,264	98	Weighted Average
1,500		16.19% Pervious Area
7,764		83.81% Impervious Area

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

Summary for Subcatchment 9S: Subcatchment 9S

Runoff = 0.11 cfs @ 12.13 hrs, Volume= 0.010 af, Depth= 1.46"
Routed to Pond YD : Yard Drain

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR STORM Rainfall=5.63"

Area (sf)	CN	Description
2,652	55	Woods, Good, HSG B
911	61	>75% Grass cover, Good, HSG B
3,563	57	Weighted Average
3,563		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	14	0.0500	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.71"
3.3	28	0.1429	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.71"
1.6	8	0.0714	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.71"
0.1	6	0.0714	1.87		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	23	0.0100	3.53	17.63	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.030 Earth, grassed & winding
8.0	79	Total			

Summary for Subcatchment 10S: Subcatchment 10S

Intent of final Tc segment is to demonstrate adequacy of provided diversion swale dimensions.

Runoff = 3.03 cfs @ 12.18 hrs, Volume= 0.278 af, Depth= 2.17"
Routed to Pond 9P : Diversion Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR STORM Rainfall=5.63"

Area (sf)	CN	Description
14,284	55	Woods, Good, HSG B
1,147	98	Roofs, HSG B
38,372	70	1/2 acre lots, 25% imp, HSG B
13,074	61	>75% Grass cover, Good, HSG B
66,877	66	Weighted Average
56,137		83.94% Pervious Area
10,740		16.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	15	0.1000	0.24		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.71"
7.2	35	0.0308	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.71"
0.6	30	0.0308	0.88		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	25	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.1	92	0.0217	0.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.9	51	0.0392	0.99		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	11	0.0270	0.82		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	16	0.0270	1.15		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.0	9	0.0160	4.46	22.30	**Trap/Vee/Rect Channel Flow, Diversion Swale Segment** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.030 Earth, grassed & winding
12.5	284	Total			

Summary for Subcatchment 11S: Subcatchment 11S

Runoff = 0.37 cfs @ 12.13 hrs, Volume= 0.032 af, Depth= 1.46"
Routed to Pond 10P : Driveway Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR STORM Rainfall=5.63"

Area (sf)	CN	Description
7,405	55	Woods, Good, HSG B
4,260	61	>75% Grass cover, Good, HSG B
11,665	57	Weighted Average
11,665		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	15	0.0667	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.71"
2.5	22	0.1818	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.71"
1.9	13	0.1176	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.71"
0.4	38	0.1176	1.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	32	0.0469	1.08		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.0	120	Total			

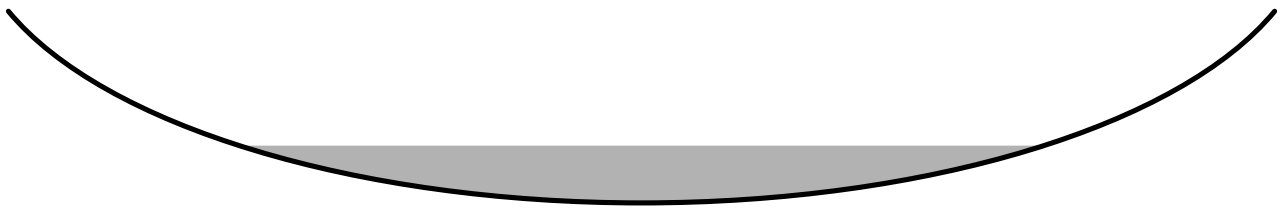
Summary for Reach 1R: Overland Flow

Inflow Area = 0.523 ac, 37.44% Impervious, Inflow Depth = 1.98" for 10-YR STORM event
Inflow = 0.99 cfs @ 12.20 hrs, Volume= 0.086 af
Outflow = 0.97 cfs @ 12.25 hrs, Volume= 0.086 af, Atten= 2%, Lag= 2.7 min
Routed to Pond 10P : Driveway Culvert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 0.36 fps, Min. Travel Time= 3.1 min
Avg. Velocity = 0.10 fps, Avg. Travel Time= 10.6 min

Peak Storage= 180 cf @ 12.25 hrs
Average Depth at Peak Storage= 0.15' , Surface Width= 27.35'
Bank-Full Depth= 0.50' Flow Area= 16.7 sf, Capacity= 13.24 cfs

50.00' x 0.50' deep Parabolic Channel, n= 0.070 Medium-dense brush, winter
Length= 66.0' Slope= 0.0061 '/'
Inlet Invert= 20.50', Outlet Invert= 20.10'



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Summary for Reach 2R: Diversion Swale

[90] Warning: Qout>Qin may require smaller dt or Finer Routing

Inflow Area = 1.617 ac, 15.25% Impervious, Inflow Depth = 2.13" for 10-YR STORM event
Inflow = 3.13 cfs @ 12.18 hrs, Volume= 0.288 af
Outflow = 3.14 cfs @ 12.19 hrs, Volume= 0.288 af, Atten= 0%, Lag= 0.5 min
Routed to Pond 10P : Driveway Culvert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 1.73 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 0.65 fps, Avg. Travel Time= 1.5 min

Peak Storage= 109 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.51' , Surface Width= 5.08'
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 12.47 cfs

2.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 8.00'
Length= 60.0' Slope= 0.0050 '/'
Inlet Invert= 20.40', Outlet Invert= 20.10'

‡

Summary for Reach AP1: Analysis Point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 5.076 ac, 29.99% Impervious, Inflow Depth = 1.28" for 10-YR STORM event
Inflow = 4.72 cfs @ 12.17 hrs, Volume= 0.540 af
Outflow = 4.72 cfs @ 12.17 hrs, Volume= 0.540 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3

Summary for Reach AP2: Analysis Point 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.111 ac, 81.99% Impervious, Inflow Depth = 4.66" for 10-YR STORM event
Inflow = 0.56 cfs @ 12.09 hrs, Volume= 0.043 af
Outflow = 0.56 cfs @ 12.09 hrs, Volume= 0.043 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3

Summary for Pond 1P: Pocket Pond 1

Inflow Area = 2.567 ac, 17.60% Impervious, Inflow Depth = 2.02" for 10-YR STORM event
Inflow = 4.62 cfs @ 12.19 hrs, Volume= 0.432 af
Outflow = 2.14 cfs @ 12.55 hrs, Volume= 0.432 af, Atten= 54%, Lag= 21.4 min
Discarded = 0.40 cfs @ 12.55 hrs, Volume= 0.291 af
Primary = 1.73 cfs @ 12.55 hrs, Volume= 0.141 af
Routed to Reach AP1 : Analysis Point 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 20.71' @ 12.55 hrs Surf.Area= 3,631 sf Storage= 6,020 cf

Plug-Flow detention time= 133.8 min calculated for 0.431 af (100% of inflow)
Center-of-Mass det. time= 134.0 min (987.4 - 853.4)

Volume	Invert	Avail.Storage	Storage Description
#1	18.50'	11,425 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)
18.50	1,412	218.0	0	0	1,412
18.75	2,096	241.0	436	436	2,254
20.00	3,067	273.0	3,208	3,643	3,602
22.00	4,778	312.0	7,782	11,425	5,509

Device	Routing	Invert	Outlet Devices
#1	Primary	20.00'	**18.0" Round Culvert** L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 20.00' / 19.90' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Discarded	18.50'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 18.17' Phase-In= 0.10'

Discarded OutFlow Max=0.40 cfs @ 12.55 hrs HW=20.71' (Free Discharge)
└─**2=Exfiltration** (Controls 0.40 cfs)

Primary OutFlow Max=1.73 cfs @ 12.55 hrs HW=20.71' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 1.73 cfs @ 3.08 fps)

Summary for Pond 2P: Existing Pond

Pond areas, elevations, and culvert parameters are assumed.

Inflow Area = 0.523 ac, 37.44% Impervious, Inflow Depth = 2.69" for 10-YR STORM event
Inflow = 1.62 cfs @ 12.09 hrs, Volume= 0.117 af
Outflow = 1.06 cfs @ 12.20 hrs, Volume= 0.117 af, Atten= 35%, Lag= 6.5 min
Discarded = 0.06 cfs @ 12.20 hrs, Volume= 0.031 af
Primary = 0.99 cfs @ 12.20 hrs, Volume= 0.086 af
Routed to Reach 1R : Overland Flow

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 21.54' @ 12.20 hrs Surf.Area= 1,912 sf Storage= 831 cf

Plug-Flow detention time= 24.3 min calculated for 0.117 af (100% of inflow)
Center-of-Mass det. time= 23.9 min (860.4 - 836.6)

Volume	Invert	Avail.Storage	Storage Description
#1	21.00'	1,882 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)
21.00	1,209	140.0	0	0	1,209
22.00	2,647	210.0	1,882	1,882	3,166

Device	Routing	Invert	Outlet Devices
#1	Discarded	21.00'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 20.00' Phase-In= 0.10'
#2	Primary	21.00'	**15.0" Round Culvert** L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 21.00' / 20.50' S= 0.0167 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Discarded OutFlow Max=0.06 cfs @ 12.20 hrs HW=21.54' (Free Discharge)
└─**1=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.99 cfs @ 12.20 hrs HW=21.54' TW=20.65' (Dynamic Tailwater)
└─**2=Culvert** (Inlet Controls 0.99 cfs @ 1.97 fps)

Summary for Pond 3P: Focal Point 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=5)

Inflow Area = 0.248 ac, 86.15% Impervious, Inflow Depth = 4.82" for 10-YR STORM event
Inflow = 1.27 cfs @ 12.09 hrs, Volume= 0.099 af
Outflow = 1.27 cfs @ 12.09 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.1 min
Primary = 1.27 cfs @ 12.09 hrs, Volume= 0.099 af
Routed to Pond 4P : Chamber System A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 22.63' @ 12.09 hrs Surf.Area= 145 sf Storage= 64 cf

Plug-Flow detention time= 1.1 min calculated for 0.099 af (100% of inflow)
Center-of-Mass det. time= 1.1 min (775.9 - 774.8)

Volume	Invert	Avail.Storage	Storage Description
#1	19.75'	18 cf	**4.00'W x 10.00'L x 2.25'H Focal Point Area 1** 90 cf Overall x 20.0% Voids
#2	22.00'	59 cf	**Surface Bowl (Prismatic)**Listed below (Recalc)
		77 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.00	40	0	0
22.75	118	59	59

Device	Routing	Invert	Outlet Devices
#1	Primary	19.25'	**12.0" Round Culvert** L= 9.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 19.25' / 19.20' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 3	19.75'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#3	Device 1	19.25'	**6.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	22.50'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.24 cfs @ 12.09 hrs HW=22.62' TW=19.82' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.24 cfs of 5.00 cfs potential flow)
  ├─**3=Orifice/Grate** (Passes 0.34 cfs of 2.02 cfs potential flow)
  │ └─**2=Exfiltration** (Exfiltration Controls 0.34 cfs)
  └─**4=Orifice/Grate** (Weir Controls 0.91 cfs @ 1.16 fps)

Summary for Pond 4P: Chamber System A

High existing grade = 21.0
SHWT depth = 34" per test pit #2
E(SHWT) = 18.17
Bottom of chambers = 19.2
However, credit is being taken for 12" stone layer underneath chambers down to 18.2. SHWT is modelled 6" lower as a factor of safety. Modelling the SHWT too close to the bottom of modelled storage renders inaccurate results.

Inflow Area = 0.248 ac, 86.15% Impervious, Inflow Depth = 4.82" for 10-YR STORM event
Inflow = 1.27 cfs @ 12.09 hrs, Volume= 0.099 af
Outflow = 0.28 cfs @ 12.54 hrs, Volume= 0.099 af, Atten= 78%, Lag= 26.9 min
Discarded = 0.20 cfs @ 12.54 hrs, Volume= 0.097 af
Primary = 0.08 cfs @ 12.54 hrs, Volume= 0.003 af
Routed to Pond DMH1 : Drain Manhole 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 20.59' @ 12.54 hrs Surf.Area= 2,160 sf Storage= 1,629 cf

Plug-Flow detention time= 88.2 min calculated for 0.099 af (100% of inflow)
Center-of-Mass det. time= 88.2 min (864.1 - 775.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	19.20'	0 cf	**16.00'W x 56.00'L x 2.67'H Field A** 2,392 cf Overall - 2,392 cf Embedded = 0 cf x 0.0% Voids
#2A	19.20'	1,600 cf	**Shea Leaching Chamber 8x14x2.7**x 8 Inside #1 Inside= 84.0"W x 24.0"H => 15.38 sf x 13.00'L = 200.0 cf Outside= 96.0"W x 32.0"H => 21.36 sf x 14.00'L = 299.0 cf 8 Chambers in 2 Rows
#3	18.19'	518 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		2,118 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
18.19	1,264	0.0	0	0
18.20	1,264	40.0	5	5
19.19	1,264	40.0	501	506
19.20	1,264	100.0	13	518

Device	Routing	Invert	Outlet Devices
#1	Primary	20.40'	**8.0" Round Culvert** L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 20.40' / 20.25' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Discarded	18.19'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 17.67' Phase-In= 0.10'

Discarded OutFlow Max=0.20 cfs @ 12.54 hrs HW=20.59' (Free Discharge)
└─**2=Exfiltration** (Controls 0.20 cfs)

Primary OutFlow Max=0.08 cfs @ 12.54 hrs HW=20.59' TW=20.31' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.08 cfs @ 1.47 fps)

Summary for Pond 5P: Focal Point 2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=8)

Inflow Area = 0.173 ac, 82.50% Impervious, Inflow Depth = 4.71" for 10-YR STORM event
Inflow = 0.88 cfs @ 12.09 hrs, Volume= 0.068 af
Outflow = 0.88 cfs @ 12.09 hrs, Volume= 0.068 af, Atten= 0%, Lag= 0.1 min
Primary = 0.88 cfs @ 12.09 hrs, Volume= 0.068 af
Routed to Pond 6P : Chamber System B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 23.05' @ 12.09 hrs Surf.Area= 80 sf Storage= 24 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.8 min (779.9 - 779.1)

Volume	Invert	Avail.Storage	Storage Description
#1	20.50'	12 cf	**3.00'W x 9.00'L x 2.25'H Focal Point Area 1** 61 cf Overall x 20.0% Voids
#2	22.75'	24 cf	**Surface Bowl (Prismatic)**Listed below (Recalc)
		36 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.75	27	0	0
23.25	70	24	24

Device	Routing	Invert	Outlet Devices
#1	Primary	20.00'	**12.0" Round Culvert** L= 32.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 20.00' / 19.80' S= 0.0062 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 3	20.50'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#3	Device 1	20.00'	**6.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	22.95'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.86 cfs @ 12.09 hrs HW=23.05' TW=19.82' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.86 cfs of 4.77 cfs potential flow)
  ├─**3=Orifice/Grate** (Passes 0.19 cfs of 2.01 cfs potential flow)
  │ └─**2=Exfiltration** (Exfiltration Controls 0.19 cfs)
  └─**4=Orifice/Grate** (Weir Controls 0.67 cfs @ 1.05 fps)

Summary for Pond 6P: Chamber System B

High existing grade = ~21.4
SHWT depth = 34" per test pit #2
E(SHWT) = 18.57
Bottom of chambers = 19.6
However, credit is being taken for 12" stone layer underneath chambers down to 18.6. SHWT is modelled 6" lower as a factor of safety. Modelling the SHWT too close to the bottom of modelled storage renders inaccurate results.

Inflow Area = 0.173 ac, 82.50% Impervious, Inflow Depth = 4.71" for 10-YR STORM event
Inflow = 0.88 cfs @ 12.09 hrs, Volume= 0.068 af
Outflow = 0.15 cfs @ 12.58 hrs, Volume= 0.068 af, Atten= 83%, Lag= 29.3 min
Discarded = 0.15 cfs @ 12.58 hrs, Volume= 0.068 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Pond DMH1 : Drain Manhole 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 20.36' @ 12.58 hrs Surf.Area= 2,096 sf Storage= 1,103 cf

Plug-Flow detention time= 79.2 min calculated for 0.068 af (100% of inflow)
Center-of-Mass det. time= 79.2 min (859.1 - 779.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	19.60'	0 cf	**16.00'W x 56.00'L x 2.67'H Field A** 2,392 cf Overall - 2,392 cf Embedded = 0 cf x 0.0% Voids
#2A	19.60'	1,600 cf	**Shea Leaching Chamber 8x14x2.7**x 8 Inside #1 Inside= 84.0"W x 24.0"H => 15.38 sf x 13.00'L = 200.0 cf Outside= 96.0"W x 32.0"H => 21.36 sf x 14.00'L = 299.0 cf 8 Chambers in 2 Rows
#3	18.59'	492 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		2,092 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
18.59	1,200	0.0	0	0
18.60	1,200	40.0	5	5
19.59	1,200	40.0	475	480
19.60	1,200	100.0	12	492

Device	Routing	Invert	Outlet Devices
#1	Primary	20.80'	**8.0" Round Culvert** L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 20.80' / 20.75' S= 0.0063 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Discarded	18.59'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 18.07' Phase-In= 0.10'

Discarded OutFlow Max=0.15 cfs @ 12.58 hrs HW=20.36' (Free Discharge)
└─**2=Exfiltration** (Controls 0.15 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=18.59' TW=20.15' (Dynamic Tailwater)
└─**1=Culvert** (Controls 0.00 cfs)

Summary for Pond 7P: Filtration Drip Edge

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=79)

Inflow Area = 0.213 ac, 83.81% Impervious, Inflow Depth = 5.39" for 10-YR STORM event
Inflow = 1.15 cfs @ 12.09 hrs, Volume= 0.096 af
Outflow = 0.69 cfs @ 12.22 hrs, Volume= 0.085 af, Atten= 40%, Lag= 7.8 min
Discarded = 0.31 cfs @ 12.20 hrs, Volume= 0.081 af
Primary = 0.38 cfs @ 12.22 hrs, Volume= 0.004 af
Routed to Reach AP1 : Analysis Point 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 21.25' @ 12.20 hrs Surf.Area= 4,500 sf Storage= 1,219 cf

Plug-Flow detention time= 118.3 min calculated for 0.085 af (89% of inflow)
Center-of-Mass det. time= 64.7 min (810.8 - 746.1)

Volume	Invert	Avail.Storage	Storage Description
#1	20.25'	600 cf	**12.00'W x 125.00'L x 1.00'H Prismatoid** 1,500 cf Overall x 40.0% Voids
#2	18.75'	113 cf	**12.00'W x 125.00'L x 1.50'H Prismatoid** 2,250 cf Overall x 5.0% Voids
#3	18.50'	56 cf	**12.00'W x 125.00'L x 0.25'H Prismatoid** 375 cf Overall x 15.0% Voids
#4	17.75'	450 cf	**12.00'W x 125.00'L x 0.75'H Prismatoid**-Impervious 1,125 cf Overall x 40.0% Voids
		1,219 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#0	Primary	21.25'	**Automatic Storage Overflow** (Discharged without head)
#1	Discarded	18.50'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 17.67' Phase-In= 0.10'

Discarded OutFlow Max=0.31 cfs @ 12.20 hrs HW=21.25' (Free Discharge)
└─**1=Exfiltration** (Controls 0.31 cfs)

Primary OutFlow Max=0.00 cfs @ 12.22 hrs HW=21.25' TW=0.00' (Dynamic Tailwater)

Summary for Pond 9P: Diversion Culvert

Inflow Area = 1.535 ac, 16.06% Impervious, Inflow Depth = 2.17" for 10-YR STORM event
Inflow = 3.03 cfs @ 12.18 hrs, Volume= 0.278 af
Outflow = 3.03 cfs @ 12.18 hrs, Volume= 0.278 af, Atten= 0%, Lag= 0.0 min
Primary = 3.03 cfs @ 12.18 hrs, Volume= 0.278 af
Routed to Pond DMH4 : Drain Manhole 4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 22.21' @ 12.18 hrs
Flood Elev= 23.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	21.20'	**18.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 21.20' / 21.00' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=3.00 cfs @ 12.18 hrs HW=22.20' TW=21.87' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 3.00 cfs @ 3.38 fps)

Summary for Pond 10P: Driveway Culvert

[63] Warning: Exceeded Reach 1R INLET depth by 0.66' @ 12.20 hrs
[64] Warning: Exceeded Reach 1R outlet bank by 0.70' @ 12.20 hrs
[63] Warning: Exceeded Reach 2R INLET depth by 0.39' @ 12.20 hrs
[64] Warning: Exceeded Reach 2R outlet bank by 0.20' @ 12.20 hrs

Inflow Area = 2.408 ac, 18.37% Impervious, Inflow Depth = 2.02" for 10-YR STORM event
Inflow = 4.39 cfs @ 12.20 hrs, Volume= 0.406 af
Outflow = 4.39 cfs @ 12.20 hrs, Volume= 0.406 af, Atten= 0%, Lag= 0.0 min
Primary = 4.39 cfs @ 12.20 hrs, Volume= 0.406 af
Routed to Pond 1P : Pocket Pond 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 21.30' @ 12.20 hrs
Flood Elev= 22.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.10'	**18.0" Round Culvert** L= 36.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 20.10' / 19.90' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.37 cfs @ 12.20 hrs HW=21.30' TW=19.98' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 4.37 cfs @ 3.94 fps)

Summary for Pond CB1: Existing Catch Basin 1

End invert of pipe is assumed as inverts have not been measured on downstream structure

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[58] Hint: Peaked 0.24' above defined flood level

Inflow Area = 0.044 ac, 80.02% Impervious, Inflow Depth = 4.60" for 10-YR STORM event
Inflow = 0.22 cfs @ 12.09 hrs, Volume= 0.017 af
Outflow = 0.22 cfs @ 12.09 hrs, Volume= 0.017 af, Atten= 0%, Lag= 0.0 min
Primary = 0.22 cfs @ 12.09 hrs, Volume= 0.017 af
Routed to Reach AP2 : Analysis Point 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 23.65' @ 12.09 hrs
Flood Elev= 23.41'

Device	Routing	Invert	Outlet Devices
#1	Primary	23.41'	**12.0" Round Culvert** L= 28.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 23.41' / 23.20' S= 0.0075 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.21 cfs @ 12.09 hrs HW=23.65' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 0.21 cfs @ 2.24 fps)

Summary for Pond CB2: Existing Catch Basin 2

End invert of pipe is assumed as inverts have not been measured on downstream structure

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Inflow Area = 0.067 ac, 83.27% Impervious, Inflow Depth = 4.71" for 10-YR STORM event
Inflow = 0.34 cfs @ 12.09 hrs, Volume= 0.026 af
Outflow = 0.34 cfs @ 12.09 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.0 min
Primary = 0.34 cfs @ 12.09 hrs, Volume= 0.026 af
Routed to Reach AP2 : Analysis Point 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 19.38' @ 12.09 hrs
Flood Elev= 22.23'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.08'	**12.0" Round Culvert** L= 36.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 19.08' / 18.80' S= 0.0078 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.33 cfs @ 12.09 hrs HW=19.38' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 0.33 cfs @ 2.57 fps)

Summary for Pond DMH1: Drain Manhole 1

Inflow Area = 0.421 ac, 84.65% Impervious, Inflow Depth = 0.07" for 10-YR STORM event
Inflow = 0.08 cfs @ 12.54 hrs, Volume= 0.003 af
Outflow = 0.08 cfs @ 12.54 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min
Primary = 0.08 cfs @ 12.54 hrs, Volume= 0.003 af
Routed to Pond DMH2 : Drain Manhole 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 20.31' @ 12.54 hrs
Flood Elev= 24.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.15'	**12.0" Round Culvert** L= 58.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 20.15' / 19.85' S= 0.0052 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.08 cfs @ 12.54 hrs HW=20.31' TW=19.91' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.08 cfs @ 1.44 fps)

Summary for Pond DMH2: Drain Manhole 2

Inflow Area = 0.421 ac, 84.65% Impervious, Inflow Depth = 0.07" for 10-YR STORM event
Inflow = 0.08 cfs @ 12.54 hrs, Volume= 0.003 af
Outflow = 0.08 cfs @ 12.54 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min
Primary = 0.08 cfs @ 12.54 hrs, Volume= 0.003 af
Routed to Pond DMH3 : Drain Manhole 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 19.91' @ 12.54 hrs
Flood Elev= 23.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.75'	**12.0" Round Culvert** L= 140.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 19.75' / 19.05' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.08 cfs @ 12.54 hrs HW=19.91' TW=19.11' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.08 cfs @ 1.44 fps)

Summary for Pond DMH3: Drain Manhole 3

Inflow Area = 0.421 ac, 84.65% Impervious, Inflow Depth = 0.07" for 10-YR STORM event
Inflow = 0.08 cfs @ 12.54 hrs, Volume= 0.003 af
Outflow = 0.08 cfs @ 12.54 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min
Primary = 0.08 cfs @ 12.54 hrs, Volume= 0.003 af
Routed to Reach AP1 : Analysis Point 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 19.11' @ 12.54 hrs
Flood Elev= 21.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.95'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 18.95' / 18.80' S= 0.0062 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.08 cfs @ 12.54 hrs HW=19.11' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.08 cfs @ 1.48 fps)

Summary for Pond DMH4: Drain Manhole 4

Inflow Area = 1.617 ac, 15.25% Impervious, Inflow Depth = 2.13" for 10-YR STORM event
Inflow = 3.13 cfs @ 12.18 hrs, Volume= 0.288 af
Outflow = 3.13 cfs @ 12.18 hrs, Volume= 0.288 af, Atten= 0%, Lag= 0.0 min
Primary = 3.13 cfs @ 12.18 hrs, Volume= 0.288 af
Routed to Reach 2R : Diversion Swale

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 21.88' @ 12.18 hrs
Flood Elev= 24.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.90'	**18.0" Round Culvert** L= 92.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 20.90' / 20.40' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=3.09 cfs @ 12.18 hrs HW=21.87' TW=20.91' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 3.09 cfs @ 3.63 fps)

Summary for Pond YD: Yard Drain

Inflow Area = 0.082 ac, 0.00% Impervious, Inflow Depth = 1.46" for 10-YR STORM event
Inflow = 0.11 cfs @ 12.13 hrs, Volume= 0.010 af
Outflow = 0.11 cfs @ 12.13 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min
Primary = 0.11 cfs @ 12.13 hrs, Volume= 0.010 af
Routed to Pond DMH4 : Drain Manhole 4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 21.95' @ 12.17 hrs
Flood Elev= 23.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	21.70'	**12.0" Round Culvert** L= 28.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 21.70' / 21.40' S= 0.0107 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.11 cfs @ 12.13 hrs HW=21.93' TW=21.83' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.11 cfs @ 1.26 fps)

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Subcatchment1S Runoff Area=6,934 sf 5.97% Impervious Runoff Depth=3.00"
Tc=6.0 min CN=63 Runoff=0.54 cfs 0.040 af

Subcatchment2S: Subcatchment2S Runoff Area=22,794 sf 37.44% Impervious Runoff Depth=3.94"
Tc=6.0 min CN=72 Runoff=2.37 cfs 0.172 af

Subcatchment3S: Subcatchment3S Runoff Area=81,653 sf 28.56% Impervious Runoff Depth=3.73"
Flow Length=599' Tc=10.5 min CN=70 Runoff=6.97 cfs 0.582 af

Subcatchment4S: Subcatchment4S Runoff Area=1,897 sf 80.02% Impervious Runoff Depth=6.07"
Tc=6.0 min CN=91 Runoff=0.28 cfs 0.022 af

Subcatchment5S: Subcatchment5S Runoff Area=2,929 sf 83.27% Impervious Runoff Depth=6.18"
Tc=6.0 min CN=92 Runoff=0.44 cfs 0.035 af

Subcatchment6S: Subcatchment6S Runoff Area=10,789 sf 86.15% Impervious Runoff Depth=6.30"
Tc=6.0 min CN=93 Runoff=1.64 cfs 0.130 af

Subcatchment7S: Subcatchment7S Runoff Area=7,556 sf 82.50% Impervious Runoff Depth=6.18"
Tc=6.0 min CN=92 Runoff=1.14 cfs 0.089 af

Subcatchment8S: Subcatchment8S Runoff Area=9,264 sf 83.81% Impervious Runoff Depth=6.89"
Tc=6.0 min CN=98 Runoff=1.45 cfs 0.122 af

Subcatchment9S: Subcatchment9S Runoff Area=3,563 sf 0.00% Impervious Runoff Depth=2.40"
Flow Length=79' Tc=8.0 min CN=57 Runoff=0.20 cfs 0.016 af

Subcatchment10S: Subcatchment10S Runoff Area=66,877 sf 16.06% Impervious Runoff Depth=3.31"
Flow Length=284' Tc=12.5 min CN=66 Runoff=4.72 cfs 0.423 af

Subcatchment11S: Subcatchment11S Runoff Area=11,665 sf 0.00% Impervious Runoff Depth=2.40"
Flow Length=120' Tc=8.0 min CN=57 Runoff=0.66 cfs 0.054 af

Reach 1R: Overland Flow Avg. Flow Depth=0.18' Max Vel=0.41 fps Inflow=1.54 cfs 0.134 af
n=0.070 L=66.0' S=0.0061 '/' Capacity=13.24 cfs Outflow=1.52 cfs 0.134 af

Reach 2R: Diversion Swale Avg. Flow Depth=0.64' Max Vel=1.95 fps Inflow=4.90 cfs 0.439 af
n=0.030 L=60.0' S=0.0050 '/' Capacity=12.47 cfs Outflow=4.90 cfs 0.439 af

Reach AP1: Analysis Point 1 Inflow=9.41 cfs 0.934 af
Outflow=9.41 cfs 0.934 af

Reach AP2: Analysis Point 2 Inflow=0.72 cfs 0.057 af
Outflow=0.72 cfs 0.057 af

Pond 1P: Pocket Pond 1 Peak Elev=21.16' Storage=7,754 cf Inflow=7.30 cfs 0.666 af
Discarded=0.49 cfs 0.346 af Primary=4.06 cfs 0.321 af Outflow=4.54 cfs 0.666 af

Pond 2P: Existing Pond Peak Elev=21.69' Storage=1,133 cf Inflow=2.37 cfs 0.172 af
Discarded=0.07 cfs 0.038 af Primary=1.54 cfs 0.134 af Outflow=1.61 cfs 0.172 af

Pond 3P: Focal Point 1 Peak Elev=22.66' Storage=67 cf Inflow=1.64 cfs 0.130 af
Outflow=1.65 cfs 0.130 af

Pond 4P: Chamber System A Peak Elev=20.88' Storage=1,864 cf Inflow=1.65 cfs 0.130 af
Discarded=0.22 cfs 0.113 af Primary=0.44 cfs 0.017 af Outflow=0.66 cfs 0.130 af

Pond 5P: Focal Point 2 Peak Elev=23.08' Storage=26 cf Inflow=1.14 cfs 0.089 af
Outflow=1.14 cfs 0.089 af

Pond 6P: Chamber System B Peak Elev=20.86' Storage=1,500 cf Inflow=1.14 cfs 0.089 af
Discarded=0.19 cfs 0.089 af Primary=0.01 cfs 0.000 af Outflow=0.19 cfs 0.089 af

Pond 7P: Filtration Drip Edge Peak Elev=21.25' Storage=1,219 cf Inflow=1.45 cfs 0.122 af
Discarded=0.31 cfs 0.098 af Primary=0.98 cfs 0.014 af Outflow=1.29 cfs 0.112 af

Pond 9P: Diversion Culvert Peak Elev=22.57' Inflow=4.72 cfs 0.423 af
18.0" Round Culvert n=0.013 L=20.0' S=0.0100 '/' Outflow=4.72 cfs 0.423 af

Pond 10P: Driveway Culvert Peak Elev=21.75' Inflow=6.93 cfs 0.627 af
18.0" Round Culvert n=0.013 L=36.0' S=0.0056 '/' Outflow=6.93 cfs 0.627 af

Pond CB1: Existing Catch Basin 1 Peak Elev=23.69' Inflow=0.28 cfs 0.022 af
12.0" Round Culvert n=0.012 L=28.0' S=0.0075 '/' Outflow=0.28 cfs 0.022 af

Pond CB2: Existing Catch Basin 2 Peak Elev=19.42' Inflow=0.44 cfs 0.035 af
12.0" Round Culvert n=0.012 L=36.0' S=0.0078 '/' Outflow=0.44 cfs 0.035 af

Pond DMH1: Drain Manhole 1 Peak Elev=20.54' Inflow=0.44 cfs 0.017 af
12.0" Round Culvert n=0.013 L=58.0' S=0.0052 '/' Outflow=0.44 cfs 0.017 af

Pond DMH2: Drain Manhole 2 Peak Elev=20.14' Inflow=0.44 cfs 0.017 af
12.0" Round Culvert n=0.013 L=140.0' S=0.0050 '/' Outflow=0.44 cfs 0.017 af

Pond DMH3: Drain Manhole 3 Peak Elev=19.34' Inflow=0.44 cfs 0.017 af
12.0" Round Culvert n=0.013 L=24.0' S=0.0062 '/' Outflow=0.44 cfs 0.017 af

Pond DMH4: Drain Manhole 4 Peak Elev=22.20' Inflow=4.90 cfs 0.439 af
18.0" Round Culvert n=0.013 L=92.0' S=0.0054 '/' Outflow=4.90 cfs 0.439 af

Pond YD: Yard Drain Peak Elev=22.22' Inflow=0.20 cfs 0.016 af
12.0" Round Culvert n=0.013 L=28.0' S=0.0107 '/' Outflow=0.20 cfs 0.016 af

Total Runoff Area = 5.186 ac Runoff Volume = 1.685 af Average Runoff Depth = 3.90"
68.90% Pervious = 3.574 ac 31.10% Impervious = 1.613 ac

Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1S: Subcatchment1S Runoff Area=6,934 sf 5.97% Impervious Runoff Depth=4.10"
Tc=6.0 min CN=63 Runoff=0.75 cfs 0.054 af

Subcatchment2S: Subcatchment2S Runoff Area=22,794 sf 37.44% Impervious Runoff Depth=5.17"
Tc=6.0 min CN=72 Runoff=3.10 cfs 0.226 af

Subcatchment3S: Subcatchment3S Runoff Area=81,653 sf 28.56% Impervious Runoff Depth=4.93"
Flow Length=599' Tc=10.5 min CN=70 Runoff=9.24 cfs 0.770 af

Subcatchment4S: Subcatchment4S Runoff Area=1,897 sf 80.02% Impervious Runoff Depth=7.46"
Tc=6.0 min CN=91 Runoff=0.34 cfs 0.027 af

Subcatchment5S: Subcatchment5S Runoff Area=2,929 sf 83.27% Impervious Runoff Depth=7.58"
Tc=6.0 min CN=92 Runoff=0.53 cfs 0.042 af

Subcatchment6S: Subcatchment6S Runoff Area=10,789 sf 86.15% Impervious Runoff Depth=7.70"
Tc=6.0 min CN=93 Runoff=1.98 cfs 0.159 af

Subcatchment7S: Subcatchment7S Runoff Area=7,556 sf 82.50% Impervious Runoff Depth=7.58"
Tc=6.0 min CN=92 Runoff=1.38 cfs 0.110 af

Subcatchment8S: Subcatchment8S Runoff Area=9,264 sf 83.81% Impervious Runoff Depth=8.30"
Tc=6.0 min CN=98 Runoff=1.74 cfs 0.147 af

Subcatchment9S: Subcatchment9S Runoff Area=3,563 sf 0.00% Impervious Runoff Depth=3.39"
Flow Length=79' Tc=8.0 min CN=57 Runoff=0.29 cfs 0.023 af

Subcatchment10S: Subcatchment10S Runoff Area=66,877 sf 16.06% Impervious Runoff Depth=4.45"
Flow Length=284' Tc=12.5 min CN=66 Runoff=6.40 cfs 0.570 af

Subcatchment11S: Subcatchment11S Runoff Area=11,665 sf 0.00% Impervious Runoff Depth=3.39"
Flow Length=120' Tc=8.0 min CN=57 Runoff=0.96 cfs 0.076 af

Reach 1R: Overland Flow Avg. Flow Depth=0.21' Max Vel=0.45 fps Inflow=2.05 cfs 0.182 af
n=0.070 L=66.0' S=0.0061 '/' Capacity=13.24 cfs Outflow=2.03 cfs 0.182 af

Reach 2R: Diversion Swale Avg. Flow Depth=0.74' Max Vel=2.11 fps Inflow=6.70 cfs 0.593 af
n=0.030 L=60.0' S=0.0050 '/' Capacity=12.47 cfs Outflow=6.66 cfs 0.593 af

Reach AP1: Analysis Point 1 Inflow=14.97 cfs 1.347 af
Outflow=14.97 cfs 1.347 af

Reach AP2: Analysis Point 2 Inflow=0.88 cfs 0.070 af
Outflow=0.88 cfs 0.070 af

Pond 1P: Pocket Pond 1 Peak Elev=21.56' Storage=9,401 cf Inflow=10.04 cfs 0.905 af
Discarded=0.56 cfs 0.391 af Primary=6.33 cfs 0.514 af Outflow=6.89 cfs 0.905 af

Pond 2P: Existing Pond Peak Elev=21.81' Storage=1,418 cf Inflow=3.10 cfs 0.226 af
Discarded=0.08 cfs 0.044 af Primary=2.05 cfs 0.182 af Outflow=2.14 cfs 0.226 af

Pond 3P: Focal Point 1 Peak Elev=22.68' Storage=70 cf Inflow=1.98 cfs 0.159 af
Outflow=1.98 cfs 0.159 af

Pond 4P: Chamber System A Peak Elev=21.13' Storage=2,064 cf Inflow=1.98 cfs 0.159 af
Discarded=0.24 cfs 0.128 af Primary=0.80 cfs 0.031 af Outflow=1.04 cfs 0.159 af

Pond 5P: Focal Point 2 Peak Elev=23.10' Storage=27 cf Inflow=1.38 cfs 0.110 af
Outflow=1.38 cfs 0.110 af

Pond 6P: Chamber System B Peak Elev=21.13' Storage=1,715 cf Inflow=1.38 cfs 0.110 af
Discarded=0.20 cfs 0.102 af Primary=0.22 cfs 0.008 af Outflow=0.42 cfs 0.110 af

Pond 7P: Filtration Drip Edge Peak Elev=21.25' Storage=1,219 cf Inflow=1.74 cfs 0.147 af
Discarded=0.31 cfs 0.113 af Primary=1.45 cfs 0.024 af Outflow=1.76 cfs 0.137 af

Pond 9P: Diversion Culvert Peak Elev=23.21' Inflow=6.40 cfs 0.570 af
18.0" Round Culvert n=0.013 L=20.0' S=0.0100 '/' Outflow=6.40 cfs 0.570 af

Pond 10P: Driveway Culvert Peak Elev=22.53' Inflow=9.45 cfs 0.851 af
18.0" Round Culvert n=0.013 L=36.0' S=0.0056 '/' Outflow=9.45 cfs 0.851 af

Pond CB1: Existing Catch Basin 1 Peak Elev=23.72' Inflow=0.34 cfs 0.027 af
12.0" Round Culvert n=0.012 L=28.0' S=0.0075 '/' Outflow=0.34 cfs 0.027 af

Pond CB2: Existing Catch Basin 2 Peak Elev=19.46' Inflow=0.53 cfs 0.042 af
12.0" Round Culvert n=0.012 L=36.0' S=0.0078 '/' Outflow=0.53 cfs 0.042 af

Pond DMH1: Drain Manhole 1 Peak Elev=20.76' Inflow=0.93 cfs 0.039 af
12.0" Round Culvert n=0.013 L=58.0' S=0.0052 '/' Outflow=0.93 cfs 0.039 af

Pond DMH2: Drain Manhole 2 Peak Elev=20.35' Inflow=0.93 cfs 0.039 af
12.0" Round Culvert n=0.013 L=140.0' S=0.0050 '/' Outflow=0.93 cfs 0.039 af

Pond DMH3: Drain Manhole 3 Peak Elev=19.56' Inflow=0.93 cfs 0.039 af
12.0" Round Culvert n=0.013 L=24.0' S=0.0062 '/' Outflow=0.93 cfs 0.039 af

Pond DMH4: Drain Manhole 4 Peak Elev=22.64' Inflow=6.70 cfs 0.593 af
18.0" Round Culvert n=0.013 L=92.0' S=0.0054 '/' Outflow=6.70 cfs 0.593 af

Pond YD: Yard Drain Peak Elev=22.65' Inflow=0.29 cfs 0.023 af
12.0" Round Culvert n=0.013 L=28.0' S=0.0107 '/' Outflow=0.29 cfs 0.023 af

Total Runoff Area = 5.186 ac Runoff Volume = 2.204 af Average Runoff Depth = 5.10"
68.90% Pervious = 3.574 ac 31.10% Impervious = 1.613 ac

Summary for Subcatchment 1S: Subcatchment 1S

Runoff = 0.75 cfs @ 12.09 hrs, Volume= 0.054 af, Depth= 4.10"
Routed to Pond 1P : Pocket Pond 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR STORM Rainfall=8.54"

Area (sf)	CN	Description
6,520	61	>75% Grass cover, Good, HSG B
414	98	Paved roads w/curbs & sewers, HSG B
6,934	63	Weighted Average
6,520		94.03% Pervious Area
414		5.97% Impervious Area

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

Summary for Subcatchment 2S: Subcatchment 2S

Runoff = 3.10 cfs @ 12.09 hrs, Volume= 0.226 af, Depth= 5.17"
Routed to Pond 2P : Existing Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR STORM Rainfall=8.54"

Area (sf)	CN	Description
7,719	98	Paved parking, HSG B
815	98	Roofs, HSG B
9,211	61	>75% Grass cover, Good, HSG B
1,310	55	Woods, Good, HSG B
3,739	48	Brush, Good, HSG B
22,794	72	Weighted Average
14,260		62.56% Pervious Area
8,534		37.44% Impervious Area

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

Summary for Subcatchment 3S: Subcatchment 3S

Runoff = 9.24 cfs @ 12.15 hrs, Volume= 0.770 af, Depth= 4.93"
Routed to Reach AP1 : Analysis Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR STORM Rainfall=8.54"

Area (sf)	CN	Description
12,438	55	Woods, Good, HSG B
8,649	98	Paved roads w/curbs & sewers, HSG B
58,674	70	1/2 acre lots, 25% imp, HSG B
1,892	61	>75% Grass cover, Good, HSG B
81,653	70	Weighted Average
58,336		71.44% Pervious Area
23,318		28.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.2	50	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.71"
0.7	55	0.0364	1.34		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	59	0.0476	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	208	0.0260	3.27		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	33	0.0303	1.22		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.3	86	0.0233	1.07		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.8	50	0.0385	0.98		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	58	0.0090	3.35	16.73	**Trap/Vee/Rect Channel Flow, Diversion Swale** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.030 Earth, grassed & winding
10.5	599	Total			

Summary for Subcatchment 4S: Subcatchment 4S

Runoff = 0.34 cfs @ 12.09 hrs, Volume= 0.027 af, Depth= 7.46"
Routed to Pond CB1 : Existing Catch Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR STORM Rainfall=8.54"

Area (sf)	CN	Description
1,518	98	Paved roads w/curbs & sewers, HSG B
379	61	>75% Grass cover, Good, HSG B
1,897	91	Weighted Average
379		19.98% Pervious Area
1,518		80.02% Impervious Area

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

Summary for Subcatchment 5S: Subcatchment 5S

Runoff = 0.53 cfs @ 12.09 hrs, Volume= 0.042 af, Depth= 7.58"
Routed to Pond CB2 : Existing Catch Basin 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR STORM Rainfall=8.54"

Area (sf)	CN	Description
2,439	98	Paved roads w/curbs & sewers, HSG B
490	61	>75% Grass cover, Good, HSG B
2,929	92	Weighted Average
490		16.73% Pervious Area
2,439		83.27% Impervious Area

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

Summary for Subcatchment 6S: Subcatchment 6S

Runoff = 1.98 cfs @ 12.09 hrs, Volume= 0.159 af, Depth= 7.70"
Routed to Pond 3P : Focal Point 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR STORM Rainfall=8.54"

Area (sf)	CN	Description
4,405	98	Paved parking, HSG B
1,494	61	>75% Grass cover, Good, HSG B
4,890	98	Roofs, HSG B
10,789	93	Weighted Average
1,494		13.85% Pervious Area
9,295		86.15% Impervious Area

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

Summary for Subcatchment 7S: Subcatchment 7S

Runoff = 1.38 cfs @ 12.09 hrs, Volume= 0.110 af, Depth= 7.58"
Routed to Pond 5P : Focal Point 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR STORM Rainfall=8.54"

Area (sf)	CN	Description
6,234	98	Paved parking, HSG B
1,322	61	>75% Grass cover, Good, HSG B
7,556	92	Weighted Average
1,322		17.50% Pervious Area
6,234		82.50% Impervious Area

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

Summary for Subcatchment 8S: Subcatchment 8S

Runoff = 1.74 cfs @ 12.09 hrs, Volume= 0.147 af, Depth= 8.30"
Routed to Pond 7P : Filtration Drip Edge

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR STORM Rainfall=8.54"

Area (sf)	CN	Description
7,764	98	Roofs, HSG B
1,500	98	Water Surface, 0% imp, HSG B
9,264	98	Weighted Average
1,500		16.19% Pervious Area
7,764		83.81% Impervious Area

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

Summary for Subcatchment 9S: Subcatchment 9S

Runoff = 0.29 cfs @ 12.12 hrs, Volume= 0.023 af, Depth= 3.39"
Routed to Pond YD : Yard Drain

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR STORM Rainfall=8.54"

Area (sf)	CN	Description
2,652	55	Woods, Good, HSG B
911	61	>75% Grass cover, Good, HSG B
3,563	57	Weighted Average
3,563		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.9	14	0.0500	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.71"
3.3	28	0.1429	0.14		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.71"
1.6	8	0.0714	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.71"
0.1	6	0.0714	1.87		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	23	0.0100	3.53	17.63	**Trap/Vee/Rect Channel Flow,** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.030 Earth, grassed & winding
8.0	79	Total			

Summary for Subcatchment 10S: Subcatchment 10S

Intent of final Tc segment is to demonstrate adequacy of provided diversion swale dimensions.

Runoff = 6.40 cfs @ 12.18 hrs, Volume= 0.570 af, Depth= 4.45"
Routed to Pond 9P : Diversion Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR STORM Rainfall=8.54"

Area (sf)	CN	Description
14,284	55	Woods, Good, HSG B
1,147	98	Roofs, HSG B
38,372	70	1/2 acre lots, 25% imp, HSG B
13,074	61	>75% Grass cover, Good, HSG B
66,877	66	Weighted Average
56,137		83.94% Pervious Area
10,740		16.06% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	15	0.1000	0.24		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.71"
7.2	35	0.0308	0.08		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.71"
0.6	30	0.0308	0.88		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.3	25	0.0800	1.41		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
2.1	92	0.0217	0.74		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.9	51	0.0392	0.99		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	11	0.0270	0.82		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.2	16	0.0270	1.15		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.0	9	0.0160	4.46	22.30	**Trap/Vee/Rect Channel Flow, Diversion Swale Segment** Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.030 Earth, grassed & winding
12.5	284	Total			

Summary for Subcatchment 11S: Subcatchment 11S

Runoff = 0.96 cfs @ 12.12 hrs, Volume= 0.076 af, Depth= 3.39"
Routed to Pond 10P : Driveway Culvert

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type III 24-hr 50-YR STORM Rainfall=8.54"

Area (sf)	CN	Description
7,405	55	Woods, Good, HSG B
4,260	61	>75% Grass cover, Good, HSG B
11,665	57	Weighted Average
11,665		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	15	0.0667	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.71"
2.5	22	0.1818	0.15		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.71"
1.9	13	0.1176	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.71"
0.4	38	0.1176	1.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	32	0.0469	1.08		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.0	120	Total			

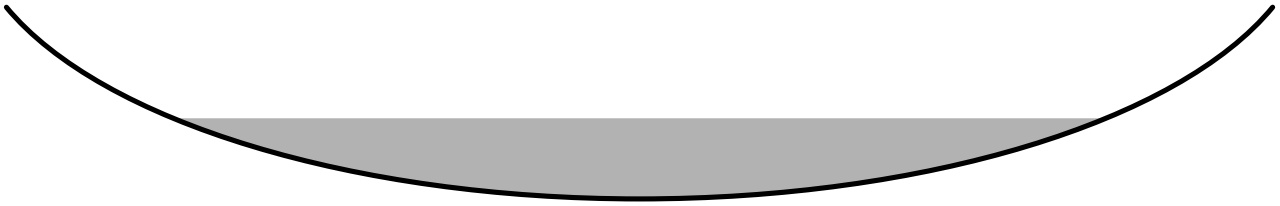
Summary for Reach 1R: Overland Flow

Inflow Area = 0.523 ac, 37.44% Impervious, Inflow Depth = 4.17" for 50-YR STORM event
Inflow = 2.05 cfs @ 12.18 hrs, Volume= 0.182 af
Outflow = 2.03 cfs @ 12.22 hrs, Volume= 0.182 af, Atten= 1%, Lag= 2.1 min
Routed to Pond 10P : Driveway Culvert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 0.45 fps, Min. Travel Time= 2.5 min
Avg. Velocity = 0.13 fps, Avg. Travel Time= 8.8 min

Peak Storage= 301 cf @ 12.22 hrs
Average Depth at Peak Storage= 0.21' , Surface Width= 32.45'
Bank-Full Depth= 0.50' Flow Area= 16.7 sf, Capacity= 13.24 cfs

50.00' x 0.50' deep Parabolic Channel, n= 0.070 Medium-dense brush, winter
Length= 66.0' Slope= 0.0061 '/'
Inlet Invert= 20.50', Outlet Invert= 20.10'



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Summary for Reach 2R: Diversion Swale

Inflow Area = 1.617 ac, 15.25% Impervious, Inflow Depth = 4.40" for 50-YR STORM event
Inflow = 6.70 cfs @ 12.17 hrs, Volume= 0.593 af
Outflow = 6.66 cfs @ 12.18 hrs, Volume= 0.593 af, Atten= 1%, Lag= 0.5 min
Routed to Pond 10P : Driveway Culvert

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 2.11 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 0.78 fps, Avg. Travel Time= 1.3 min

Peak Storage= 189 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.74' , Surface Width= 6.46'
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 12.47 cfs

2.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 8.00'
Length= 60.0' Slope= 0.0050 '/'
Inlet Invert= 20.40', Outlet Invert= 20.10'

‡

Summary for Reach AP1: Analysis Point 1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 5.076 ac, 29.99% Impervious, Inflow Depth = 3.18" for 50-YR STORM event
Inflow = 14.97 cfs @ 12.19 hrs, Volume= 1.347 af
Outflow = 14.97 cfs @ 12.19 hrs, Volume= 1.347 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3

Summary for Reach AP2: Analysis Point 2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 0.111 ac, 81.99% Impervious, Inflow Depth = 7.53" for 50-YR STORM event
Inflow = 0.88 cfs @ 12.09 hrs, Volume= 0.070 af
Outflow = 0.88 cfs @ 12.09 hrs, Volume= 0.070 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3

Summary for Pond 1P: Pocket Pond 1

Inflow Area = 2.567 ac, 17.60% Impervious, Inflow Depth = 4.23" for 50-YR STORM event
Inflow = 10.04 cfs @ 12.17 hrs, Volume= 0.905 af
Outflow = 6.89 cfs @ 12.36 hrs, Volume= 0.905 af, Atten= 31%, Lag= 11.0 min
Discarded = 0.56 cfs @ 12.36 hrs, Volume= 0.391 af
Primary = 6.33 cfs @ 12.36 hrs, Volume= 0.514 af
Routed to Reach AP1 : Analysis Point 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 21.56' @ 12.36 hrs Surf.Area= 4,367 sf Storage= 9,401 cf

Plug-Flow detention time= 90.6 min calculated for 0.904 af (100% of inflow)
Center-of-Mass det. time= 90.8 min (924.5 - 833.7)

Volume	Invert	Avail.Storage	Storage Description
#1	18.50'	11,425 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)
18.50	1,412	218.0	0	0	1,412
18.75	2,096	241.0	436	436	2,254
20.00	3,067	273.0	3,208	3,643	3,602
22.00	4,778	312.0	7,782	11,425	5,509

Device	Routing	Invert	Outlet Devices
#1	Primary	20.00'	**18.0" Round Culvert** L= 15.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 20.00' / 19.90' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Discarded	18.50'	**1.000 in/hr Exfiltration over Surface area**

Conductivity to Groundwater Elevation = 18.17' Phase-In= 0.10'

Discarded OutFlow Max=0.56 cfs @ 12.36 hrs HW=21.55' (Free Discharge)
└─**2=Exfiltration** (Controls 0.56 cfs)

Primary OutFlow Max=6.32 cfs @ 12.36 hrs HW=21.55' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 6.32 cfs @ 4.29 fps)

Summary for Pond 2P: Existing Pond

Pond areas, elevations, and culvert parameters are assumed.

Inflow Area = 0.523 ac, 37.44% Impervious, Inflow Depth = 5.17" for 50-YR STORM event
Inflow = 3.10 cfs @ 12.09 hrs, Volume= 0.226 af
Outflow = 2.14 cfs @ 12.18 hrs, Volume= 0.226 af, Atten= 31%, Lag= 5.5 min
Discarded = 0.08 cfs @ 12.18 hrs, Volume= 0.044 af
Primary = 2.05 cfs @ 12.18 hrs, Volume= 0.182 af
Routed to Reach 1R : Overland Flow

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 21.81' @ 12.18 hrs Surf.Area= 2,337 sf Storage= 1,418 cf

Plug-Flow detention time= 19.8 min calculated for 0.225 af (100% of inflow)
Center-of-Mass det. time= 19.9 min (837.8 - 817.8)

Volume	Invert	Avail.Storage	Storage Description
#1	21.00'	1,882 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)
21.00	1,209	140.0	0	0	1,209
22.00	2,647	210.0	1,882	1,882	3,166

Device	Routing	Invert	Outlet Devices
#1	Discarded	21.00'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 20.00' Phase-In= 0.10'
#2	Primary	21.00'	**15.0" Round Culvert** L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 21.00' / 20.50' S= 0.0167 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Discarded OutFlow Max=0.08 cfs @ 12.18 hrs HW=21.81' (Free Discharge)
└─**1=Exfiltration** (Controls 0.08 cfs)

Primary OutFlow Max=2.04 cfs @ 12.18 hrs HW=21.81' TW=20.71' (Dynamic Tailwater)
└─**2=Culvert** (Inlet Controls 2.04 cfs @ 2.42 fps)

Summary for Pond 3P: Focal Point 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=1)

Inflow Area = 0.248 ac, 86.15% Impervious, Inflow Depth = 7.70" for 50-YR STORM event
Inflow = 1.98 cfs @ 12.09 hrs, Volume= 0.159 af
Outflow = 1.98 cfs @ 12.09 hrs, Volume= 0.159 af, Atten= 0%, Lag= 0.1 min
Primary = 1.98 cfs @ 12.09 hrs, Volume= 0.159 af
Routed to Pond 4P : Chamber System A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 22.68' @ 12.09 hrs Surf.Area= 151 sf Storage= 70 cf

Plug-Flow detention time= 1.1 min calculated for 0.159 af (100% of inflow)
Center-of-Mass det. time= 1.1 min (764.9 - 763.7)

Volume	Invert	Avail.Storage	Storage Description
#1	19.75'	18 cf	**4.00'W x 10.00'L x 2.25'H Focal Point Area 1** 90 cf Overall x 20.0% Voids
#2	22.00'	59 cf	**Surface Bowl (Prismatic)**Listed below (Recalc)
		77 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.00	40	0	0
22.75	118	59	59

Device	Routing	Invert	Outlet Devices
#1	Primary	19.25'	**12.0" Round Culvert** L= 9.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 19.25' / 19.20' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 3	19.75'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#3	Device 1	19.25'	**6.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	22.50'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.93 cfs @ 12.09 hrs HW=22.68' TW=20.72' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.93 cfs of 4.18 cfs potential flow)
  ├─**3=Orifice/Grate** (Passes 0.35 cfs of 1.68 cfs potential flow)
  │ └─**2=Exfiltration** (Exfiltration Controls 0.35 cfs)
  └─**4=Orifice/Grate** (Weir Controls 1.59 cfs @ 1.39 fps)

Summary for Pond 4P: Chamber System A

High existing grade = 21.0
SHWT depth = 34" per test pit #2
E(SHWT) = 18.17
Bottom of chambers = 19.2
However, credit is being taken for 12" stone layer underneath chambers down to 18.2. SHWT is modelled

6" lower as a factor of safety. Modelling the SHWT too close to the bottom of modelled storage renders inaccurate results.

Inflow Area = 0.248 ac, 86.15% Impervious, Inflow Depth = 7.70" for 50-YR STORM event
Inflow = 1.98 cfs @ 12.09 hrs, Volume= 0.159 af
Outflow = 1.04 cfs @ 12.23 hrs, Volume= 0.159 af, Atten= 47%, Lag= 8.3 min
Discarded = 0.24 cfs @ 12.23 hrs, Volume= 0.128 af
Primary = 0.80 cfs @ 12.23 hrs, Volume= 0.031 af
Routed to Pond DMH1 : Drain Manhole 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 21.13' @ 12.23 hrs Surf.Area= 2,160 sf Storage= 2,064 cf

Plug-Flow detention time= 77.0 min calculated for 0.159 af (100% of inflow)
Center-of-Mass det. time= 77.0 min (841.9 - 764.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	19.20'	0 cf	**16.00'W x 56.00'L x 2.67'H Field A** 2,392 cf Overall - 2,392 cf Embedded = 0 cf x 0.0% Voids
#2A	19.20'	1,600 cf	**Shea Leaching Chamber 8x14x2.7**x 8 Inside #1 Inside= 84.0"W x 24.0"H => 15.38 sf x 13.00'L = 200.0 cf Outside= 96.0"W x 32.0"H => 21.36 sf x 14.00'L = 299.0 cf 8 Chambers in 2 Rows
#3	18.19'	518 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)
		2,118 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
18.19	1,264	0.0	0	0
18.20	1,264	40.0	5	5
19.19	1,264	40.0	501	506
19.20	1,264	100.0	13	518

Device	Routing	Invert	Outlet Devices
#1	Primary	20.40'	**8.0" Round Culvert** L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 20.40' / 20.25' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Discarded	18.19'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 17.67' Phase-In= 0.10'

Discarded OutFlow Max=0.24 cfs @ 12.23 hrs HW=21.13' (Free Discharge)
└─**2=Exfiltration** (Controls 0.24 cfs)

Primary OutFlow Max=0.80 cfs @ 12.23 hrs HW=21.13' TW=20.74' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.80 cfs @ 2.61 fps)

Summary for Pond 5P: Focal Point 2

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=17)

Inflow Area = 0.173 ac, 82.50% Impervious, Inflow Depth = 7.58" for 50-YR STORM event
Inflow = 1.38 cfs @ 12.09 hrs, Volume= 0.110 af
Outflow = 1.38 cfs @ 12.09 hrs, Volume= 0.110 af, Atten= 0%, Lag= 0.1 min
Primary = 1.38 cfs @ 12.09 hrs, Volume= 0.110 af
Routed to Pond 6P : Chamber System B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 23.10' @ 12.09 hrs Surf.Area= 84 sf Storage= 27 cf

Plug-Flow detention time= 0.9 min calculated for 0.109 af (100% of inflow)
Center-of-Mass det. time= 0.9 min (768.3 - 767.4)

Volume	Invert	Avail.Storage	Storage Description
#1	20.50'	12 cf	**3.00'W x 9.00'L x 2.25'H Focal Point Area 1** 61 cf Overall x 20.0% Voids
#2	22.75'	24 cf	**Surface Bowl (Prismatic)** Listed below (Recalc)
		36 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.75	27	0	0
23.25	70	24	24

Device	Routing	Invert	Outlet Devices
#1	Primary	20.00'	**12.0" Round Culvert** L= 32.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 20.00' / 19.80' S= 0.0062 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 3	20.50'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#3	Device 1	20.00'	**6.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	22.95'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.34 cfs @ 12.09 hrs HW=23.10' TW=20.46' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.34 cfs of 4.81 cfs potential flow)
  ├─**3=Orifice/Grate** (Passes 0.19 cfs of 1.95 cfs potential flow)
  │ └─**2=Exfiltration** (Exfiltration Controls 0.19 cfs)
  └─**4=Orifice/Grate** (Weir Controls 1.15 cfs @ 1.25 fps)

Summary for Pond 6P: Chamber System B

High existing grade = ~21.4
SHWT depth = 34" per test pit #2
E(SHWT) = 18.57
Bottom of chambers = 19.6
However, credit is being taken for 12" stone layer underneath chambers down to 18.6. SHWT is modelled

6" lower as a factor of safety. Modelling the SHWT too close to the bottom of modelled storage renders inaccurate results.

Inflow Area = 0.173 ac, 82.50% Impervious, Inflow Depth = 7.58" for 50-YR STORM event
Inflow = 1.38 cfs @ 12.09 hrs, Volume= 0.110 af
Outflow = 0.42 cfs @ 12.41 hrs, Volume= 0.110 af, Atten= 69%, Lag= 19.1 min
Discarded = 0.20 cfs @ 12.41 hrs, Volume= 0.102 af
Primary = 0.22 cfs @ 12.41 hrs, Volume= 0.008 af
Routed to Pond DMH1 : Drain Manhole 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 21.13' @ 12.41 hrs Surf.Area= 2,096 sf Storage= 1,715 cf

Plug-Flow detention time= 86.7 min calculated for 0.109 af (100% of inflow)
Center-of-Mass det. time= 86.8 min (855.0 - 768.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	19.60'	0 cf	**16.00'W x 56.00'L x 2.67'H Field A** 2,392 cf Overall - 2,392 cf Embedded = 0 cf x 0.0% Voids
#2A	19.60'	1,600 cf	**Shea Leaching Chamber 8x14x2.7**x 8 Inside #1 Inside= 84.0"W x 24.0"H => 15.38 sf x 13.00'L = 200.0 cf Outside= 96.0"W x 32.0"H => 21.36 sf x 14.00'L = 299.0 cf 8 Chambers in 2 Rows
#3	18.59'	492 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)
		2,092 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
18.59	1,200	0.0	0	0
18.60	1,200	40.0	5	5
19.59	1,200	40.0	475	480
19.60	1,200	100.0	12	492

Device	Routing	Invert	Outlet Devices
#1	Primary	20.80'	**8.0" Round Culvert** L= 8.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 20.80' / 20.75' S= 0.0063 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Discarded	18.59'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 18.07' Phase-In= 0.10'

Discarded OutFlow Max=0.20 cfs @ 12.41 hrs HW=21.13' (Free Discharge)
└**2=Exfiltration** (Controls 0.20 cfs)

Primary OutFlow Max=0.22 cfs @ 12.41 hrs HW=21.13' TW=20.71' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 0.22 cfs @ 1.85 fps)

Summary for Pond 7P: Filtration Drip Edge

[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=50)

Inflow Area = 0.213 ac, 83.81% Impervious, Inflow Depth = 8.30" for 50-YR STORM event
Inflow = 1.74 cfs @ 12.09 hrs, Volume= 0.147 af
Outflow = 1.76 cfs @ 12.12 hrs, Volume= 0.137 af, Atten= 0%, Lag= 2.0 min
Discarded = 0.31 cfs @ 12.05 hrs, Volume= 0.113 af
Primary = 1.45 cfs @ 12.12 hrs, Volume= 0.024 af
Routed to Reach AP1 : Analysis Point 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 21.25' @ 12.05 hrs Surf.Area= 4,500 sf Storage= 1,219 cf

Plug-Flow detention time= 91.8 min calculated for 0.137 af (93% of inflow)
Center-of-Mass det. time= 52.1 min (792.5 - 740.4)

Volume	Invert	Avail.Storage	Storage Description
#1	20.25'	600 cf	**12.00'W x 125.00'L x 1.00'H Prismatoid** 1,500 cf Overall x 40.0% Voids
#2	18.75'	113 cf	**12.00'W x 125.00'L x 1.50'H Prismatoid** 2,250 cf Overall x 5.0% Voids
#3	18.50'	56 cf	**12.00'W x 125.00'L x 0.25'H Prismatoid** 375 cf Overall x 15.0% Voids
#4	17.75'	450 cf	**12.00'W x 125.00'L x 0.75'H Prismatoid**-Impervious 1,125 cf Overall x 40.0% Voids
		1,219 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#0	Primary	21.25'	**Automatic Storage Overflow** (Discharged without head)
#1	Discarded	18.50'	**1.000 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 17.67' Phase-In= 0.10'

Discarded OutFlow Max=0.31 cfs @ 12.05 hrs HW=21.25' (Free Discharge)
└**1=Exfiltration** (Controls 0.31 cfs)

Primary OutFlow Max=0.00 cfs @ 12.12 hrs HW=21.25' TW=0.00' (Dynamic Tailwater)

Summary for Pond 9P: Diversion Culvert

[58] Hint: Peaked 0.01' above defined flood level

Inflow Area = 1.535 ac, 16.06% Impervious, Inflow Depth = 4.45" for 50-YR STORM event
Inflow = 6.40 cfs @ 12.18 hrs, Volume= 0.570 af
Outflow = 6.40 cfs @ 12.18 hrs, Volume= 0.570 af, Atten= 0%, Lag= 0.0 min
Primary = 6.40 cfs @ 12.18 hrs, Volume= 0.570 af
Routed to Pond DMH4 : Drain Manhole 4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 23.21' @ 12.17 hrs
Flood Elev= 23.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	21.20'	**18.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 21.20' / 21.00' S= 0.0100 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=6.31 cfs @ 12.18 hrs HW=23.16' TW=22.61' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 6.31 cfs @ 3.57 fps)

Summary for Pond 10P: Driveway Culvert

[63] Warning: Exceeded Reach 1R INLET depth by 1.81' @ 12.20 hrs
[64] Warning: Exceeded Reach 1R outlet bank by 1.93' @ 12.21 hrs
[63] Warning: Exceeded Reach 2R INLET depth by 1.38' @ 12.20 hrs
[64] Warning: Exceeded Reach 2R outlet bank by 1.43' @ 12.21 hrs

Inflow Area = 2.408 ac, 18.37% Impervious, Inflow Depth = 4.24" for 50-YR STORM event
Inflow = 9.45 cfs @ 12.18 hrs, Volume= 0.851 af
Outflow = 9.45 cfs @ 12.18 hrs, Volume= 0.851 af, Atten= 0%, Lag= 0.0 min
Primary = 9.45 cfs @ 12.18 hrs, Volume= 0.851 af
Routed to Pond 1P : Pocket Pond 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 22.53' @ 12.21 hrs
Flood Elev= 22.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.10'	**18.0" Round Culvert** L= 36.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 20.10' / 19.90' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=9.43 cfs @ 12.18 hrs HW=22.44' TW=21.21' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 9.43 cfs @ 5.33 fps)

Summary for Pond CB1: Existing Catch Basin 1

End invert of pipe is assumed as inverts have not been measured on downstream structure

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[58] Hint: Peaked 0.31' above defined flood level

Inflow Area = 0.044 ac, 80.02% Impervious, Inflow Depth = 7.46" for 50-YR STORM event
Inflow = 0.34 cfs @ 12.09 hrs, Volume= 0.027 af
Outflow = 0.34 cfs @ 12.09 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.0 min
Primary = 0.34 cfs @ 12.09 hrs, Volume= 0.027 af
Routed to Reach AP2 : Analysis Point 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3

Peak Elev= 23.72' @ 12.09 hrs
Flood Elev= 23.41'

Device	Routing	Invert	Outlet Devices
#1	Primary	23.41'	**12.0" Round Culvert** L= 28.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 23.41' / 23.20' S= 0.0075 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.33 cfs @ 12.09 hrs HW=23.71' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.33 cfs @ 2.51 fps)

Summary for Pond CB2: Existing Catch Basin 2

End invert of pipe is assumed as inverts have not been measured on downstream structure

Inflow Area = 0.067 ac, 83.27% Impervious, Inflow Depth = 7.58" for 50-YR STORM event
Inflow = 0.53 cfs @ 12.09 hrs, Volume= 0.042 af
Outflow = 0.53 cfs @ 12.09 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min
Primary = 0.53 cfs @ 12.09 hrs, Volume= 0.042 af
Routed to Reach AP2 : Analysis Point 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 19.46' @ 12.09 hrs
Flood Elev= 22.23'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.08'	**12.0" Round Culvert** L= 36.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 19.08' / 18.80' S= 0.0078 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 0.79 sf

Primary OutFlow Max=0.52 cfs @ 12.09 hrs HW=19.46' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.52 cfs @ 2.87 fps)

Summary for Pond DMH1: Drain Manhole 1

Inflow Area = 0.421 ac, 84.65% Impervious, Inflow Depth = 1.11" for 50-YR STORM event
Inflow = 0.93 cfs @ 12.29 hrs, Volume= 0.039 af
Outflow = 0.93 cfs @ 12.29 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min
Primary = 0.93 cfs @ 12.29 hrs, Volume= 0.039 af
Routed to Pond DMH2 : Drain Manhole 2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 20.76' @ 12.29 hrs
Flood Elev= 24.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.15'	**12.0" Round Culvert** L= 58.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 20.15' / 19.85' S= 0.0052 '/' Cc= 0.900

n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.93 cfs @ 12.29 hrs HW=20.76' TW=20.34' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 0.93 cfs @ 2.64 fps)

Summary for Pond DMH2: Drain Manhole 2

Inflow Area = 0.421 ac, 84.65% Impervious, Inflow Depth = 1.11" for 50-YR STORM event
Inflow = 0.93 cfs @ 12.29 hrs, Volume= 0.039 af
Outflow = 0.93 cfs @ 12.29 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min
Primary = 0.93 cfs @ 12.29 hrs, Volume= 0.039 af
Routed to Pond DMH3 : Drain Manhole 3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 20.35' @ 12.29 hrs
Flood Elev= 23.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	19.75'	**12.0" Round Culvert** L= 140.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 19.75' / 19.05' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.93 cfs @ 12.29 hrs HW=20.34' TW=19.56' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 0.93 cfs @ 2.74 fps)

Summary for Pond DMH3: Drain Manhole 3

Inflow Area = 0.421 ac, 84.65% Impervious, Inflow Depth = 1.11" for 50-YR STORM event
Inflow = 0.93 cfs @ 12.29 hrs, Volume= 0.039 af
Outflow = 0.93 cfs @ 12.29 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min
Primary = 0.93 cfs @ 12.29 hrs, Volume= 0.039 af
Routed to Reach AP1 : Analysis Point 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 19.56' @ 12.29 hrs
Flood Elev= 21.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	18.95'	**12.0" Round Culvert** L= 24.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 18.95' / 18.80' S= 0.0062 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.93 cfs @ 12.29 hrs HW=19.56' TW=0.00' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 0.93 cfs @ 2.67 fps)

Summary for Pond DMH4: Drain Manhole 4

Inflow Area = 1.617 ac, 15.25% Impervious, Inflow Depth = 4.40" for 50-YR STORM event
Inflow = 6.70 cfs @ 12.17 hrs, Volume= 0.593 af
Outflow = 6.70 cfs @ 12.17 hrs, Volume= 0.593 af, Atten= 0%, Lag= 0.0 min
Primary = 6.70 cfs @ 12.17 hrs, Volume= 0.593 af
Routed to Reach 2R : Diversion Swale

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 22.64' @ 12.17 hrs
Flood Elev= 24.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	20.90'	**18.0" Round Culvert** L= 92.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 20.90' / 20.40' S= 0.0054 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=6.57 cfs @ 12.17 hrs HW=22.61' TW=21.14' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 6.57 cfs @ 3.72 fps)

Summary for Pond YD: Yard Drain

Inflow Area = 0.082 ac, 0.00% Impervious, Inflow Depth = 3.39" for 50-YR STORM event
Inflow = 0.29 cfs @ 12.12 hrs, Volume= 0.023 af
Outflow = 0.29 cfs @ 12.12 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.0 min
Primary = 0.29 cfs @ 12.12 hrs, Volume= 0.023 af
Routed to Pond DMH4 : Drain Manhole 4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 22.65' @ 12.17 hrs
Flood Elev= 23.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	21.70'	**12.0" Round Culvert** L= 28.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 21.70' / 21.40' S= 0.0107 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.31 cfs @ 12.12 hrs HW=22.46' TW=22.44' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 0.31 cfs @ 0.67 fps)

APPENDIX III

Test Pit Logs

TEST PITS
FOR
LEDGEWOOD DRIVE
PORTSMOUTH, NEW HAMPSHIRE
JULY 31, 2025
JBE Project No. 25071

Performed by: Anthony Jones, Jones & Beach Engineers, Inc., SSD #1900

Test Pit #1

0"- 28"	10YR 3/3	dark brown fine sandy loam granular, friable many roots
28" – 38"	2.5Y 5/4	light olive brown fine sandy loam granular, friable common roots
38" – 58"	10YR 4/6	dark yellowish brown loamy sand massive, friable Many, distinct redox

SHWT = 38"
Roots: 38"
No H_2O observed
No Refusal observed

NEW HAMPSHIRE
Designer
of
Subsurface Disposal
Systems
ANTHONY M. JONES
No. 1900
Department of Environmental Services

Test Pit #2

0”- 18”	10YR 4/2	dark grayish brown fine sandy loam granular, friable common roots
18” – 34”	10YR 3/6	dark yellowish brown loamy sand massive, friable common roots
34” – 62”	2.5Y 5/2	grayish brown loamy sand massive, friable Common, distinct redox

SHWT = 34”
Roots: 34”
No H_2O observed
No Refusal observed

Test Pit #3

0”- 6”	10YR 4/2	dark grayish brown fine sandy loam granular, friable common roots
6” – 20”	2.5Y 6/4	light yellowish brown fine sandy loam angular blocky, friable few roots
20” – 50”	2.5Y 6/3	light yellowish brown sandy clay loam angular blocky, very firm Many, distinct redox

SHWT = 20”
Roots: 26”
No H_2O observed
Refusal observed at: 50”

NEW HAMPSHIRE
Designer
of
Subsurface Disposal
Systems
ANTHONY M. JONES
No. 1900
Department of Environmental Services

Test Pit #4

0”- 48”	10YR 4/3	brown fine sandy loam granular, friable common roots
48” – 56”	2.5Y 6/3	light yellowish brown silt loam blocky, friable common roots
56” – 70”	2.5Y 6/4	light yellowish brown silt loam blocky, friable Many, distinct redox

SHWT = 56”
Roots: 58”
No H_2O observed
No Refusal observed

NEW HAMPSHIRE
Designer of Subsurface Disposal Systems
ANTHONY M. JONES
No. 1900
Department of Environmental Services

APPENDIX IV

NRCS Soil Map

Soil Map—Rockingham County, New Hampshire
(25071.2 Soil Map)

Map Scale: 1:1,470 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

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

Special Point Features

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

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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 28, Sep 9, 2025

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
299	Udorthents, smoothed	0.7	9.9%
699	Urban land	0.3	4.4%
799	Urban land-Canton complex, 3 to 15 percent slopes	6.3	85.7%
Totals for Area of Interest		**7.4**	**100.0%**

APPENDIX V

Extreme Precipitation Estimates

Extreme Precipitation in New York & New England

An Interactive Web Tool for Extreme Precipitation Analysis

About this Project | Data & Products | Daily Monitoring | Documentation

Select Product ?

- Extreme Precipitation Tables - HTML ?
- Extreme Precipitation Tables - Text/CSV ?
- Partial Duration Series - by Point ?
- Partial Duration Series - by Station ?
- Distribution Curves - Graphical ?
- Distribution Curves - Text/TBL ?
- Intensity Frequency Duration Graphs ?
- Precipitation Frequency Duration Graphs ?
- GIS Data Files ?
- Regional/State Maps ?

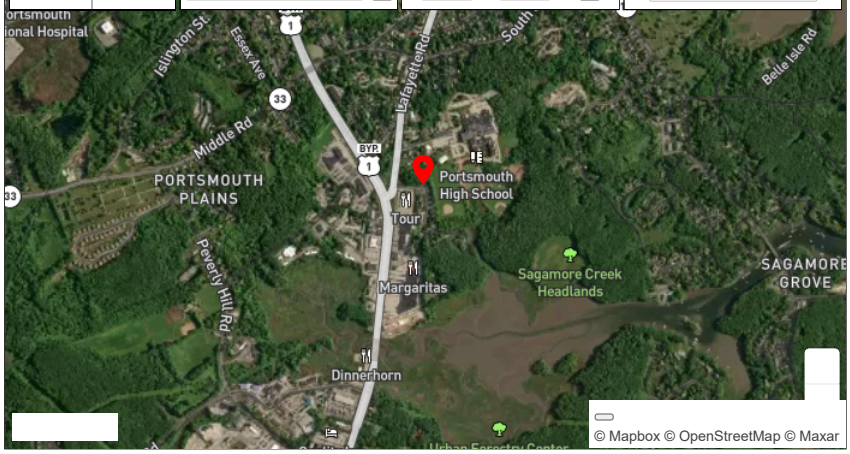
Select Location ? *Double-click map to place a marker, or enter address or latitude/longitude.*

Hybrid | Map | Satellite | Terrain

Locate by Address ? Ledgewood Drive, Ports →

Locate by Lat/Lon ? 43.05 °N -70.76 °W →

Locate by State/County ?



Select Options ?

Smoothing ? Yes

Delivery ? Popup

Submit ?

Version 2.0 Copyright 2010-2022

This project is a joint collaboration between:

Northeast Regional Climate Center (NRCC) — Natural Resources Conservation Service (NRCS)

Cornell University

Contact: precip@cornell.edu

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	
Location	
Latitude	43.057 degrees North
Longitude	70.768 degrees West
Elevation	0 feet
Date/Time	Fri Jun 26 2026 14:28:08 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	0.65	0.82	1.04	**1yr**	0.70	0.98	1.21	1.57	2.04	2.67	2.93	**1yr**	2.36	2.82	3.23	3.96	4.57	**1yr**
2yr	0.32	0.50	0.62	0.82	1.02	1.30	**2yr**	0.88	1.18	1.52	1.94	2.50	3.22	3.58	**2yr**	2.85	3.45	3.95	4.70	5.35	**2yr**
5yr	0.37	0.58	0.73	0.98	1.25	1.61	**5yr**	1.08	1.47	1.89	2.44	3.15	4.08	4.60	**5yr**	3.61	4.42	5.06	5.96	6.73	**5yr**
10yr	0.41	0.65	0.82	1.12	1.45	1.89	**10yr**	1.25	1.73	2.24	2.90	3.76	4.89	5.55	**10yr**	4.33	5.34	6.11	7.14	8.01	**10yr**
25yr	0.48	0.76	0.97	1.34	1.78	2.34	**25yr**	1.53	2.15	2.78	3.64	4.76	6.20	7.13	**25yr**	5.49	6.86	7.85	9.07	10.10	**25yr**
50yr	0.54	0.86	1.10	1.54	2.08	2.76	**50yr**	1.79	2.53	3.30	4.34	5.68	7.42	8.62	**50yr**	6.57	8.29	9.48	10.87	12.03	**50yr**
100yr	0.60	0.97	1.25	1.78	2.42	3.27	**100yr**	2.09	2.99	3.92	5.18	6.80	8.90	10.43	**100yr**	7.87	10.03	11.46	13.04	14.35	**100yr**
200yr	0.68	1.10	1.43	2.05	2.83	3.85	**200yr**	2.45	3.53	4.63	6.15	8.12	10.66	12.61	**200yr**	9.44	12.13	13.85	15.64	17.11	**200yr**
500yr	0.80	1.32	1.72	2.49	3.49	4.78	**500yr**	3.01	4.39	5.79	7.74	10.27	13.55	16.22	**500yr**	11.99	15.60	17.81	19.91	21.61	**500yr**

x 1.15

3.71

5.63

7.13

8.54

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	0.88	**1yr**	0.63	0.87	0.92	1.33	1.68	2.25	2.53	**1yr**	1.99	2.43	2.88	3.18	3.91	**1yr**
2yr	0.32	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.37	1.82	2.34	3.07	3.47	**2yr**	2.72	3.34	3.84	4.57	5.10	**2yr**
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.12	2.73	3.81	4.22	**5yr**	3.37	4.06	4.74	5.57	6.28	**5yr**
10yr	0.39	0.59	0.74	1.03	1.33	1.60	**10yr**	1.15	1.57	1.81	2.39	3.06	4.40	4.90	**10yr**	3.89	4.71	5.49	6.46	7.24	**10yr**
25yr	0.44	0.67	0.83	1.19	1.57	1.90	**25yr**	1.35	1.86	2.10	2.75	3.53	4.75	5.95	**25yr**	4.20	5.72	6.72	7.87	8.75	**25yr**
50yr	0.48	0.74	0.92	1.32	1.77	2.17	**50yr**	1.53	2.12	2.35	3.07	3.93	5.37	6.88	**50yr**	4.75	6.61	7.83	9.14	10.11	**50yr**
100yr	0.54	0.81	1.02	1.47	2.02	2.47	**100yr**	1.74	2.42	2.63	3.41	4.35	6.04	7.95	**100yr**	5.35	7.65	9.12	10.64	11.68	**100yr**
200yr	0.60	0.90	1.14	1.64	2.29	2.82	**200yr**	1.98	2.76	2.94	3.77	4.79	6.78	9.19	**200yr**	6.00	8.84	10.63	12.40	13.51	**200yr**
500yr	0.69	1.03	1.32	1.92	2.73	3.37	**500yr**	2.36	3.30	3.42	4.30	5.45	7.90	11.13	**500yr**	7.00	10.70	13.00	15.20	16.37	**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	0.72	0.89	1.09	**1yr**	0.77	1.06	1.26	1.74	2.20	2.99	3.17	**1yr**	2.65	3.05	3.60	4.39	5.06	**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	3.44	3.71	**2yr**	3.04	3.57	4.10	4.85	5.65	**2yr**
5yr	0.40	0.62	0.77	1.05	1.34	1.62	**5yr**	1.15	1.59	1.88	2.53	3.25	4.36	4.97	**5yr**	3.85	4.78	5.40	6.39	7.17	**5yr**
10yr	0.47	0.72	0.89	1.25	1.61	1.98	**10yr**	1.39	1.93	2.28	3.11	3.95	5.36	6.21	**10yr**	4.74	5.97	6.82	7.85	8.77	**10yr**
25yr	0.58	0.88	1.09	1.56	2.05	2.57	**25yr**	1.77	2.52	2.95	4.07	5.15	7.80	8.34	**25yr**	6.90	8.02	9.13	10.35	11.42	**25yr**
50yr	0.67	1.02	1.27	1.83	2.47	3.13	**50yr**	2.13	3.06	3.60	5.00	6.31	9.76	10.44	**50yr**	8.64	10.04	11.41	12.73	13.97	**50yr**
100yr	0.79	1.20	1.50	2.16	2.97	3.82	**100yr**	2.56	3.73	4.37	6.15	7.75	12.21	13.07	**100yr**	10.81	12.57	14.24	15.70	17.09	**100yr**
200yr	0.93	1.39	1.76	2.55	3.56	4.66	**200yr**	3.07	4.56	5.34	7.58	9.52	15.32	16.38	**200yr**	13.56	15.75	17.81	19.34	20.91	**200yr**
500yr	1.15	1.71	2.20	3.20	4.54	6.05	**500yr**	3.92	5.92	6.93	10.02	12.53	20.69	22.08	**500yr**	18.31	21.23	23.93	25.48	27.32	**500yr**

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Northeast Regional Climate Center

APPENDIX VI

Rip Rap Calculations

RIP RAP CALCULATIONS
"Ledgewood Drive LLC"
Ledgewood Drive
Portsmouth, NH 03801

Jones & Beach Engineers, Inc.
100 Domain Drive, Suite 201
Exeter, NH 03833
8/17/2026 Revised 9/22/2026

Rip Rap equations were obtained from the *Stormwater Management and Erosion Control Handbook for Urban and Developing Areas in New Hampshire.*
Aprons are sized for the 25-Year storm event.

TAILWATER < HALF THE D_o

$L_a = (1.8 \times Q) / D_0^{3/2} + (7 \times D_o)$
$W = L_a + (3 \times D_o)$ or defined channel width
$d_{50} = (0.02 \times Q^{4/3}) / (T_w \times D_0)$

Culvert or Catch Basin (Sta. No.)	Tailwater (Feet) T_w	Discharge (C.F.S.) Q	Diameter of Pipe D_o	Length of Rip Rap L_a (feet)	Width of Rip Rap W (feet)	d_{50}-Median Stone Rip Rap d50 (feet)
DMH 3 (12" HDPE)	0.26	0.44	1	7.8	11	0.03
1P (18" HDPE)	0.73	4.06	1.5	14.5	19	0.12

TAILWATER > HALF THE D_o

$L_a = (3.0 \times Q) / D_0^{3/2} + (7 \times D_o)$
$W = (0.4 \times L_a) + (3 \times D_o)$ or defined channel width
$d_{50} = (0.02 \times Q^{4/3}) / (T_w \times D_0)$

Culvert or Catch Basin (Sta. No.)	Tailwater (Feet) T_w	Discharge (C.F.S.) Q	Diameter of Pipe D_o	Length of Rip Rap L_a (feet)	Width of Rip Rap W (feet)	d_{50}-Median Stone Rip Rap d50 (feet)
10P (18" HDPE)	1.1	6.93	1.5	21.8	13	0.16
DMH 4 (18" HDPE)	0.86	4.9	1.5	18.5	12	0.13

Table 7-24 -- Recommended Rip Rap Gradation Ranges				
d_{50} Size =	0.25	Feet	3	Inches
% of Weight Smaller		Size of Stone (Inches)		
Than the Given d_{50} Size		From		To
100%		5		6
85%		4		5
50%		3		5
15%		1		2

Table 7-24 -- Recommended Rip Rap Gradation Ranges				
d_{50} Size =	0.5	Feet	6	Inches
% of Weight Smaller		Size of Stone (Inches)		
Than the Given d_{50} Size		From		To
100%		9		12
85%		8		11
50%		6		9
15%		2		3

APPENDIX VII

BMP Worksheets

GROUNDWATER RECHARGE VOLUME (GRV)
(Env-Wq 1504.12)

	ac	Area of HSG A soil that was replaced by impervious cover	0.40"
0.56	ac	Area of HSG B soil that was replaced by impervious cover	0.25"
	ac	Area of HSG C soil that was replaced by impervious cover	0.10"
	ac	Area of HSG D soil or impervious cover that was replaced by impervious cover	0.0"
0.25	inches	Rd = Weighted groundwater recharge depth	
0.1393	ac-in	GRV = AI * Rd	
505	cf	GRV conversion (ac-in x 43,560 sf/ac x 1ft/12”)	
	← Y/N	Is a stage-storage table attached showing that the GRV can be stored below the lowest invert of the outlet structure (if applicable)? Multiple stormwater control measures may be used to meet the GRV requirements.	

Provide calculations/discussion below showing that the project meets the groundwater recharge requirements (Env-Wq 1507.04):

1,075 cf stored below outlet invert in chamber system A

1,075 cf stored below outlet invert in chamber system B

713 cf stored in filtration drip edge

1075+1075+713 = 2,863 cf total GRV provided >> 505 cf GRV required

GENERAL CALCULATIONS - WQV and WQF
(optional worksheet)

This worksheet may be useful when designing a BMP that does not fit into one of the specific worksheets already provided (such as for a technology which is not a stormwater wetland, infiltration practice, etc.)

Water Quality Volume (WQV)

0.25	ac	A = Area draining to the practice
0.21	ac	A_I = Impervious area draining to the practice
0.86	decimal	I = Percent impervious area draining to the practice, in decimal form
0.83	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)
0.20	ac-in	WQV= 1" x Rv x A
743	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

Water Quality Flow (WQF)

1	inches	P = Amount of rainfall. For WQF in NH, P = 1".
0.83	inches	Q = Water quality depth. Q = WQV/A
98	unitless	CN = Unit peak discharge curve number. CN =1000/(10+5P+10Q–10*[Q^2 + 1.25*Q*P] $^{0.5}$)
0.2	inches	S = Potential maximum retention. S = (1000/CN) - 10
0.033	inches	Ia = Initial abstraction. Ia = 0.2S
6.0	minutes	T_c = Time of Concentration
700.0	cfs/mi^2/in	q_u is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
0.224	cfs	WQF = q_u x WQV. Conversion: to convert "cfs/mi^2/in * ac-in" to "cfs" multiply by 1mi^2/640ac.

Designer's Notes:

For design of Focal Point 1 (Pond 3P) in conjunction with Focal Point design worksheet.

DESIGN WORKSHEET

FOCALPOINT

NEW HAMPSHIRE AOT PROJECTS

1. **Determine FocalPoint bed area (minimum 174 sf/acre of impervious area - ex: 0.2 acres = 35 sf)**
   See step 2 to determine if minimum size is appropriate.
   - Tributary impervious area: = 0.214 ac **(A)**
   - Tributary pervious area: = 0.034 ac **(B)**
   - Minimum FocalPoint bed area required: **= ((A x 1.0) + (B x 0.4)) * 174** = 39.6 sf
   - FocalPoint bed area provided: = 40 sf
   - Dimensions of proposed FocalPoint: = 10 ft x 4 ft

2. **Model a Type II & III 24-hr rainfall event that generates the water quality volume to demonstrate that the entire storm volume is treated prior to activation of the overflow (typically set at 6 - 12 in above the mulch). Note: a 1.2 - 1.3 in rainfall event usually generates 1.0 in of runoff.**
   Contact ACF for a sample HydroCAD node.
   - Water quality volume (WQv) goal: = 743 ft^3
   - Type II & III 24-hr rainfall depth to generate WQv: = 1.49 in
   - Temporary storage depth provided: = 6.0 in (typically 6 - 12 in)
   - Temporary storage volume provided at above depth: = 51 ft^3
   - Peak ponding depth from Type III 24-hr storm event: = 2.1 in

3. **Size the Harco PVC domed overflow riser.**
   Note: ACF recommends installation of a Fabco domed overflow filter kit for overflow protection.
   - Domed overflow riser diameter: = 24 in
   - Rim elevation of overflow riser: = 22.50 (typically 6 - 12 in above mulch surface)
   - 6 in invert in elevation from FocalPoint: = 19.25 (typically 3 ft below mulch surface)
   - 12 in invert out elevation: = 19.25

4. **Flood control - peak flow attenuation of major storms**
   The treated flow and bypass flow can be routed to a detention system such as an open pond or a subsurface solution like an expanded R-Tank system. (contact ACF for additional information on designing expanded R-Tank systems)

5. **Prepare a landscape plan for the FocalPoint bed area** ☑

6. **Design review and installation oversight by manufacturer's representative**
   - The design has been reviewed by ACF Environmental ☐
   - Engineer will coordinate installation inspection with ACF Environmental ☑

Contact Rob Woodman - Senior Stormwater Engineer
Cell: 207.272.4431 | Email: rwoodman@acfenv.com

ACF ENVIRONMENTAL

DESIGNING WITH FOCALPOINT IN NEW HAMPSHIRE

The New Hampshire Department of Environmental Services has approved the FocalPoint (High Performance Modular Biofiltration System) for use on AoT site development projects in the State of New Hampshire.

SIZING CRITERIA SUMMARY

- The surface area of the media within FocalPoint must be a minimum of 174 sf per 1.0 acre of impervious area (26 sf per 0.15 acres). The thickness of the media is to be no less than 1.5 ft (18 in).
- The system must be modelled in HydroCAD (or similar TR-55 modeling software) to demonstrate that the entire volume of a 1.22 in Type II or III 24-hr storm is treated prior to activation of the bypass/overflow (typically set at 6 - 12 in above the mulch surface). Note: A 1.22 in rainfall event typically generates 1.0 in of runoff.
- The R-Tank modular underdrain can be expanded beyond the footprint of the FocalPoint media bed for expanded infiltration and peak flow attenuation/detention post treatment.

FOCALPOINT SYSTEMS:

FOCALPOINT ACCESSORIES:

Pretreatment - Rain Guardian Turret

Pretreatment - Rain Guardian Foxhole

Pretreatment - PreTx

Bypass protection - Domed overflow with filter insert

For additional information please visit: www.acfenvironmental.com

Contact Rob Woodman - Senior Stormwater Engineer
Cell: 207.272.4431 | Email: rwoodman@acfenv.com

ACF ENVIRONMENTAL

Summary for Pond 3P: Focal Point 1

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=9)

Inflow Area = 0.248 ac, 86.15% Impervious, Inflow Depth = 0.86" for Focal Point 1 WQF event
Inflow = 0.24 cfs @ 12.09 hrs, Volume= 0.018 af
Outflow = 0.23 cfs @ 12.12 hrs, Volume= 0.018 af, Atten= 5%, Lag= 1.9 min
Primary = 0.23 cfs @ 12.12 hrs, Volume= 0.018 af
Routed to Pond 4P : Chamber System A

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 22.18' @ 12.12 hrs Surf.Area= 98 sf Storage= 27 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.8 min (823.0 - 822.2)

Volume	Invert	Avail.Storage	Storage Description
#1	19.75'	18 cf	**4.00'W x 10.00'L x 2.25'H Focal Point Area 1** 90 cf Overall x 20.0% Voids
#2	22.00'	59 cf	**Surface Bowl (Prismatic)** Listed below (Recalc)
		77 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.00	40	0	0
22.75	118	59	59

Device	Routing	Invert	Outlet Devices
#1	Primary	19.25'	**12.0" Round Culvert** L= 9.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 19.25' / 19.20' S= 0.0056 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 3	19.75'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#3	Device 1	19.25'	**6.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	22.50'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.22 cfs @ 12.12 hrs HW=22.16' TW=18.45' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.22 cfs of 4.63 cfs potential flow)
  └─**3=Orifice/Grate** (Passes 0.22 cfs of 1.96 cfs potential flow)
    └─**2=Exfiltration** (Exfiltration Controls 0.22 cfs)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Stage-Discharge for Pond 3P: Focal Point 1

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
19.75	0.00	20.79	0.09	21.83	0.09
19.77	0.02	20.81	0.09	21.85	0.09
19.79	0.04	20.83	0.09	21.87	0.09
19.81	0.06	20.85	0.09	21.89	0.09
19.83	0.07	20.87	0.09	21.91	0.09
19.85	0.09	20.89	0.09	21.93	0.09
19.87	0.09	20.91	0.09	21.95	0.09
19.89	0.09	20.93	0.09	21.97	0.09
19.91	0.09	20.95	0.09	21.99	0.09
19.93	0.09	20.97	0.09	22.01	0.19
19.95	0.09	20.99	0.09	22.03	0.19
19.97	0.09	21.01	0.09	22.05	0.20
19.99	0.09	21.03	0.09	22.07	0.20
20.01	0.09	21.05	0.09	22.09	0.21
20.03	0.09	21.07	0.09	22.11	0.21
20.05	0.09	21.09	0.09	22.13	0.22
20.07	0.09	21.11	0.09	22.15	0.22
20.09	0.09	21.13	0.09	22.17	0.23
20.11	0.09	21.15	0.09	22.19	0.23
20.13	0.09	21.17	0.09	22.21	0.24
20.15	0.09	21.19	0.09	22.23	0.24
20.17	0.09	21.21	0.09	22.25	0.25
20.19	0.09	21.23	0.09	22.27	0.25
20.21	0.09	21.25	0.09	22.29	0.25
20.23	0.09	21.27	0.09	22.31	0.26
20.25	0.09	21.29	0.09	22.33	0.26
20.27	0.09	21.31	0.09	22.35	0.27
20.29	0.09	21.33	0.09	22.37	0.27
20.31	0.09	21.35	0.09	22.39	0.28
20.33	0.09	21.37	0.09	22.41	0.28
20.35	0.09	21.39	0.09	22.43	0.29
20.37	0.09	21.41	0.09	22.45	0.29
20.39	0.09	21.43	0.09	22.47	0.30
20.41	0.09	21.45	0.09	22.49	0.30
20.43	0.09	21.47	0.09	22.51	0.33
20.45	0.09	21.49	0.09	22.53	0.42
20.47	0.09	21.51	0.09	22.55	0.55
20.49	0.09	21.53	0.09	22.57	0.70
20.51	0.09	21.55	0.09	22.59	0.88
20.53	0.09	21.57	0.09	22.61	1.08
20.55	0.09	21.59	0.09	22.63	1.30
20.57	0.09	21.61	0.09	22.65	1.54
20.59	0.09	21.63	0.09	22.67	1.79
20.61	0.09	21.65	0.09	22.69	2.05
20.63	0.09	21.67	0.09	22.71	2.33
20.65	0.09	21.69	0.09	22.73	2.63
20.67	0.09	21.71	0.09	22.75	**2.93**
20.69	0.09	21.73	0.09		
20.71	0.09	21.75	0.09		
20.73	0.09	21.77	0.09		
20.75	0.09	21.79	0.09		
20.77	0.09	21.81	0.09		

WQF = 0.224 cfs
E(WQF) = 22.16
Overflow el. = 22.5

Stage-Area-Storage for Pond 3P: Focal Point 1

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
19.75	40	0
19.80	40	0
19.85	40	1
19.90	40	1
19.95	40	2
20.00	40	2
20.05	40	2
20.10	40	3
20.15	40	3
20.20	40	4
20.25	40	4
20.30	40	4
20.35	40	5
20.40	40	5
20.45	40	6
20.50	40	6
20.55	40	6
20.60	40	7
20.65	40	7
20.70	40	8
20.75	40	8
20.80	40	8
20.85	40	9
20.90	40	9
20.95	40	10
21.00	40	10
21.05	40	10
21.10	40	11
21.15	40	11
21.20	40	12
21.25	40	12
21.30	40	12
21.35	40	13
21.40	40	13
21.45	40	14
21.50	40	14
21.55	40	14
21.60	40	15
21.65	40	15
21.70	40	16
21.75	40	16
21.80	40	16
21.85	40	17
21.90	40	17
21.95	40	18
22.00	80	18
22.05	85	20
22.10	90	23
22.15	96	25
22.20	101	28
22.25	106	31
22.30	111	35
22.35	116	38
22.40	122	42
22.45	127	47
22.50	132	51
22.55	137	56
22.60	142	61
22.65	148	66
22.70	153	71
22.75	**158**	**77**

Overflow el. = 22.5
Temporary storage
volume provided = 51 cf

INFILTRATION PRACTICE CRITERIA
(Env-Wq 1508.07)

Type/Node Name: **Chamber System A (Pond 4P)**

Enter the type of infiltration practice (such as basin, trench) and the node name in the drainage analysis, if applicable.

Yes		Have you reviewed Env-Wq 1508.07(a) to ensure that infiltration is allowed?	**← yes**
0.25	ac	A = Area draining to the practice	
0.22	ac	A_I = Impervious area draining to the practice	
0.86	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.83	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.21	ac-in	WQV= 1" x Rv x A	
755	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
189	cf	25% x WQV (check calc for sediment forebay volume)	
N/A		Method of pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
1,075	cf	V = Volume[1] (attach a stage-storage table)	**≥ WQV**
896	sf	A_{SA} = Surface area of the bottom of the pond	
1.00	iph	$Ksat_{DESIGN}$ = Design infiltration rate[2]	
10.1	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
19.20	feet	E_{BTM} = Elevation of the bottom of the basin	
18.17	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
16.17	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.03	feet	D_{SHWT} = Separation from SHWT	**≥ *** [3]
3.0	feet	D_{ROCK} = Separation from bedrock	**≥ *** [3]
	ft	D_{amend} = Depth of amended soil, if applicable due high infiltation rate	**≥ 24"**
	ft	D_T = Depth of trench, if trench proposed	**4 - 10 ft**
	Yes/No	If a trench or underground system is proposed, has observation well been provided?	**←yes**
		If a trench is proposed, does material meet Env-Wq 1508.07(k)(2) requirements.[4]	**← yes**
	Yes/No	If a basin is proposed, Is the perimeter curvilinear, and basin floor flat?	**← yes**
	:1	If a basin is proposed, pond side slopes.	**≥3:1**
20.59	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
21.13	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
21.20	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench?[5]	**← yes**
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	**← yes**

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. $Ksat_{DESIGN}$ includes a factor of safety. See Env-Wq 1504.14 for requirements for determining the infiltr. rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

Designer's Notes:

Runoff is already treated through focal point. WQV calculation is irrelevant & only 1' SHWT separation necessary

No stage storage table is attached. 8*14'*8' = 896 sf

Outlet 1.2' above pond bottom, so 896 sf * 1.2 ft = 1,075 cf

GENERAL CALCULATIONS - WQV and WQF
(optional worksheet)

This worksheet may be useful when designing a BMP that does not fit into one of the specific worksheets already provided (such as for a technology which is not a stormwater wetland, infiltration practice, etc.)

Water Quality Volume (WQV)

0.17	ac	A = Area draining to the practice
0.14	ac	A_I = Impervious area draining to the practice
0.83	decimal	I = Percent impervious area draining to the practice, in decimal form
0.79	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)
0.14	ac-in	WQV= 1" x Rv x A
498	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

Water Quality Flow (WQF)

1	inches	P = Amount of rainfall. For WQF in NH, P = 1".
0.79	inches	Q = Water quality depth. Q = WQV/A
98	unitless	CN = Unit peak discharge curve number. CN =1000/(10+5P+10Q–10*[Q^2 + 1.25*Q*P] $^{0.5}$)
0.2	inches	S = Potential maximum retention. S = (1000/CN) - 10
0.040	inches	Ia = Initial abstraction. Ia = 0.2S
6.0	minutes	T_c = Time of Concentration
700.0	cfs/mi^2/in	q_u is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
0.150	cfs	WQF = q_u x WQV. Conversion: to convert "cfs/mi^2/in * ac-in" to "cfs" multiply by 1mi^2/640ac.

Designer's Notes:

For design of Focal Point 2 (Pond 5P) in conjunction with Focal Point design worksheet.

DESIGN WORKSHEET

FOCALPOINT

NEW HAMPSHIRE AOT PROJECTS

1. **Determine FocalPoint bed area (minimum 174 sf/acre of impervious area - ex: 0.2 acres = 35 sf)**
   See step 2 to determine if minimum size is appropriate.
   - Tributary impervious area: = 0.143 ac **(A)**
   - Tributary pervious area: = 0.030 ac **(B)**
   - Minimum FocalPoint bed area required: **= ((A x 1.0) + (B x 0.4)) * 174** = 27.0 sf
   - FocalPoint bed area provided: = 28 sf
   - Dimensions of proposed FocalPoint: = 3 ft x 7 ft

2. **Model a Type II & III 24-hr rainfall event that generates the water quality volume to demonstrate that the entire storm volume is treated prior to activation of the overflow (typically set at 6 - 12 in above the mulch). Note: a 1.2 - 1.3 in rainfall event usually generates 1.0 in of runoff.**
   Contact ACF for a sample HydroCAD node.
   - Water quality volume (WQv) goal: = 498 ft^3
   - Type II & III 24-hr rainfall depth to generate WQv: = 1.40 in
   - Temporary storage depth provided: = 2.4 in (typically 6 - 12 in)
   - Temporary storage volume provided at above depth: = 19 ft^3
   - Peak ponding depth from Type III 24-hr storm event: = 1.8 in

3. **Size the Harco PVC domed overflow riser.**
   Note: ACF recommends installation of a Fabco domed overflow filter kit for overflow protection.
   - Domed overflow riser diameter: = 24 in
   - Rim elevation of overflow riser: = 22.95 (typically 6 - 12 in above mulch surface)
   - 6 in invert in elevation from FocalPoint: = 20.00 (typically 3 ft below mulch surface)
   - 12 in invert out elevation: = 20.00

4. **Flood control - peak flow attenuation of major storms**
   The treated flow and bypass flow can be routed to a detention system such as an open pond or a subsurface solution like an expanded R-Tank system. (contact ACF for additional information on designing expanded R-Tank systems)

5. **Prepare a landscape plan for the FocalPoint bed area** ☑

6. **Design review and installation oversight by manufacturer's representative**
   - The design has been reviewed by ACF Environmental ☑
   - Engineer will coordinate installation inspection with ACF Environmental ☑

Contact Rob Woodman - Senior Stormwater Engineer
Cell: 207.272.4431 | Email: rwoodman@acfenv.com

ACF ENVIRONMENTAL

DESIGNING WITH FOCALPOINT IN NEW HAMPSHIRE

The New Hampshire Department of Environmental Services has approved the FocalPoint (High Performance Modular Biofiltration System) for use on AoT site development projects in the State of New Hampshire.

SIZING CRITERIA SUMMARY

- The surface area of the media within FocalPoint must be a minimum of 174 sf per 1.0 acre of impervious area (26 sf per 0.15 acres). The thickness of the media is to be no less than 1.5 ft (18 in).
- The system must be modelled in HydroCAD (or similar TR-55 modeling software) to demonstrate that the entire volume of a 1.22 in Type II or III 24-hr storm is treated prior to activation of the bypass/overflow (typically set at 6 - 12 in above the mulch surface). Note: A 1.22 in rainfall event typically generates 1.0 in of runoff.
- The R-Tank modular underdrain can be expanded beyond the footprint of the FocalPoint media bed for expanded infiltration and peak flow attenuation/detention post treatment.

FOCALPOINT SYSTEMS:

FOCALPOINT ACCESSORIES:

Pretreatment - Rain Guardian Turret

Pretreatment - Rain Guardian Foxhole

Pretreatment - PreTx

Bypass protection - Domed overflow with filter insert

For additional information please visit: www.acfenvironmental.com

Contact Rob Woodman - Senior Stormwater Engineer
Cell: 207.272.4431 | Email: rwoodman@acfenv.com

ACF ENVIRONMENTAL

Summary for Pond 5P: Focal Point 2

[90] Warning: Qout>Qin may require smaller dt or Finer Routing
[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=3)

Inflow Area = 0.173 ac, 82.50% Impervious, Inflow Depth = 0.72" for Focal Point 2 WQF event
Inflow = 0.14 cfs @ 12.09 hrs, Volume= 0.010 af
Outflow = 0.15 cfs @ 12.12 hrs, Volume= 0.010 af, Atten= 0%, Lag= 1.5 min
Primary = 0.15 cfs @ 12.12 hrs, Volume= 0.010 af
Routed to Pond 6P : Chamber System B

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 22.90' @ 12.12 hrs Surf.Area= 67 sf Storage= 17 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.8 min (832.4 - 831.5)

Volume	Invert	Avail.Storage	Storage Description
#1	20.50'	12 cf	**3.00'W x 9.00'L x 2.25'H Focal Point Area 1** 61 cf Overall x 20.0% Voids
#2	22.75'	24 cf	**Surface Bowl (Prismatic)**Listed below (Recalc)
		36 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
22.75	27	0	0
23.25	70	24	24

Device	Routing	Invert	Outlet Devices
#1	Primary	20.00'	**12.0" Round Culvert** L= 32.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 20.00' / 19.80' S= 0.0062 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 3	20.50'	**100.000 in/hr Exfiltration over Surface area** Phase-In= 0.10'
#3	Device 1	20.00'	**6.0" W x 6.0" H Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 1	22.95'	**24.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.14 cfs @ 12.12 hrs HW=22.84' TW=18.73' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.14 cfs of 4.56 cfs potential flow)
  ├─**3=Orifice/Grate** (Passes 0.14 cfs of 1.94 cfs potential flow)
  │ └─**2=Exfiltration** (Exfiltration Controls 0.14 cfs)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

Stage-Discharge for Pond 5P: Focal Point 2

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
20.50	0.00	21.54	0.06	22.58	0.06
20.52	0.01	21.56	0.06	22.60	0.06
20.54	0.02	21.58	0.06	22.62	0.06
20.56	0.04	21.60	0.06	22.64	0.06
20.58	0.05	21.62	0.06	22.66	0.06
20.60	0.06	21.64	0.06	22.68	0.06
20.62	0.06	21.66	0.06	22.70	0.06
20.64	0.06	21.68	0.06	22.72	0.06
20.66	0.06	21.70	0.06	22.74	0.06
20.68	0.06	21.72	0.06	22.76	0.13
20.70	0.06	21.74	0.06	22.78	0.13
20.72	0.06	21.76	0.06	22.80	0.13
20.74	0.06	21.78	0.06	22.82	0.14
20.76	0.06	21.80	0.06	22.84	0.14
20.78	0.06	21.82	0.06	22.86	0.15
20.80	0.06	21.84	0.06	22.88	0.15
20.82	0.06	21.86	0.06	22.90	0.15
20.84	0.06	21.88	0.06	22.92	0.16
20.86	0.06	21.90	0.06	22.94	0.16
20.88	0.06	21.92	0.06	22.96	0.19
20.90	0.06	21.94	0.06	22.98	0.28
20.92	0.06	21.96	0.06	23.00	0.40
20.94	0.06	21.98	0.06	23.02	0.56
20.96	0.06	22.00	0.06	23.04	0.74
20.98	0.06	22.02	0.06	23.06	0.94
21.00	0.06	22.04	0.06	23.08	1.15
21.02	0.06	22.06	0.06	23.10	1.39
21.04	0.06	22.08	0.06	23.12	1.64
21.06	0.06	22.10	0.06	23.14	1.90
21.08	0.06	22.12	0.06	23.16	2.18
21.10	0.06	22.14	0.06	23.18	2.48
21.12	0.06	22.16	0.06	23.20	2.78
21.14	0.06	22.18	0.06	23.22	3.10
21.16	0.06	22.20	0.06	23.24	**3.43**
21.18	0.06	22.22	0.06		
21.20	0.06	22.24	0.06		
21.22	0.06	22.26	0.06		
21.24	0.06	22.28	0.06		
21.26	0.06	22.30	0.06		
21.28	0.06	22.32	0.06		
21.30	0.06	22.34	0.06		
21.32	0.06	22.36	0.06		
21.34	0.06	22.38	0.06		
21.36	0.06	22.40	0.06		
21.38	0.06	22.42	0.06		
21.40	0.06	22.44	0.06		
21.42	0.06	22.46	0.06		
21.44	0.06	22.48	0.06		
21.46	0.06	22.50	0.06		
21.48	0.06	22.52	0.06		
21.50	0.06	22.54	0.06		
21.52	0.06	22.56	0.06		

WQF = 0.15 cfs
E(WQF) = 22.9
Overflow el. = 22.95

Stage-Area-Storage for Pond 5P: Focal Point 2

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
20.50	27	0
20.55	27	0
20.60	27	1
20.65	27	1
20.70	27	1
20.75	27	1
20.80	27	2
20.85	27	2
20.90	27	2
20.95	27	2
21.00	27	3
21.05	27	3
21.10	27	3
21.15	27	4
21.20	27	4
21.25	27	4
21.30	27	4
21.35	27	5
21.40	27	5
21.45	27	5
21.50	27	5
21.55	27	6
21.60	27	6
21.65	27	6
21.70	27	6
21.75	27	7
21.80	27	7
21.85	27	7
21.90	27	8
21.95	27	8
22.00	27	8
22.05	27	8
22.10	27	9
22.15	27	9
22.20	27	9
22.25	27	9
22.30	27	10
22.35	27	10
22.40	27	10
22.45	27	11
22.50	27	11
22.55	27	11
22.60	27	11
22.65	27	12
22.70	27	12
22.75	54	12
22.80	58	14
22.85	63	15
22.90	67	17
22.95	71	19
23.00	76	22
23.05	80	24
23.10	84	27
23.15	88	30
23.20	93	33
23.25	**97**	**36**

Overflow el. = 22.95
Temporary storage volume provided = 19 cf

INFILTRATION PRACTICE CRITERIA
(Env-Wq 1508.07)

Type/Node Name: **Chamber System B (Pond 6P)**

Enter the type of infiltration practice (such as basin, trench) and the node name in the drainage analysis, if applicable.

Yes		Have you reviewed Env-Wq 1508.07(a) to ensure that infiltration is allowed?	**← yes**
0.17	ac	A = Area draining to the practice	
0.14	ac	A_I = Impervious area draining to the practice	
0.83	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.79	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.14	ac-in	WQV= 1" x Rv x A	
498	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
124	cf	25% x WQV (check calc for sediment forebay volume)	
N/A		Method of pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
1,075	cf	V = Volume[1] (attach a stage-storage table)	**≥ WQV**
896	sf	A_{SA} = Surface area of the bottom of the pond	
1.00	iph	$Ksat_{DESIGN}$ = Design infiltration rate[2]	
6.7	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
19.60	feet	E_{BTM} = Elevation of the bottom of the basin	
18.57	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
16.90	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
1.03	feet	D_{SHWT} = Separation from SHWT	**≥ *** [3]
2.7	feet	D_{ROCK} = Separation from bedrock	**≥ *** [3]
	ft	D_{amend} = Depth of amended soil, if applicable due high infiltation rate	**≥ 24"**
	ft	D_T = Depth of trench, if trench proposed	**4 - 10 ft**
	Yes/No	If a trench or underground system is proposed, has observation well been provided?	**←yes**
		If a trench is proposed, does material meet Env-Wq 1508.07(k)(2) requirements.[4]	**← yes**
	Yes/No	If a basin is proposed, Is the perimeter curvilinear, and basin floor flat?	**← yes**
	:1	If a basin is proposed, pond side slopes.	**≥3:1**
20.36	ft	Peak elevation of the 10-year storm event (infiltration can be used in analysis)	
21.13	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
21.60	ft	Elevation of the top of the practice (if a basin, this is the elevation of the berm)	
YES		10 peak elevation ≤ Elevation of the top of the trench?[5]	**← yes**
YES		If a basin is proposed, 50-year peak elevation ≤ Elevation of berm?	**← yes**

1. Volume below the lowest invert of the outlet structure and excludes forebay volume
2. $Ksat_{DESIGN}$ includes a factor of safety. See Env-Wq 1504.14 for requirements for determining the infiltr. rate
3. 1' separation if treatment not required; 4' for treatment in GPAs & WSIPAs; & 3' in all other areas.
4. Clean, washed well graded diameter of 1.5 to 3 inches above the in-situ soil.
5. If 50-year peak elevation exceeds top of trench, the overflow must be routed in HydroCAD as secondary discharge.

Designer's Notes:

Runoff is already treated through focal point. WQV calculation is irrelevant & only 1' SHWT separation necessary

No stage storage table is attached. 8*14'*8' = 896 sf

Outlet 1.2' above pond bottom, so 896 sf * 1.2 ft = 1,075 cf

FILTRATION PRACTICE DESIGN CRITERIA
(Env-Wq 1508.08)

Type/Node Name: **Filtration Drip Edge / Pond 8P**

Enter the type of filtration practice (e.g., bioretention system) and the node name in the drainage analysis, if applicable.

		Check if you reviewed the restrictions on unlined systems outlined in Env-Wq 1508.08(a).	
0.21	ac	A = Area draining to the practice	
0.18	ac	A_I = Impervious area draining to the practice	
0.84	decimal	I = Percent impervious area draining to the practice, in decimal form	
0.80	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)	
0.17	ac-in	WQV= 1" x Rv x A	
622	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")	
155	cf	25% x WQV (check calc for sediment forebay volume)	
466	cf	75% x WQV (check calc for surface sand filter volume)	
N/A		Method of Pretreatment? (not required for clean or roof runoff)	
	cf	V_{SED} = Sediment forebay volume, if used for pretreatment	**≥ 25%WQV**
Calculate time to drain if system IS NOT underdrained:			
1,500	sf	A_{SA} = Surface area of the practice	
1.00	iph	$Ksat_{DESIGN}$ = Design infiltration rate[1]	
N/A	Yes/No	If Ksat (prior to factor of safety) is < 0.50 iph, has an underdrain been provided? (Use the calculations below)	
5.0	hours	T_{DRAIN} = Drain time = V / (A_{SA} * I_{DESIGN})	**≤ 72-hrs**
Calculate time to drain if system IS underdrained:			
	ft	E_{WQV} = Elevation of WQV (attach stage-storage table)	
	cfs	Q_{WQV} = Discharge at the E_{WQV} (attach stage-discharge table)	
-	hours	T_{DRAIN} = Drain time = 2WQV/Q_{WQV}	**≤ 72-hrs**
18.75	feet	E_{FC} = Elevation of the bottom of the filter course material[2]	
	feet	E_{UD} = Invert elevation of the underdrain (UD), if applicable	
17.67	feet	E_{SHWT} = Elevation of SHWT (if none found, enter the lowest elevation of the test pit)	
15.67	feet	E_{ROCK} = Elevation of bedrock (if none found, enter the lowest elevation of the test pit)	
18.75	feet	$D_{FC\ to\ UD}$ = Depth to UD from the bottom of the filter course	**≥ 1'**
3.08	feet	$D_{FC\ to\ ROCK}$ = Depth to bedrock from the bottom of the filter course	**≥ 1'**
1.08	feet	$D_{FC\ to\ SHWT}$ = Depth to SHWT from the bottom of the filter course	**≥ 1'**
21.25	ft	Peak elevation of the 50-year storm event (infiltration can be used in analysis)	
21.25	ft	Elevation of the top of the practice	
YES		50 peak elevation ≤ Elevation of the top of the practice	**← yes**
If a surface sand filter or underground sand filter is proposed:			
YES	ac	Drainage Area check.	**< 10 ac**
	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ 75%WQV**
	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification.	
	Yes/No	Access grate provided?	**← yes**

If a bioretention area is proposed:			
YES	ac	Drainage Area no larger than 5 ac?	**← yes**
713	cf	V = Volume of storage[3] (attach a stage-storage table)	**≥ WQV**
18.0	inches	D_{FC} = Filter course thickness	**18", or 24" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course specification	
3.0	:1	Pond side slopes	**> 3:1**
Sheet		Note what sheet in the plan set contains the planting plans and surface cover	
If porous pavement is proposed:			
		Type of pavement proposed (Concrete? Asphalt? Pavers? Etc.)	
	acres	A_{SA} = Surface area of the pervious pavement	
	:1	Ratio of the contributing area to the pervious surface area	**≤ 5:1**
	inches	D_{FC} = Filter course thickness	**12", or 18" if within GPA**
Sheet		Note what sheet in the plan set contains the filter course spec.	**mod. 304.1 (see spec)**

1. Rate of the limiting layer (either the filter course or the underlying soil). Ksat $_{design}$ includes factor of safey. See Env-Wq 1504.14 for guidance on determining the infiltration rate.

2. See lines 34, 40 and 48 for required depths of filter media.

3. Volume without depending on infiltration. The volume includes the storage above the filter (but below the invert of the outlet stucture, if any), the filter media voids, and the pretreatment area. The storage above the filter media shall not include the volume above the outlet structure, if any.

Designer's Notes:

Natural elevation of 20.5 assumed prior to installation of berm. Conservative assumptions:

Using test pit 2 to determine 34" depth to water table and test pit 1 for 58" depth to bottom of test pit

20.5-(34"/12") = 17.67 SHWT

20.5-(58"/12") = 15.67 "Bedrock" (bottom of test pit, bedrock not observed)

12'*125' = 1,500 S.F. surface area

1,568 sf * (1'*0.4 + 1.5'*0.05) = 713 cf storage volume above stone layer

No stage storage table needed

APPENDIX VIII

Pollutant Removal Calculations

POLLUTANT REMOVAL CALCULATIONS

BMP	Focal Point 1 (3P)	Focal Point 2 (5P)	Filter Drip Edge (7P)	Nothing	Total	Required
Acres Impervious	0.214	0.143	0.179	0.022	0.557	
TSS Removal (%)	90%	90%	99%	0%	**89%**	**80%**
TN Removal (%)	75%	75%	99%	0%	**80%**	**50%**
TP Removal (%)	76%	76%	99%	0%	**80%**	**50%**

Existing offsite impervious within watersheds is excluded from calculation.
Pollutant removal efficiencies are per annotated EPA Performance curves enclosed with these calculations
TSS removal of 89% provided exceeds 80% requirement
TN removal of 80% provided exceeds 50% requirement
TP removal of 80% provided exceeds 50% requriement

REGION 1

BOSTON, MA 02109

Dated by Signature

MEMORANDUM

SUBJECT: FocalPoint Crediting Direction

FROM: Damien Houlihan, Stormwater Permits Section
Water Division

TO: Robert J. Woodman
Director - Engineering and Green Stormwater Infrastructure
Ferguson Waterworks

On June 7, 2021, Ferguson Waterworks (Ferguson) submitted a request to EPA Region 1 regarding the use of the FocalPoint biofiltration system (also known also as the High Performance Modular Biofiltration System, hereinafter "FocalPoint biofiltration system"). Based on the review of documents submitted by Ferguson, EPA Region 1 finds that entities wishing to deploy the FocalPoint biofiltration system may calculate phosphorus and nitrogen reductions under the 2016 Massachusetts Municipal Separate Storm Sewer Permit (MA MS4 Permit) and the 2017 New Hampshire Municipal Separate Storm Sewer Permit (NH MS4 Permit) using the performance quantification for Enhanced Biofiltration found on Table 3-20 and Figure 3-15 of Attachment 3 to Appendix F of the MA MS4 permit and Table 3-20 and Figure 3-15 of Attachment 3 to Appendix F of the NH MS4 permit (also attached to this document for reference) provided the following standard FocalPoint design requirements and other conditions are met:

1. Ferguson's FocalPoint biofiltration systems are to be designed with pretreatment to remove coarse sediment and debris before they reach and prematurely close the filter bed. Pretreatment measures must be designed to dissipate velocities and spread water out over a 2 to 4 ft width.
2. Ferguson's FocalPoint biofiltration systems are to be designed with a minimum and maximum surface ponding depths of 3 inches and 18 inches, respectively.
3. Ferguson's FocalPoint biofiltration systems are to be separated or otherwise isolated from the groundwater table to ensure that groundwater does not inundate the filter bed either using an impermeable liner or physical separation.
4. Ferguson's FocalPoint biofiltration systems are to be designed such that the system bed area is sized to be a minimum of 174 square feet per acre of tributary area. Stormwater modelling software shall be used to demonstrate that the runoff volume goal is treated prior to bypass.
5. System maintenance of Ferguson's FocalPoint biofiltration systems should occur once every 6 months, at a minimum, and filter media and pretreatment measures shall be replaced such that the performance of the systems are maintained as originally designed.

6. Stormwater quality monitoring must be used to ensure system performance has not declined over time. EPA recommends this monitoring commence once the filter bed media reaches two (2) years in age to ensure system performance has not declined. All monitoring data must be submitted to EPA by the entity claiming pollution reduction credit for the FocalPoint biofiltration system and filter media shall be replaced if monitoring data shows a decline in performance from original design.

This pollution reduction crediting of the FocalPoint biofiltration system is consistent with the Alternative Methods request process contained in Attachment 3 to Appendix F in the MA MS4 Permit and Attachment 3 to Appendix F of the NH MS4 Permit and may be used unless EPA Region 1 requires an alternative pollution reduction crediting methodology based on new or additional modeling of high-flow-rate filtering systems in a future NPDES permit. All stormwater quality monitoring data shall be submitted to EPA consistent with the requirements of the MA MS4 Permit or the NH MS4 Permit.

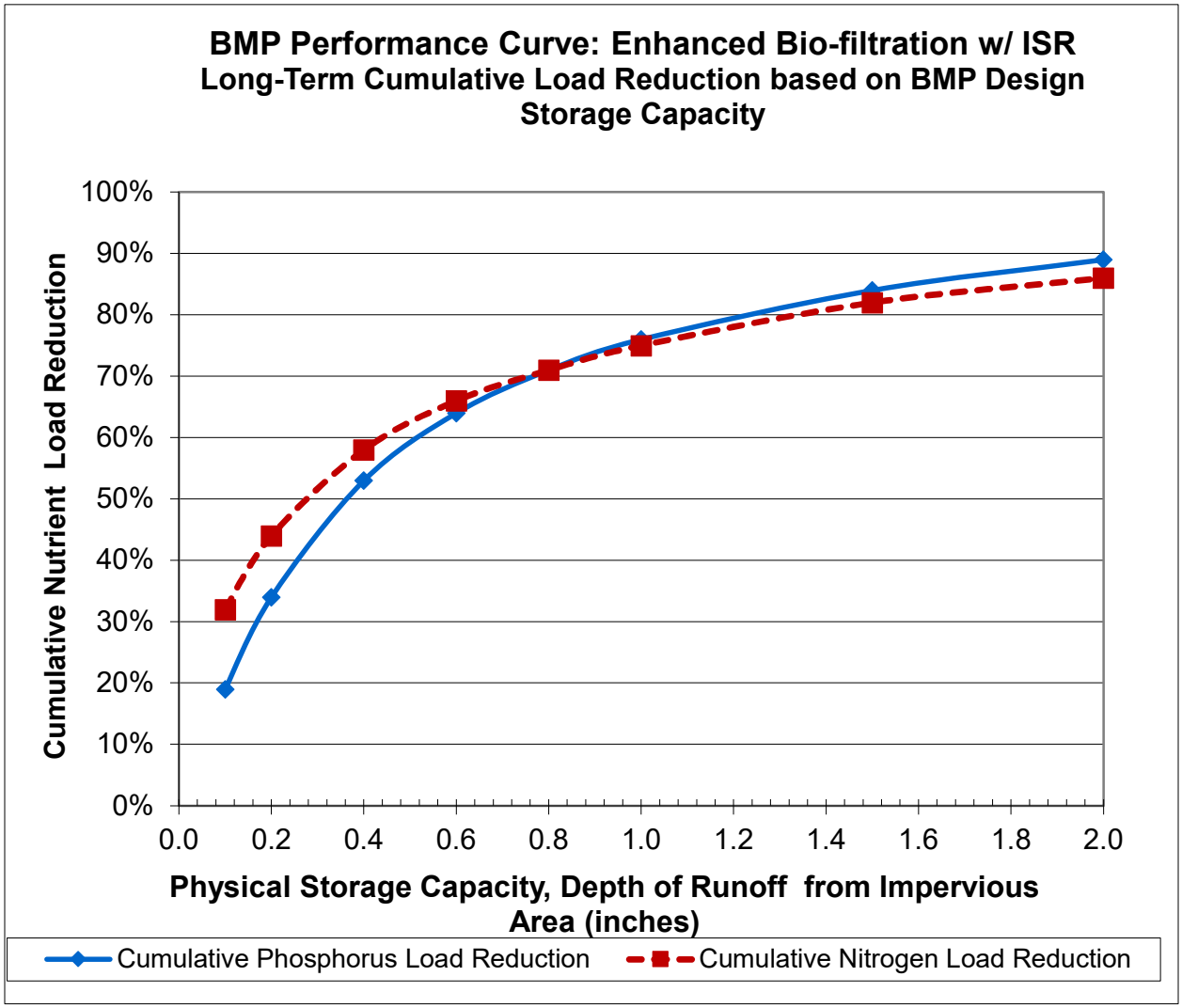
Table 3- 20: Enhanced Bio-filtration* with Internal Storage Reservoir (ISR) BMP Performance Table

Enhanced Bio-filtration* w/ ISR BMP Performance Table: Long-Term Phosphorus & Nitrogen Load Reduction								
BMP Capacity: Depth of Runoff from Impervious Area (inches)	0.1	0.2	0.4	0.6	0.8	1.0	1.5	2.0
Cumulative Phosphorus Load Reduction	19%	34%	53%	64%	71%	76%	84%	89%
Cumulative Nitrogen Load Reduction	32%	44%	58%	66%	71%	75%	82%	86%

***Filter media augmented with phosphorus sorbing materials to enhance phosphorus removal.**

JBE added note: 90% TSS removal assumed due to infiltration system directly downstream

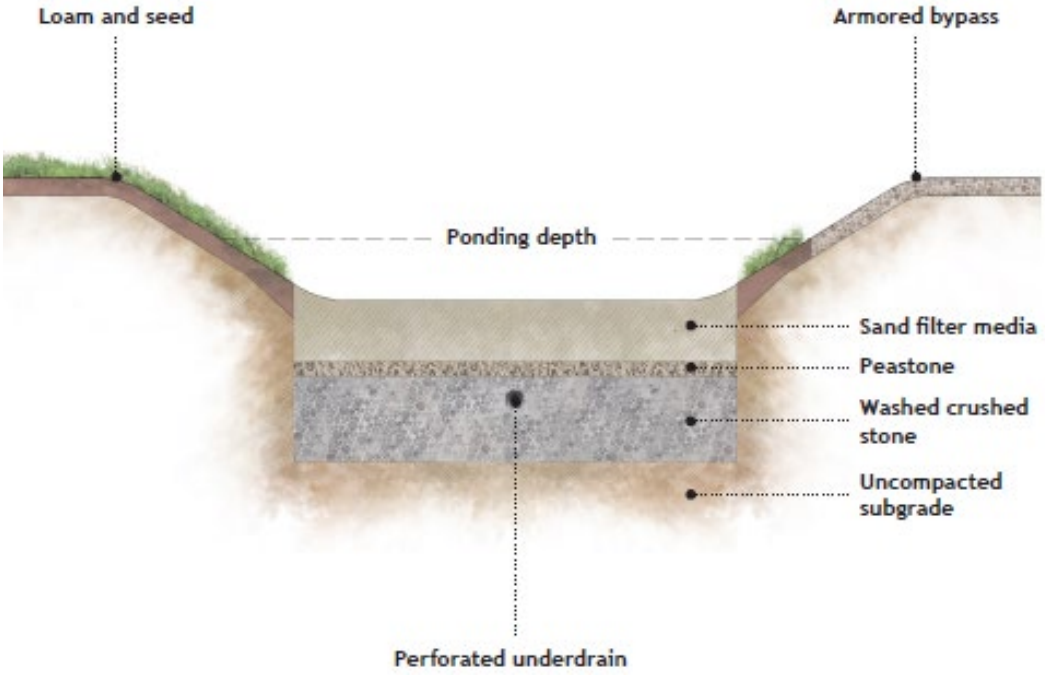
Figure 3-15: BMP Performance Curve: Enhanced Bio-filtration with Internal Storage Reservoir (ISR) BMP Performance Table



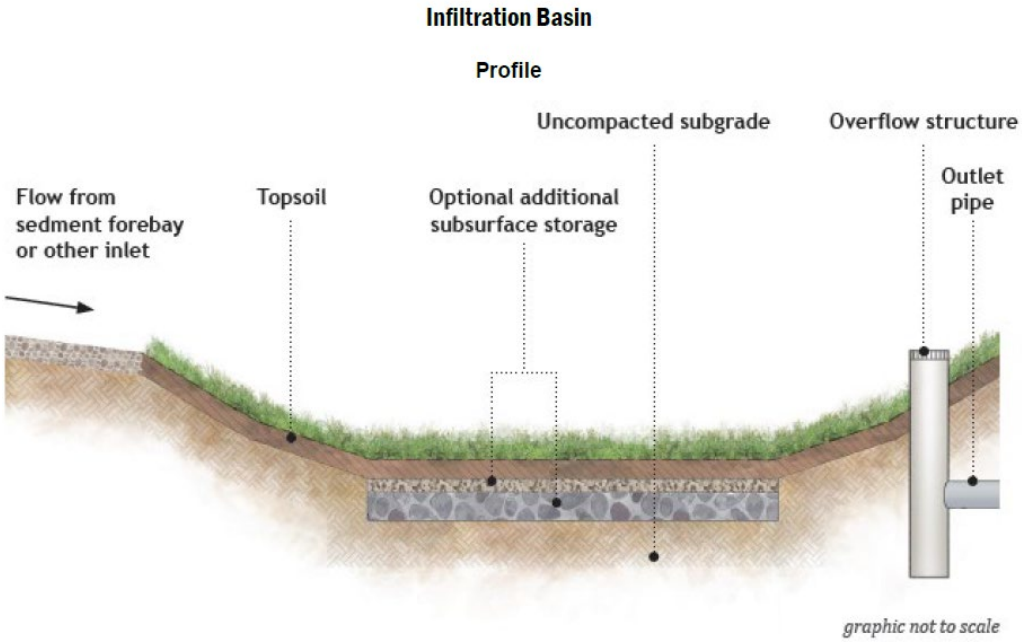
Infiltration Basin Factsheet

Infiltration Basin is an impoundment designed to temporarily retain stormwater runoff, allowing all or a portion of the water to infiltrate into the soil and is designed to completely drain between storm events. Surface infiltration basins should be designed with an outlet structure to pass peak flows during a range of storm events and an emergency spillway to pass peak flows around the embankment during extreme storm events. Water quality treatment is provided by stormwater runoff pollutants binding to soil particles beneath the basin as water infiltrates. Biological and chemical processes occurring in the soil also contribute to the breakdown of pollutants.

Sample Design



New England Stormwater Retrofit Manual (2022)



New England Stormwater Retrofit Manual (2022)

Pollutant Export Rate by Land Use[1]

Source Category by Land Use	Land Surface Cover	P Load Export Rate (lbs/acre/year)	N Load Export Rate (lbs/acre/year)
Commercial (COM) and Industrial (IND)	Directly connected impervious	1.78	15.0
Multi-Family (MFR) and High-Density Residential (HDR)	Directly connected impervious	2.32	14.1
Medium-Density Residential (MDR)	Directly connected impervious	1.96	14.1
Low-Density Residential (LDR) - "Rural"	Directly connected impervious	1.52	14.1

General Equations

Parameter	Equation
Physical Storage Capacity	Depth of Runoff x Drainage Area
Cost	Design Storage Volume x Unit Cost x Adjustment Factor[2]
Yearly Pollutant Removal	Pollutant Load Export Rate x Drainage Area x Efficiency

Cost (2026)[2,3]

Unit Cost ($/ft^3)[4]	Annual Maintenance Hours (hrs)
8.11	Not Assessed

[1] 2016 Massachusetts MS4 General Permit, Appendix F, Attachment 3, Table 3-1 (for phosphorus) and Table 3-2 (for nitrogen)
[2] EPA Memorandum "Methodology for developing cost estimates for Opti-Tool." February 20, 2016. *scholars.unh.edu*
[3] Converted from 2010 to January 2026 dollars using U.S. Department of Labor Bureau of Labor Statistics' Consumer Price Index Inflation Calculator. *bls.gov/data/inflation_calculator.htm*
[4] The unit cost provided, design storage volume of the SCM, and a user-determined multiplier (adjustment factor) that accounts for SCM-specific factors can used to appropriately calibrate the total SCM cost. See further discussion on page 4 of this document.

SCM Performance Tables for Soil Infiltration Rate: Infiltration Basin

		Load Reduction (%)					
Infiltration Rate (in/hr)	Depth of Runoff from Impervious Area (inches)	Volume	Phos-phorus	Nitrogen	TSS	Zinc	Bacteria
0.52	0.1	20	37	57	60	59	29
	0.2	36	56	75	78	77	48
	0.4	58	79	90	92	91	75
	0.6	73	90	96	96	96	88
	0.8	83	95	98	98	98	94
	1.0	89	97	99	99	99	97
	1.5	96	99	100	100	100	100
	2.0	98	100	100	100	100	100
For filtration drip edge (Pond 8P) 1.02	0.1	25	42	60	59	58	33
	0.2	42	62	77	78	77	54
	0.4	66	85	92	92	91	81
	0.6	80	94	97	97	96	92
	0.8	88	97	99	99	98	97
	1.0	93	99	99	99	99	99
	1.5	97	100	100	100	100	100
	2.0	99	100	100	100	100	100
2.41	0.1	33	51	64	59	58	40
	0.2	54	73	82	79	78	65
	0.4	79	92	95	93	93	91
	0.6	90	97	98	98	97	98
	0.8	95	99	99	99	99	100
	1.0	97	100	100	100	100	100
	1.5	100	100	100	100	100	100
	2.0	100	100	100	100	100	100
8.27	0.1	55	71	76	61	60	59
	0.2	78	90	92	82	81	88
	0.4	94	99	99	95	95	99
	0.6	98	100	100	99	99	100
	0.8	99	100	100	100	100	100
	1.0	100	100	100	100	100	100
	1.5	100	100	100	100	100	100
	2.0	100	100	100	100	100	100

APPENDIX IX

Stormwater Operations and Maintenance Manual

STORMWATER MANAGEMENT OPERATIONS AND MAINTENANCE MANUAL

"Ledgewood Drive LLC"
Ledgewood Drive
Portsmouth, NH 03801
Tax Map 229, Lot 6A

Prepared for:

Ledgewood Drive LLC
Attn. Ben Middleton
10 Main Street
Newfields, NH 03856

Prepared by:
Jones & Beach Engineers, Inc.
100 Domain Drive
Suite 201
Exeter, NH 03833
(603) 772-4746

August 17, 2026
Revised September 22, 2026
JBE Project No. 25071.2

JONES&BEACH ENGINEERS INC.

Inspection and Maintenance of Facilities and Property

A. Maintenance of Common Facilities or Property

1. The Landowner, future owners and assigns are responsible to perform the maintenance obligations themselves or hire a qualified professional to review the site on an annual basis for maintenance and certification of the stormwater system. The Landowner, future owners and assigns shall keep receipts and records of all maintenance companies hired throughout the year to submit along with the following form and shall submit an Operations and Maintenance report on a yearly basis to the Portsmouth Planning Department.

B. General Inspection and Maintenance Requirements

1. Permanent stormwater and sediment and erosion control facilities to be maintained on the site include, but are not limited to, the following:

    a. Driveway and Parking Lot
    b. Vegetation and landscaping
    c. Focal Points
    d. Rain Guardian
    e. Yard Drain
    f. Chamber Systems
    g. Drain Manhole
    h. Filtration Drip Edge
    i. Culverts and Roof Drains
    j. Rip-Rap Outlet Protection Aprons

2. Maintenance of permanent measures shall follow the following schedule:

    a. Normal winter driveway & parking lot maintenance including plowing and snow removal. Road sweeping at the end of every winter, preferably before the start of the spring rain season.

    b. **Annual inspection** of the site for erosion, destabilization, settling, and sloughing. Any needed repairs are to be conducted immediately. **Annual inspection** of site's vegetation and landscaping. Any areas that are bare shall be reseeded and mulched with hay or, if the case is extreme, loamed and seeded or sodded to ensure adequate vegetative cover. Landscape specimens shall be replaced in kind, if they are found to be dead or dying.

    c. Focal Points: See enclosed inspection and maintenance guidance document.

    d. Rain Guardians: See enclosed inspection and maintenance guidance document.

    e. **Annual inspection** of yard drains to determine if they need to be cleaned. Yard drains are to be cleaned if the depth of deposits is greater than one-half the depth from the basin bottom to the invert of the lowest pipe or opening into or out of the basin. If a yard drain significantly exceeds the one-half depth standard during the inspection, then it shall be cleaned more frequently. If woody debris or trash accumulates in the yard drain, then it shall be cleaned on a weekly basis. The yard drain can be cleaned either manually or by specially designed equipment including, but not limited to, bucket loaders and vacuum

pumps. Before any materials can be disposed, it is necessary to perform a detailed chemical analysis to determine if the materials meet the EPA criteria for hazardous waste. This will help determine how the materials shall be stored, treated, and disposed. Grease hoods are to be wiped clean and the rags disposed of properly. Debris obscuring the grate inlet shall also be removed.

f. Chamber system: Once annually, open the inspection ports and visually inspect the condition of the stone base. If more than 6" of sediment is observed, plug the outlet and flush the system thoroughly. Pump water into system until at least 1" of standing water covers the system bottom. Repeat at both inspection ports and pump out back-flush water. Capture sediment-laden water for proper disposal according to local state, and EPA regulation. Additionally, vacuum all adjacent manhole structures.

g. **Annual inspection** of drain manholes to determine if they need to be cleaned. Manholes shall be cleaned of any material upon inspection. Manholes can be cleaned either manually or by specially designed equipment including, but not limited to, bucket loaders and vacuum pumps. Before any materials can be disposed, it is necessary to perform a detailed chemical analysis to determine if the materials meet the EPA criteria for hazardous waste. This will help determine how the materials shall be stored, treated, and disposed.

h. Filtration drip edge:

The following course of action will help assure that the filtration drip edge is maintained to preserve its effectiveness.

In the spring and fall, visually inspect the area around the edges and repair any erosion. Use small stones to stabilize erosion along drainage paths. Inspect stone area to ensure that it has not been displaced, undermined, or otherwise damaged. Displaced rock shall be replaced, or additional rock added in order to maintain the structure(s) in their undamaged state. Woody vegetation shall not be allowed to become established in stone areas, and/or any debris removed from the void spaces between the stones

i. **Inspection** of culvert inlets and outlets **including any roof drain outfalls** at least **once every three months** during the rainy season (March to November). Any debris is to be removed and disposed of properly.

j. Rock riprap shall be **inspected annually** in order to ensure that it has not been displaced, undermined, or otherwise damaged. Displaced rock shall be replaced, or additional rock added in order to maintain the structure(s) in their undamaged state. Woody vegetation must not be allowed to become established in riprap areas, and/or any debris removed from the void spaces between the rocks. Remove any excessive vegetation that grows in the voids of the stone. If the riprap is adjacent to a stream or other waterbody, the water shall be kept clear of obstructions, debris, and sediment deposits.

See attached sample forms as a guideline.

Any inquiries in regards to the design, function, and/or maintenance of any one of the above-mentioned facilities or tasks shall be directed to the project engineer:

Jones & Beach Engineers, Inc.
100 Domain Drive, Suite 201
Exeter, NH 03833
T#: (603) 772-4746

Commitment to maintenance requirements

I agree to complete and/or observe all of the required maintenance practices and their respective schedules as outlined above.

_____
Signature

_____
Print Name

_____
Title

_____
Date

Annual Operations and Maintenance Report

The Landowner, future owners and assigns are responsible to perform the maintenance obligations themselves or hire a qualified professional to review the site on an annual basis for maintenance and certification of the stormwater system. The Landowner, future owners and assigns shall keep receipts and records of all maintenance companies hired throughout the year to submit along with the following form and shall submit an Operations and Maintenance report on a yearly basis to the Portsmouth Planning Department.

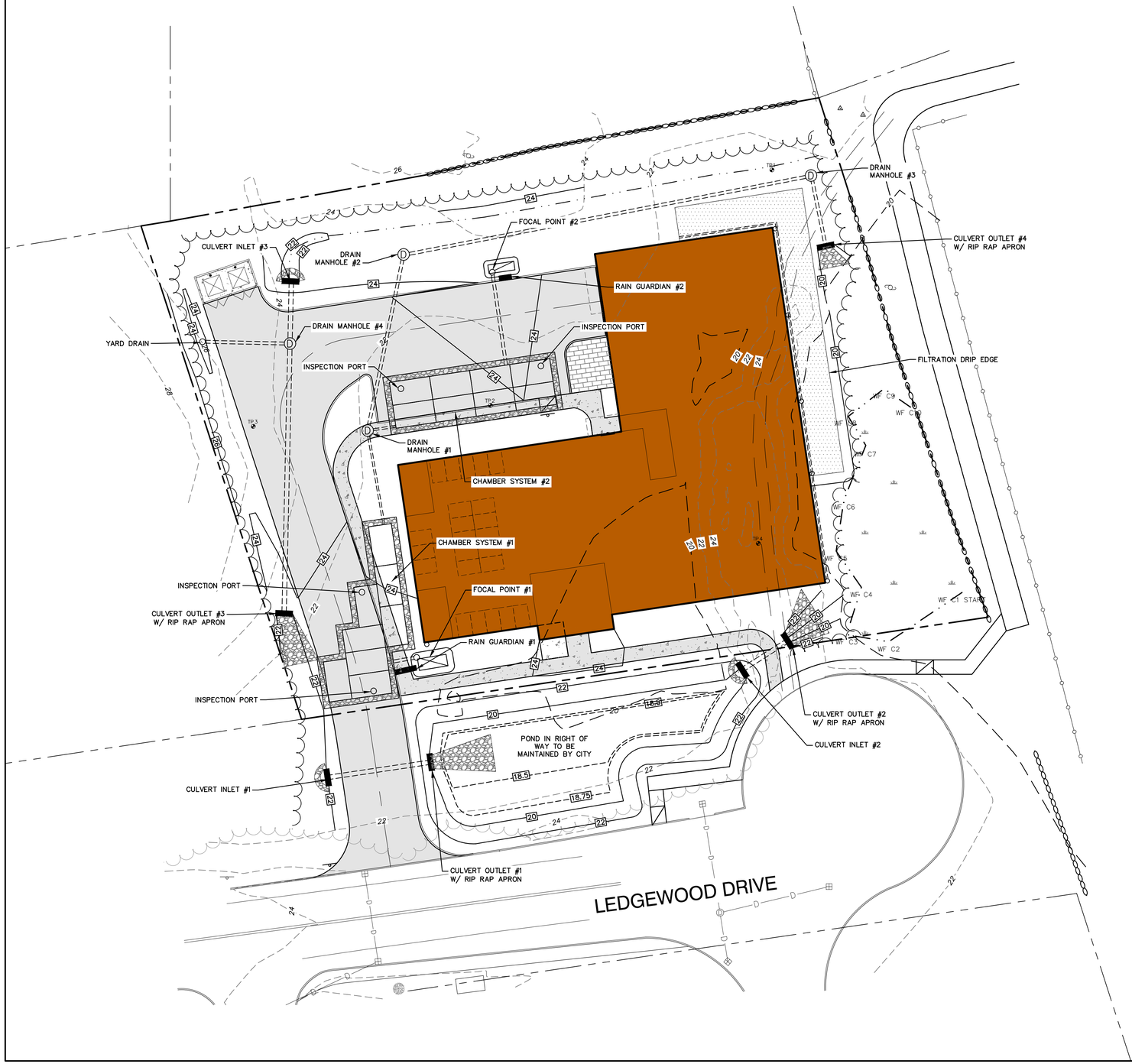
a. Driveway and Parking Lot
b. Vegetation and landscaping
c. Focal Points
d. Rain Guardian
e. Yard Drain
f. Chamber Systems
g. Drain Manhole
h. Filtration Drip Edge
i. Culverts and Roof Drains
j. Rip-Rap Outlet Protection Aprons

Area	**Date of Inspection**	**Who Inspected**	**Findings of Inspector**
Driveway and Parking Lot			
Vegetation and Landscaping			
Focal Point #1			
Focal Point #2			

Rain Guardian #1			
Rain Guardian #2			
Yard Drain			
Chamber System #1			
Chamber System #2			
Drain Manhole #1			
Drain Manhole #2			
Drain Manhole #3			

Drain Manhole #4			
Filtration Drip Edge			
Culvert Inlet #1			
Culvert Inlet #2			
Culvert Inlet #3			
Culvert Outlet #1 w/ rip rap outlet protection apron			
Culvert Outlet #2 w/ rip rap outlet protection apron			

Culvert Outlet #3 w/ rip rap outlet protection apron			
Culvert Outlet #4 w/ rip rap outlet protection apron			
Roof Drains			
Other (please note):			
Other (please note):			



APPROX

NOTES:

1. THIS PLAN IS NOT FOR CONSTRUCTION. THE INTENT OF THIS PLAN IS TO GUIDE ONGOING STORMWATER SYSTEM INSPECTIONS AND MAINTENANCE ACTIVITIES. CONTRACTOR TO REFER TO APPROVED PLAN SET.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 feet

PROJECT PARCEL
TOWN OF PORTSMOUTH
TAX MAP 229, LOT 6A

APPLICANT
LEDGEWOOD DRIVE LLC
ATTN. BEN MIDDLETON
10 MAIN STREET
NEWFIELDS, NH 03856

TOTAL LOT AREA
43,255 SQ. FT.
0.99 ACRES

Design: DJM	Draft: TCR	Date: 01/08/26
Checked: EMP	Scale: AS NOTED	Project No.: 25071.2
Drawing Name: 25071.2-PLAN.dwg		

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.

REV.	DATE	REVISION	BY
2	09/22/26	REVISED PER TAC COMMENTS	DJM
1	09/01/26	UPDATED TITLE BLOCK	DJM
0	08/17/26	ISSUED FOR REVIEW	DJM

Designed and Produced in NH
Jones & Beach Engineers, Inc.
Civil Engineering Services
100 Domain Dr.
Suite 201
Exeter, NH 03833
603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: OPERATIONS AND MAINTENANCE PLAN

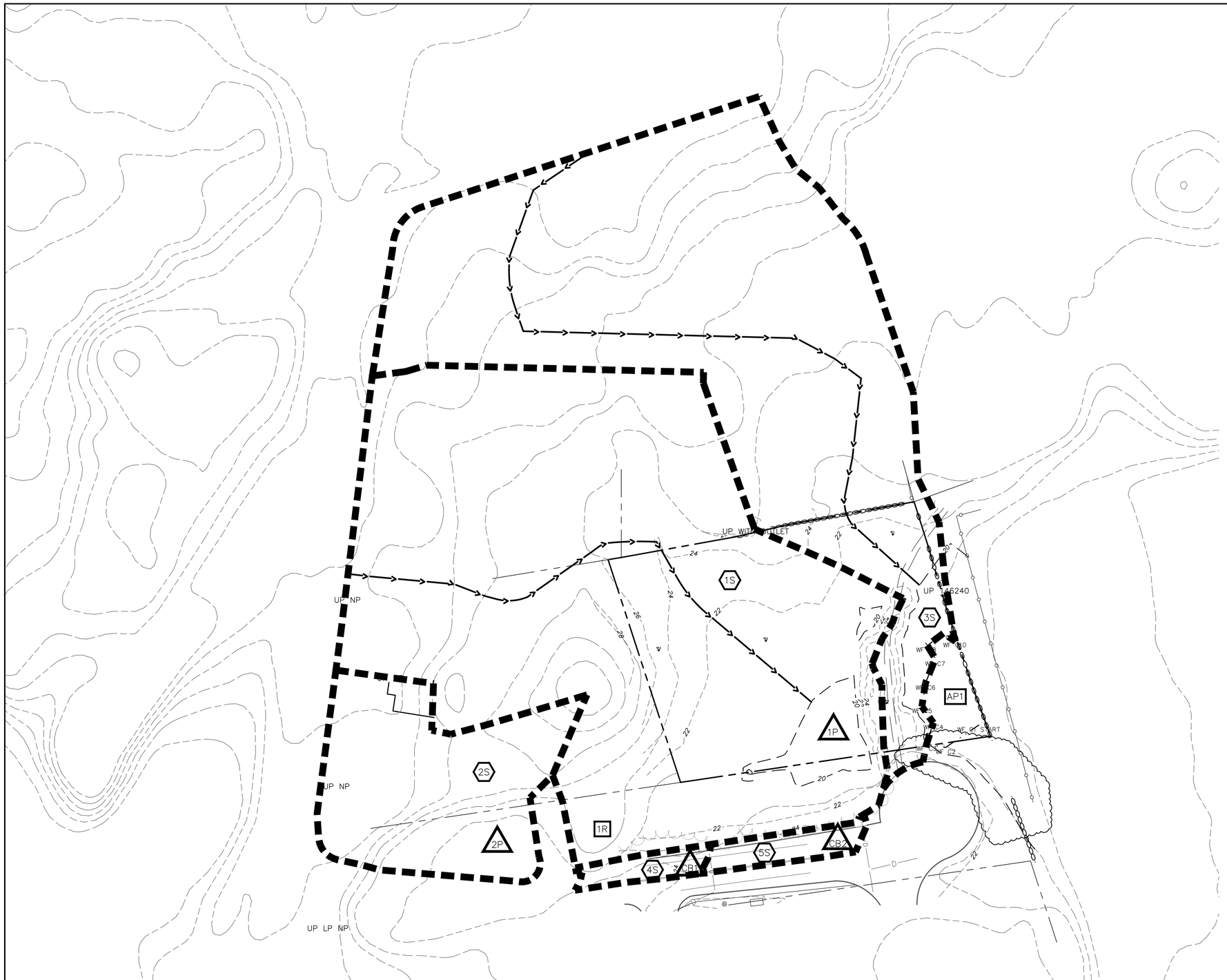
Project: LEDGEWOOD DRIVE LLC
LEDGEWOOD DRIVE, PORTSMOUTH, NH 03801

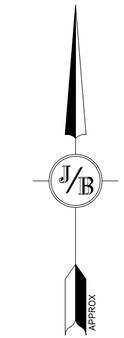
Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

DRAWING No.
O&M
SHEET 1 OF 1
JBE PROJECT NO. 25071.2

APPENDIX X

Pre- and Post-Construction Watershed Plans





OFFSITE TOPOGRAPHY SHOWN HEREON IS FROM NH GRANIT LIDAR EXCEPT FOR STRETCH OF LEDGEWOOD DRIVE IN FRONT OF SUBJECT PARCEL. NH GRANIT LIDAR TOPOGRAPHY WAS USED LOOSELY TO GENERATE EXISTING WATERSHED BOUNDARIES AND FLOW PATHS IN CONJUNCTION WITH FIELD EVIDENCE THAT IN SOME CASES CONTRADICTS LIDAR TOPOGRAPHY WHICH MAY NOT TAKE INTO ACCOUNT FINE GRADING OF DEVELOPED AREAS, RETAINING WALLS, AND CURB LINES.

LEGEND

- SUBCATCHMENT BOUNDARY
- SUBCATCHMENT (X)
- REACH (X)
- POND (X)
- TC PATH
- WETLANDS
- NRCS SOILS
- FLOW ARROW

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 feet

PROJECT PARCEL
TOWN OF PORTSMOUTH
TAX MAP 229, LOT 6A

APPLICANT
LEDGEWOOD DRIVE LLC
ATTN. BEN MIDDLETON
10 MAIN STREET
NEWFIELDS, NH 03856

TOTAL LOT AREA
43,255 SQ. FT.
0.99 ACRES

Design: DJM	Draft: TCR	Date: 07/28/26
Checked: EMP	Scale: AS NOTED	Project No.: 25071.2
Drawing Name: 25071.2-WATERSHED.dwg		

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.

STATE OF NEW HAMPSHIRE - DANIEL JAMES MEDITZ No.18152 - LICENSED PROFESSIONAL ENGINEER
09/22/2026

REV.	DATE	REVISION	BY
0	08/17/26	ISSUED FOR REVIEW	DJM

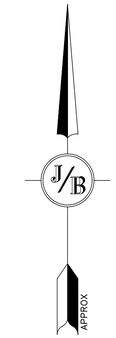
Designed and Produced in NH
J/B Jones & Beach Engineers, Inc.
Civil Engineering Services
100 Domain Dr.
Suite 201
Exeter, NH 03833
603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: EXISTING WATERSHED PLAN

Project: LEDGEWOOD DRIVE LLC
LEDGEWOOD DRIVE, PORTSMOUTH, NH

Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

DRAWING No.
W1
SHEET 1 OF 2
JBE PROJECT NO. 25071.2



OFFSITE TOPOGRAPHY SHOWN HEREON IS FROM NH GRANIT LIDAR EXCEPT FOR STRETCH OF LEDGEWOOD DRIVE IN FRONT OF SUBJECT PARCEL. NH GRANIT LIDAR TOPOGRAPHY WAS USED LOOSELY TO GENERATE EXISTING WATERSHED BOUNDARIES AND FLOW PATHS IN CONJUNCTION WITH FIELD EVIDENCE THAT IN SOME CASES CONTRADICTS LIDAR TOPOGRAPHY WHICH MAY NOT TAKE INTO ACCOUNT FINE GRADING OF DEVELOPED AREAS, RETAINING WALLS, AND CURB LINES.

LEGEND

- SUBCATCHMENT BOUNDARY
- SUBCATCHMENT (X)
- REACH (X)
- POND (X)
- TC PATH
- WETLANDS
- NRCS SOILS
- FLOW ARROW

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 feet

PROJECT PARCEL
TOWN OF PORTSMOUTH
TAX MAP 229, LOT 6A

APPLICANT
LEDGEWOOD DRIVE LLC
ATTN. BEN MIDDLETON
10 MAIN STREET
NEWFIELDS, NH 03856

TOTAL LOT AREA
43,255 SQ. FT.
0.99 ACRES

Design: DJM	Draft: TCR	Date: 07/28/26
Checked: EMP	Scale: AS NOTED	Project No.: 25071.2
Drawing Name: 25071.2-WATERSHED.dwg		

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STATE OF NEW HAMPSHIRE
DANIEL JAMES MEDITZ
No.18152
LICENSED
PROFESSIONAL ENGINEER
09/22/2026

REV.	DATE	REVISION	BY
0	08/17/26	ISSUED FOR REVIEW	DJM

Designed and Produced in NH
J/B Jones & Beach Engineers, Inc.
Civil Engineering Services
100 Domain Dr.
Suite 201
Exeter, NH 03833
603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: PROPOSED WATERSHED PLAN

Project: LEDGEWOOD DRIVE LLC
LEDGEWOOD DRIVE, PORTSMOUTH, NH

Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

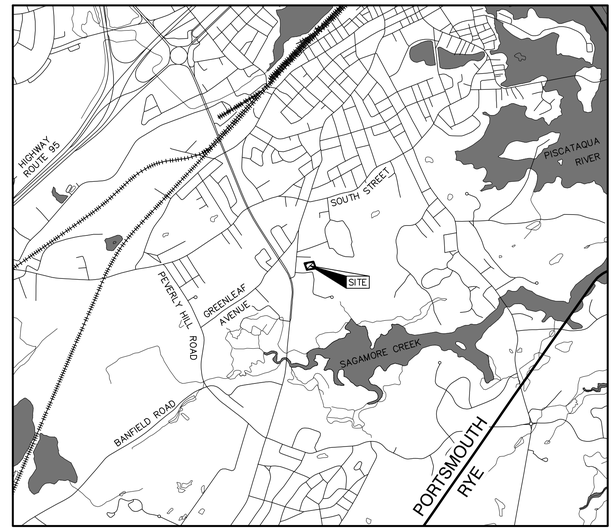
DRAWING No.
W2
SHEET 2 OF 2
JBE PROJECT NO. 25071.2

MULTI-FAMILY RESIDENTIAL DEVELOPMENT
"LEDGEWOOD DRIVE LLC"
TAX MAP 229, LOT 6A
LEDGEWOOD DRIVE, PORTSMOUTH, NH 03801

Know what's **below**
811 before you dig

GENERAL LEGEND

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY LINES
		SETBACK LINES
		CENTERLINE
		FRESHWATER WETLANDS LINE
		TIDAL WETLANDS LINE
		STREAM CHANNEL
		TREE LINE
		STONEWALL
		BARBED WIRE
		FENCE
		STOCKADE FENCE
		SOIL BOUNDARY
		AQUIFER PROTECTION LINE
		FLOOD PLAIN LINE
		ZONELINE
		EASEMENT
100	100	MAJOR CONTOUR
98	98	MINOR CONTOUR
VGC	VGC	EDGE OF PAVEMENT
SGC	SGC	VERTICAL GRANITE CURB
CCB	CCB	SLOPE GRANITE CURB
PCC	PCC	CAPE COD BERM
X	X	POURED CONCRETE CURB
D		SILT FENCE
S		DRAINAGE LINE
FM	FM	SEWER LINE
G	G	SEWER FORCE MAIN
W	W	GAS LINE
WS	WS	WATER LINE
OHE	OHE	WATER SERVICE
UGE	UGE	OVERHEAD ELECTRIC
		UNDERGROUND ELECTRIC
		GUARDRAIL
UD	UD	UNDERDRAIN
F	F	FIRE PROTECTION LINE
	W	THRUST BLOCK
		IRON PIPE/IRON ROD
		DRILL HOLE
		IRON ROD/DRILL HOLE
		STONE/GRANITE BOUND
100x0	100x0	SPOT GRADE
100.00	100.00	PAVEMENT SPOT GRADE
100.00 / 99.50	100.00 / 99.50	CURB SPOT GRADE
		BENCHMARK (TBM)
		DOUBLE POST SIGN
		SINGLE POST SIGN
		WELL
TP1		TEST PIT
PT		FAILED TEST PIT
M	M	MONITORING WELL
		PERC TEST
1		PHOTO LOCATION
		TREES AND BUSHES
		UTILITY POLE
		LIGHT POLES
D	D	DRAIN MANHOLE
S		SEWER MANHOLE
		HYDRANT
		WATER GATE
		WATER SHUT OFF
		REDUCER
		SINGLE GRATE CATCH BASIN
		DOUBLE GRATE CATCH BASIN
		TRANSFORMER
D		CULVERT W/WINGWALLS
D		CULVERT W/FLARED END SECTION
D		CULVERT W/STRAIGHT HEADWALL
		STONE CHECK DAM
		DRAINAGE FLOW DIRECTION
		4K SEPTIC AREA
		WETLAND IMPACT
		VEGETATED FILTER STRIP
		RIPRAP
		PAVEMENT HATCH
		OPEN WATER
		FRESHWATER WETLANDS
		TIDAL WETLANDS
		STABILIZED CONSTRUCTION ENTRANCE
		CONCRETE
		GRAVEL
		SNOW STORAGE
		RETAINING WALL



LOCUS MAP
SCALE 1" = 2000'

SHEET INDEX

CS	COVER SHEET
C1	EXISTING CONDITIONS PLAN
C2	SITE PLAN
C3	GRADING AND DRAINAGE PLAN
C4	UTILITY PLAN
L1	LIGHTING PLAN
L2	LANDSCAPING PLAN
T1	TRUCK TURNING PLAN
D1-D5	DETAIL SHEETS
E1-E2	EROSION AND SEDIMENT CONTROL DETAILS

CIVIL ENGINEER / SURVEYOR
JONES & BEACH ENGINEERS, INC.
100 DOMAIN DRIVE, SUITE 201
EXETER, NH 03833
(603) 772-4746
CONTACT: ERIK POULIN, P.E.
E-MAIL: EPOULIN@JONESANDBEACH.COM

WETLAND CONSULTANT
GOVE ENVIRONMENTAL SERVICES
8 CONTINENTAL DRIVE, UNIT H
EXETER, NH 03833-7507
(603) 778-0644
CONTACT: BRENDEN WALDEN

LANDSCAPE DESIGNER
LM LAND DESIGN, LLC
11 SOUTH ROAD
BRENTWOOD, NH 03833
(603) 770-7728
CONTACT: LISE MCNAUGHTON

WATER
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS
WATER DIVISION
680 PEVERLY HILL ROAD
PORTSMOUTH, NH 03801
(603) 427-1530

SEWER
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS
SEWER DIVISION
680 PEVERLY HILL ROAD
PORTSMOUTH, NH 03801
(603) 766-1421

LIGHTING DESIGN
EXPOSURE LIGHTING
501 ISLINGTON STREET,UNIT 1A
PORTSMOUTH, NH 03801
CONTACT: KEN SWEENEY

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

TELEPHONE
CONSOLIDATED COMMUNICATIONS
1575 GREENLAND ROAD
GREENLAND, NH 03840
(800) 427-5525

CABLE TV
COMCAST COMMUNICATION CORPORATION
334-B CALEF HIGHWAY
EPPING, NH 03042-2325
(603) 679-5695

PROJECT PARCEL
TOWN OF PORTSMOUTH
TAX MAP 229, LOT 6A

APPLICANT
LEDGEWOOD DRIVE LLC
ATTN. BEN MIDDLETON
10 MAIN STREET
NEWFIELDS, NH 03856

TOTAL LOT AREA
43,255 SQ. FT.
0.99 ACRES

CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON _____ DATE _____

Design: DJM	Draft: TCR	Date: 01/08/26
Checked: EMP	Scale: AS NOTED	Project No.: 25071.2
Drawing Name: 25071.2-PLAN.dwg		

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STATE OF NEW HAMPSHIRE – DANIEL JAMES MEDITZ No.18152 – LICENSED PROFESSIONAL ENGINEER
09/23/2026

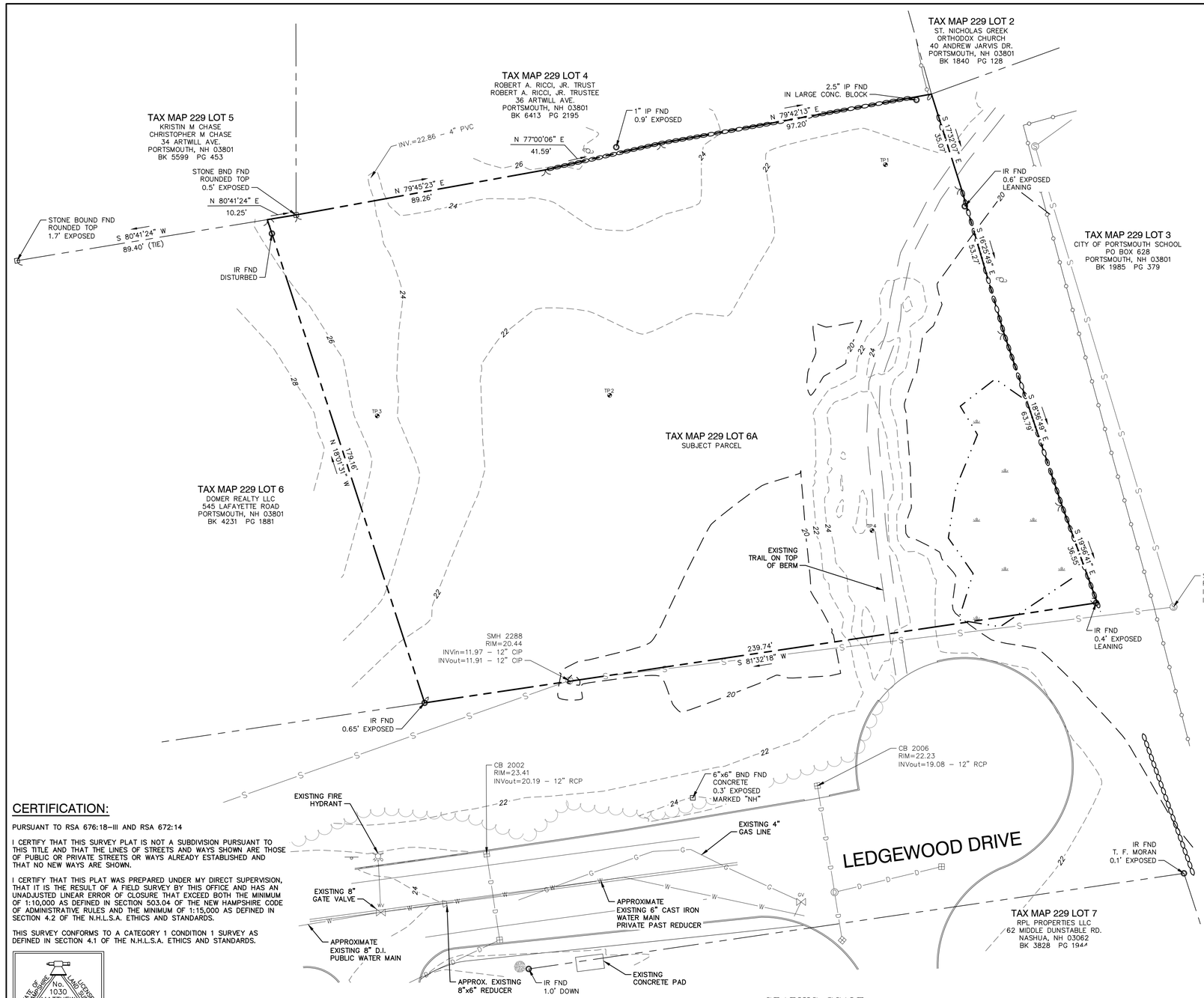
REV.	DATE	REVISION	BY
2	09/22/26	REVISED PER TAC COMMENTS	DJM
1	09/01/26	UPDATED TITLE BLOCK	DJM
0	08/17/26	ISSUED FOR REVIEW	DJM

Designed and Produced in NH
Jones & Beach Engineers, Inc.
Civil Engineering Services
100 Domain Dr. Suite 201 Exeter, NH 03833
603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: COVER SHEET
Project: LEDGEWOOD DRIVE LLC
LEDGEWOOD DRIVE, PORTSMOUTH, NH 03801
Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

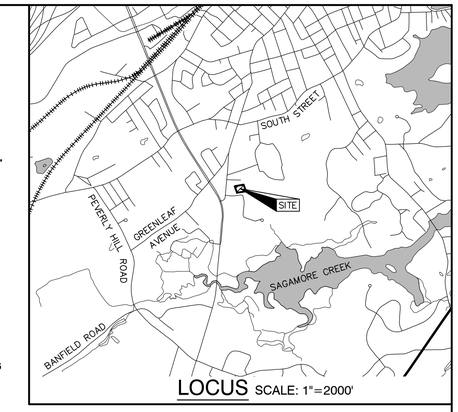
DRAWING No.
CS
SHEET 1 OF15
JBE PROJECT NO. 25071.2

LEDGEWOOD DRIVE, PORTSMOUTH, NH 03801
JBE # 25071.2 REVISION 0, 09/18/26



PLAN REFERENCES:

1. "PLAN OF THE HOMESTEAD FARM OF THE LATE SAMUEL LANGDON, PORTSMOUTH, NH" DRAWN BY A.C. HOYT, DATED MAY 23, 1882, COPIED BY JOHN W. DURGIN, NOVEMBER 7, 1927. R.C.R.D. 0364.
2. "EXISTING CONDITIONS PLAN, COMMERCIAL DEVELOPMENT, 581 LAFAYETTE ROAD, PORTSMOUTH, NH" BY AMBIT ENGINEERING, INC., DATED JANUARY 3, 2025.
3. "LAND IN PORTSMOUTH, NH, SAMUEL S. LANGDON TO T.J. DOWNS" BY JOHN W. DURGIN, DATED DECEMBER 1937. R.C.R.D. 0998.
4. "LAND IN PORTSMOUTH, NH, SAMUEL S. LANGDON TO JOHN L. PHELPS" BY JOHN W. DURGIN, DATED SEPTEMBER 1935. R.C.R.D. 01017.
5. "PLAN OF LOTS OWNED BY BEATRICE L. HOPLEY, LAFAYETTE ROAD, PORTSMOUTH, NH" BY JOHN W. DURGIN, DATED DECEMBER 1, 1957. R.C.R.D. 02632.
6. "PLAN OF LOTS OWNED BY BEATRICE L. HOPLEY, LAFAYETTE ROAD, PORTSMOUTH, NH" BY JOHN W. DURGIN, DATED NOVEMBER 12, 1958. R.C.R.D. 02637.
7. "PLAN OF LAND IN PORTSMOUTH, NH" SURVEYED FORY THOMAS B. KREMP." PREPARED BY TPE ASSOCIATES. DATED FEBRUARY 19, 1982. R.C.R.D. 10640.
8. "EASEMENT PLAN, TAX MAP 229 – LOT 5, KRISTEN M. CHASE TO THE CITY OF PORTSMOUTH" BY GREENMAN–PEDERSON, INC., DATED JANUARY 24, 2018. R.C.R.D. 40627.
9. "CORRECTIVE SEWER EASEMENT PLAN OVER LAND OF KARONA, LLC, 36 ARTWILL AVENUE, PORTSMOUTH, NH, ASSESOR'S PARCEL 229–4, FOR KARONA, LLC" BY JAMES VERRA AND ASSOCIATES, INC., DATED FEBRUARY 9, 2021. R.C.R.D. 42611.



LOCUS SCALE: 1"=2000'

NOTES:

1. THE INTENT OF THIS PLAN IS TO SHOW THE BOUNDARY AND EXISTING CONDITIONS OF PORTSMOUTH TAX MAP 229 LOT 6A.
2. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN SKETCHED IN PER UTILITY LAYOUT PROVIDED BY PORTSMOUTH DEPARTMENT OF PUBLIC WORKS AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER JONES & BEACH ENGINEERS, INC., ANY OF THEIR EMPLOYEES, NOR PORTSMOUTH DEPARTMENT OF PUBLIC WORKS TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 1–888–DIG–SAFE (1–888–344–7233).
3. BASIS OF BEARING: HORIZONTAL – NH STATE PLANE. VERTICAL – NAVD88.
4. CERTAIN DATA HEREON MAY VARY FROM RECORDED DATA DUE TO DIFFERENCES IN DECLINATION, ORIENTATION, AND METHODS OF MEASUREMENT.
5. ALL BOOK AND PAGE NUMBERS REFER TO THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
6. THE TAX MAP AND LOT NUMBERS ARE BASED ON THE TOWN OF PORTSMOUTH TAX RECORDS AND ARE SUBJECT TO CHANGE.
7. THIS SURVEY IS NOT A CERTIFICATION TO OWNERSHIP OR TITLE OF LANDS SHOWN. OWNERSHIP AND ENCUMBRANCES ARE MATTERS OF TITLE EXAMINATION NOT OF A BOUNDARY SURVEY. THE INTENT OF THIS PLAN IS TO RETRACE THE BOUNDARY LINES OF DEEDS REFERENCED HEREON. OWNERSHIP OF ADJOINING PROPERTIES IS ACCORDING TO ASSESSOR'S RECORDS. THIS PLAN MAY OR MAY NOT INDICATE ALL ENCUMBRANCES EXPRESSED, IMPLIED OR PRESCRIPTIVE.
8. ANY USE OF THIS PLAN AND OR ACCOMPANYING DESCRIPTIONS SHOULD BE DONE WITH LEGAL COUNSEL, TO BE CERTAIN THAT TITLES ARE CLEAR, THAT INFORMATION IS CURRENT, AND THAT ANY NECESSARY CERTIFICATES ARE IN PLACE FOR A PARTICULAR CONVEYANCE, OR OTHER USES.
9. SUBJECT PROPERTY IS NOT LOCATED WITHIN FEDERALLY DESIGNATED FLOOD HAZARD ZONE. REFERENCE FEMA COMMUNITY PANEL NO. 33015C0270F, DATED JANUARY 29, 2021.
10. THE LIMITS OF JURISDICTIONAL WETLANDS WERE DELINEATED BY BRENDEN WALDEN DURING SUMMER, 2025 IN ACCORDANCE WITH THE FOLLOWING GUIDANCE DOCUMENTS:
    a. THE CORPS OF ENGINEERS FEDERAL MANUAL FOR IDENTIFYING AND DELINEATING JURISDICTIONAL WETLANDS.
    b. THE NORTH CENTRAL & NORTHEAST REGIONAL SUPPLEMENT TO THE FEDERAL MANUAL.
    c. THE CURRENT VERSION OF THE FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, AS PUBLISHED BY THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION AND/OR THE CURRENT VERSION OF THE FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, AS PUBLISHED BY THE USDA, NRCS, AS APPROPRIATE.
    d. THE CURRENT NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS, AS PUBLISHED BY THE US FISH AND WILDLIFE SERVICE.
12. SURVEY TIE LINES SHOWN HEREON ARE NOT BOUNDARY LINES. THEY SHOULD ONLY BE USED TO LOCATE THE PARCEL SURVEYED FROM THE FOUND MONUMENTS SHOWN AND LOCATED BY THIS SURVEY.

LEGEND

- PROPERTY LINE
- ABUTTER PROPERTY LINE
- SURVEY TIE LINES
- WETLANDS
- TREE LINE
- EDGE OF PAVEMENT
- STONE WALL
- REMNANT STONE WALL
- MAJOR CONTOUR (100)
- MINOR CONTOUR (102)
- DRAIN LINE
- CATCH BASIN
- DRAIN MANHOLE
- WATER LINE
- HYDRANT
- WATER GATE VALVE
- WATER SHUTOFF
- SEWER LINE
- SEWER MANHOLE
- UTILITY POLE
- GAS LINE
- GAS GATE VALVE

STATE OF NEW HAMPSHIRE
BRENDEN M. WALDEN
9/23/2026
No. 297
CERTIFIED WETLAND SCIENTIST

CERTIFICATION:

PURSUANT TO RSA 676:18–III AND RSA 672:14

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.

I CERTIFY THAT THIS PLAT WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN UNADJUSTED LINEAR ERROR OF CLOSURE THAT EXCEED BOTH THE MINIMUM OF 1:10,000 AS DEFINED IN SECTION 503.04 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES AND THE MINIMUM OF 1:15,000 AS DEFINED IN SECTION 4.2 OF THE N.H.L.S.A. ETHICS AND STANDARDS.

THIS SURVEY CONFORMS TO A CATEGORY 1 CONDITION 1 SURVEY AS DEFINED IN SECTION 4.1 OF THE N.H.L.S.A. ETHICS AND STANDARDS.

STATE OF NEW HAMPSHIRE No. 1030 MATTHEW J. SALVUCCI LICENSED LAND SURVEYOR
SIGNATURE

9/23/26

MATTHEW J. SALVUCCI, LLS 1030 DATE:
ON BEHALF OF JONES & BEACH ENGINEERS, INC.

ZONING SUMMARY		
ZONE	GATEWAY CORRIDOR (G1)	
	REQUIRED	PROPOSED
FRONT SETBACK	10' MIN., 30' MAX	15'
MINIMUM SIDE SETBACK	15'	28.7'
MINIMUM REAR SETBACK	20'	41.3'
MINIMUM WETLAND BUFFER	0 (WETLAND < 10,000 S.F.)	
MINIMUM OPEN SPACE	20% OF LOT	47.8%
MAXIMUM BUILDING COVERAGE	50%	29.3%
MINIMUM STREET FRONTAGE	50'	239.74'
MAXIMUM BUILDING HEIGHT	4 STORIES OR 50'	36'

PROJECT PARCEL
TOWN OF PORTSMOUTH
TAX MAP 229, LOT 6A

APPLICANT
LEDGEWOOD DRIVE LLC
ATTN. BEN MIDDLETON
10 MAIN STREET
NEWFIELDS, NH 03856

TOTAL LOT AREA
43,255 SQ. FT.
0.99 ACRES

Design: DJM	Draft: TCR	Date: 01/08/26
Checked: EMP	Scale: AS NOTED	Project No.: 25071.2
Drawing Name: 25071.2-PLAN.dwg		

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STATE OF NEW HAMPSHIRE DANIEL JAMES MEDITZ No. 18152 LICENSED PROFESSIONAL ENGINEER
09/23/2026

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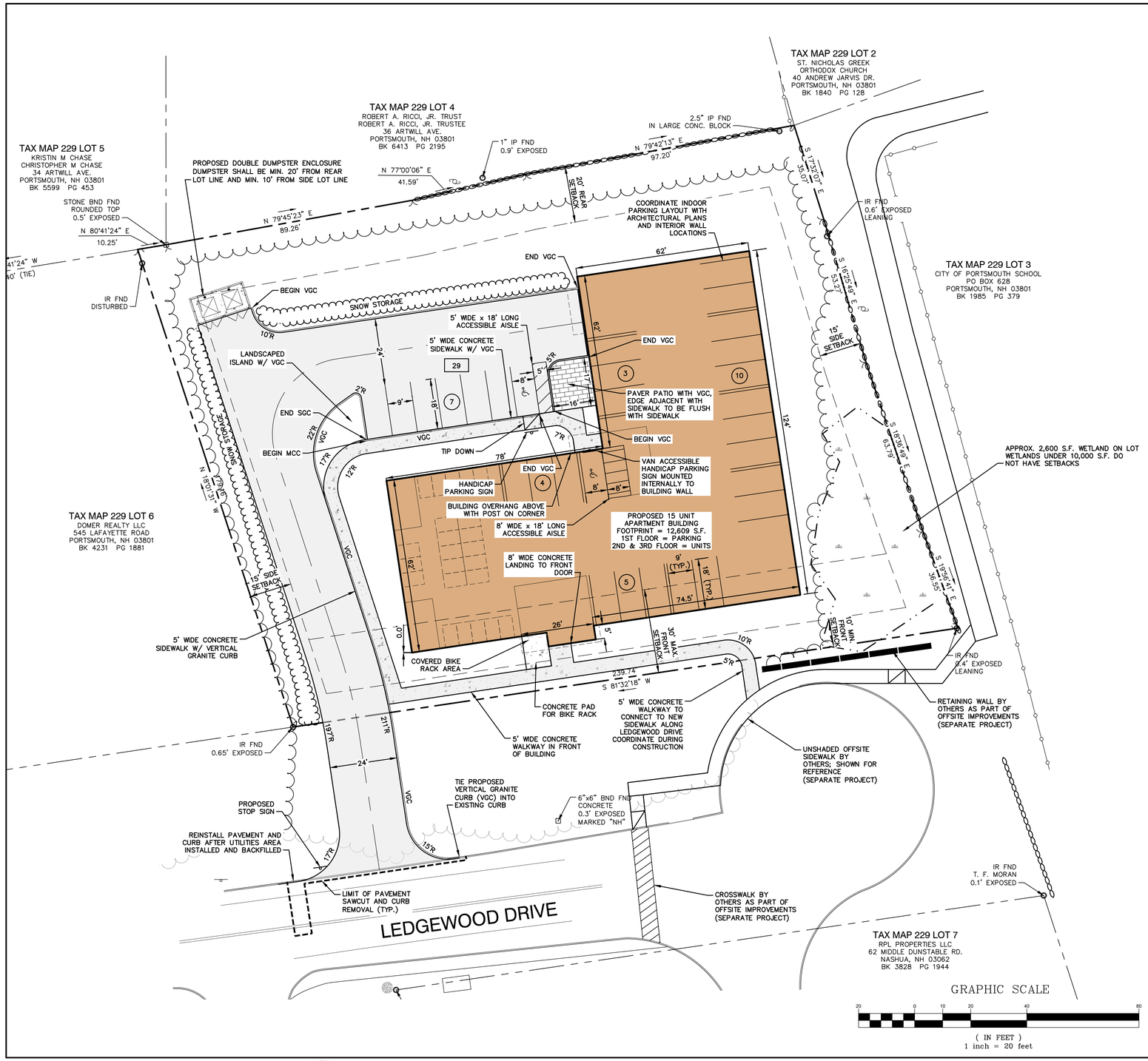
Jones & Beach Engineers, Inc.
Civil Engineering Services
100 Domain Dr.
Suite 201
Exeter, NH 03833
603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

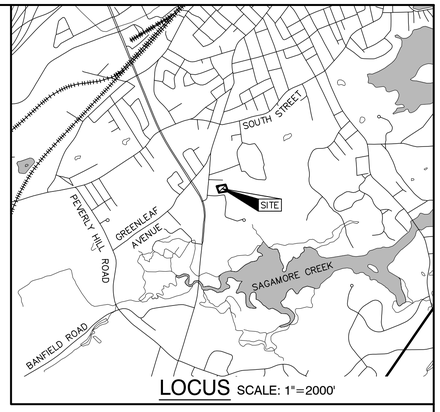
Plan Name: EXISTING CONDITIONS PLAN

Project: LEDGEWOOD DRIVE LLC
LEDGEWOOD DRIVE, PORTSMOUTH, NH 03801

Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

DRAWING No.
C1
SHEET 2 OF 15
JBE PROJECT NO. 25071.2





LOCUS SCALE: 1"=2000'

SITE NOTES:

1. THE INTENT OF THIS PLAN IS TO CONSTRUCT A 15-UNIT APARTMENT BUILDING WITH ASSOCIATED PARKING.
2. PARKING CALCULATIONS:
   .5 SPACES PER UNIT FOR UNITS < 500 S.F.
   1 SPACE PER UNIT FOR UNITS 500-750 S.F.
   1.3 SPACES PER UNIT FOR UNITS > 750 S.F.
   15 UNITS > 750 S.F.
   15 UNITS * 1.3 SPACES PER UNIT = 20 SPACES
   20 PARKING SPACES REQUIRED
   29 PARKING SPACES PROPOSED
3. THIS PLAN SET HAS BEEN PREPARED BY JONES & BEACH ENGINEERS, INC., FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS, INCLUDING ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS ON THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS, MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED. CONTRACTOR TO ALWAYS CONTACT DIG SAFE PRIOR TO DIGGING ONSITE OR OFFSITE TO ENSURE SAFETY AND OBEY THE LAW.
4. ALL CONSTRUCTION SHALL CONFORM TO CITY STANDARDS AND REGULATIONS, AND NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WHICHEVER IS MORE STRINGENT.
5. SUBJECT PROPERTY IS NOT LOCATED WITHIN FEDERALLY DESIGNATED FLOOD HAZARD ZONE. REFERENCE FEMA COMMUNITY PANEL NO. 33015C0270F, DATED JANUARY 29, 2021.
6. LANDOWNERS ARE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING PERMITTING REQUIRED UNDER THESE REGULATIONS.
7. ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (S.W.P.P.P.). THIS DOCUMENT IS TO BE KEPT ONSITE AT ALL TIMES AND UPDATED AS REQUIRED.
8. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, FEES AND BONDS.
9. ALL PROPOSED SIGNAGE SHALL CONFORM WITH THE CITY ZONING REGULATIONS, UNLESS A VARIANCE IS OTHERWISE REQUESTED.
10. ALL SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND NHDOT STANDARDS AND SPECIFICATIONS (NON-REFLECTORIZED PAVEMENT MARKINGS), UNLESS OTHERWISE NOTED.
11. ALL PARKING STALLS SHALL BE SEPARATED USING 4" WIDE SOLID STRIPES. STRIPING SHALL BE 100% ACRYLIC TYPE, LOW VOC, FAST DRYING, IN A COLOR OF WHITE.
12. ALL STOP BARS SHALL BE 18" IN WIDTH IN A COLOR OF WHITE; ALL TRAFFIC ARROWS SHALL BE PAINTED IN A COLOR OF WHITE.
13. ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PROVIDED BY THE OWNER. ANY DISCREPANCIES SHSALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND OWNER PRIOR TO THE START OF CONSTRUCTION. BUILDING DIMENSIONS AND AREAS TO BE TO OUTSIDE OF MASONRY, UNLESS OTHERWISE NOTED.
14. SNOW TO BE STORED AT EDGE OF PAVEMENT AND IN AREAS SHOWN ON THE PLANS.
15. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.
16. ALL PRECAST CONCRETE PRODUCTS WILL BE SOURCED FROM MANUFACTURING FACILITIES IN COMPLIANCE WITH THE NATIONAL PRECAST CONCRETE ASSOCIATION (NPCA) PLANT CERTIFICATION PROGRAM. EVIDENCE OF COMPLIANCE WILL BE PROVIDED FOR THE CURRENT CALENDAR YEAR THE PRODUCTS WERE MANUFACTURED WITHIN.
17. AN ACCESS EASEMENT SHALL BE GRANTED TO THE CITY OF PORTSMOUTH FOR ACCESS AND LEAK DETECTION OF THE WATER MAIN, SHUTOFFS, AND METERS ON THE PROPERTY. EASEMENT DESCRIPTION MUST BE APPROVED BY THE CITY'S LEGAL DEPARTMENT AND ACCEPTED BY THE CITY COUNCIL.
18. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THE SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
19. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
20. THE SUBJECT PARCEL IS NOT LOCATED WITHIN A WELLHEAD PROTECTION AREA OR GROUNDWATER PROTECTION ZONE PER NHDES ONESTOP DATA.

ZONING SUMMARY		
ZONE	GATEWAY CORRIDOR (G1)	
	REQUIRED	PROPOSED
FRONT SETBACK	10' MIN., 30' MAX	14' TO OVERHANG, 15' TO WALL
MINIMUM SIDE SETBACK	15'	28.7'
MINIMUM REAR SETBACK	20'	39.2'
MINIMUM WETLAND BUFFER	0 (WETLAND < 10,000 S.F.)	
MINIMUM OPEN SPACE	20% OF LOT	47.8%
MAXIMUM BUILDING COVERAGE	50%	29.2%
MINIMUM STREET FRONTAGE	50'	239.74'
MAXIMUM BUILDING HEIGHT	4 STORIES OR 50'	36'

PROJECT PARCEL
TOWN OF PORTSMOUTH
TAX MAP 229, LOT 6A

APPLICANT
LEDGEWOOD DRIVE LLC
ATTN. BEN MIDDLETON
10 MAIN STREET
NEWFIELDS, NH 03856

TOTAL LOT AREA
43,255 SQ. FT.
0.99 ACRES

CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON _____ DATE _____

Design: DJM	Draft: TCR	Date: 01/08/26
Checked: EMP	Scale: AS NOTED	Project No.: 25071.2
Drawing Name: 25071.2-PLAN.dwg		

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STATE OF NEW HAMPSHIRE
DANIEL JAMES MEDITZ
No. 18152
LICENSED
PROFESSIONAL ENGINEER
09/23/2026

REV.	DATE	REVISION	BY
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1	09/01/26	UPDATED TITLE BLOCK	DJM
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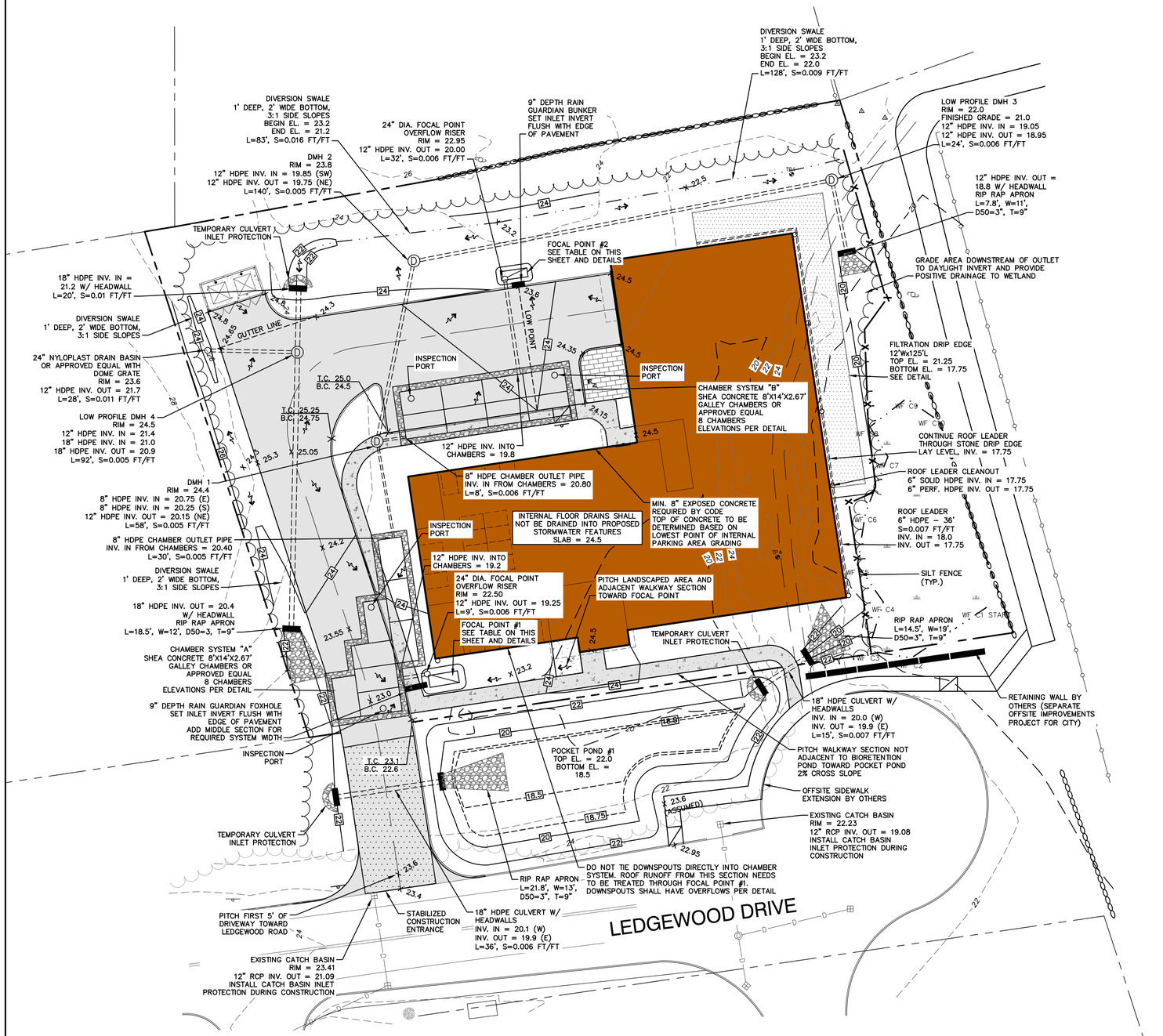
Designed and Produced in NH
Jones & Beach Engineers, Inc.
Civil Engineering Services
100 Domain Dr.
Suite 201
Exeter, NH 03833
603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: SITE PLAN
MAP 229, LOT 6A

Project: LEDGEWOOD DRIVE LLC
LEDGEWOOD DRIVE, PORTSMOUTH, NH 03801

Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

DRAWING No.
C2
SHEET 3 OF15
JBE PROJECT NO. 25071.2



APPROX

GRADING AND DRAINAGE NOTES:

1. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER JONES & BEACH ENGINEERS, INC., NOR ANY OF THEIR EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES AND/OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 888–DIG–SAFE (888–344–7233).
2. ALL BENCHMARKS AND TOPOGRAPHY SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
3. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED. SEE CONSTRUCTION SEQUENCE ON SHEET E1.
4. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO HAVE THE PROJECT'S LAND SURVEYOR STAKE OR FLAG CLEARING LIMITS. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED.
5. ALL ROOF DRAINS FROM BUILDING SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLAN AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AND WITNESS AT THE END. ALL EXTERIOR ROOF DOWNSPOUTS ARE TO BE INSTALLED WITH OVERFLOW DEVICES.
6. ALL SWALES AND DETENTION PONDS ARE TO BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
7. PROPOSED RIM ELEVATIONS OF DRAINAGE STRUCTURES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES.
8. ALL SWALES AND ANY SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH NORTH AMERICAN GREEN S150 EROSION CONTROL BLANKETS (OR AN EQUIVALENT APPROVED IN WRITING BY THE ENGINEER), UNLESS OTHERWISE SPECIFIED.
9. ALL DRAINAGE AND SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS. CATCH BASINS SHALL HAVE 3' DEEP SUMPS WITH GREASE HOODS, UNLESS OTHERWISE NOTED.
10. ALL DRAINAGE STRUCTURES SHALL BE PRECAST, UNLESS OTHERWISE SPECIFIED. SEE DETAIL SHEETS FOR DRAINAGE DETAILS.
11. ALL DRAINAGE STRUCTURES AND STORMWATER PIPES SHALL MEET HEAVY DUTY TRAFFIC H20 LOADING AND SHALL BE INSTALLED ACCORDINGLY.
12. IMMEDIATELY APPLY AND COMPACT STONE BASE FOR BUILDING PAD TO +/–½" PRIOR TO EXCAVATING INTERIOR AND PERIMETER FOOTINGS.
13. IN AREAS WHERE CONSTRUCTION IS PROPOSED ADJACENT TO ABUTTING PROPERTIES, THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING ALONG PROPERTY LINES IN ALL AREAS WHERE SILT FENCING IS NOT REQUIRED.
14. ALL DRAINAGE PIPE SHALL BE NON–PERFORATED ADS N–12 OR APPROVED EQUAL, UNLESS OTHERWISE SPECIFIED.
15. STONE INLET PROTECTION SHALL BE PLACED AT EXISTING CATCH BASINS. SEE DETAIL WITHIN THE DETAIL SHEETS.
16. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY ALL GOVERNING AUTHORITIES. THE GENERAL CONTRACTOR SHALL STRICTLY ADHERE TO THE EPA SWPPP DURING CONSTRUCTION OPERATIONS.
17. ALL EXPOSED AREAS SHALL BE SEEDED AS SPECIFIED WITHIN 3 DAYS OF FINAL GRADING AND ANYTIME CONSTRUCTION STOPS FOR LONGER THAN 3 DAYS.
18. MAINTAIN EROSION CONTROL MEASURES AFTER EACH RAIN EVENT OF 0.25" OR GREATER IN A 24 HOUR PERIOD AND AT LEAST ONCE A WEEK.
19. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE, AS THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SEDIMENT FROM LEAVING THE SITE.
20. CONSTRUCTION VEHICLES SHALL UTILIZE THE STABILIZED CONSTRUCTION ENTRANCE TO THE EXTENT POSSIBLE THROUGHOUT CONSTRUCTION.
21. IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
22. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
23. SEDIMENT SHALL BE REMOVED FROM ALL SEDIMENT BASINS BEFORE THEY ARE 25% FULL.
24. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH PROJECT SPECIFICATIONS.
25. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED, IF DEEMED NECESSARY BY ON–SITE INSPECTION BY ENGINEER AND/OR REGULATORY OFFICIALS.
26. SEE ALSO EROSION AND SEDIMENT CONTROL SPECIFICATIONS ON SHEETS E1–E2.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 feet

FOCAL POINT SCHEDULE

FOCAL POINT	BOTTOM SIZE	SIDE SLOPES	BERM EL.	BOTTOM OF SURFACE PONDING	BOTTOM OF FILTER COURSE	R–TANK UNDERDRAIN INVERT
1	4' X 10'	3:1	22.75	22.00	20.25	19.25
2	3' X 9'	3:1	23.25	22.75	21.00	20.00

PROJECT PARCEL
TOWN OF PORTSMOUTH
TAX MAP 229, LOT 6A

APPLICANT
LEDGEWOOD DRIVE LLC
ATTN. BEN MIDDLETON
10 MAIN STREET
NEWFIELDS, NH 03856

TOTAL LOT AREA
43,255 SQ. FT.
0.99 ACRES

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STATE OF NEW HAMPSHIRE – DANIEL JAMES MEDITZ No.18152 – LICENSED PROFESSIONAL ENGINEER
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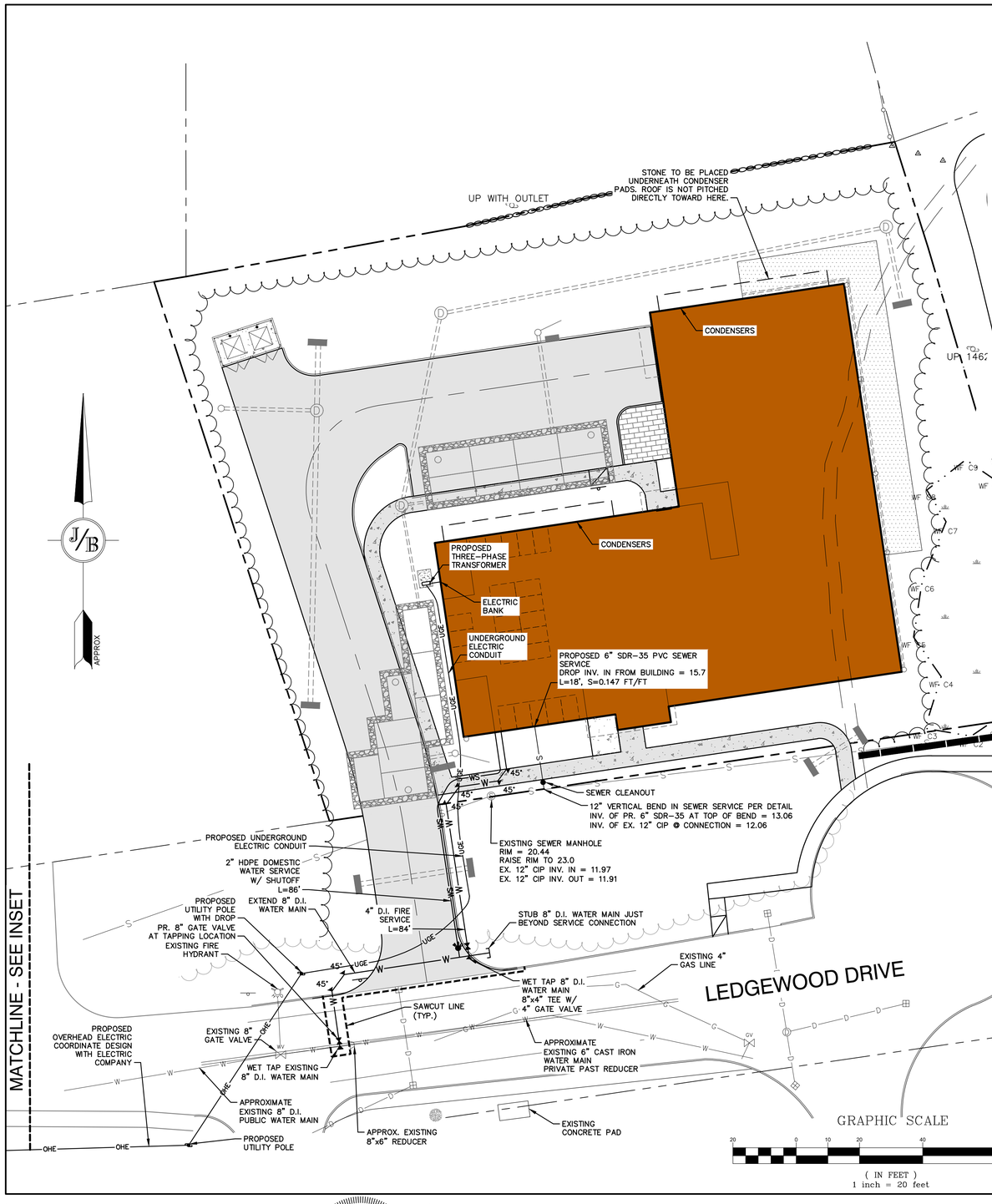
603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

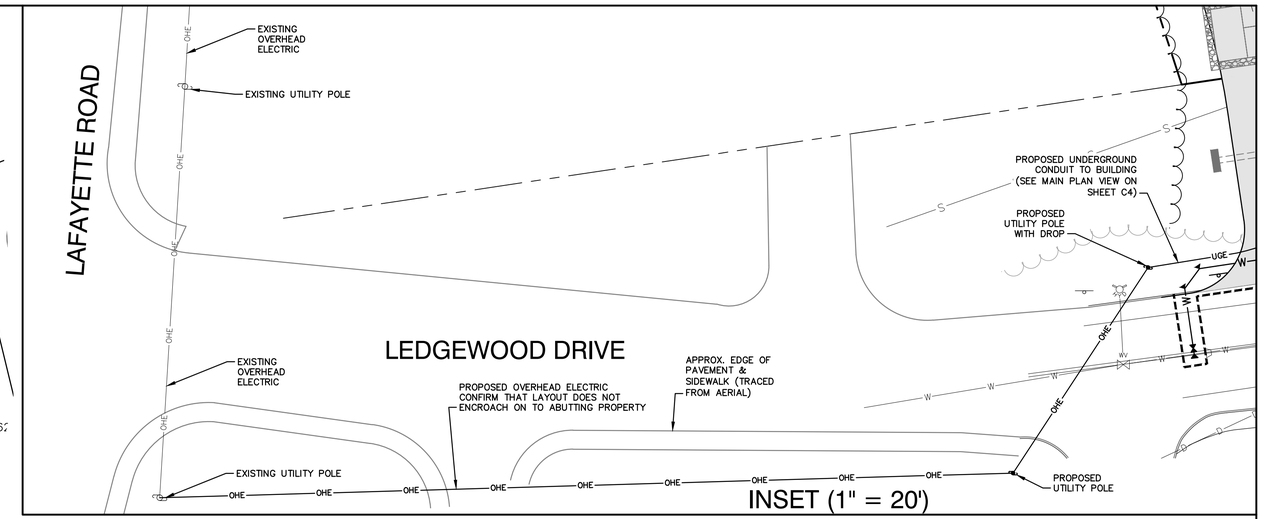
Plan Name: GRADING AND DRAINAGE PLAN

Project: LEDGEWOOD DRIVE LLC
LEDGEWOOD DRIVE, PORTSMOUTH, NH 03801

Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

DRAWING No.
C3
SHEET 4 OF15
JBE PROJECT NO. 25071.2





UTILITY NOTES:

1. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, CONNECTION FEES AND BONDS.
2. THE CONTRACTOR SHALL PROVIDE A MINIMUM NOTICE OF FOURTEEN (14) DAYS TO ALL CORPORATIONS, COMPANIES AND/OR LOCAL AUTHORITIES OWNING OR HAVING A JURISDICTION OVER UTILITIES RUNNING TO, THROUGH OR ACROSS PROJECT AREAS PRIOR TO DEMOLITION AND/OR CONSTRUCTION ACTIVITIES.
3. THE LOCATION, SIZE, DEPTH AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE TO THE STANDARDS AND REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANY (ELECTRIC, TELEPHONE, CABLE TELEVISION, FIRE ALARM, WATER, SEWER, ETC.).
4. A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH THE OWNER, ENGINEER, ARCHITECT, CONTRACTOR, LOCAL OFFICIALS, AND ALL PROJECT-RELATED UTILITY COMPANIES (PUBLIC AND PRIVATE) PRIOR TO START OF CONSTRUCTION.
5. ALL CONSTRUCTION SHALL CONFORM TO THE CITY STANDARDS AND REGULATIONS, AND NHDES STANDARDS AND SPECIFICATIONS, WHICHEVER ARE MORE STRINGENT, UNLESS OTHERWISE SPECIFIED.
6. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.
7. BUILDING TO BE SERVICED BY UNDERGROUND UTILITIES UNLESS OTHERWISE NOTED.
8. THE CONTRACTOR IS TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITY STUBS PRIOR TO CONSTRUCTION AND DISCONNECT ALL EXISTING SERVICE CONNECTIONS AT THEIR RESPECTIVE MAINS IN ACCORDANCE WITH THE RESPECTIVE UTILITY COMPANY'S STANDARDS AND SPECIFICATIONS. ENGINEER TO BE NOTIFIED.
9. AS-BUILT PLANS SHALL BE SUBMITTED TO DEPARTMENT OF PUBLIC WORKS.
10. INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW AT CHANGES IN DIRECTION. THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE THROUGH CHANNEL UNDERLAYMENT OF INVERT, AND SHELF SHALL CONSIST OF BRICK MASONRY.
11. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30 INCH DIA, CLEAR OPENING. THE WORD "SEWER" OR "DRAIN", AS APPLICABLE, SHALL BE CAST INTO THE CENTER OF THE UPPER FACE OF EACH COVER WITH RAISED, 3" LETTERS.
12. SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H20 LOADS.
13. CONTRACTOR SHALL PLACE 2" WIDE METAL WIRE IMPREGNATED RED PLASTIC WARNING TAPE OVER ENTIRE LENGTH OF ALL GRAVITY SEWERS, SERVICES, AND FORCE MAINS.
14. SANITARY SEWER FLOW CALCULATIONS:
    15 UNITS, AVERAGE OF 2 PEOPLE PER UNIT ASSUMED
    77 GALLONS PER DAY PER CAPITA IN TWO-PERSON HOUSEHOLD ACCORDING TO METCALF & EDDY TABLE 3-2
    (77 GPD/PERSON)*(2 PEOPLE PER UNIT)*(15 UNITS) = 2,310 GPD
15. ALL SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS.
16. PROPOSED RIM ELEVATIONS OF DRAINAGE AND SANITARY MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES. ADJUST ALL OTHER RIM ELEVATIONS OF MANHOLES, WATER GATES, AND OTHER UTILITY STRUCTURES TO FINISHED GRADE AS SHOWN ON THE GRADING AND DRAINAGE PLAN.
17. ALL WATER MAINS AND SERVICE PIPES SHALL HAVE A MINIMUM 12" VERTICAL AND 24" HORIZONTAL SEPARATION TO MANHOLES, OR CONTRACTOR SHALL INSTALL BOARD INSULATION FOR FREEZING PROTECTION.
18. WATER MAINS SHALL BE HYDROSTATICALLY PRESSURE TESTED FOR LEAKAGE PRIOR TO ACCEPTANCE. WATERMAINS SHALL BE TESTED AT 1.5 TIMES THE WORKING PRESSURE OR 150 PSI, WHICH EVER IS GREATER. TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH SECTION 4 OF AWWA STANDARD C 600. WATERMAINS SHALL BE DISINFECTED AFTER THE ACCEPTANCE OF THE PRESSURE AND LEAKAGE TESTS ACCORDING TO AWWA STANDARD C 651.
19. IF THE BUILDING IS REQUIRED TO HAVE A SPRINKLER SYSTEM, A PRE-CONSTRUCTION MEETING SHALL BE HELD BETWEEN THE CONTRACTOR, OWNER, ARCHITECT AND THE LOCAL FIRE DEPARTMENT PRIOR TO THE INSTALLATION.
20. THRUST BLOCKS SHALL BE PROVIDED AT ALL WATER MAIN BENDS, TEES, MECHANICAL JOINTS AND FIRE HYDRANTS.
21. DIMENSIONS ARE SHOWN TO CENTERLINE OF PIPE OR FITTING.
22. THE CONTRACTOR SHALL HAVE THE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER FIRE PROTECTION SYSTEM PRIOR TO INSTALLATION.
23. CONTRACTOR TO FURNISH SHOP DRAWINGS FOR UTILITY RELATED ITEMS TO ENSURE CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. SHOP DRAWINGS SHALL BE SENT TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
24. EXISTING UTILITIES SHALL BE DIGSAFED BEFORE CONSTRUCTION.
25. WATER SERVICES SHALL HAVE TESTABLE BACKFLOW PREVENTERS AT THE ENTRANCE TO THE BUILDING.
26. ALL GRAVITY SEWER PIPE SHALL BE TESTED ACCORDING TO NHDES STANDARDS OF DESIGN AND CONSTRUCTION FOR SEWAGE AND WASTEWATER TREATMENT FACILITIES, CHAPTER ENV-WQ 700. ADOPTED ON 10-15-14.
27. <u>ENV-WQ 704.06 GRAVITY SEWER PIPE TESTING:</u>
    A. ALL NEW GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY THE USE FO LOW-PRESSURE AIR TESTS.
    B. LOW PRESSURE AIR TESTING SHALL BE IN CONFORMANCE WITH THE FOLLOWING TESTING STANDARDS IN EFFECT AT THE TIME THE TEST IS CONDUCTED:
       B.1. ASTM F1417 "STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW PRESSURE AIR", AVAILABLE AS NOTED IN APPENDIX D OF THE NHDES ENV-WQ 700 RULES; OR
       B.2. UNI-BELL PVC PIPE ASSOCIATION UNI-B-6, "LOW PRESSURE AIR TESTING OF INSTALLED SEWER PIPE", AVAILABLE AS NOTED IN APPENDIX D OF THE NHDES ENV-WQ 700 RULES.
    C. ALL NEW GRAVITY SEWERS SHALL BE:
       C.1. CLEANED AND VISUALLY INSPECTED USING A LAMP TEST NAD BY INTRODUCING WATER TO DETERMINE THAT THERE IS NO STANDING WATER IN THE SEWER; OR,
       C.2. TRUE TO LINE AND GRADE FOLLOWING INSTALLATION AND PRIOR TO USE.
    D. ALL PLASTIC SEWER PIPE SHALL BE VISUALLY INSPECTED AND DEFLECTION TESTED NOT LESS THAN 30 DAYS NOR MORE THAN 49 DAYS FOLLOWING INSPECTION.
    E. THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 5% OF AVERAGE INSIDE DIAMETER. A RIGID BALL OR MANDREL WITH A DIAMETER OF AT LEAST 95% OF THE AVERAGE INSIDE PIPE DIAMETER SHALL BE USED FOR TESTING PIPE DEFLECTION. THE DEFLECTION TEST SHALL BE CONDUCTED WITHOUT MECHANICAL PULLING DEVICES.
28. SANITARY SEWER LINES SHALL BE LOCATED AT LEAST TEN (10) FEET HORIZONTALLY FROM AN EXISTING OR PROPOSED WATER LINE. WHEN A SEWER LINE CROSSES UNDER A WATER LINE, THE SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM THE WATERMAIN. THE SEWER LINE SHALL ALSO MAINTAIN A VERTICAL SEPARATION OF NOT LESS THAN 18 INCHES.
29. SEWERS SHALL BE BURIED TO A MINIMUM DEPTH OF 6 FEET BELOW GRADE IN ALL ROADWAY LOCATIONS, AND TO A MINIMUM DEPTH OF 4 FEET BELOW GRADE IN ALL CROSS-COUNTRY LOCATIONS. PROVIDE TWO-INCHES OF R-10 FOAM BOARD INSULATION 2-FOOT WIDE TO BE INSTALLED 6-INCHES OVER SEWER PIPE IN AREAS WHERE REQUIRED DEPTH IS NOT ACHIEVED. A WAIVER FROM THE DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER ENGINEERING BUREAU IS REQUIRED PRIOR TO INSTALLING SEWER AT LESS THAN MINIMUM COVER.
30. THE CONTRACTOR SHALL MINIMIZE THE DISRUPTIONS TO THE EXISTING SEWER FLOWS AND THOSE INTERRUPTIONS SHALL BE LIMITED TO FOUR (4) HOURS OR LESS AS DESIGNATED BY DPW.
31. LIGHTING CONDUIT SHALL BE SCHEDULE 40 PVC, AND SHALL BE INSTALLED IN CONFORMANCE WITH THE NATIONAL ELECTRIC CODE. CONTRACTOR SHALL PROVIDE EXCAVATION AND BACKFILL.
32. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
33. DISINFECTION OF WATER MAINS SHALL BE CARRIED OUT IN STRICT ACCORDANCE WITH AWWA STANDARD C651, LATEST EDITION. THE BASIC PROCEDURE TO BE FOLLOWED FOR DISINFECTING WATER MAINS IS AS FOLLOWS:
    a. PREVENT CONTAMINATING MATERIALS FROM ENTERING THE WATER MAIN DURING STORAGE, CONSTRUCTION, OR REPAIR.
    b. REMOVE, BY FLUSHING OR OTHER MEANS, THOSE MATERIALS THAT MAY HAVE ENTERED THE WATER MAINS.
    c. CHLORINATE ANY RESIDUAL CONTAMINATION THAT MAY REMAIN, AND FLUSH THE CHLORINATED WATER FROM THE MAIN.
    d. PROTECT THE EXISTING DISTRIBUTION SYSTEM FROM BACKFLOW DUE TO HYDROSTATIC PRESSURE TEST AND DISINFECTION PROCEDURES.
    e. DETERMINE THE BACTERIOLOGICAL QUALITY BY LABORATORY TEST AFTER DISINFECTION.
    f. MAKE FINAL CONNECTION OF THE APPROVED NEW WATER MAIN TO THE ACTIVE DISTRIBUTION SYSTEM
37. DOMESTIC SHUTOFFS & VALVES SHALL BE PAINTED BLUE.
38. SEWER TRENCH DAMS SHALL BE INSTALLED EVERY 75' ALONG GRAVITY SEWER PIPE.
39. IF IRRIGATION IS TO BE USED, THE PIPING SYSTEM SHALL BE REVIEWED AND APPROVED BY THE PORTSMOUTH CITY PLANNER, CITY ENGINEER, AND THE WATER DEPARTMENT PRIOR TO INSTALLATION.
40. WATER LINE TO BE CONSTRUCTED PER CITY OF PORTSMOUTH SPECIFICATIONS.
41. AN AS-BUILT PLAN OF THE WATER LINE IS TO BE PREPARED AND SUBMITTED TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS.
42. IRRIGATION METERS SHALL BE USED IF IRRIGATION IS DESIRED. IF USED, THEY SHALL BE ABOVE GROUND AND INSIDE OF THE BUILDING, AND SHALL HAVE BACKFLOW ENCLOSURES.

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 feet

Design: DJM	Draft: TCR	Date: 01/08/26
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Drawing Name: 25071.2-PLAN.dwg		

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603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: UTILITY PLAN

Project: LEDGEWOOD DRIVE LLC
LEDGEWOOD DRIVE, PORTSMOUTH, NH 03801

Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

DRAWING No.
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SHEET 5 OF15
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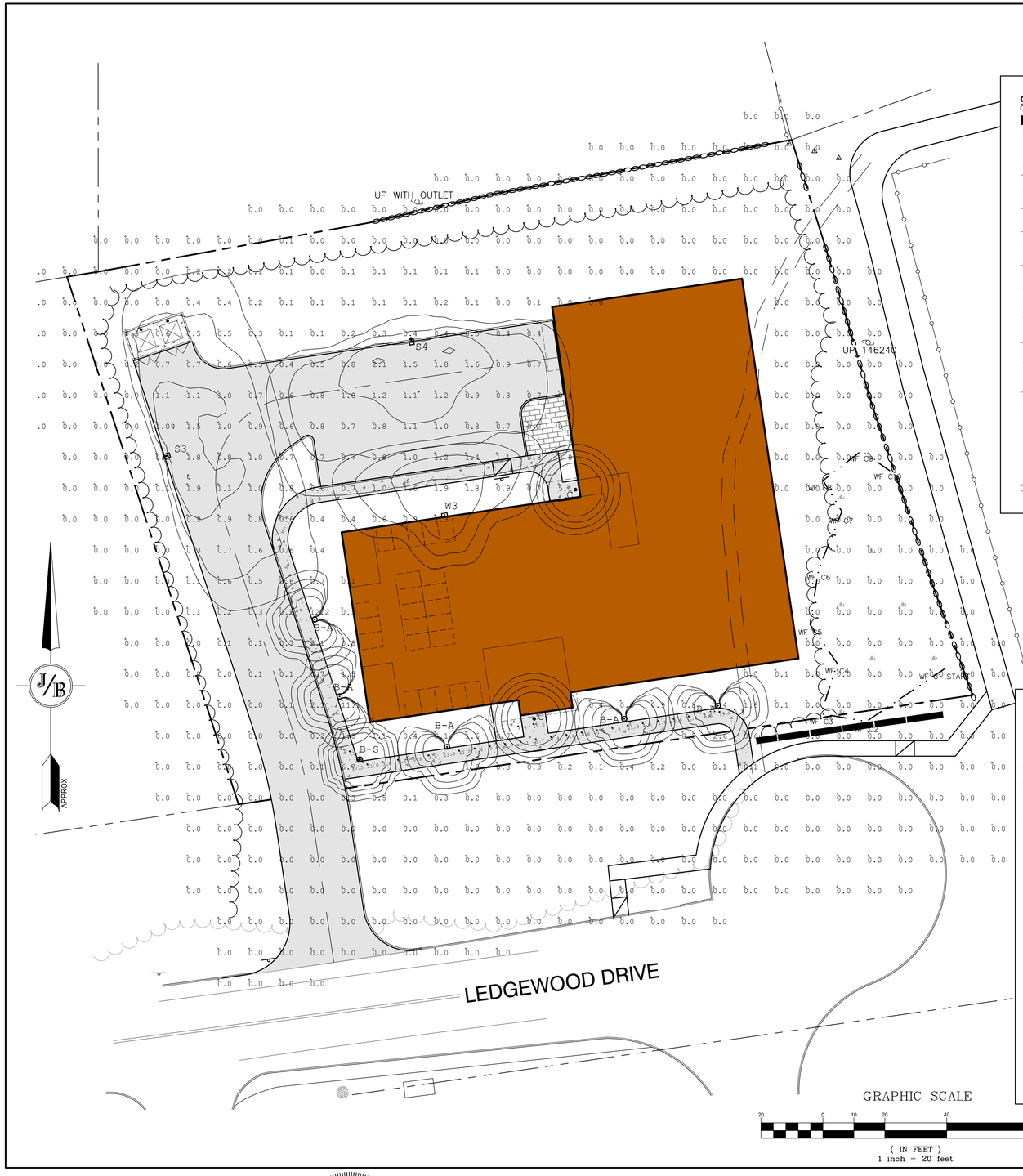
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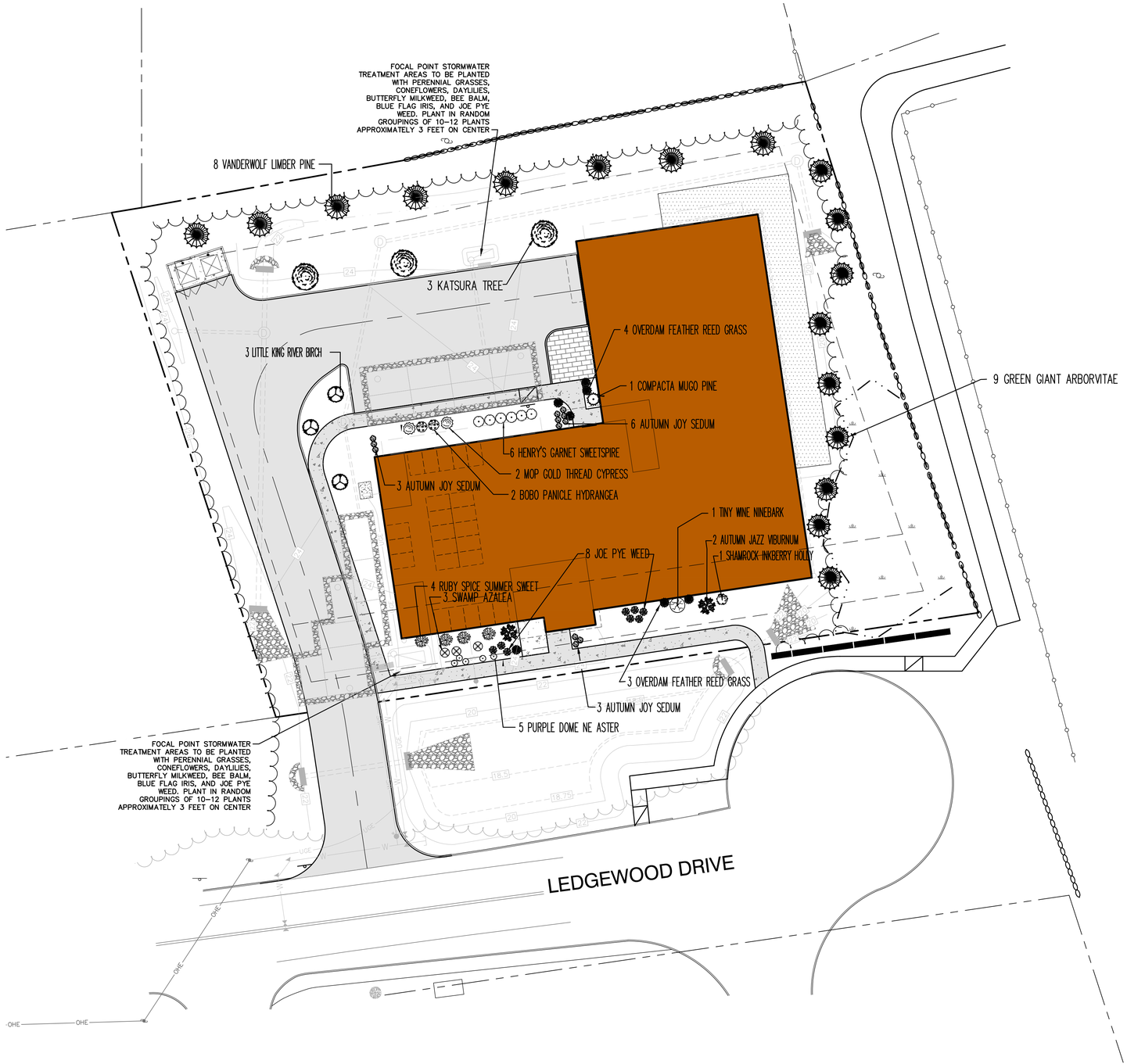


Quantity	Botanical Name	Common Name	Size
5	Aster novae-angliae 'Purple Dome'	PURPLE DOME NE ASTER	1 Gallon
3	Azalea viscosum	SWAMP AZALEA	3 Gallon
3	Betula nigra 'Little King'	LITTLE KING RIVER BIRCH	5'-7' B&B Multi
7	Calamagrostis x acutiflora 'Overdam'	OVERDAM FEATHER REED GRASS	2 Gallon
2	Chamaecyparis pisifera 'Mop'	MOP GOLD THREAD CYPRESS	5 Gallon
4	Clethra alnifolia 'Ruby Spice'	RUBY SPICE SUMMER SWEET	3 Gallon
8	Eupatorium purpureum	JOE PYE WEED	1 Gallon
2	Hydrangea paniculata 'Bobo'	BOBO PANICLE HYDRANGEA	3 Gallon
1	Ilex glabra 'Shamrock'	SHAMROCK INKBERRY HOLLY	5 Gallon
6	Itea virginica 'Henry's Garnet'	HENRY'S GARNET SWEETSPIRE	3 Gallon
1	Physocarpus opulifolius 'SMNPOTW'	TINY WINE NINEBARK	3 Gallon
8	Pinus flexilis "Vanderwolf's"	VANDERWOLF'S LIMBER PINE	5'-7' B&B
1	Pinus mugo 'Compacta'	COMPACTA MUGO PINE	5 Gallon
3	Cercidiphyllum japonicum	KATSURA TREE	3.5" Caliper B&B
12	Sedum 'Autumn Joy'	AUTUMN JOY SEDUM	1 Gallon
2	Viburnum dentatum 'Autumn Jazz'	AUTUMN JAZZ VIBURNUM	5 Gallon
9	Thuja plicata 'Green Giant'	GREEN GIANT ARBORVITAE	5'-7' B&B

LANDSCAPE NOTES:

1. THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK.
2. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THE DRAWINGS.
3. ALL MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
4. ALL PLANT SUBSTITUTIONS MUST BE APPROVED THE LANDSCAPE DESIGNER.
5. ALL PLANT MATERIALS SHALL BE EXACTLY AS SPECIFIED BY THE LANDSCAPE DESIGNER.
6. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, UPON DELIVERY OR AT THE JOB SITE WHILE WORK IS ON-GOING FOR CONFORMITY TO SPECIFIED QUALITY, SIZE AND VARIETY.
7. PLANTS FURNISHED IN CONTAINERS SHALL HAVE THE ROOTS WELL ESTABLISHED IN THE SOIL MASS AND SHALL HAVE AT LEAST ONE (1) GROWING SEASON. ROOT-BOUND PLANTS OR INADEQUATELY SIZED CONTAINERS TO SUPPORT THE PLANT MAY BE DEEMED UNACCEPTABLE.
8. NO PLANT SHALL BE PUT IN THE GROUND BEFORE GRADING HAS BEEN COMPLETED
9. ALL WORK AND PLANTS SHALL BE DONE, INSTALLED AND DETAILED IN STRICT ACCORDANCE WITH PROJECT SPECIFICATIONS.
10. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN IF NECESSARY, DURING THE FIRST GROWING SEASON.
11. ALL LANDSCAPE AREAS TO BE GRASS COMMON TO REGION, EXCEPT FOR INTERIOR LANDSCAPED ISLANDS OR WHERE OTHER PLANT MATERIAL IS SPECIFIED.
12. ALL TREES AND SHRUBS SHALL BE PLANTED IN MULCH BEDS WITH EDGE STRIPS TO SEPARATE TURF GRASS AREAS.
13. THE CONTRACTOR SHALL REMOVE WEEDS, ROCKS, CONSTRUCTION ITEMS, ETC. FROM ANY LANDSCAPE AREA SO DESIGNATED TO REMAIN, WHETHER ON OR OFF-SITE. GRASS SEED OR PINE BARK MULCH SHALL BE APPLIED AS DEPICTED ON PLANS.
14. FINISHED GRADES IN LANDSCAPED ISLANDS SHALL BE INSTALLED SO THAT THEY ARE 1" HIGHER THAN THE TOP OF THE SURROUNDING CURB.
15. ALL LANDSCAPING SHALL MEET THE CITY STANDARDS AND REGULATIONS.
16. EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH TEMPORARY SNOW FENCING AT THE DRIPLINE OF THE TREE. THE CONTRACTOR SHALL NOT STORE VEHICLES OR MATERIALS WITHIN THE LANDSCAPED AREAS. ANY DAMAGE TO EXISTING TREES, SHRUBS OR LAWN SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
17. ALL MULCH AREAS SHALL RECEIVE A 3" LAYER OF SHREDDED PINE BARK MULCH OVER A 10 MIL WEED MAT EQUAL TO 'WEEDBLOCK' BY EASY GARDENER OR DEWITT WEED BARRIER.
18. ALL LANDSCAPED AREAS SHALL HAVE SELECT MATERIALS REMOVED TO A DEPTH OF AT LEAST 9" BELOW FINISH GRADE. THE RESULTING VOID IS TO BE FILLED WITH A MINIMUM OF 9" HIGH-QUALITY SCREENED LOAM AMENDED WITH 3" OF AGED ORGANIC COMPOST.
19. THIS PLAN IS INTENDED FOR LANDSCAPING PURPOSES ONLY. REFER TO CIVIL/SITE DRAWINGS FOR OTHER SITE CONSTRUCTION INFORMATION.
20. IRRIGATION PIPING SYSTEM SHALL BE REVIEWED AND APPROVED BY OWNER AND ENGINEER PRIOR TO INSTALLATION.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 feet

Design: DJM	Draft: TCR	Date: 01/08/26
Checked: EMP	Scale: AS NOTED	Project No.: 25071.2
Drawing Name: 25071.2-PLAN.dwg		

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.

REV.	DATE	REVISION	BY
2	09/22/26	REVISED PER TAC COMMENTS	DJM
1	09/01/26	UPDATED TITLE BLOCK	DJM
0	08/17/26	ISSUED FOR REVIEW	DJM

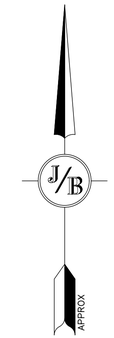
Designed and Produced in NH
Jones & Beach Engineers, Inc.
Civil Engineering Services
85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885
603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

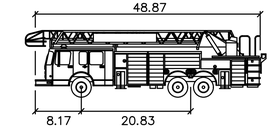
Plan Name: LANDSCAPE PLAN

Project: LEDGEWOOD DRIVE LLC
LEDGEWOOD DRIVE, PORTSMOUTH, NH 03801

Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

DRAWING No.
L2
SHEET 7 OF15
JBE PROJECT NO. 25071.2





Portsmouth Fire Truck

	feet
Width	: 8.50
Track	: 6.91
Lock to Lock Time	: 6.0
Steering Angle	: 38.7

GRAPHIC SCALE

(IN FEET)
1 inch = 20 feet

PROJECT PARCEL
TOWN OF PORTSMOUTH
TAX MAP 229, LOT 6A

APPLICANT
LEDGEWOOD DRIVE LLC
ATTN. BEN MIDDLETON
10 MAIN STREET
NEWFIELDS, NH 03856

TOTAL LOT AREA
43,255 SQ. FT.
0.99 ACRES

Design: DJM	Draft: TCR	Date: 01/08/26
Checked: EMP	Scale: AS NOTED	Project No.: 25071.2
Drawing Name: 25071.2-PLAN.dwg		

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STATE OF NEW HAMPSHIRE
DANIEL JAMES MEDITZ
No. 18152
LICENSED
PROFESSIONAL ENGINEER
09/23/2026

REV.	DATE	REVISION	BY
2	09/22/26	REVISED PER TAC COMMENTS	DJM
1	09/01/26	UPDATED TITLE BLOCK	DJM
0	08/17/26	ISSUED FOR REVIEW	DJM

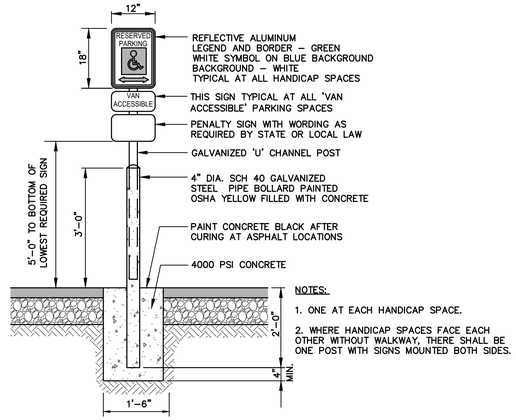
Designed and Produced in NH
J/B Jones & Beach Engineers, Inc.
Civil Engineering Services
100 Domain Dr.
Suite 201
Exeter, NH 03833
603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: TRUCK TURNING PLAN

Project: LEDGEWOOD DRIVE LLC
LEDGEWOOD DRIVE, PORTSMOUTH, NH 03801

Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

DRAWING No.
T1
SHEET 8 OF15
JBE PROJECT NO. 25071.2

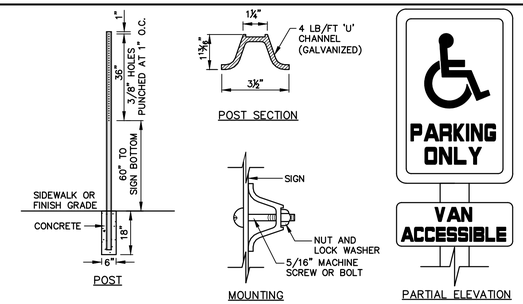


NOTES:

1. ONE AT EACH HANDICAP SPACE.
2. WHERE HANDICAP SPACES FACE EACH OTHER WITHOUT WALKWAY, THERE SHALL BE ONE POST WITH SIGNS MOUNTED BOTH SIDES.

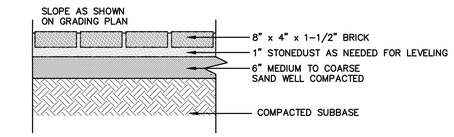
HANDICAP PARKING SIGN (R7-8)

NOT TO SCALE



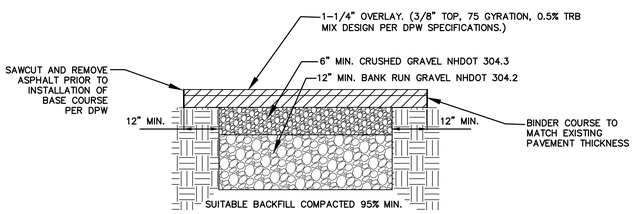
HANDICAP SIGN DETAILS

NOT TO SCALE



STANDARD BRICK PAVER

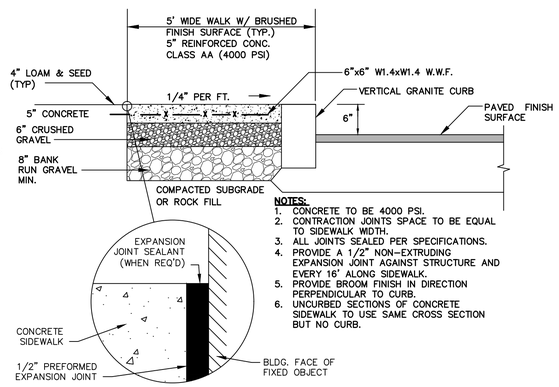
NOT TO SCALE



1. AFTER PROPER BACKFILLING AND COMPACTION, ADJACENT PAVEMENT MUST BE "SAW CUT" (STRAIGHT CUTS) A MINIMUM OF ONE FOOT (1') AROUND THE PERIMETER OF THE EXCAVATION. PAVEMENT MUST BE REMOVED.
2. INSTALL BASE COURSE LEAVING A REVEAL FOR SURFACE COURSE.
3. INSTALL SURFACE COURSE OF ASPHALT PAVING.
4. APPLY EMULSION SEALANT AT PERIMETER OF JOINT OVERLAPPING BASE COURSE. INSTALL WEARING COURSE OF ASPHALT TO GRADE. APPLY LIGHT SAND TO ABSORB EXCESS JOINT SEALANT.
5. GRAVEL COMPACTIONS TO MEET 95% MINIMUM.

TYPICAL PAVEMENT REPAIR DETAIL

NOT TO SCALE

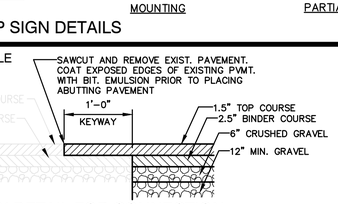


NOTES:

1. CONCRETE TO BE 4000 PSI.
2. CONTRACTION JOINTS SPACE TO BE EQUAL TO SIDEWALK WIDTH.
3. ALL JOINTS SEALED PER SPECIFICATIONS.
4. PROVIDE A 1/2" NON-EXTRUDING EXPANSION JOINT AGAINST STRUCTURE AND EVERY 16' ALONG SIDEWALK.
5. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO CURB.
6. UNCURBED SECTIONS OF CONCRETE SIDEWALK TO USE SAME CROSS SECTION BUT NO CURB.

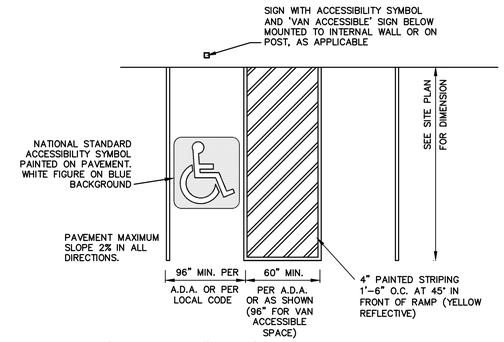
CONCRETE SIDEWALK W/ VERTICAL GRANITE CURB

NOT TO SCALE



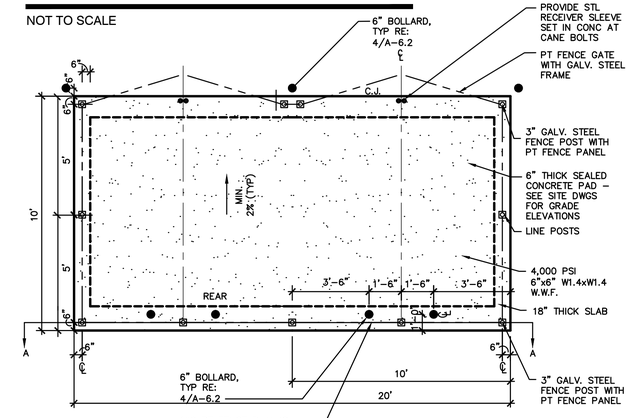
KEYWAY DETAIL FOR CONNECTION TO EXISTING PAVEMENT

NOT TO SCALE



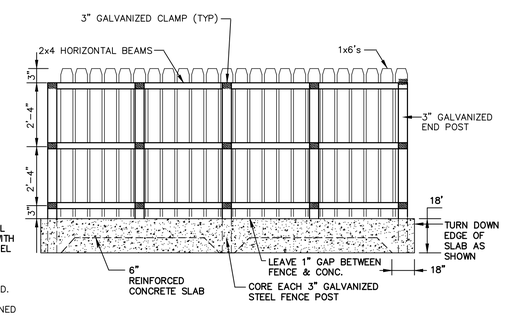
HANDICAP PARKING LAYOUT

NOT TO SCALE



NOTES

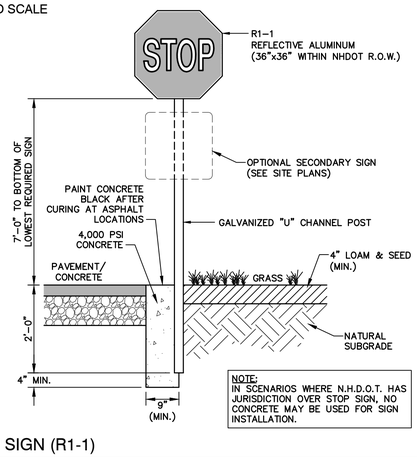
1. ALL LUMBER TO BE PRESSURE TREATED.
2. WOOD FENCE TO BE PAINTED OR STAINED TO MATCH BUILDING FOUNDATION.
3. DUMPSTER SIZE VARIES, SEE SITE PLANS FOR SCREENING SIZE



SECTION A–A

DUMPSTER ENCLOSURE PLAN

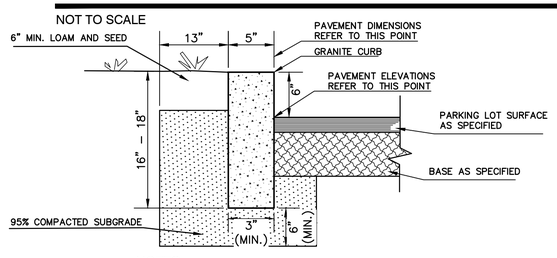
NOT TO SCALE



NOTE:
IN SCENARIOS WHERE N.H.D.O.T. HAS JURISDICTION OVER STOP SIGN, NO CONCRETE MAY BE USED FOR SIGN INSTALLATION.

STOP SIGN (R1-1)

NOT TO SCALE

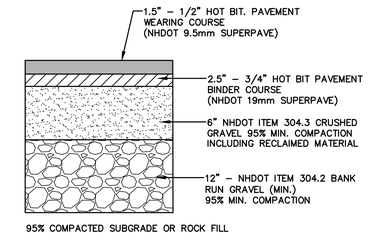


NOTES:

1. EDGING TO BE PLACED PRIOR TO PLACING TOP SURFACE COURSE.
2. JOINTS BETWEEN STONES SHALL BE MORTARED.

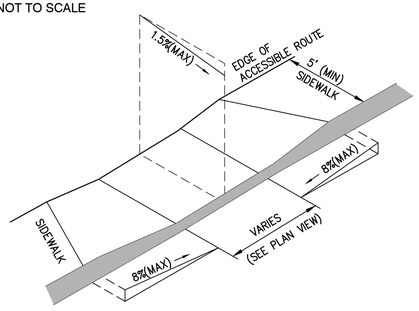
VERTICAL GRANITE CURB

NOT TO SCALE



TYPICAL BITUMINOUS PAVEMENT

NOT TO SCALE



NOTES:

1. THE MAXIMUM ALLOWABLE CROSS SLOPE OF ACCESSIBLE ROUTE (SIDEWALK) AND CURB SHALL BE 1.5%.
2. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
3. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE (SIDEWALK) CURB RAMPS SHALL BE 8%.
4. A MINIMUM OF 4 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (i.e., HYDRANTS, UTLITY POLES, TREE WELLS, SIGNS, ETC.).
5. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
6. BASE OF RAMP SHALL BE GRADED TO PREVENT PONDING.
7. SEE TYPICAL SECTION FOR RAMP CONSTRUCTION.

ACCESSIBLE CURB RAMP (TYPE 'A')

NOT TO SCALE

Design: DJM	Draft: TCR	Date: 01/08/26
Checked: EMP	Scale: AS NOTED	Project No.: 25071.2
Drawing Name: 25071.2-PLAN.dwg		

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STATE OF NEW HAMPSHIRE – DANIEL JAMES MEDITZ No.18152 – LICENSED PROFESSIONAL ENGINEER
09/23/2026

REV.	DATE	REVISION	BY
2	09/22/26	REVISED PER TAC COMMENTS	DJM
1	09/01/26	UPDATED TITLE BLOCK	DJM
0	08/17/26	ISSUED FOR REVIEW	DJM

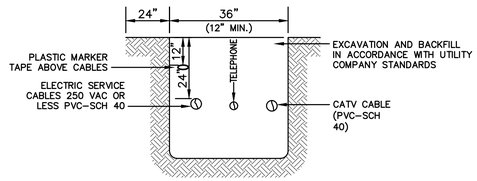
Designed and Produced in NH
Jones & Beach Engineers, Inc.
Civil Engineering Services
100 Domain Dr.
Suite 201
Exeter, NH 03833
603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: DETAIL SHEET

Project: LEDGEWOOD DRIVE LLC
LEDGEWOOD DRIVE, PORTSMOUTH, NH 03801

Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

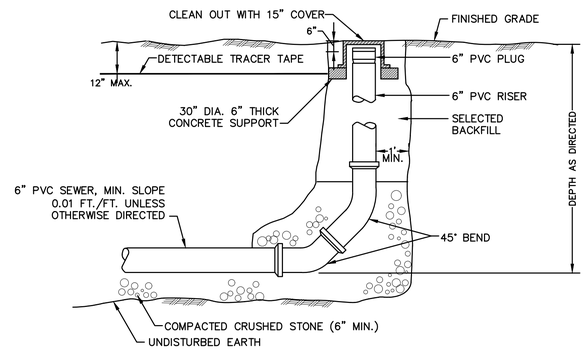
DRAWING No.
D1
SHEET 9 OF15
JBE PROJECT NO. 25071.2



NOTE: ALL UTILITIES SHALL BE REVIEWED AND APPROVED BY APPROPRIATE UTILITY COMPANY.

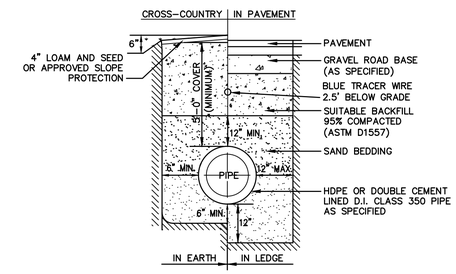
UTILITY TRENCH

NOT TO SCALE



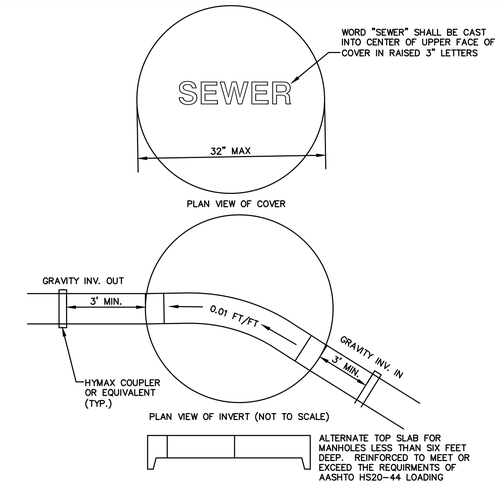
SEWER CLEAN OUT

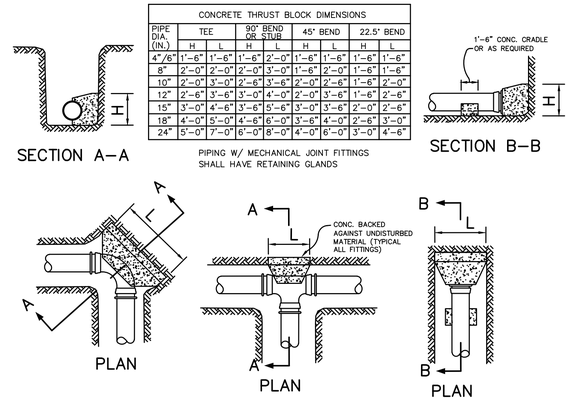
NOT TO SCALE



WATER SYSTEM TRENCH

NOT TO SCALE





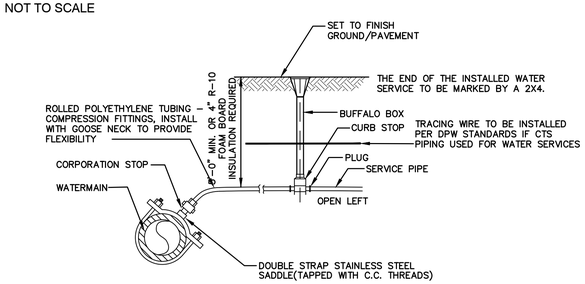
CONCRETE THRUST BLOCK DIMENSIONS

PIPE DIA. (IN.)	TEE		90° BEND OR STUB		45° BEND		22.5° BEND	
	H	L	H	L	H	L	H	L
4"/6"	1'-6"	1'-6"	1'-6"	2'-0"	1'-6"	1'-6"	1'-6"	1'-6"
8"	2'-0"	2'-0"	2'-0"	3'-0"	1'-6"	2'-0"	1'-6"	1'-6"
10"	2'-0"	3'-0"	2'-6"	3'-6"	2'-0"	2'-6"	1'-6"	2'-0"
12"	2'-6"	3'-6"	3'-0"	4'-0"	2'-0"	3'-6"	1'-6"	2'-6"
15"	3'-0"	4'-6"	3'-6"	5'-6"	3'-0"	3'-6"	2'-0"	2'-6"
18"	4'-0"	5'-0"	4'-6"	6'-0"	3'-6"	4'-0"	2'-6"	3'-0"
24"	5'-0"	7'-0"	6'-0"	8'-0"	4'-0"	6'-0"	3'-0"	4'-6"

PIPING W/ MECHANICAL JOINT FITTINGS SHALL HAVE RETAINING GLANDS

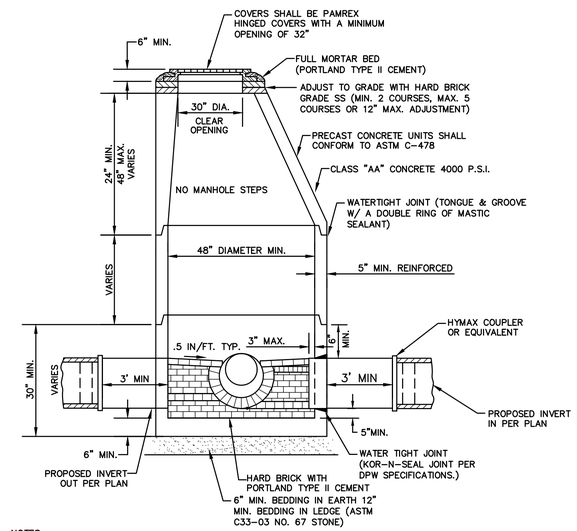
THRUST BLOCK DETAILS

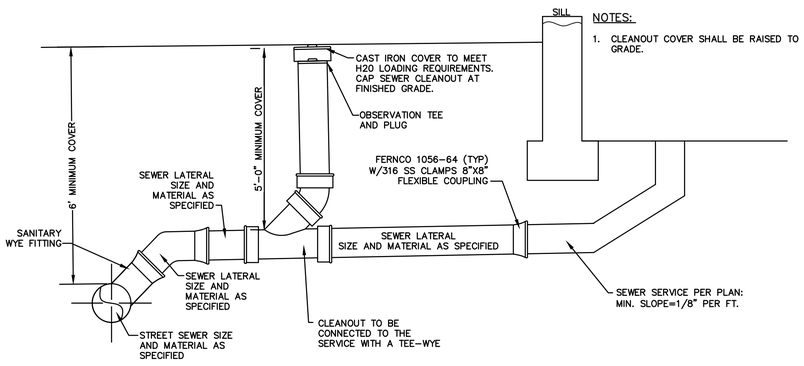
NOT TO SCALE



WATER SERVICE CONNECTION-POLYETHYLENE

NOT TO SCALE



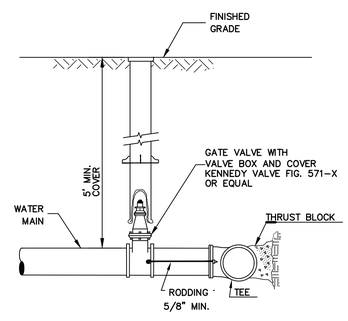


NOTES:

1. CLEANOUT COVER SHALL BE RAISED TO GRADE.

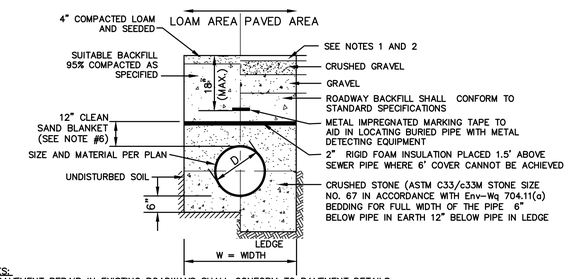
SEWER SERVICE

NOT TO SCALE



BURIED GATE VALVE DETAIL

NOT TO SCALE



NOTES:

1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO PAVEMENT DETAILS.
2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPECIFICATIONS.
3. TRENCH BACKFILL SHALL CONFORM WITH ENV. Wq 704.11(h) AND BE FREE OF DEBRIS, PAVEMENT, ORGANIC MATTER, TOP SOIL, WET OR SOFT MUCK, PEAT OR CLAY, EXCAVATED LEDGE OR ROCKS OVER SIX INCHES.
4. W= MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12" INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, WIDTH SHALL BE NO MORE THAN 36"; FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, WIDTH SHALL BE 24 INCHES PLUS PIPE O.D. WIDTH SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
5. RIGID FOAM INSULATION TO BE PROVIDED WHERE COVER IN THE ROADWAY IS LESS THAN 6' AND CROSS COUNTRY IS LESS THAN 4', PURSUANT TO DES WAIVER BEING ISSUED.
6. PIPE SAND BLANKET MATERIAL SHALL BE GRADED SAND, FREE FROM ORGANIC MATERIALS, GRADED SUCH THAT 100% PASSES A 1/2 " SIEVE AND A MAXIMUM OF 15% PASSES A #200 SIEVE IN ACCORDANCE WITH Env-Wq 704.11(b).
7. JOINT SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL AND CERTIFIED BY THE MANUFACTURER AS CONFORMING TO THE ASTM D3212 STANDARD IN EFFECT WHEN THE JOINT SEALS WERE MANUFACTURED, AND SHALL BE PUSH-ON, BELL-AND-SPIGOT TYPE PER Env-Wq 704.05 (e).
8. PVC PIPE SHALL CONFORM WITH ASTM D3034 AND ASTM D2412.

GRAVITY SEWER TRENCH

NOT TO SCALE

NOTES:

1. PER NHDES ENV-WQ 704.13(C), THE MORTAR SPECIFICATION SHALL BE AS FOLLOWS:
   1. MORTAR SHALL BE COMPOSED OF PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITION;
   2. PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE:
      A. 4.5 PARTS SAND AND 1.5 PARTS CEMENT; OR
      B. 4.5 PARTS SAND, ONE PART CEMENT AND 0.5 PART HYDRATED LIME;
   3. CEMENT SHALL BE TYPE II PORTLAND CEMENT CONFORMING TO ASTM C150-05;
   4. HYDRATED LIME SHALL BE TYPE S CONFORMING TO THE ASTM C207-06 'STANDARD SPECIFICATIONS FOR HYDRATED LIME FOR MASONRY PURPOSES';
   5. SAND SHALL CONSIST OF INERT NATURAL SAND CONFORMING TO THE ASTM C33-03 'STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES';
2. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL IN ACCORDANCE WITH ENV-WQ 704.12 (K).
3. ALL MANHOLES SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH ENV-WQ 704.17 (a) THROUGH (e).
4. SEWER MANHOLE COVERS SHALL CONFORM TO ASTM A48 WITH A CASTING EQUAL TO CLASS 30 IN ACCORDANCE WITH ENV-WQ 704.13 (a).
5. ALL ASBESTOS CONTAINING WASTE MATERIALS MUST BE PROPERLY IDENTIFIED, PACKAGED AND DELIVERED TO A LANDFILL LICENCED BY THE NHDES SOLID WASTE MANAGEMENT PROGRAM FOR DISPOSAL. CALL (603) 271-2925 FOR MORE INFORMATION.
6. PORTSMOUTH STANDARD SEWER MANHOLE SHALL BE USED.
7. CONTRACTOR TO PURCHASE SEWER MANHOLE COVERS FROM THE CITY OF PORTSMOUTH DIRECTLY.
8. MANHOLE BASE SECTIONS SHALL BE MONOLITHIC TO A POINT AT LEAST 6" ABOVE THE HIGHEST INCOMING SEWER PIPE PER ENV-WQ 704.12 (e).
9. MANHOLE CASTINGS SHALL CONFORM TO ASTM A48 PER ENV-WQ 704.13 (a) (8).

PORTSMOUTH SEWER MANHOLE

NOT TO SCALE

Design: DJM	Draft: TCR	Date: 01/08/26
Checked: EMP	Scale: AS NOTED	Project No.: 25071.2
Drawing Name: 25071.2-PLAN.dwg		

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STATE OF NEW HAMPSHIRE – DANIEL JAMES MEDITZ No.18152 – LICENSED PROFESSIONAL ENGINEER
09/23/2026

REV.	DATE	REVISION	BY
2	09/22/26	REVISED PER TAC COMMENTS	DJM
1	09/01/26	UPDATED TITLE BLOCK	DJM
0	08/17/26	ISSUED FOR REVIEW	DJM

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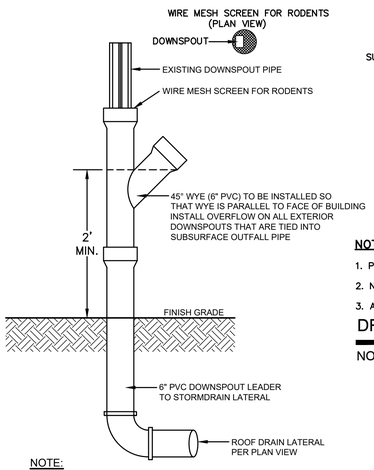
Plan Name: DETAIL SHEET

Project: LEDGEWOOD DRIVE LLC
LEDGEWOOD DRIVE, PORTSMOUTH, NH 03801

Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

DRAWING No.
D2

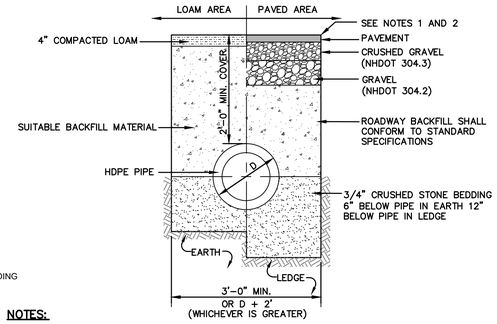


NOTE:

1. OVERFLOWS ARE TO BE INSTALLED ON EXTERIOR DOWNSPOUT LEADERS ONLY.

DOWNSPOUT OVERFLOW

NOT TO SCALE

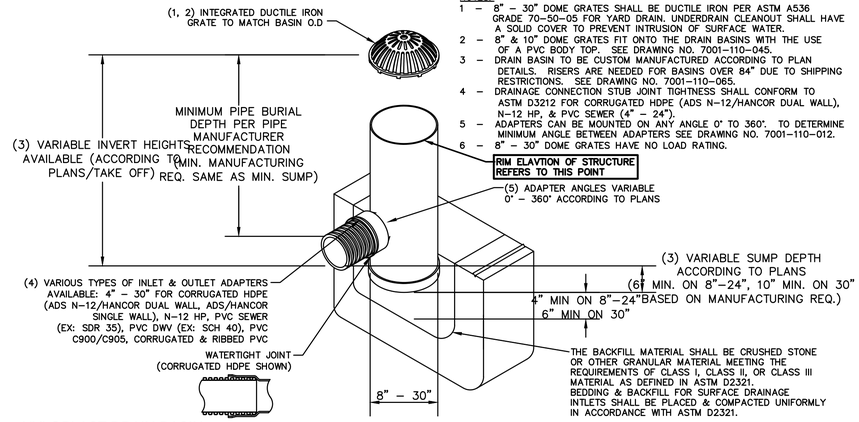


NOTES:

1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
2. NEW ROADWAY CONSTRUCTION SHALL CONFORM WITH PROJECT AND TOWN SPECIFICATIONS.
3. ALL MATERIALS ARE TO BE COMPACTED TO 95% OF ASTM D-1557.

DRAINAGE TRENCH

NOT TO SCALE

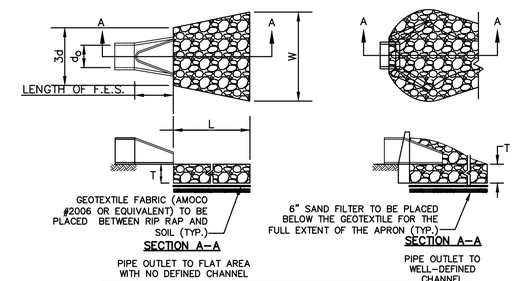


NOTES:

1 – 8" – 30" DOME GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70–50–05 FOR YARD DRAIN. UNDERDRAIN CLEANOUT SHALL HAVE A SOLID COVER TO PREVENT INTRUSION OF SURFACE WATER.
2 – 8" & 10" DOME GRATES FIT ONTO THE DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001–110–045.
3 – DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001–110–065.
4 – DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" – 24").
5 – ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001–110–012.
6 – 8" – 30" DOME GRATES HAVE NO LOAD RATING.

NYLOPLAST DRAIN BASIN

NOT TO SCALE



SECTION A–A

PIPE OUTLET TO FLAT AREA WITH NO DEFINED CHANNEL

SECTION A–A

PIPE OUTLET TO WELL–DEFINED CHANNEL

TABLE 7–24––RECOMMENDED RIP RAP GRADATION RANGES		
THICKNESS OF RIP RAP = 0.75 FEET		
d50 SIZE= 0.25 FEET 3 INCHES		
% OF WEIGHT SMALLER THAN THE GIVEN d50 SIZE	SIZE OF STONE (INCHES) FROM	TO
100%	5	6
85%	4	5
50%	3	5
15%	1	2

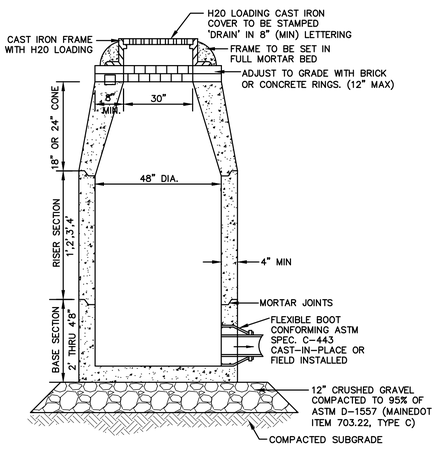
TABLE 7–24––RECOMMENDED RIP RAP GRADATION RANGES		
THICKNESS OF RIP RAP = 1.5 FEET		
d50 SIZE= 0.50 FEET 6 INCHES		
% OF WEIGHT SMALLER THAN THE GIVEN d50 SIZE	SIZE OF STONE (INCHES) FROM	TO
100%	9	12
85%	8	11
50%	6	9
15%	2	3

NOTES:

1. THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
2. THE RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.
5. OUTLETS TO A DEFINED CHANNEL SHALL HAVE 2:1 OR FLATTER SIDE SLOPES AND SHALL BEGIN AT THE TOP OF THE CULVERT AND TAPER DOWN TO THE CHANNEL BOTTOM THROUGH THE LENGTH OF THE APRON.
6. MAINTENANCE: THE OUTLET PROTECTION SHALL BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIP RAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHALL BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHALL BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHALL BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO OUTLET PROTECTION.

RIP RAP OUTLET PROTECTION APRON

NOT TO SCALE

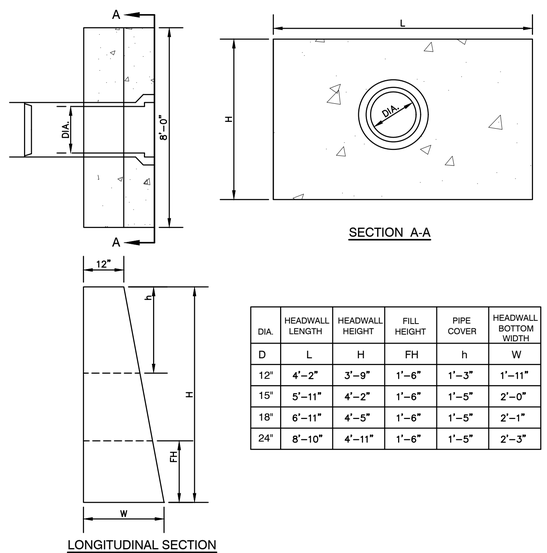


NOTES:

1. BASE SECTION SHALL BE MONOLITHIC WITH 48" INSIDE DIAMETER.
2. ALL SECTIONS SHALL BE DESIGNED FOR H20 LOADING.
3. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI, TYPE II CEMENT.
4. FRAMES AND GRATES SHALL BE HEAVY DUTY AND DESIGNED FOR H20 LOADING.
5. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS SO AS TO BE WATERTIGHT.
6. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE BUTYL RUBBER.
7. ALL DRAIN MANHOLE FRAMES AND GRATES SHALL BE NEENAH R–1798 OR APPROVED EQUAL (30" DIA. TYPICAL).
8. STANDARD FRAME(S) AND GRATE(S) SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM, BUT NO MORE THAN 12"), OR PRECAST CONCRETE 'DONUTS'.

DRAIN MANHOLE (4' DIAM.)

NOT TO SCALE



SECTION A-A

LONGITUDINAL SECTION

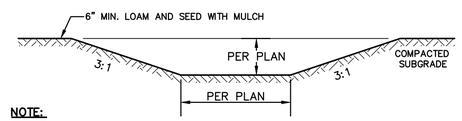
DIA.	HEADWALL LENGTH	HEADWALL HEIGHT	FILL HEIGHT	PIPE COVER	HEADWALL BOTTOM WIDTH
D	L	H	FH	h	W
12"	4'–2"	3'–9"	1'–6"	1'–3"	1'–11"
15"	5'–11"	4'–2"	1'–6"	1'–5"	2'–0"
18"	6'–11"	4'–5"	1'–6"	1'–5"	2'–1"
24"	8'–10"	4'–11"	1'–6"	1'–5"	2'–3"

NOTES:

1. ALL DIMENSIONS GIVEN IN FEET & INCHES.
2. PROVIDE BELL END AT INLET HEADWALL, AND SPIGOT END AT OUTLET END HEADWALL.
3. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS. CEMENT TO BE TYPE III PER ASTM C–150. REINFORCING TO MEET OR EXCEED ASTM A–615 GRADE 60 DEFORMED BARS.
4. 1" THREADED INSERTS PROVED FOR FINAL ATTACHMENT IN FIELD BY OTHERS.

PRECAST CONCRETE HEADWALL

NOT TO SCALE



NOTE:

1. STABILIZE AREA PRIOR TO DIRECTING RUNOFF TO SWALE

VEGETATED SWALE

NOT TO SCALE

NOTES:

1. DO NOT DISCHARGE SEDIMENT LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO POCKET POND.
2. DO NOT TRAFFIC EXPOSE SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATION WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE POND.
3. AFTER THE BASIN IS EXCAVATED TO THE FINAL DESIGN ELEVATION, THE FLOOR SHALL BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW TO RESTORE INFILTRATION RATES, FOLLOWED BY A PASS WITH A LEVELING DRAG.
4. VEGETATION SHALL BE ESTABLISHED IMMEDIATELY.
5. DO NOT PLACE POND INTO SERVICE UNTIL THE CONTRIBUTING AREA HAS BEEN FULLY STABILIZED.
6. ANY FILL MATERIAL USED UNDER INFILTRATION PONDS SHALL BE FREE–DRAINING.
7. SUBGRADE MATERIAL SHALL BE FREE OF ORGANICS, SILTS, CLAY AND ROOTS.
8. IF THE POCKET POND DOES NOT DRAIN WITHIN 72–HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHALL ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE INFILTRATION FUNCTION, INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE SYSTEM.

POCKET INFILTRATION POND SECTION

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Checked: EMP	Scale: AS NOTED
Drawing Name: 25071.2-PLAN.dwg	Date: 01/08/26
Project No.: 25071.2	

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STATE OF NEW HAMPSHIRE — DANIEL JAMES MEDITZ No.18152 — LICENSED PROFESSIONAL ENGINEER

09/23/2026

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E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: DETAIL SHEET

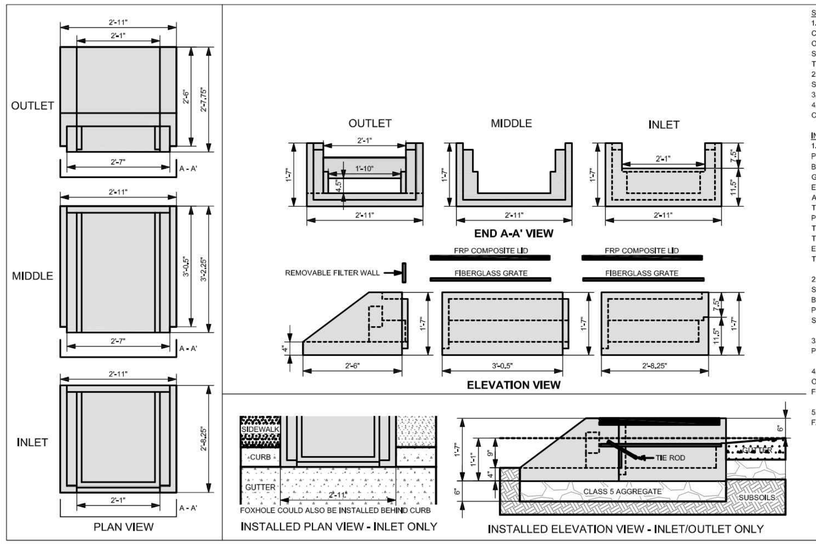
Project: LEDGEWOOD DRIVE LLC
LEDGEWOOD DRIVE, PORTSMOUTH, NH 03801

Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

DRAWING No.

D3

SHEET 11 OF15
JBE PROJECT NO. 25071.2



SPECIFICATIONS
1. STEEL REINFORCED, COLD JOINT SECURED MONOLITHIC CONCRETE STRUCTURES (INLET 875 LBS, MIDDLE 965 LBS, AND OUTLET 730 LBS). CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. CONCRETE AIR ENTRAINED (4% TO 8% BY VOLUME). MANUFACTURED AND DESIGNED TO ASTM C858.
2. 24-POINT PICK USING RECESSED LIFTING POCKETS WITH A STANDARD HOOK.
3. FIBERGLASS GRATE (11 LBS/PIECE).
4. FRP COMPOSITE LID (36 LBS/PIECE) WITH CONCENTRATED LOAD CAPACITY OF 3,400 LBS.

INSTALLATION NOTES
1. INSTALL A CLASS 5 BASE (COMPACTED TO 95% STANDARD PROCTOR). THE DISTANCE FROM THE BACK OF THE CURB MAY VARY BASED ON SITE CONDITIONS. EXCAVATE 1' 7" BELOW THE GUTTERLINE ELEVATION (I.E. THE BIORETENTION OVERFLOW ELEVATION) TO ACCOMMODATE THE 9" PONDING DEPTH, 6" CLASS 5 AGGREGATE, AND 4" RAIN GUARDIAN FOXHOLE BASE (INCLUDED). THEREFORE, THE TOP OF THE CLASS 5 COMPACTED BASE IS PRECISELY 1' 1" BELOW THE GUTTERLINE ELEVATION. THE TOP OF THE RAIN GUARDIAN FOXHOLE INLET POINT WILL BE 7-1/2" ABOVE THE TOP OF THE CONCRETE BASE AND 1-1/2" BELOW THE GUTTERLINE ELEVATION TO ACCOMMODATE A SLOPED INLET FROM THE GUTTER TO THE RAIN GUARDIAN FOXHOLE.

2. SET RAIN GUARDIAN FOXHOLE INLET FIRST, FOLLOWED BY MIDDLE SECTION(S), AND FINALLY THE OUTLET ON THE PREPARED CLASS 5 BASE. POSITION RAIN GUARDIAN FOXHOLE OUTLET PIECE SO PRIMARY OUTLET ALIGNS WITH TOE OF BASIN SIDE SLOPE TO AVOID SOIL INTERFERENCE WITH REMOVABLE FILTER WALL.

3. SECURE MODULAR FOXHOLE PIECES AT EACH JOINT USING PROVIDED GALVANIZED TIE RODS.

4. INSTALL EXPANSION/CONTRACTION JOINT MATERIAL OR A SHEET OF POLY TO SERVE AS A BOND BREAK BETWEEN RAIN GUARDIAN FOXHOLE AND CONCRETE INLET BEFORE POURING INLET.

5. REMOVABLE FILTER WALL SHOULD BE INSTALLED WITH FILTER FABRIC FACING THE RAIN GUARDIAN FOXHOLE INLET.

RAIN GARDIAN FOXHOLE MODULAR PRETREAMENT CHAMBER

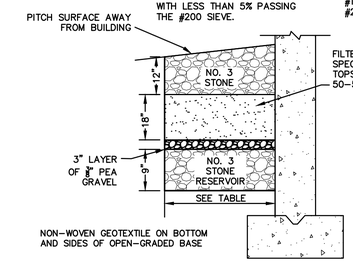
NOT TO SCALE

TOPSOIL SPECIFICATION
LOAMY SAND TOPSOIL WITH MINIMAL CLAY CONTENT AND BETWEEN 15 TO 25% FINES PASSING THE #200 SIEVE.

MULCH SPECIFICATION
MODERATELY FINE, SHREDDED BARK OR WOOD FIBER MULCH WITH LESS THAN 5% PASSING THE #200 SIEVE.

SAND SPECIFICATION

SIEVE SIZE	% BY WEIGHT
3/8"	100
#4	95–100
#8	80–100
#16	50–85
#30	25–60
#60	10–30
#100	2–10
#200	0–5



FILTRATION DRIP EDGE DETAIL

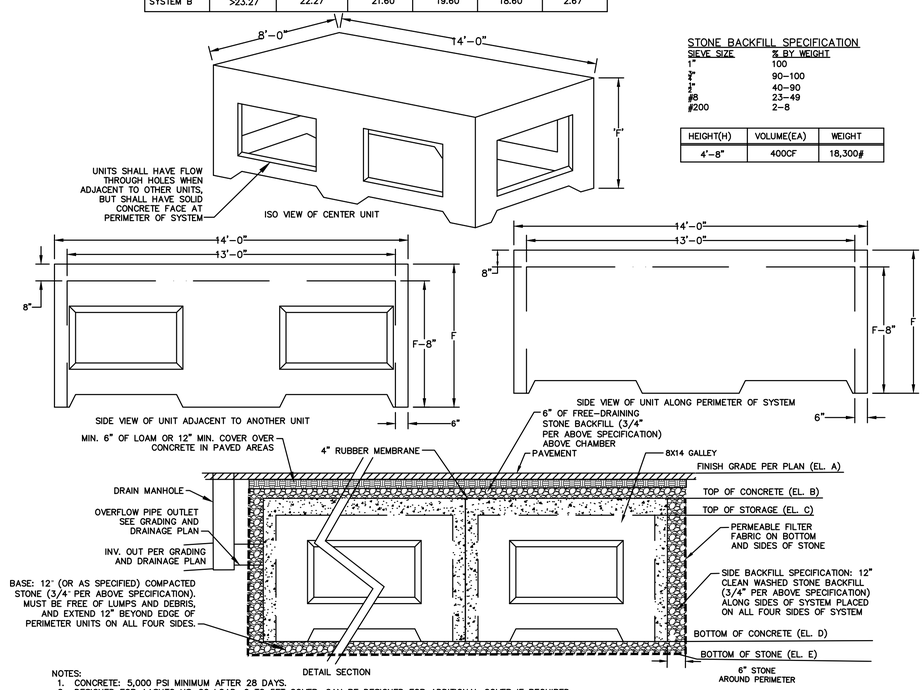
NOT TO SCALE

CONTRACTOR ORDER SCHEDULE

	FLOW-THROUGH HOLES ON ALL SIDES	NO FLOW-THROUGH HOLES ON ONE 8' SIDE	NO FLOW-THROUGH HOLES ON TWO 14' SIDES	NO FLOW-THROUGH HOLES ON TWO 8' AND ONE 14' SIDE	NO FLOW-THROUGH HOLES ON ONE 14' AND ONE 8' SIDE	NO FLOW-THROUGH HOLES ON ONE 14' SIDE
SYSTEM A	0	2	0	2	2	3
SYSTEM B	0	0	4	0	4	0

ELEVATION SCHEDULE

	EL. A	EL. B	EL. C	EL. D	EL. E	F (HEIGHT)
SYSTEM A	>22.87	21.87	21.20	19.20	18.20	2.67'
SYSTEM B	>23.27	22.27	21.60	19.60	18.60	2.67'



STONE BACKFILL SPECIFICATION

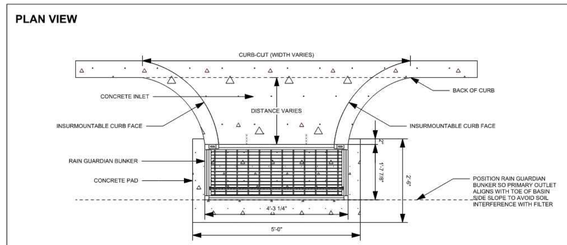
SIEVE SIZE	% BY WEIGHT
1"	100
3/4"	90–100
#4	40–90
#8	23–49
#200	2–8

HEIGHT(H)	VOLUME(EA)	WEIGHT
4'–8"	400CF	18,300#

NOTES:
1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGNED FOR AASHTO HS–20 LOAD, 0 TO 5FT COVER. CAN BE DESIGNED FOR ADDITIONAL COVER IF REQUIRED.
3. STANDARD SLAB DESIGN WITHSTANDS 40KIP OUTRIGGER LOAD ON A 24" SQUARE PAD WITH 24" COVER OVER SLAB.
4. CORE HOLE FOR MORTAR JOINT AT INVERT IN LOCATION(S). PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS SO AS TO BE WATERTIGHT
5. COMPACT SUBGRADE TO A BEARING CAPACITY OF AT LEAST 2000 PSF PRIOR TO PLACEMENT OF SYSTEM.
6. GALLEY 8X14 UNITS THAT ARE ADJACENT TO OTHER GALLEY 8X14 UNITS ON ALL SIDES SHALL HAVE FLOW THROUGH HOLES ON ALL SIDES. UNITS THAT ARE NOT ADJACENT TO OTHER UNITS ON AT LEAST ONE SIDE SHALL HAVE A SOLID CONCRETE FACE ON THE SIDES ON THE UNIT THAT ARE NOT ADJACENT TO OTHER UNITS (ALONG PERIMETER OF SYSTEM).
7. SEE OUTLET PIPE SIZES, INVERTS, AND MATERIALS ON GRADING AND DRAINAGE PLAN.

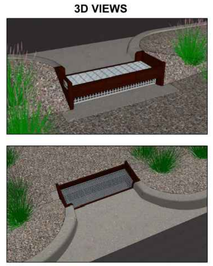
SHEA CONCRETE PRODUCTS "GALLEY 8x14"

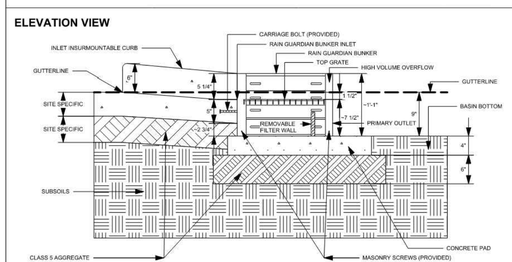
NOT TO SCALE



PLAN VIEW NOTES
1. INLET WIDTH AND DISTANCE BETWEEN BACK OF CURB AND RAIN GUARDIAN BUNKER MAY VARY WITH SITE CONDITIONS. INSTALLATION FLUSH WITH THE BACK OF THE CURB CAN ALSO BE COMPLETED WITH THE RAIN GUARDIAN BUNKER.
2. CONCRETE PAD EXTENDS BEYOND THE FILTER WALL OF THE RAIN GUARDIAN BUNKER TO SERVE AS A SPLASH DISSIPATOR.

3D VIEWS





ELEVATION VIEW NOTES
1. THE TOP OF THE CLASS 5 BASE (COMPACTED TO 95% STANDARD PROCTOR) IS PRECISELY 1' 1" BELOW THE GUTTERLINE ELEVATION.
2. THE TOP OF THE CONCRETE PAD IS PRECISELY 9" BELOW THE GUTTERLINE.

SPECIFICATIONS
1. CHAMBER CONSTRUCTED OF RECYCLED PLASTIC LUMBER (95%+) MANUFACTURED AND DESIGNED TO ASTM C1028, D6108, D6109, D6111, D6117, AND D6341 (54 LBS).
2. TOP GALVANIZED METAL GRATE (35 LBS, 1" THICK) - 316 LB CONCENTRATED LOAD OR 158 LB/SQ-FT UNIFORM LOAD.

INSTALLATION NOTES
1. INSTALL THE CONCRETE PAD WITH A 1' 10" OFFSET FROM THE BACK OF THE CURB TO ACCOMMODATE THE CONCRETE INLET. THIS DISTANCE MAY VARY BASED ON SITE CONDITIONS, BUT CONSIDERATIONS SHOULD INCLUDE SLOPE OF THE INLET AND BASIN SIDE SLOPES ADJACENT TO THE RAIN GUARDIAN BUNKER. POSITION RAIN GUARDIAN BUNKER SO PRIMARY OUTLET ALIGNS WITH TOE OF BASIN SIDE SLOPE TO AVOID SOIL INTERFERENCE WITH REMOVABLE FILTER WALL. THE CONCRETE PAD SHOULD BE REINFORCED WITH REBAR.
2. EXCAVATE 1' 7" BELOW THE GUTTERLINE ELEVATION (I.E. THE BIORETENTION OVERFLOW ELEVATION) TO ACCOMMODATE THE 9" PONDING DEPTH, 6" CLASS 5 AGGREGATE, AND 4" CONCRETE PAD TO WHICH THE RAIN GUARDIAN BUNKER WILL BE SECURED. THEREFORE, THE TOP OF THE FINISHED CONCRETE PAD IS PRECISELY 9" BELOW THE GUTTERLINE ELEVATION. THE TOP OF THE RAIN GUARDIAN BUNKER METAL GRATE WILL BE 7-1/2" ABOVE THE TOP OF THE CONCRETE PAD AND 1-1/2" BELOW THE GUTTERLINE ELEVATION TO ACCOMMODATE A SLOPED INLET FROM THE GUTTER TO THE RAIN GUARDIAN BUNKER.
3. THE RAIN GUARDIAN BUNKER SHOULD BE POSITIONED 2" FROM THE EDGE OF THE CONCRETE PAD CLOSEST TO THE BACK OF THE CURB. THEREFORE, THE RAIN GUARDIAN BUNKER WILL BE 2" FROM THE BACK OF THE CURB.
4. USING THE PILOT HOLE IN EACH OF THE FOUR CORNER POSTS, PREDRILL 5/32" HOLES INTO THE CONCRETE PAD WITH A 4-1/2" MASONRY BIT AND HAMMER DRILL.
5. SECURE RAIN GUARDIAN BUNKER TO CONCRETE PAD WITH FOUR 3/16" X 2-3/4" MASONRY SCREWS (PROVIDED).
6. INSTALL FRAMING FOR INLET BETWEEN RAIN GUARDIAN BUNKER AND BACK OF CURB. TOP ELEVATIONS OF THE FRAMING SHOULD MATCH THE TOP OF THE CURB ON THE STREET SIDE AND THE TOP OF THE RAIN GUARDIAN BUNKER ON THE BIORETENTION SIDE.
7. WHEN POURING THE CONCRETE INLET, ENSURE THE CARRIAGE BOLTS ON THE RAIN GUARDIAN BUNKER ARE SURROUNDED BY AT LEAST 2" OF CONCRETE ON ALL SIDES.
8. SIDE CURBS OF THE POURED INLET MUST HAVE AN INSURMOUNTABLE PROFILE TO PREVENT WATER FLOW FROM OVERTOPPING THE DOWNSTREAM SIDE OF THE INLET.
9. WRAP CABLE THROUGH TOP METAL GRATE AND SECURE WITH PROVIDED CLAMP. ENSURE SUFFICIENT SLACK EXISTS IN CABLE TO ALLOW FOR GRATE REMOVAL AND PLACEMENT IN CONCRETE INLET DURING CLEANING. REMOVABLE FILTER WALL SHOULD BE INSTALLED WITH FILTER FABRIC FACING THE RAIN GUARDIAN BUNKER INLET.

RAIN GUARDIAN
U.S. PATENT NOS. 8,501,016 AND 8,858,804
PRETREATMENT FOR BIORETENTION
Rain Gardens • Swales • Filtration Basins • Infiltration Basins
www.RainGuardian.biz

NOTE: THE 9" RAIN GUARDIAN BUNKER IS A NON-STANDARD PRODUCT AND REQUIRES ADVANCED NOTICE WHEN ORDERING.

RAIN GUARDIAN BUNKER PRETREATMENT CHAMBER BIORETENTION PONDING DEPTH: 9" TYPICAL DETAIL

REVISION HISTORY

REV	BY	DATE	DESCRIPTION
A	MOH	02/22/2022	BUNKER - 9"

SCALE: VARIABLE
U.S. PATENT NOS.: 8,501,016 AND 8,858,804

DEVELOPED/MANUFACTURED BY:
ANOKA CONSERVATION DISTRICT

Design: DJM	Draft: TCR	Date: 01/08/26
Checked: EMP	Scale: AS NOTED	Project No.: 25071.2
Drawing Name: 25071.2-PLAN.dwg		

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STATE OF NEW HAMPSHIRE – DANIEL JAMES MEDITZ No.18152 – LICENSED PROFESSIONAL ENGINEER
09/23/2026

REV.	DATE	REVISION	BY
2	09/22/26	REVISED PER TAC COMMENTS	DJM
1	09/01/26	UPDATED TITLE BLOCK	DJM
0	08/17/26	ISSUED FOR REVIEW	DJM

Designed and Produced in NH
Jones & Beach Engineers, Inc.
Civil Engineering Services
100 Domain Dr.
Suite 201
Exeter, NH 03833
603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: DETAIL SHEET
Project: LEDGEWOOD DRIVE LLC
LEDGEWOOD DRIVE, PORTSMOUTH, NH 03801
Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

DRAWING No.
D4
SHEET 12 OF15
JBE PROJECT NO. 25071.2

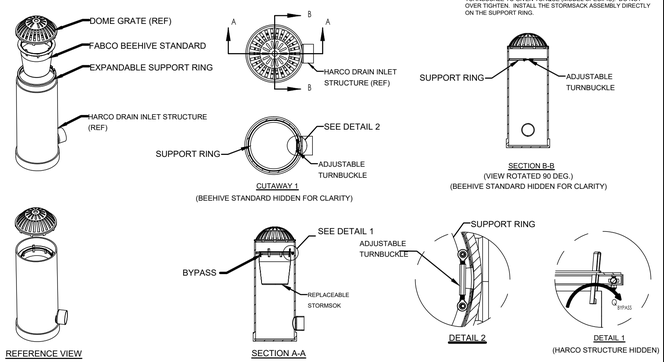
STRUCTURE DIAMETER (IN.)	DEBRIS CAPACITY (CU.FT)	FILTERED FLOWRATE (CFS)	BYPASS FLOWRATE (CFS)
12	0.66	1.7	1.0
15	1.0	2.1	1.3
18	1.2	2.3	1.4
24	2.8	3.9	2.2
30	2.8	3.9	2.2

NOTES:

1. MATERIAL:
   - A) SUPPORT FLANGE: ALUMINUM ALLOY PLATE, 5000 SERIES
   - B) STORMSOK: WOVEN POLYPROPYLENE GEOTEXTILE
   - C) EXPANSION RING: ALUMINUM ALLOY CHANNEL, 6000 SERIES
   - D) HARDWARE: STAINLESS STEEL
2. RECOMMENDED MINIMUM VAULT DEPTH: 2-IN BELOW STORMSOK
3. USE ONLY WITH FABCO REPLACEABLE STORMSOK

GENERAL INSTALLATION:

ADJUST THE TURNBUCKLE DOWN TO GIVE THE SMALLEST RING DIAMETER AND LOCATE THE EXPANSION RING INTO THE HARCO STRUCTURE MINIMUM OF 6-IN DOWN FROM THE TOP OPENING AS SHOWN. BEGIN OPENING THE TURNBUCKLE UNTIL THE EXPANSION RING IS SELF SUPPORTING, THEN VERIFY THE RING IS LEVEL AND PLUMB TO THE HARCO STRUCTURE. USING A CALIBRATED TORQUE WRENCH, CONTINUE TO OPEN THE TURNBUCKLE TO GIVEN TORQUE (MODEL-SPECIFIC). DO NOT OVER TIGHTEN. INSTALL THE STORMSACK ASSEMBLY DIRECTLY ON THE SUPPORT RING.



ACF BEEHIVE OVERFLOW FILTER STRUCTURE DETAILS

FOR MORE INFORMATION CONTACT ACF ENVIRONMENTAL
WWW.ACFENVIRONMENTAL.COM
800.448.3636

FocalPoint — FOCAL POINT FOR WATER SOLUTIONS

REVISED AUG 2020

FOCALPOINT HP PERFORMANCE SPECIFICATION:

HIGH PERFORMANCE MEDIA

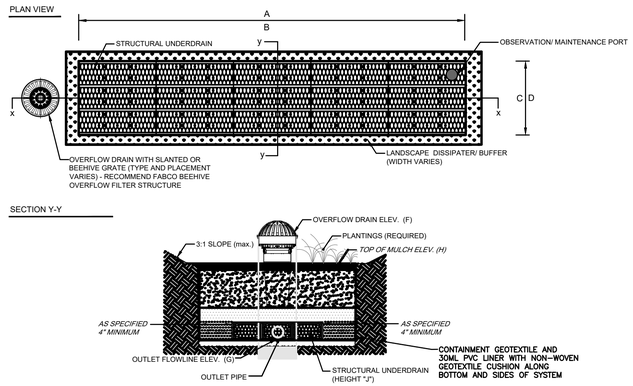
HIGH PERFORMANCE MEDIA MUST MEET A MINIMUM OF 100" PER HOUR INFILTRATION RATE.

HIGH PERFORMANCE STRUCTURAL UNDERDRAIN

R-TANK MINI OR APPROVED EQUAL
MUST HAVE A MINIMUM OF 18 SQUARE INCHES OF ORIFICE OPENING PER SQUARE FOOT.
MUST MEET H20 LOADING REQUIREMENTS.
MUST BE MODULAR IN NATURE AND ASSEMBLED ON SITE.
MUST HAVE MINIMUM 90% INTERIOR VOID SPACE.

PLANT COMPONENT

SUPPLIER SHALL PROVIDE LIST OF ACCEPTABLE PLANTS
IF PLANTS ARE NOT INCLUDED IN THE LANDSCAPE CONTRACT/PLANS. SITE CONTRACTOR SHALL PROVIDE PLANTS.
PLANTS SHALL BE INSTALLED AT THE TIME THE SYSTEM IS COMMISSIONED FOR USE. PLANTING OUTSIDE THIS TIME REQUIRES APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT OF RECORD.
SEE FOCALPOINT INSTALLATION GUIDE FOR PLANT SPACING, PLANTING PROCEDURES ETC.



FOCALPOINT HP CONSTRUCTION GUIDE

FOR MORE INFORMATION CONTACT ACF ENVIRONMENTAL
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800.448.3636

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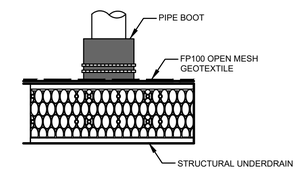
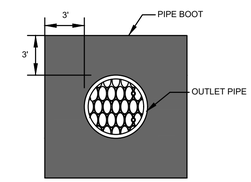
OBSERVATION/ MAINTENANCE PORT CONNECTION

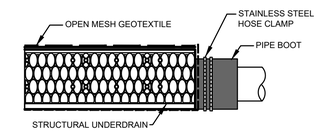


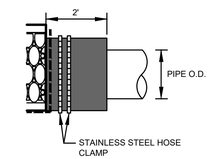
PIPE BOOT DETAIL



FRONT VIEW

OUTLET/ INLET PIPE CONNECTION





SIDE VIEW

FOCALPOINT PIPE CONNECTION

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800.448.3636

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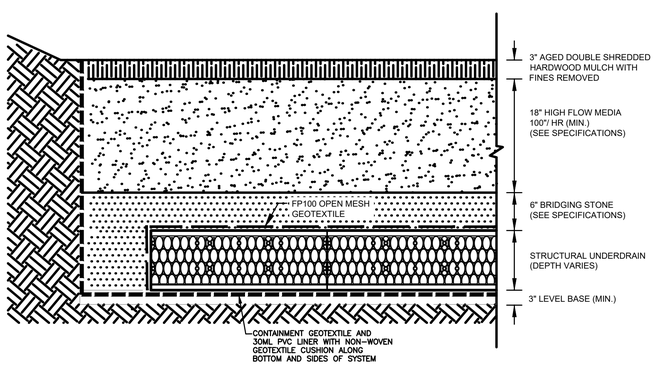

FOCALPOINT HP DETAILED CROSS SECTION

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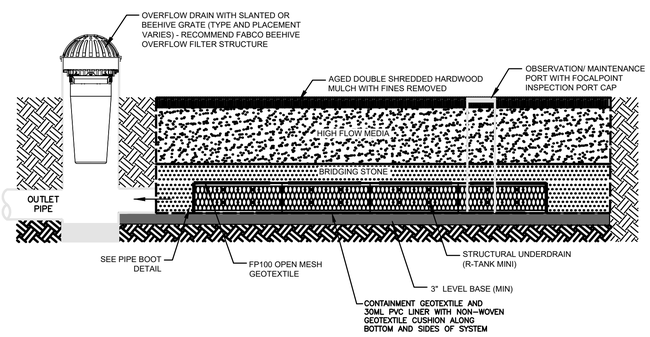

FOCALPOINT HP SECTION X-X

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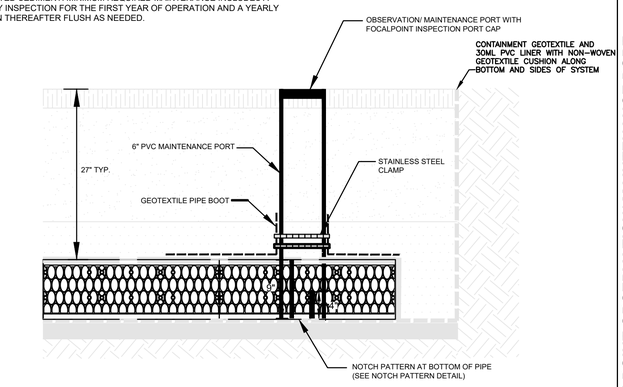
800.448.3636

FocalPoint — FOCAL POINT FOR WATER SOLUTIONS

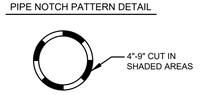
REVISED AUG 2020

OBSERVATION/ MAINTENANCE PORT

PORT USED FOR INSPECTION PURPOSES AND FOR SYSTEM MAINTENANCE AS REQUIRED. WATER SHALL BE PUMPED INTO THE SYSTEM AND RESUSPEND ACCUMULATED SEDIMENT. MINIMUM REQUIRED MAINTENANCE INCLUDES A QUARTERLY INSPECTION FOR THE FIRST YEAR OF OPERATION AND A YEARLY INSPECTION THEREAFTER FLUSH AS NEEDED.



PIPE NOTCH PATTERN DETAIL



FOCALPOINT OBSERVATION/ MAINTENANCE PORT

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REVISED AUG 2020

Design: DJM	Draft: TCR	Date: 01/08/26
Checked: EMP	Scale: AS NOTED	Project No.: 25071.2
Drawing Name: 25071.2-PLAN.dwg		

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STATE OF NEW HAMPSHIRE — DANIEL JAMES MEDITZ No.18152 — LICENSED PROFESSIONAL ENGINEER
09/23/2026

REV.	DATE	REVISION	BY
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Designed and Produced in NH
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603-772-4746
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: DETAIL SHEET

Project: LEDGEWOOD DRIVE LLC
LEDGEWOOD DRIVE, PORTSMOUTH, NH 03801

Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

DRAWING No.
D5
SHEET 13 OF15
JBE PROJECT NO. 25071.2

TEMPORARY EROSION CONTROL NOTES

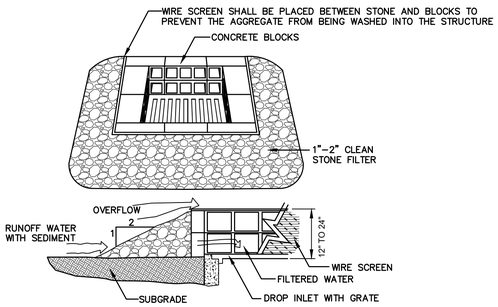
1. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME. AT NO TIME SHALL AN AREA IN EXCESS OF 5 ACRES BE EXPOSED AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
2. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED, DIRECTED BY THE ENGINEER.
3. ALL DISTURBED AREAS (INCLUDING POND AREAS BELOW THE PROPOSED WATERLINE) SHALL BE RETURNED TO PROPOSED GRADES AND ELEVATIONS. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 6" OF SCREENED ORGANIC LOAM AND SEEDED WITH SEED MIXTURE 'C' AT A RATE NOT LESS THAN 1.10 POUNDS OF SEED PER 1,000 S.F. OF AREA (48 LBS. / ACRE).
4. SILT FENCES AND OTHER BARRIERS SHALL BE INSPECTED EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 0.5" OR GREATER. ALL DAMAGED AREAS SHALL BE REPAIRED, AND SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
5. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
6. AREAS MUST BE SEEDED AND MULCHED OR OTHERWISE PERMANENTLY STABILIZED WITHIN 3 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 14 DAYS OF THE INITIAL DISTURBANCE OF SOIL. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
7. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING NORTH AMERICAN GREEN S150 EROSION CONTROL BLANKETS (OR AN EQUIVALENT APPROVED IN WRITING BY THE ENGINEER) 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 ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
8. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
9. AFTER OCTOBER 15th, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3" OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.
10. IN AREAS TO BE PAVED, "STABLE" MEANS THAT BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2 HAVE BEEN INSTALLED.

    IN AREAS THAT WILL NOT BE PAVED, "STABLE MEANS THAT:

    a. A MINIMUM OF 85% VEGETATIVE COVER HAS BEEN ESTABLISHED IN A MANNER THAT IS EVENLY DISTRIBUTED OVER THE SITE, WITH NO LARGE AREAS OF BARE SOIL;

    b. A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED; OR

    c. EROSION CONTROL BLANKETS HAVE BEEN INSTALLED IN ACCORDANCE WITH ENV-WQ 1506.03.
11. FUGITIVE DUST CONTROL IS REQUIRED TO BE CONTROLLED IN ACCORDANCE WITH ENV-A 1000, AND THE PROJECT IS TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.

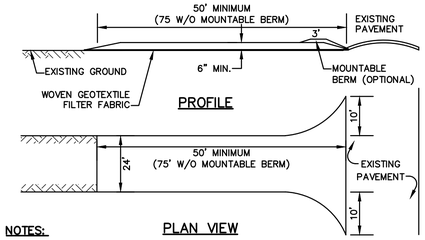


MAINTENANCE NOTE:

1. ALL STRUCTURES SHOULD BE INSPECTED AFTER EVERY RAINFALL AND REPAIRS MADE AS NECESSARY. SEDIMENT SHOULD BE REMOVED FROM TRAPPING DEVICES AFTER THE SEDIMENT HAS REACHED A MAXIMUM OF ONE HALF THE DEPTH OF THE TRAP. THE SEDIMENT SHOULD BE DISPOSED IN A SUITABLE UPLAND AREA AND PROTECTED FROM EROSION BY EITHER STRUCTURE OR VEGETATIVE MEANS. THE TEMPORARY TRAPS SHOULD BE REMOVED AND THE AREA REPAIRED AS SOON AS THE CONTRIBUTING DRAINAGE AREA TO THE INLET HAS BEEN COMPLETELY STABILIZED.

TEMPORARY CATCH BASIN INLET PROTECTION
(Block and Gravel Drop Inlet Sediment Filter)

NOT TO SCALE



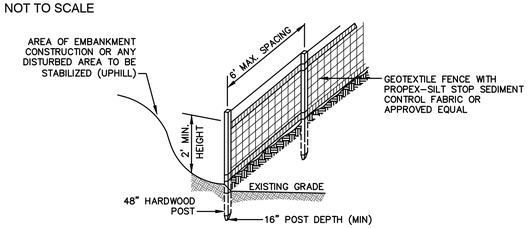
PLAN VIEW

NOTES:

1. STONE FOR STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET, 75' WITHOUT A MOUNTABLE BERM, AND EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS, OR 10 FEET, WHICHEVER IS GREATER.
5. GEOTEXTILE FILTER FABRIC SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER FABRIC IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENTIAL LOT.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A STONE BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO THE PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO THE PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

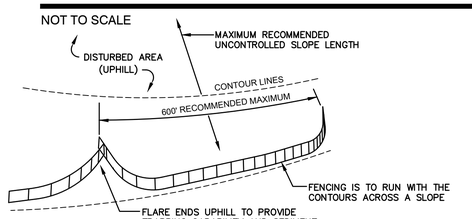


CONSTRUCTION SPECIFICATIONS:

1. WOVEN FABRIC FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP, MID AND BOTTOM AND EMBEDDED IN THE GROUND A MINIMUM OF 8" AND THEN COVERED WITH SOIL.
2. THE FENCE POSTS SHALL BE A MINIMUM OF 48" LONG, SPACED A MAXIMUM 6' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED 6", FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BY-PASSING.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED AND PROPERLY DISPOSED OF WHEN IT IS 6" DEEP OR VISIBLE 'BULGES' DEVELOP IN THE SILT FENCE.
5. PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE.
6. SILT FENCE SHALL REMAIN IN PLACE FOR 24 MONTHS.

SILT FENCE

NOT TO SCALE



7. SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER. THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND REVEGETATED.

MAINTENANCE:

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE DONE IMMEDIATELY.
2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER.
4. SEDIMENT DEPOSITS THAT ARE REMOVED, OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED, SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

SEEDING SPECIFICATIONS

1. GRADING AND SHAPING
   - A. SLOPES SHALL NOT BE STEEPER THAN 2:1 WITHOUT APPROPRIATE EROSION CONTROL MEASURES AS SPECIFIED ON THE PLANS (3:1 SLOPES OR FLATTER ARE PREFERRED).
   - B. WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
2. SEEDBED PREPARATION
   - A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
   - B. STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND FERTILIZER AND LIME MIXED INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
3. ESTABLISHING A STAND
   - A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. TYPES AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
     AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS. PER 1,000 SQ.FT.
     NITROGEN(N), 50 LBS. PER ACRE OR 1.1 LBS. PER 1,000 SQ.FT.
     PHOSPHATE(P2O5), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ.FT.
     POTASH(K2O), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ.FT.
     (NOTE: THIS IS THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS. PER ACRE OF 5-10-10.)
   - B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
   - C. REFER TO THE 'SEEDING GUIDE' AND 'SEEDING RATES' TABLES ON THIS SHEET FOR APPROPRIATE SEED MIXTURES AND RATES OF SEEDING. ALL LEGUMES (CROWNVETCH, BIRDSFOOT, TREFOIL AND FLATPEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT PRIOR TO THEIR INTRODUCTION TO THE SITE.
   - D. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20th OR FROM AUGUST 10th TO SEPTEMBER 1st.
4. MULCH
   - A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
   - B. MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING. HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90 LBS PER 1000 S.F.
5. MAINTENANCE TO ESTABLISH A STAND
   - A. PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
   - B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIALS TAKE 2 TO 3 YEARS TO BECOME FULLY ESTABLISHED.
   - C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, ANNUAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

USE	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	POOR	GOOD	EXCELLENT	GOOD
	D	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER.	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES.	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	E	FAIR	EXCELLENT	EXCELLENT	2/
	F	FAIR	EXCELLENT	EXCELLENT	2/

GRAVEL PIT, SEE NH-PM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.

1/ REFER TO SEEDING MIXTURES AND RATES IN TABLE BELOW.
2/ POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAYING AREA AND ATHLETIC FIELDS.

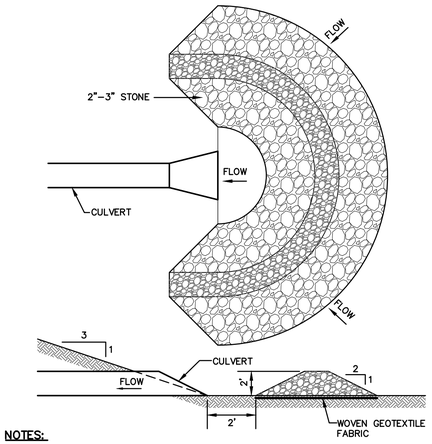
NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR OATS AT A RATE OF 2.5 LBS. PER 1000 S.F. AND SHALL BE PLACED PRIOR TO OCTOBER 15th, IF PERMANENT SEEDING NOT YET COMPLETE.

SEEDING GUIDE

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 Sq. Ft.
A. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
RED TOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREEPING RED FESCUE	10	0.25
CROWN VETCH OR FLAT PEA	15	0.35
TOTAL	40 OR 55	0.95 OR 1.35
* C. TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
BIRDS FOOT TREFOIL	8	0.20
TOTAL	48	1.10
D. TALL FESCUE	20	0.45
FLAT PEA	30	0.75
TOTAL	50	1.20
E. CREEPING RED FESCUE 1/	50	1.15
KENTUCKY BLUEGRASS 1/	50	1.15
TOTAL	100	2.30
F. TALL FESCUE 1	150	3.60

1/ FOR HEAVY USE ATHLETIC FIELDS CONSULT THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION TURF SPECIALIST FOR CURRENT VARIETIES AND SEEDING RATES.

SEEDING RATES



NOTES:

1. TEMPORARY CULVERT INLET PROTECTION CHECK DAMS SHALL BE CONSTRUCTED OF 2-3" STONE OVER WOVEN GEOTEXTILE FABRIC.
2. INLET PROTECTION MEASURES SHALL BE INSTALLED AT THE OPENINGS OF ALL EXISTING AND PROPOSED CULVERTS LOCATED BELOW (DOWNSTREAM) FROM AND WITHIN 100' OF THE PROJECT SITE.
3. SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRUCTURE WHEN IT HAS ACCUMULATED TO ONE HALF THE ORIGINAL HEIGHT OF THE STRUCTURE.
4. STRUCTURES SHALL BE REMOVED WHEN THE SITE IS STABILIZED WITH VEGETATION AND THE CHANNEL SHALL BE SMOOTHED AND REVEGETATED.

TEMPORARY CULVERT INLET PROTECTION CHECK DAM

NOT TO SCALE

CONSTRUCTION SEQUENCE

1. PRIOR TO THE START OF ANY ACTIVITY, IT IS THE RESPONSIBILITY OF THE SITE'S SITE DEVELOPER (OR OWNER) TO FILE A NOTICE OF INTENT (NOI) FORM WITH THE ENVIRONMENTAL PROTECTION AGENCY (EPA) IN ORDER TO GAIN COVERAGE UNDER THE NPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES. A PRE CONSTRUCTION MEETING IS TO BE HELD WITH ALL DEPARTMENT HEADS PRIOR TO THE START OF CONSTRUCTION.
2. WETLAND BOUNDARIES ARE TO BE CLEARLY MARKED PRIOR TO THE START OF CONSTRUCTION.
3. CUT AND REMOVE TREES IN CONSTRUCTION AREA AS REQUIRED OR DIRECTED.
4. INSTALL SILT FENCING, HAY BALES AND CONSTRUCTION ENTRANCES PRIOR TO THE START OF CONSTRUCTION. THESE ARE TO BE MAINTAINED UNTIL THE FINAL PAVEMENT SURFACING AND LANDSCAPING AREAS ARE ESTABLISHED.
5. CLEAR, CUT, GRUB AND DISPOSE OF DEBRIS IN APPROVED FACILITIES. THIS INCLUDES ANY REQUIRED DEMOLITION OF EXISTING STRUCTURES, UTILITIES, ETC.
6. CONSTRUCT AND/OR INSTALL TEMPORARY OR PERMANENT SEDIMENT AND/OR DETENTION BASIN(S) AS REQUIRED. THESE FACILITIES SHALL BE INSTALLED AND STABILIZED PRIOR TO DIRECTING RUN-OFF TO THEM.
7. STRIP LOAM PER THE RECOMMENDATIONS OF THE PROJECT ENGINEER AND STOCKPILE EXCESS MATERIAL. STABILIZE STOCKPILE AS NECESSARY.
8. PERFORM PRELIMINARY SITE GRADING IN ACCORDANCE WITH THE PLANS, INCLUDING THE CONSTRUCTION OF ANY RETAINING WALLS AND SOUND WALLS.
9. PREPARE BUILDING PAD(S) TO ENABLE BUILDING CONSTRUCTION TO BEGIN.
10. INSTALL THE SEWER AND DRAINAGE SYSTEMS FIRST, THEN ANY OTHER UTILITIES IN ACCORDANCE WITH THE PLAN AND DETAILS. ANY CONFLICTS BETWEEN UTILITIES ARE TO BE RESOLVED WITH THE INVOLVEMENT AND APPROVAL OF THE ENGINEER.
11. ALL SWALES AND DRAINAGE STRUCTURES ARE TO BE CONSTRUCTED AND STABILIZED PRIOR TO HAVING RUN-OFF DIRECTED TO THEM.
12. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINAGE DITCHES, CHECK DAMS, SEDIMENT TRAPS, ETC., TO PREVENT EROSION ON THE SITE AND PREVENT ANY SILTATION OF ABUTTING WATERS AND/OR PROPERTY.
13. PERFORM FINAL FINE GRADING, INCLUDING PLACEMENT OF 'SELECT' SUBGRADE MATERIALS.
14. PAVE ALL PARKING LOT AND DRIVEWAYS WITH INITIAL 'BASE COURSE'.
15. PERFORM ALL REMAINING SITE CONSTRUCTION (i.e. BUILDING, CURBING, UTILITY CONNECTIONS, ETC.).
16. LOAM AND SEED ALL DISTURBED AREAS AND INSTALL ANY REQUIRED SEDIMENT AND EROSION CONTROL FACILITIES (i.e. RIP RAP, EROSION CONTROL BLANKETS, ETC.).
17. FINISH PAVING PARKING LOT AND DRIVEWAYS WITH 'FINISH' COURSE.
18. PARKING LOT AND DRIVEWAYS SHALL BE STABILIZED (PER REQUIREMENTS OF NHDES ENV-WQ 1502.61) WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
19. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
20. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
21. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE BEEN 75%-85% ESTABLISHED AND SITE IMPROVEMENTS ARE COMPLETE. SMOOTH AND RE-VEGETATE ALL DISTURBED AREAS.
22. CLEAN SITE AND ALL DRAINAGE STRUCTURES, PIPES AND SUMPS OF ALL SILT AND DEBRIS.
23. INSTALL ALL PAINTED PAVEMENT MARKINGS AND SIGNAGE PER THE PLANS AND DETAILS.
24. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY QUARTER-INCH OF RAINFALL.
25. UPON COMPLETION OF CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY ANY RELEVANT PERMITTING AGENCIES THAT THE CONSTRUCTION HAS BEEN FINISHED IN A SATISFACTORY MANNER.

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STATE OF NEW HAMPSHIRE – DANIEL JAMES MEDITZ No.18152 – LICENSED – PROFESSIONAL ENGINEER
09/23/2026

REV.	DATE	REVISION	BY
2	09/22/26	REVISED PER TAC COMMENTS	DJM
1	09/01/26	UPDATED TITLE BLOCK	DJM
0	08/17/26	ISSUED FOR REVIEW	DJM

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Civil Engineering Services
603-772-4746
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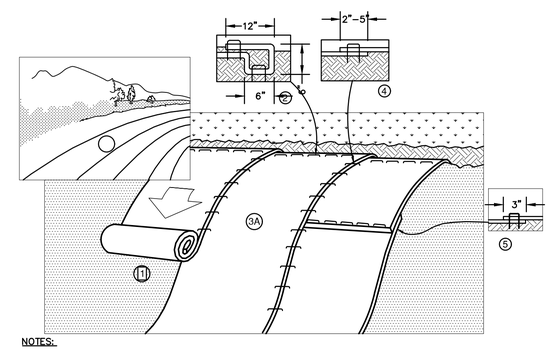
Suite 201
Exeter, NH 03833
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: EROSION AND SEDIMENT CONTROL DETAILS

Project: LEDGEWOOD DRIVE LLC
LEDGEWOOD DRIVE, PORTSMOUTH, NH 03801

Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

DRAWING No.
E1
SHEET 14 OF15
JBE PROJECT NO. 25071.2



NOTES:

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.

2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP–SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.

3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.

4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"–5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.

5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

NORTH AMERICAN GREEN
14649 HIGHWAY 41 NORTH
EVANSVILLE, INDIANA 47725
1–800–772–2040

EROSION CONTROL BLANKET SLOPE INSTALLATION
(North American Green SC150BN)

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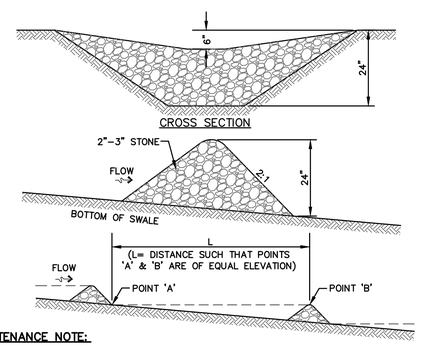

MAINTENANCE NOTE:

1. STONE CHECK DAMS SHOULD BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY NECESSARY REPAIRS SHOULD BE MADE IMMEDIATELY. PARTICULAR ATTENTION SHOULD BE GIVEN TO END RUN AND EROSION AT THE DOWNSTREAM TOE OF THE STRUCTURE. WHEN THE STRUCTURES ARE REMOVED, THE DISTURBED PORTION SHOULD BE BROUGHT TO THE EXISTING CHANNEL GRADE AND THE AREAS PREPARED, SEEDED AND MULCHED. WHILE THIS PRACTICE IS NOT INTENDED TO BE USED PRIMARILY FOR SEDIMENT TRAPPING, SOME SEDIMENT WILL ACCUMULATE BEHIND THE STRUCTURES. SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRUCTURES WHEN IT HAS ACCUMULATED TO ONE HALF OF THE ORIGINAL HEIGHT OF THE STRUCTURE.

STONE CHECK DAM

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Drawing Name: 25071.2-PLAN.dwg		

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DANIEL JAMES MEDITZ
No.18152
LICENSED
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09/23/2026

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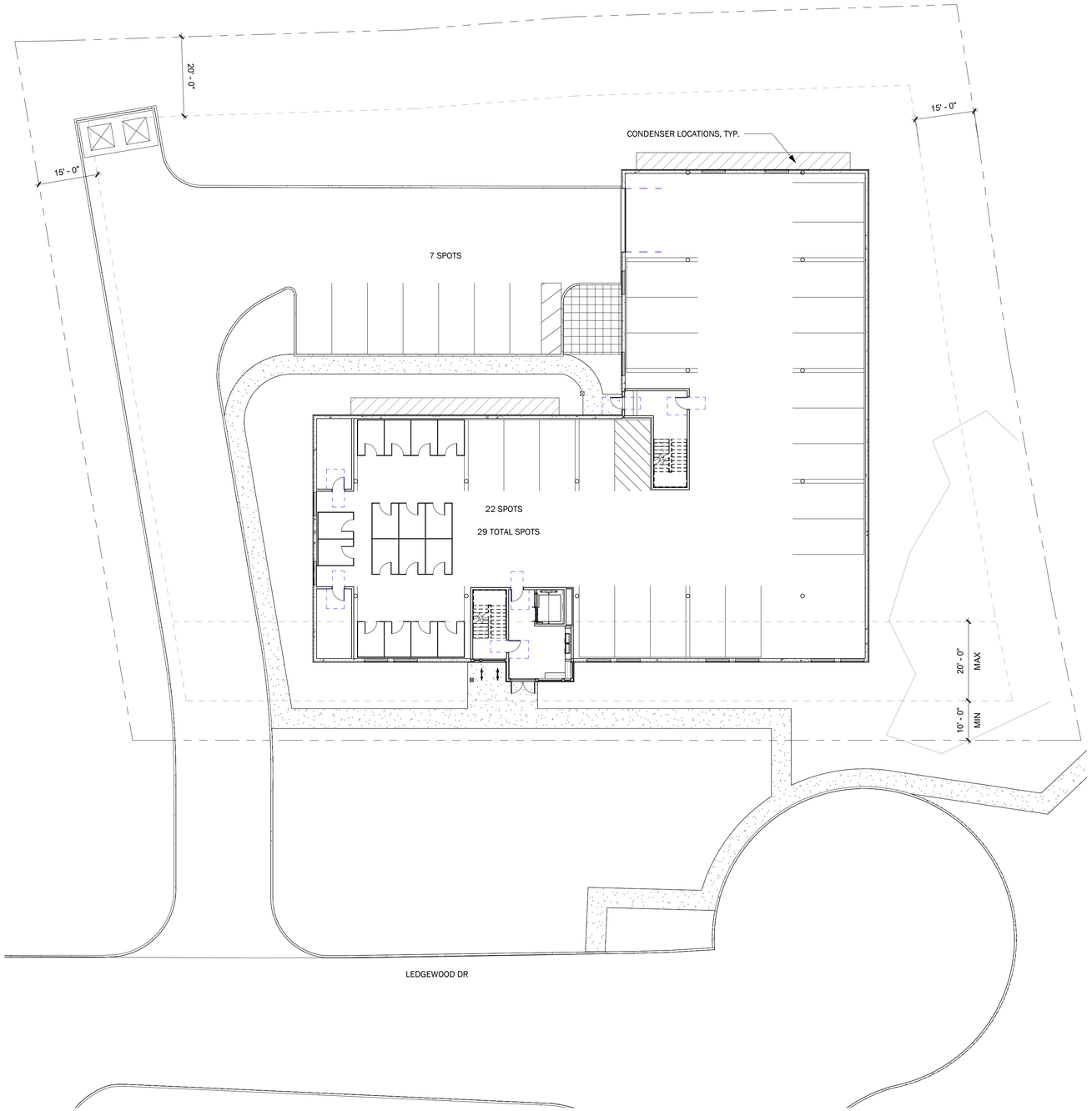
Plan Name: EROSION AND SEDIMENT CONTROL DETAILS

Project: LEDGEWOOD DRIVE LLC
LEDGEWOOD DRIVE, PORTSMOUTH, NH 03801

Owner of Record: ST NICHOLAS GREEK ORTHODOX CHURCH
40 ANDREW JARVIS DRIVE, PORTSMOUTH, NH 03801

DRAWING No.
E2
SHEET 15 OF15
JBE PROJECT NO. 25071.2



1 01.1 - SITE SKETCH
1/16" = 1'-0"

LEDGEWOOD DR

PORTSMOUTH, NH

DESIGN DEVELOPMENT

LEDGEWOOD DRIVE LLC

WINTER HOLBEN
architecture + design

3 WALKER ST
KITTERY, MAINE 03904
207.994.3104

Drawn By:	HP/GL
Drawing Checked By:	BH
Drawing Scale:	1/16" = 1'-0"
Drawing Date:	09/21/2026
Project Number:	26061

drawing revisions:

No.	Description	Date

ARCHITECTURAL SITE SKETCH

A-001

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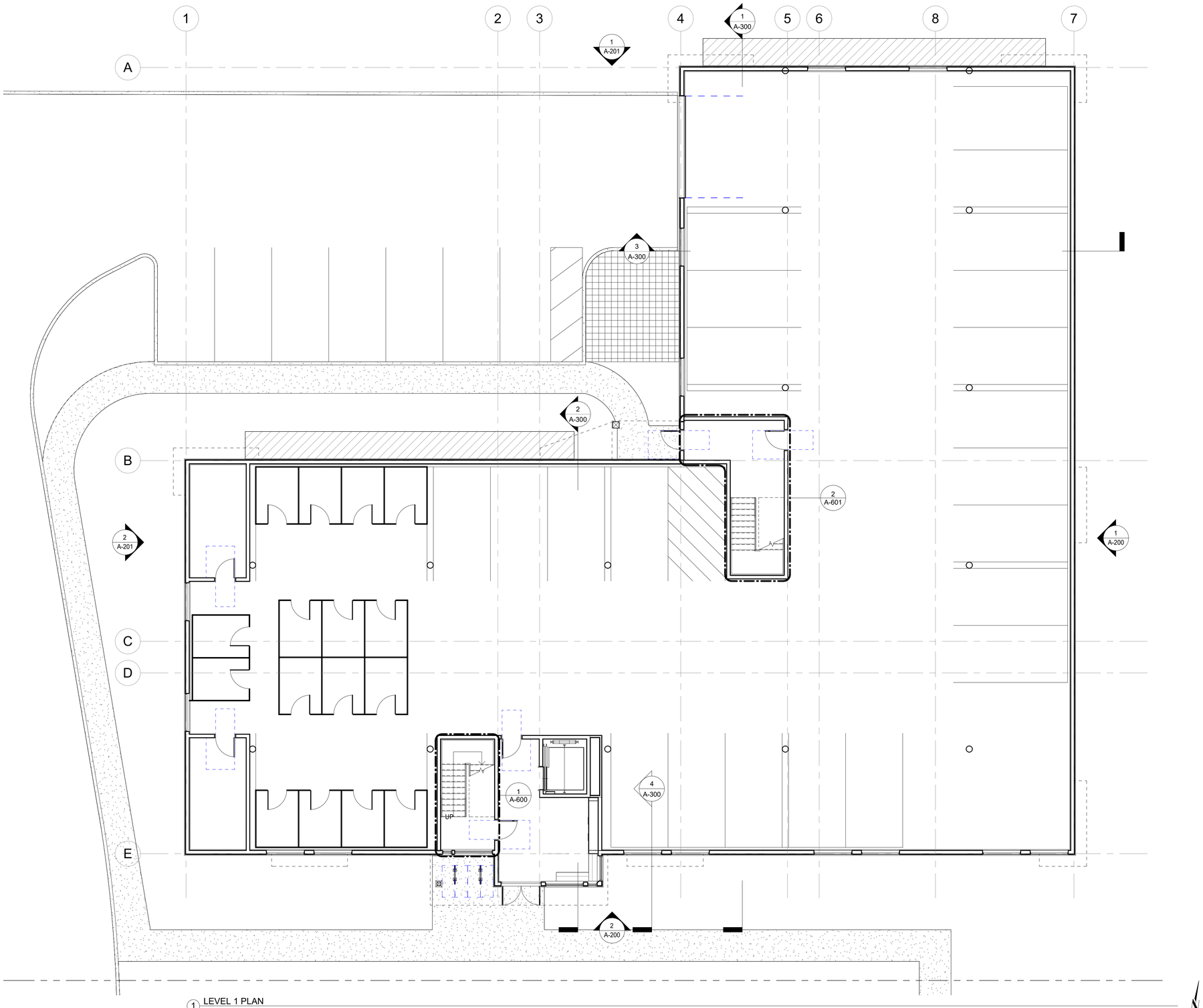

1 LEVEL 1 PLAN
1/8" = 1'-0"

LEGEND - PLAN

	NEW WALL
A	WINDOW TAG
101	DOOR TAG
1A	WALL TAG
	ALIGN
1	KEYNOTE

GENERAL NOTES - PLAN

A. ALL DIMENSIONS ARE TO FACE OF STUD U.N.O. DIMENSIONS INDICATED AS "CLEAR" SHALL MAINTAIN A CLEAR OPENING WIDTH FROM FACE OF FINISHES. DIMENSIONS TO EXISTING CONSTRUCTION ARE TO FACE OF FINISH UNLESS NOTED OTHERWISE.

B. SEE ELEVATIONS, SECTIONS, AND DETAILS FOR ADDITIONAL INFORMATION.

C. SEE ENLARGED PLANS AND INTERIOR ELEVATIONS FOR ADDITIONAL INFORMATION.

D. ALL INTERIOR PARTITIONS ARE TYPE NW1 U.N.O. ALL FURRED PARTITIONS ARE TYPE NF1 U.N.O. ALL CORRIDOR AND UNIT DEMISING WALLS ARE TYPE 30W1 U.N.O.

E. ALL EXTERIOR WALLS ARE TYPE E1 U.N.O.

F. ANY DISCREPANCIES IN THESE PLANS SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION IMMEDIATELY.

G. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS AND SPECIFICATIONS FOR FULL SCOPE OF WORK.

H. THE LOCATION OF DOOR OPENINGS NOT DIMENSIONED SHALL BE 6" FROM ADJACENT WALL (FACE OF FRAMING TO ROUGH OPENING).

I. PROVIDE BLOCKING BEHIND SURFACE APPLIED FIXTURES, TRIM, GRAB BARS, SHELVES, CHAIR RAILS, PICTURE RAILS, WOOD TRIM AND BASE, AND OTHER ACCESSORIES WHEN MOUNTED ON STUD WALLS.

J. WHERE WALLS OR INFILLS ABUT OR INTERSECT EXISTING WALLS, TAPE AND FINISH JOINTS AT INTERSECTIONS SMOOTH AND CONTINUOUS. USE METAL TRIM WHERE GYPSUM BOARD INTERSECTS OTHER MATERIALS.

KEYNOTES - PLAN

NO.	DESCRIPTION

LEDGEWOOD DR

PORTSMOUTH, NH

DESIGN DEVELOPMENT

LEDGEWOOD DRIVE LLC

WINTER HOLBEN
architecture + design

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207.994.3104

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No.	Description	Date

LEVEL 1 PLAN

A-100

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1 LEVEL 2 UNIT PLANS
1/8" = 1'-0"

UNIT AREAS		
ROOM NAME	ROOM TYPE	AREA
1ST FLOOR		
UNIT 201	3 BED	1,293 SF
UNIT 202	2 BED	1,374 SF
UNIT 203	2 BED	1,377 SF
UNIT 204	3 BED	1,394 SF
UNIT 205	3 BED	1,391 SF
UNIT 206	2 BED	1,320 SF
UNIT 207	2 BED	1,310 SF
UNIT 208	2 BED	1,247 SF
8		**10,706 SF**
2ND FLOOR		
UNIT 301	3 BED	1,294 SF
UNIT 302	2 BED	1,376 SF
UNIT 303	2 BED	1,375 SF
UNIT 304	3 BED	1,532 SF
UNIT 305	3 BED	1,930 SF
UNIT 306	3 BED	1,861 SF
UNIT 307	2 BED	1,416 SF
7		**10,784 SF**
		21,489 SF

LEDGEWOOD DR

PORTSMOUTH, NH

DESIGN DEVELOPMENT

LEDGEWOOD DRIVE LLC

WINTER HOLBEN
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LEVEL 2 AREA PLAN

A-101

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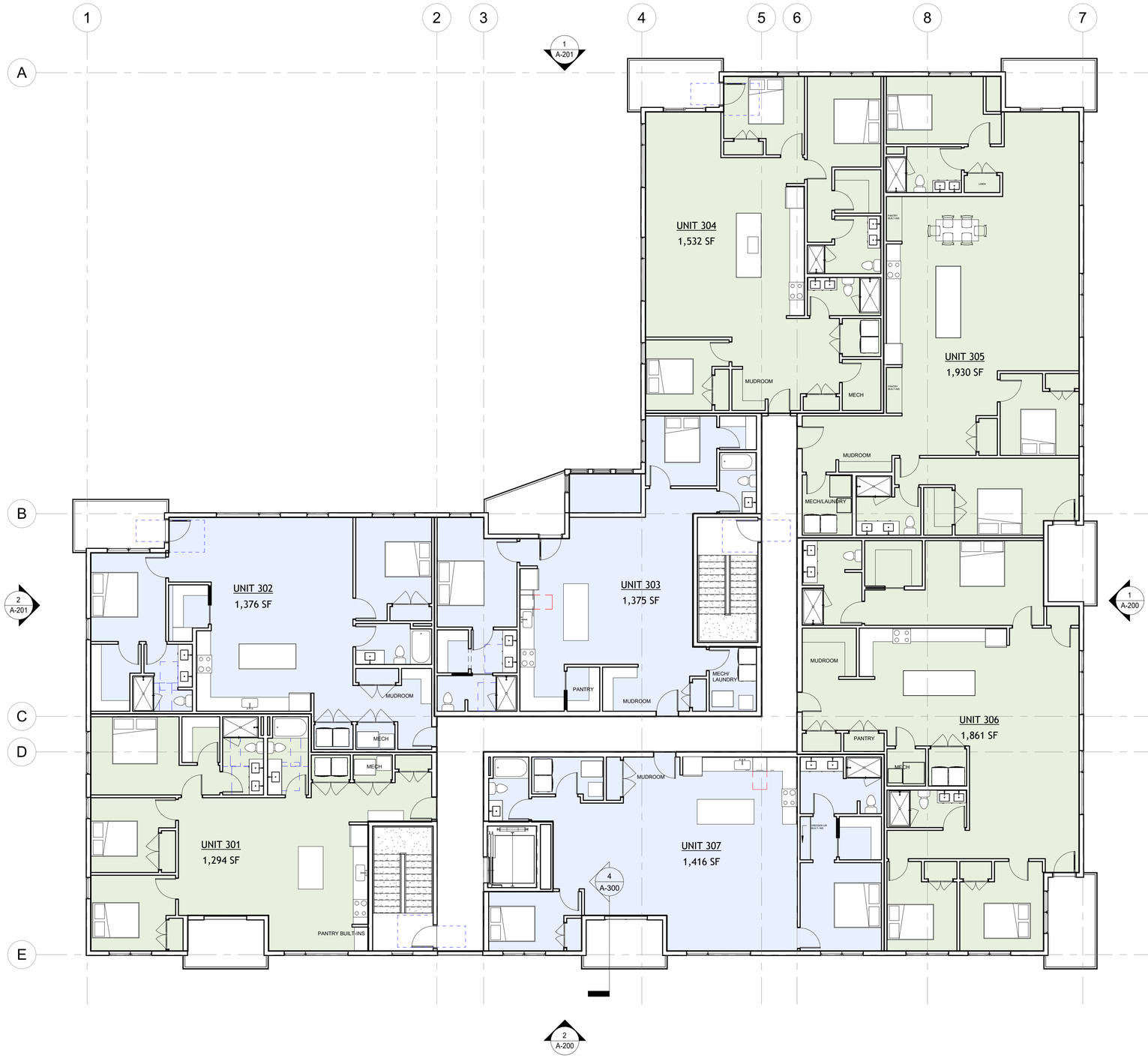

1 LEVEL 3 UNIT PLANS
1/8" = 1'-0"

UNIT AREAS

ROOM NAME	ROOM TYPE	AREA
1ST FLOOR		
UNIT 201	3 BED	1,293 SF
UNIT 202	2 BED	1,374 SF
UNIT 203	2 BED	1,377 SF
UNIT 204	3 BED	1,394 SF
UNIT 205	3 BED	1,391 SF
UNIT 206	2 BED	1,320 SF
UNIT 207	2 BED	1,310 SF
UNIT 208	2 BED	1,247 SF
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UNIT 301	3 BED	1,294 SF
UNIT 302	2 BED	1,376 SF
UNIT 303	2 BED	1,375 SF
UNIT 304	3 BED	1,532 SF
UNIT 305	3 BED	1,930 SF
UNIT 306	3 BED	1,861 SF
UNIT 307	2 BED	1,416 SF
7		**10,784 SF**
		21,489 SF

LEDGEWOOD DR

PORTSMOUTH, NH

DESIGN DEVELOPMENT

LEDGEWOOD DRIVE LLC

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Drawing Date:	09/21/2026
Project Number:	26061

drawing revisions:

No.	Description	Date

LEVEL 3 AREA PLAN

A-102

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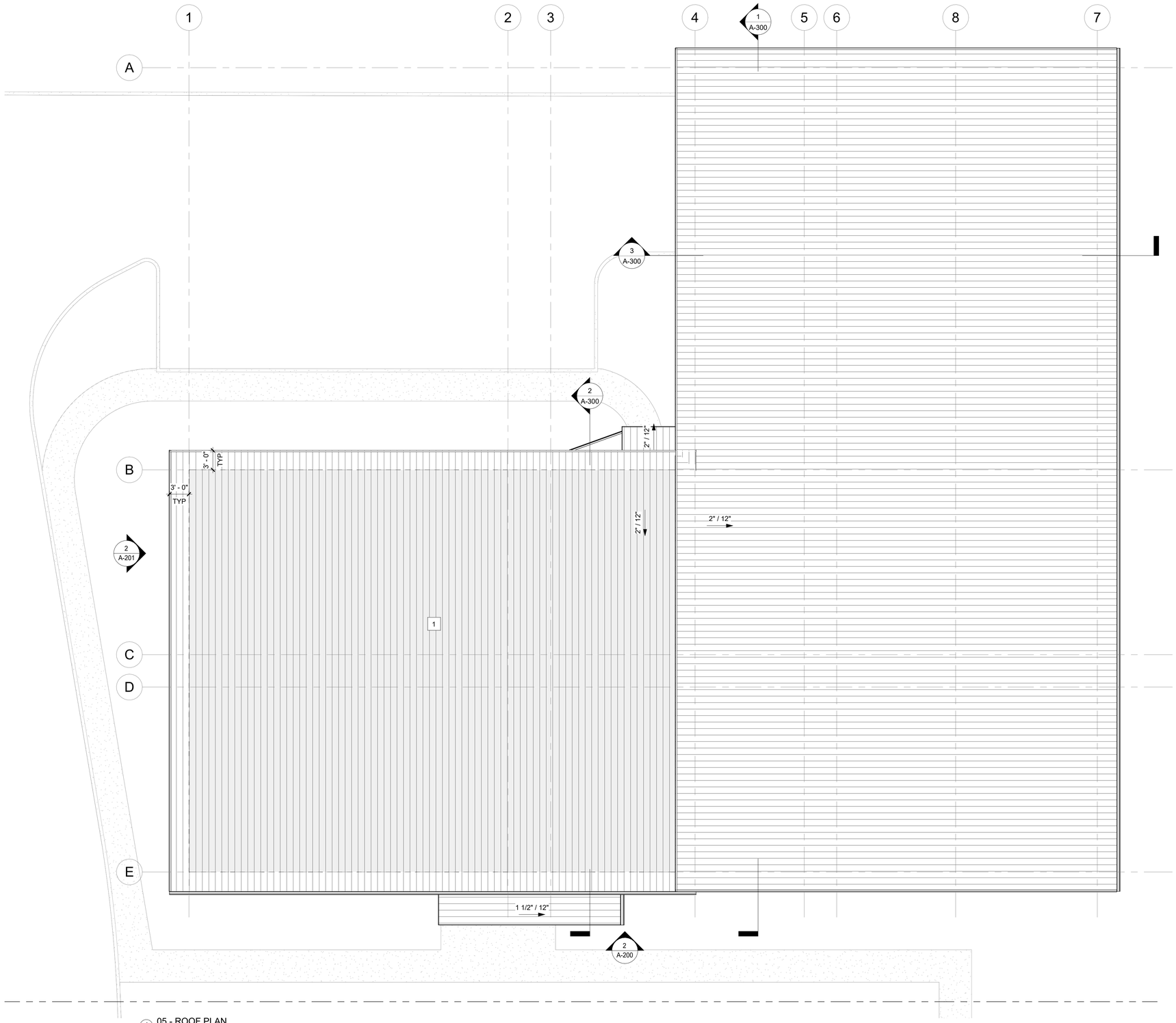

1 05 - ROOF PLAN
1/8" = 1'-0"

ROOF FINISH LEGEND

STANDING SEAM ROOFING SYSTEM

ROOF PLAN NOTES

A. PROVIDE WALKWAY PROTECTION STRIPS 2 FEET WIDE FULLY AROUND ALL ROOF TOP MECHANICAL UNIT(S) AND CREATE A PATHWAY 2 FEET WIDE FROM ROOF ACCESS LOCATION(S)

B. PROTECT ALL OPENINGS CUT IN THE EXISTING ROOF. PROVIDE TEMPORARY ROOFING IF WORK IS TO BE UNFINISHED DURING ADVERSE WEATHER CONDITIONS.

C. PROVIDE FLASHING AT ALL ROOF PENETRATIONS, WHETHER SHOWN ON THE ROOF PLAN OR NOT, UNLESS NOTED OTHERWISE. REFER TO STRUCTURAL, MECHANICAL AND ELECTRICAL PLANS FOR NUMBER, LOCATION, AND SIZE OF PENETRATIONS.

D. SEE ELEVATIONS, SECTIONS, AND DETAILS FOR ADDITIONAL INFORMATION

KEYNOTES - ROOF

NO.	DESCRIPTION
1	HATCH INDICATES AREA OF SOLAR-READY ROOF (APPROX 4600 SF), COORDINATE WITH ROOF TRUSS DESIGN

LEDGEWOOD DR

PORTSMOUTH, NH

DESIGN DEVELOPMENT

LEDGEWOOD DRIVE LLC

WINTER HOLBEN
architecture + design

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drawing revisions:

No.	Description	Date

ROOF PLAN

A-103

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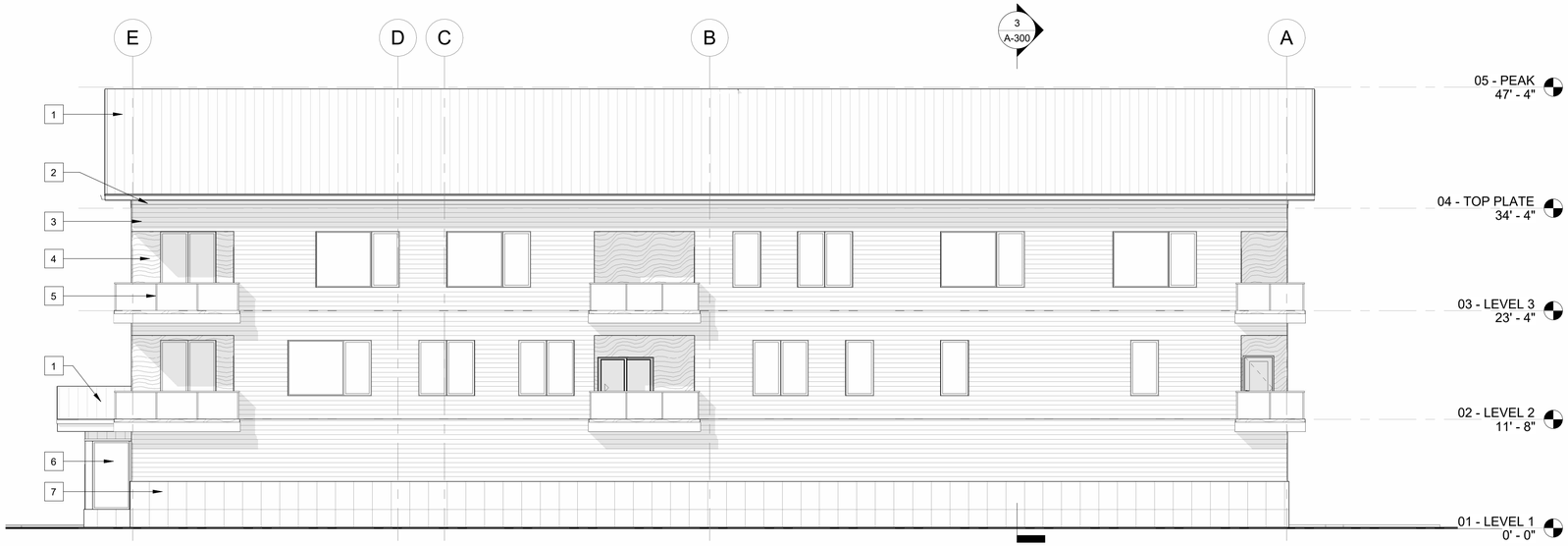
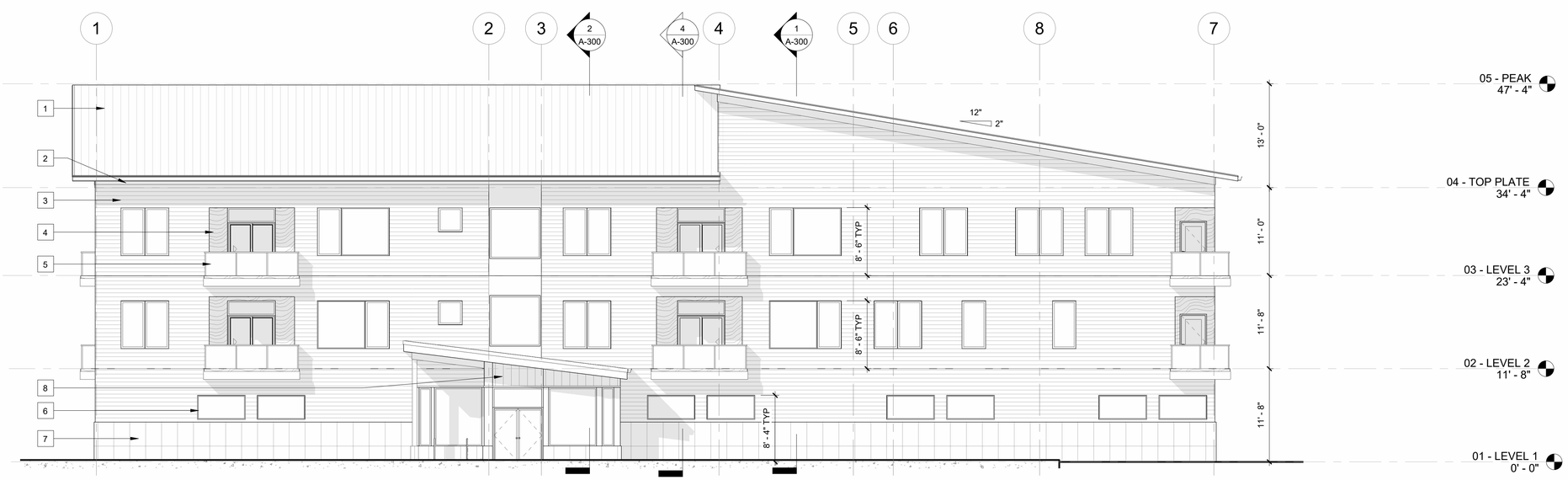


1 EAST ELEVATION
1/8" = 1'-0"



2 SOUTH ELEVATION
1/8" = 1'-0"

KEYNOTES - ELEVATIONS	
NO.	DESCRIPTIONS
1	STANDING SEAM ROOFING SYSTEM
2	1X12 COMPOSITE FRIEZE BOARD
3	6" EXPOSURE NICKEL GAP COMPOSITE SIDING W/ MITERED CORNERS
4	WOOD-LOOK COMPOSITE PANEL
5	GLASS RAILING SYSTEM - VIEWARIL BASIS OF DESIGN
6	CLAD WOOD WINDOWS/DOORS
7	T-CLEAR WALLGUARD CONCRETE-FACED INSULATION PANEL
8	COMPOSITE BOARD & BATTEN SIDING
9	WOOD-LOOK COMPOSITE SOFFIT

LEDGEWOOD DR

PORTSMOUTH, NH

DESIGN DEVELOPMENT

LEDGEWOOD DRIVE LLC

WINTER HOLBEN
architecture + design

3 WALKER ST
KITTERY, MAINE 03904
207.994.3104

Drawn By:	HP/GL
Drawing Checked By:	BH
Drawing Scale:	As indicated
Drawing Date:	09/21/2026
Project Number:	26061

drawing revisions:

No.	Description	Date

EXTERIOR ELEVATIONS

A-200

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9/21/2026 10:23:41 AM

2 WEST ELEVATION
1/8" = 1'-0"

1 NORTH ELEVATION
1/8" = 1'-0"

KEYNOTES - ELEVATIONS	
NO.	DESCRIPTIONS
1	STANDING SEAM ROOFING SYSTEM
2	1X12 COMPOSITE FRIEZE BOARD
3	6" EXPOSURE NICKEL GAP COMPOSITE SIDING W/ MITERED CORNERS
4	WOOD-LOOK COMPOSITE PANEL
5	GLASS RAILING SYSTEM - VIEWARIL BASIS OF DESIGN
6	CLAD WOOD WINDOWS/DOORS
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Drawn By:	HP/GL
Drawing Checked By:	BH
Drawing Scale:	1/8" = 1'-0"
Drawing Date:	09/21/2026
Project Number:	26061

drawing revisions:

No.	Description	Date

EXTERIOR ELEVATIONS

A-201

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9/21/2026 10:23:53 AM

1 PERSPECTIVE 1

2 PERSPECTIVE 2

3 PERSPECTIVE 3

4 PERSPECTIVE 4

LEDGEWOOD DR

PORTSMOUTH, NH

DESIGN DEVELOPMENT

LEDGEWOOD DRIVE LLC

WINTER HOLBEN
architecture + design

3 WALKER ST
KITTERY, MAINE 03904
207.994.3104

Drawn By:	HP/GL
Drawing Checked By:	BH
Drawing Scale:	
Drawing Date:	09/21/2026
Project Number:	26061

drawing revisions:

No.	Description	Date

EXTERIOR PERSPECTIVES

A-202

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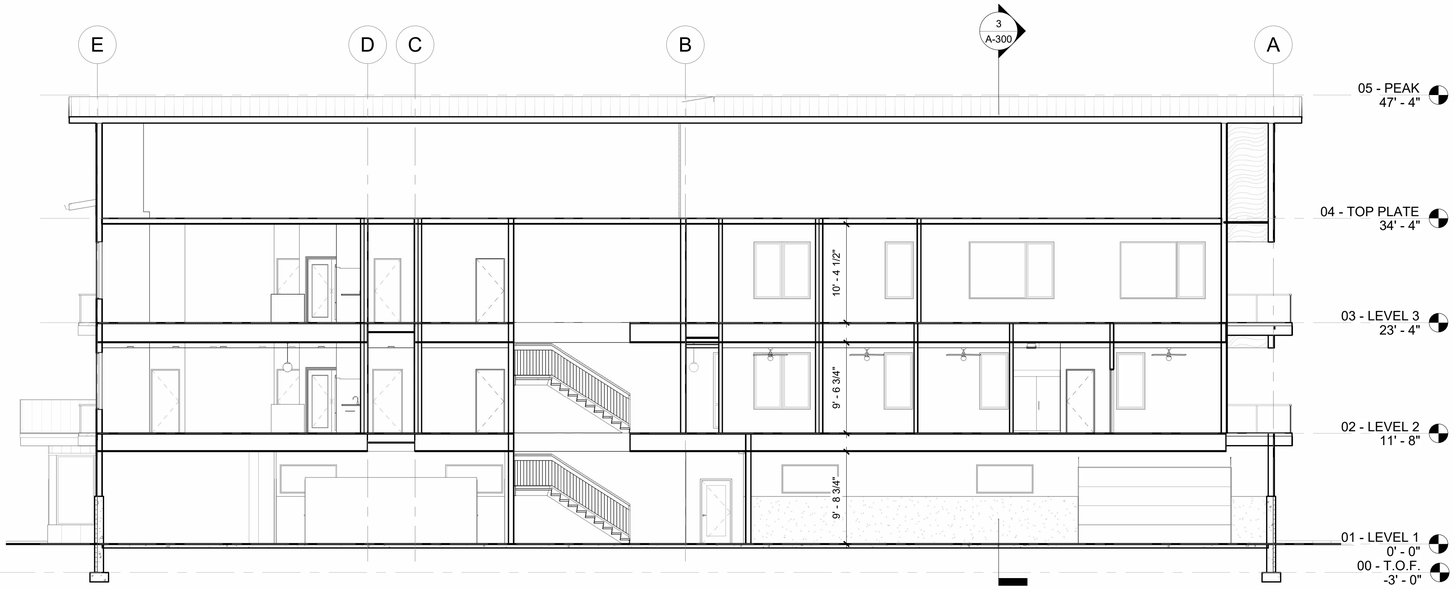
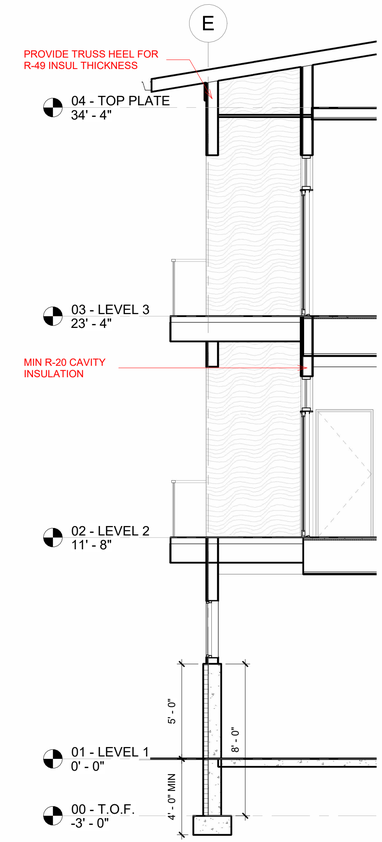
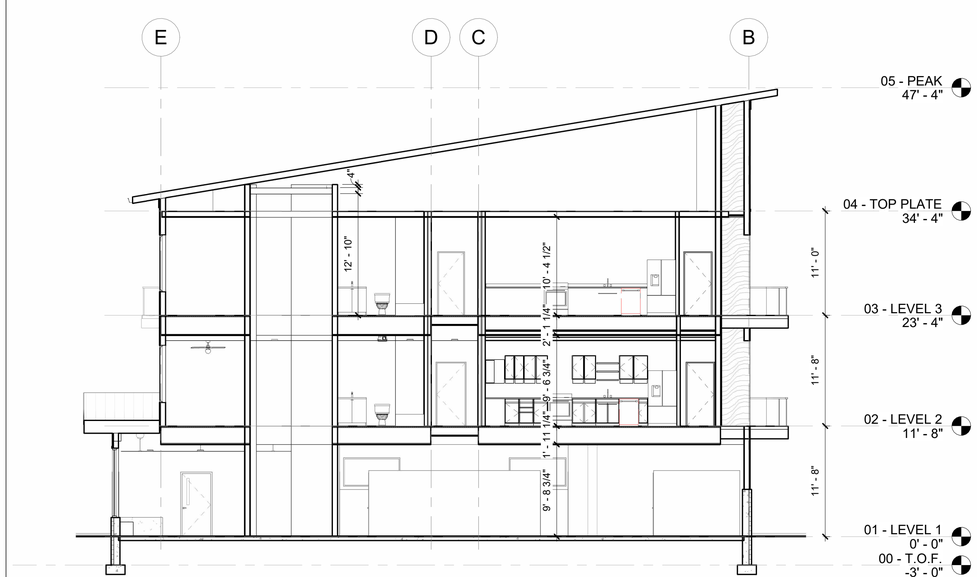
9/21/2026 10:26:01 AM



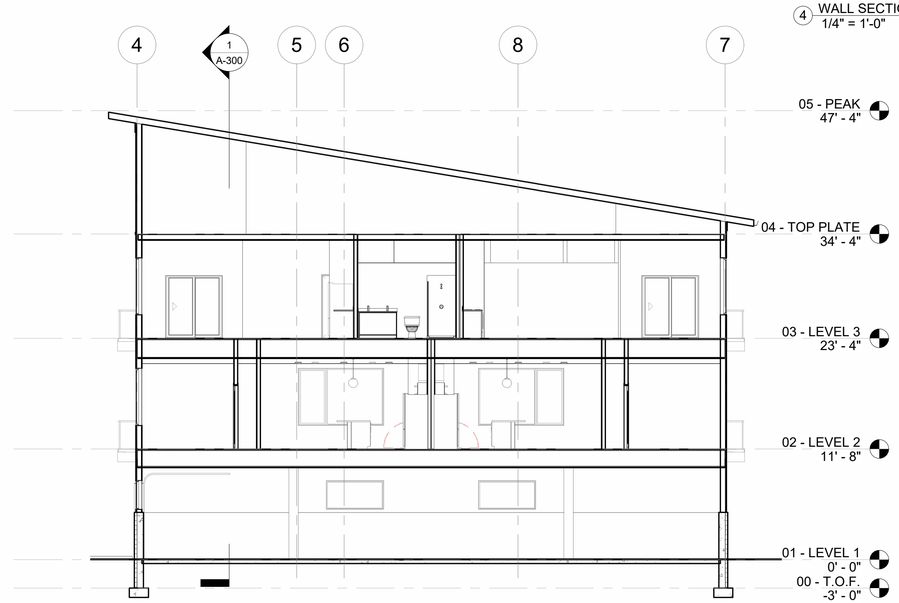
1 BUILDING SECTION 1
1/8" = 1'-0"



4 WALL SECTION 1
1/4" = 1'-0"



2 BUILDING SECTION 2
1/8" = 1'-0"



3 BUILDING SECTION 3
1/8" = 1'-0"

LEDGEWOOD DR

PORTSMOUTH, NH

DESIGN DEVELOPMENT

LEDGEWOOD DRIVE LLC

WINTER HOLBEN
architecture + design

3 WALKER ST
KITTERY, MAINE 03904
207.994.3104

Drawn By:	HP/GL
Drawing Checked By:	BH
Drawing Scale:	As indicated
Drawing Date:	09/21/2026
Project Number:	26061

drawing revisions:

No.	Description	Date

BUILDING SECTIONS

A-300

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9/21/2026 10:26:06 AM

Planning Department
Portsmouth City Hall
1 Junkins Avenue
Portsmouth, NH 03801

To: City of Portsmouth- Technical Advisory Committee

From: Martin Ryan

Date: Oct. 06, 2026

Re: Request for TAC Meeting
Ryan Trust
221 Woodbury Ave, Tax map 175-10
General Residence A Zoning

Dear TAC Chairman Peter Stith & Technical Advisory Committee:

The Zoning Board of Adjustment reviewed this application on June 16th and unanimously approved the single variance requesting relief from the frontage requirement.

The project has been to two TAC work sessions to address all the issues relevant to the site.

In support of the request for subdivision at 221 Woodbury Avenue, we respectfully submit this memorandum and the accompanying exhibits for the Planning Board's consideration at its meeting on July 16th, 2026.

Attachments:

A. City Tax Map
B. Drawing Set
   T1- Title Sheet
   C1- Historic Map & Figure Ground
   C2- Existing Site Plan
   C3- Proposed Site Plan
   C4- Site Diagram
   C5 – Site Data
   A1- Site Elevation
   A2- Site Elevations
   P1- Context Photographs

P2- Context Photographs
C. Zoning Board of Adjustment Document
D. Subdivision Waiver Request
E. Subdivision Application Checklist
F. TAC Work Session Notes

Property:

Located at 221 Woodbury Avenue, the subject property is a 17,351-square-foot corner parcel with approximately 135 feet of Woodbury Avenue frontage and approximately 145 feet of Thornton Street frontage (see C2 Existing site Plan). Existing structures include a well-maintained two-family residence constructed circa 1900 and a detached garage.

The applicants, who have resided at and maintained the property for 30 years, seek a subdivision due to health-related challenges that make the current dwelling unfeasible. The objective is to subdivide the large parcel to create a new, adjacent lot. This will facilitate the construction of a more suitable residence, enabling the applicants to age in place within their established community.

While the proposed subdivision creates two appropriately sized lots that is consistent with the neighborhood's land use patterns, the project did require the approval of a frontage variance for the newly created lot.

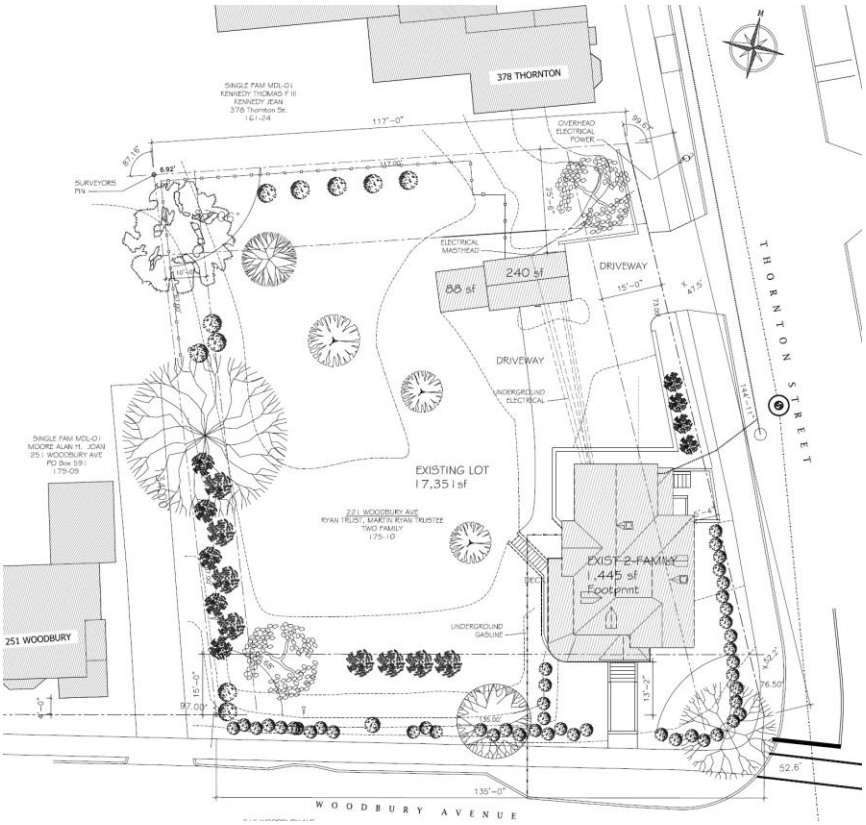


Figure #1 Existing Site Plan

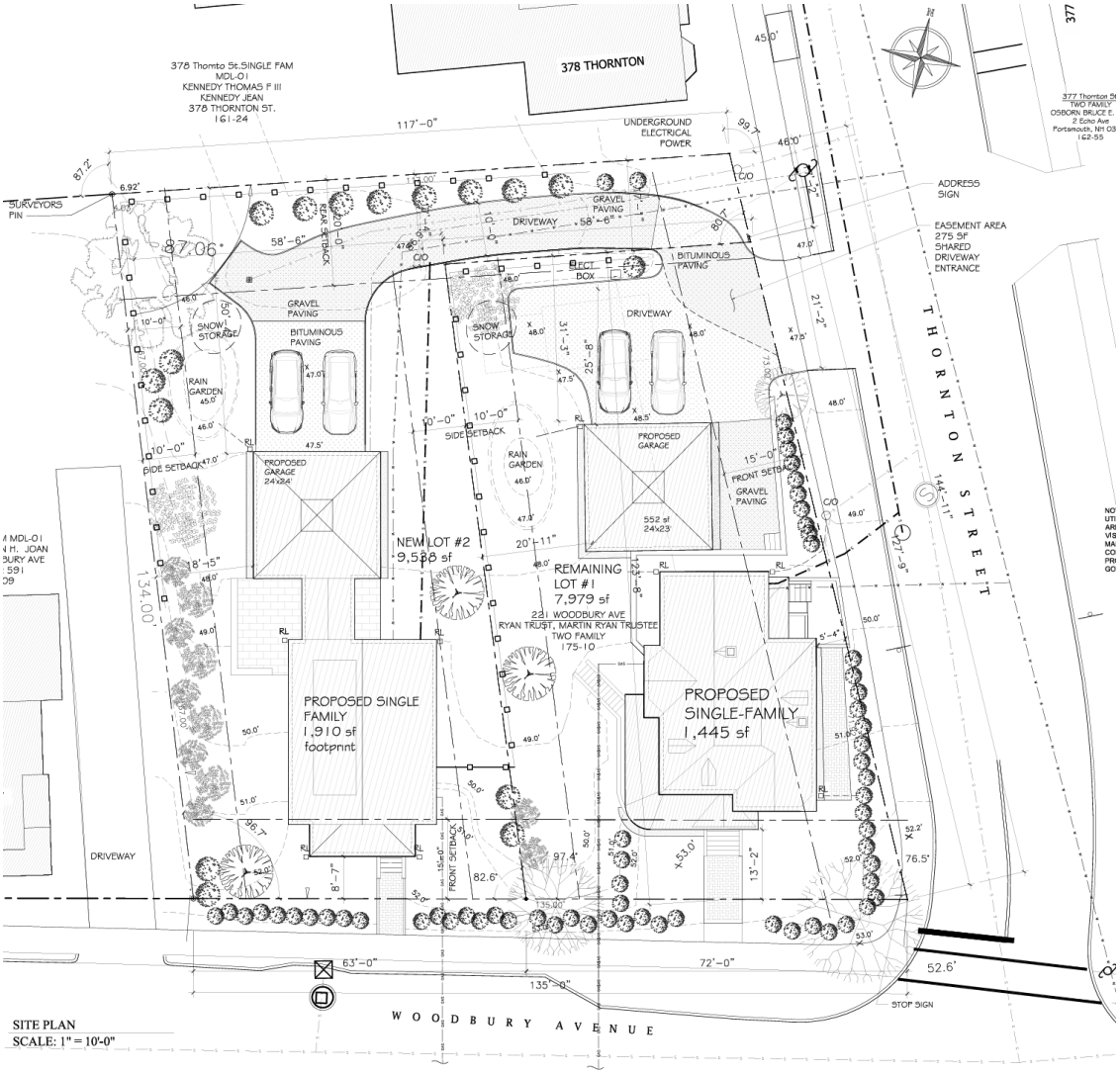


Figure #2 *Proposed Site Plan*

Parking:

Each dwelling unit, the existing and the proposed single-family structure, will be supported by a standard two-car garage with a footprint of 24' x 24'. The resulting off-street parking, accommodated via the driveways and garages, exceeds the regulatory thresholds of Section 10.1112.31 (*Parking Requirements for Residential Uses*).

Vehicular and Pedestrian Traffic:

To ensure independent vehicle access, both the proposed and existing single-family residences will utilize separate curb cuts and dedicated driveways. Each driveway configuration is intentionally designed with an integrated turnaround area, enabling vehicles to execute a safe three-point turn and exit onto the public right-of-way in a forward-facing direction, thereby eliminating the need to back out into the street.

The proposed driveway entrances on Thornton Street have been strategically positioned to minimize the visual impact of parked vehicles and driveway infrastructure, ensuring that vehicular traffic does not dominate the streetscape or the site's aesthetic character. Additionally, the layout prioritizes neighborhood safety by incorporating an on-site turnaround that prevents vehicles from reversing into street traffic, ensuring all egress onto Thornton Street is executed in a safe, forward-facing direction.

Sidewalks were installed in 2025 giving safe pedestrian movement along Thornton Street and Woodbury Avenue.

Screening and Landscaping:

To enhance the overall aesthetic of the streetscape and respect adjacent properties, the site design incorporates robust perimeter screening. This will feature a combination of high-quality privacy fencing and a curated mix of native evergreen trees and deciduous shrubs. This multi-tiered landscape buffer is strategically designed to provide year-round visual screening, soften the built environment, and harmonize the development with the neighborhood's existing character. A landscaping plan will be incorporated into the building permit for the new house.

Water and Sewage:

Municipal water and sewer services for the proposed residence will connect directly to the existing infrastructure on Woodbury Avenue. A new sewer tie-in will extend into the site from the 6-inch PVC sewer main, with its exact configuration subject to Portsmouth DPW approval. A dedicated 1-inch domestic water service line will be installed to serve the new home. Crucially, the existing home’s utility connections will remain entirely separate, continuing to utilize the independent water and sewer lines currently serving the property from Thornton Street.

Stormwater management:

A civil engineer will be engaged to design a stormwater management plan to address the increase in impervious surfaces from the new home and driveway, ensuring compliance with all municipal requirements.

Site Lighting:

To prevent light pollution in the surrounding neighborhood, all proposed site lighting will be wall-mounted and designed at minimal levels. This configuration is optimized to deliver a safe, welcoming pedestrian experience without the use of free-standing fixtures or flood lights.

Trash Collection:

Solid waste disposal for both the existing and new dwellings will be managed through the Portsmouth curbside collection service. Bins will be placed along Thornton Street frontage for pickup.

Site Utilities:

Electrical service currently originates from an overhead utility pole at the northeast corner of the site, running overhead to the existing garage where it is metered before continuing underground to the existing residence.

As part of this project, the garage will be demolished, and all electrical and communication lines for the existing residence will be transitioned to a fully underground service originating from the same northeast utility pole.

To serve the proposed new residence, a separate, independent utility service will be established from the same pole and routed entirely underground. All final services for both structures will be located underground, eliminating overhead lines across the site.

Snow Removal:

The proposed snow removal strategy utilizes on-site plowing to clear all asphalt driveways and access points. Accumulated snow will be stockpiled in the dedicated, demarcated snow storage areas shown on the site plans. These storage zones are strategically located adjacent to the driveways to minimize transport distances and ensure that melt runoff is directed toward approved drainage systems without impacting adjacent properties.

Zoning Relief:

The proposed subdivision was formally presented to the Portsmouth Zoning Board of Adjustment (ZBA) for review. The applicant requested a dimensional variance to permit 63 linear feet (LF) of frontage for the newly created lot, where a minimum of 100 LF is required under the current zoning district regulations.

All other applicable dimensional and setback requirements for both lots were fully satisfied. Following a review of the application materials and public testimony, the ZBA found that the request met the criteria for municipal relief and voted unanimously (6-0) to grant the variance.

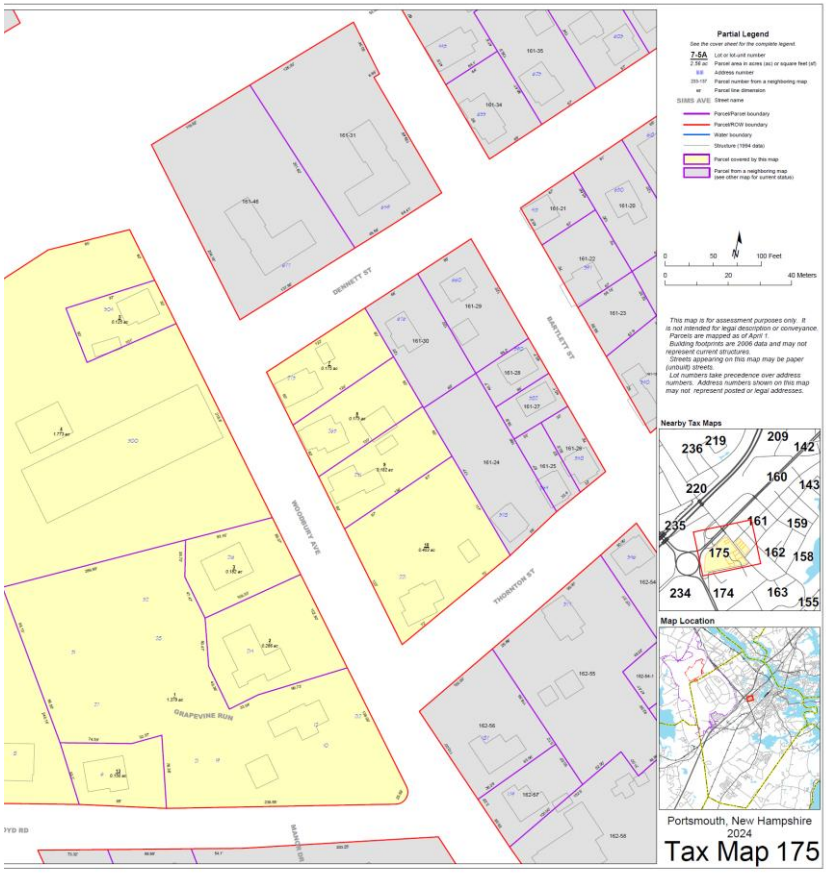
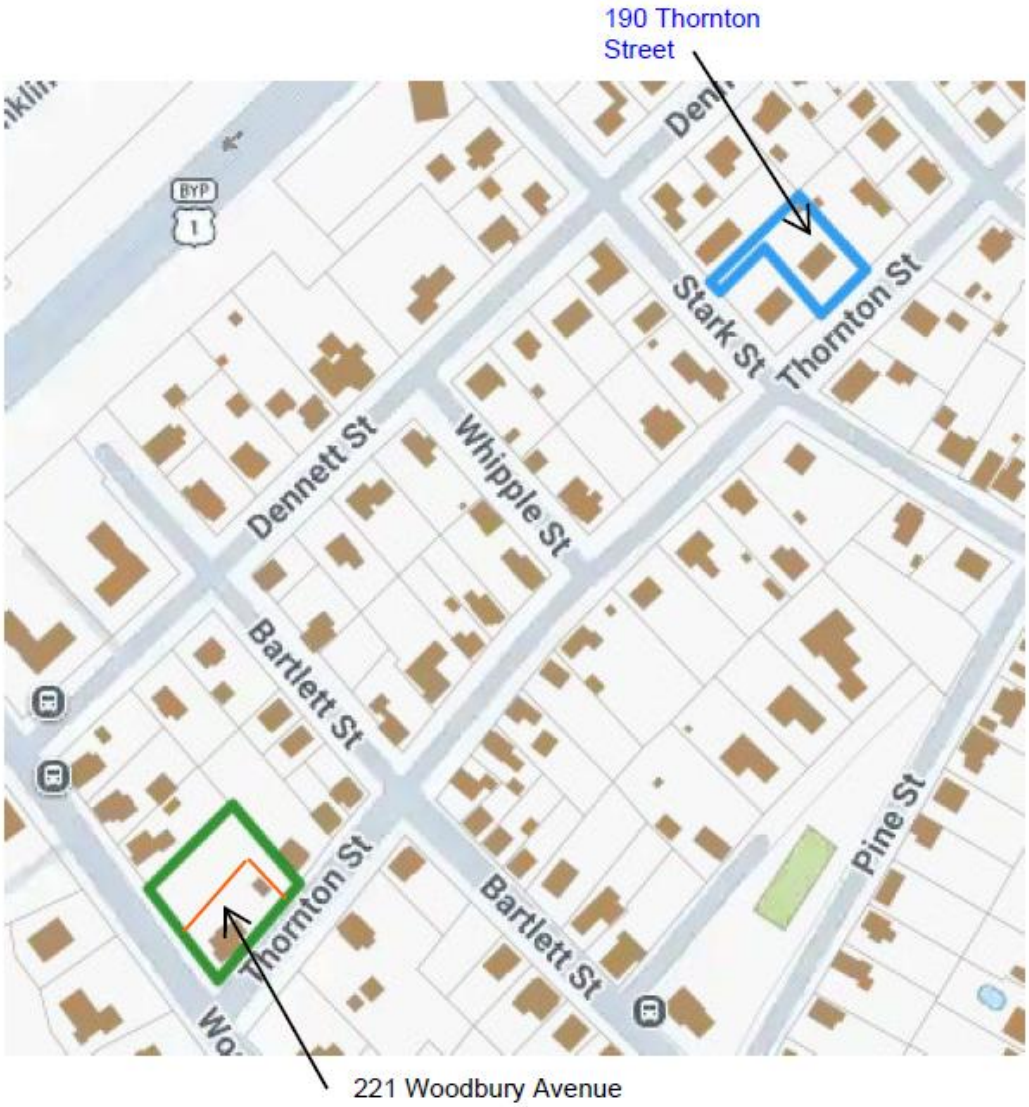


Figure 3. – Tax Map.

Site Layout:

The proposed subdivision is deliberately designed to maintain the neighborhood's character by preventing driveways and garages from dominating the property's architectural facade.



SUBDIVISION PRECEDENT

Figure 4. - Precedent for lot configuration.

By relocating these visual elements to the interior of the lot, the proposed lot configuration successfully preserves the existing streetscape and the historic charm of the area. This approach would maintain the historic language of the “urban street wall”.

Additionally, this driveway configuration eliminates the danger of backing into street traffic. A comparable precedent for this L-shaped lot and driveway configuration can be found at 190 Thornton Street.

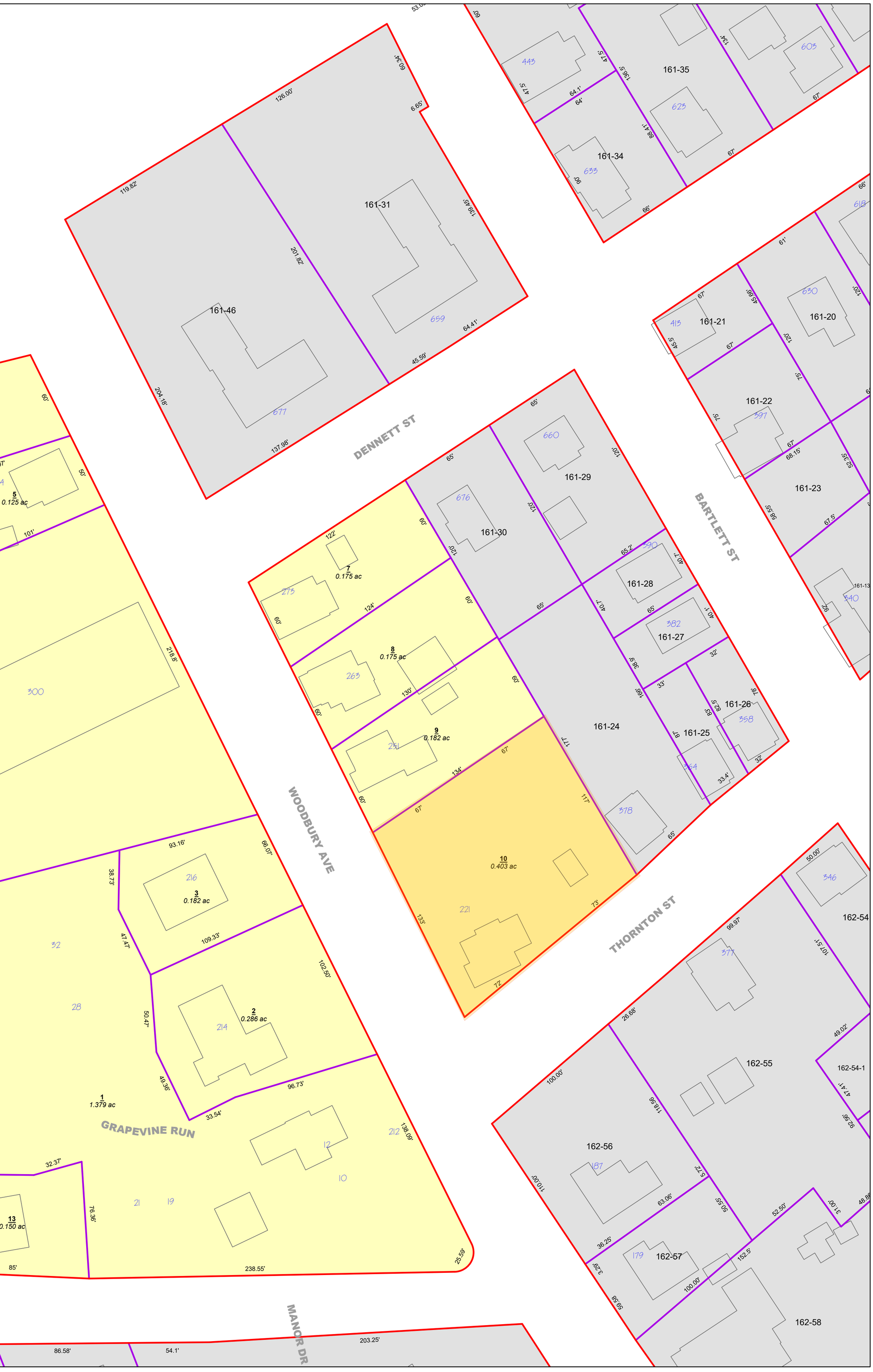
In this case, were the subdivision to be granted, there would be no change in the essential characteristics of the neighborhood. A second dwelling lot is entirely appropriate and consistent with the existing subdivision in which this property sits. It does not increase the amount of residential density beyond what is permitted by right. Thus, the fundamental residential character of the neighborhood will not be altered, and the health, safety and welfare of the public will not be threatened.

Thank you for your consultation on this matter.

Respectfully Submitted,

Martin Ryan

Martin Ryan



Partial Legend

See the cover sheet for the complete legend.

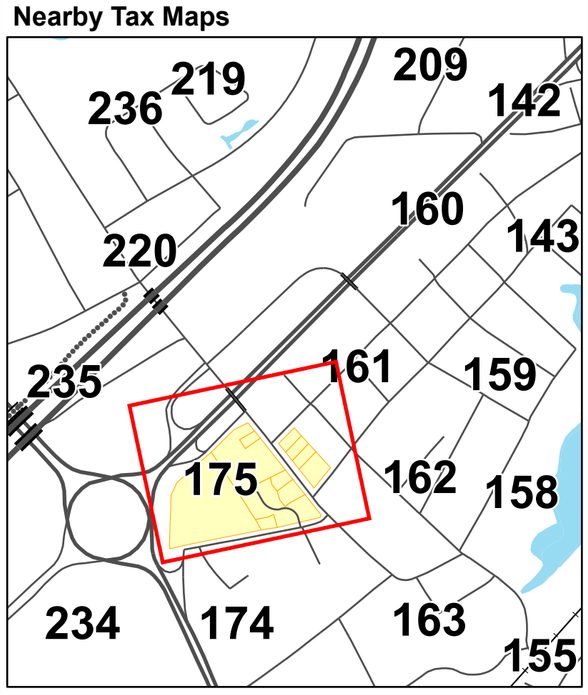
7-5A	Lot or lot-unit number
2.56 ac	Parcel area in acres (ac) or square feet (sf)
	Address number
233-137	Parcel number from a neighboring map
68'	Parcel line dimension
SIMS AVE	Street name
	Parcel/Parcel boundary
	Parcel/ROW boundary
	Water boundary
	Structure (1994 data)
	Parcel covered by this map
	Parcel from a neighboring map (see other map for current status)

0 50 100 Feet

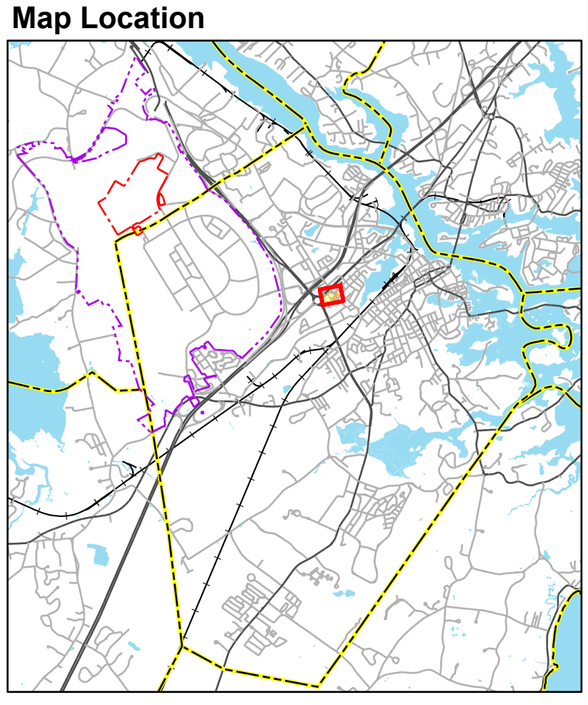
0 20 40 Meters

This map is for assessment purposes only. It is not intended for legal description or conveyance.
Parcels are mapped as of April 1.
Building footprints are 2006 data and may not represent current structures.
Streets appearing on this map may be paper (unbuilt) streets.
Lot numbers take precedence over address numbers. Address numbers shown on this map may not represent posted or legal addresses.

Nearby Tax Maps



Map Location



Portsmouth, New Hampshire
2024

Tax Map 175

221 WOODBURY AVENUE
PORTSMOUTH, NH 03801

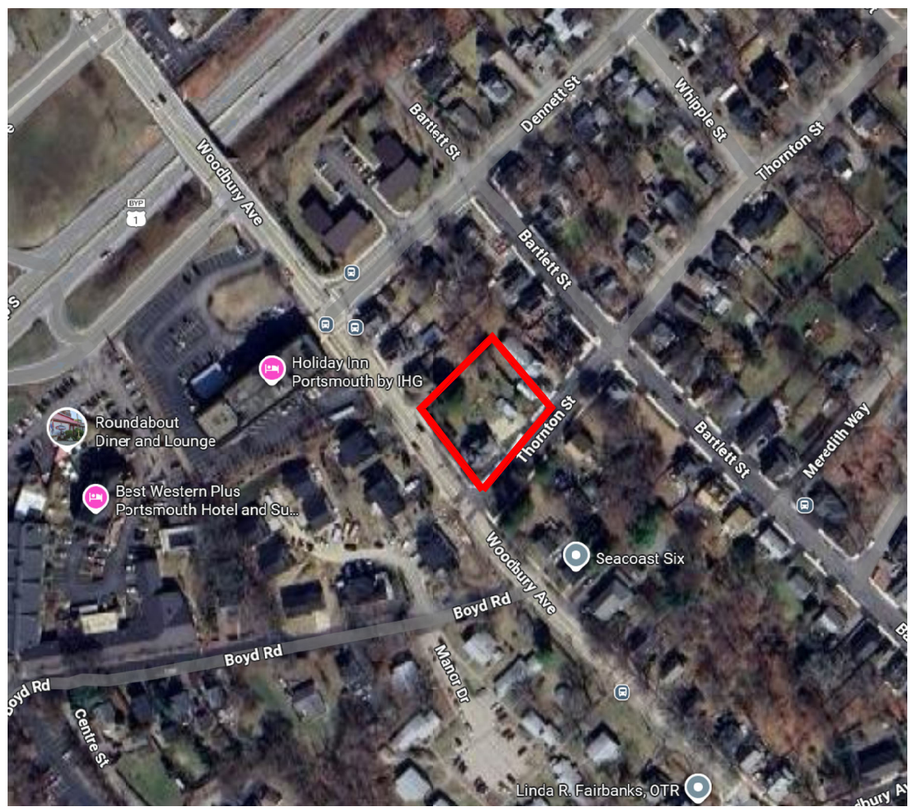
SUBDIVISION PROPOSAL PLAN
TAC MEETING

OWNER- RYAN TRUST

OCTOBER 6, 2026

DRAWING LIST

NO	TITLE
T1	TITLE SHEET
C1	HISTORIC MAPS & FIGURE GROUND
C2	EXISTING SITE PLAN
C3	PROPOSED SITE PLAN
C4	SITE DIAGRAMS
C5	SITE DATA
A1	SITE ELEVATIONS
A2	SITE ELEVATIONS
P1	CONTEXT PHOTOGRAPHS
P2	CONTEXT PHOTOGRAPHS



AERIAL VIEW
SCALE: NTS

MARTIN RYAN ARCHITECT
221 Woodbury Ave
Portsmouth, NH 03801

OCT. 6, 2026
TAC MEETING

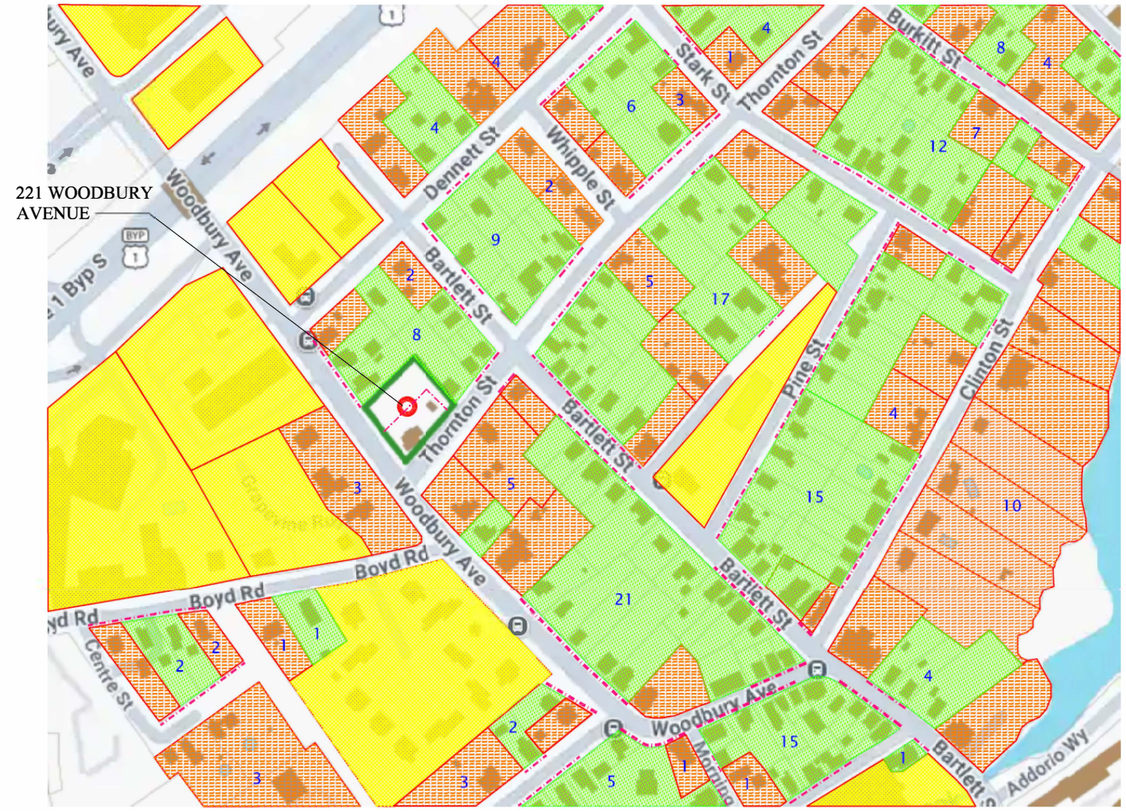
221 WOODBURY AVE
PORTSMOUTH, NH
SUBDIVISION PLAN

DATE: 08-19-26
DESIGN: MLR
DRAWN: MLR
CHECKED:
SCALE:
JOB:

TITLE SHEET

T1

SANBORNE MAP 1920
SCALE: NTS



GREEN– LOTS WITH LESS THAN THE 100LF REQUIRED STREET FRONTAGE (TOTAL 134 LOTS)
ORANGE– LOTS THAT MEET THE 100 LF STREET FRONTAGE REQUIREMENT (TOTAL 60 LOTS)
YELLOW– COMMERCIAL OR MULT–FAMILY LOTS
FRONTAGE EQUAL OR LESS THAN 63 LF (82 TOTAL)
SITE– 221 WOODBURY AVENUE
204 LOTS TOTAL SHOWN

FIGURE GROUND
SCALE: NTS

HOYT PLAN 1890
SCALE: NTS

MARTIN RYAN ARCHITECT
221 Woodbury Ave
Portsmouth, NH 03801

OCT. 6, 2026
TAC MEETING

221 WOODBURY AVE
PORTSMOUTH, NH
SUBDIVISION PLAN

DATE: 07–14–26
DESIGN: MLR
DRAWN: MLR
CHECKED:
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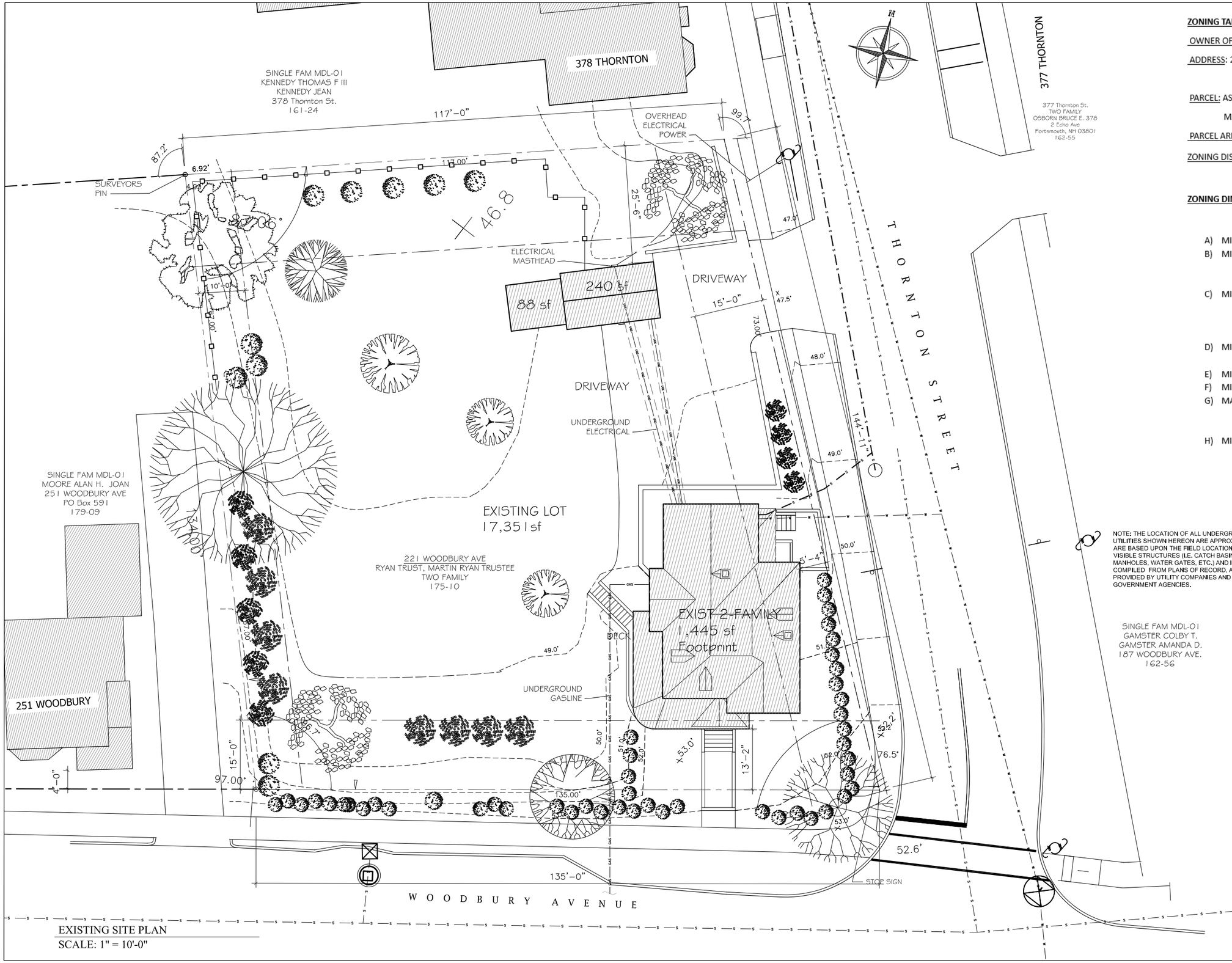
HISTORIC MAPS
& FIGURE GROUND

C1



EXISTING SITE PLAN
SCALE: 1" = 10'-0"

ZONING TABLE:

OWNER OF RECORD: RYAN TRUST

ADDRESS: 221 WOODBURY AVE

PORTSMOUTH, NEW HAMPSHIRE

PARCEL: AS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 175 AS LOT 16.

PARCEL AREA = ~17,351 SF = 0.403 ACRES

ZONING DISTRICT: GENERAL RESIDENTIAL A (GRA)

ZONING DIMENSIONS AND DENSITY REQUIREMENTS:

	REQUIRED	EXISTING
A) MINIMUM LOT SIZE	7,500 SF	17,58 SF
B) MINIMUM LOT FRONTAGE		
WOODBURY AVE	100 LF	135.0 LF
THORNTON STREET	100 LF	144.9 LF
C) MINIMUM FRONT SETBACK		
WOODBURY AVE	15 LF	13.1 LF
THORNTON STREET	15 LF	5.33 LF
D) MINIMUM LOT DEPTH	70 LF	135 LF
E) MINIMUM SIDE SETBACK	10 LF	66 LF
F) MINIMUM REAR SETBACK	20 LF	25.5 LF
G) MAXIMUM LOT COVERAGE		
25%	4,337 SF	1,767 SF 10.18%
H) MINIMUM OPEN SPACE		
30%	5,205 SF	13,018 SF 89.82%

NOTE: THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED UPON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES (I.E. CATCH BASINS, MANHOLES, WATER GATES, ETC.) AND INFORMATION COMPILED FROM PLANS OF RECORD, AND PLANS PROVIDED BY UTILITY COMPANIES AND GOVERNMENT AGENCIES.

LEGEND

- IRON ROD/ PIPE FOUND
- BENCHMARK
- SEWER MANHOLE
- DRAIN MANHOLE
- UTILITY POLE
- CATCH BASIN
- HYDRANT
- GATE VALVE
- SIGN
- RAIN LEADER
- PROPERTY LINE
- EDGE OF PAVEMENT
- EXISTING CONTOUR
- PROPOSED CONTOUR
- WATER LINE
- STORM DRAIN LINE
- UNDER-DRAIN
- SANITARY SEWER LINE
- OVERHEAD UTILITY LINE
- UNDERGROUND ELECTRIC LINE
- 24" WIDE DRIP EDGE
- BITUMINOUS PAVING
- GRAVEL PAVING
- HARDSCAPING

GRAPHIC SCALE
0 5 10 20
(IN FEET)

MARTIN RYAN ARCHITECT
221 Woodbury Ave
Portsmouth, NH 03801

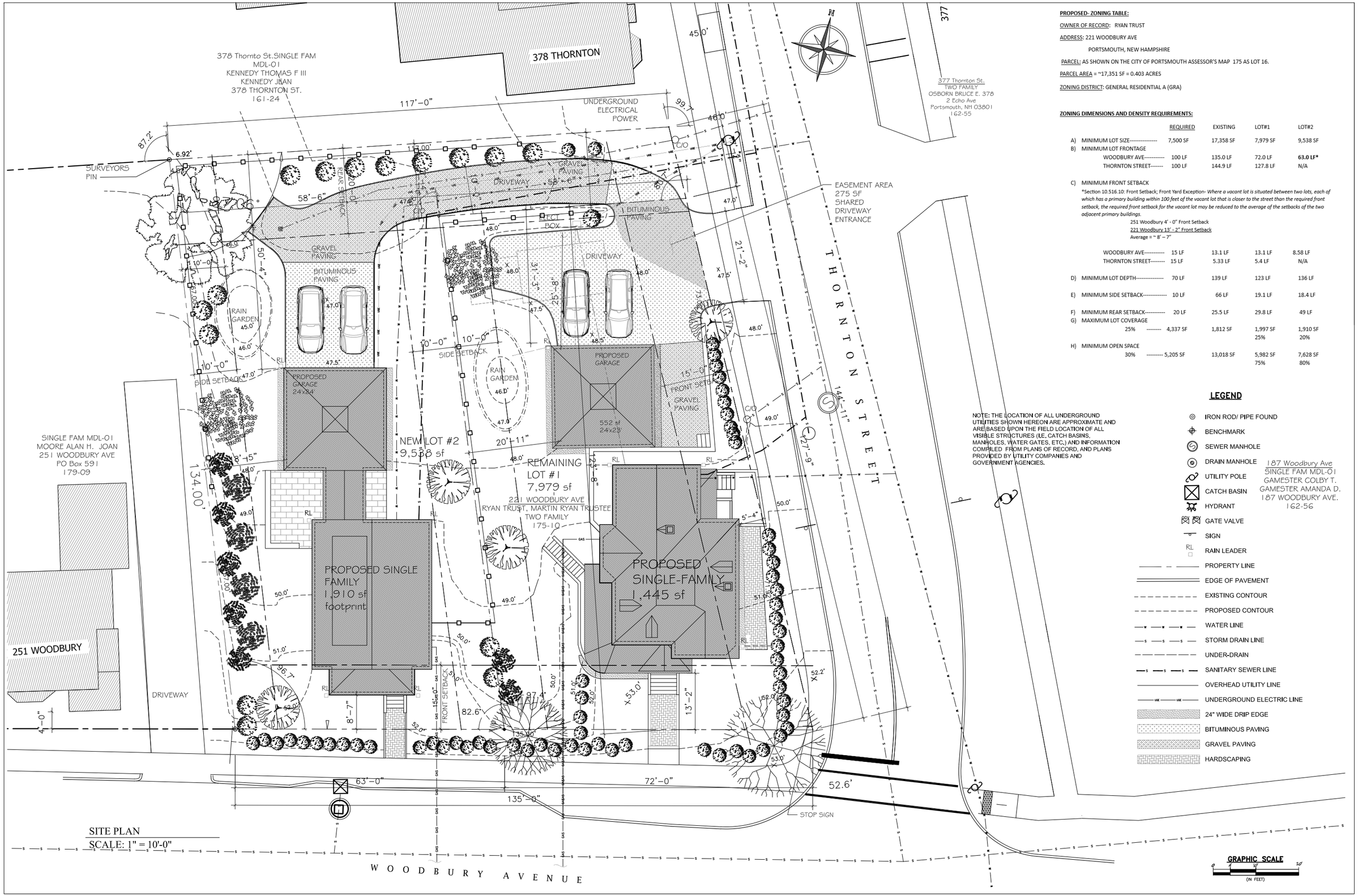
OCT. 6, 2026
TAC MEETING

221 WOODBURY AVE
PORTSMOUTH, NH
SUBDIVISION PLAN

DATE: 08-29-26	
DESIGN: MLR	
DRAWN: MLR	
CHECKED:	
SCALE:	
JOB:	

EXISTING SITE PLAN

C2



NOTE: THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED UPON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES (I.E. CATCH BASINS, MANHOLES, WATER GATES, ETC.) AND INFORMATION COMPILED FROM PLANS OF RECORD, AND PLANS PROVIDED BY UTILITY COMPANIES AND GOVERNMENT AGENCIES.

PROPOSED- ZONING TABLE:

OWNER OF RECORD: RYAN TRUST

ADDRESS: 221 WOODBURY AVE

PORTSMOUTH, NEW HAMPSHIRE

PARCEL: AS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 175 AS LOT 16.

PARCEL AREA = ~17,351 SF = 0.403 ACRES

ZONING DISTRICT: GENERAL RESIDENTIAL A (GRA)

ZONING DIMENSIONS AND DENSITY REQUIREMENTS:

	REQUIRED	EXISTING	LOT#1	LOT#2
A) MINIMUM LOT SIZE----------	7,500 SF	17,358 SF	7,979 SF	9,538 SF
B) MINIMUM LOT FRONTAGE				
WOODBURY AVE----------	100 LF	135.0 LF	72.0 LF	**63.0 LF***
THORNTON STREET-------	100 LF	144.9 LF	127.8 LF	N/A
C) MINIMUM FRONT SETBACK				
WOODBURY AVE----------	15 LF	13.1 LF	13.1 LF	8.58 LF
THORNTON STREET--------	15 LF	5.33 LF	5.4 LF	N/A
D) MINIMUM LOT DEPTH----------	70 LF	139 LF	123 LF	136 LF
E) MINIMUM SIDE SETBACK----------	10 LF	66 LF	19.1 LF	18.4 LF
F) MINIMUM REAR SETBACK----------	20 LF	25.5 LF	29.8 LF	49 LF
G) MAXIMUM LOT COVERAGE				
25% --------	4,337 SF	1,812 SF	1,997 SF 25%	1,910 SF 20%
H) MINIMUM OPEN SPACE				
30% ---------	5,205 SF	13,018 SF	5,982 SF 75%	7,628 SF 80%

*Section 10.516.10: Front Setback; Front Yard Exception- *Where a vacant lot is situated between two lots, each of which has a primary building within 100 feet of the vacant lot that is closer to the street than the required front setback, the required front setback for the vacant lot may be reduced to the average of the setbacks of the two adjacent primary buildings.*

251 Woodbury 4' - 0" Front Setback
221 Woodbury 13' - 2" Front Setback
Average = ~ 8' – 7"

LEGEND

- IRON ROD/ PIPE FOUND
- BENCHMARK
- SEWER MANHOLE
- DRAIN MANHOLE
- UTILITY POLE
- CATCH BASIN
- HYDRANT
- GATE VALVE
- SIGN
- RAIN LEADER
- PROPERTY LINE
- EDGE OF PAVEMENT
- EXISTING CONTOUR
- PROPOSED CONTOUR
- WATER LINE
- STORM DRAIN LINE
- UNDER-DRAIN
- SANITARY SEWER LINE
- OVERHEAD UTILITY LINE
- UNDERGROUND ELECTRIC LINE
- 24" WIDE DRIP EDGE
- BITUMINOUS PAVING
- GRAVEL PAVING
- HARDSCAPING

MARTIN RYAN ARCHITECT
221 Woodbury Ave
Portsmouth, NH 03801

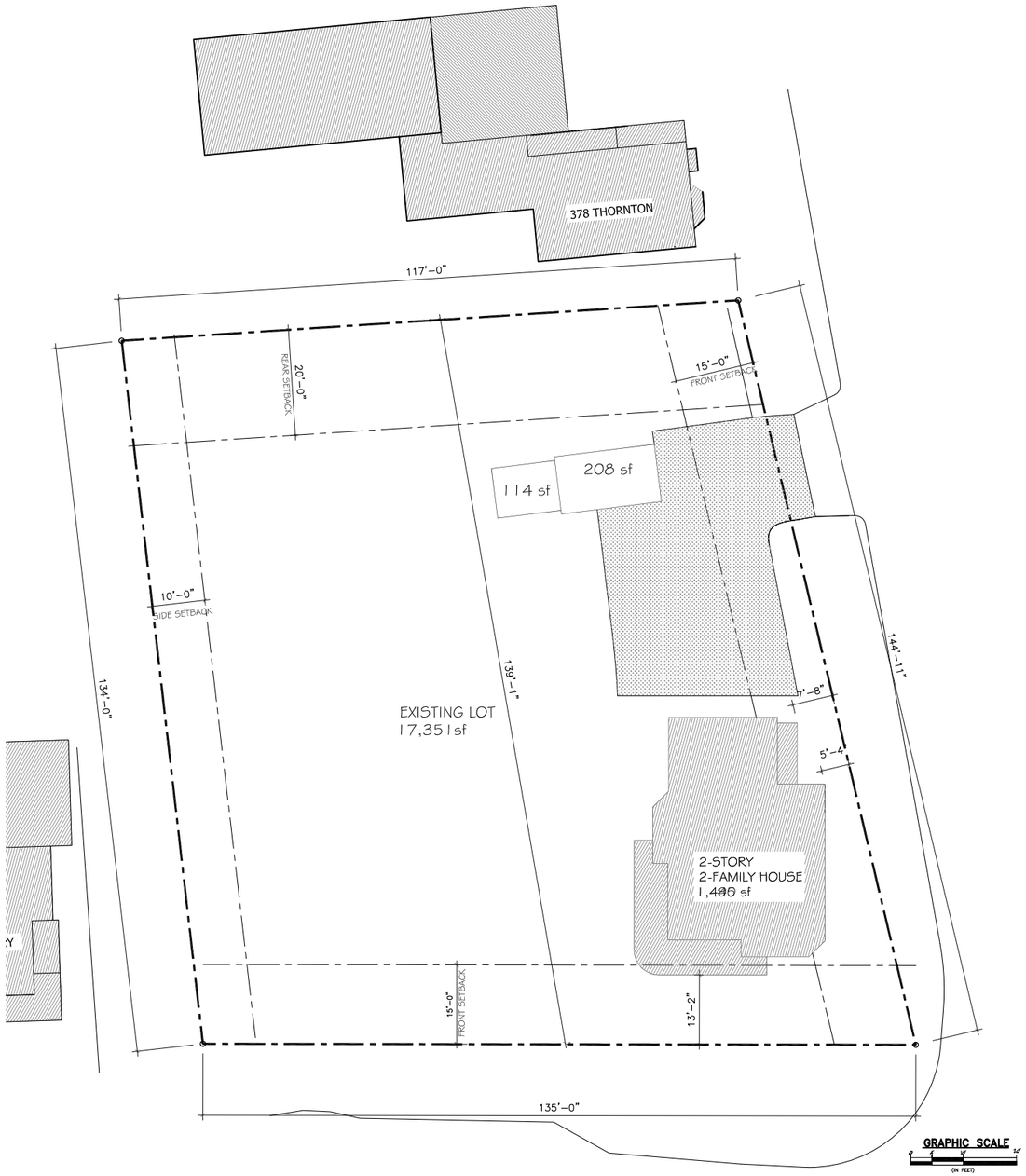
OCT. 6, 2026
TAC MEETING

221 WOODBURY AVE
PORTSMOUTH, NH
SUBDIVISION PLAN

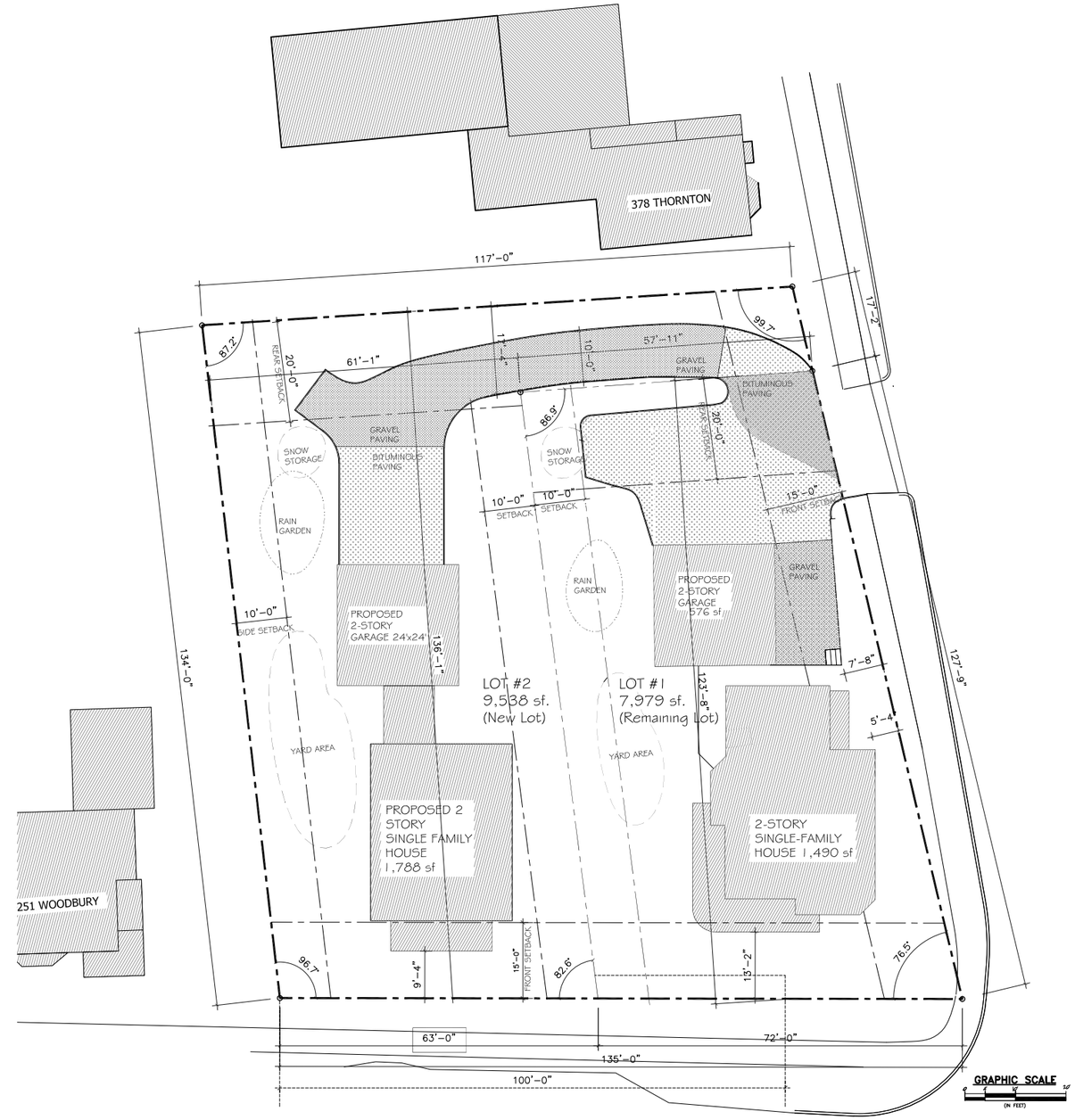
DATE: 08–04–26	
DESIGN: MLR	
DRAWN: MLR	
CHECKED:	
SCALE:	
JOB:	

PROPOSED SITE PLAN

C3



EXISTING SITE DIAGRAM
SCALE: NTS



PROPOSED SITE DIAGRAM
SCALE: NTS

MARTIN RYAN ARCHITECT
221 Woodbury Ave
Portsmouth, NH 03801

OCT. 6, 2026
TAC MEETING

221 WOODBURY AVE
PORTSMOUTH, NH
SUBDIVISION PLAN

DATE: 08-04-26	
DESIGN: MLR	
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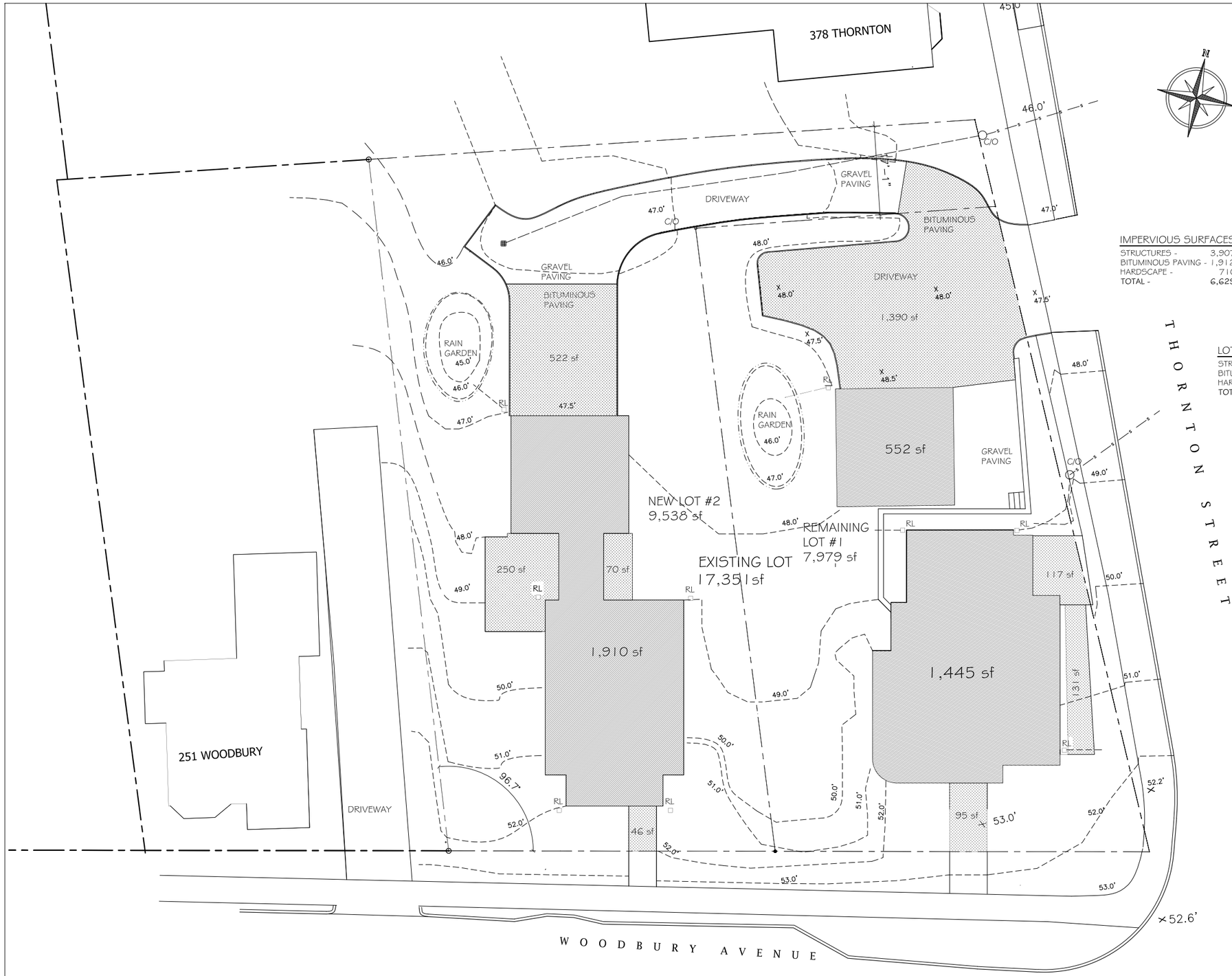
SCALE:	
JOB:	

SITE
DIAGRAMS

C4



NOTE: THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED UPON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES (I.E. CATCH BASINS, MANHOLES, WATER GATES, ETC.) AND INFORMATION COMPILED FROM PLANS OF RECORD, AND PLANS PROVIDED BY UTILITY COMPANIES AND GOVERNMENT AGENCIES.

IMPERVIOUS SURFACES		PERVIOUS SURFACES		TOTALS	
STRUCTURES -	3,907 SF	LANDSCAPING -	9,426 SF	IMPERVIOUS -	6,629 SF = 38.2%
BITUMINOUS PAVING -	1,912 SF	GRAVEL PAVING -	1,296 SF	PERVIOUS -	10,722 SF = 61.8%
HARDSCAPE -	710 SF				
TOTAL -	6,629 SF	TOTAL -	10,722 SF	TOTAL -	17,351 SF

LOT #1 -IMPERVIOUS SURFACES		LOT #1 -PERVIOUS SURFACES	
STRUCTURES -	1,997 SF	LANDSCAPING -	4,028 SF
BITUMINOUS PAVING -	1,281 SF	GRAVEL PAVING -	330 SF
HARDSCAPE -	343 SF		
TOTAL -	3,621 SF	TOTAL -	4,358 SF

LOT #1 -TOTALS	
IMPERVIOUS -	3,621 SF = 45.3%
PERVIOUS -	4,358 SF = 54.7%
TOTAL -	7,979 SF

LOT #2 -IMPERVIOUS SURFACES		LOT #2 -PERVIOUS SURFACES	
STRUCTURES -	1,910 SF	LANDSCAPING -	5,701 SF
BITUMINOUS PAVING -	631 SF	GRAVEL PAVING -	976 SF
HARDSCAPE -	320 SF		
TOTAL -	2,861 SF	TOTAL -	6,677 SF

LOT #2 -TOTALS	
IMPERVIOUS -	2,861 SF = 30.0%
PERVIOUS -	6,677 SF = 70.0%
TOTAL -	9,538 SF

PROPOSED SITE PLAN
SCALE: 1" = 10'-0"

GRAPHIC SCALE
0 5 10 20
(IN FEET)

MARTIN RYAN ARCHITECT
221 Woodbury Ave
Portsmouth, NH 03801

OCT. 6, 2026
TAC MEETING

221 WOODBURY AVE
PORTSMOUTH, NH
SUBDIVISION PLAN

DATE: 08-04-26
DESIGN: MLR
DRAWN: MLR
CHECKED:
SCALE:
JOB:

SITE DATA

C5

1 WOODBURY AVENUE ELEVATION

2 WEST ELEVATION

GRAPHIC SCALE

0 4 8 12

MARTIN RYAN ARCHITECT
221 Woodbury Ave
Portsmouth, NH 03801

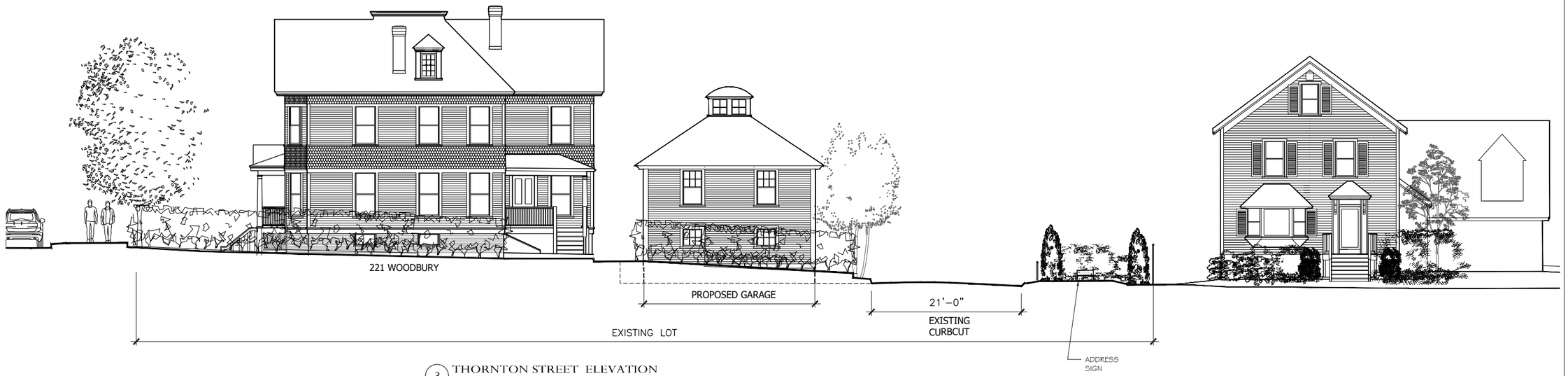
OCT. 6, 2026
TAC MEETING

221 WOODBURY AVE
PORTSMOUTH, NH
SUBDIVISION PLAN

DATE: 08-04-26
DESIGN: MLR
DRAWN: MLR
CHECKED:
SCALE:
JOB:

SITE
ELEVATIONS

A1



3 THORNTON STREET ELEVATION

4 NORTH ELEVATION

MARTIN RYAN ARCHITECT
221 Woodbury Ave
Portsmouth, NH 03801

OCT. 6, 2026
TAC MEETING

221 WOODBURY AVE
PORTSMOUTH, NH
SUBDIVISION PLAN

DATE: 08-04-26
DESIGN: MLR
DRAWN: MLR
CHECKED:
SCALE:
JOB:

SITE
ELEVATIONS

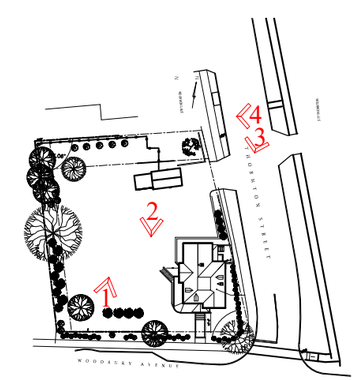
A2

PHOTOGRAPH #1

PHOTOGRAPH #2

PHOTOGRAPH #3

PHOTOGRAPH #4



SITE KEY PLAN
SCALE: NTS

MARTIN RYAN ARCHITECT
221 Woodbury Ave
Portsmouth, NH 03801

OCT. 6, 2026
TAC MEETING

221 WOODBURY AVE
PORTSMOUTH, NH
PROPOSAL

DATE: 08-01-21
DESIGN:
DRAWN:
CHECKED:
SCALE:
JOB:

CONTEXT
PHOTOGRAPHS

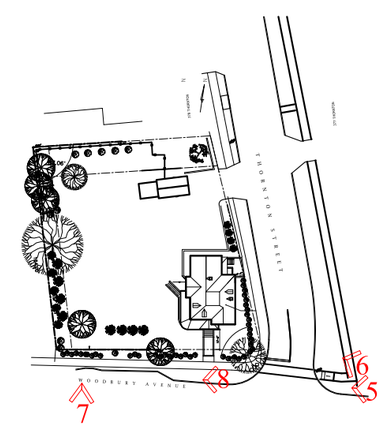
P1

PHOTOGRAPH #5

PHOTOGRAPH #6

PHOTOGRAPH #7

PHOTOGRAPH #8



SITE KEY PLAN
SCALE: NTS

MARTIN RYAN ARCHITECT
221 Woodbury Ave
Portsmouth, NH 03801

OCT. 6, 2026
TAC MEETING

221 WOODBURY AVE
PORTSMOUTH, NH
SUBDIVISION PLAN

DATE: 08–01–21	
DESIGN:	
DRAWN:	
CHECKED:	
SCALE:	
JOB:	

CONTEXT
PHOTOGRAPHS

CITY OF PORTSMOUTH
Planning & Sustainability Department
1 Junkins Avenue
Portsmouth, New Hampshire 03801
(603) 610-7216

ZONING BOARD OF ADJUSTMENT

June 23, 2026

Ryan Trust
Martin Ryan TTEE
221 Woodbury Avenue
Portsmouth, New Hampshire 03801

RE: **Board of Adjustment Request for property located at 221 Woodbury Avenue, Portsmouth NH 03801 (LU-26-57)**

Dear Property Owner:

The Zoning Board of Adjustment, at its regularly scheduled meeting of **June 16, 2026**, considered your application for the property located at 221 Woodbury Avenue whereas relief is needed to subdivide the existing parcel into two parcels, for demolition of the existing one-story detached garage and construction of a new two-story detached garage on lot 1; and a new single-family residential structure on lot 2, which requires the following: 1) Variance from Section 10.521 to allow 63 feet of frontage where 100 feet is required. Said property is shown on Assessor Map 175 Lot 10 and lies within the General Residence A (GRA) District. As a result of said consideration, the Board voted to **grant** the request as presented and advertised.

The Board's decision may be appealed up to thirty (30) days after the vote. Any action taken by the applicant pursuant to the Board's decision during this appeal period shall be at the applicant's risk. Please contact the Planning & Sustainability Department for more details about the appeals process.

Approvals may also be required from other City Commissions or Boards. Once all required approvals have been received, applicant is responsible for applying for and securing a building permit from the Inspection Department prior to starting any project work.

This approval shall expire unless a building permit is issued within a period of two (2) years from the date granted unless an extension is granted in accordance with Section 10.236 of the Zoning Ordinance.

The Findings of Fact associated with this decision are available: attached here or as an attachment in the Viewpoint project record associated with this application and on the Zoning Board of Adjustment Meeting website:

https://www.portsmouthnh.gov/planportsmouth/zoning-board-adjustment/zoning-board-adjustment-archived-meetings-and-material

The minutes and audio recording of this meeting are available by contacting the Planning & Sustainability Department.

Very truly yours,

Beth Margeson, Chair of the Zoning Board of Adjustment

cc: Shanti Wolph, Chief Building Inspector

Rosann Maurice-Lentz, City Assessor

221 Woodbury Avenue
Portsmouth, NH 03801

603-502-8635
MLR10000@yahoo.com

October 6, 2026

City of Portsmouth Planning
Department 1 Jenkins Avenue
Portsmouth, NH 03801

Waiver Request Letter

Re: Subdivision 221 Woodbury Avenue
Tax Map 175, Lot 10
Portsmouth, NH 03801

Planning Board Members:

We respectfully request a waiver of the bond requirements set forth in Section IX (Development Prerequisite to Final Approval) of the City of Portsmouth's Subdivision Rules and Regulations (revised November 2020), specifically the improvements and installation bond and maintenance bond requirements.

Given the modest size and scale of this proposed subdivision, we believe these bonding requirements are not warranted.

Thank you for your consideration of this request.

Thank you. Sincerely,

Martin Ryan

Martin Ryan

City of Portsmouth, New Hampshire

Subdivision Application Checklist

This subdivision application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all subdivision review requirements. Please refer to the Subdivision review regulations for full details.

Applicant Responsibilities (Section III.C): Applicable fees are due upon application submittal along with required number of copies of the Preliminary or final plat and supporting documents and studies. Please consult with Planning staff for submittal requirements.

Owner: RYAN TRUST & RYAN MARTIN TRUSTEE Date Submitted: April 22, 2026

Applicant: Martin Ryan

Phone Number: 603-502-8635 E-mail: mlr10000@yahoo.com

Site Address 1: 221 Woodbury Ave Map: 175 Lot: 10

Site Address 2: _____ Map: 175 Lot: 10

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
✔	Completed Application form. **(III.C.2-3)**	Subdivision Application Memo	N/A
✔	All application documents, plans, supporting documentation and other materials provided in digital Portable Document Format (PDF) on compact disc, DVD or flash drive. **(III.C.4)**	Subdivision Application Memo & 221 Woodbury Avenue Drawing Set	N/A

Requirements for Preliminary/Final Plat				
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Required for Preliminary / Final Plat**	**Waiver Requested**
✔	Name and address of record owner, any option holders, descriptive name of subdivision, engineer and/or surveyor or name of person who prepared the plat. **(Section IV.1/V.1)**	Subdivision Application Memo & 221 Woodbury Avenue Drawing Set	☑ Preliminary Plat ☑ Final Plat	N/A

Requirements for Preliminary/Final Plat				
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Required for Preliminary / Final Plat**	**Waiver Requested**
✔	**Preliminary Plat** Names and addresses of all adjoining property owners. **(Section IV.2)** **Final Plat** Names and addresses of all abutting property owners, locations of buildings within one hundred (100) feet of the parcel, and any new house numbers within the subdivision. **(Section V.2)**	221 Woodbury Avenue Drawing Set	☑ Preliminary Plat ☑ Final Plat	N/A
✔	North point, date, and bar scale. **(Section IV.3/V3)**	Required on all Plan Sheets	☑ Preliminary Plat ☑ Final Plat	N/A
☐	Zoning classification and minimum yard dimensions required. **(Section IV.4/V.4)**	221 Woodbury Avenue Drawing Set	☑ Preliminary Plat ☑ Final Plat	N/A
✔	**Preliminary Plat** Scale (not to be smaller than one hundred (100) feet = 1 inch) and location map (at a scale of 1" = 1000'). **(Section IV.5)** **Final Plat** Scale (not to be smaller than 1"=100'), Location map (at a scale of 1"=1,000') showing the property being subdivided and its relation to the surrounding area within a radius of 2,000 feet. Said location map shall delineate all streets and other major physical features that my either affect or be affected by the proposed development. **(Section V.5)**	221 Woodbury Avenue Drawing Set	☑ Preliminary Plat ☑ Final Plat	N/A
✔	Location and approximate dimensions of all existing and proposed property lines including the entire area proposed to be subdivided, the areas of proposed lots, and any adjacent parcels in the same ownership. **(Section IV.6)**	221 Woodbury Avenue Drawing Set	☑ Preliminary Plat ☑ Final Plat	
☐	Dimensions and areas of all lots and any and all property to be dedicated or reserved for schools, parks, playgrounds, or other public purpose. Dimensions shall include radii and length of all arcs and calculated bearing for all straight lines. **(Section V.6/ IV.7)**	221 Woodbury Avenue Drawing Set	☑ Preliminary Plat ☑ Final Plat	N/A
✔	Location, names, and present widths of all adjacent streets, with a designation as to whether public or private and approximate location of existing utilities to be used. Curbs and sidewalks shall be shown. **(Section IV.8/V.7)**	221 Woodbury Avenue Drawing Set	☑ Preliminary Plat ☑ Final Plat	

Requirements for Preliminary/Final Plat				
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Required for Preliminary / Final Plat**	**Waiver Requested**
✔	Location of significant physical features, including bodies of water, watercourses, wetlands, railroads, important vegetation, stone walls and soils types that my influence the design of the subdivision. **(Section IV.9/V.8)**	221 Woodbury Avenue Drawing Set	☑ Preliminary Plat ☑ Final Plat	
✔	**Preliminary Plat** Proposed locations, widths and other dimensions of all new streets and utilities, including water mains, storm and sanitary sewer mains, catch basins and culverts, street lights, fire hydrants, sewerage pump stations, etc. **(Section IV.10)** **Final Plat** Proposed locations and profiles of all proposed streets and utilities, including water mains, storm and sanitary sewer mains, catchbasins and culverts, together with typical cross sections. Profiles shall be drawn to a horizontal scale of 1”=50’ and a vertical scale of 1”=5’, showing existing centerline grade, existing left and right sideline grades, and proposed centerline grade. **(Section V.9)**	221 Woodbury Avenue Drawing Set	☑ Preliminary Plat ☑ Final Plat	
✔	When required by the Board, the plat shall be accompanied by profiles of proposed street grades, including extensions for a reasonable distance beyond the subject land; also grades and sizes of proposed utilities. **(Section IV.10)**	221 Woodbury Avenue Drawing Set	☑ Preliminary Plat ☑ Final Plat	
☐	Base flood elevation (BFE) for subdivisions involving greater than five (5) acres or fifty (50) lots. **(Section IV.11)**	N/A	☑ Preliminary Plat ☑ Final Plat	
☐	For subdivisions of five (5) lots or more, or at the discretion of the Board otherwise, the preliminary plat shall show contours at intervals no greater than two (2) feet. Contours shall be shown in dotted lines for existing natural surface and in solid lines for proposed final grade, together with the final grade elevations shown in figures at all lot corners. If existing grades are not to be changed, then the contours in these areas shall be solid lines. **(Section IV.12/ V.12)**	N/A	☑ Preliminary Plat ☑ Final Plat	

Requirements for Preliminary/Final Plat				
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Required for Preliminary / Final Plat**	**Waiver Requested**
☐	Dates and permit numbers of all necessary permits from governmental agencies from which approval is required by Federal or State law. **(Section V.10)**	N/A	☐ Preliminary Plat ☑ Final Plat	
☐	For subdivisions involving greater than five (5) acres or fifty (50) lots, the final plat shall show hazard zones and shall include elevation data for flood hazard zones. **(Section V.11)**	N/A	☐ Preliminary Plat ☑ Final Plat	
☐	Location of all permanent monuments. **(Section V.12)**	221 Woodbury Avenue Drawing Set	☐ Preliminary Plat ☑ Final Plat	

General Requirements[1]			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐ ☑ ☐ ☑ ☐	**1. Basic Requirements: (VI.1)** a. Conformity to Official Plan or Map b. Hazards c. Relation to Topography d. Planned Unit Development	221 Woodbury Avenue Drawing Set	
☐ ☑ ☑ ☐	**2. Lots: (VI.2)** a. Lot Arrangement b. Lot sizes c. Commercial and Industrial Lots	221 Woodbury Avenue Drawing Set	
☐ ☑ ☐ ☑ ☐ ☑ ☐ ☐ ☐ ☐ ☐ ☐ ☑ ☐ ☐ ☐ ☑	**3. Streets: (VI.3)** a. Relation to adjoining Street System b. Street Rights-of-Way c. Access d. Parallel Service Roads e. Street Intersection Angles f. Merging Streets g. Street Deflections and Vertical Alignment h. Marginal Access Streets i. Cul-de-Sacs j. Rounding Street Corners k. Street Name Signs l. Street Names m. Block Lengths n. Block Widths o. Grade of Streets p. Grass Strips	221 Woodbury Avenue Drawing Set-several items to be engineered pending approval	
☑	**4. Curbing: (VI.4)**	221 Woodbury Avenue Drawing Set	
☑	**5. Driveways: (VI.5)**	221 Woodbury Avenue Drawing Set	
☐	**6. Drainage Improvements: (VI.6)**	TBD	
☑	**7. Municipal Water Service: (VI.7)**	TBD for new lot	
☑	**8. Municipal Sewer Service: (VI.8)**	TBD for new lot	
☐ ☐ ☐	**9. Installation of Utilities: (VI.9)** a. All Districts b. Indicator Tape	TBD for new lot	
☑	**10. On-Site Water Supply: (VI.10)**	TBD for new lot	
☑	**11. On-Site Sewage Disposal Systems: (VI.11)**	TBD for new lot	
☐ ☑ ☑ ☐ ☑	**12. Open Space: (VI.12)** a. Natural Features b. Buffer Strips c. Parks d. Tree Planting	221 Woodbury Avenue Drawing Set	
☐ ☐ ☐ ☐ ☐	**13. Flood Hazard Areas: (VI.13)** a. Permits b. Minimization of Flood Damage c. Elevation and Flood-Proofing Records d. Alteration of Watercourses	N/A	
☐	**14. Erosion and Sedimentation Control (VI.14)**	several items to be engineered pending approval	

☑	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
☐ ☐ ☐	**15. Easements (VI.15)** a. Utilities b. Drainage	items to be engineered pending approval	
☐	**16. Monuments: (VI.16)**	TBD for new lot	
☐	**17. Benchmarks: (VI.17)**	TBD for new lot	
☐	**18. House Numbers (VI.18)**	TBD for new lot	

Design Standards			
	Required Items for Submittal	**Indicate compliance and/or provide explanation as to alternative design**	**Waiver Requested**
☑	**1. Streets have been designed according to the design standards required under Section (VII.1).** a. Clearing b. Excavation c. Rough Grade and Preparation of Sub-Grade d. Base Course e. Street Paving f. Side Slopes g. Approval Specifications h. Curbing i. Sidewalks j. Inspection and Methods	221 Woodbury Avenue Drawing Set- several items to be engineered pending approval	
☐	**2. Storm water Sewers and Other Drainage Appurtenances have been designed according to the design standards required under Section (VII.2).** a. Design b. Standards of Construction	several items to be engineered pending approval	
☐	**3. Sanitary Sewers have been designed according to the design standards required under Section (VII.3).** a. Design b. Lift Stations c. Materials d. Construction Standards	several items to be engineered pending approval	
☐	**4. Water Mains and Fire Hydrants have been designed according to the design standards required under Section (VII.4).** a. Connections to Lots b. Design and Construction c. Materials d. Notification Prior to Construction	several items to be engineered pending approval	

Applicant's/Representative's Signature:_____ **Date:** April 22, 2026

[1] See City of Portsmouth, NH Subdivision Rules and Regulations for details.

Planning Department
Portsmouth City Hall
1 Junkins Avenue
Portsmouth, NH 03801

To: Peter Stith**,**
City of Portsmouth- Technical Advisory Committee

From: Martin Ryan

Date: Aug 24, 2026

Re: TAC Work Session Notes & Follow-up Comments
Ryan Trust
221 Woodbury Ave, Tax map 175-10
General Residence A Zoning

Subject: Follow-up & Clarification: August 11th TAC Work Session – 221 Woodbury Ave

Dear Chairman Stith,

I am writing to follow up on the Technical Advisory Committee (TAC) Work Session held on August 11th. After reviewing the session recording, I would appreciate your clarification on a few specific items to ensure we remain aligned and on track:

Items that are confirmed:

- Storm Water Line (Ref. 7:14 Timestamp): Update site plans to graphically illustrate the connection of the on-site stormwater line to the municipal stormwater main. *(Status: Confirmed)*

- Signage at Driveway (Ref. 7:33 Timestamp): Install a directional sign at the curb cut clearly listing all addresses served by the shared driveway. *(Status: Confirmed)*

- Demo Permit (Ref. 8:50 Timestamp): The existing garage removal will need to be permitted. Is this going to go in front of the Demolition Committee? If so, what kind of timeline should I consider? *The garage will not be subject to the Demolition Committee.* The demolition permit will be submitted along with the building permit.

- Conflicting SF. Information (Ref. 9:59 Timestamp): Reconcile the square footage discrepancy between the existing conditions plan and the proposed architectural drawings. *(Status: Correction Pending)*

- Zoning Tables (Ref. 10:05 Timestamp): Incorporate a complete zoning compliance table directly onto the site plan sheets. *(Status: Confirmed)*

- Stamped Survey (Ref: 10:42 Timestamp): During the session, the requirement for a stamped survey was discussed to proceed with the approval process. A surveyor has been retained to confirm the existing site and the proposed site plan.

- Driveway Surface (Ref. 11:15 Timestamp): Clarification of the driveway material. A mix of pervious and impervious materials. The driveway serving Lot #1 will be bituminous paving. The driveway serving Lot #2 will be a mixture of gravel surface and bituminous surface. *(Status: Confirmed)*

- Subdivision Waiver (Ref: 13:30 Timestamp): Regarding the mention of a subdivision waiver, I located Section IX, which addresses the Improvements and Installation Bond. Could you confirm if this is the correct section to reference for this request, or if there is additional documentation needed? *Yes, this is the section. A waiver request letter is included in the submittal.*

- Setback Averaging (Ref. 14:56 Timestamp): Section 10.516.10: Front Setback; Front Yard Exception- *"Where a vacant lot is situated between two lots, each of which has a primary building within 100 feet of the vacant lot that is closer to the street than the required front setback, the required*

front setback for the vacant lot may be reduced to the average of the setbacks of the two adjacent primary buildings."
The permitted front setback is calculated as an average of the existing setbacks of the primary buildings on the immediate abutting lots on either side of the subject property (on the same side of the street).

251 Woodbury 4’ - 0” Front Setback
221 Woodbury 13’ - 2” Front Setback
Average = ~ 8’ – 7”

The new house would have a minimum setback of 8’ - 7”.
(Status: Confirmed)

Thank you for your time, guidance, and ongoing consultation on this matter. I look forward to your feedback.
Sincerely,

Respectfully Submitted,

Martin Ryan

Martin Ryan

ROSS
ENGINEERING LLC
Civil/Structural Engineering
& Surveying
650 Islington St
Portsmouth, NH 03801
(603) 433-7560

DATE: 9-25-2026
JOB #: 21-168

DOCUMENT TRANSMITTAL

TO: City of Portsmouth
ATTN: Planning Department
1 Junkins Ave
Portsmouth, NH 03801

VIA: By Hand

☒ ATTACHED ☐ SENT SEPERATELY

1 COPIES _ PRINTS _ REPRODUCIBLES _ DIGITAL

EACH OF:
☒ DRAWINGS ☐ SPECIFICATIONS
☒ DOCUMENTS

STATUS:		PLEASE NOTE:		SENT FOR YOUR:	
☐ FINAL	☐ APPROVED	☐ REVISIONS	☐ OMISSIONS	☒ APPROVAL	☐ COMMENTS
☐ PRELIMINARY	☐ APPROVED AS NOTED	☐ ADDITIONS	☐ CORRECTIONS	☐ USE	☐ INFORMATION
☐ NO COMMENT	☐ UNACCEPTABLE	☐ COMMENTS		☐ FILES	
☐ COMMENTS AS NOTED					

RE:
Project Location: 140 West Rd
Portsmouth, NH 03801
Tax Map 252, Lot 2-13

Owner: Road to the West, LLC
140 West Rd
Portsmouth, NH 03801

Attached please find the following:

1. Full Size Plan Set dated 9-24-2026
2. Full Size Architectural Plan Set dated 9-21-2026
3. Project Description
4. Abutter's List
5. Site Photos
6. Site Plan Application Checklist
7. Traffic Study
8. Lighting Plan dated 9-21-26

Please call (603-433-7560) if you have any questions.

Thank you,

Alex Ross

BLACK ROCK SOCIAL CLUB

140 WEST RD

Portsmouth, NH 03801

LIST OF PROJECT PLANS AND DOCUMENTS:

CIVIL

1 - Existing Conditions
2 - Site Plan 1" = 20'
3 - Site Plan 1" = 10'
4 - Landscape Plan
5 - Parking Plan
6 - Grading & Drainage Plan
7 - Lighting Plan
8 - Open Space Plan
9 - Details
10 - Erosion Control Plan

PREPARED BY:

ROSS ENGINEERING, LLC
Civil/Structural Engineering
& Surveying
650 Islington St.
Portsmouth, NH 03801
(603) 433-7560

OWNER:
Road to the West, LLC
Alexander B. Choquette
140 West Rd
Portsmouth, NH 03801
(603)-498-2519

September 24, 2026

ARCHITECTURAL PLANS

Portsmouth Architects
4 Market St
Portsmouth, NH 03801
(603)-430-0274

REFERENCE PLANS

1) "SUBDIVISION PLAN" BY KIMBALL CHASE COMPANY, INC. DATED MAY 15, 1983. RCRD D-11744.

2) "CONDOMINIUM SITE PLAN 300 WEST CONDOMINIUM FOR FREDERICK & THOMAS DAIGNEAULT" BY RICHARD P. MILLETTE AND ASSOCIATES. DATED MAY 1987. RCRD D-17576

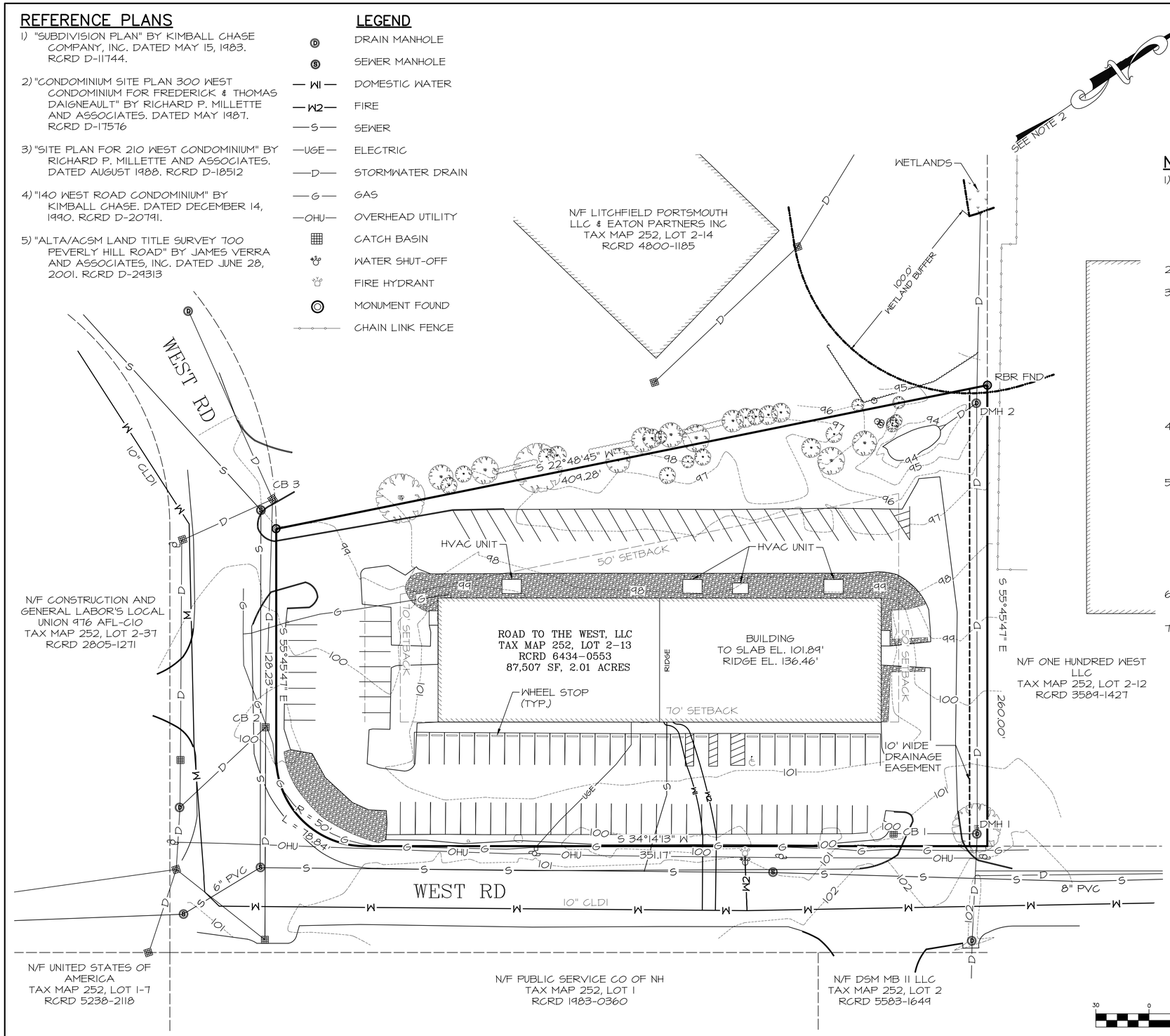
3) "SITE PLAN FOR 210 WEST CONDOMINIUM" BY RICHARD P. MILLETTE AND ASSOCIATES. DATED AUGUST 1988. RCRD D-18512

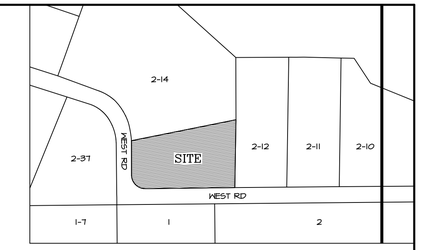
4) "140 WEST ROAD CONDOMINIUM" BY KIMBALL CHASE. DATED DECEMBER 14, 1990. RCRD D-20791.

5) "ALTA/ACSM LAND TITLE SURVEY 700 PEVERLY HILL ROAD" BY JAMES VERRA AND ASSOCIATES, INC. DATED JUNE 28, 2001. RCRD D-29313

LEGEND

- DRAIN MANHOLE
- SEWER MANHOLE
- W1 — DOMESTIC WATER
- W2 — FIRE
- S — SEWER
- UGE — ELECTRIC
- D — STORMWATER DRAIN
- G — GAS
- OHU — OVERHEAD UTILITY
- CATCH BASIN
- WATER SHUT-OFF
- FIRE HYDRANT
- MONUMENT FOUND
- CHAIN LINK FENCE





LOCUS PLAN
N.T.S.

NOTES

1) OWNER OF RECORD:
ROAD TO THE WEST, LLC
TAX MAP 252, LOT 2-13
140 WEST RD
PORTSMOUTH, NH 03801
RCRD: 6434-0553
AREA: 87,507 SF, 2.01 ACRES

2) BASIS OF BEARING HELD FROM PLAN REFERENCE #1.

3) PARCEL IS IN INDUSTRIAL ZONE (I):
MINIMUM LOT AREA.....2 ACRES
MINIMUM FRONTAGE.....200 FT
MINIMUM DEPTH.....200 FT
SETBACKS:
FRONT.....70 FT
SIDE.....50 FT
REAR.....50 FT
MAXIMUM BUILDING HEIGHT.....70 FT
MAXIMUM BUILDING COVERAGE.....50%
MINIMUM OPEN SPACE.....20%

4) THE PARCEL IS NOT WITHIN A FEMA FLOOD ZONE, AS PER FLOOD INSURANCE RATE MAP #33015C0270F, PANEL 270 OF 681, DATED JANUARY 29, 2021. VERTICAL DATUM IS NAVD 1988.

5) A 10' WIDE DRAINAGE EASEMENT EXISTS ACROSS TAX MAP 252, LOT 2-13 TO THE BENEFIT OF THE CITY OF PORTSMOUTH FOR THE PURPOSES OF INSTALLING, MAINTAINING, INSPECTING, REMOVING, REPAIRING, AND REPLACING A DRAINAGE PIPE WITH ITS ASSOCIATED OUTFALL, SWALES AND STORM WATER FLOW AS WELL AS THE RIGHT TO REMOVE TREES, BUSHES, UNDERGROWTH AND OTHER OBSTRUCTIONS. FOR MORE DETAIL SEE RCRD 6456-1012 AS WELL AS PLAN D-43662.

6) THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS OF THE SITE IN 2022.

7) MAN-MADE AND NATURAL JURISDICTIONAL WETLAND BOUNDARIES WERE DELINEATED BY MARC JACOBS, CERTIFIED WETLAND SCIENTIST NUMBER 090, IN MARCH 2022 ACCORDING TO THE STANDARDS OF THE US ARMY CORPS OF ENGINEERS -1987 WETLANDS DELINEATION MANUAL; THE 2012 REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION; THE CODE OF ADMINISTRATIVE RULES, NH DEPARTMENT OF ENVIRONMENTAL SERVICES - WETLANDS BUREAU -ENV WT 100-900 AND ARTICLE 10 OF THE PORTSMOUTH ZONING ORDINANCE. PREDOMINANT HYDRIC SOILS WERE IDENTIFIED UTILIZING THE FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4, JUNE 2020 AND THE FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 8, 2016. THE STATUS OF VEGETATION AS HYDROPHYTIC WAS DETERMINED ACCORDING TO THE U.S. ARMY CORPS OF ENGINEERS - NORTHCENTRAL AND NORTHEAST 2020 REGIONAL WETLAND PLANT LIST. COPIES OF SITE PLANS DEPICTING THE WETLAND DELINEATION WHICH HAVE BEEN REVIEWED BY THE WETLAND SCIENTIST ARE INDIVIDUALLY STAMPED, SIGNED AND DATED. THIS NOTE HAS BEEN CUSTOMIZED FOR THIS PROJECT. NO RECENT INSPECTION HAS BEEN CONDUCTED TO VERIFY THE 2022 SITE CONDITIONS.

STATE OF NEW HAMPSHIRE
MARC JACOBS
SEPTEMBER 24, 2026
No. 090
CERTIFIED WETLAND SCIENTIST

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
SCALE: 1" = 30'

STATE OF NEW HAMPSHIRE
R. ALEX ROSS
No. 9409
LICENSED
PROFESSIONAL ENGINEER

ISS.	DATE	DESCRIPTION OF ISSUE
4	9/24/2026	REVISIONS
3	9/21/2026	TAC SUBMITTAL
2	9/1/2026	TAC WORKSESSION
1	7/21/2026	ZBA SUBMITTAL

SCALE 1" = 30'
CHECKED A.ROSS
DRAWN D.D.D.
CHECKED

ROSS ENGINEERING, LLC
Civil/Structural Engineering & Surveying
650 Islington St.
Portsmouth, NH 03801
(603) 433-7560

CLIENT
ROAD TO THE WEST, LLC
ALEXANDER B. CHOQUETTE
140 WEST ROAD
PORTSMOUTH, NH 03801

TITLE
EXISTING CONDITIONS

140 WEST RD
PORTSMOUTH, NH 03801
TAX MAP 252, LOT 2-13

JOB NUMBER	DWG. NO.	ISSUE
21-168	1 OF 10	4

ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.

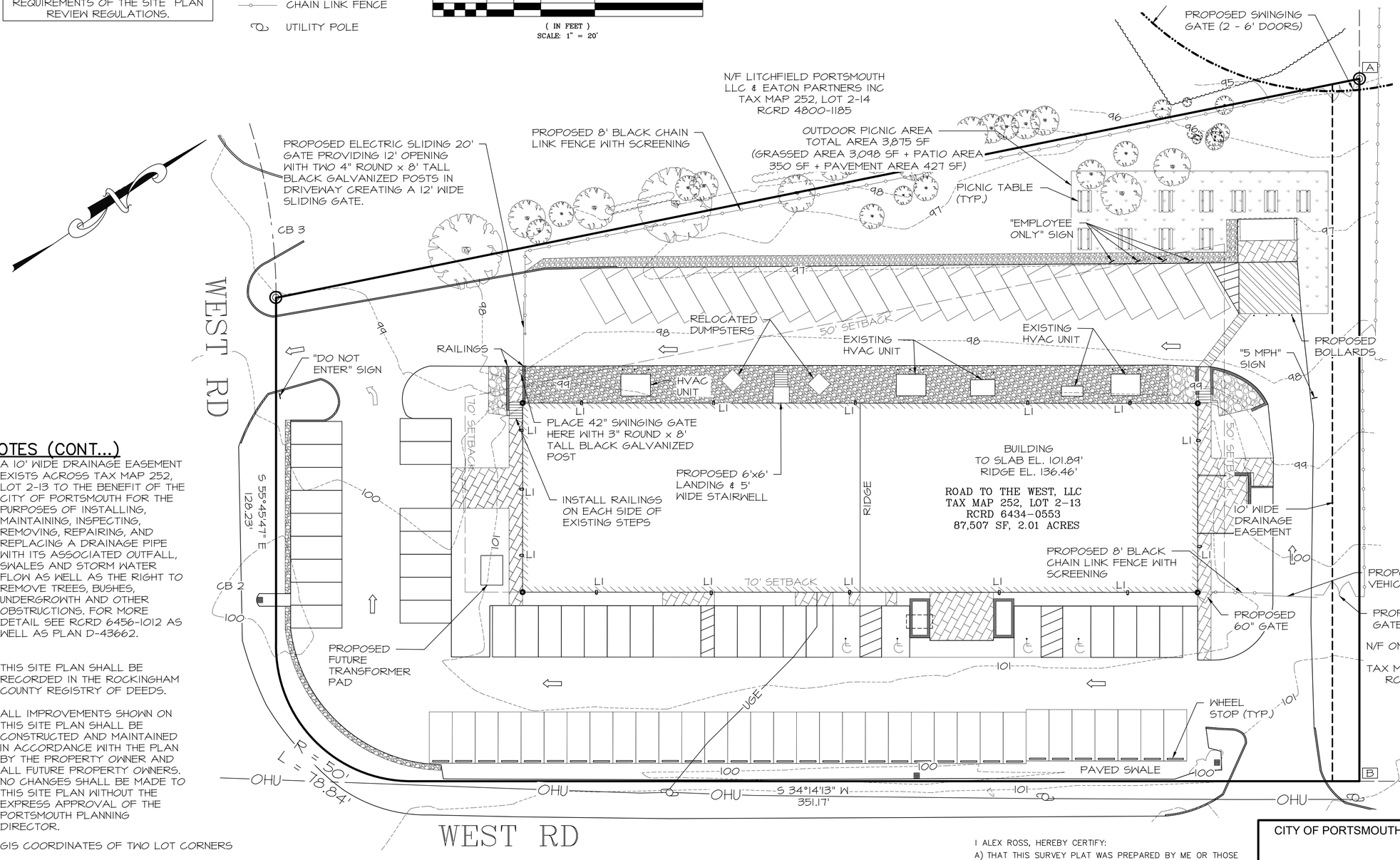
LEGEND

- MONUMENT FOUND
- CHAIN LINK FENCE
- UTILITY POLE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
SCALE: 1" = 20'



NOTES

1) OWNER OF RECORD:
ROAD TO THE WEST, LLC
TAX MAP 252, LOT 2-13
140 WEST RD
PORTSMOUTH, NH 03801
RCRD: 6434-0553
AREA: 87,507 SF, 2.01 ACRES

2) PARCEL IS IN INDUSTRIAL ZONE (I):
MINIMUM LOT AREA.....2 ACRES
MINIMUM FRONTAGE.....200 FT
MINIMUM DEPTH.....200 FT
SETBACKS:
FRONT.....70 FT
SIDE.....50 FT
REAR.....50 FT
MAXIMUM BUILDING HEIGHT.....70 FT
MAXIMUM BUILDING COVERAGE.....50%
MINIMUM OPEN SPACE.....20%

3) BUILDING COVERAGE
EXISTING
BUILDING 17,500 SF
TOTAL 17,500 SF
COVERAGE = 17500 / 87507 = 20.0%

PROPOSED
BUILDING.....17,500 SF
LANDING & STAIRS >18" 54 SF
TOTAL 17,554 SF
COVERAGE = 17554 / 87507 = 20.1%

4) OPEN SPACE
EXISTING
SEE EXISTING OPEN SPACE DETAIL ON DRAWING 7. EXISTING OPEN SPACE IS 21,485.

OPEN SPACE = 21485 / 87507 = 24.6%

PROPOSED
SEE PROPOSED OPEN SPACE DETAIL ON DRAWING 7. PROPOSED OPEN SPACE IS 21,510 SF.

OPEN SPACE = 20,337 / 87507 = 23.2%

NOTES (CONT...)

5) A 10' WIDE DRAINAGE EASEMENT EXISTS ACROSS TAX MAP 252, LOT 2-13 TO THE BENEFIT OF THE CITY OF PORTSMOUTH FOR THE PURPOSES OF INSTALLING, MAINTAINING, INSPECTING, REMOVING, REPAIRING, AND REPLACING A DRAINAGE PIPE WITH ITS ASSOCIATED OUTFALL, SWALES AND STORM WATER FLOW AS WELL AS THE RIGHT TO REMOVE TREES, BUSHES, UNDERGROWTH AND OTHER OBSTRUCTIONS. FOR MORE DETAIL SEE RCRD 6456-1012 AS WELL AS PLAN D-43662.

6) THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.

7) ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.

8) GIS COORDINATES OF TWO LOT CORNERS

	NORTHING	EASTING
A - NW CORNER	199566.875	1222215.580
B - NE CORNER	199492.909	1222464.837

I ALEX ROSS, HEREBY CERTIFY:

A) THAT THIS SURVEY PLAT WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION.

B) THIS PLAN IS A RESULT OF FIELD SURVEY PERFORMED BY DDD, & ICA DURING MARCH OF 2022. THE ERROR OF CLOSURE IS BETTER THAN 1/15,000. SURVEY PER NHLSA STANDARDS; CATEGORY 1, CONDITION 1.

C) "I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUB-DIVISION 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."

R. ALEX ROSS DATE

CITY OF PORTSMOUTH PLANNING BOARD

CHAIRPERSON DATE

STATE OF NEW HAMPSHIRE
R. ALEX ROSS No. 9409
LICENSED
PROFESSIONAL ENGINEER

ISS.	DATE	DESCRIPTION OF ISSUE
4	9/24/2026	REVISIONS
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SCALE 1" = 20'
CHECKED A.ROSS
DRAWN D.D.D.
CHECKED

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Portsmouth, NH 03801
(603) 433-7560

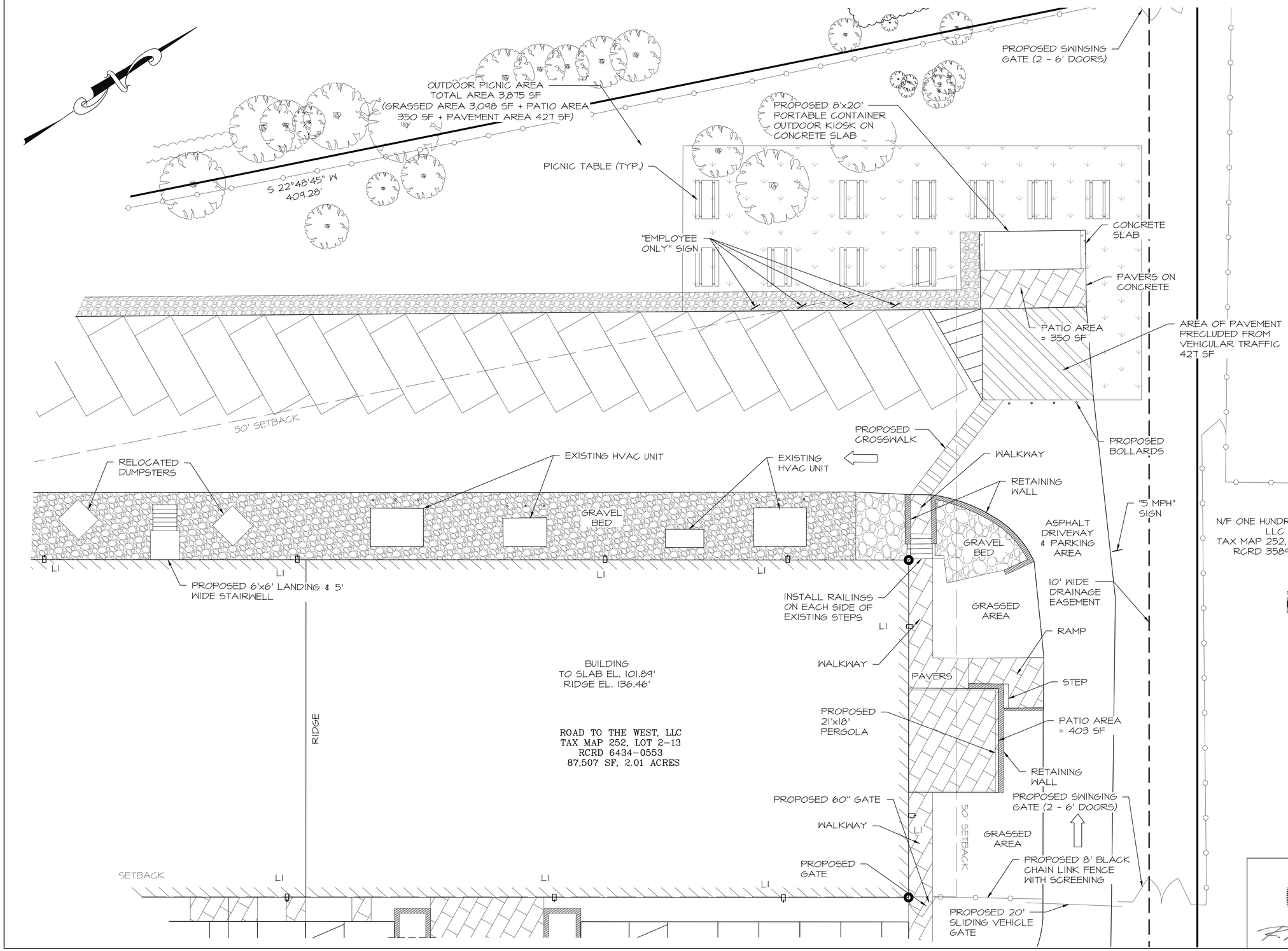
CLIENT
ROAD TO THE WEST, LLC
ALEXANDER B. CHOQUETTE
140 WEST ROAD
PORTSMOUTH, NH 03801

TITLE

SITE PLAN

140 WEST RD
PORTSMOUTH, NH 03801
TAX MAP 252, LOT 2-13

JOB NUMBER	DWG. NO.	ISSUE
21-168	2 OF 10	4



ISS.	DATE	DESCRIPTION OF ISSUE
4	10/2/2026	REVISIONS
3	9/21/2026	TAC SUBMITTAL
2	9/1/2026	TAC WORKSESSION
1	7/21/2026	ZBA SUBMITTAL

SCALE 1" = 10'
CHECKED A.ROSS
DRAWN D.D.D.
CHECKED

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CLIENT
ROAD TO THE WEST, LLC
ALEXANDER B. CHOQUETTE
140 WEST ROAD
PORTSMOUTH, NH 03801

TITLE

SITE PLAN

140 WEST RD
PORTSMOUTH, NH 03801
TAX MAP 252, LOT 2-13

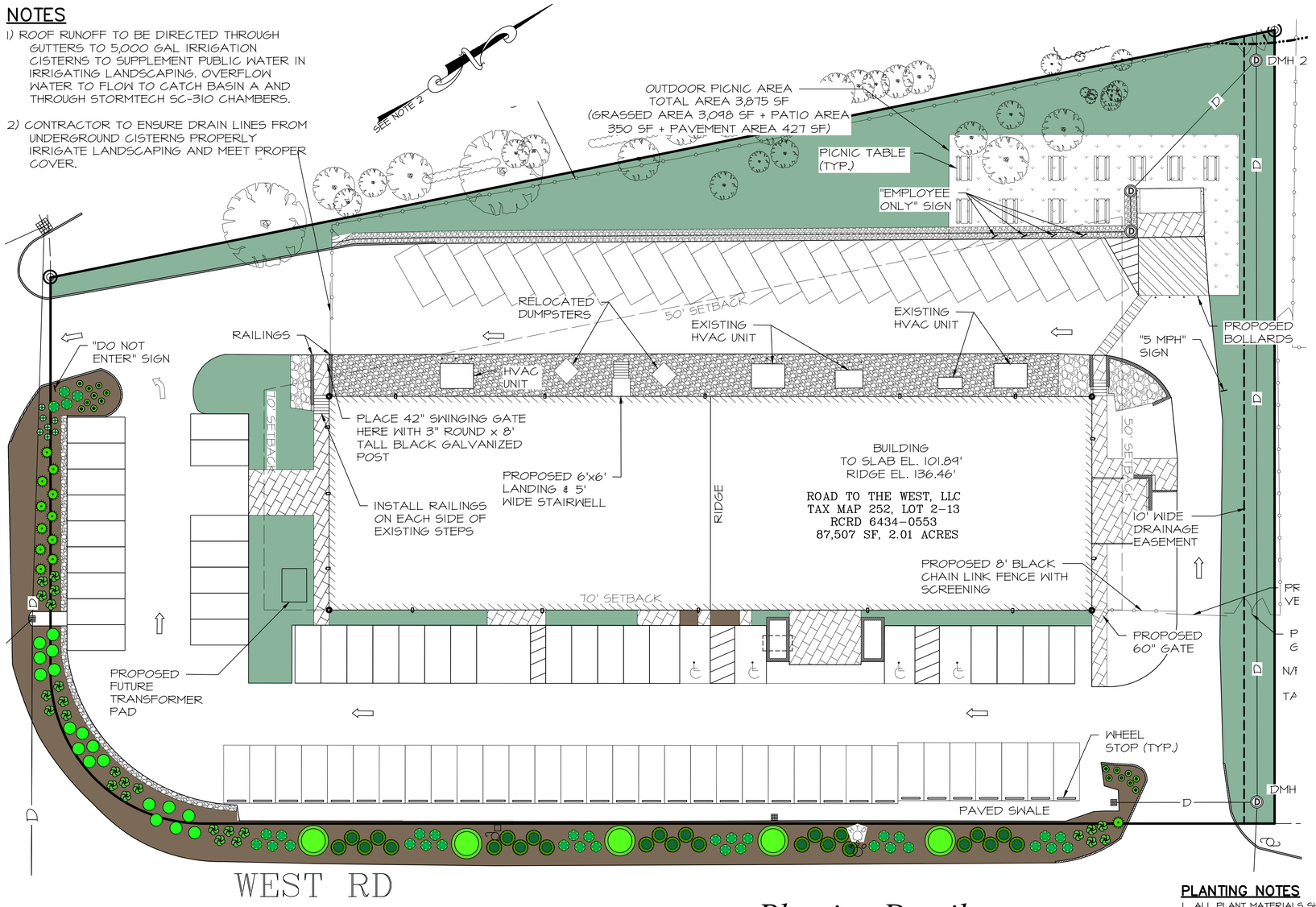
STATE OF NEW HAMPSHIRE R. ALEX ROSS No. 9409 LICENSED PROFESSIONAL ENGINEER

JOB NUMBER	DWG. NO.	ISSUE
21-168	3 OF 10	4

NOTES

1) ROOF RUNOFF TO BE DIRECTED THROUGH GUTTERS TO 5,000 GAL IRRIGATION CISTERNS TO SUPPLEMENT PUBLIC WATER IN IRRIGATING LANDSCAPING. OVERFLOW WATER TO FLOW TO CATCH BASIN A AND THROUGH STORMTECH SC-310 CHAMBERS.

2) CONTRACTOR TO ENSURE DRAIN LINES FROM UNDERGROUND CISTERNS PROPERLY IRRIGATE LANDSCAPING AND MEET PROPER COVER.



LEGEND

- SEDUM 'AUTUMN JOY'
- HEMEROCALLIS 'ROSY RETURNS'
- NIPPONANTHEMUM NIPPONICUM
- CALAMAGROSTIS ACUTIFLORA
- SYRINGA X PATULA 'BABY KIM'
- PINUS MUGO 'MOPS'
- ROSA RUGOSA
- AMELANCHIER CANADENSIS 'GLENFORM'
- LAWN

NOTES

1) THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.

2) ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.

INSTALLATION REQUIREMENTS

1. WHEN REPLACING EXISTING PAVED AREAS WITH AREAS OF LANDSCAPING, PAVEMENT MUST BE REMOVED ALONG WITH 18" OF SUBGRADE, APPROPRIATE LANDSCAPING LOAM MAY THEN BE ADDED WITHIN CURBING.

2. THE INSTALLATION OF A DRIP IRRIGATION SYSTEM IS NECESSARY TO ASSURE HEALTHY PLANTS LONG TERM.

3. IN CASE OF DROUGHT (DEFINED AS TWO WEEK PERIOD WITHOUT RAIN) ALL NEW PLANTS SHALL BE WATERED THROUGH NOVEMBER 30TH DURING THE FIRST SEASON IN WHICH THEY ARE INSTALLED. THEY SHALL BE WATERED ONE TIME PER DAY FOR THE FIRST WEEK AFTER INSTALLATION AND THREE TIMES PER WEEK FOR THE REMAINDER OF THE SEASON. AFTER THE FIRST SEASON WHEN THE ROOTS OF THE PLANTS ARE ESTABLISHED THEY WILL REQUIRE DEEP WATERING ONCE A WEEK.

4. LAWN SEEDING INFORMATION:

   LAWN SEED MIXTURE:

	LB/ACRE	LB/1000SF
TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
RED CLOVER (ALSIKE)	20	0.45
TOTAL	48	1.35

   LIME: AT 2 TONS PER ACRE OR 100 LBS PER 1,000 S.F.
   FERTILIZER: 10 20 20 (NITROGEN, PHOSPHATE, POTASH AT 500# PER ACRE.
   MULCH: HAY OR CLEAN STRAW; 2 TONS/ACRE OR 2 BALES/1000 S.F.

   GRADING AND SHAPING:
   SLOPES SHALL NOT BE STEEPER THAN 2 TO 1. 3 TO 1 OR FLATTER SLOPES ARE PREFERRED.

   SEEDBED PREPARATION:
   SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
   STONES LARGER THAN FOUR INCHES AND TRASH SHOULD BE REMOVED.
   SOD SHOULD BE TILLED TO A DEPTH OF FOUR INCHES TO PREPARE SEEDBED. FERTILIZER & LIME SHOULD BE MIXED INTO THE SOIL.
   THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.

5. LAWN PREPARATION AND SEEDING SHALL TAKE PLACE AFTER ALL PLANTS ARE INSTALLED.

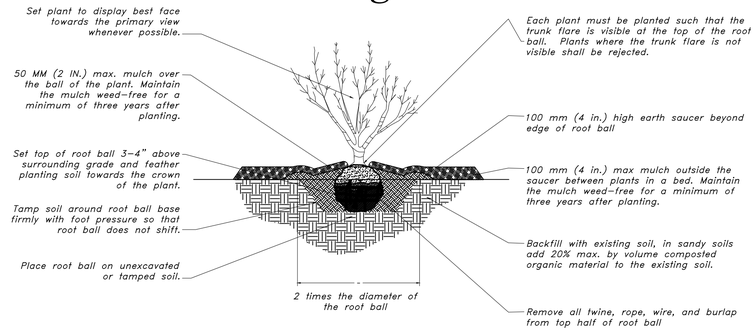
6. CITY ARBORIST MUST BE PRESENT DURING INSTALLATION.

CITY OF PORTSMOUTH RIGHT-OF-WAY TREE PLANTING REQUIREMENTS

1) ALL PLANTINGS IN THE CITY OF PORTSMOUTH RIGHT OF WAY MUST FOLLOW THE CITY OF PORTSMOUTH TREE PLANTING REQUIREMENTS ITEMS I-II.

BOTANICAL NAME	COMMON NAME	SIZE	QTY:
AMELANCHIER CANADENSIS 'GLENFORM'	RAINBOW PILLAR SERVICEBERRY	2-2.5" C	5
CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'	FEATHER REED GRASS	1 GAL	12
HEMEROCALLIS 'ROSY RETURNS'	RE-BLOOMING DAYLILY	1 QT	17
NIPPONANTHEMUM NIPPONICUM	MONTAUK DAISY	1 QT	18
PINUS MUGO 'MOPS'	MOPS MUGO PINE	2 GAL	34
ROSA RUGOSA	SALT SPRAY ROSE	2 GAL	25
SEDUM 'AUTUMN JOY'	AUTUMN JOY STONECROP	1 QT	7
SYRINGA X PATULA 'BABY KIM'	DWARF KOREAN LILAC	2 GAL	25

Planting Detail



PLANTING NOTES

1. ALL PLANT MATERIALS SHALL BE FIRST QUALITY NURSERY GROWN STOCK.

2. ALL PLANTS SHALL BE PLANTED IN ACCORDANCE WITH NEW HAMPSHIRE LANDSCAPE ASSOCIATION STANDARDS AND GUARANTEED FOR ONE YEAR BY THE LANDSCAPE CONTRACTOR.

3. AFTER PLANTING, ALL PLANTS SHALL BE FLOODED AT THE BASE WITH WATER FROM A SLOW-RUNNING HOSE FOR 5 MINUTES EACH.

4. ALL PLANTS SHALL BE INSTALLED BEFORE ANY GRASS IS SEEDED.

5. ALL SHRUBS AND PLANTING BEDS SHALL BE MULCHED WITH 3" OF DARK BROWN AGED BARK MULCH AS A FINAL STEP. MULCH MUST BE KEPT 2" AWAY FROM BASE OF EACH PLANT.

6. THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR, AND REPLACEMENT OF ALL REQUIRED SCREENING AND LANDSCAPE MATERIALS.

7. ALL REQUIRED PLANT MATERIALS SHALL BE TENDED AND MAINTAINED IN A HEALTHY GROWING CONDITION, REPLACED WHEN NECESSARY, AND KEPT FREE OF REFUSE AND DEBRIS. ALL REQUIRED FENCES AND WALLS SHALL BE MAINTAINED IN GOOD REPAIR.

8. THE PROPERTY OWNER SHALL BE RESPONSIBLE TO REMOVE AND REPLACE DEAD OR DISEASED PLANT MATERIALS IMMEDIATELY WITH THE SAME TYPE, SIZE, AND QUANTITY OF PLANT MATERIALS AS ORIGINALLY INSTALLED, UNLESS ALTERNATIVE PLANTINGS ARE REQUESTED, JUSTIFIED, AND APPROVED BY THE PLANNING BOARD OR PLANNING DIRECTOR.

9. MULCH USED WILL BE NON-COMBUSTIBLE OR APPROVED BY THE PORTSMOUTH FIRE DEPARTMENT

STATE OF NEW HAMPSHIRE
R. ALEX ROSS
No. 9409
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2	9/1/2026	TAC WORKSESSION
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SCALE 1" = 20'
CHECKED A.ROSS
DRAWN D.D.D.
CHECKED

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(603) 433-7560

CLIENT
ROAD TO THE WEST, LLC
ALEXANDER B. CHOQUETTE
140 WEST ROAD
PORTSMOUTH, NH 03801

TITLE
LANDSCAPE PLAN
140 WEST RD
PORTSMOUTH, NH 03801
TAX MAP 252, LOT 2-13

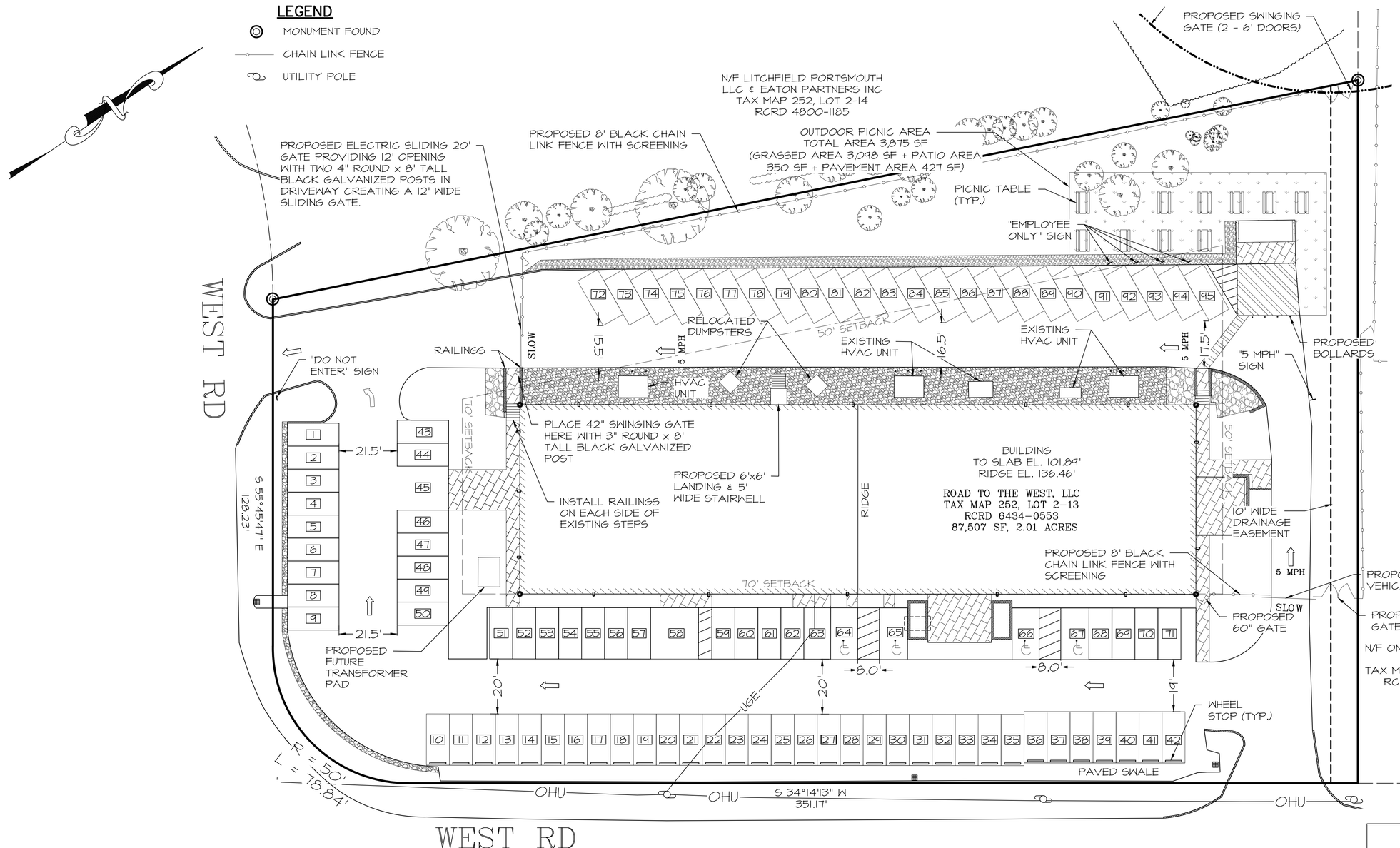
JOB NUMBER	DWG. NO.	ISSUE
21-168	4 OF 10	4

PARKING OCCUPANCY RATE TABLE

USE	WEEKDAY				WEEKEND					
	DAYTIME (8 AM - 5 PM)		EVENING (6 PM - MIDNIGHT)		DAYTIME (8 AM - 5 PM)		EVENING (6 PM - MIDNIGHT)		NIGHTIME (MIDNIGHT - 6 AM)	
	PARKING OCCUPANCY RATE	# REQUIRED SPACES	PARKING OCCUPANCY RATE	# REQUIRED SPACES	PARKING OCCUPANCY RATE	# REQUIRED SPACES	PARKING OCCUPANCY RATE	# REQUIRED SPACES	PARKING OCCUPANCY RATE	# REQUIRED SPACES
OFFICE	100%	5	20%	1	10%	1	5%	1	5%	1
EATING & DRINKING PLACES	70%	59	100%	84	80%	68	100%	84	10%	9
INDOOR RECREATION	40%	4	100%	10	80%	8	100%	10	10%	1
TOTAL SPACES		68		95		77		95		11

LEGEND

- MONUMENT FOUND
- CHAIN LINK FENCE
- UTILITY POLE



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
SCALE: 1" = 20'

NOTES

1) PARKING
AS PER PORTSMOUTH ZONING ORDINANCE 10.1112.321 THE FOLLOWING NUMBER OF PARKING SPACES ARE REQUIRED

- INDOOR RECREATION (4.30) - 1 PER 4 PERSONS MAXIMUM OCCUPANCY
- OFFICE (5.10-5.30) - 1 PER 350 SF GFA
- EATING & DRINKING PLACES - 1 PER 100 SF GFA

REQUIRED PARKING
- MAXIMUM OCCUPANCY OF INDOOR RECREATION= 40 PEOPLE
40 PEOPLE X 1 SPACE/4 PEOPLE = 10
- OFFICE GFA = 1,700 SF
1700 SF X 1 SPACE/350 SF = 4.9 = 5
- EATING & DRINKING PLACE GFA = 8,398 SF
8398 SF X 1 SPACE/100 SF = 84

AS PER PORTSMOUTH ZONING ORDINANCE 10.1112.60 THE MINIMUM PARKING REQUIREMENT SHALL BE OBTAINED BY MULTIPLYING THE REQUIREMENT FOR EACH LAND USE FOR EACH OCCUPANCY RATE AT THE FIVE DIFFERENT TIME PERIODS. THE MINIMUM REQUIREMENT SHALL BE THE HIGHEST OF THE FIVE TIME PERIOD TOTALS. SEE PARKING OCCUPANCY RATE TABLE FOR MORE DETAIL.

MINIMUM REQUIRED PARKING = 95 SPACES

PARKING SPACES PROVIDED = 95 SPACES

2) EXISTING PARKING SPACES & AISLE WIDTHS VARY IN SIZE. THIS PLAN SHOWS A LAYOUT WITHIN THE EXTENTS OF THE EXISTING PAVEMENT. SPACES SHOWN ON THIS PLAN ARE ALL CONFORMING IN SIZE (8.5'x19').

THE MINIMUM AISLE WIDTH FOR ONE-WAY TRAFFIC IS 24' FOR 90° PARKING AND 18' FOR 60° PARKING AS PER PORTSMOUTH ZONING ORDINANCE 10.1114.20.

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SCALE 1" = 20'
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140 WEST ROAD
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TITLE

PARKING PLAN

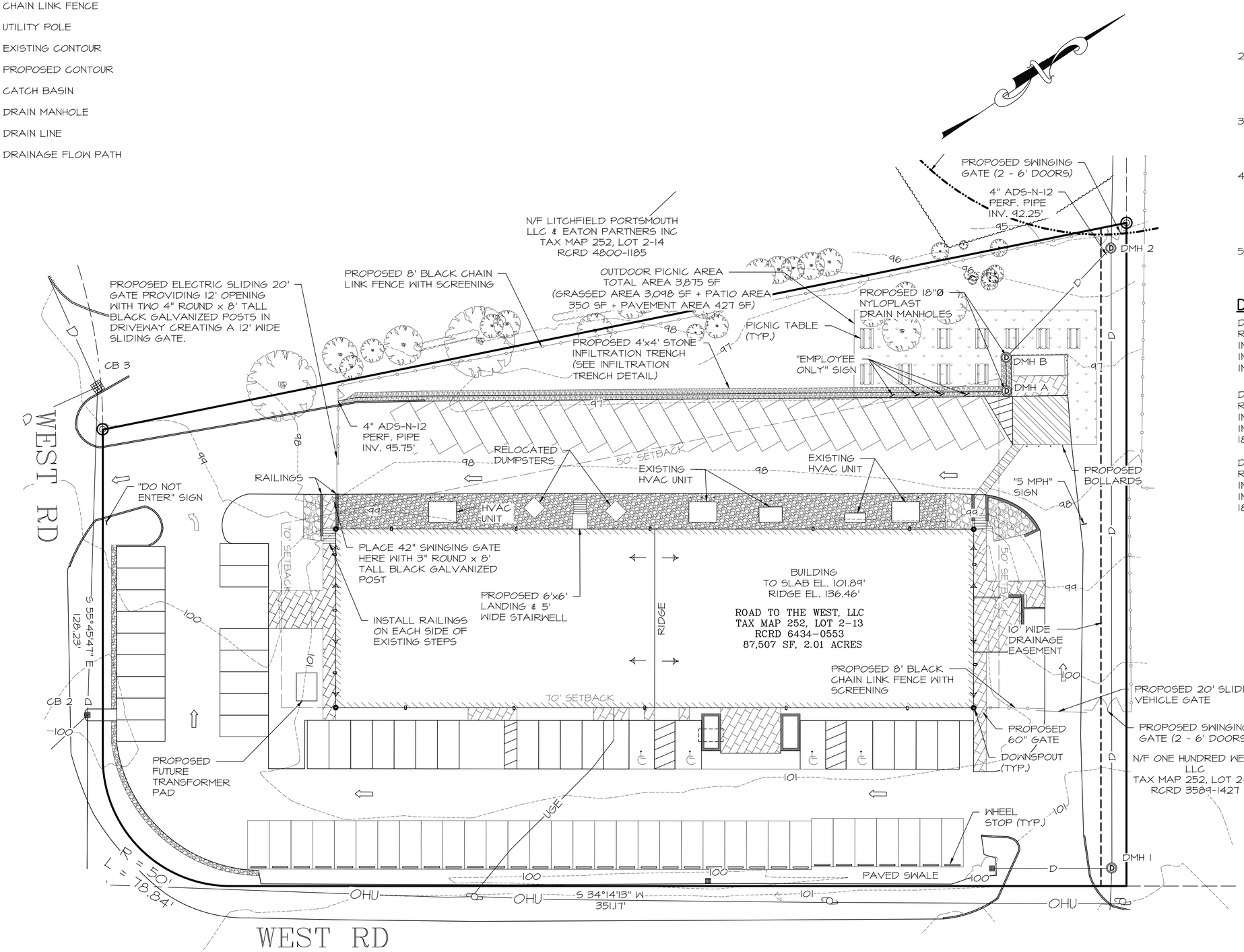
140 WEST RD
PORTSMOUTH, NH 03801
TAX MAP 252, LOT 2-13

STATE OF NEW HAMPSHIRE
R. ALEX ROSS
No. 9409
LICENSED
PROFESSIONAL ENGINEER

JOB NUMBER	DWG. NO.	ISSUE
21-168	5 OF 10	4

LEGEND

- MONUMENT FOUND
- CHAIN LINK FENCE
- UTILITY POLE
- 100 EXISTING CONTOUR
- 100 PROPOSED CONTOUR
- CATCH BASIN
- DRAIN MANHOLE
- D DRAIN LINE
- DRAINAGE FLOW PATH



NOTES:

1) A 4' WIDE, 4' TALL STONE INFILTRATION TRENCH IS PROPOSED TO COLLECT RUNOFF ALONG THE WEST SIDE OF THE PARKING LOT. WATER WILL BE DETAINED AND SLOWLY RELEASED, WITH EXCESS WATER BEING DIRECTED THROUGH A 4" UNDERDRAIN TO DMH 2.

2) THE STONE INFILTRATION TRENCH WILL BE 40-42" OF ¾"-1½" WASHED STONE TOPPED WITH 6-8" OF RIVER ROCK. ENSURE THE WASHED STONE IS WRAPPED WITH MIRAFI 140N FILTER FABRIC OR EQUAL.

3) ENSURE THAT THE UNDERDRAIN MAINTAINS A POSITIVE SLOPE OF AT LEAST 1/16"/' AND THAT THE UNDERDRAIN IS PLACED AT A MINIMUM 4" ABOVE THE BOTTOM OF THE STONE TRENCH.

4) A 4" PVC PIPE CONNECTION TO DMH 2 PREVIOUSLY EXISTED AND MAY STILL BE PRESENT. CONTRACTOR TO UTILIZE EXISTING CONNECTION IF POSSIBLE. CONTRACTOR TO VERIFY CONNECTION AND INSTALL KOR N SEAL BOOT OR EQUAL IF NECESSARY.

5) GUTTERS & ROOF DOWNSPOUTS TO BE INSTALLED & DISCHARGE INTO 6'X6'X4' DEEP STONE DRYWALL BEDS WITH SIMILAR STONE SPECIFICATIONS TO INFILTRATION TRENCH.

DRAIN MANHOLES

DMH #2
RIM EL. 95.64
INV. IN 92.25 (4" PERF. ADS-N-12) - PROPOSED LINE
INV. IN 90.50 (24" RCP)
INV. OUT 90.47 (24" RCP)

DMH A
RIM EL. 97.00
INV. IN 94.58 (4" ADS-N-12 PERF.)
INV. OUT 94.50 (4" ADS-N-12 PERF.)
18"Ø NYLOPLAST

DMH B
RIM EL. 97.00
INV. IN 94.33 (4" ADS-N-12 PERF.)
INV. OUT 94.25 (4" ADS-N-12 PERF.)
18"Ø NYLOPLAST

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
SCALE: 1" = 20'

ISS.	DATE	DESCRIPTION OF ISSUE
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STATE OF NEW HAMPSHIRE R. ALEX ROSS No. 9409 LICENSED PROFESSIONAL ENGINEER

TITLE
GRADING & DRAINAGE PLAN
140 WEST RD
PORTSMOUTH, NH 03801
TAX MAP 252, LOT 2-13

JOB NUMBER	DWG. NO.	ISSUE
21-168	6 OF 10	4

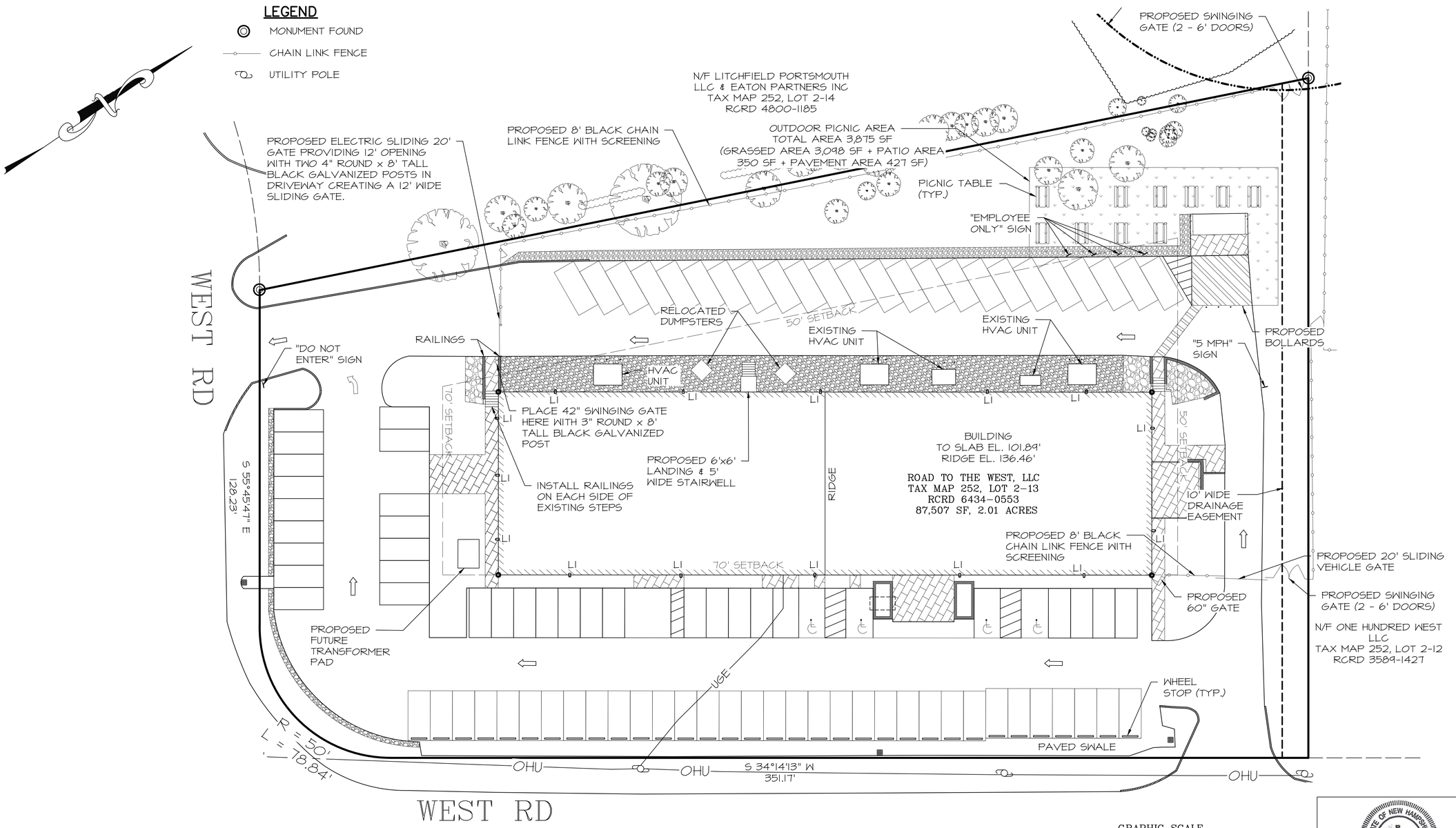
LIGHTING SCHEDULE

LABEL	SPECIFICATION
LI	WALL PACK - LUMARK XTOR8B

*LI LIGHTS SHOWN ARE EXISTING LIGHTS

LEGEND

- MONUMENT FOUND
- CHAIN LINK FENCE
- UTILITY POLE



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
SCALE: 1" = 20'

STATE OF NEW HAMPSHIRE
R. ALEX ROSS
No. 9409
LICENSED
PROFESSIONAL ENGINEER

ISS.	DATE	DESCRIPTION OF ISSUE
4	9/24/2026	REVISIONS
3	9/21/2026	TAC SUBMITTAL
2	9/1/2026	TAC WORKSESSION
1	7/21/2026	ZBA SUBMITTAL

SCALE 1" = 20'
CHECKED A.ROSS
DRAWN D.D.D.
CHECKED

ROSS ENGINEERING, LLC
Civil/Structural Engineering & Surveying
650 Islington St.
Portsmouth, NH 03801
(603) 433-7560

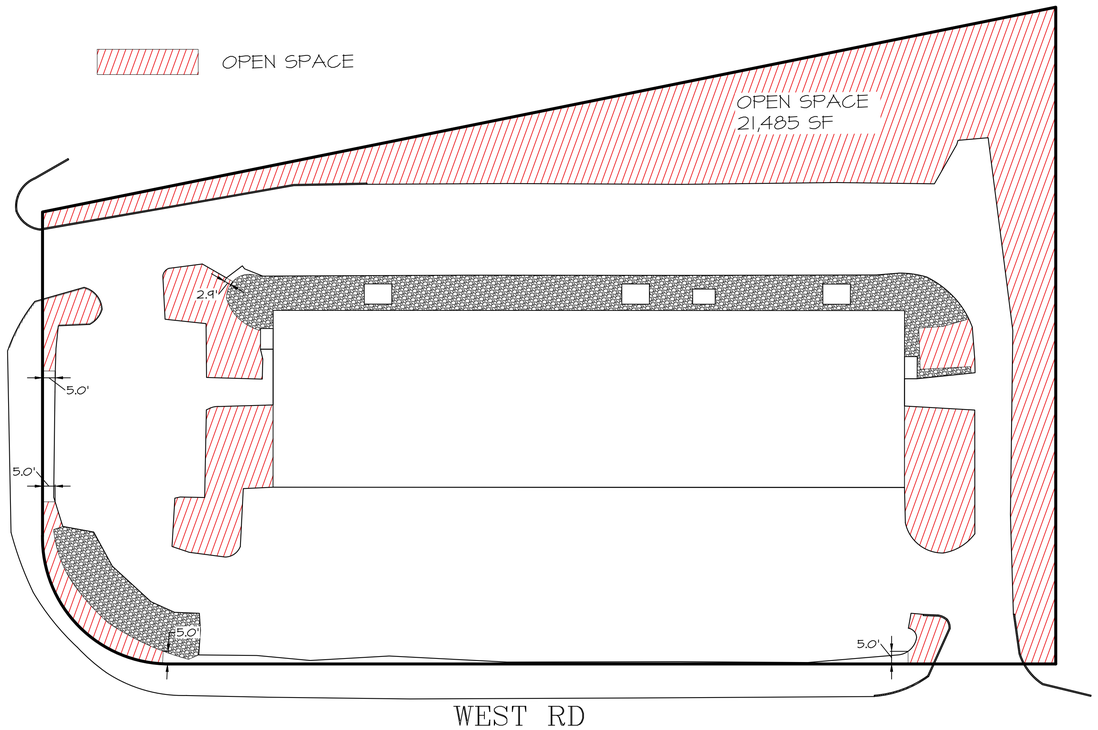
CLIENT
ROAD TO THE WEST, LLC
ALEXANDER B. CHOQUETTE
140 WEST ROAD
PORTSMOUTH, NH 03801

TITLE

LIGHTING PLAN

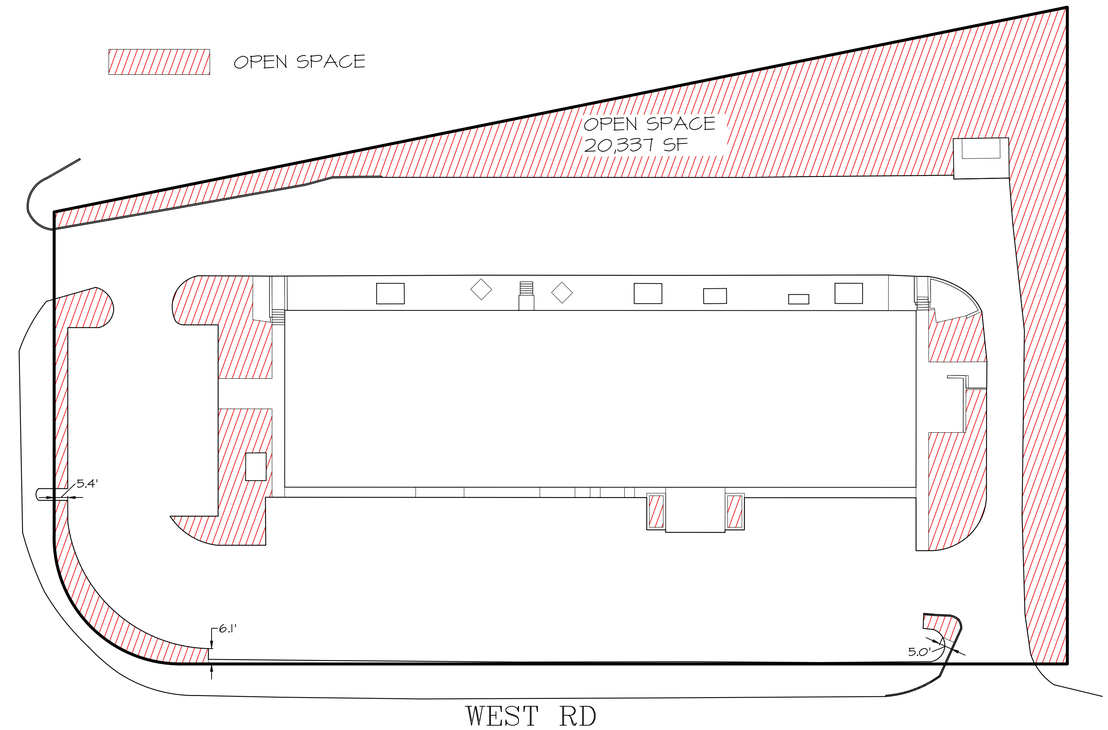
140 WEST RD
PORTSMOUTH, NH 03801
TAX MAP 252, LOT 2-13

JOB NUMBER	DWG. NO.	ISSUE
21-168	7 OF 10	4



EXISTING OPEN SPACE DETAIL

SCALE : 1" = 30'



PROPOSED OPEN SPACE DETAIL

SCALE : 1" = 30'

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
SCALE: 1" = 30'

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OPEN SPACE PLAN

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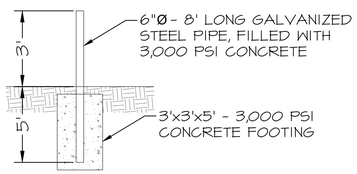
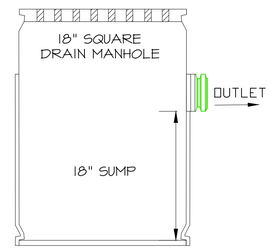
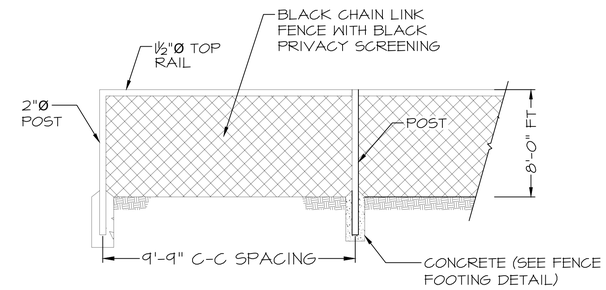


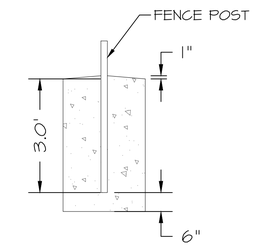
BOLLARD DETAIL
SCALE: NTS



TYP. 18" ADS NYLOPLAST BASIN
N.T.S.



CHAIN LINK FENCE DETAIL
SCALE: NTS



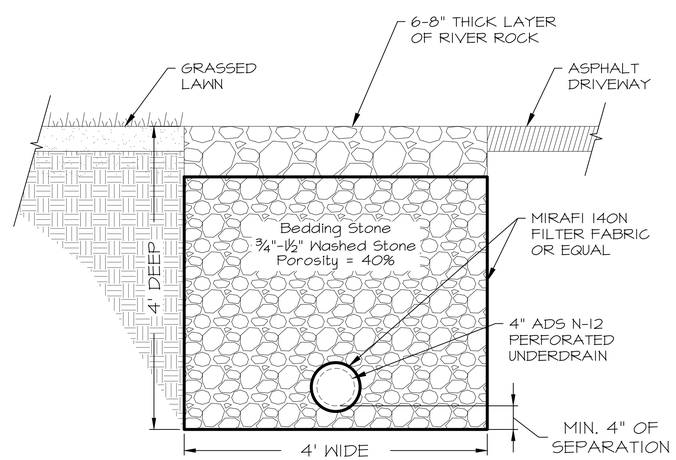
FENCE FOOTING DETAIL
SCALE: NTS

R5-1
30"x30"
RED & WHITE

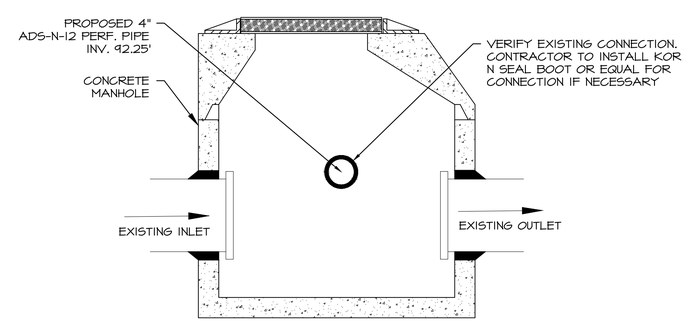
12"x18"
BLACK & WHITE

R2-1
12"x18"
BLACK & WHITE

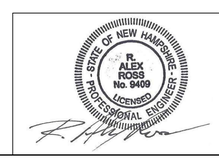
SIGN DETAIL
SCALE: NTS



INFILTRATION TRENCH DETAIL
N.T.S.



DRAIN MANHOLE #2
N.T.S.



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PORTSMOUTH, NH 03801
TAX MAP 252, LOT 2-13

JOB NUMBER	DWG. NO.	ISSUE
21-168	9 OF 10	4

EROSION AND SEDIMENTATION CONTROL CONSTRICTION PHASING AND SEQUENCING

1. SEE "EROSION AND SEDIMENTATION CONTROL GENERAL NOTES" WHICH ARE TO BE AN INTEGRAL PART OF THIS PROCESS.
2. INSTALL SILTSOXX FENCING AS PER DETAILS AND AT SEDIMENT MIGRATION.
3. CONSTRUCT TREATMENT SWALES , LEVEL SPREADERS AND DETENTION STRUCTURES AS DEPICTED ON DRAWINGS.
4. STRIP AND STOCKPILE TOPSOIL. STABILIZE PILES OF SOIL CONSTRUCTION MATERIAL & COVER WHERE PRACTICABLE.
5. MINIMIZE DUST THROUGH APPROPRIATE APPLICATION OF WATER OR OTHER DUST SUPPRESSION TECHNIQUES ON SITE.
6. ROUGH GRADE SITE. INSTALL CULVERTS AND ROAD DITCHES.
7. FINISH GRADE AND COMPACT SITE.
8. RE-SPREAD AND ADD TOPSOIL TO ALL ROADSIDE SLOPES. TOTAL TOPSOIL THICKNESS TO BE A MINIMUM OF FOUR TO SIX INCHES.
9. STABILIZE ALL AREAS OF BARE SOIL WITH MULCH AND SEEDING.
10. RE-SEED PER EROSION AND SEDIMENTATION CONTROL GENERAL NOTES.
11. SILT SOXX FENCING TO REMAIN AND BE MAINTAINED FOR TWENTY FOUR MONTHS AFTER CONSTRUCTION TO ENSURE ESTABLISHMENT OF ADEQUATE SOIL STABILIZATION AND VEGETATIVE COVER. ALL SILT SOXX FENCING ARE THEN TO BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.
12. PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS.
13. ALL TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC. MUST BE USED AS NECESSARY UNTIL AREAS ARE STABILIZED.
14. PONDS AND SWALES SHALL BE INSTALLED EARLY ON IN THE CONSTRUCTION SEQUENCE - BEFORE ROUGH GRADING THE SITE.
15. ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM
16. ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
17. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
18. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.
19. THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
20. LOT DISTURBANCE, OTHER THAN THAT 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.

PLANTING NOTES:

1. ALL PLANT MATERIALS SHALL BE FIRST QUALITY NURSERY GROWN STOCK.
2. ALL PLANTS SHALL BE PLANTED IN ACCORDANCE WITH NEW HAMPSHIRE LANDSCAPE ASSOCIATION STANDARDS AND GUARANTEED FOR ONE YEAR BY THE LANDSCAPE CONTRACTOR.
3. ALL TREES AND SHRUBS SHALL HAVE WATER SAUCERS BUILT AROUND THEIR BASES AND THESE SHALL BE MULCHED WITH 4" OF DARK BROWN AGED BARK MULCH. MULCH MUST BE KEPT 2" AWAY FROM THEIR TRUNKS.
4. ALL TREES AND SHRUBS SHALL BE PLANTED AND MULCHED BEFORE LAWN IS SEEDED.

MAINTENANCE REQUIREMENTS:

1. ALL TREES, SHRUBS, AND PERENNIALS WILL NEED TO BE WATERED THROUGH THANKSGIVING DURING THE FIRST SEASON IN WHICH THEY ARE INSTALLED.
2. AN UNDERGROUND DRIP IRRIGATION SYSTEM IS RECOMMENDED. IF AN UNDERGROUND DRIP IRRIGATION SYSTEM IS NOT INSTALLED, SOAKER HOSES WOUND THROUGHOUT PLANTING BEDS ARE ACCEPTABLE. ALTHOUGH OVERHEAD SPRINKLERS ARE RECOMMENDED FOR LAWN AREAS, THEY ARE NOT ACCEPTABLE FOR IRRIGATING TREES AND SHRUBS.

SEEDING AND STABILIZATION FOR LOAMED SITE:

FOR TEMPORARY & LONG TERM SEEDINGS USE AGWAY'S SOIL CONSERVATION GRASS SEED OR EQUAL
COMPONENTS: ANNUAL RYE GRASS, PERENNIAL RYE GRASS, WHITE CLOVER, 2 FESCUES, SEED AT A RATE OF 100 POUNDS PER ACRE,
FERTILIZER & LIME:
NITROGEN (N) 50 LBS/ACRE, PHOSPHATE (P205) 100 LBS/ACRE, POTASH (K20) 100 LBS/ACRE, LIME 2000 LBS/ACRE
MULCH:
HAY OR STRAW 1.5-2 TONS/ACRE

A) GRADING AND SHAPING
1) SLOPES SHALL NOT BE STEEPER THAN 2:1; 3:1 SLOPES OR FLATTER ARE PREFERRED. WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.

B) SEED BED PREPARATION
1) SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
2) STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.

EROSION AND SEDIMENTATION CONTROL GENERAL NOTES

1. CONDUCT ALL CONSTRUCTION IN A MANNER AND SEQUENCE THAT CAUSES THE LEAST PRACTICAL DISTURBANCE OF THE PHYSICAL ENVIRONMENT, BUT IN NO CASE SHALL EXCEED 2 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
2. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
3. ALL DITCHES, SWALES AND PONDS MUST BE STABILIZED PRIOR TO DIRECTING FLOW TO THEM.
4. ALL GROUND AREAS OPENED UP FOR CONSTRUCTION WILL BE STABILIZED WITHIN 24 HOURS OF EARTH-DISTURBING ACTIVITIES BEING CEASED, AND WILL BE FULLY STABILIZED NO LONGER THAN 14 DAYS AFTER INITIATION. (SEE NOTE 11 FOR DEFINITION OF STABLE). ALL SOILS FINISH GRADED MUST BE STABILIZED WITHIN SEVENTY TWO HOURS OF DISTURBANCE. ALL TEMPORARY OR LONG TERM SEEDING MUST BE APPLIED TO COMPLY WITH "WINTER CONSTRUCTION NOTES" (SEE WINTER CONSTRUCTION NOTES). EMPLOY TEMPORARY EROSION AND SEDIMENTATION CONTROL DEVICES AS DETAILED ON THIS PLAN AS NECESSARY UNTIL ADEQUATE STABILIZATION HAS BEEN ASSURED (SEE NOTE 11 FOR DEFINITION OF STABLE).
5. TEMPORARY & LONG TERM SEEDING: USE SEED MIXTURES, FERTILIZER, LIME AND MULCHING AS RECOMMENDED (SEE SEEDING AND STABILIZATION NOTES).
6. SILTSOXX FENCING TO BE SECURELY EMBEDDED AND STAKED AS DETAILED. WHEREVER POSSIBLE A VEGETATED STRIP OF AT LEAST TWENTY FIVE FEET IS TO BE KEPT BETWEEN SILTSOXX AND ANY EDGE OF WET AREA.
7. SEEDED AREAS WILL BE FERTILIZED AND RE-SEEDED AS NECESSARY TO ENSURE VEGETATIVE ESTABLISHMENT.
8. SEDIMENT BASIN(S), IF REQUIRED, TO BE CHECKED AFTER EACH SIGNIFICANT RAINFALL AND CLEANED AS NEEDED TO RETAIN DESIGN CAPACITY.
9. SILTSOXX FENCING WILL BE CHECKED REGULARLY AND AFTER EACH SIGNIFICANT RAINFALL. NECESSARY REPAIRS WILL BE MADE TO CORRECT UNDERMINING OR DETERIORATION OF THE BARRIER AS WELL AS CLEANING, REMOVAL AND PROPER DISPOSAL OF TRAPPED SEDIMENT.
10. TREATMENT SWALES WILL BE CHECKED WEEKLY AND REPAIRED WHEN NECESSARY UNTIL ADEQUATE VEGETATIVE COVER HAS BEEN ESTABLISHED.
11. AN AREA SHALL BE CONSIDERED FULLY STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
- BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED
- A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
- A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED.
- EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

11. ALL EROSION AND SEDIMENTATION CONTROL MEASURES IN THE PLAN SHALL MEET THE DESIGN BASED ON STANDARDS AND SPECIFICATIONS SET FORTH IN THE STORM WATER MANAGEMENT AND EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE (DECEMBER 2008 OR LATEST) PREPARED BY ROCKINGHAM COUNTY CONSERVATION DISTRICT, N.H. DES AND NRCS.

WINTER CONSTRUCTION NOTES

1. ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY 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 ON FROZEN GROUND AND SHALL BE COMPETED IN ADVANCE OF THAW OR SPRING MELT EVENT.;
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS;
3. AFTER OCTOBER 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 PER NHDOT ITEM 304.3.

LONG TERM SEEDING

*WELL TO MODERATELY WELL DRAINED SOILS

FOR CUT AND FILL AREA AND FOR WATERWAYS AND CHANNELS

SEEDING MIXTURE C

	lb/ACRE	lb/1000SF
TALL FESCUE	20	0.45
CREEPING RED FESCUE	20	0.45
RED CLOVER (ALSIKE)	20	0.45
TOTAL	48	1.35

LIME: AT 2 TONS PER ACRE OR 100 LBS PER 1,000 S.F.
FERTILIZER: 10 20 20 (NITROGEN, PHOSPHATE, POTASH AT 500# PER ACRE.
MULCH: HAY OR CLEAN STRAW; 2 TONS/ACRE OR 2 BALES/1000 S.F.

GRADING AND SHAPING:
SLOPES SHALL NOT BE STEEPER THAN 2 TO 1. 3 TO 1 OR FLATTER SLOPES ARE PREFERRED.
SEEDBED PREPARATION:
SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
STONES LARGER THAN FOUR INCHES AND TRASH SHOULD BE REMOVED.
SOD SHOULD BE TILLED TO A DEPTH OF FOUR INCHES TO PREPARE SEEDBED. FERTILIZER & LIME SHOULD BE MIXED INTO THE SOIL.
THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.

* FROM: STORMWATER MANAGEMENT AND EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE, DECEMBER 2008.

SHORT TERM SEEDING

*WELL TO MODERATELY WELL DRAINED SOILS

FOR CUT AND FILL AREA AND FOR WATERWAYS AND CHANNELS

SEEDING MIXTURE C

	#/ACRE	#/1000SF
FOR APRIL 1 - AUGUST 15		
ANNUAL RYE GRASS	40	1
FOR FALL SEEDING		
WINTER RYE	112	2.5

LIME: AT 1 TON PER ACRE OR 100 LBS PER 1,000 S.F.
FERTILIZER: 10 10 10 (NITROGEN, PHOSPHATE, POTASH AT 500# PER ACRE.
MULCH: HAY OR CLEAN STRAW; 2 TONS/ACRE OR 2 BALES/1000 S.F.

GRADING AND SHAPING:
SLOPES SHALL NOT BE STEEPER THAN 2 TO 1. 3 TO 1 OR FLATTER SLOPES ARE PREFERRED.
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* FROM: STORMWATER MANAGEMENT AND EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE, DECEMBER 2008.

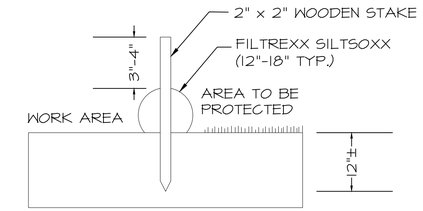
WHEN PROPOSED FOR ALTERATION DURING CONSTRUCTION AS BEING INFESTED WITH INVASIVE SPECIES SHALL BE MANAGED APPROPRIATELY USING THE DISPOSAL PRACTICES IDENTIFIED IN "NHDOT - BEST MANAGEMENT PRACTICES FOR ROADSIDE INVASIVE PLANTS -2008" AND "METHODS FOR DISPOSING NON-NATIVE INVASIVE PLANTS - UNH COOPERATIVE EXTENSION - 2010"

SEED MIXES SHALL NOT CONTAIN ANY SPECIES IDENTIFIED BY THE NEW HAMPSHIRE PROHIBITED INVASIVE PLANT SPECIES LIST.

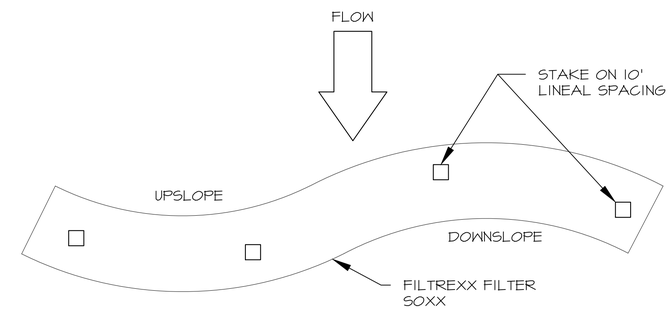
FILTREXX SILTSOXX NOTES

1) ALL MAERTIAL TO MEET FILTREXX SPECIFICATIONS

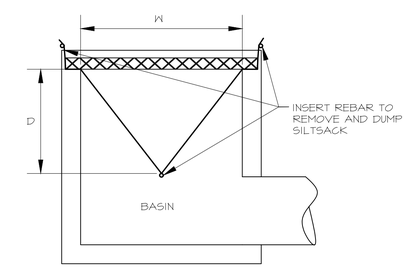
2) SILTSOXX COMPOST, SOIL, ROCK, SEED FILL TO MEET APPLICATION REQUIREMENTS



Filtrexx SiltSoxx Section
N.T.S.



Filtrexx SiltSoxx Plan View
N.T.S.



SILTSACK IS TO BE SECURED BY WEIGHT OF BASIN GRATE TO PREVENT SEDIMENT FROM ENTERING THE DRAIN LINE

INSTALL SILTSACK TO CATCH BASINS 1, 2, & 3 PRIOR TO CONSTRUCTION & TO CATCH BASINS A, B, C & D DURING CONSTRUCTION. DO NOT REMOVE SILTSACK UNTIL CONSTRUCTION IS COMPLETE.

Siltsack
N.T.S.

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EROSION CONTROL PLAN
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TAX MAP 252, LOT 2-13

JOB NUMBER	DWG. NO.	ISSUE
21-168	10 OF 10	4

GENERAL CODE COMPLIANCE REVIEW

140 WEST ROAD
PORTSMOUTH, NH 03801

PROJECT DATA:

USES INCLUDE: RESTAURANT, FUNCTION ROOM, INDOOR RECREATION, AND OUTDOOR DINING. RECREATIONAL ACTIVITIES INCLUDE, AMONG OTHER THINGS, GOLF AND SPORTS SIMULATORS, RACING SIMULATORS, AXE THROWING, BILLIARDS, ARCADE GAMES, AND A LOUNGE AREA. A COMMERCIAL KITCHEN AND TWO BARS ARE PROVIDED TO SUPPORT THE VARIOUS USES.

STATE BUILDING CODE:

2021 INTERNATIONAL BUILDING CODE (IBC)

LIFE SAFETY CODE:

2024 NATIONAL FIRE PROTECTION AGENCY 101 (NFPA 101)

2024 FIRE CODE NFPA 1 AMENDED BY SAF-FMO300

STATE ENERGY CODE:

2018 INTERNATIONAL ENERGY CONSERVATION CODE (2015 IECC) WITH NEW HAMPSHIRE AMENDMENTS

STATE MECHANICAL CODE:

2021 INTERNATIONAL MECHANICAL CODE (2015 IMC) WITH NEW HAMPSHIRE AMENDMENTS

STATE ELECTRICAL CODE:

2023 NATIONAL ELECTRICAL CODE (NEC 2020 NFPA) WITH NEW HAMPSHIRE AMENDMENTS

STATE PLUMBING CODE:

2021 INTERNATIONAL PLUMBING CODE (2015 IPC) WITH NEW HAMPSHIRE AMENDMENTS

EXISTING BUILDING CODE:

2021 INTERNATIONAL EXISTING BUILDING CODE (2018 IEBC) WITH NEW HAMPSHIRE AMENDMENTS

STATE ACCESSIBILITY CODE:

THE ARCHITECTURAL BARRIER FREE DESIGN CODE FOR THE STATE OF NH
2017 ADA STANDARDS FOR ACCESSIBLE DESIGN

CODE REVIEW

GENERAL BUILDING INFO			CODE SECTION REFERENCE
OCCUPANCY USE GROUP	(B) BUSINESS, (A-2) ASSEMBLY (S-1) STORAGE		IBC, CH 3
	ASSEMBLY, BUSINESS, STORAGE		NFPA101, CH 6 & CH 26
CONSTRUCTION TYPE	TYPE 2-B		IBC 602.4
FIRE SPRINKLER SYSTEM	YES, NFPA 13, EXISTING		IBC 903; NFPA 101: 7.1.11
FIRE ALARM	YES, EXISTING		IBC 907; NFPA 101: 4.5.4
MIXED USE	NONSEPARATED OCCUPANCIES- A-2 MOST RESTRICTIVE		IBC 508.3.3; NFPA 101: 6.1.14.3
BUILDING HEIGHT	ALLOWABLE: 75 FEET	ACTUAL: 20 FEET +/- (MID SLOPE)	IBC 504, TABLE 504.3
STORIES(S)	ALLOWABLE: 3	ACTUAL: ONE STORY	IBC 504, TABLE 504.4
AREA	ALLOWABLE: 38,000 SF	ACTUAL: 17,475 SF	IBC 506, TABLE 506.2
AREA CALCULATIONS	N/A		IBC 506
OCCUPANT LOAD	377 (SEE LIFE SAFETY PLAN)		IBC TABLE 1004.5; NFPA 101: 7.3.1
NUMBER OF EXITS	REQUIRED: 2	ACTUAL: 6	IBC TABLE 1006.3.1
FIRE RATINGS	TYPE 2B CONSTRUCTION		IBC TABLE 601
EXTERIOR BEARING WALLS	0 HOUR		
INTERIOR BEARING WALLS	0 HOUR		
NON-BEARING INTERIOR WALLS	0 HOUR		
FLOOR CONSTRUCTION	0 HOUR		
ROOF CONSTRUCTION	0 HOUR		
STRUCTURAL FRAME	0 HOUR		
MEANS OF EGRESS REQUIREMENTS			IBC 1010.1.1
MIN EGRESS WIDTH AT DOORS	REQUIRED: 32 INCHES	ACTUAL: 36 INCHES	
MIN EGRESS WIDTH AT STAIR	REQUIRED: N/A	ACTUAL: N/A	IBC 1020.4
MAXIMUM DEAD END CORRIDOR	20'	ACTUAL: N/A	IBC TABLE 1017.2
MAXIMUM TRAVEL DISTANCE: UNIT A	200'	ACTUAL: 100' - 3"	IBC TABLE 1006.2.1
MAXIMUM TRAVEL DISTANCE: UNIT B	200'	ACTUAL: 108' - 0"	
MAXIMUM TRAVEL DISTANCE - SPACE W/ ONE EXIT	75'	ACTUAL: N/A	
MINIMUM CORRIDOR WIDTH	REQUIRED: N/A	ACTUAL: N/A	IBC 1005.3.2

FIRE SPRINKLER NOTES

1. CONTRACTOR TO MODIFY EXISTING NFPA 13 COMPLIANT FIRE SPRINKLER SYSTEM. THE DESIGN SHALL INCLUDE DRAWINGS AND ENGINEERING CALCULATIONS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN NEW HAMPSHIRE.
2. SYSTEM SHALL MEET ALL STATE AND LOCAL CODES. COORDINATE SYSTEM WITH DESIGN DOCUMENTS.

LIFE SAFTEY LEGEND

- FIRE - EGRESS
- FIRE - 1/2Hr Sep.
- FIRE - 1Hr Sep.
- FIRE - 2Hr Sep.
- FIRE - 3Hr Sep.
- FIRE - Smoke Sep.

FUNCTION OF SPACE

ASSEMBLY:
- UNCONCENTRATED - SEATING
- CONCENTRATED - SEATING
- SIMULATORS / GAMES
- KITCHEN / BACK BAR
- BUSINESS AREAS
- STORAGE

EGRESS DOOR TAG

EXIT DOOR	001	
	WIDTH	CAPACITY
DOOR	72"	360
USE		62

DOOR NUMBER
ALLOWED USE
ACTUAL USE
CLEAR WIDTH

EGRESS STAIR TAG

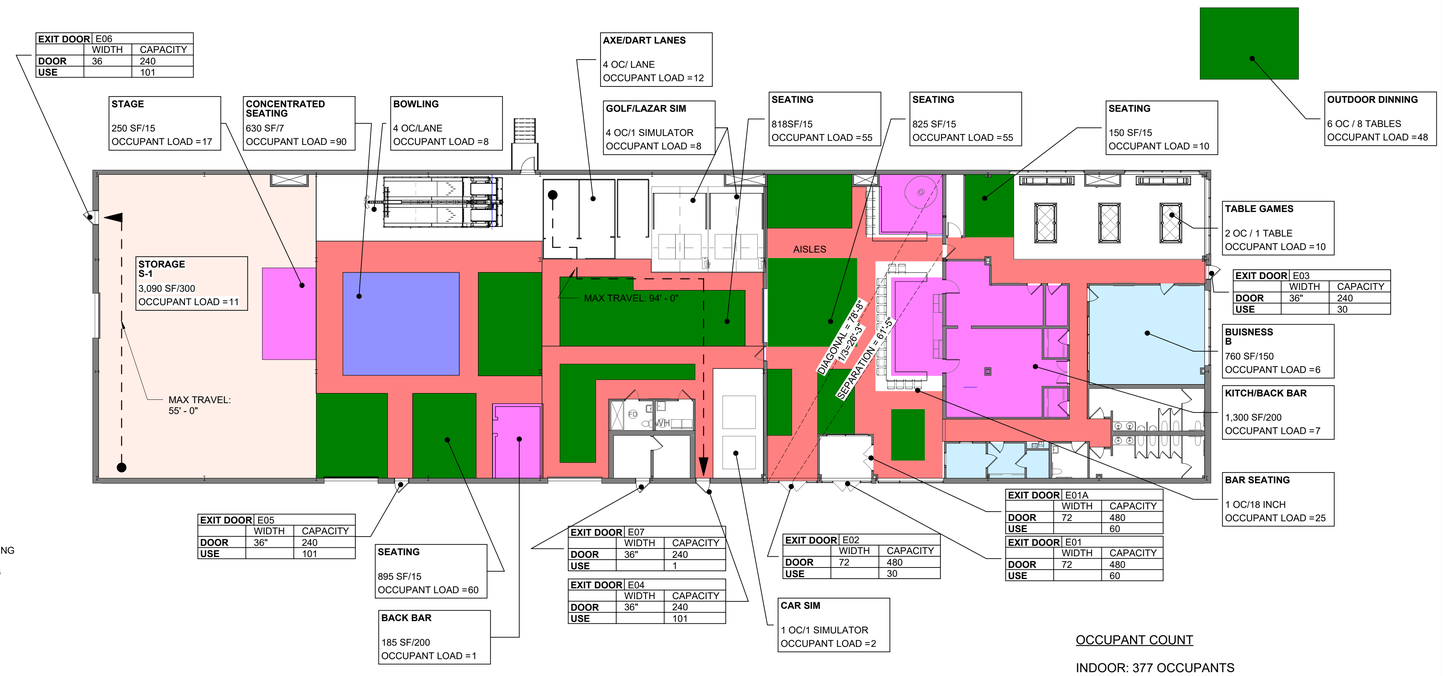
EXIT STAIR	01	
	WIDTH	CAPACITY
STAIR	72"	360
USE		62

ALLOWED USE
ACTUAL USE
CLEAR WIDTH

BUILDING USE TAG

ASSEMBLY
A-3
600 SF / 15
OCCUPANT LOAD =40

USE
AREA / LOAD FACTOR
OCCUPANT LOAD

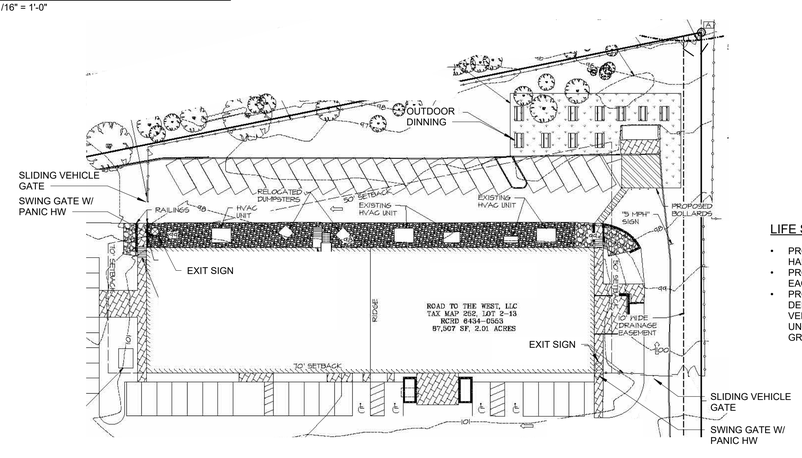


1 LIFE SAFETY PLAN
1/16" = 1'-0"

OCCUPANT COUNT

INDOOR: 377 OCCUPANTS
OUTDOOR: 48 OCCUPANTS
TOTAL: 425 OCCUPANTS

NOTE: INDOOR OCCUPANTS WILL RELOCATE TO THE OUTDOOR SPACE WHEN IN USE; THERE WILL BE NO INCREASE IN THE OVERALL OCCUPANT LOAD.



2 LIFE SAFETY - PARTIAL SITE PLAN
1" = 40'-0"

LIFE SAFETY - SITE PLAN NOTES

- PROVIDE WEATHER RATED PANIC HARDWARE AT EACH SWING GATE.
- PROVIDE ILLUMINATED EXIT SIGN AT EACH EXTERIOR SWING GATE
- PROVIDE KNOX KEY SWITCH FOR FIRE DEPARTMENT ACCESS AT EACH SIDING VEHICLE GATE. MOUNT SWITCH ON UNSECURED SIDE AND 5 FEET ABOVE GRADE.

4' 16'
0' 8' 32'
Scale: 1/16" = 1'-0"

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BLACK ROCK SOCIAL CLUB

140 WEST ROAD
PORTSMOUTH, NH 03801

PORTSMOUTH ARCHITECTS
brought to you by McHENRY ARCHITECTURE
4 MARKET STREET
PORTSMOUTH, NEW HAMPSHIRE
603.430.0274

NOT FOR CONSTRUCTION

No.	Description	Date
1	TAC SUBMISSION	9/21/2026

Project Name: BLACK ROCK SOCIAL CLUB

Drawing Name: GENERAL CODE REVIEW & LIFE SAFETY PLANS

Project Number:	21121
Date:	9/18/2026
Drawn By:	MG
Checked By:	MG

T2

Scale: As indicated

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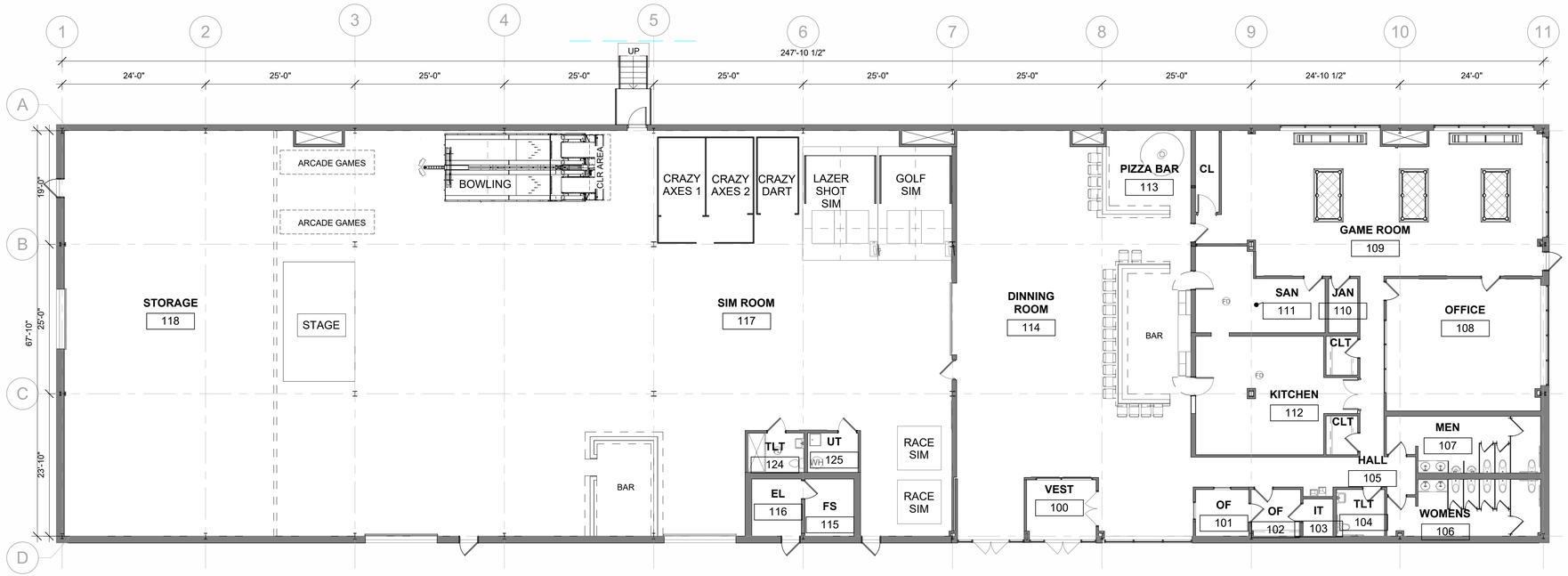
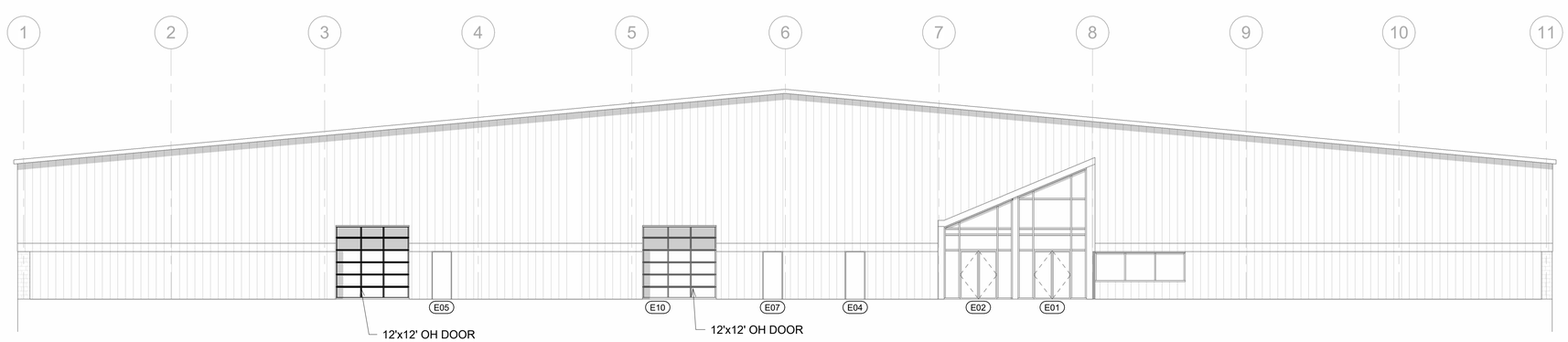


2 FLOOR PLAN
3/32" = 1'-0"



1 SOUTH ELEVATION
3/32" = 1'-0"

0' 8' 16' 24'
Scale: 3/32" = 1'-0"

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BLACK ROCK SOCIAL CLUB

140 WEST ROAD
PORTSMOUTH, NH 03801

PORTSMOUTH ARCHITECTS
brought to you by McHENRY ARCHITECTURE
4 MARKET STREET
PORTSMOUTH, NEW HAMPSHIRE
603.430.0274

NOT FOR CONSTRUCTION

No.	Description	Date
1	TAC SUBMISSION	9/21/2026

Project Name:
BLACK ROCK SOCIAL CLUB

Drawing Name:
FLOOR PLAN & ELEVATION

Project Number:	21121
Date:	9/18/2026
Drawn By:	MG
Checked By:	MG

A101

Scale: 3/32" = 1'-0"

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SITE PLAN APPLICATION PROJECT NARRATIVE AND TECHNICAL ADVISORY COMMITTEE STATUS MEMORANDUM

To: City of Portsmouth Technical Advisory Committee
Date: September 21, 2026
Re: Site Plan Application
140 West Road, Tax Map 252, Lot 2-13;
Property Owner: Road to West, LLC – Black Rock Sports Club
Application No.: LU-26-107

I. Purpose of Memorandum

This memorandum aims to provide the Technical Advisory Committee ("TAC") with a structured overview of the proposed project, current and proposed site conditions shown in the submitted plans, the application's status, and the Applicant's responses to comments and suggestions from the September 8, 2026, TAC Work Session. This submission is intended to assist TAC's review of the application at the October 6, 2026, meeting.

The application is supported by the accompanying site-plan set, abutters list, and other materials identified in the City's Site Plan Application Checklist. The plans and technical submissions should be consulted for the precise dimensions, locations, elevations, calculations, and design details governing the proposed work.

II. Project and Property Overview

The Black Rock Sports Club is located at 140 West Road in the City's Industrial Zone. The building has been on-site for over thirty years and previously operated as Blitz Trampoline Park. The property is in a mixed-use area with municipal, commercial, and public utility development, including retail, light industrial facilities, self-storage, and the DPW transfer station.

Black Rock Sports Club operates as a private club offering indoor recreation, simulators, live music, and restaurant and bar service to members and event guests. The club also hosts charitable events and fundraising activities for local nonprofit organizations.

This review concerns proposed site improvements at 140 West Road. The Property's current zoning district is shown on Drawing 1, "Existing Conditions Plan." The proposed project generally consists of exterior improvements, along with associated access, circulation, parking, landscaping, lighting, and related site improvements depicted in the submitted plan set.

The submitted application does not propose a new building or building addition that would require the building-and-structure information ordinarily provided under the City's site-plan requirements. The project likewise does not propose new public or private utility services, water lines, or sewer lines. Existing water, sewer, and utility infrastructure is depicted on Drawing 1, "Existing Conditions Plan."

III. Existing Site Conditions

The "Existing Conditions Plan" documents the Property's existing natural and built conditions, including the applicable tax map and lot identification, zoning information, existing improvements, reference-plan information, existing utility infrastructure, and existing easements, deed restrictions, and non-public rights-of-way, as applicable. The existing conditions information provides the baseline against which the proposed improvements have been designed and evaluated. In particular, the plan set identifies the existing site configuration and those existing features relevant to the proposed layout, access, parking, landscaping, lighting, grading, and open-space treatment.

IV. Proposed Site Improvements

The proposed layout and improvements are depicted on the "Site Plan," with supporting information provided on the parking and landscape. The plan set addresses the principal site-plan elements applicable to the proposed development. The proposed work is intended to improve the site, while maintaining appropriate relationships among the Property's access points, parking and circulation areas, landscaped areas, open space, and existing site features.

V. September 8, 2026 TAC Work Session

The Applicant appeared before TAC on September 8, 2026, for a Work Session concerning the proposed project. During that Work Session, TAC members and City staff provided comments, questions, and suggested updates regarding the project plans and supporting materials.

Following the Work Session, the Applicant reviewed the comments and revised the project materials in preparation for the October 6, 2026, TAC meeting. The Applicant has done its best to incorporate the suggested updates to the project plan based on its understanding of the requested improvements. The present submission is intended to reflect that good-faith effort and to provide TAC with a coordinated plan set responsive to the subjects discussed at the Work Session.

To the extent any aspect of the September 8 comments has not been reflected in the precise manner anticipated by TAC or City staff, the Applicant respectfully requests clarification during the October 6 meeting and remains prepared to address any reasonably necessary technical refinements identified through the continuing review process.

VII. Current Project Status

As of September 21, 2026, the Applicant has submitted the revised application materials for TAC's October 6, 2026, review. The project is presently at the technical-review stage. The Applicant's objective for the October 6 meeting is to confirm that the revised plans adequately address the technical subjects raised during the September 8 Work Session and to identify any remaining items requiring resolution before the application proceeds to Planning Board review.

VIII. Requested TAC Review and Action

At its October 6, 2026, meeting, the Applicant respectfully requests that TAC:

1. Review the revised application materials and project plans in light of the discussion and recommendations from the September 8, 2026, Work Session.
2. Confirm whether the revised submission adequately addresses the technical issues and requested updates identified during the Work Session.
3. Identify with reasonable specificity any remaining technical revisions or supplemental information required before the application proceeds to Planning Board review.
4. Recommend the Site Plan Application for Planning Board consideration, subject to the resolution of any discrete technical conditions identified by TAC.

The Applicant appreciates TAC's prior review and intends to continue working cooperatively with City staff to resolve any remaining technical matters efficiently. The submission represents the Applicant's good-faith understanding of, and response to, the comments and requested updates presented at the September 8 Work Session.

Prepared on behalf of the Applicant,

By: _____
John K. Bosen, Esquire
DONAHUE, TUCKER & CIANDELLA, PLLC

Ross Engineering
Civil / Structural Engineering
650 Islington Street **603-433-7560**
Portsmouth, NH 03801 **alexross@comcast.net**

Dated 9-21-2026
To: City of Portsmouth Planning Department

Applicant & Land Owner's Name:
Road to the West, LLC
140 West Rd
Portsmouth, NH 03801

Location of Land:
140 West Rd
Portsmouth, NH 03801
Tax Map 252, Lot 2-13

List of Abutters

United States of America
US Army Corps of Engineers
New England District
Real Est Division
696 Virginia Rd
Concord, MA 01742-2751
Tax Map 252, Lot 1-7

Public Service Company of NH
PO Box 270
Hartford, CT 06141
Tax Map 252, Lot 1

DSM MB II LLC
875 East St
Tewksbury, MA 08176
Tax Map 252, Lot 2

One Hundred West LLC
100 West Rd
Portsmouth, NH 03801
Tax Map 252, Lot 2-12

Litchfield Portsmouth LLC
& Eaton Partners Inc
175 Canal St Ste 401
Manchester, NH 03101
Tax Map 252, Lot 2-14

Construction and General Labor's Local Union
976 AFL-CIO
PO Box 4119
Portsmouth, NH 03802
Tax Map 252, Lot 2-37

List of Professionals

1. Civil Engineer & Surveyor
   Alex Ross
   Ross Engineering, LLC
   Certified Professional Engineer
   Licensed Land Surveyor
   650 Islington Street
   Portsmouth, NH 03801
   (603)-433-7560

2. Portsmouth Architects
   4 Market Street
   Portsmouth, NH 03801
   (603)-430-0274

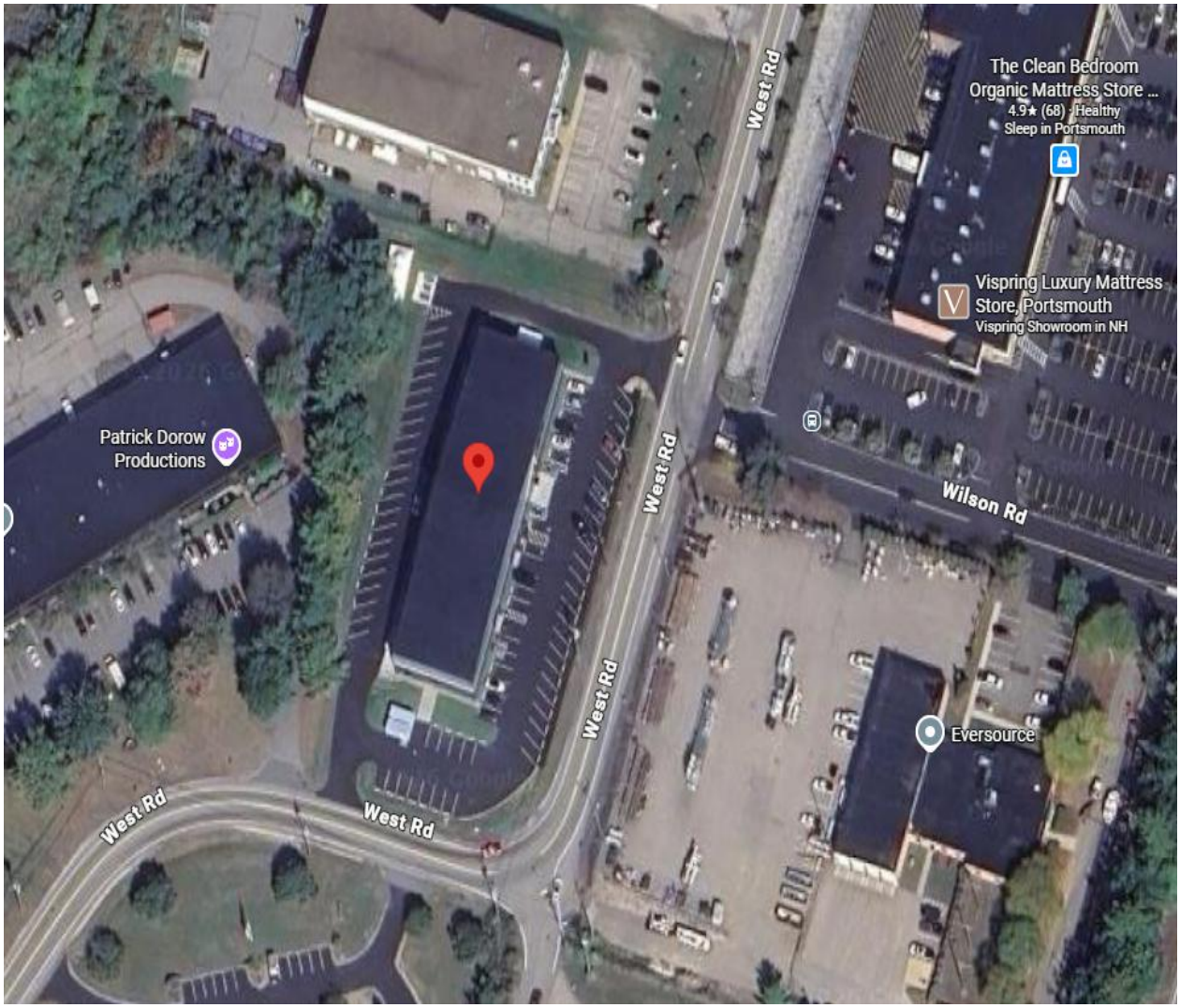
3. Attorney
   DTC Lawyers
   16 Acadia Lane
   Exeter, NH 03833
   (603)-778-0686

Ross Engineering, LLC
Civil/Structural Engineering

650 Islington Street
Portsmouth, NH 03801

603-433-7560
alexross@comcast.net

EXTERIOR PHOTOS

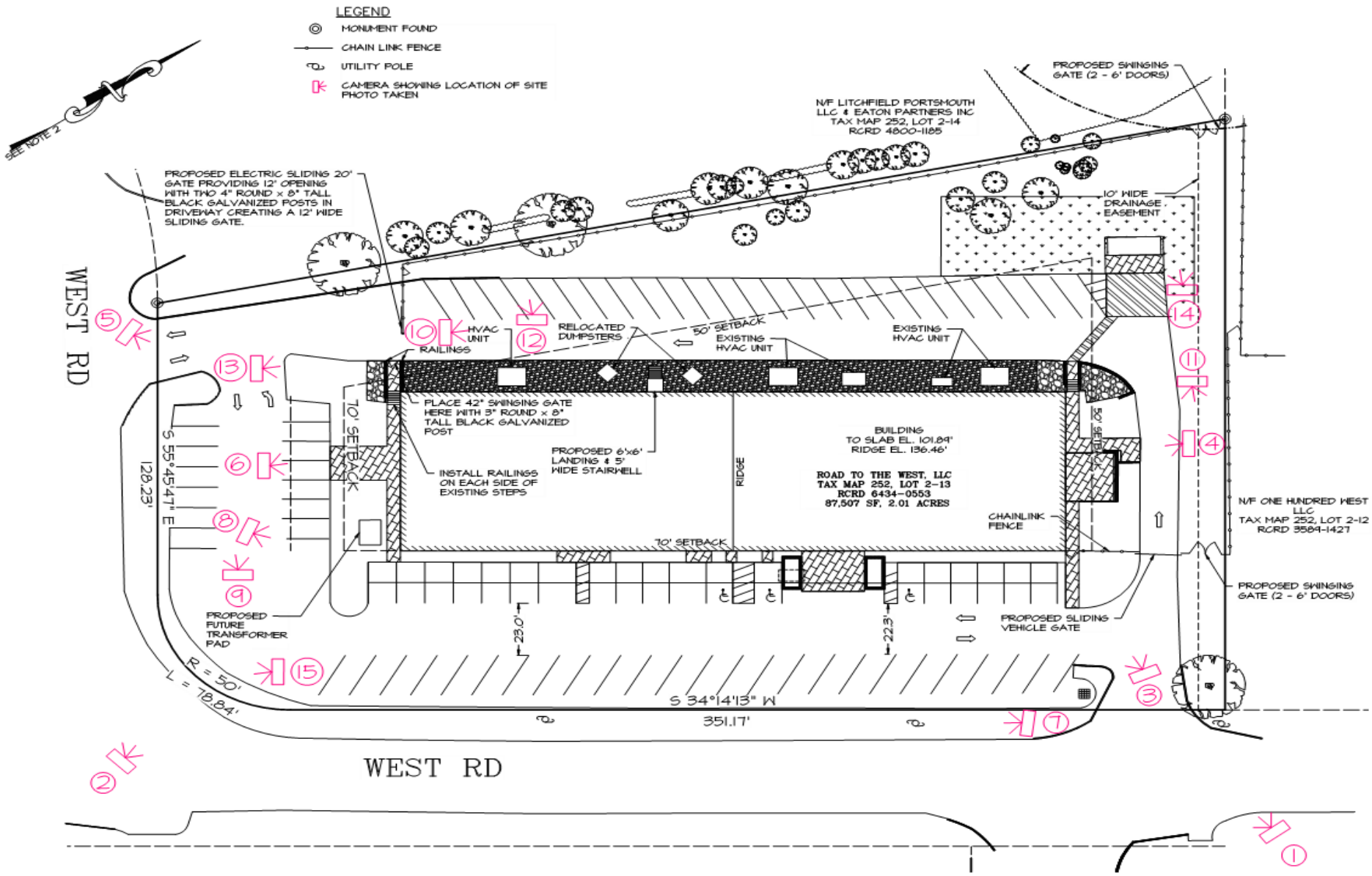


Aerial view of site, 140 West Road.

Ross Engineering, LLC
Civil/Structural Engineering

650 Islington Street
Portsmouth, NH 03801

603-433-7560
alexross@comcast.net



Site plan with locations of photos taken.

Ross Engineering, LLC
Civil/Structural Engineering

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Portsmouth, NH 03801 **alexross@comcast.net**

Figure 1: Front of building, on West Road looking southwest.

Figure 2: Front and left side of building, on West Road looking northwest.

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Civil/Structural Engineering

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Portsmouth, NH 03801 **alexross@comcast.net**

Figure 3: Front and right side of building, looking west.

Figure 4: Right side of building, looking south.

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Portsmouth, NH 03801 **alexross@comcast.net**

Figure 5: Rear of building, on West Road looking northeast.

Figure 6: Left side of building, looking north.

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Civil/Structural Engineering

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Portsmouth, NH 03801 **alexross@comcast.net**

Figure 7: Front parking lot, looking south.

Figure 8: Left side and front parking lots, looking northeast.

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Portsmouth, NH 03801 **alexross@comcast.net**

Figure 9: Left side parking lot, looking west.

Figure 10: Rear parking lot, looking northwest.

Ross Engineering, LLC
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Figure 11: Fence on right side of site, looking east.

Figure 12: Fence on rear of site, looking west.

Ross Engineering, LLC
Civil/Structural Engineering

650 Islington Street **603-433-7560**
Portsmouth, NH 03801 **alexross@comcast.net**

Figure 13: Open space on left side of site, looking north.

Figure 14: Fence at corner of right side and rear of site, looking northwest.

Ross Engineering, LLC
Civil/Structural Engineering

650 Islington Street **603-433-7560**
Portsmouth, NH 03801 **alexross@comcast.net**

Figure 15: At corner of front and left side of site, looking southwest.

City of Portsmouth, New Hampshire

Site Plan Application Checklist

This site plan application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. The checklist is required to be completed and uploaded to the Site Plan application in the City's online permitting system. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan review regulations for full details.

Applicant Responsibilities (Section 2.5.2): Applicable fees are due upon application submittal along with required attachments. The application shall be complete as submitted and provide adequate information for evaluation of the proposed site development. Waiver requests must be submitted in writing with appropriate justification.

Name of Applicant: Ross Engineering, LLC Date Submitted: 9/21/2026

Application # (in City's online permitting): _____

Site Address: 140 West Rd Map: 252 Lot: 2-13

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
☑	Complete application form submitted via the City's web-based permitting program (2.5.2.1**(2.5.2.3A)**		N/A
☑	All application documents, plans, supporting documentation and other materials uploaded to the application form in viewpoint in digital Portable Document Format (PDF). One hard copy of all plans and materials shall be submitted to the Planning Department by the published deadline. **(2.5.2.8)**		N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Statement that lists and describes "green" building components and systems. **(2.5.3.1B)**	N/A	
☑	Existing and proposed gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. **(2.5.3.1C)**	Architectural Plan Set	N/A
☑	Tax map and lot number, and current zoning of all parcels under Site Plan Review. **(2.5.3.1D)**	Drawing 1 "Existing Conditions Plan"	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. **(2.5.3.1E)**	Cover Sheet	N/A
☑	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. **(2.5.3.1F)**	See Attached Abutter's List	N/A
☑	Names, addresses and telephone numbers of all professionals involved in the site plan design. **(2.5.3.1G)**	Cover Sheet	N/A
☑	List of reference plans. **(2.5.3.1H)**	Drawing 1 "Existing Conditions Plan"	N/A
☑	List of names and contact information of all public or private utilities servicing the site. **(2.5.3.1I)**	N/A - No Proposed Utilities	N/A

Site Plan Specifications			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director.. **(2.5.4.1A)**	Required on all plan sheets	N/A
☑	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. **(2.5.4.1B)**	Required on all plan sheets	N/A
☑	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. **(2.5.4.1C)**	Drawing 2 "Site Plan" Note 5	N/A
☑	Plans shall be drawn to scale and stamped by a NH licensed civil engineer. **(2.5.4.1D)**	Required on all plan sheets	N/A
☑	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. **(2.5.4.1E)**	Drawing 1 "Existing Conditions"	N/A
☑	Title (name of development project), north point, scale, legend. **(2.5.4.2A)**	Drawing 1 "Existing Conditions Plan"	N/A
☑	Date plans first submitted, date and explanation of revisions. **(2.5.4.2B)**	All Sheets	N/A
☑	Individual plan sheet title that clearly describes the information that is displayed. **(2.5.4.2C)**	Required on all plan sheets	N/A
☑	Source and date of data displayed on the plan. **(2.5.4.2D)**	All Sheets	N/A

Site Plan Specifications – Required Exhibits and Data			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	**1. Existing Conditions: (2.5.4.3A)** • Surveyed plan of site showing existing natural and built features; • Existing building footprints and gross floor area; • Existing parking areas and number of parking spaces provided; • Zoning district boundaries; • Existing, required, and proposed dimensional zoning requirements including building and open space coverage, yards and/or setbacks, and dwelling units per acre; • Existing impervious and disturbed areas; • Limits and type of existing vegetation; • Wetland delineation, wetland function and value assessment (including vernal pools); • SFHA, 100-year flood elevation line and BFE data, as required.	Drawing 1 "Existing Conditions Plan"	
☑	**2. Buildings and Structures: (2.5.4.3B)** • Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation; • Elevations: Height, massing, placement, materials, lighting, façade treatments; • Total Floor Area; • Number of Usable Floors; • Gross floor area by floor and use.	Architectural Plan Set	
☑	**3. Access and Circulation: (2.5.4.3C)** • Location/width of access ways within site; • Location of curbing, right of ways, edge of pavement and sidewalks; • Location, type, size and design of traffic signing (pavement markings); • Names/layout of existing abutting streets; • Driveway curb cuts for abutting prop. and public roads; • If subdivision; Names of all roads, right of way lines and easements noted; • AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	Drawing 5 "Parking Plan"	
☑	**4. Parking and Loading: (2.5.4.3D)** • Location of off street parking/loading areas, landscaped areas/buffers; • Parking Calculations (# required and the # provided).	Drawing 5 "Parking Plan"	
☑	**5. Water Infrastructure: (2.5.4.3E)** • Size, type and location of water mains, shut-offs, hydrants & Engineering data; • Location of wells and monitoring wells (include protective radii).	No Proposed Water Lines. Existing Lines are shown on Drawing 1 "Existing Conditions"	
☑	**6. Sewer Infrastructure: (2.5.4.3F)** • Size, type and location of sanitary sewage facilities & Engineering data, including any onsite temporary facilities during construction period.	No Proposed Sewer Lines. Existing Lines are shown on Drawing 1 "Existing Conditions"	

☑	**7. Utilities: (2.5.4.3G)** • The size, type and location of all above & below ground utilities; • Size type and location of generator pads, transformers and other fixtures.	Existing Lines shown on Drawing 1 "Existing Conditions"	
☑	**8. Solid Waste Facilities: (2.5.4.3H)**	Drawing 2 "Site Plan"	
	• The size, type and location of solid waste facilities.	Drawing 2 "Site Plan"	
☑	**9. Storm water Management: (2.5.4.3I)** • The location, elevation and layout of all storm-water drainage. • The location of onsite snow storage areas and/or proposed off-site snow removal provisions. • Location and containment measures for any salt storage facilities • Location of proposed temporary and permanent material storage locations and distance from wetlands, water bodies, and stormwater structures.	N/A	
☑	**10. Outdoor Lighting: (2.5.4.3J)** • Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and photometric plan.	Drawing 6 "Lighting Plan	
☑	**11.** Indicate where dark sky friendly lighting measures have been implemented. **(10.1)**	Drawing 6 "Lighting Plan"	
☑	**12. Landscaping: (2.5.4.3K)** • Identify all undisturbed area, existing vegetation and that which is to be retained; • Location of any irrigation system and water source.	Drawing 4 "Landscape Plan"	
☑	**13. Contours and Elevation: (2.5.4.3L)** • Existing/Proposed contours (2 foot minimum) and finished grade elevations.	Drawing 2 "Site Plan"	
☑	**14. Open Space: (2.5.4.3M)** • Type, extent and location of all existing/proposed open space.	Drawing 2 "Site Plan" Note 4	
☑	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**	Drawing 1 "Existing Conditions Plan" Note 5	
☑	**16. Character/Civic District (All following information shall be included): (2.5.4.3P)** • Applicable Building Height (10.5A21.20 & 10.5A43.30); • Applicable Special Requirements (10.5A21.30); • Proposed building form/type (10.5A43); • Proposed community space (10.5A46).	N/A	
☑	**17. Special Flood Hazard Areas (2.5.4.3Q)** • The proposed development is consistent with the need to minimize flood damage; • All public utilities and facilities are located and construction to minimize or eliminate flood damage; • Adequate drainage is provided so as to reduce exposure to flood hazards.	N/A	

Other Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Traffic Impact Study or Trip Generation Report, as required. **(3.2.1-2)**	See Attached Traffic Study	
☑	Indicate where Low Impact Development Design practices have been incorporated. **(7.1)**	N/A	
☑	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. **(7.3.1)**	Development not within wellhead protection area	
☑	Stormwater Management and Erosion Control Plan. **(7.4)**	Drawing 9 "Erosion Control Plan"	
☑	Inspection and Maintenance Plan **(7.6.5)**	N/A	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	All local approvals, permits, easements and licenses required, including but not limited to: • Waivers; • Driveway permits; • Special exceptions; • Variances granted; • Easements; • Licenses. **(2.5.3.2A)**		
☑	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: • Calculations relating to stormwater runoff; • Information on composition and quantity of water demand and wastewater generated; • Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; • Estimates of traffic generation and counts pre- and post-construction; • Estimates of noise generation; • A Stormwater Management and Erosion Control Plan; • Endangered species and archaeological / historical studies; • Wetland and water body (coastal and inland) delineations; • Environmental impact studies. **(2.5.3.2B)**		
☑	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. **(2.5.3.2D)**	No Proposed Utility Services	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	A list of any required state and federal permit applications required for the project and the status of same. **(2.5.3.2E)**	No State or Federal Permits Required	
☑	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." **(2.5.4.2E)**	Drawing 2 "Site Plan"	N/A
☑	For site plans that involve land designated as "Special Flood Hazard Areas" (SFHA) by the National Flood Insurance Program (NFIP) confirmation that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. **(2.5.4.2F)**	Site is not in an SFHA	
☑	Plan sheets submitted for recording shall include the following notes: a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "All improvements shown on this Site Plan shall be constructed and maintained in accordance with the Plan by the property owner and all future property owners. No changes shall be made to this Site Plan without the express approval of the Portsmouth Planning Director." **(2.13.3)**	Drawing 2 "Site Plan"	N/A

Applicant's Signature: _____ **Date:** 9/21/26

Civil Engineers
Structural Engineers
Traffic Engineers
Land Surveyors
Landscape Architects
Scientists

TRAFFIC MEMORANDUM

Date: August 14, 2026

To: City of Portsmouth
1 Junkins Ave, 3rd Floor
Portsmouth, NH

From: Bob Duval, PE
Jen Porter, PE, PTOE

Re: Black Rock Social Club – 2026 Update
140 West Road, Portsmouth, NH 03801
TFM Project No. 47107.21

INTRODUCTION

TFMoran has prepared this Traffic Memorandum to evaluate traffic for the Black Rock Social Club at 140 West Road in Portsmouth, given changes of use from our previous 2022 traffic report. The existing site (Map 252 Lot 2-13) is located at West Road in Portsmouth, New Hampshire about a tenth of a mile west of US Route 1. Vehicular access is provided by two driveways along West Road with parking provided on three sides of the building.

Hours of Operation

- Wednesday & Thursday: 4pm – 10pm
- Friday: 4pm –11pm
- Saturday: 12pm –11pm

PROPOSAL

Road To The West, LLC is working with the City to update permitted uses of their existing 17,500 sf building at 140 West Road. Approval was granted by the Planning Board in August of 2022 to open Black Rock Social Club in the existing building, including addition of a 605 sf walk-in cooler, and adding a 12,000 sf (+/-) mezzanine over part of the building. The club was approved for indoor recreation, including golf simulators, axe throwing, racing/flying simulators, arcade and table games, office space and a bar/kitchen area.

At present, the building remains at 17,500 sf since the walk in cooler and mezzanine were not constructed. A patio has been added at the northwest corner with picnic tables.

The City has told the Social Club that some unanticipated uses at the site, such as indoor concerts, performances, comedy shows, indoor public events, corporate meetings, and use of the outdoor patio for food and beverage services need zoning approval. The Social Club is pursuing approvals to allow these additional events and services.

DESCRIPTION OF ROADWAYS AND INTERSECTIONS

Roadways

Lafayette Road (US1)

- Classification. Lafayette Road (US1) is a State-maintained north-south arterial roadway. The roadway runs from points south in Hampton thru Portsmouth to points north in Maine.2.
- Lane widths and usage. In the project network, the roadway generally provides 2-lanes of travel in each direction with a TWLTL south of Wilson Road. Paved shoulder widths are about 4' in the project area.
- Pedestrian facilities. There are sidewalks along the east side of Lafayette Road.
- Signage. The speed limit is posted at 35 mph along the roadway. Other traffic signage includes lane use, directional signs, and street name signs. Pavement markings consist of a center TWLTL and shoulder markings in fair to good condition.

Wilson Road

- Classification. Wilson Road is a City-maintained east-west collector roadway. The west end starts at West Road and the east end terminates at Taft Road in a residential area.
- Lane widths and usage. In the project vicinity, the roadway generally provides a single lane in each direction with sloped granite curbing and no striped shoulder.
- Pedestrian facilities. There are no sidewalks along Wilson Road. There is a bus stop Shelter on the south side of Wilson Road (across from the Market Basket Plaza curb cut) between West Road and Lafayette Road.
- Signage. The speed limit is posted at 40 mph.in the vicinity of Cardinal Lane. Other traffic signage includes lane use, directional signs, bus stops, street name signs and stop signs at major driveways. Pavement markings consist of a center TWLTL and shoulder markings in fair to good condition.

West Road)

- Classification. West Road is a City-maintained north-south collector roadway. The north end of West Road starts at Peverly Hill Road and terminates at Campus Drive to the south.
- Lane widths and usage. In the project vicinity, the roadway generally provides a single lane in each direction. Paved shoulder widths vary 4' to 6' in the project area.
- Pedestrian facilities. There are no sidewalks along West Road. Two bus stops are provided on West Road, one at the intersection of Campus Drive and the other at 215 West Road.
- Signage. The speed limit is posted at 30 mph. Other traffic signage includes directional signs, bus stops, street name signs and stop signs at major driveways. Pavement markings consist of a center double yellow and shoulder markings in fair to good condition.

Study Area Intersections

Lafayette Road at Wilson Road.

- Traffic Control. This is an existing 4-way signalized intersection, with Lafayette Road forming the northbound and southbound approaches. Wilson Road forms the EB and WB approaches.
- Pedestrian facilities. Pedestrian crosswalks are provided across the northbound approach and the westbound approach.
- Approaches. The NB and SB approaches consists of three 12' lanes, which are marked left only, thru, and thru-right. The EB approach has two 12' lanes that are marked as a left-thru

lane and an exclusive right turn lane. The WB approach is a single lane the provides left-thru-right movements.

- Signal Timing. Existing data provided by the State. AM: based on a coordinated Pattern2, PM based on a coordinated Pattern3 and SAT is based on Max2 from controller.

West Road at Driveway/Wilson Road.

- Traffic Control. This is an existing unsignalized intersection with two-way Stop control. West Road forms the NB and SB approaches and flow free. Wilson Road forms the WB approach and is Stop controlled. The EB approach is slightly offset from Wilson Drive to the north and serves a Private Drive with a Stop Sign.
- Pedestrian facilities. No crosswalks or sidewalks are present at the intersection.
- Approaches. Each approach accommodates two way traffic and there are no restricted movements. All approaches provide a minimum of 12' wide single lanes.

BACKGROUND VOLUMES

At the time of the original application, peak hour traffic volumes were counted (turning movement counts) at the study area intersections. These counts are tabulated in Appendix L of this report. Counts were taken at all study intersections on:

- Thursday June 23, 2022 – 7AM to 9AM, 4PM to 6PM.
- Saturday June 25, 2022 – 11 AM to 1 PM.

Seasonal Adjustment.
These counts were seasonally adjusted using NHDOT Group 4 factors for Year 2023 Monthly data. The data was adjusted upward by 1% for June. The data is found in Appendix C.

COVID Adjustment.
Due to the Covid pandemic, in 2022 traffic volumes were still below normal levels in many places. To determine an appropriate adjustment factor for current conditions, pre-Covid volume, the NHDOT had developed a methodology to calibrate current traffic volumes to pre-pandemic levels.

The Covid adjustment calculations show, that at the three permanent stations, traffic volumes in October 2021 are still below the March 2019 volumes. Therefore, per the calculations, the volumes for the Base conditions are adjusted as follows for continued covid conditions:

- AM: 5.5%
- PM: 3.3%
- SAT: 6.6%

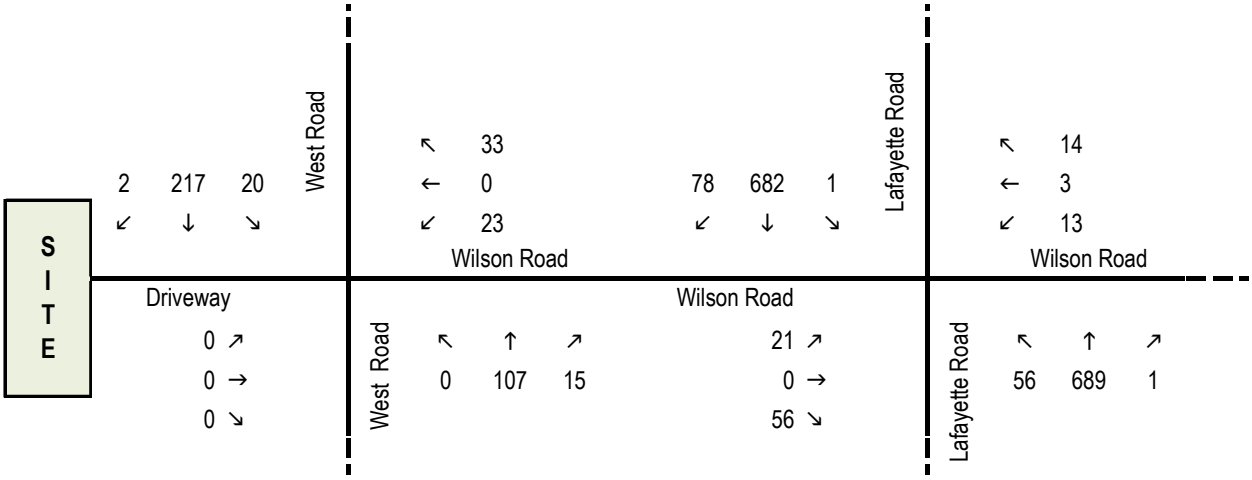
(NHDOT discontinued regular use of Covid adjustments for data collected after 2023.)

Heavy Vehicles
Heavy vehicle adjustments for the analysis used weighted approach percentages for each approach per the NHDOT Synchro checklist, calculations in Appendix C.

Base Volumes
The adjusted volumes for all these factors are shown in Base Condition diagrams on following pages .

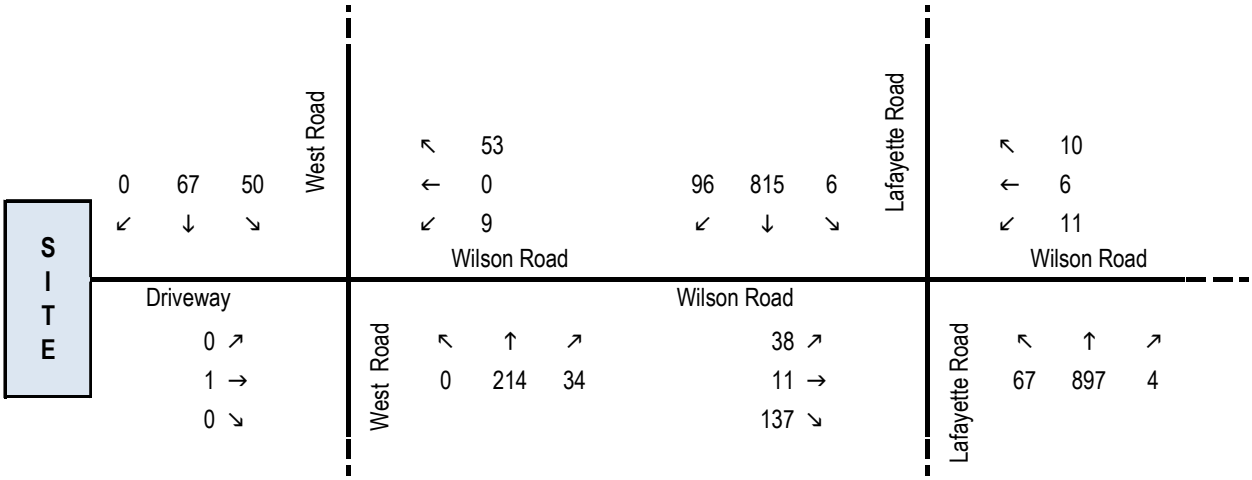
2022 BASE
AM Peak Hour

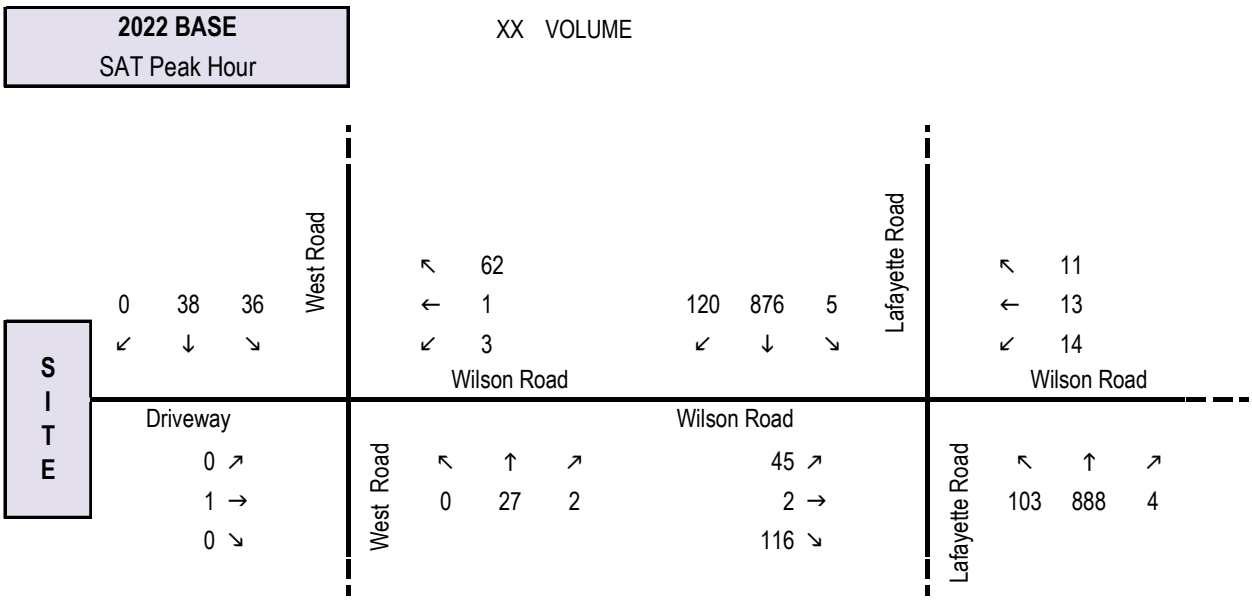
XX VOLUME



2022 BASE
PM Peak Hour

XX VOLUME





NO-BUILD VOLUMES

To establish No-Build traffic volumes for this study, the following adjustments were made to the Covid- and seasonally adjusted 2022 volumes:

Growth Factor.
Although nearby NHDOT MS2 stations show a decrease in growth in year 2025, a 1% compound annual growth rate was used to account for general population growth and possible traffic generated by smaller future developments in the area.

No-Build volumes were adjusted upward by 1% to generate 2026 opening year and 2036 future year volumes.

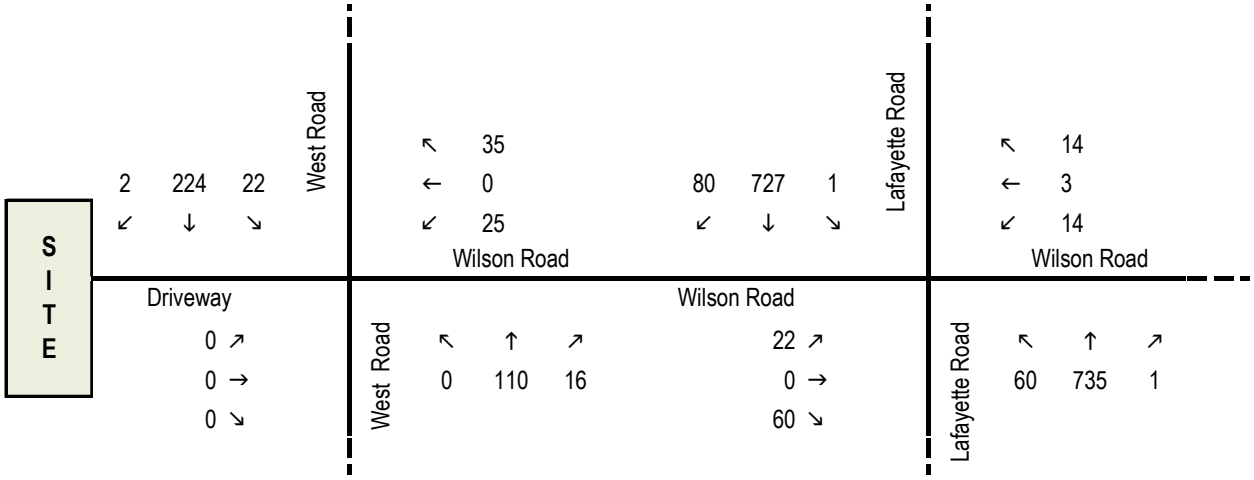
Other Developments
At the time of the 2022 counts, the City provided data for a proposed or approved development identified as generating traffic volumes that should be accounted for in the no-build volumes for this traffic study. This gas station development is described below and data and distribution are in Appendix D:

- 2255 Lafayette Road Gas Station:
  This project for a gasoline station/convenience store (with drive-through window) will replace the existing Burger King fast-food restaurant. The development site trips enter this traffic network via Lafayette Road and the trips were distributed prorata per the June 2022 counts through the network.

The total no-build volumes for the opening (2026) and future (2036) years are presented in the following diagrams.

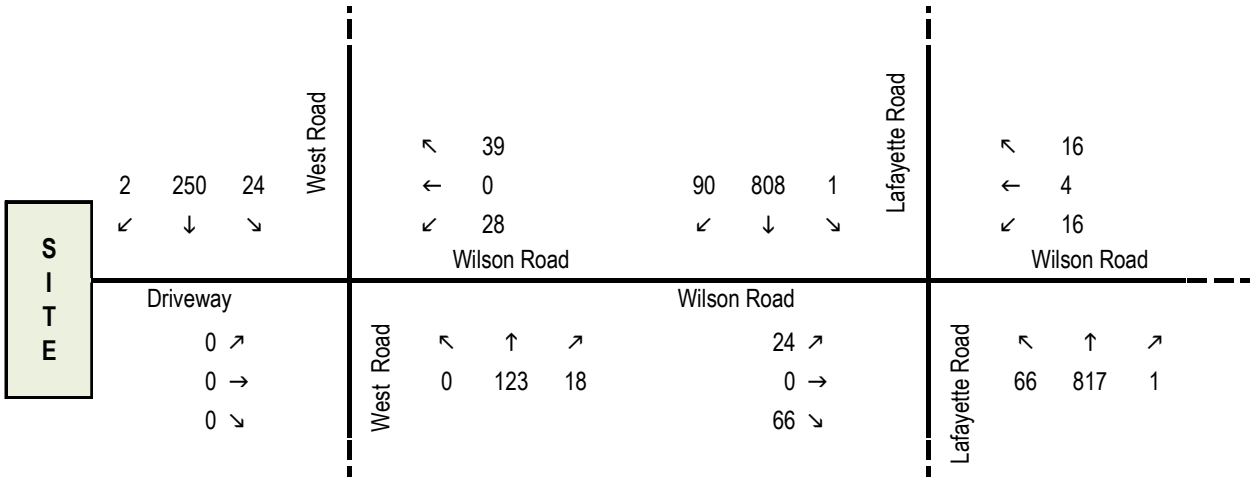
2026 NoBUILD
AM Peak Hour

XX VOLUME



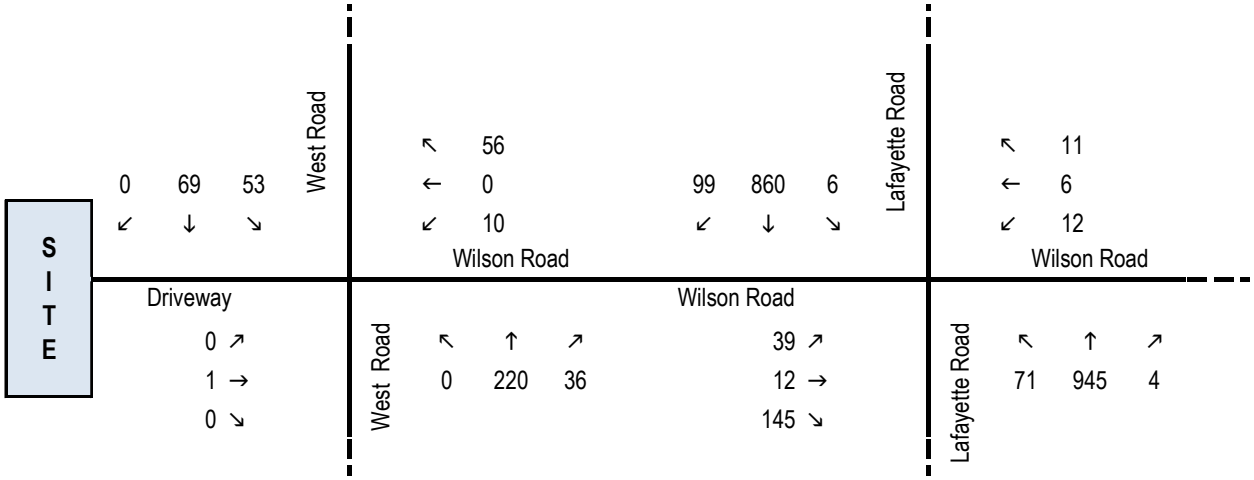
2036 NoBUILD
AM Peak Hour

XX VOLUME



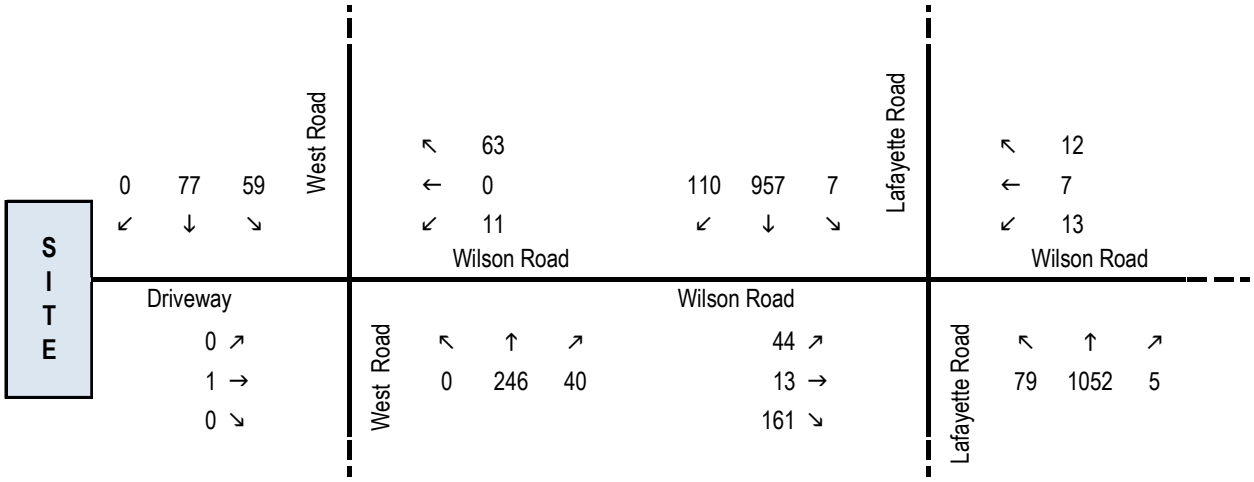
2026 NoBUILD
PM Peak Hour

XX VOLUME



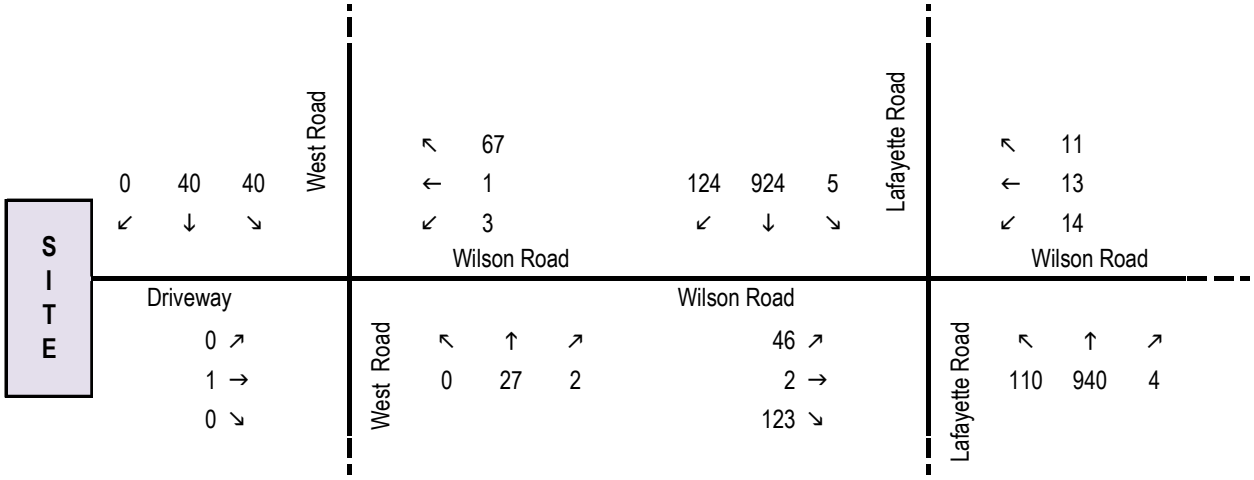
2036 NoBUILD
PM Peak Hour

XX VOLUME



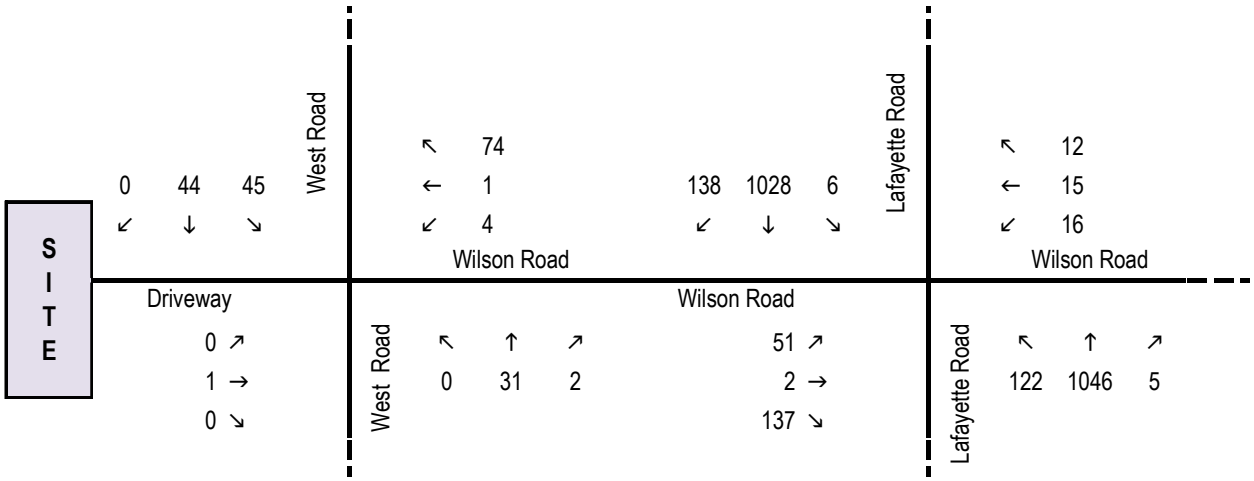
2026 NoBUILD
SAT Peak Hour

XX VOLUME



2036 NoBUILD
SAT Peak Hour

XX VOLUME



TRIP GENERATION

Standard trip generation rates published by the ITE[1] (12th Edition), were used to calculate the vehicle trips for the proposed development. The proposed indoor recreation uses within the social club best fit with the description of the Athletic Club use. For office and dining uses, LUC 710, General Office, and LUC 932, High-Turnover (Sit-Down) Restaurant were used respectively to calculate trip generation.

Special events, such as concerts, comedy shows, or public events are typically scheduled outside of peak traffic hours and are not an everyday occurrence. Music in the dining room is a perk to the restaurant, similar to the outdoor patio space, where the patio is not expected to generate more use, but give patrons and members an opportunity to enjoy their food or drink outdoors while at the facility.

The LUC usage areas are based on the 2026 Site Plan by Ross Engineering, Note #5 Parking on sheet 2 of 4. The club is not open during AM peak hours. It is likely that many dining area patrons would also participate in gaming or other social club activities. No deduction was taken for this interaction, so that the total volumes in the table below can be considered conservative.

See calculations in Appendix A.

Table 1: Trip Generation

	In	Out	Total
ITE LUC 493 Athletic Club: 7,402 sf			
Weekday AM Peak Hour Adjacent Street	0	0	0
Weekday PM Peak Hour Adjacent Street	16	9	25
Weekend SAT Peak Hour of Generator	9	10	19
ITE LUC 710 General Office: 1,700 sf			
Weekday AM Peak Hour Adjacent Street	2	0	2
Weekday PM Peak Hour Adjacent Street	0	2	2
Weekend SAT Peak Hour of Generator	1	0	1
ITE LUC 932 High-Turnover (Sit-Down) Restaurant: 8,398			
Weekday AM Peak Hour Adjacent Street	0	0	0
Weekday PM Peak Hour Adjacent Street	47	30	77
Weekend SAT Peak Hour of Generator	47	46	93
Total Trip Generation 2026			
Weekday AM Peak Hour Adjacent Street	2	0	2
Weekday PM Peak Hour Adjacent Street	63	41	104
Weekend SAT Peak Hour of Generator	57	56	113

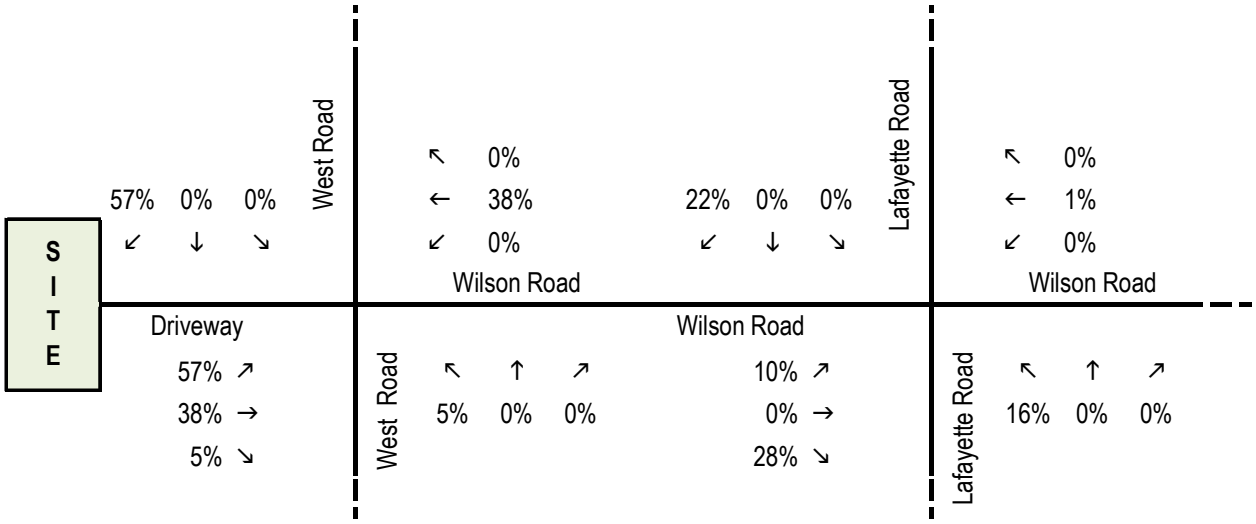
TRIP DISTRIBUTION:

For this use, all trips are expected to be primary trips. Primary trips go directly from origin to generator and return to origin. We assume traffic will generally distribute pro-rata per existing patterns. However, in our 2022 report, we observed that trips heading to/from the south tend to use Wilson Road rather than West Road to access Lafayette Road; so the diagrams below reflect 5% south distribution along West Road with the remaining south distribution using Wilson Road.

[1] *Trip Generation Manual*, Institute of Transportation Engineers (ITE), 12th Edition.

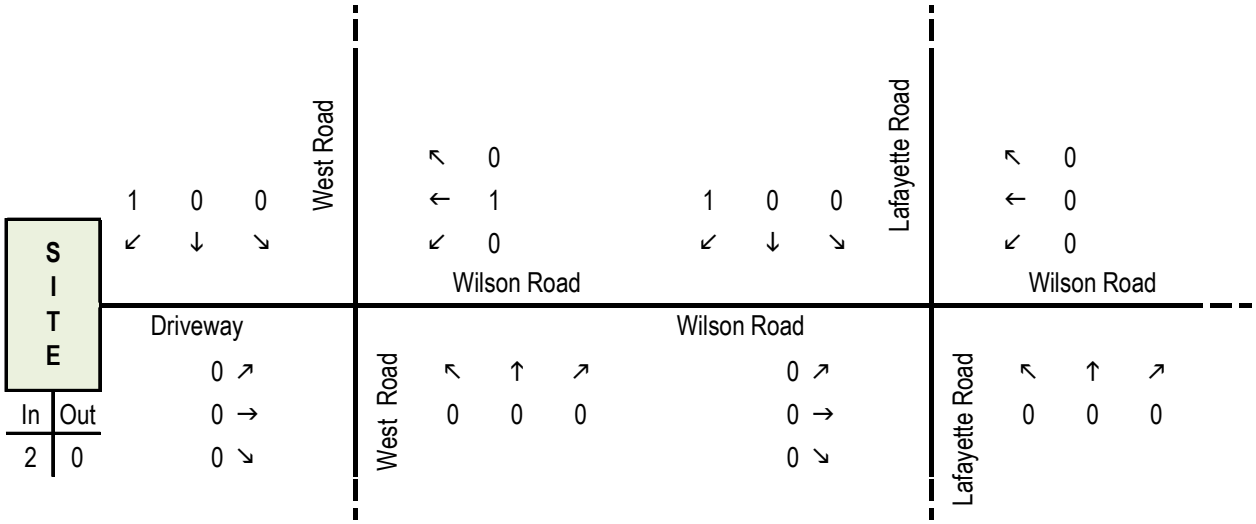
Site Trip Distribution
AM Peak Hour

XX Primary



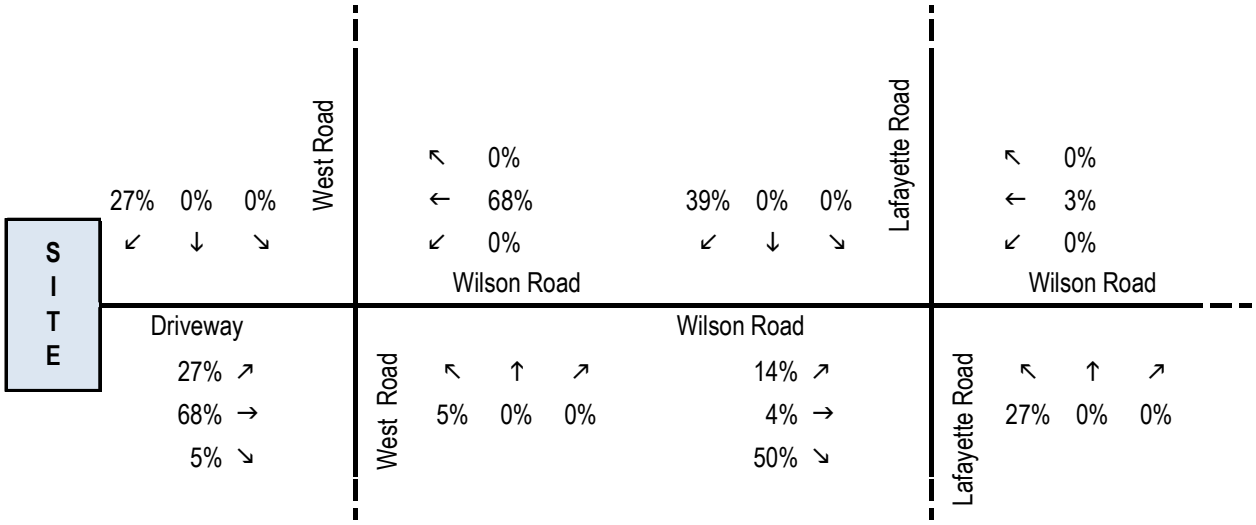
Site Trip Assignment
AM Peak Hour

XX Total Trips



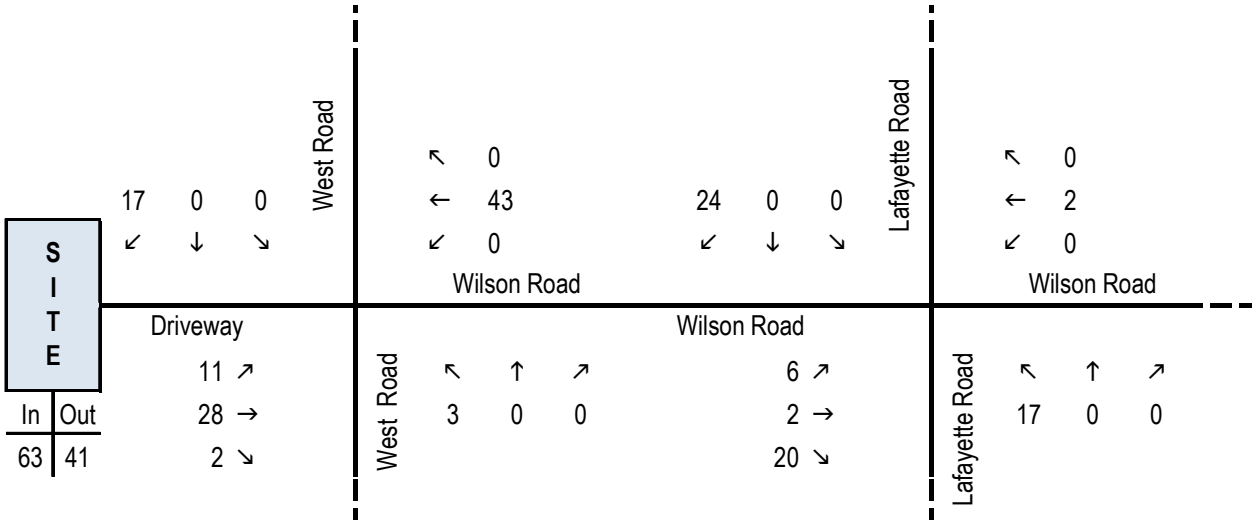
Site Trip Distribution
PM Peak Hour

XX Primary



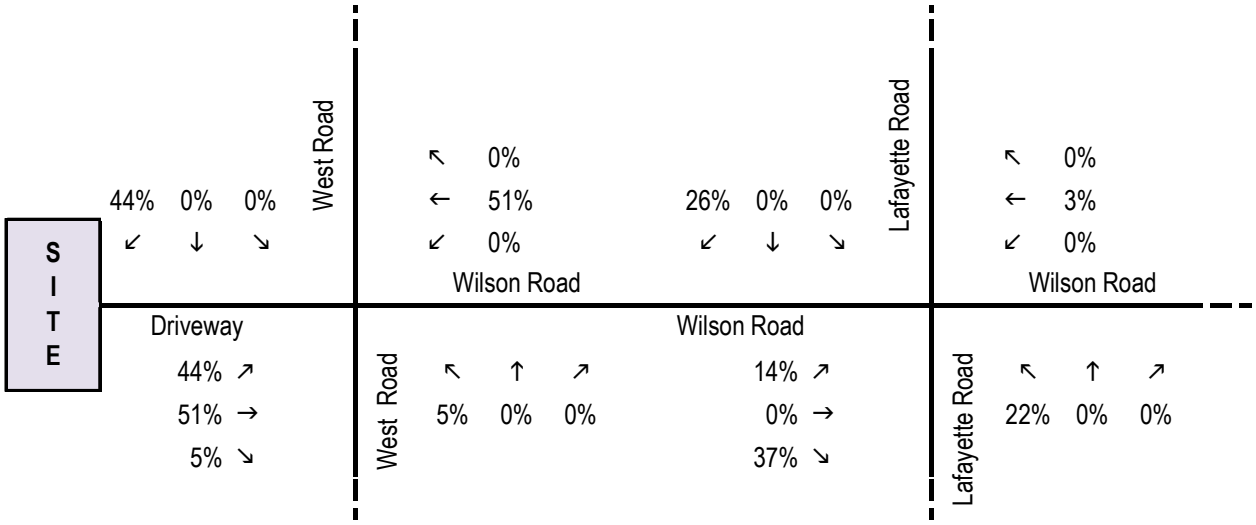
Site Trip Assignment
PM Peak Hour

XX Total Trips



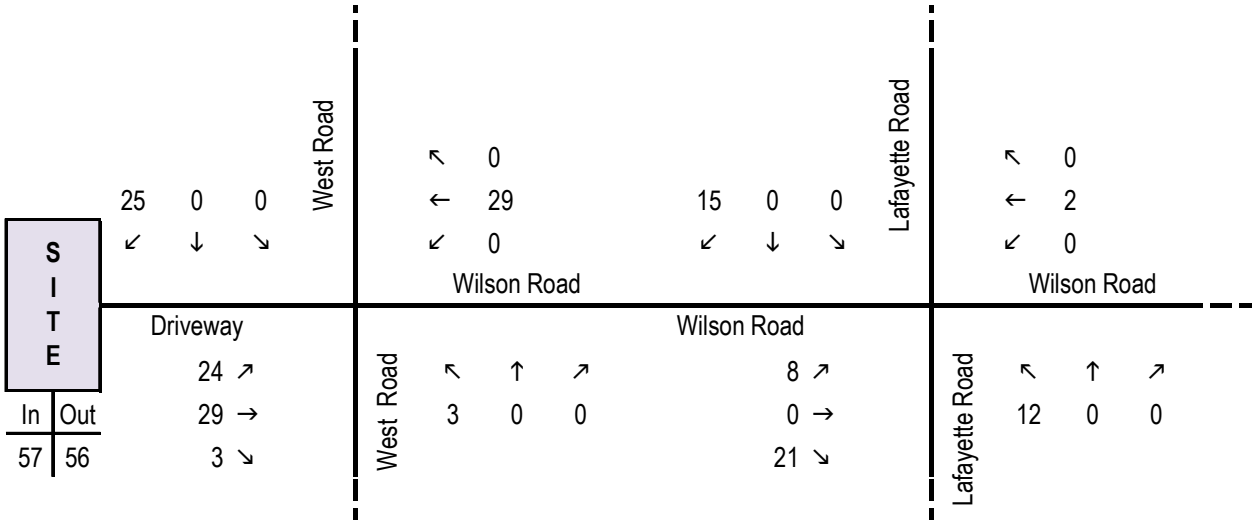
Site Trip Distribution
SAT Peak Hour

XX Primary



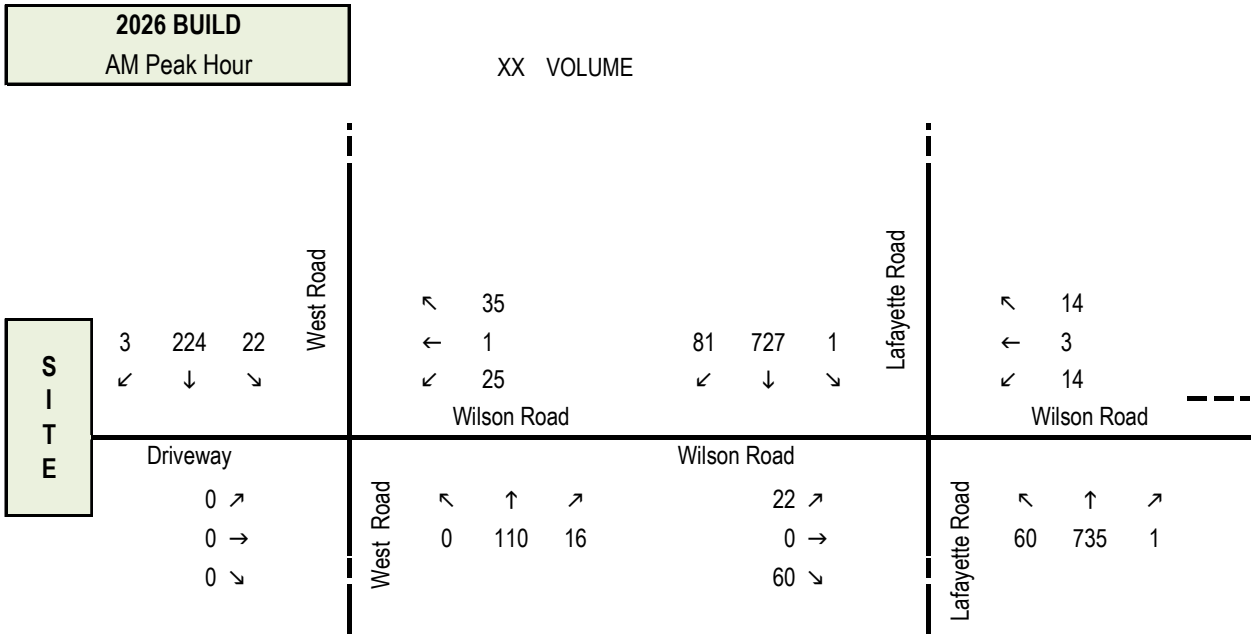
Site Trip Assignment
SAT Peak Hour

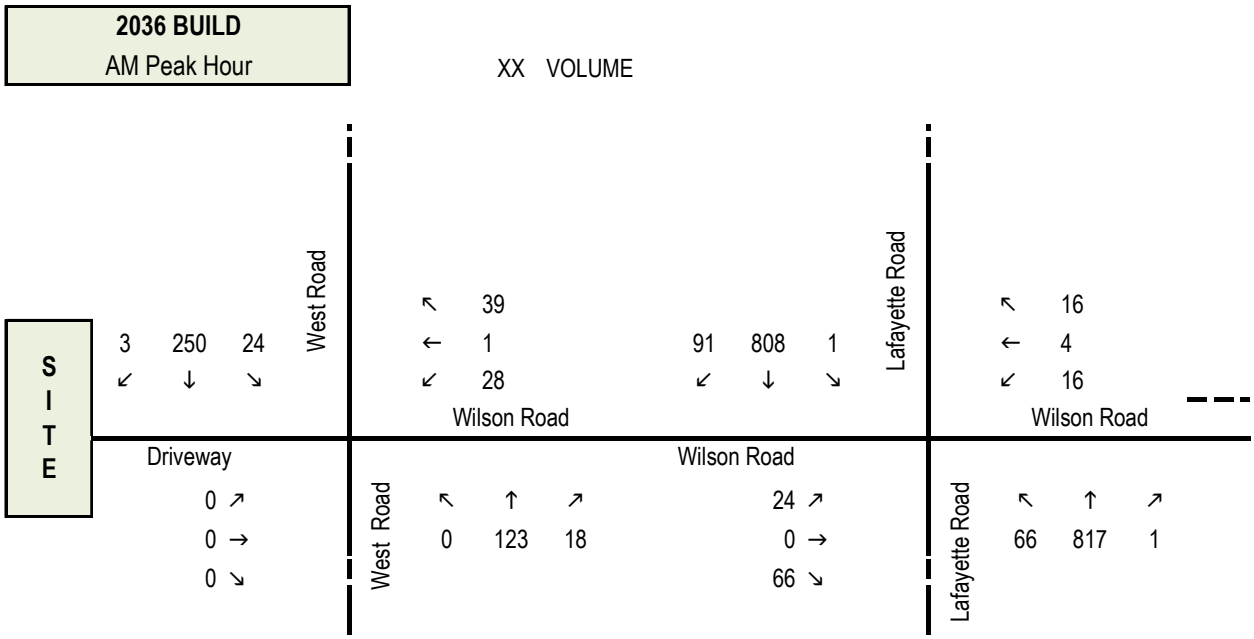
XX Total Trips



BUILD VOLUMES

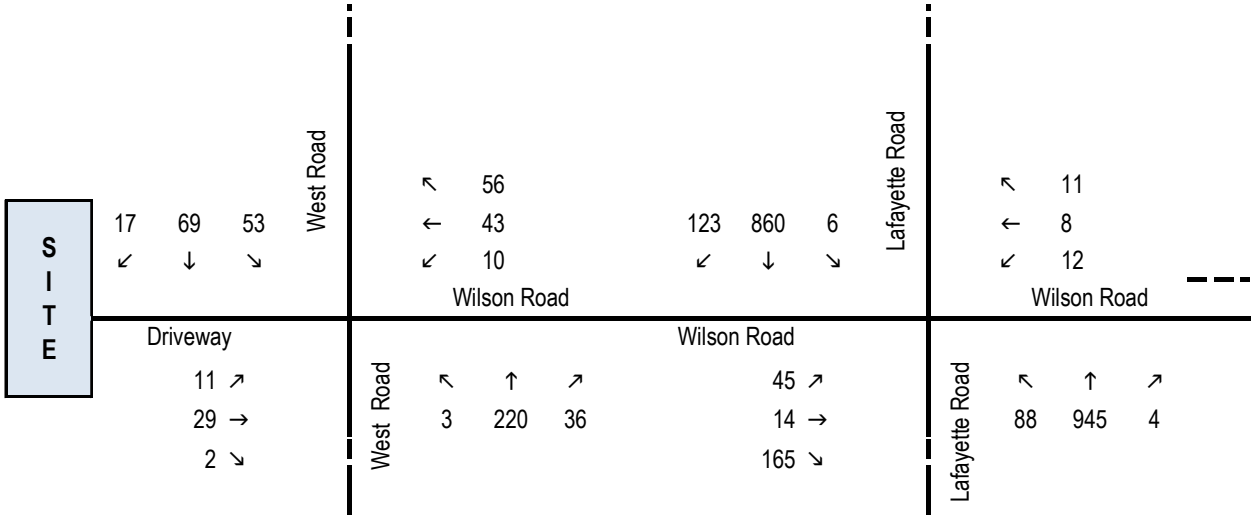
Site trips generated as per the above were added to No-Build traffic volumes within the study area to produce 2026 and 2036 Build diagrams for each peak hour. The Build volume diagrams are presented in the following figures.





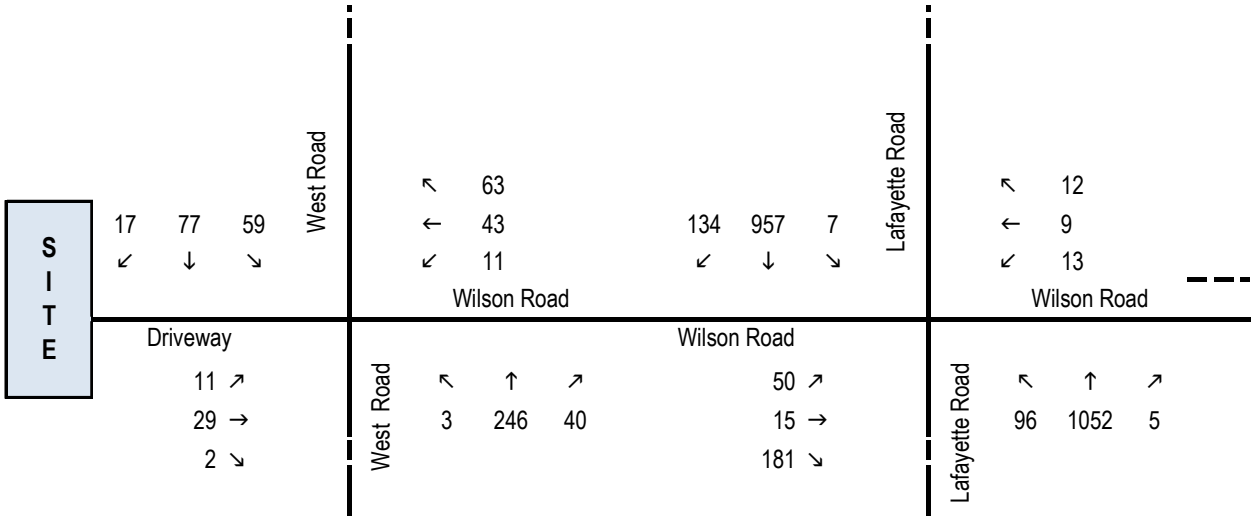
2026 BUILD
PM Peak Hour

XX VOLUME



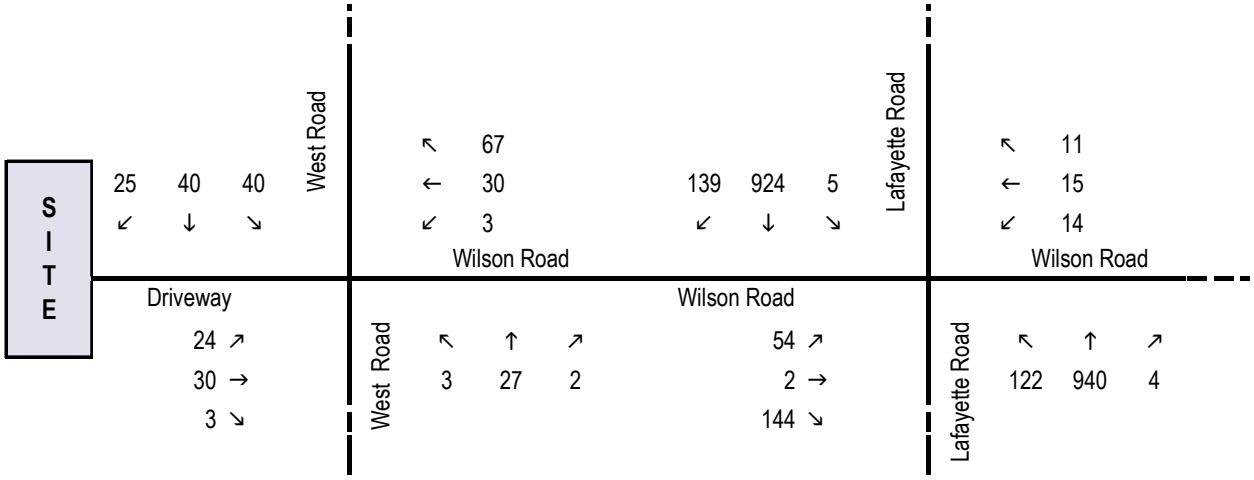
2036 BUILD
PM Peak Hour

XX VOLUME



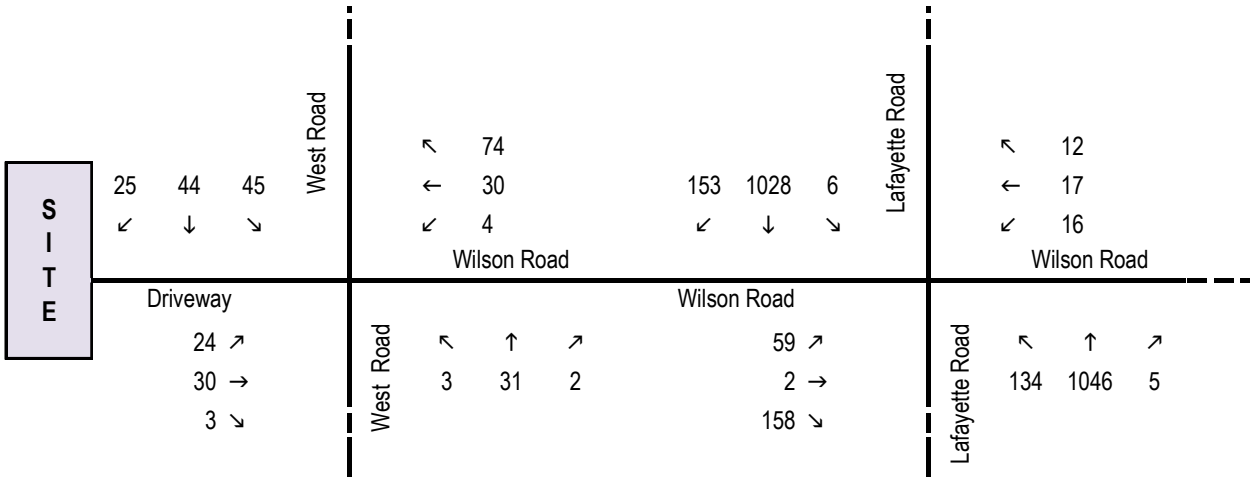
2026 BUILD
SAT Peak Hour

XX VOLUME



2036 BUILD
SAT Peak Hour

XX VOLUME



LEVEL OF SERVICE/QUEUE ANALYSIS

Level of Service Analysis:
Level of service (LOS) is a qualitative description of operational conditions within a traffic stream measured in terms of control delay, a function of capacity, degree of saturation, and delay associated with traffic signals and "STOP" signs. Control delay includes initial deceleration, delay approaching a control device, stopped delay, queue move-up time, and acceleration delay from a stopped condition. The relationship between control delay and LOS is shown in the following table.

Level of Service (LOS)	A	B	C	D	E	F
Signalized Control Delay (sec)	≤10.0	10.1 to 20.0	20.1 to 35.0	35.1 to 55.0	55.1 to 80.0	Over 80.0
Unsignalized Control Delay (sec)	≤10.0	10.1 to 15.0	15.1 to 25.0	25.1 to 35.0	35.1 to 50.0	Over 50.0

Study Area.
Analyses were performed for the study area intersections previously described, that is:

1. West Road at Driveway/Wilson Road
2. Lafayette Road at Wilson Road

Queue Analysis.
Vehicle queue lengths are determined by the capacity of the movement under study and the volume of traffic processed by the intersection during the analysis period. It is standard practice to report the 95th percentile queue, that is, the queue exceeded no more than 5% of the time during peak periods.

Methodology.
Trafficware "Synchro" v12 software was used to analyze signalized and unsignalized intersections (based on HCM 2000) within the study area intersections during the weekday AM/PM and Saturday peak hours.

Signal Timing.
Signal timing is based on data provided by NHDOT and attached in Appendix K.

Volume to capacity (v/c) ratios, Level of Service (LOS), delays and queue results are summarized in the following tables:

Table 2a. Level of Service Analysis Summary (2022/2026/2036)

	2022 BASE				2026 No-Build				2026 Build				2036 No-Build				2036 Build			
Movement	v/c[a]	Del[b]	LOS[c]	Q[d]	v/c[a]	Del[b]	LOS[c]	Q[d]	v/c[a]	Del[b]	LOS[c]	Q[d]	v/c[a]	Del[b]	LOS[c]	Q[d]	v/c[a]	Del[b]	LOS[c]	Q[d]
3: West Road at Driveway / Wilson Road [Unsignalized]																				
***AM Peak* OVERALL**	**---**	**1.8**	**A**	**---**	**---**	**1.9**	**A**	**---**	**---**	**2.0**	**A**	**---**	**---**	**2.0**	**A**	**---**	**---**	**2.0**	**A**	**---**
EB All	0.00	0.0	A	0	0.00	0.0	A	0	0.00	0.0	A	0	0.00	0.0	A	0	0.00	0.0	A	0
WB All	0.10	10.9	B	8	0.10	11.1	B	9	0.11	11.1	B	9	0.11	11.2	B	10	0.12	11.3	B	10
NB All	0.00	0.0	A	0	0.00	0.0	A	0	0.00	0.0	A	0	0.00	0.0	A	0	0.00	0.0	A	0
SB All	0.02	0.8	A	1	0.02	0.8	A	2	0.02	0.8	A	2	0.02	0.8	A	1	0.02	0.8	A	1
***PM Peak* OVERALL**	**---**	**2.6**	**A**	**---**	**---**	**2.7**	**A**	**---**	**---**	**4.6**	**A**	**---**	**---**	**2.7**	**A**	**---**	**---**	**4.6**	**A**	**---**
EB All	0.00	12.9	B	1	0.00	13.1	B	1	0.11	14.8	B	9	0.00	13.4	B	0	0.12	15.3	C	10
WB All	0.11	10.8	B	9	0.12	10.9	B	10	0.24	13.4	B	23	0.12	11.1	B	10	0.24	13.6	B	23
NB All	0.00	0.0	A	0	0.00	0.0	A	0	0.00	0.1	A	0	0.00	0.0	A	0	0.00	0.1	A	0
SB All	0.04	3.7	A	3	0.05	3.8	A	4	0.05	3.4	A	4	0.05	3.8	A	4	0.05	3.5	A	4
***SAT Peak* OVERALL**	**---**	**5.1**	**A**	**---**	**---**	**5.2**	**A**	**---**	**---**	**6.5**	**A**	**---**	**---**	**5.2**	**A**	**---**	**---**	**6.5**	**A**	**---**
EB All	0.00	10.2	B	0	0.00	10.3	B	0	0.10	11.6	B	9	0.00	10.3	B	0	0.10	11.4	B	8
WB All	0.08	8.9	A	7	0.09	8.9	A	7	0.15	9.9	A	13	0.09	8.9	A	7	0.14	9.7	A	12
NB All	0.00	0.0	A	0	0.00	0.0	A	0	0.00	0.7	A	0	0.00	0.0	A	0	0.00	0.6	A	0
SB All	0.03	3.7	A	2	0.03	3.8	A	3	0.03	3.0	A	3	0.03	3.8	A	3	0.03	3.1	A	3

[a] Volume-to-capacity ratio - [b] Average control delay (sec/veh) - [c] Level of service - [d] 95th percentile queue in feet

Table 2b. Level of Service Analysis Summary (2022/2026/2036)

	2022 BASE				2026 No-Build				2026 Build				2036 No-Build				2036 Build			
Movement	v/c[a]	Del[b]	LOS[c]	Q[d]	v/c[a]	Del[b]	LOS[c]	Q[d]	v/c[a]	Del[b]	LOS[c]	Q[d]	v/c[a]	Del[b]	LOS[c]	Q[d]	v/c[a]	Del[b]	LOS[c]	Q[d]
6: Lafayette Road at Wilton Road [Signalized]																				
***AM Peak* OVERALL**	**0.40**	**11.0**	**B**	**---**	**0.42**	**11.2**	**B**	**---**	**0.42**	**11.2**	**B**	**---**	**0.46**	**11.2**	**B**	**---**	**0.46**	**11.2**	**B**	**---**
EB L/T	0.26	38.7	D	33	0.27	38.8	D	34	0.27	38.8	D	34	0.25	38.7	D	40	0.25	38.7	D	40
EB R	0.05	36.5	D	6	0.05	36.5	D	9	0.05	36.5	D	9	0.05	36.6	D	18	0.05	36.6	D	18
WB All	0.20	37.8	D	30	0.21	37.9	D	31	0.21	37.9	D	31	0.19	37.9	D	40	0.19	37.9	D	40
NB L	0.38	38.7	D	69	0.40	38.7	D	72	0.40	38.7	D	72	0.42	38.7	D	77	0.42	38.7	D	77
NB TT/R	0.32	5.6	A	146	0.34	5.7	A	158	0.34	5.7	A	158	0.37	6.0	A	179	0.37	6.0	A	179
NB SB L	0.04	42.4	D	6	0.04	42.4	D	6	0.04	42.4	D	6	0.04	42.4	D	6	0.04	42.4	D	6
SB TT/R	0.42	9.3	A	203	0.44	9.7	A	222	0.44	9.7	A	222	0.49	10.3	B	258	0.49	10.3	B	258
***PM Peak* OVERALL**	**0.43**	**13.9**	**B**	**---**	**0.45**	**14.2**	**B**	**---**	**0.48**	**15.4**	**B**	**---**	**0.50**	**14.5**	**B**	**---**	**0.53**	**16.0**	**B**	**---**
EB L/T	0.43	49.7	D	75	0.44	49.5	D	77	0.47	49.3	D	85	0.44	49.1	D	84	0.48	49.1	D	94
EB R	0.10	45.6	D	51	0.11	45.5	D	52	0.12	44.9	D	53	0.11	45.1	D	63	0.13	44.6	D	65
WB All	0.18	46.4	D	35	0.19	46.3	D	36	0.20	45.6	D	38	0.15	45.5	D	45	0.15	44.9	D	46
NB L	0.46	51.1	D	90	0.48	51.2	D	94	0.54	52.1	D	111	0.51	51.3	D	101	0.49	48.4	D	118
NB TT/R	0.36	6.1	A	205	0.38	6.3	A	220	0.39	6.6	A	232	0.43	6.8	A	264	0.43	7.1	A	272
NB SB L	0.24	60.3	E	18	0.24	60.3	E	18	0.24	60.3	E	18	0.28	61.8	E	20	0.28	61.8	E	20
SB TT/R	0.42	9.7	A	253	0.45	10.1	B	275	0.47	11.1	B	307	0.50	11.1	B	334	0.54	13.3	B	366
***SAT Peak* OVERALL**	**0.52**	**14.7**	**B**	**---**	**0.54**	**15.5**	**B**	**---**	**0.56**	**16.5**	**B**	**---**	**0.60**	**16.1**	**B**	**---**	**0.62**	**17.2**	**B**	**---**
EB L/T	0.41	39.2	D	60	0.41	39.1	D	61	0.44	38.8	D	66	0.40	39.1	D	69	0.43	38.8	D	75
EB R	0.09	35.8	D	34	0.10	35.8	D	34	0.12	35.1	D	35	0.10	35.8	D	53	0.11	35.2	D	54
WB All	0.20	36.7	D	42	0.20	36.6	D	42	0.20	35.8	D	43	0.21	36.8	D	50	0.20	36.0	D	51
NB L	0.55	41.4	D	107	0.49	38.2	D	112	0.52	38.1	D	121	0.52	38.1	D	121	0.55	38.3	D	130
NB TT/R	0.41	7.4	A	217	0.43	7.6	A	234	0.44	8.1	A	248	0.48	8.0	A	271	0.49	8.5	A	285
NB SB L	0.17	47.5	D	14	0.17	47.5	D	14	0.17	47.5	D	14	0.21	48.5	D	15	0.21	48.5	D	15
SB TT/R	0.54	13.1	B	311	0.59	15.0	B	338	0.62	16.3	B	368	0.66	16.6	B	403	0.69	18.1	B	445

[a] Volume-to-capacity ratio - [b] Average control delay (sec/veh) - [c] Level of service - [d] 95th percentile queue in feet

CONCLUSION

In the foregoing analyses, we totaled peak hour trips from all component uses at the facility, i.e. recreation, general office, and eating/drinking place, and determined that they will generate an average of 2 trips during the AM peak hour, 104 trips during the PM peak hour, and 113 trips during the Saturday peak hour.

We then compared this traffic activity to a No-Build case that assumes the building is vacant. The Synchro analyses show that for all movements, delays and Level of Service are essentially unchanged, and the maximum 95th queue length increases by approximately one car, with most cases showing no appreciable change.

Even under this conservative approach, we find that all traffic associated with the Social Club facility will have no significant adverse impacts within the study area.

We therefore conclude that the social club operations can be safely accommodated on the adjacent roadways without the need for mitigation improvements.

Respectfully Submitted,
TFMORAN, INC.

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STATE OF NEW HAMPSHIRE
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LICENSED
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14 Aug 2026

APPENDICES

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- Calculations

APPENDIX B **Distribution**
- Calculations

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APPENDIX H **AM Synchro**
- 2022 Base
- 2026/2036 NoBuild
- 2026/2036 Build

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APPENDIX J **SAT Synchro**
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APPENDIX K **Signal Timing**

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APPENDIX A

Trip Generation

Calculations

Based on ITE Trip Generation 11th Edition

2022 Approved Trip Generation

ITE LUC 493 - Athletic Club: 18,105 sf (footprint) [1st floor 18,105 sf, 2nd floor 12,000 sf]

Time Period	Rate/Equn		Rate/ Eq	Trip Ends	Directional Split		Directional Distribution	
	X	Rate	Used		In	Out	In	Out
Weekday AM Peak Hour Adjacent Street	30.1	1.31	Rate	39	61%	39%	24	15
Weekday PM Peak Hour Adjacent Street	30.1	3.45	Rate	104	62%	38%	64	40
Weekend SAT Peak Hour of Generator	30.1	3.19	Rate	96	49%	51%	47	49

Proposed Trip Composition

100% Primary Trips

Description of LUC 493:
An athletic club is a privately-owned facility that offers comprehensive athletic facilities. An athletic club typically has courts for racquet sports (e.g., tennis, racquetball, pickleball, squash, handball); a basketball court; a sauna or spa; and fitness, exercise, and weightlifting rooms. They often provide a swimming pool or whirlpool. Athletic clubs typically offer diverse, competitive team sport activities and social facilities. These facilities are membership clubs that may allow access to the public for a fee. The primary difference between Health/Fitness Club (Land Use 492) and Athletic Club (Land Use 493) is that a Health/Fitness Club primarily focuses on individual fitness or training whereas an Athletic Club also includes competitive team sport activities and social facilities.

Based on ITE Trip Generation 12th Edition

2026 Updated Trip Generation

17,500 sf footprint. Use areas are based on 2026 Site Plan parking notes, sheet 2 of 4.

ITE LUC 493 - Athletic Club: 7,402 sf

Time Period	Variable: sf		Rate/ Eq	Trip Ends*	Directional Split		Directional Distribution	
	X	Rate	Used		In	Out	In	Out
Weekday AM Peak Hour Adjacent Street	7.4	1.96	Rate	0	58%	42%	0	0
Weekday PM Peak Hour Adjacent Street	7.4	3.38	Rate	25	63%	37%	16	9
Weekend SAT Peak Hour of Generator	7.4	2.63	Rate	19	45%	55%	9	10

**Club does not open until 4pm weekdays.*

ITE LUC 710 - General Office: 1,700 sf

Time Period	Variable: sf		Rate/ Eq	Trip Ends	Directional Split		Directional Distribution	
	X	Rate	Used		In	Out	In	Out
Weekday AM Peak Hour Adjacent Street	1.7	1.24	Rate	2	88%	12%	2	0
Weekday PM Peak Hour Adjacent Street	1.7	1.18	Rate	2	16%	84%	0	2
Weekend SAT Peak Hour of Generator	1.7	0.88	Rate	1	54%	46%	1	0

ITE LUC 932 - High-Turnover (Sit-Down) Restaurant: 8,398 sf

Time Period	Variable: sf		Rate/ Eq	Trip Ends*	Directional Split		Directional Distribution	
	X	Rate	Used		In	Out	In	Out
Weekday AM Peak Hour Adjacent Street	8.39	8.97	Rate	0	55%	45%	0	0
Weekday PM Peak Hour Adjacent Street	8.39	9.18	Rate	77	61%	39%	47	30
Weekend SAT Peak Hour of Generator	8.39	11.1	Rate	93	51%	49%	47	46

**Club does not open until 4pm weekdays.*

2026 Total Trip Generation

Time Period			Trip Ends			Directional Distribution	
						In	Out
Weekday AM Peak Hour Adjacent Street			2			2	0
Weekday PM Peak Hour Adjacent Street			104			63	41
Weekend SAT Peak Hour of Generator			113			57	56

**Club does not open until 4pm weekdays.*

Proposed Trip Composition

100% Primary Trips

APPENDIX B

Distribution

Calculations

AM Site Trip Distribution

Based on ProRata at counted intersections

Primary: AM Distribution

	In	Out
AM Totals	2	0

West Road at Driveway/Wilson Road

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
EBL		57%	0	0
EBT		38%	0	0
EBR		5%	0	0
WBL			0	0
WBT	**38%**		1	0
WBR			0	0
NBL	**5%**		0	0
NBT			0	0
NBR			0	0
SBL			0	0
SBT			0	0
SBR	**57%**		1	0

Lafayette Road at Wilson Road

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
EBL		10%	0	0
EBT		0%	0	0
EBR		28%	0	0
WBL			0	0
WBT	1%		0	0
WBR			0	0
NBL	16%		0	0
NBT			0	0
NBR			0	0
SBL			0	0
SBT			0	0
SBR	22%		1	0

PM Site Trip Distribution

Based on ProRata at counted intersections

Primary: PM Distribution

	In	Out
PM Totals	63	41

West Road at Driveway/Wilson Road

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
EBL		27%	0	11
EBT		68%	0	28
EBR		5%	0	2
WBL			0	0
WBT	**68%**		43	0
WBR			0	0
NBL	**5%**		3	0
NBT			0	0
NBR			0	0
SBL			0	0
SBT			0	0
SBR	**27%**		17	0

Lafayette Road at Wilson Road

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
EBL		14%	0	6
EBT		4%	0	2
EBR		50%	0	*20*
WBL			0	0
WBT	3%		2	0
WBR			0	0
NBL	27%		17	0
NBT			0	0
NBR			0	0
SBL			0	0
SBT			0	0
SBR	39%		*24*	0

SAT Site Trip Distribution

Based on ProRata at counted intersections

Primary: SAT Distribution

	In	Out
SAT Totals	57	56

West Road at Driveway/Wilson Road

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
EBL		44%	0	*24*
EBT		51%	0	29
EBR		5%	0	3
WBL			0	0
WBT	**51%**		29	0
WBR			0	0
NBL	**5%**		3	0
NBT			0	0
NBR			0	0
SBL			0	0
SBT			0	0
SBR	**44%**		25	0

Lafayette Road at Wilson Road

	PERCENTAGES		TRIPS	
Movement	In	Out	In	Out
EBL		14%	0	8
EBT		0%	0	0
EBR		37%	0	21
WBL			0	0
WBT	3%		2	0
WBR			0	0
NBL	22%		*12*	0
NBT			0	0
NBR			0	0
SBL			0	0
SBT			0	0
SBR	26%		15	0

TOTAL Site Trip Distribution

AM Total Site Trips

AM TOTAL: 2

West Road at Driveway/Wilson Road

Movement	TRIPS
EBL	0
EBT	0
EBR	0
WBL	0
WBT	1
WBR	0
NBL	0
NBT	0
NBR	0
SBL	0
SBT	0
SBR	1

Lafayette Road at Wilson Road

Movement	TRIPS
EBL	0
EBT	0
EBR	0
WBL	0
WBT	0
WBR	0
NBL	0
NBT	0
NBR	0
SBL	0
SBT	0
SBR	1

PM Total Site Trips

PM TOTAL: 104

West Road at Driveway/Wilson Road

Movement	TRIPS
EBL	11
EBT	28
EBR	2
WBL	0
WBT	43
WBR	0
NBL	3
NBT	0
NBR	0
SBL	0
SBT	0
SBR	17

Lafayette Road at Wilson Road

Movement	TRIPS
EBL	6
EBT	2
EBR	20
WBL	0
WBT	2
WBR	0
NBL	17
NBT	0
NBR	0
SBL	0
SBT	0
SBR	24

SAT Total Site Trips

SAT TOTAL: 113

West Road at Driveway/Wilson Road

Movement	TRIPS
EBL	24
EBT	29
EBR	3
WBL	0
WBT	29
WBR	0
NBL	3
NBT	0
NBR	0
SBL	0
SBT	0
SBR	25

Lafayette Road at Wilson Road

Movement	TRIPS
EBL	8
EBT	0
EBR	21
WBL	0
WBT	2
WBR	0
NBL	12
NBT	0
NBR	0
SBL	0
SBT	0
SBR	15

APPENDIX C

Volume Adjustments

Covid Factor

Seasonal Adjustment

Heavy Vehicle Adjustment

Year 2019 Monthly Data

Group 4 Averages: Urban Highways

Month	ADT	Adjustment to Average	Adjustment to Peak
January	11,431	1.12	1.23
February	11,848	1.08	1.18
March	12,141	1.06	1.15
April	12,860	1.00	1.09
May	13,551	0.95	1.03
June	13,785	0.93	1.02
July	13,942	0.92	1.01
August	14,016	0.92	1.00
September	13,379	0.96	1.05
October	13,339	0.96	1.05
November	12,265	1.05	1.14
December	11,496	1.12	1.22

Average ADT: 12,838
Peak ADT: 14,016

Covid Factor Calculation - NHDOT Methodology

NHDOT currently has a preference on the methodology to be used in determining any required adjustments to traffic counts collected during the pandemic (to compare the month of counts in 2019 and in the pandemic year of the counts). This process is conducted by using the NHDOT MS2 Transportation Data Management System as follows:

1 Select the appropriate permanent count station.
2 Scroll to the "Volume Count" section and select on one of the eyeball icons.
3 A new screen will open and select the "Compare Count" tab at the bottom.
4 A new window will open and scroll to the "Date Range Selection" section and type in or select the Count Date Range. The first day of the month, to the last day of the month should be selected.
5 Since NHDOT prefers that separate pandemic adjustment factors be used for the different time periods, select Monday through Friday for the weekday daily, weekday AM peak hour, and weekday PM peak hour comparisons. A separate analysis would be performed in determining the Saturday daily and Saturday midday peak hour factors.
5 Click the "Add Count" button and the time period and days of the week selected will appear on the graph to the right.
7 For the pre-pandemic volume comparison, go to the "Count Date Range" and select the same month and days but use 2019 as the pre-pandemic base. For this project, the 2019 month (first day to last day) would be used.
8 Click the "Add Count" button and the 2019 data selected will appear on the graph to the right.
9 Go to the top of the screen and select the "Grid" tab.
10 Hourly and daily ("Total") data will then be shown for the time periods selected for comparison. To determine the weekday AM peak hour comparison, review the highest peak hour traffic volumes from the counts between 7-9 AM (weekday PM = 4-6 PM, Saturday midday = 11 AM-1 PM).

Rockingham County - Group 4 Highway Station

			JUNE		
02197002	Seabrook	NH 1A (Ocean Boulevard) at Seabrook TL			
			2022	**2019**	**change**
		AM	448	466	-3.9%
		PM	782	854	-8.4%
		SAT	857	991	-13.5%
		Weekday	10136	11498	-11.8%
		Weekend (SAT)	13762	16324	-15.7%

Rockingham County - Group 4 Highway Station

			JANUARY		
82197076	Hampton Falls	US 1 (Lafayette Road) south of Road Split to NH 101			
			2022	**2019**	**change**
		AM	1450	1397	3.8%
		PM	1763	1755	0.5%
		SAT	1714	1782	-3.8%
		Weekday	22630	23285	-2.8%
		Weekend (SAT)	22384	24117	-7.2%

Strafford County - Group 4 Highway Station

			JANUARY		
02125001	Dover	Dover Point Road south of Middlebrook Road			
			2022	**2019**	**change**
		AM	698	835	-16.4%
		PM	1019	1039	-1.9%
		SAT	854	877	-2.6%
		Weekday	11641	12691	-8.3%
		Weekend (SAT)	10416	11186	-6.9%

	Average	
Covid Adjust	-5.5%	AM
	-3.3%	PM
	-6.6%	SAT
	-7.6%	Weekday
	-9.9%	Weekend (SAT)

Station 02197002: Seabrook

Count 1

N/A For Aggregated Counts

INTERVAL:60-MIN

Time	60-min Interval 1st	2nd	3rd	4th	Hourly Count	% Diff
0:00-1:00	-	-	-	-	57	3.6
1:00-2:00	-	-	-	-	43	-8.9
2:00-3:00	-	-	-	-	18	-40.0
3:00-4:00	-	-	-	-	27	11.8
4:00-5:00	-	-	-	-	53	-15.7
5:00-6:00	-	-	-	-	155	-3.2
6:00-7:00	-	-	-	-	275	-8.0
7:00-8:00	-	-	-	-	439	-9.8
8:00-9:00	-	-	-	-	448	-7.5
9:00-10:00	-	-	-	-	497	-15.6
10:00-11:00	-	-	-	-	563	-24.3
11:00-12:00	-	-	-	-	630	-20.8
12:00-13:00	-	-	-	-	681	-17.5
13:00-14:00	-	-	-	-	696	-21.2
14:00-15:00	-	-	-	-	741	-25.4
15:00-16:00	-	-	-	-	771	-23.2
16:00-17:00	-	-	-	-	747	-15.3
17:00-18:00	-	-	-	-	782	-22.7
18:00-19:00	-	-	-	-	684	-25.7
19:00-20:00	-	-	-	-	602	-31.1
20:00-21:00	-	-	-	-	504	-27.5
21:00-22:00	-	-	-	-	337	-14.6
22:00-23:00	-	-	-	-	234	-5.0
23:00-24:00	-	-	-	-	152	-35.7
Total	Counts = 11				10136	-20.1

Count Criteria

Local Id	02197002
Start Date	06/01/2022
End Date	06/30/2022
Aggregation	AVG
Include Abnormal	False
Selected Days	Monday Tuesday Wednesday Thursday Friday

Count 2

N/A For Aggregated Counts

INTERVAL:60-MIN

Time	60-min Interval 1st	2nd	3rd	4th	Hourly Count	% Diff
0:00-1:00	-	-	-	-	77	33.3
1:00-2:00	-	-	-	-	48	2.1
2:00-3:00	-	-	-	-	22	-20.4
3:00-4:00	-	-	-	-	29	18.9
4:00-5:00	-	-	-	-	67	7.8
5:00-6:00	-	-	-	-	166	3.7
6:00-7:00	-	-	-	-	278	-6.9
7:00-8:00	-	-	-	-	449	-7.5
8:00-9:00	-	-	-	-	466	-3.6
9:00-10:00	-	-	-	-	548	-5.8
10:00-11:00	-	-	-	-	653	-9.6
11:00-12:00	-	-	-	-	719	-7.6
12:00-13:00	-	-	-	-	785	-3.4
13:00-14:00	-	-	-	-	796	-7.8
14:00-15:00	-	-	-	-	832	-14.0
15:00-16:00	-	-	-	-	838	-14.9
16:00-17:00	-	-	-	-	838	-3.9
17:00-18:00	-	-	-	-	854	-13.9
18:00-19:00	-	-	-	-	758	-15.6
19:00-20:00	-	-	-	-	702	-16.0
20:00-21:00	-	-	-	-	601	-10.1
21:00-22:00	-	-	-	-	455	15.4
22:00-23:00	-	-	-	-	330	29.2
23:00-24:00	-	-	-	-	187	-15.3
Total	Counts = 20				11498	-7.6

Count Criteria

Local Id	02197002
Start Date	06/01/2019
End Date	06/30/2019
Aggregation	AVG
Include Abnormal	False
Selected Days	Monday Tuesday Wednesday Thursday Friday

Count 1

N/A For Aggregated Counts

INTERVAL:60-MIN

Time	60-min Interval 1st	2nd	3rd	4th	Hourly Count	% Diff
0:00-1:00	-	-	-	-	195	112.0
1:00-2:00	-	-	-	-	136	97.3
2:00-3:00	-	-	-	-	48	56.0
3:00-4:00	-	-	-	-	26	8.0
4:00-5:00	-	-	-	-	48	-25.5
5:00-6:00	-	-	-	-	152	-5.1
6:00-7:00	-	-	-	-	237	-22.8
7:00-8:00	-	-	-	-	381	-23.8
8:00-9:00	-	-	-	-	461	-4.7
9:00-10:00	-	-	-	-	569	-2.1
10:00-11:00	-	-	-	-	724	0.7
11:00-12:00	-	-	-	-	785	1.2
12:00-13:00	-	-	-	-	857	5.4
13:00-14:00	-	-	-	-	874	1.5
14:00-15:00	-	-	-	-	992	3.6
15:00-16:00	-	-	-	-	1057	8.3
16:00-17:00	-	-	-	-	1030	16.7
17:00-18:00	-	-	-	-	994	1.2
18:00-19:00	-	-	-	-	978	9.9
19:00-20:00	-	-	-	-	878	6.3
20:00-21:00	-	-	-	-	781	16.0
21:00-22:00	-	-	-	-	662	51.7
22:00-23:00	-	-	-	-	524	72.2
23:00-24:00	-	-	-	-	373	52.5
Total	Counts = 2				13762	10.4

Count Criteria

Local Id	02197002
Start Date	06/01/2022
End Date	06/30/2022
Aggregation	AVG
Include Abnormal	False
Selected Days	Saturday

Count 2

N/A For Aggregated Counts

INTERVAL:60-MIN

Time	60-min Interval 1st	2nd	3rd	4th	Hourly Count	% Diff
0:00-1:00	-	-	-	-	280	134.3
1:00-2:00	-	-	-	-	220	129.6
2:00-3:00	-	-	-	-	55	68.3
3:00-4:00	-	-	-	-	32	28.6
4:00-5:00	-	-	-	-	61	-1.6
5:00-6:00	-	-	-	-	145	-9.8
6:00-7:00	-	-	-	-	284	-4.8
7:00-8:00	-	-	-	-	450	-7.3
8:00-9:00	-	-	-	-	615	24.0
9:00-10:00	-	-	-	-	779	29.1
10:00-11:00	-	-	-	-	894	21.7
11:00-12:00	-	-	-	-	968	22.0
12:00-13:00	-	-	-	-	991	19.9
13:00-14:00	-	-	-	-	1011	16.6
14:00-15:00	-	-	-	-	1094	13.4
15:00-16:00	-	-	-	-	1124	14.4
16:00-17:00	-	-	-	-	1112	24.3
17:00-18:00	-	-	-	-	1153	16.0
18:00-19:00	-	-	-	-	1103	21.8
19:00-20:00	-	-	-	-	1022	21.5
20:00-21:00	-	-	-	-	915	31.6
21:00-22:00	-	-	-	-	787	67.5
22:00-23:00	-	-	-	-	717	97.8
23:00-24:00	-	-	-	-	512	80.5
Total	Counts = 5				16324	27.3

Count Criteria

Local Id	02197002
Start Date	06/01/2019
End Date	06/30/2019
Aggregation	AVG
Include Abnormal	False
Selected Days	Saturday

Station 82197076: Hampton Falls

Count 1

N/A For Aggregated Counts

INTERVAL:60-MIN

Time	60-min Interval 1st	2nd	3rd	4th	Hourly Count	% Diff
0:00-1:00	-	-	-	-	78	-8.6
1:00-2:00	-	-	-	-	50	-2.0
2:00-3:00	-	-	-	-	41	5.0
3:00-4:00	-	-	-	-	62	-16.3
4:00-5:00	-	-	-	-	167	-6.9
5:00-6:00	-	-	-	-	531	-10.5
6:00-7:00	-	-	-	-	867	0.8
7:00-8:00	-	-	-	-	1450	-2.7
8:00-9:00	-	-	-	-	1374	-1.0
9:00-10:00	-	-	-	-	1244	-5.7
10:00-11:00	-	-	-	-	1343	-6.1
11:00-12:00	-	-	-	-	1463	-4.5
12:00-13:00	-	-	-	-	1505	-2.4
13:00-14:00	-	-	-	-	1506	-0.2
14:00-15:00	-	-	-	-	1663	5.7
15:00-16:00	-	-	-	-	1702	0.4
16:00-17:00	-	-	-	-	1763	-1.4
17:00-18:00	-	-	-	-	1694	-2.2
18:00-19:00	-	-	-	-	1333	-2.3
19:00-20:00	-	-	-	-	1003	-6.0
20:00-21:00	-	-	-	-	776	0.4
21:00-22:00	-	-	-	-	512	-0.8
22:00-23:00	-	-	-	-	328	-11.5
23:00-24:00	-	-	-	-	175	4.7
Total	Counts = 11				22630	-2.1

Count Criteria

Local Id	82197076
Start Date	06/01/2022
End Date	06/30/2022
Aggregation	AVG
Include Abnormal	False
Selected Days	Monday Tuesday Wednesday Thursday Friday

Count 1

N/A For Aggregated Counts

INTERVAL:60-MIN

Time	60-min Interval 1st	2nd	3rd	4th	Hourly Count	% Diff
0:00-1:00	-	-	-	-	156	58.9
1:00-2:00	-	-	-	-	97	62.2
2:00-3:00	-	-	-	-	45	14.3
3:00-4:00	-	-	-	-	44	-49.6
4:00-5:00	-	-	-	-	102	-54.8
5:00-6:00	-	-	-	-	232	-87.1
6:00-7:00	-	-	-	-	434	-65.8
7:00-8:00	-	-	-	-	774	-63.3
8:00-9:00	-	-	-	-	1116	-21.7
9:00-10:00	-	-	-	-	1377	4.5
10:00-11:00	-	-	-	-	1619	12.6
11:00-12:00	-	-	-	-	1714	11.3
12:00-13:00	-	-	-	-	1695	9.5
13:00-14:00	-	-	-	-	1715	12.0
14:00-15:00	-	-	-	-	1676	6.5
15:00-16:00	-	-	-	-	1652	-2.6
16:00-17:00	-	-	-	-	1609	-10.5
17:00-18:00	-	-	-	-	1513	-13.5
18:00-19:00	-	-	-	-	1321	-3.2
19:00-20:00	-	-	-	-	1105	3.7
20:00-21:00	-	-	-	-	921	17.5
21:00-22:00	-	-	-	-	731	34.5
22:00-23:00	-	-	-	-	482	26.8
23:00-24:00	-	-	-	-	254	41.3
Total	Counts = 2				22384	-3.2

Count Criteria

Local Id	82197076
Start Date	06/01/2022
End Date	06/30/2022
Aggregation	AVG
Include Abnormal	False
Selected Days	Saturday

Station 02125001: Dover

Count 1

N/A For Aggregated Counts

INTERVAL:60-MIN

Time	60-min Interval 1st	2nd	3rd	4th	Hourly Count	% Diff
0:00-1:00	-	-	-	-	62	-7.8
1:00-2:00	-	-	-	-	34	12.5
2:00-3:00	-	-	-	-	24	-22.2
3:00-4:00	-	-	-	-	34	9.2
4:00-5:00	-	-	-	-	92	2.2
5:00-6:00	-	-	-	-	230	-11.5
6:00-7:00	-	-	-	-	441	0.2
7:00-8:00	-	-	-	-	698	4.2
8:00-9:00	-	-	-	-	688	-2.6
9:00-10:00	-	-	-	-	589	-4.0
10:00-11:00	-	-	-	-	612	-3.4
11:00-12:00	-	-	-	-	671	-0.1
12:00-13:00	-	-	-	-	756	0.3
13:00-14:00	-	-	-	-	750	-3.3
14:00-15:00	-	-	-	-	860	5.5
15:00-16:00	-	-	-	-	986	-1.6
16:00-17:00	-	-	-	-	1019	2.4
17:00-18:00	-	-	-	-	1009	-2.0
18:00-19:00	-	-	-	-	667	-3.1
19:00-20:00	-	-	-	-	491	-5.7
20:00-21:00	-	-	-	-	375	-4.2
21:00-22:00	-	-	-	-	254	-7.6
22:00-23:00	-	-	-	-	179	10.0
23:00-24:00	-	-	-	-	120	0.0
Total	Counts = 11				11641	-1.0

Count Criteria

Local Id	02125001
Start Date	06/01/2022
End Date	06/30/2022
Aggregation	AVG
Include Abnormal	False
Selected Days	Monday Tuesday Wednesday Thursday Friday

Count

N/A For Aggregated Counts

INTERVAL:60-MIN

Time	60-min In 1st	2nd
0:00-1:00	-	-
1:00-2:00	-	-
2:00-3:00	-	-
3:00-4:00	-	-
4:00-5:00	-	-
5:00-6:00	-	-
6:00-7:00	-	-
7:00-8:00	-	-
8:00-9:00	-	-
9:00-10:00	-	-
10:00-11:00	-	-
11:00-12:00	-	-
12:00-13:00	-	-
13:00-14:00	-	-
14:00-15:00	-	-
15:00-16:00	-	-
16:00-17:00	-	-
17:00-18:00	-	-
18:00-19:00	-	-
19:00-20:00	-	-
20:00-21:00	-	-
21:00-22:00	-	-
22:00-23:00	-	-
23:00-24:00	-	-
Total	Cou	

Count Cr

Local Id	0212500
Start Date	06/01/20
End Date	06/30/20
Aggregation	AVG
Include Abnormal	False
Selected Days	Monday T Thursday

Count 1

N/A For Aggregated Counts

INTERVAL:60-MIN

Time	60-min Interval 1st	2nd	3rd	4th	Hourly Count	% Diff
0:00-1:00	-	-	-	-	89	28.2
1:00-2:00	-	-	-	-	51	51.9
2:00-3:00	-	-	-	-	27	-10.5
3:00-4:00	-	-	-	-	24	-25.5
4:00-5:00	-	-	-	-	41	-74.8
5:00-6:00	-	-	-	-	99	-89.1
6:00-7:00	-	-	-	-	189	-79.8
7:00-8:00	-	-	-	-	302	-75.6
8:00-9:00	-	-	-	-	443	-45.8
9:00-10:00	-	-	-	-	623	1.6
10:00-11:00	-	-	-	-	732	14.5
11:00-12:00	-	-	-	-	780	14.9
12:00-13:00	-	-	-	-	854	12.4
13:00-14:00	-	-	-	-	787	1.5
14:00-15:00	-	-	-	-	867	6.3
15:00-16:00	-	-	-	-	823	-19.6
16:00-17:00	-	-	-	-	755	-27.4
17:00-18:00	-	-	-	-	763	-29.7
18:00-19:00	-	-	-	-	592	-15.0
19:00-20:00	-	-	-	-	512	-1.6
20:00-21:00	-	-	-	-	402	2.8
21:00-22:00	-	-	-	-	325	17.0
22:00-23:00	-	-	-	-	197	19.5
23:00-24:00	-	-	-	-	139	14.7
Total	Counts = 2				10416	-12.1

Count Criteria

Local Id	02125001
Start Date	06/01/2022
End Date	06/30/2022
Aggregation	AVG
Include Abnormal	False
Selected Days	Saturday

Count

N/A For Aggregated Counts

INTERVAL:60-MIN

Time	60-min In 1st	2nd
0:00-1:00	-	-
1:00-2:00	-	-
2:00-3:00	-	-
3:00-4:00	-	-
4:00-5:00	-	-
5:00-6:00	-	-
6:00-7:00	-	-
7:00-8:00	-	-
8:00-9:00	-	-
9:00-10:00	-	-
10:00-11:00	-	-
11:00-12:00	-	-
12:00-13:00	-	-
13:00-14:00		
14:00-15:00	-	-
15:00-16:00	-	-
16:00-17:00	-	-
17:00-18:00	-	-
18:00-19:00	-	-
19:00-20:00	-	-
20:00-21:00	-	-
21:00-22:00	-	-
22:00-23:00	-	-
23:00-24:00	-	-
Total	Cou	

Count Cr

Local Id	0212500
Start Date	06/01/20
End Date	06/30/20
Aggregation	AVG
Include Abnormal	False
Selected Days	Saturday

Background Traffic Volumes - HEAVY VEHICLE CALCULATIONS

NOTE: For calculated HV weighted average per NHDOT Synchro Checklist, Heavy vehicle percentages >8% are capped at 8% and not averaged into the approach value.

Volumes with strikethrough are not included in weighted average

AM Peak Hour	Existing 2022 (Raw data) [06/23/2022]	AM HEAVY	AM %Heavy	CALCULATED WEIGHTED AVERAGE	*If 0% calculated , use 2%*
West Road at Driveway/Wilson Road	**7:45 AM**				
Movement					
EBL	0	0	0%		
EBT	0	0	0%	0%	***2%***
EBR	0	0	0%		
WBL	22	2	~~9%~~	8%	***8%***
WBT	0	0	0%	6%	***6%***
WBR	31	2	6%		
NBL	0	0	0%	0%	***2%***
NBT	100	11	~~11%~~	8%	***8%***
NBR	14	3	~~21%~~	8%	***8%***
SBL	19	1	5%		
SBT	204	12	6%	6%	***6%***
SBR	2	0	0%		
Lafayette Road at Wilson Road	**8:00 AM**				
Movement					
EBL	20	3	~~15%~~	8%	***8%***
EBT	0	0	0%	6%	***6%***
EBR	52	3	6%		
WBL	12	0	0%		
WBT	3	0	0%	0%	***2%***
WBR	13	0	0%		
NBL	52	6	~~12%~~	8%	***8%***
NBT	647	38	6%	6%	***6%***
NBR	1	0	0%		
SBL	1	0	0%		
SBT	640	39	6%	6%	***6%***
SBR	73	3	4%		

Background Traffic Volumes - HEAVY VEHICLE CALCULATIONS

NOTE: For calculated HV weighted average per NHDOT Synchro Checklist, Heavy vehicle percentages >8% are capped at 8% and not averaged into the approach value.

Volumes with strikethrough are not included in weighted average

PM Peak Hour	Existing 2022 (Raw data) [06/23/2022]	SAT HEAVY	SAT %Heavy	CALCULATED WEIGHTED AVERAGE	*If 0% calculated , use 2%*
West Road at Driveway/Wilson Road	**4:30 PM**				
Movement					
EBL	0	0	0%		
EBT	1	0	0%	0%	***2%***
EBR	0	0	0%		
WBL	9	1	~~11%~~	8%	***8%***
WBT	0	0	0%	2%	***2%***
WBR	50	1	2%		
NBL	0	0	0%		
NBT	205	1	0%	1%	***1%***
NBR	33	2	6%		
SBL	48	2	4%		
SBT	64	5	8%	6%	***6%***
SBR	0	0	0%		
Lafayette Road at Wilson Road	**4:45 PM**				
Movement					
EBL	37	1	3%		
EBT	11	0	0%	1%	***1%***
EBR	132	1	1%		
WBL	11	0	0%		
WBT	6	0	0%	0%	***2%***
WBR	10	0	0%		
NBL	64	1	2%		
NBT	859	4	0%	1%	***1%***
NBR	4	0	0%		
SBL	6	0	0%		
SBT	781	7	1%	1%	***1%***
SBR	92	1	1%		

Background Traffic Volumes - HEAVY VEHICLE CALCULATIONS

NOTE: For calculated HV weighted average per NHDOT Synchro Checklist, Heavy vehicle percentages >8% are capped at 8% and not averaged into the approach value.

Volumes with strikethrough are not included in weighted average

SAT Peak Hour	Existing 2022 (Raw data) [06/25/2022]	PM HEAVY	PM %Heavy	CALCULATED WEIGHTED AVERAGE	*If 0% calculated , use 2%*
West Road at Driveway/Wilson Road	**11:15 AM**				
Movement					
EBL	0	0	0%		
EBT	1	0	0%	0%	***2%***
EBR	0	0	0%		
WBL	3	0	0%		
WBT	1	0	0%	2%	***2%***
WBR	57	1	2%		
NBL	0	0	0%	0%	***2%***
NBT	25	4	~~16%~~	8%	***8%***
NBR	2	0	0%	0%	***2%***
SBL	34	0	0%	0%	***2%***
SBT	36	4	~~11%~~	8%	***8%***
SBR	0	0	0%	0%	***2%***
Lafayette Road at Wilson Road	**11:00 AM**				
Movement					
EBL	42	0	0%		
EBT	2	0	0%	1%	***1%***
EBR	108	1	1%		
WBL	13	0	0%		
WBT	12	0	0%	0%	***2%***
WBR	10	0	0%		
NBL	96	0	0%		
NBT	825	7	1%	1%	***1%***
NBR	4	0	0%		
SBL	5	0	0%		
SBT	814	7	1%	1%	***1%***
SBR	112	1	1%		

APPENDIX D

Other Developments

AM Site Trip Distribution

Trips Based on Pernaw Report,
Distribution ProRata per Counts

Primary: AM Distribution

	In	Out
AM Totals	27	27

West Road at Driveway/Wilson Road

Movement	PERCENTAGES In	PERCENTAGES Out	TRIPS In	TRIPS Out
EBL			0	0
EBT			0	0
EBR			0	0
WBL	3%		1	0
WBT			0	0
WBR	4%		1	0
NBL			0	0
NBT			0	0
NBR		3%	0	1
SBL		4%	0	1
SBT			0	0
SBR			0	0

Lafayette Road at Wilson Road

Movement	PERCENTAGES In	PERCENTAGES Out	TRIPS In	TRIPS Out
EBL			0	0
EBT			0	0
EBR		**7%**	0	2
WBL		**2%**	0	1
WBT			0	0
WBR			0	0
NBL	**7%**		2	0
NBT	**93%**		25	0
NBR	**0%**		0	0
SBL			0	0
SBT		**91%**	0	25
SBR			0	0

PM Site Trip Distribution

Trips Based on Pernaw Report,
Distribution ProRata per Counts

Primary: PM Distribution

	In	Out
PM Totals	24	23

West Road at Driveway/Wilson Road

Movement	PERCENTAGES In	PERCENTAGES Out	TRIPS In	TRIPS Out
EBL			0	0
EBT			0	0
EBR			0	0
WBL	2%		0	0
WBT			0	0
WBR	9%		2	0
NBL			0	0
NBT			0	0
NBR		6%	0	1
SBL		8%	0	2
SBT			0	0
SBR			0	0

Lafayette Road at Wilson Road

Movement	PERCENTAGES In	PERCENTAGES Out	TRIPS In	TRIPS Out
EBL			0	0
EBT			0	0
EBR		**14%**	0	3
WBL		**1%**	0	0
WBT			0	0
WBR			0	0
NBL	**10%**		2	0
NBT	**89%**		21	0
NBR	**0%**		0	0
SBL			0	0
SBT		**85%**	0	20
SBR			0	0

SAT Site Trip Distribution

Trips Based on Pernaw Report,
Distribution ProRata per Counts

Primary: SAT Distribution

	In	Out
SAT Totals	28	24

West Road at Driveway/Wilson Road

Movement	PERCENTAGES In	PERCENTAGES Out	TRIPS In	TRIPS Out
EBL			0	0
EBT			0	0
EBR			0	0
WBL	1%		0	0
WBT			0	0
WBR	10%		3	0
NBL			0	0
NBT			0	0
NBR		1%	0	0
SBL		11%	0	3
SBT			0	0
SBR			0	0

Lafayette Road at Wilson Road

Movement	PERCENTAGES In	PERCENTAGES Out	TRIPS In	TRIPS Out
EBL			0	0
EBT			0	0
EBR		**12%**	0	3
WBL		**1%**	0	0
WBT			0	0
WBR			0	0
NBL	**10%**		3	0
NBT	**90%**		25	0
NBR	**0%**		0	0
SBL			0	0
SBT		**87%**	0	21
SBR			0	0

TOTAL Site Trip Distribution

AM Total Site Trips

AM TOTAL: 54

West Road at Driveway/Wilson Road

Movement	TRIPS
EBL	0
EBT	0
EBR	0
WBL	1
WBT	0
WBR	1
NBL	0
NBT	0
NBR	1
SBL	1
SBT	0
SBR	0

Lafayette Road at Wilson Road

Movement	TRIPS
EBL	0
EBT	0
EBR	2
WBL	1
WBT	0
WBR	0
NBL	2
NBT	25
NBR	0
SBL	0
SBT	25
SBR	0

PM Total Site Trips

PM TOTAL: 47

West Road at Driveway/Wilson Road

Movement	TRIPS
EBL	0
EBT	0
EBR	0
WBL	0
WBT	0
WBR	2
NBL	0
NBT	0
NBR	1
SBL	2
SBT	0
SBR	0

Lafayette Road at Wilson Road

Movement	TRIPS
EBL	0
EBT	0
EBR	3
WBL	0
WBT	0
WBR	0
NBL	2
NBT	21
NBR	0
SBL	0
SBT	20
SBR	0

SAT Total Site Trips

SAT TOTAL: 52

West Road at Driveway/Wilson Road

Movement	TRIPS
EBL	0
EBT	0
EBR	0
WBL	0
WBT	0
WBR	3
NBL	0
NBT	0
NBR	0
SBL	3
SBT	0
SBR	0

Lafayette Road at Wilson Road

Movement	TRIPS
EBL	0
EBT	0
EBR	3
WBL	0
WBT	0
WBR	0
NBL	3
NBT	25
NBR	0
SBL	0
SBT	21
SBR	0

OTHER DEVELOPMENTS
Site Trips
AM Peak Hour

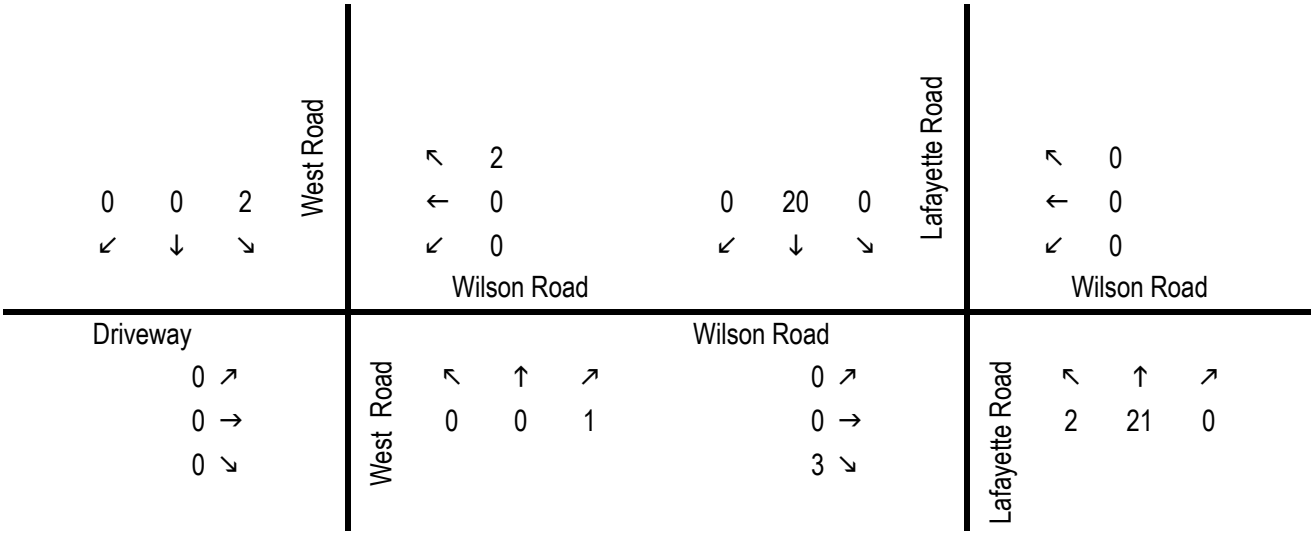
XX Other Development - Gas Station Trips

				↖	1					↗	0
				←	0					←	0
0	0	1	West Road	↙	1	0	25	0	Lafayette Road	↙	1
↙	↓	↘		Wilson Road		↙	↓	↘		Wilson Road	

Driveway							Wilson Road						
		0	↗					0	↗				
		0	→	West Road	↖	↑	↗	0	→	Lafayette Road	↖	↑	↗
		0	↘		0	0	1	2	↘		2	25	0

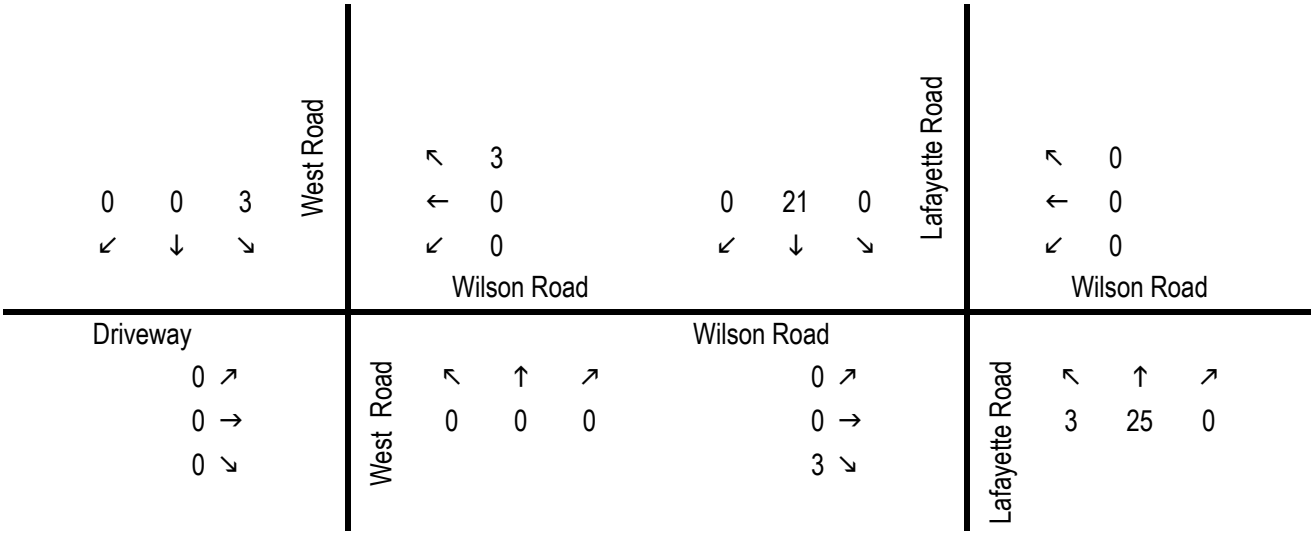
OTHER DEVELOPMENTS
Site Trips
PM Peak Hour

XX Other Development - Gas Station Trips



OTHER DEVELOPMENTS
Site Trips
SAT Peak Hour

XX Other Development - Gas Station Trips



APPENDIX E

AM Volumes

Calculations

ProRata Diagrams

47107.21 Black Rock Social Club - 2026 Update
08/10/2026

Background Traffic Volumes
AM Peak data

Assumed growth rate	**0.01**	
June 2019 Seasonal Adjust	**1.02**	NHDOT monthly adjustment factors - Group 4
COVID Adjustment	**1.055**	

Site Trips are not seasonally adjusted or grown.
All Trips are Covid Adjusted

AM Peak Hour	Existing 2022 (Raw data) [06/23/2022]	Existing 2022 w/ Seasonal Adjustment	Covid/Stay Home Adjustment	2022 BASE	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	AM PHF	% Heavy	Counted Heavy	*Calculated Heavy*
3. West Road at Driveway/Wilson Road	**7:45 AM**																					
Movement																						
EBL	0	*0*	1.055	*0.00*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*		-	0	
EBT	0	*0*	1.055	*0.00*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.00	-	0	***2%***
EBR	0	*0*	1.055	*0.00*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*		-	0	
WBL	22	22	1.055	23.21	23.44	23.67	23.91	24.15	24.39	24.63	24.88	25.13	25.38	25.63	25.89	26.15	26.41	26.67		9%	2	***8%***
WBT	0	*0*	1.055	*0.00*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.88	-	0	
WBR	31	32	1.055	33.76	34.10	34.44	34.78	35.13	35.48	35.83	36.19	36.55	36.92	37.29	37.66	38.04	38.42	38.80		6%	2	***6%***
NBL	0	*0*	1.055	*0.00*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*		-	0	***2%***
NBT	100	102	1.055	107.61	108.69	109.78	110.88	111.99	113.11	114.24	115.38	116.53	117.70	118.88	120.07	121.27	122.48	123.70	0.89	11%	11	***8%***
NBR	14	14	1.055	14.77	14.92	15.07	15.22	15.37	15.52	15.68	15.84	16.00	16.16	16.32	16.48	16.64	16.81	16.98		21%	3	***8%***
SBL	19	19	1.055	20.05	20.25	20.45	20.65	20.86	21.07	21.28	21.49	21.70	21.92	22.14	22.36	22.58	22.81	23.04		5%	1	
SBT	204	208	1.055	219.44	221.63	223.85	226.09	228.35	230.63	232.94	235.27	237.62	240.00	242.40	244.82	247.27	249.74	252.24	0.77	6%	12	***6%***
SBR	2	*2*	1.055	*2.11*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*		0%	0	
6. Lafayette Road at Wilson Road	**8:00 AM**																					
Movement																						
EBL	20	20	1.055	21.10	21.31	21.52	21.74	21.96	22.18	22.40	22.62	22.85	23.08	23.31	23.54	23.78	24.02	24.26		15%	3	***8%***
EBT	0	0	1.055	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	-	0	
EBR	52	53	1.055	55.92	56.48	57.04	57.61	58.19	58.77	59.36	59.95	60.55	61.16	61.77	62.39	63.01	63.64	64.28		6%	3	***6%***
WBL	12	12	1.055	12.66	12.79	12.92	13.05	13.18	13.31	13.44	13.57	13.71	13.85	13.99	14.13	14.27	14.41	14.55		0%	0	
WBT	3	3	1.055	3.17	3.20	3.23	3.26	3.29	3.32	3.35	3.38	3.41	3.44	3.47	3.50	3.54	3.58	3.62	0.70	0%	0	***2%***
WBR	13	13	1.055	13.72	13.86	14.00	14.14	14.28	14.42	14.56	14.71	14.86	15.01	15.16	15.31	15.46	15.61	15.77		0%	0	
NBL	52	53	1.055	55.92	56.48	57.04	57.61	58.19	58.77	59.36	59.95	60.55	61.16	61.77	62.39	63.01	63.64	64.28		12%	6	***8%***
NBT	647	660	1.055	696.30	703.26	710.29	717.39	724.56	731.81	739.13	746.52	753.99	761.53	769.15	776.84	784.61	792.46	800.38	0.94	6%	38	***6%***
NBR	1	1	1.055	1.06	1.07	1.08	1.09	1.10	1.11	1.12	1.13	1.14	1.15	1.16	1.17	1.18	1.19	1.20		0%	0	
SBL	1	1	1.055	1.06	1.07	1.08	1.09	1.10	1.11	1.12	1.13	1.14	1.15	1.16	1.17	1.18	1.19	1.20		0%	0	
SBT	640	653	1.055	688.92	695.81	702.77	709.80	716.90	724.07	731.31	738.62	746.01	753.47	761.00	768.61	776.30	784.06	791.90	0.89	6%	39	***6%***
SBR	73	74	1.055	78.07	78.85	79.64	80.44	81.24	82.05	82.87	83.70	84.54	85.39	86.24	87.10	87.97	88.85	89.74		4%	3	

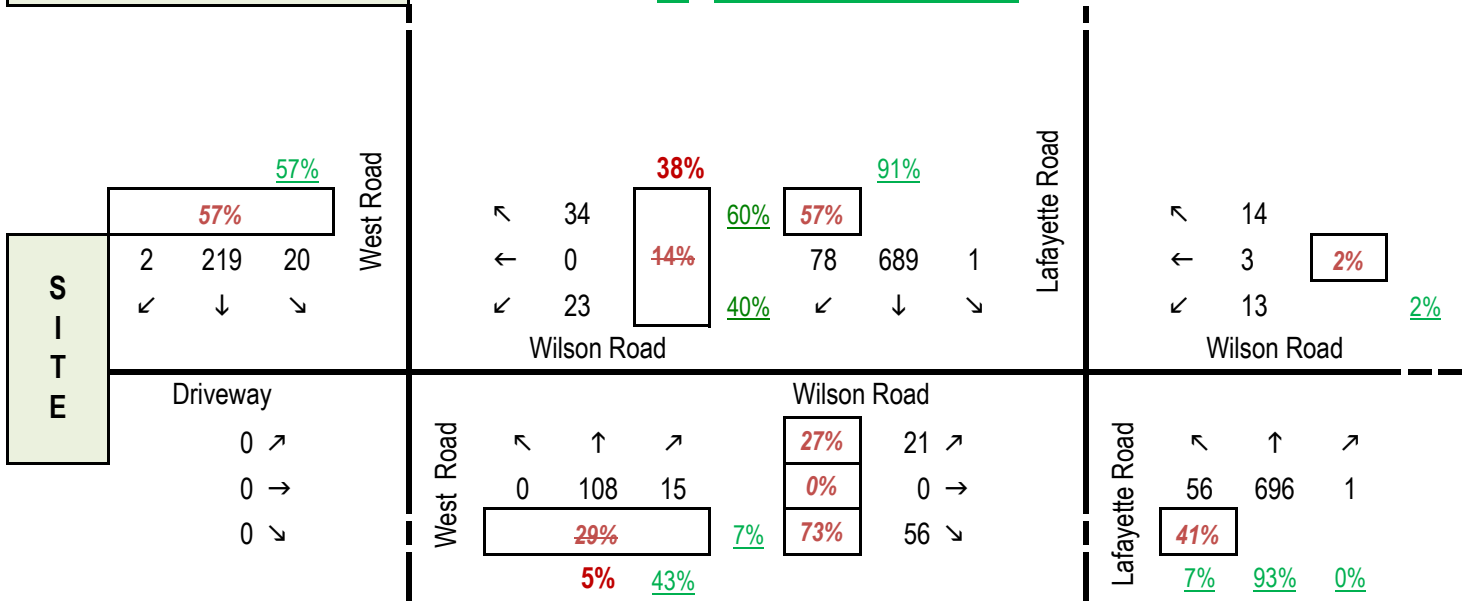
AM Peak Hour	2022 Base	2026	Other Development	2026 No-Build	Site Trip Distribution	2026 Build	Build PHF
3. West Road at Driveway/Wilson Road							
Movement							
EBL	**0**	0	0	**0**	0	**0**	
EBT	**0**	0	0	**0**	0	**0**	**0.90**
EBR	**0**	0	0	**0**	0	**0**	
WBL	**23**	24	1	**25**	0	**25**	
WBT	**0**	0	0	**0**	1	**1**	0.88
WBR	**34**	35	1	**36**	0	**36**	
NBL	**0**	0	0	**0**	0	**0**	
NBT	**108**	111	0	**111**	0	**111**	0.89
NBR	**15**	15	1	**16**	0	**16**	
SBL	**20**	21	1	**22**	0	**22**	
SBT	**219**	226	0	**226**	0	**226**	0.77
SBR	**2**	2	0	**2**	1	**3**	
6. Lafayette Road at Wilson Road							
Movement							
EBL	**21**	22	0	**22**	0	**22**	
EBT	**0**	0	0	**0**	0	**0**	0.75
EBR	**56**	58	2	**60**	0	**60**	
WBL	**13**	13	1	**14**	0	**14**	
WBT	**3**	3	0	**3**	0	**3**	0.70
WBR	**14**	14	0	**14**	0	**14**	
NBL	**56**	58	2	**60**	0	**60**	
NBT	**696**	717	25	**742**	0	**742**	0.94
NBR	**1**	1	0	**1**	0	**1**	
SBL	**1**	1	0	**1**	0	**1**	
SBT	**689**	710	25	**735**	0	**735**	0.89
SBR	**78**	80	0	**80**	1	**81**	

AM Peak Hour	2036	Other Development	2036 No-Build	Site Trip Distribution	2036 Build
3. West Road at Driveway/Wilson Road					
Movement					
EBL	0	0	**0**	0	**0**
EBT	0	0	**0**	0	**0**
EBR	0	0	**0**	0	**0**
WBL	27	1	**28**	0	**28**
WBT	0	0	**0**	1	**1**
WBR	39	1	**40**	0	**40**
NBL	0	0	**0**	0	**0**
NBT	124	0	**124**	0	**124**
NBR	17	1	**18**	0	**18**
SBL	23	1	**24**	0	**24**
SBT	252	0	**252**	0	**252**
SBR	2	0	**2**	1	**3**
6. Lafayette Road at Wilson Road					
Movement					
EBL	24	0	**24**	0	**24**
EBT	0	0	**0**	0	**0**
EBR	64	2	**66**	0	**66**
WBL	15	1	**16**	0	**16**
WBT	4	0	**4**	0	**4**
WBR	16	0	**16**	0	**16**
NBL	64	2	**66**	0	**66**
NBT	800	25	**825**	0	**825**
NBR	1	0	**1**	0	**1**
SBL	1	0	**1**	0	**1**
SBT	792	25	**817**	0	**817**
SBR	90	0	**90**	1	**91**

47107.21 Black Rock Social Club - 2026 Update
08/10/2026

2022 BASE PRORATA
AM Peak Hour

XX VOLUME
XX *Site Trips ProRata*
XX Other Development ProRata



APPENDIX F

PM Volumes

Calculations

ProRata Diagrams

Background Traffic Volumes
PM Peak data

Assumed growth rate	**0.01**	
June 2019 Seasonal Adjust	**1.02**	NHDOT monthly adjustment factors - Group 4
COVID Adjustment	**1.033**	

Site Trips are not seasonally adjusted or grown.
All Trips are Covid Adjusted

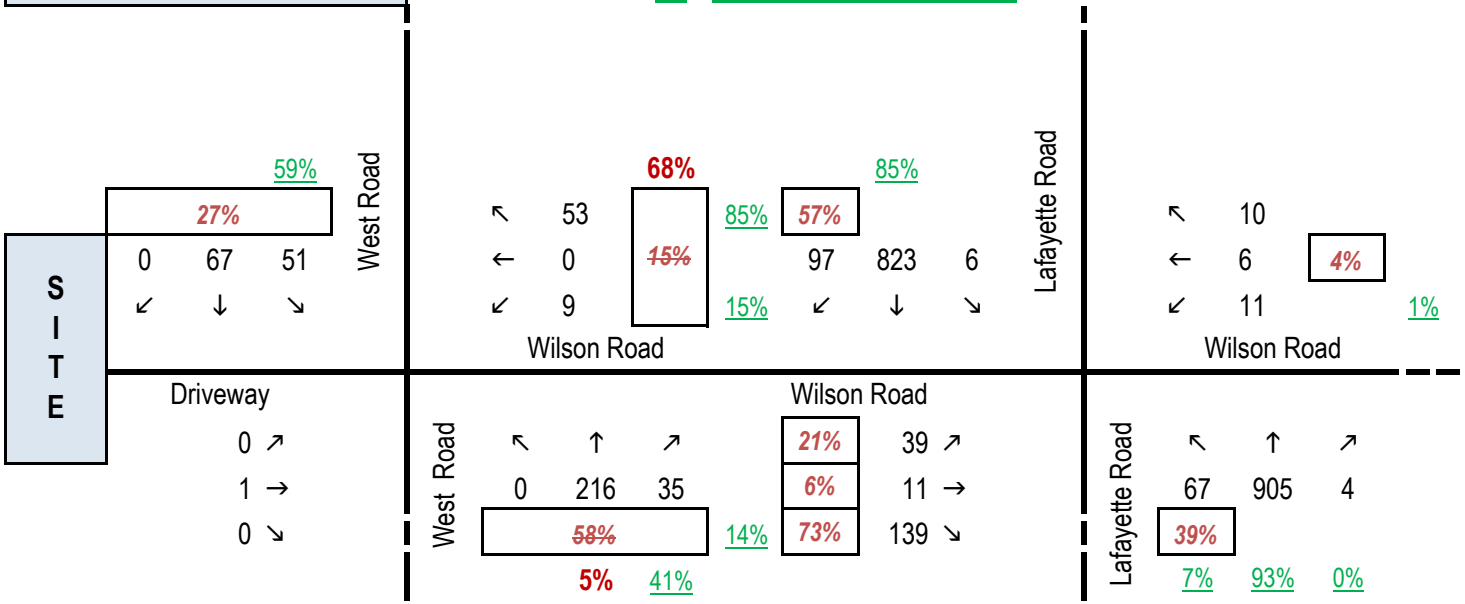
PM Peak Hour	Existing 2022 (Raw data) [06/23/2022]	Existing 2022 w/ Seasonal Adjustment	Covid/Stay Home Adjustment	2022 BASE	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	PM PHF	% Heavy	Counted Heavy	*Calculated Heavy*
3. West Road at Driveway/Wilson Road	**4:30 PM**																					
Movement																						
EBL	0	*0*	1.033	*0.00*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*		#DIV/0!	0	
EBT	1	*1*	1.033	*1.03*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	0.25	0%	0	***2%***
EBR	0	*0*	1.033	*0.00*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*		#DIV/0!	0	
WBL	9	9	1.033	9.30	9.39	9.48	9.57	9.67	9.77	9.87	9.97	10.07	10.17	10.27	10.37	10.47	10.57	10.68		11%	1	***8%***
WBT	0	*0*	1.033	*0.00*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	0.82	#DIV/0!	0	***2%***
WBR	50	51	1.033	52.68	53.21	53.74	54.28	54.82	55.37	55.92	56.48	57.04	57.61	58.19	58.77	59.36	59.95	60.55		2%	1	
NBL	0	*0*	1.033	*0.00*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*		#DIV/0!	0	
NBT	205	209	1.033	215.90	218.06	220.24	222.44	224.66	226.91	229.18	231.47	233.78	236.12	238.48	240.86	243.27	245.70	248.16	0.83	0%	1	***1%***
NBR	33	34	1.033	35.12	35.47	35.82	36.18	36.54	36.91	37.28	37.65	38.03	38.41	38.79	39.18	39.57	39.97	40.37		6%	2	
SBL	48	49	1.033	50.62	51.13	51.64	52.16	52.68	53.21	53.74	54.28	54.82	55.37	55.92	56.48	57.04	57.61	58.19		4%	2	
SBT	64	65	1.033	67.15	67.82	68.50	69.19	69.88	70.58	71.29	72.00	72.72	73.45	74.18	74.92	75.67	76.43	77.19	0.93	8%	5	***6%***
SBR	0	*0*	1.033	*0.00*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*		#DIV/0!	0	
6. Lafayette Road at Wilson Road	**4:45 PM**																					
Movement																						
EBL	37	38	1.033	39.25	39.64	40.04	40.44	40.84	41.25	41.66	42.08	42.50	42.93	43.36	43.79	44.23	44.67	45.12		3%	1	
EBT	11	11	1.033	11.36	11.47	11.58	11.70	11.82	11.94	12.06	12.18	12.30	12.42	12.54	12.67	12.80	12.93	13.06	0.85	0%	0	***1%***
EBR	132	135	1.033	139.46	140.85	142.26	143.68	145.12	146.57	148.04	149.52	151.02	152.53	154.06	155.60	157.16	158.73	160.32		1%	1	
WBL	11	11	1.033	11.36	11.47	11.58	11.70	11.82	11.94	12.06	12.18	12.30	12.42	12.54	12.67	12.80	12.93	13.06		0%	0	
WBT	6	6	1.033	6.20	6.26	6.32	6.38	6.44	6.50	6.57	6.64	6.71	6.78	6.85	6.92	6.99	7.06	7.13	0.68	0%	0	***2%***
WBR	10	10	1.033	10.33	10.43	10.53	10.64	10.75	10.86	10.97	11.08	11.19	11.30	11.41	11.52	11.64	11.76	11.88		0%	0	
NBL	64	65	1.033	67.15	67.82	68.50	69.19	69.88	70.58	71.29	72.00	72.72	73.45	74.18	74.92	75.67	76.43	77.19		2%	1	
NBT	859	876	1.033	904.91	913.96	923.10	932.33	941.65	951.07	960.58	970.19	979.89	989.69	999.59	1009.59	1019.69	1029.89	1040.19	0.97	0%	4	***1%***
NBR	4	4	1.033	4.13	4.17	4.21	4.25	4.29	4.33	4.37	4.41	4.45	4.49	4.53	4.58	4.63	4.68	4.73		0%	0	
SBL	6	6	1.033	6.20	6.26	6.32	6.38	6.44	6.50	6.57	6.64	6.71	6.78	6.85	6.92	6.99	7.06	7.13		0%	0	
SBT	781	797	1.033	823.30	831.53	839.85	848.25	856.73	865.30	873.95	882.69	891.52	900.44	909.44	918.53	927.72	937.00	946.37	0.94	1%	7	***1%***
SBR	92	94	1.033	97.10	98.07	99.05	100.04	101.04	102.05	103.07	104.10	105.14	106.19	107.25	108.32	109.40	110.49	111.59		1%	1	

PM Peak Hour	2022 Base	2026	Other Development	2026 No-Build	Site Trip Distribution	2026 Build	Build PHF
3. West Road at Driveway/Wilson Road							
Movement							
EBL	**0**	0	0	**0**	11	**11**	
EBT	**1**	1	0	**1**	28	**29**	**0.90**
EBR	**0**	0	0	**0**	2	**2**	
WBL	**9**	10	0	**10**	0	**10**	
WBT	**0**	0	0	**0**	43	**43**	0.82
WBR	**53**	54	2	**56**	0	**56**	
NBL	**0**	0	0	**0**	3	**3**	
NBT	**216**	222	0	**222**	0	**222**	0.83
NBR	**35**	36	1	**37**	0	**37**	
SBL	**51**	52	2	**54**	0	**54**	
SBT	**67**	69	0	**69**	0	**69**	0.93
SBR	**0**	0	0	**0**	17	**17**	
6. Lafayette Road at Wilson Road							
Movement							
EBL	**39**	40	0	**40**	6	**46**	
EBT	**11**	12	0	**12**	2	**14**	0.85
EBR	**139**	144	3	**147**	20	**167**	
WBL	**11**	12	0	**12**	0	**12**	
WBT	**6**	6	0	**6**	2	**8**	0.68
WBR	**10**	11	0	**11**	0	**11**	
NBL	**67**	69	2	**71**	17	**88**	
NBT	**905**	932	21	**953**	0	**953**	0.97
NBR	**4**	4	0	**4**	0	**4**	
SBL	**6**	6	0	**6**	0	**6**	
SBT	**823**	848	20	**868**	0	**868**	0.94
SBR	**97**	100	0	**100**	24	**124**	

PM Peak Hour	2036	Other Development	2036 No-Build	Site Trip Distribution	2036 Build
3. West Road at Driveway/Wilson Road					
Movement					
EBL	0	0	**0**	11	**11**
EBT	1	0	**1**	28	**29**
EBR	0	0	**0**	2	**2**
WBL	11	0	**11**	0	**11**
WBT	0	0	**0**	43	**43**
WBR	61	2	**63**	0	**63**
NBL	0	0	**0**	3	**3**
NBT	248	0	**248**	0	**248**
NBR	40	1	**41**	0	**41**
SBL	58	2	**60**	0	**60**
SBT	77	0	**77**	0	**77**
SBR	0	0	**0**	17	**17**
6. Lafayette Road at Wilson Road					
Movement					
EBL	45	0	**45**	6	**51**
EBT	13	0	**13**	2	**15**
EBR	160	3	**163**	20	**183**
WBL	13	0	**13**	0	**13**
WBT	7	0	**7**	2	**9**
WBR	12	0	**12**	0	**12**
NBL	77	2	**79**	17	**96**
NBT	1040	21	**1061**	0	**1061**
NBR	5	0	**5**	0	**5**
SBL	7	0	**7**	0	**7**
SBT	946	20	**966**	0	**966**
SBR	112	0	**112**	24	**136**

2022 BASE PRORATA
PM Peak Hour

XX VOLUME
XX Site Trips ProRata
XX Other Development ProRata



APPENDIX G

SAT Volumes

Calculations

ProRata Diagrams

Background Traffic Volumes
SAT Peak data

Assumed growth rate	**0.01**	
June 2019 Seasonal Adjust	**1.02**	NHDOT monthly adjustment factors - Group 4
COVID Adjustment	**1.066**	

Site Trips are not seasonally adjusted or grown.
All Trips are Covid Adjusted

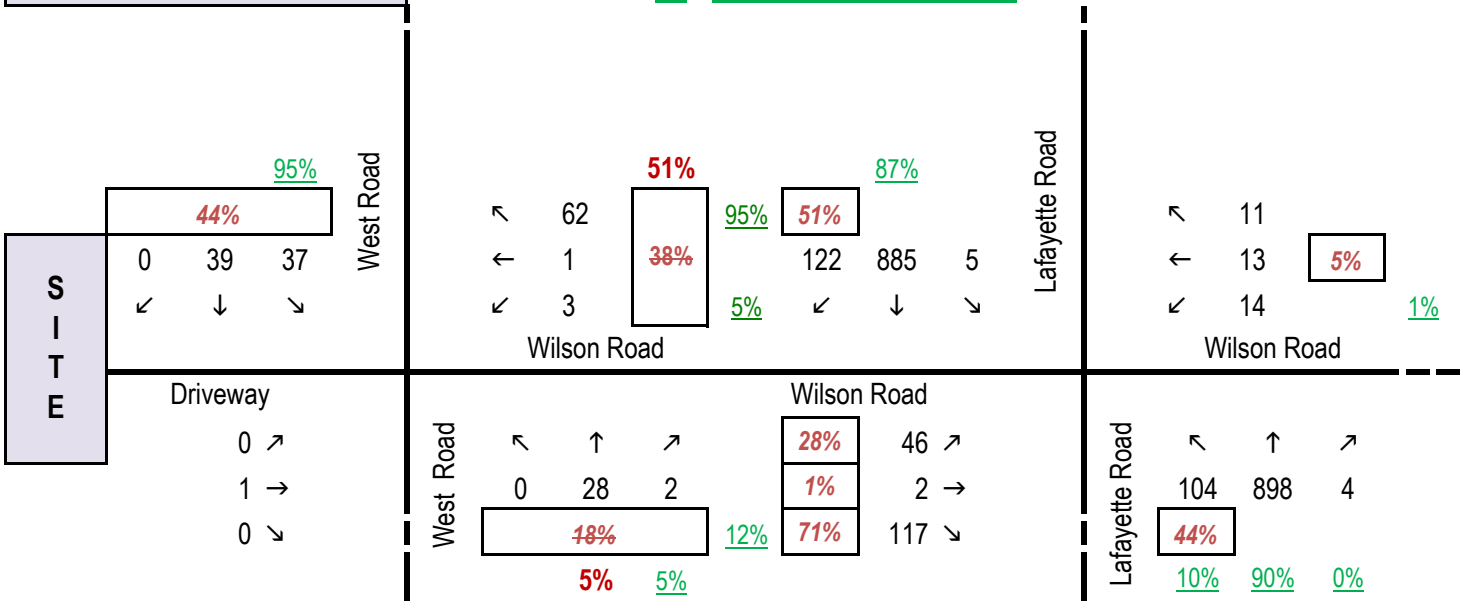
SAT Peak Hour	Existing 2022 (Raw data) [06/25/2022]	Existing 2022 w/ Seasonal Adjustment	Covid/Stay Home Adjustment	2022 BASE	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	SAT PHF	% Heavy	Counted Heavy	*Calculated Heavy*
3. West Road at Driveway/Wilson Road	**11:15 AM**																					
Movement																						
EBL	0	*0*	1.066	*0.00*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*		#DIV/0!	0	
EBT	1	*1*	1.066	*1.07*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	0.25	0%	0	***2%***
EBR	0	*0*	1.066	*0.00*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*		#DIV/0!	0	
WBL	3	3	1.066	3.20	3.23	3.26	3.29	3.32	3.35	3.38	3.41	3.44	3.47	3.50	3.54	3.58	3.62	3.66		0%	0	
WBT	1	*1*	1.066	*1.07*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	0.80	0%	0	***2%***
WBR	57	58	1.066	61.83	62.45	63.07	63.70	64.34	64.98	65.63	66.29	66.95	67.62	68.30	68.98	69.67	70.37	71.07		2%	1	
NBL	0	*0*	1.066	*0.00*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*		#DIV/0!	0	***2%***
NBT	25	26	1.066	27.72	28.00	28.28	28.56	28.85	29.14	29.43	29.72	30.02	30.32	30.62	30.93	31.24	31.55	31.87	0.75	16%	4	***8%***
NBR	2	2	1.066	2.13	2.15	2.17	2.19	2.21	2.23	2.25	2.27	2.29	2.31	2.33	2.35	2.37	2.39	2.41		0%	0	***2%***
SBL	34	35	1.066	37.31	37.68	38.06	38.44	38.82	39.21	39.60	40.00	40.40	40.80	41.21	41.62	42.04	42.46	42.88		0%	0	***2%***
SBT	36	37	1.066	39.44	39.83	40.23	40.63	41.04	41.45	41.86	42.28	42.70	43.13	43.56	44.00	44.44	44.88	45.33	0.80	11%	4	***8%***
SBR	0	*0*	1.066	*0.00*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*		#DIV/0!	0	***2%***
6. Lafayette Road at Wilson Road	**11:00 AM**																					
Movement																						
EBL	42	43	1.066	45.84	46.30	46.76	47.23	47.70	48.18	48.66	49.15	49.64	50.14	50.64	51.15	51.66	52.18	52.70		0%	0	
EBT	2	2	1.066	2.13	2.15	2.17	2.19	2.21	2.23	2.25	2.27	2.29	2.31	2.33	2.35	2.37	2.39	2.41	0.78	0%	0	***1%***
EBR	108	110	1.066	117.26	118.43	119.61	120.81	122.02	123.24	124.47	125.71	126.97	128.24	129.52	130.82	132.13	133.45	134.78		1%	1	
WBL	13	13	1.066	13.86	14.00	14.14	14.28	14.42	14.56	14.71	14.86	15.01	15.16	15.31	15.46	15.61	15.77	15.93		0%	0	
WBT	12	12	1.066	12.79	12.92	13.05	13.18	13.31	13.44	13.57	13.71	13.85	13.99	14.13	14.27	14.41	14.55	14.70	0.80	0%	0	***2%***
WBR	10	10	1.066	10.66	10.77	10.88	10.99	11.10	11.21	11.32	11.43	11.54	11.66	11.78	11.90	12.02	12.14	12.26		0%	0	
NBL	96	98	1.066	104.47	105.51	106.57	107.64	108.72	109.81	110.91	112.02	113.14	114.27	115.41	116.56	117.73	118.91	120.10		0%	0	
NBT	825	842	1.066	897.57	906.55	915.62	924.78	934.03	943.37	952.80	962.33	971.95	981.67	991.49	#####	#####	#####	#####	0.93	1%	7	***1%***
NBR	4	4	1.066	4.26	4.30	4.34	4.38	4.42	4.46	4.50	4.55	4.60	4.65	4.70	4.75	4.80	4.85	4.90		0%	0	
SBL	5	5	1.066	5.33	5.38	5.43	5.48	5.53	5.59	5.65	5.71	5.77	5.83	5.89	5.95	6.01	6.07	6.13		0%	0	
SBT	814	830	1.066	884.78	893.63	902.57	911.60	920.72	929.93	939.23	948.62	958.11	967.69	977.37	987.14	997.01	#####	#####	0.93	1%	7	***1%***
SBR	112	114	1.066	121.52	122.74	123.97	125.21	126.46	127.72	129.00	130.29	131.59	132.91	134.24	135.58	136.94	138.31	139.69		1%	1	

SAT Peak Hour	2022 Base	2026	Other Development	2026 No-Build	Site Trip Distribution	2026 Build	Build PHF
3. West Road at Driveway/Wilson Road							
Movement							
EBL	**0**	0	0	**0**	24	**24**	
EBT	**1**	1	0	**1**	29	**30**	**0.90**
EBR	**0**	0	0	**0**	3	**3**	
WBL	**3**	3	0	**3**	0	**3**	
WBT	**1**	1	0	**1**	29	**30**	0.80
WBR	**62**	64	3	**67**	0	**67**	
NBL	**0**	0	0	**0**	3	**3**	
NBT	**28**	29	0	**29**	0	**29**	0.75
NBR	**2**	2	0	**2**	0	**2**	
SBL	**37**	38	3	**41**	0	**41**	
SBT	**39**	41	0	**41**	0	**41**	0.80
SBR	**0**	0	0	**0**	25	**25**	
6. Lafayette Road at Wilson Road							
Movement							
EBL	**46**	47	0	**47**	8	**55**	
EBT	**2**	2	0	**2**	0	**2**	0.78
EBR	**117**	121	3	**124**	21	**145**	
WBL	**14**	14	0	**14**	0	**14**	
WBT	**13**	13	0	**13**	2	**15**	0.80
WBR	**11**	11	0	**11**	0	**11**	
NBL	**104**	108	3	**111**	12	**123**	
NBT	**898**	925	25	**950**	0	**950**	0.93
NBR	**4**	4	0	**4**	0	**4**	
SBL	**5**	5	0	**5**	0	**5**	
SBT	**885**	912	21	**933**	0	**933**	0.93
SBR	**122**	125	0	**125**	15	**140**	

SAT Peak Hour	2036	Other Development	2036 No-Build	Site Trip Distribution	2036 Build
3. West Road at Driveway/Wilson Road					
Movement					
EBL	0	0	**0**	24	**24**
EBT	1	0	**1**	29	**30**
EBR	0	0	**0**	3	**3**
WBL	4	0	**4**	0	**4**
WBT	1	0	**1**	29	**30**
WBR	71	3	**74**	0	**74**
NBL	0	0	**0**	3	**3**
NBT	32	0	**32**	0	**32**
NBR	2	0	**2**	0	**2**
SBL	43	3	**46**	0	**46**
SBT	45	0	**45**	0	**45**
SBR	0	0	**0**	25	**25**
6. Lafayette Road at Wilson Road					
Movement					
EBL	53	0	**53**	8	**61**
EBT	2	0	**2**	0	**2**
EBR	135	3	**138**	21	**159**
WBL	16	0	**16**	0	**16**
WBT	15	0	**15**	2	**17**
WBR	12	0	**12**	0	**12**
NBL	120	3	**123**	12	**135**
NBT	1032	25	**1057**	0	**1057**
NBR	5	0	**5**	0	**5**
SBL	6	0	**6**	0	**6**
SBT	1017	21	**1038**	0	**1038**
SBR	140	0	**140**	15	**155**

2022 BASE
PRORATA
SAT Peak Hour

XX VOLUME
XX *Site Trips ProRata*
XX Other Development ProRata



APPENDIX H

AM Synchro

2022 Base

2026/2036 NoBuild

2026/2036 Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	23	0	34	0	108	15	20	219	2
Future Volume (Veh/h)	0	0	0	23	0	34	0	108	15	20	219	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.88	0.88	0.88	0.89	0.89	0.89	0.77	0.77	0.77
Hourly flow rate (vph)	0	0	0	26	0	39	0	121	17	26	284	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	506	476	286	467	469	130	287			138		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	506	476	286	467	469	130	287			138		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.3		
p0 queue free %	100	100	100	95	100	96	100			98		
cM capacity (veh/h)	450	479	754	489	478	910	1275			1421		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	65	138	313
Volume Left	0	26	0	26
Volume Right	0	39	17	3
cSH	1700	677	1275	1421
Volume to Capacity	0.00	0.10	0.00	0.02
Queue Length 95th (ft)	0	8	0	1
Control Delay (s/veh)	0.0	10.9	0.0	0.8
Lane LOS	A	B		A
Approach Delay (s/veh)	0.0	10.9	0.0	0.8
Approach LOS	A	B		

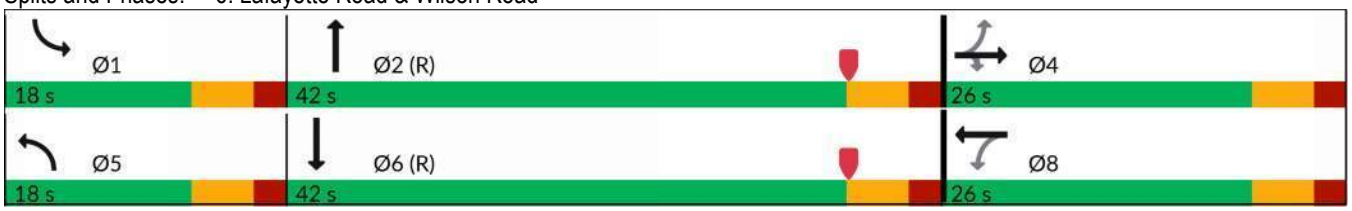
Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	32.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	21	0	56	13	3	56	696	1	689
Future Volume (vph)	21	0	56	13	3	56	696	1	689
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	10.0	5.0	10.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	11.0	16.0	11.0	16.0
Total Split (s)	26.0	26.0	26.0	26.0	26.0	18.0	42.0	18.0	42.0
Total Split (%)	30.2%	30.2%	30.2%	30.2%	30.2%	20.9%	48.8%	20.9%	48.8%
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	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		8.6	8.6		8.6	9.4	66.7	6.6	56.3
Actuated g/C Ratio		0.10	0.10		0.10	0.11	0.78	0.08	0.65
v/c Ratio		0.22	0.30		0.26	0.33	0.28	0.01	0.39
Control Delay (s/veh)		39.1	5.9		26.4	39.4	4.9	37.0	10.2
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		39.1	5.9		26.4	39.4	4.9	37.0	10.2
LOS		D	A		C	D	A	D	B
Approach Delay (s/veh)		14.9			26.4		7.4		10.3
Approach LOS		B			C		A		B

Intersection Summary

Cycle Length: 86
Actuated Cycle Length: 86
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.39
Intersection Signal Delay (s/veh): 9.7 — Intersection LOS: A
Intersection Capacity Utilization 49.1% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Lafayette Road & Wilson Road



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	28	75	43	60	741	1	862
v/c Ratio	0.22	0.30	0.26	0.33	0.28	0.01	0.39
Control Delay (s/veh)	39.1	5.9	26.4	39.4	4.9	37.0	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	39.1	5.9	26.4	39.4	4.9	37.0	10.2
Queue Length 50th (ft)	15	0	12	33	51	1	128
Queue Length 95th (ft)	33	6	30	69	146	6	203
Internal Link Dist (ft)	460		320		245		320
Turn Bay Length (ft)		100				225	
Base Capacity (vph)	298	441	357	235	2640	237	2202
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.17	0.12	0.26	0.28	0.00	0.39

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	0	56	13	3	14	56	696	1	1	689	78
Future Volume (vph)	21	0	56	13	3	14	56	696	1	1	689	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.94		1.00	1.00		1.00	0.98	
Flt Protected		0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1671	1524		1708		1671	3405		1703	3354	
Flt Permitted		0.73	1.00		0.84		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1283	1524		1474		1671	3405		1703	3354	
Peak-hour factor, PHF	0.75	0.75	0.75	0.70	0.70	0.70	0.94	0.94	0.94	0.89	0.89	0.89
Adj. Flow (vph)	28	0	75	19	4	20	60	740	1	1	774	88
RTOR Reduction (vph)	0	0	69	0	18	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	28	6	0	25	0	60	741	0	1	855	0
Heavy Vehicles (%)	8%	6%	6%	2%	2%	2%	8%	6%	6%	6%	6%	6%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		7.2	7.2		7.2		8.1	59.4		1.4	52.7	
Effective Green, g (s)		7.2	7.2		7.2		8.1	59.4		1.4	52.7	
Actuated g/C Ratio		0.08	0.08		0.08		0.09	0.69		0.02	0.61	
Clearance Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		4.0	4.0		4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)		107	127		123		157	2351		27	2055	
v/s Ratio Prot							c0.04	c0.22		0.00	c0.26	
v/s Ratio Perm		c0.02	0.00		0.02							
v/c Ratio		0.26	0.05		0.20		0.38	0.32		0.04	0.42	
Uniform Delay, d1		36.9	36.3		36.7		36.6	5.3		41.6	8.7	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.8	0.2		1.1		2.1	0.4		0.8	0.6	
Delay (s)		38.7	36.5		37.8		38.7	5.6		42.4	9.3	
Level of Service		D	D		D		D	A		D	A	
Approach Delay (s/veh)		37.1			37.8			8.1			9.3	
Approach LOS		D			D			A			A	

Intersection Summary

HCM 2000 Control Delay (s/veh)	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	49.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	25	0	36	0	111	16	22	226	2
Future Volume (Veh/h)	0	0	0	25	0	36	0	111	16	22	226	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.88	0.88	0.88	0.89	0.89	0.89	0.77	0.77	0.77
Hourly flow rate (vph)	0	0	0	28	0	41	0	125	18	29	294	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	529	497	296	488	489	134	297			143		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	529	497	296	488	489	134	297			143		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.3		
p0 queue free %	100	100	100	94	100	95	100			98		
cM capacity (veh/h)	433	465	744	473	464	904	1264			1415		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	69	143	326
Volume Left	0	28	0	29
Volume Right	0	41	18	3
cSH	1700	660	1264	1415
Volume to Capacity	0.00	0.10	0.00	0.02
Queue Length 95th (ft)	0	9	0	2
Control Delay (s/veh)	0.0	11.1	0.0	0.8
Lane LOS	A	B		A
Approach Delay (s/veh)	0.0	11.1	0.0	0.8
Approach LOS	A	B		

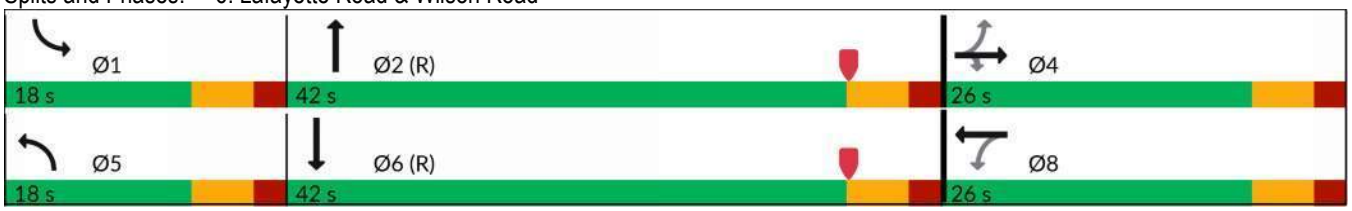
Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	33.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	22	0	60	14	3	60	742	1	735
Future Volume (vph)	22	0	60	14	3	60	742	1	735
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	10.0	5.0	10.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	11.0	16.0	11.0	16.0
Total Split (s)	26.0	26.0	26.0	26.0	26.0	18.0	42.0	18.0	42.0
Total Split (%)	30.2%	30.2%	30.2%	30.2%	30.2%	20.9%	48.8%	20.9%	48.8%
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	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		8.6	8.6		8.6	9.6	66.6	6.6	56.0
Actuated g/C Ratio		0.10	0.10		0.10	0.11	0.77	0.08	0.65
v/c Ratio		0.23	0.31		0.27	0.34	0.30	0.01	0.42
Control Delay (s/veh)		39.2	6.5		26.7	39.5	5.0	37.0	10.7
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		39.2	6.5		26.7	39.5	5.0	37.0	10.7
LOS		D	A		C	D	A	D	B
Approach Delay (s/veh)		15.2			26.7		7.6		10.7
Approach LOS		B			C		A		B

Intersection Summary

Cycle Length: 86
Actuated Cycle Length: 86
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.42
Intersection Signal Delay (s/veh): 9.9 — Intersection LOS: A
Intersection Capacity Utilization 50.5% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Lafayette Road & Wilson Road



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	29	80	44	64	790	1	916
v/c Ratio	0.23	0.31	0.27	0.34	0.30	0.01	0.42
Control Delay (s/veh)	39.2	6.5	26.7	39.5	5.0	37.0	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	39.2	6.5	26.7	39.5	5.0	37.0	10.7
Queue Length 50th (ft)	16	0	12	35	56	1	141
Queue Length 95th (ft)	34	9	31	72	158	6	222
Internal Link Dist (ft)	460		320		245		320
Turn Bay Length (ft)		100				225	
Base Capacity (vph)	297	441	356	236	2637	237	2192
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	0.10	0.18	0.12	0.27	0.30	0.00	0.42

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	0	60	14	3	14	60	742	1	1	735	80
Future Volume (vph)	22	0	60	14	3	14	60	742	1	1	735	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.94		1.00	1.00		1.00	0.99	
Flt Protected		0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1671	1524		1710		1671	3405		1703	3355	
Flt Permitted		0.73	1.00		0.84		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1281	1524		1469		1671	3405		1703	3355	
Peak-hour factor, PHF	0.75	0.75	0.75	0.70	0.70	0.70	0.94	0.94	0.94	0.89	0.89	0.89
Adj. Flow (vph)	29	0	80	20	4	20	64	789	1	1	826	90
RTOR Reduction (vph)	0	0	73	0	18	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	29	7	0	26	0	64	790	0	1	909	0
Heavy Vehicles (%)	8%	6%	6%	2%	2%	2%	8%	6%	6%	6%	6%	6%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		7.2	7.2		7.2		8.3	59.4		1.4	52.5	
Effective Green, g (s)		7.2	7.2		7.2		8.3	59.4		1.4	52.5	
Actuated g/C Ratio		0.08	0.08		0.08		0.10	0.69		0.02	0.61	
Clearance Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		4.0	4.0		4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)		107	127		122		161	2351		27	2048	
v/s Ratio Prot							c0.04	c0.23		0.00	c0.27	
v/s Ratio Perm		c0.02	0.00		0.02							
v/c Ratio		0.27	0.05		0.21		0.40	0.34		0.04	0.44	
Uniform Delay, d1		36.9	36.3		36.7		36.5	5.4		41.6	9.0	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.9	0.2		1.2		2.2	0.4		0.8	0.7	
Delay (s)		38.8	36.5		37.9		38.7	5.7		42.4	9.7	
Level of Service		D	D		D		D	A		D	A	
Approach Delay (s/veh)		37.1			37.9			8.2			9.7	
Approach LOS		D			D			A			A	

Intersection Summary

HCM 2000 Control Delay (s/veh)	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	50.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	28	0	40	0	124	18	24	252	2
Future Volume (Veh/h)	0	0	0	28	0	40	0	124	18	24	252	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	31	0	44	0	138	20	27	280	2
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	527	493	281	483	484	148	282			158		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	527	493	281	483	484	148	282			158		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.3		
p0 queue free %	100	100	100	94	100	95	100			98		
cM capacity (veh/h)	432	468	758	477	468	888	1280			1398		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	75	158	309
Volume Left	0	31	0	27
Volume Right	0	44	20	2
cSH	1700	655	1280	1398
Volume to Capacity	0.00	0.11	0.00	0.02
Queue Length 95th (ft)	0	10	0	1
Control Delay (s/veh)	0.0	11.2	0.0	0.8
Lane LOS	A	B		A
Approach Delay (s/veh)	0.0	11.2	0.0	0.8
Approach LOS	A	B		

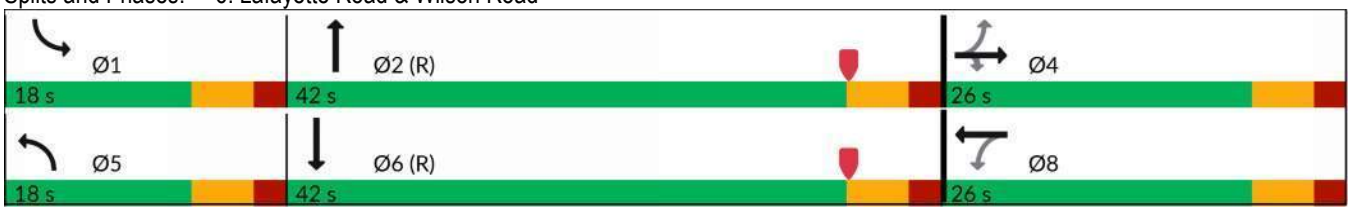
Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	24	0	66	16	4	66	825	1	817
Future Volume (vph)	24	0	66	16	4	66	825	1	817
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	10.0	5.0	10.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	11.0	16.0	11.0	16.0
Total Split (s)	26.0	26.0	26.0	26.0	26.0	18.0	42.0	18.0	42.0
Total Split (%)	30.2%	30.2%	30.2%	30.2%	30.2%	20.9%	48.8%	20.9%	48.8%
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	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		8.5	8.5		8.5	9.9	66.7	6.6	55.9
Actuated g/C Ratio		0.10	0.10		0.10	0.12	0.78	0.08	0.65
v/c Ratio		0.21	0.29		0.25	0.36	0.33	0.01	0.46
Control Delay (s/veh)		39.1	5.6		26.7	39.7	5.1	37.0	11.3
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		39.1	5.6		26.7	39.7	5.1	37.0	11.3
LOS		D	A		C	D	A	D	B
Approach Delay (s/veh)		14.7			26.7		7.7		11.3
Approach LOS		B			C		A		B

Intersection Summary

Cycle Length: 86
Actuated Cycle Length: 86
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.46
Intersection Signal Delay (s/veh): 10.1 — Intersection LOS: B
Intersection Capacity Utilization 53.4% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Lafayette Road & Wilson Road



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	73	40	70	879	1	1008
v/c Ratio	0.21	0.29	0.25	0.36	0.33	0.01	0.46
Control Delay (s/veh)	39.1	5.6	26.7	39.7	5.1	37.0	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	39.1	5.6	26.7	39.7	5.1	37.0	11.3
Queue Length 50th (ft)	14	0	11	38	64	1	162
Queue Length 95th (ft)	40	18	40	77	179	6	258
Internal Link Dist (ft)	460		320		245		320
Turn Bay Length (ft)		100				225	
Base Capacity (vph)	299	441	356	238	2643	237	2187
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.17	0.11	0.29	0.33	0.00	0.46

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	0	66	16	4	16	66	825	1	1	817	90
Future Volume (vph)	24	0	66	16	4	16	66	825	1	1	817	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.94		1.00	1.00		1.00	0.99	
Flt Protected		0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1671	1524		1711		1671	3405		1703	3355	
Flt Permitted		0.73	1.00		0.84		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1286	1524		1474		1671	3405		1703	3355	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.94	0.94	0.94	0.90	0.90	0.90
Adj. Flow (vph)	27	0	73	18	4	18	70	878	1	1	908	100
RTOR Reduction (vph)	0	0	67	0	17	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	27	6	0	23	0	70	879	0	1	1001	0
Heavy Vehicles (%)	8%	6%	6%	2%	2%	2%	8%	6%	6%	6%	6%	6%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		7.1	7.1		7.1		8.6	59.5		1.4	52.3	
Effective Green, g (s)		7.1	7.1		7.1		8.6	59.5		1.4	52.3	
Actuated g/C Ratio		0.08	0.08		0.08		0.10	0.69		0.02	0.61	
Clearance Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		4.0	4.0		4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)		106	125		121		167	2355		27	2040	
v/s Ratio Prot							c0.04	c0.26		0.00	c0.30	
v/s Ratio Perm		c0.02	0.00		0.02							
v/c Ratio		0.25	0.05		0.19		0.42	0.37		0.04	0.49	
Uniform Delay, d1		37.0	36.3		36.8		36.4	5.5		41.6	9.4	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.7	0.2		1.1		2.3	0.5		0.8	0.8	
Delay (s)		38.7	36.6		37.9		38.7	6.0		42.4	10.3	
Level of Service		D	D		D		D	A		D	B	
Approach Delay (s/veh)		37.1			37.9			8.4			10.3	
Approach LOS		D			D			A			B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	25	1	36	0	111	16	22	226	3
Future Volume (Veh/h)	0	0	0	25	1	36	0	111	16	22	226	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.88	0.88	0.88	0.89	0.89	0.89	0.77	0.77	0.77
Hourly flow rate (vph)	0	0	0	28	1	41	0	125	18	29	294	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	530	497	296	488	490	134	298			143		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	530	497	296	488	490	134	298			143		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.3		
p0 queue free %	100	100	100	94	100	95	100			98		
cM capacity (veh/h)	432	465	743	473	463	904	1263			1415		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	70	143	327
Volume Left	0	28	0	29
Volume Right	0	41	18	4
cSH	1700	656	1263	1415
Volume to Capacity	0.00	0.11	0.00	0.02
Queue Length 95th (ft)	0	9	0	2
Control Delay (s/veh)	0.0	11.1	0.0	0.8
Lane LOS	A	B		A
Approach Delay (s/veh)	0.0	11.1	0.0	0.8
Approach LOS	A	B		

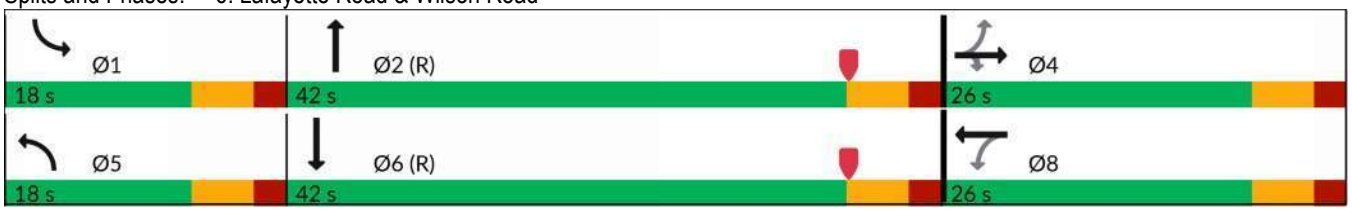
Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	22	0	60	14	3	60	742	1	735
Future Volume (vph)	22	0	60	14	3	60	742	1	735
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	10.0	5.0	10.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	11.0	16.0	11.0	16.0
Total Split (s)	26.0	26.0	26.0	26.0	26.0	18.0	42.0	18.0	42.0
Total Split (%)	30.2%	30.2%	30.2%	30.2%	30.2%	20.9%	48.8%	20.9%	48.8%
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	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		8.6	8.6		8.6	9.6	66.6	6.6	56.0
Actuated g/C Ratio		0.10	0.10		0.10	0.11	0.77	0.08	0.65
v/c Ratio		0.23	0.31		0.27	0.34	0.30	0.01	0.42
Control Delay (s/veh)		39.2	6.5		26.7	39.5	5.0	37.0	10.7
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		39.2	6.5		26.7	39.5	5.0	37.0	10.7
LOS		D	A		C	D	A	D	B
Approach Delay (s/veh)		15.2			26.7		7.6		10.7
Approach LOS		B			C		A		B

Intersection Summary

Cycle Length: 86
Actuated Cycle Length: 86
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.42
Intersection Signal Delay (s/veh): 10.0 — Intersection LOS: A
Intersection Capacity Utilization 50.5% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Lafayette Road & Wilson Road



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	29	80	44	64	790	1	917
v/c Ratio	0.23	0.31	0.27	0.34	0.30	0.01	0.42
Control Delay (s/veh)	39.2	6.5	26.7	39.5	5.0	37.0	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	39.2	6.5	26.7	39.5	5.0	37.0	10.7
Queue Length 50th (ft)	16	0	12	35	56	1	141
Queue Length 95th (ft)	34	9	31	72	158	6	222
Internal Link Dist (ft)	460		320		245		320
Turn Bay Length (ft)		100				225	
Base Capacity (vph)	297	441	356	236	2637	237	2192
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	0.10	0.18	0.12	0.27	0.30	0.00	0.42

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	0	60	14	3	14	60	742	1	1	735	81
Future Volume (vph)	22	0	60	14	3	14	60	742	1	1	735	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.94		1.00	1.00		1.00	0.99	
Flt Protected		0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1671	1524		1710		1671	3405		1703	3355	
Flt Permitted		0.73	1.00		0.84		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1281	1524		1469		1671	3405		1703	3355	
Peak-hour factor, PHF	0.75	0.75	0.75	0.70	0.70	0.70	0.94	0.94	0.94	0.89	0.89	0.89
Adj. Flow (vph)	29	0	80	20	4	20	64	789	1	1	826	91
RTOR Reduction (vph)	0	0	73	0	18	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	29	7	0	26	0	64	790	0	1	910	0
Heavy Vehicles (%)	8%	6%	6%	2%	2%	2%	8%	6%	6%	6%	6%	6%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		7.2	7.2		7.2		8.3	59.4		1.4	52.5	
Effective Green, g (s)		7.2	7.2		7.2		8.3	59.4		1.4	52.5	
Actuated g/C Ratio		0.08	0.08		0.08		0.10	0.69		0.02	0.61	
Clearance Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		4.0	4.0		4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)		107	127		122		161	2351		27	2048	
v/s Ratio Prot							c0.04	c0.23		0.00	c0.27	
v/s Ratio Perm		c0.02	0.00		0.02							
v/c Ratio		0.27	0.05		0.21		0.40	0.34		0.04	0.44	
Uniform Delay, d1		36.9	36.3		36.7		36.5	5.4		41.6	9.0	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.9	0.2		1.2		2.2	0.4		0.8	0.7	
Delay (s)		38.8	36.5		37.9		38.7	5.7		42.4	9.7	
Level of Service		D	D		D		D	A		D	A	
Approach Delay (s/veh)		37.1			37.9			8.2			9.7	
Approach LOS		D			D			A			A	

Intersection Summary

HCM 2000 Control Delay (s/veh)	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	50.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	28	1	40	0	124	18	24	252	3
Future Volume (Veh/h)	0	0	0	28	1	40	0	124	18	24	252	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	0	31	1	44	0	138	20	27	280	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	528	494	282	484	485	148	283			158		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	528	494	282	484	485	148	283			158		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.3		
p0 queue free %	100	100	100	93	100	95	100			98		
cM capacity (veh/h)	431	468	757	477	467	888	1279			1398		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	76	158	310
Volume Left	0	31	0	27
Volume Right	0	44	20	3
cSH	1700	651	1279	1398
Volume to Capacity	0.00	0.12	0.00	0.02
Queue Length 95th (ft)	0	10	0	1
Control Delay (s/veh)	0.0	11.3	0.0	0.8
Lane LOS	A	B		A
Approach Delay (s/veh)	0.0	11.3	0.0	0.8
Approach LOS	A	B		

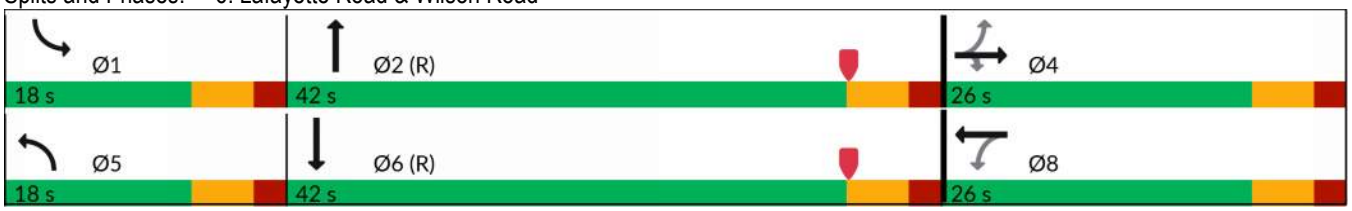
Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	36.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	24	0	66	16	4	66	825	1	817
Future Volume (vph)	24	0	66	16	4	66	825	1	817
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	10.0	5.0	10.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	11.0	16.0	11.0	16.0
Total Split (s)	26.0	26.0	26.0	26.0	26.0	18.0	42.0	18.0	42.0
Total Split (%)	30.2%	30.2%	30.2%	30.2%	30.2%	20.9%	48.8%	20.9%	48.8%
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	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		8.5	8.5		8.5	9.9	66.7	6.6	55.9
Actuated g/C Ratio		0.10	0.10		0.10	0.12	0.78	0.08	0.65
v/c Ratio		0.21	0.29		0.25	0.36	0.33	0.01	0.46
Control Delay (s/veh)		39.1	5.6		26.7	39.7	5.1	37.0	11.3
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		39.1	5.6		26.7	39.7	5.1	37.0	11.3
LOS		D	A		C	D	A	D	B
Approach Delay (s/veh)		14.7			26.7		7.7		11.3
Approach LOS		B			C		A		B

Intersection Summary

Cycle Length: 86
Actuated Cycle Length: 86
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.46
Intersection Signal Delay (s/veh): 10.1 — Intersection LOS: B
Intersection Capacity Utilization 53.4% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 6: Lafayette Road & Wilson Road



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	73	40	70	879	1	1009
v/c Ratio	0.21	0.29	0.25	0.36	0.33	0.01	0.46
Control Delay (s/veh)	39.1	5.6	26.7	39.7	5.1	37.0	11.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	39.1	5.6	26.7	39.7	5.1	37.0	11.3
Queue Length 50th (ft)	14	0	11	38	64	1	163
Queue Length 95th (ft)	40	18	40	77	179	6	258
Internal Link Dist (ft)	460		320		245		320
Turn Bay Length (ft)		100				225	
Base Capacity (vph)	299	441	356	238	2643	237	2187
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.17	0.11	0.29	0.33	0.00	0.46

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	0	66	16	4	16	66	825	1	1	817	91
Future Volume (vph)	24	0	66	16	4	16	66	825	1	1	817	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.94		1.00	1.00		1.00	0.98	
Flt Protected		0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1671	1524		1711		1671	3405		1703	3355	
Flt Permitted		0.73	1.00		0.84		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1286	1524		1474		1671	3405		1703	3355	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.94	0.94	0.94	0.90	0.90	0.90
Adj. Flow (vph)	27	0	73	18	4	18	70	878	1	1	908	101
RTOR Reduction (vph)	0	0	67	0	17	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	27	6	0	23	0	70	879	0	1	1002	0
Heavy Vehicles (%)	8%	6%	6%	2%	2%	2%	8%	6%	6%	6%	6%	6%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		7.1	7.1		7.1		8.6	59.5		1.4	52.3	
Effective Green, g (s)		7.1	7.1		7.1		8.6	59.5		1.4	52.3	
Actuated g/C Ratio		0.08	0.08		0.08		0.10	0.69		0.02	0.61	
Clearance Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		4.0	4.0		4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)		106	125		121		167	2355		27	2040	
v/s Ratio Prot							c0.04	c0.26		0.00	c0.30	
v/s Ratio Perm		c0.02	0.00		0.02							
v/c Ratio		0.25	0.05		0.19		0.42	0.37		0.04	0.49	
Uniform Delay, d1		37.0	36.3		36.8		36.4	5.5		41.6	9.4	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.7	0.2		1.1		2.3	0.5		0.8	0.8	
Delay (s)		38.7	36.6		37.9		38.7	6.0		42.4	10.3	
Level of Service		D	D		D		D	A		D	B	
Approach Delay (s/veh)		37.1			37.9			8.4			10.3	
Approach LOS		D			D			A			B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX I

PM Synchro

2022 Base

2026/2036 NoBuild

2026/2036 Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	0	9	0	53	0	216	35	51	67	0
Future Volume (Veh/h)	0	1	0	9	0	53	0	216	35	51	67	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.82	0.82	0.82	0.83	0.83	0.83	0.93	0.93	0.93
Hourly flow rate (vph)	0	4	0	11	0	65	0	260	42	55	72	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	528	484	72	465	463	281	72			302		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	528	484	72	465	463	281	72			302		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.3		
p0 queue free %	100	99	100	98	100	91	100			96		
cM capacity (veh/h)	407	461	990	478	474	758	1534			1237		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	76	302	127
Volume Left	0	11	0	55
Volume Right	0	65	42	0
cSH	461	699	1534	1237
Volume to Capacity	0.00*	0.11	0.00	0.04
Queue Length 95th (ft)	1	9	0	3
Control Delay (s/veh)	12.9	10.8	0.0	3.7
Lane LOS	B	B		A
Approach Delay (s/veh)	12.9	10.8	0.0	3.7
Approach LOS	B	B		

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		

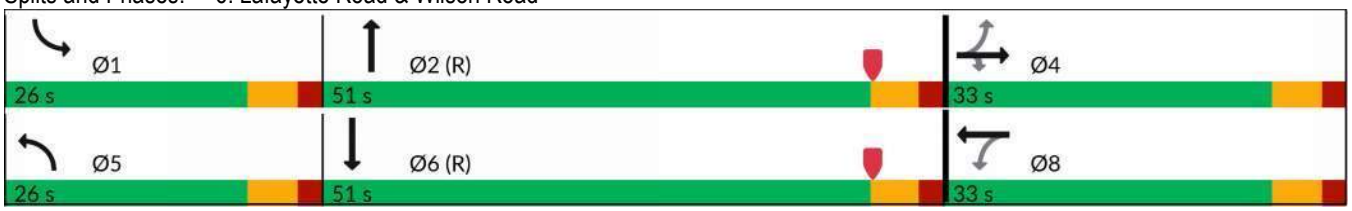
* Value less than 0.01.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	39	11	139	11	6	67	905	6	823
Future Volume (vph)	39	11	139	11	6	67	905	6	823
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	10.0	5.0	10.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	11.0	16.0	11.0	16.0
Total Split (s)	33.0	33.0	33.0	33.0	33.0	26.0	51.0	26.0	51.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	30.0%	23.6%	46.4%	23.6%	46.4%
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	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		10.8	10.8		10.8	10.6	84.4	7.0	73.2
Actuated g/C Ratio		0.10	0.10		0.10	0.10	0.77	0.06	0.67
v/c Ratio		0.43	0.54		0.25	0.40	0.34	0.05	0.42
Control Delay (s/veh)		55.2	13.8		34.9	52.9	5.4	49.0	10.5
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		55.2	13.8		34.9	52.9	5.4	49.0	10.5
LOS		E	B		C	D	A	D	B
Approach Delay (s/veh)		24.7			34.9		8.6		10.7
Approach LOS		C			C		A		B

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay (s/veh): 11.6 — Intersection LOS: B
Intersection Capacity Utilization 55.3% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 6: Lafayette Road & Wilson Road



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	59	164	40	69	937	6	979
v/c Ratio	0.43	0.54	0.25	0.40	0.34	0.05	0.42
Control Delay (s/veh)	55.2	13.8	34.9	52.9	5.4	49.0	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.2	13.8	34.9	52.9	5.4	49.0	10.5
Queue Length 50th (ft)	40	0	17	47	78	4	164
Queue Length 95th (ft)	75	51	35	90	205	18	253
Internal Link Dist (ft)	460		320		245		320
Turn Bay Length (ft)		100				225	
Base Capacity (vph)	344	516	378	324	2739	324	2343
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	0.17	0.32	0.11	0.21	0.34	0.02	0.42

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	11	139	11	6	10	67	905	4	6	823	97
Future Volume (vph)	39	11	139	11	6	10	67	905	4	6	823	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.95		1.00	1.00		1.00	0.98	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1811	1599		1734		1787	3572		1787	3518	
Flt Permitted		0.75	1.00		0.85		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1404	1599		1497		1787	3572		1787	3518	
Peak-hour factor, PHF	0.85	0.85	0.85	0.68	0.68	0.68	0.97	0.97	0.97	0.94	0.94	0.94
Adj. Flow (vph)	46	13	164	16	9	15	69	933	4	6	876	103
RTOR Reduction (vph)	0	0	148	0	14	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	59	16	0	26	0	69	937	0	6	974	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		10.8	10.8		10.8		9.2	79.6		1.6	72.0	
Effective Green, g (s)		10.8	10.8		10.8		9.2	79.6		1.6	72.0	
Actuated g/C Ratio		0.10	0.10		0.10		0.08	0.72		0.01	0.65	
Clearance Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		4.0	4.0		4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)		137	156		146		149	2584		25	2302	
v/s Ratio Prot							c0.04	0.26		0.00	c0.28	
v/s Ratio Perm		c0.04	0.01		0.02							
v/c Ratio		0.43	0.10		0.18		0.46	0.36		0.24	0.42	
Uniform Delay, d1		46.7	45.2		45.5		48.0	5.7		53.6	9.1	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.9	0.4		0.8		3.1	0.4		6.7	0.6	
Delay (s)		49.7	45.6		46.4		51.1	6.1		60.3	9.7	
Level of Service		D	D		D		D	A		E	A	
Approach Delay (s/veh)		46.7			46.4			9.2			10.0	
Approach LOS		D			D			A			A	

Intersection Summary

HCM 2000 Control Delay (s/veh)	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	0	10	0	56	0	222	37	54	69	0
Future Volume (Veh/h)	0	1	0	10	0	56	0	222	37	54	69	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.82	0.82	0.82	0.83	0.83	0.83	0.93	0.93	0.93
Hourly flow rate (vph)	0	4	0	12	0	68	0	267	45	58	74	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	548	502	74	482	480	290	74			312		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	548	502	74	482	480	290	74			312		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.3		
p0 queue free %	100	99	100	97	100	91	100			95		
cM capacity (veh/h)	392	449	988	465	463	750	1532			1226		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	80	312	132
Volume Left	0	12	0	58
Volume Right	0	68	45	0
cSH	449	686	1532	1226
Volume to Capacity	0.00*	0.12	0.00	0.05
Queue Length 95th (ft)	1	10	0	4
Control Delay (s/veh)	13.1	10.9	0.0	3.8
Lane LOS	B	B		A
Approach Delay (s/veh)	13.1	10.9	0.0	3.8
Approach LOS	B	B		

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		

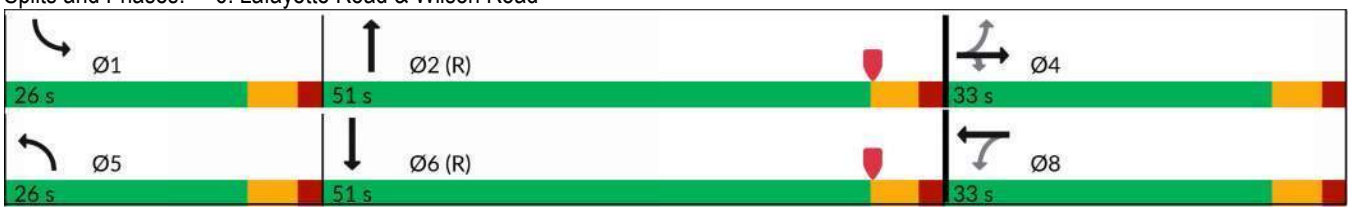
* Value less than 0.01.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	40	12	147	12	6	71	953	6	868
Future Volume (vph)	40	12	147	12	6	71	953	6	868
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	10.0	5.0	10.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	11.0	16.0	11.0	16.0
Total Split (s)	33.0	33.0	33.0	33.0	33.0	26.0	51.0	26.0	51.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	30.0%	23.6%	46.4%	23.6%	46.4%
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	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		11.0	11.0		11.0	10.8	84.3	7.0	72.8
Actuated g/C Ratio		0.10	0.10		0.10	0.10	0.77	0.06	0.66
v/c Ratio		0.44	0.55		0.27	0.42	0.36	0.05	0.44
Control Delay (s/veh)		55.5	13.7		35.2	53.0	5.6	49.0	10.9
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		55.5	13.7		35.2	53.0	5.6	49.0	10.9
LOS		E	B		D	D	A	D	B
Approach Delay (s/veh)		24.6			35.2		8.8		11.2
Approach LOS		C			D		A		B

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay (s/veh): 11.9 — Intersection LOS: B
Intersection Capacity Utilization 57.1% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 6: Lafayette Road & Wilson Road



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	61	173	43	73	986	6	1029
v/c Ratio	0.44	0.55	0.27	0.42	0.36	0.05	0.44
Control Delay (s/veh)	55.5	13.7	35.2	53.0	5.6	49.0	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.5	13.7	35.2	53.0	5.6	49.0	10.9
Queue Length 50th (ft)	42	0	18	50	85	4	177
Queue Length 95th (ft)	77	52	36	94	220	18	275
Internal Link Dist (ft)	460		320		245		320
Turn Bay Length (ft)		100				225	
Base Capacity (vph)	344	523	376	324	2735	324	2335
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	0.18	0.33	0.11	0.23	0.36	0.02	0.44

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	12	147	12	6	11	71	953	4	6	868	100
Future Volume (vph)	40	12	147	12	6	11	71	953	4	6	868	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.95		1.00	1.00		1.00	0.98	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1811	1599		1733		1787	3572		1787	3519	
Flt Permitted		0.75	1.00		0.84		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1405	1599		1482		1787	3572		1787	3519	
Peak-hour factor, PHF	0.85	0.85	0.85	0.68	0.68	0.68	0.97	0.97	0.97	0.94	0.94	0.94
Adj. Flow (vph)	47	14	173	18	9	16	73	982	4	6	923	106
RTOR Reduction (vph)	0	0	156	0	14	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	61	17	0	29	0	73	986	0	6	1024	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		11.0	11.0		11.0		9.4	79.4		1.6	71.6	
Effective Green, g (s)		11.0	11.0		11.0		9.4	79.4		1.6	71.6	
Actuated g/C Ratio		0.10	0.10		0.10		0.09	0.72		0.01	0.65	
Clearance Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		4.0	4.0		4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)		140	159		148		152	2578		25	2290	
v/s Ratio Prot							c0.04	0.28		0.00	c0.29	
v/s Ratio Perm		c0.04	0.01		0.02							
v/c Ratio		0.44	0.11		0.19		0.48	0.38		0.24	0.45	
Uniform Delay, d1		46.6	45.0		45.4		48.0	5.9		53.6	9.5	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.9	0.4		0.9		3.2	0.4		6.7	0.6	
Delay (s)		49.5	45.5		46.3		51.2	6.3		60.3	10.1	
Level of Service		D	D		D		D	A		E	B	
Approach Delay (s/veh)		46.5			46.3			9.4			10.4	
Approach LOS		D			D			A			B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	0	11	0	63	0	248	41	60	77	0
Future Volume (Veh/h)	0	1	0	11	0	63	0	248	41	60	77	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.93	0.93	0.93
Hourly flow rate (vph)	0	1	0	12	0	70	0	276	46	65	83	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	582	535	83	513	512	299	83			322		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	582	535	83	513	512	299	83			322		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.3		
p0 queue free %	100	100	100	97	100	91	100			95		
cM capacity (veh/h)	369	427	976	443	440	741	1520			1216		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	82	322	148
Volume Left	0	12	0	65
Volume Right	0	70	46	0
cSH	427	674	1520	1216
Volume to Capacity	0.00*	0.12	0.00	0.05
Queue Length 95th (ft)	0	10	0	4
Control Delay (s/veh)	13.4	11.1	0.0	3.8
Lane LOS	B	B		A
Approach Delay (s/veh)	13.4	11.1	0.0	3.8
Approach LOS	B	B		

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		

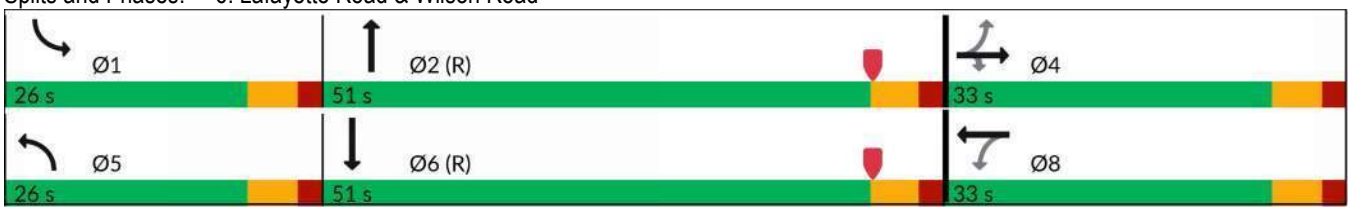
* Value less than 0.01.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	45	13	163	13	7	79	1061	7	966
Future Volume (vph)	45	13	163	13	7	79	1061	7	966
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	10.0	5.0	10.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	11.0	16.0	11.0	16.0
Total Split (s)	33.0	33.0	33.0	33.0	33.0	26.0	51.0	26.0	51.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	30.0%	23.6%	46.4%	23.6%	46.4%
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	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		11.4	11.4		11.4	11.3	83.8	7.0	72.0
Actuated g/C Ratio		0.10	0.10		0.10	0.10	0.76	0.06	0.65
v/c Ratio		0.44	0.55		0.21	0.44	0.40	0.06	0.50
Control Delay (s/veh)		54.7	13.2		33.7	53.3	6.1	49.3	12.2
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		54.7	13.2		33.7	53.3	6.1	49.3	12.2
LOS		D	B		C	D	A	D	B
Approach Delay (s/veh)		24.1			33.7		9.4		12.4
Approach LOS		C			C		A		B

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.55
Intersection Signal Delay (s/veh): 12.4 — Intersection LOS: B
Intersection Capacity Utilization 61.2% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 6: Lafayette Road & Wilson Road



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	181	35	81	1099	7	1147
v/c Ratio	0.44	0.55	0.21	0.44	0.40	0.06	0.50
Control Delay (s/veh)	54.7	13.2	33.7	53.3	6.1	49.3	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	54.7	13.2	33.7	53.3	6.1	49.3	12.2
Queue Length 50th (ft)	44	0	15	55	100	5	212
Queue Length 95th (ft)	84	63	45	101	264	20	334
Internal Link Dist (ft)	460		320		245		320
Turn Bay Length (ft)		100				225	
Base Capacity (vph)	346	529	380	324	2721	324	2307
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	0.18	0.34	0.09	0.25	0.40	0.02	0.50

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	13	163	13	7	12	79	1061	5	7	966	112
Future Volume (vph)	45	13	163	13	7	12	79	1061	5	7	966	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.95		1.00	1.00		1.00	0.98	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1810	1599		1735		1787	3572		1787	3519	
Flt Permitted		0.75	1.00		0.85		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1410	1599		1510		1787	3572		1787	3519	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.97	0.97	0.97	0.94	0.94	0.94
Adj. Flow (vph)	50	14	181	14	8	13	81	1094	5	7	1028	119
RTOR Reduction (vph)	0	0	162	0	12	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	64	19	0	23	0	81	1099	0	7	1142	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		11.4	11.4		11.4		9.8	79.0		1.6	70.8	
Effective Green, g (s)		11.4	11.4		11.4		9.8	79.0		1.6	70.8	
Actuated g/C Ratio		0.10	0.10		0.10		0.09	0.72		0.01	0.64	
Clearance Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		4.0	4.0		4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)		146	165		156		159	2565		25	2264	
v/s Ratio Prot							c0.05	c0.31		0.00	c0.32	
v/s Ratio Perm		c0.05	0.01		0.02							
v/c Ratio		0.44	0.11		0.15		0.51	0.43		0.28	0.50	
Uniform Delay, d1		46.3	44.7		44.9		47.8	6.3		53.6	10.3	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.9	0.4		0.6		3.5	0.5		8.2	0.8	
Delay (s)		49.1	45.1		45.5		51.3	6.8		61.8	11.1	
Level of Service		D	D		D		D	A		E	B	
Approach Delay (s/veh)		46.2			45.5			9.9			11.5	
Approach LOS		D			D			A			B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	29	2	10	43	56	3	222	37	54	69	17
Future Volume (Veh/h)	11	29	2	10	43	56	3	222	37	54	69	17
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.82	0.82	0.82	0.83	0.83	0.83	0.93	0.93	0.93
Hourly flow rate (vph)	12	32	2	12	52	68	4	267	45	58	74	18
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	591	519	83	515	506	290	92			312		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	591	519	83	515	506	290	92			312		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.3		
p0 queue free %	96	93	100	97	88	91	100			95		
cM capacity (veh/h)	334	438	976	418	446	750	1509			1226		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	46	132	316	150
Volume Left	12	12	4	58
Volume Right	2	68	45	18
cSH	414	559	1509	1226
Volume to Capacity	0.11	0.24	0.00*	0.05
Queue Length 95th (ft)	9	23	0	4
Control Delay (s/veh)	14.8	13.4	0.1	3.4
Lane LOS	B	B	A	A
Approach Delay (s/veh)	14.8	13.4	0.1	3.4
Approach LOS	B	B		

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	38.5%	ICU Level of Service	A
Analysis Period (min)	15		

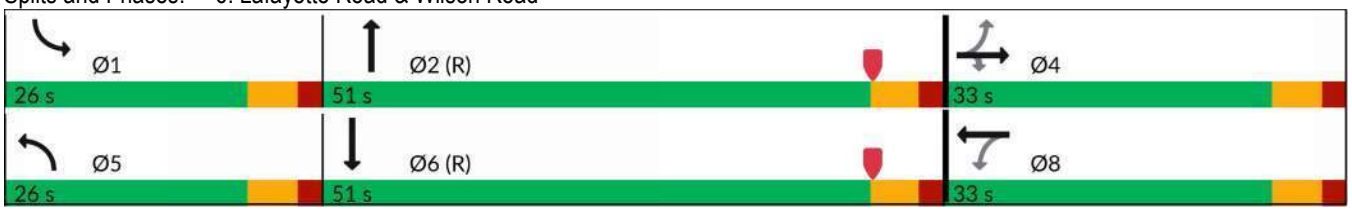
* Value less than 0.01.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	46	14	167	12	8	88	953	6	868
Future Volume (vph)	46	14	167	12	8	88	953	6	868
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	10.0	5.0	10.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	11.0	16.0	11.0	16.0
Total Split (s)	33.0	33.0	33.0	33.0	33.0	26.0	51.0	26.0	51.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	30.0%	23.6%	46.4%	23.6%	46.4%
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	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		11.8	11.8		11.8	11.9	83.4	7.0	71.1
Actuated g/C Ratio		0.11	0.11		0.11	0.11	0.76	0.06	0.65
v/c Ratio		0.47	0.57		0.26	0.47	0.36	0.05	0.46
Control Delay (s/veh)		55.2	12.9		34.8	53.5	6.0	49.0	12.3
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		55.2	12.9		34.8	53.5	6.0	49.0	12.3
LOS		E	B		C	D	A	D	B
Approach Delay (s/veh)		24.0			34.8		10.0		12.5
Approach LOS		C			C		B		B

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay (s/veh): 13.1 — Intersection LOS: B
Intersection Capacity Utilization 59.1% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 6: Lafayette Road & Wilson Road



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	70	196	46	91	986	6	1055
v/c Ratio	0.47	0.57	0.26	0.47	0.36	0.05	0.46
Control Delay (s/veh)	55.2	12.9	34.8	53.5	6.0	49.0	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.2	12.9	34.8	53.5	6.0	49.0	12.3
Queue Length 50th (ft)	48	0	20	62	88	4	193
Queue Length 95th (ft)	85	53	38	111	232	18	307
Internal Link Dist (ft)	460		320		245		320
Turn Bay Length (ft)		100				225	
Base Capacity (vph)	343	540	381	324	2707	324	2270
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	0.20	0.36	0.12	0.28	0.36	0.02	0.46

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	14	167	12	8	11	88	953	4	6	868	124
Future Volume (vph)	46	14	167	12	8	11	88	953	4	6	868	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.95		1.00	1.00		1.00	0.98	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1811	1599		1741		1787	3572		1787	3507	
Flt Permitted		0.74	1.00		0.85		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1401	1599		1506		1787	3572		1787	3507	
Peak-hour factor, PHF	0.85	0.85	0.85	0.68	0.68	0.68	0.97	0.97	0.97	0.94	0.94	0.94
Adj. Flow (vph)	54	16	196	18	12	16	91	982	4	6	923	132
RTOR Reduction (vph)	0	0	175	0	14	0	0	0	0	0	6	0
Lane Group Flow (vph)	0	70	21	0	32	0	91	986	0	6	1049	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		11.8	11.8		11.8		10.3	78.6		1.6	69.9	
Effective Green, g (s)		11.8	11.8		11.8		10.3	78.6		1.6	69.9	
Actuated g/C Ratio		0.11	0.11		0.11		0.09	0.71		0.01	0.64	
Clearance Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		4.0	4.0		4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)		150	171		161		167	2552		25	2228	
v/s Ratio Prot							c0.05	0.28		0.00	c0.30	
v/s Ratio Perm		c0.05	0.01		0.02							
v/c Ratio		0.47	0.12		0.20		0.54	0.39		0.24	0.47	
Uniform Delay, d1		46.1	44.4		44.8		47.6	6.2		53.6	10.4	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.1	0.4		0.8		4.5	0.4		6.7	0.7	
Delay (s)		49.3	44.9		45.6		52.1	6.6		60.3	11.1	
Level of Service		D	D		D		D	A		E	B	
Approach Delay (s/veh)		46.0			45.6			10.5			11.4	
Approach LOS		D			D			B			B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	29	2	11	43	63	3	248	41	60	77	17
Future Volume (Veh/h)	11	29	2	11	43	63	3	248	41	60	77	17
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.93	0.93	0.93
Hourly flow rate (vph)	12	32	2	12	48	70	3	276	46	65	83	18
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	621	550	92	545	536	299	101			322		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	621	550	92	545	536	299	101			322		
tC, single (s)	7.1	6.5	6.2	7.2	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.0	3.3	2.2			2.3		
p0 queue free %	96	92	100	97	89	91	100			95		
cM capacity (veh/h)	317	418	965	396	426	741	1498			1216		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	46	130	325	166
Volume Left	12	12	3	65
Volume Right	2	70	46	18
cSH	395	547	1498	1216
Volume to Capacity	0.12	0.24	0.00*	0.05
Queue Length 95th (ft)	10	23	0	4
Control Delay (s/veh)	15.3	13.6	0.1	3.5
Lane LOS	C	B	A	A
Approach Delay (s/veh)	15.3	13.6	0.1	3.5
Approach LOS	C	B		

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	41.4%	ICU Level of Service	A
Analysis Period (min)	15		

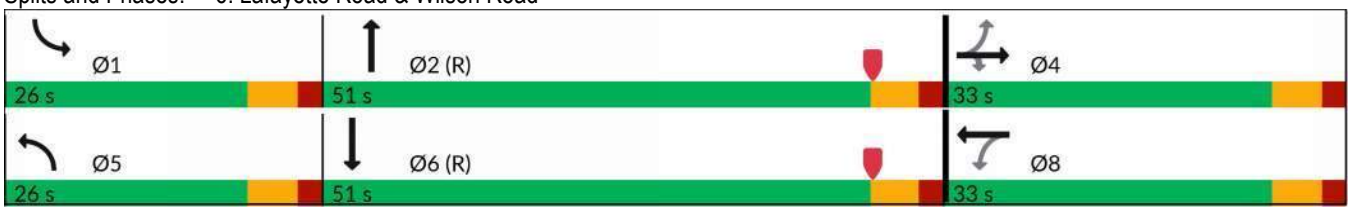
* Value less than 0.01.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	51	15	183	13	9	96	1061	7	966
Future Volume (vph)	51	15	183	13	9	96	1061	7	966
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	10.0	5.0	10.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	11.0	16.0	11.0	16.0
Total Split (s)	33.0	33.0	33.0	33.0	33.0	26.0	51.0	26.0	51.0
Total Split (%)	30.0%	30.0%	30.0%	30.0%	30.0%	23.6%	46.4%	23.6%	46.4%
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	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		12.1	12.1		12.1	12.4	83.1	7.0	67.5
Actuated g/C Ratio		0.11	0.11		0.11	0.11	0.76	0.06	0.61
v/c Ratio		0.48	0.57		0.21	0.50	0.41	0.06	0.54
Control Delay (s/veh)		55.1	12.6		33.5	53.6	6.5	49.3	14.4
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		55.1	12.6		33.5	53.6	6.5	49.3	14.4
LOS		E	B		C	D	A	D	B
Approach Delay (s/veh)		24.0			33.5		10.4		14.6
Approach LOS		C			C		B		B

Intersection Summary

Cycle Length: 110
Actuated Cycle Length: 110
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay (s/veh): 13.9 Intersection LOS: B
Intersection Capacity Utilization 63.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 6: Lafayette Road & Wilson Road



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	74	203	37	99	1099	7	1173
v/c Ratio	0.48	0.57	0.21	0.50	0.41	0.06	0.54
Control Delay (s/veh)	55.1	12.6	33.5	53.6	6.5	49.3	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.1	12.6	33.5	53.6	6.5	49.3	14.4
Queue Length 50th (ft)	50	0	16	67	105	5	231
Queue Length 95th (ft)	94	65	46	118	272	20	366
Internal Link Dist (ft)	460		320		245		320
Turn Bay Length (ft)		100				225	
Base Capacity (vph)	346	545	384	324	2697	324	2158
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	0.21	0.37	0.10	0.31	0.41	0.02	0.54

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	15	183	13	9	12	96	1061	5	7	966	136
Future Volume (vph)	51	15	183	13	9	12	96	1061	5	7	966	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.95		1.00	1.00		1.00	0.98	
Flt Protected		0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1811	1599		1741		1787	3572		1787	3508	
Flt Permitted		0.75	1.00		0.86		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1412	1599		1528		1787	3572		1787	3508	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.97	0.97	0.97	0.94	0.94	0.94
Adj. Flow (vph)	57	17	203	14	10	13	99	1094	5	7	1028	145
RTOR Reduction (vph)	0	0	181	0	12	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	74	22	0	25	0	99	1099	0	7	1166	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		12.1	12.1		12.1		12.4	78.3		1.6	67.5	
Effective Green, g (s)		12.1	12.1		12.1		12.4	78.3		1.6	67.5	
Actuated g/C Ratio		0.11	0.11		0.11		0.11	0.71		0.01	0.61	
Clearance Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		4.0	4.0		4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)		155	175		168		201	2542		25	2152	
v/s Ratio Prot							c0.06	0.31		0.00	c0.33	
v/s Ratio Perm		c0.05	0.01		0.02							
v/c Ratio		0.48	0.13		0.15		0.49	0.43		0.28	0.54	
Uniform Delay, d1		46.0	44.2		44.3		45.8	6.6		53.6	12.3	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		3.1	0.5		0.6		2.6	0.5		8.2	1.0	
Delay (s)		49.1	44.6		44.9		48.4	7.1		61.8	13.3	
Level of Service		D	D		D		D	A		E	B	
Approach Delay (s/veh)		45.8			44.9			10.5			13.6	
Approach LOS		D			D			B			B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX J

SAT Synchro

2022 Base

2026/2036 NoBuild

2026/2036 Build

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	0	3	1	62	0	28	2	37	39	0
Future Volume (Veh/h)	0	1	0	3	1	62	0	28	2	37	39	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.80	0.80	0.80	0.75	0.75	0.75	0.80	0.80	0.80
Hourly flow rate (vph)	0	4	0	4	1	78	0	37	3	46	49	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	258	181	49	182	180	39	49			40		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	258	181	49	182	180	39	49			40		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	99	100	92	100			97		
cM capacity (veh/h)	627	692	1020	759	693	1033	1558			1570		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	83	40	95
Volume Left	0	4	0	46
Volume Right	0	78	3	0
cSH	692	1010	1558	1570
Volume to Capacity	0.00*	0.08	0.00	0.03
Queue Length 95th (ft)	0	7	0	2
Control Delay (s/veh)	10.2	8.9	0.0	3.7
Lane LOS	B	A		A
Approach Delay (s/veh)	10.2	8.9	0.0	3.7
Approach LOS	B	A		

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	24.1%	ICU Level of Service	A
Analysis Period (min)	15		

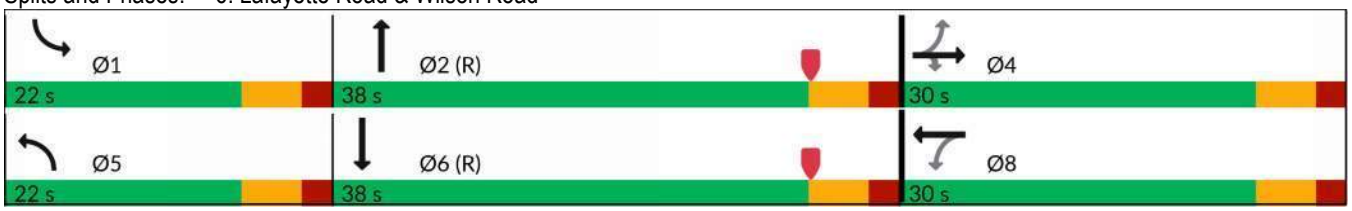
* Value less than 0.01.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	46	2	117	14	13	104	898	5	885
Future Volume (vph)	46	2	117	14	13	104	898	5	885
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	10.0	5.0	10.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	11.0	16.0	11.0	16.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	22.0	38.0	22.0	38.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	24.4%	42.2%	24.4%	42.2%
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	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		10.5	10.5		10.5	11.9	64.8	6.9	52.4
Actuated g/C Ratio		0.12	0.12		0.12	0.13	0.72	0.08	0.58
v/c Ratio		0.40	0.47		0.25	0.48	0.38	0.04	0.53
Control Delay (s/veh)		43.7	11.3		30.0	42.3	6.6	38.8	14.4
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		43.7	11.3		30.0	42.3	6.6	38.8	14.4
LOS		D	B		C	D	A	D	B
Approach Delay (s/veh)		20.8			30.0		10.2		14.5
Approach LOS		C			C		B		B

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.53
Intersection Signal Delay (s/veh): 13.4 Intersection LOS: B
Intersection Capacity Utilization 57.9% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 6: Lafayette Road & Wilson Road



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	150	48	112	970	5	1083
v/c Ratio	0.40	0.47	0.25	0.48	0.38	0.04	0.53
Control Delay (s/veh)	43.7	11.3	30.0	42.3	6.6	38.8	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	43.7	11.3	30.0	42.3	6.6	38.8	14.4
Queue Length 50th (ft)	34	0	18	60	80	3	194
Queue Length 95th (ft)	60	34	42	107	217	14	311
Internal Link Dist (ft)	460		320		245		320
Turn Bay Length (ft)		100				225	
Base Capacity (vph)	351	536	418	317	2569	317	2049
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	0.18	0.28	0.11	0.35	0.38	0.02	0.53

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	2	117	14	13	11	104	898	4	5	885	122
Future Volume (vph)	46	2	117	14	13	11	104	898	4	5	885	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.96		1.00	1.00		1.00	0.98	
Flt Protected		0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1796	1599		1756		1787	3572		1787	3509	
Flt Permitted		0.70	1.00		0.85		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1319	1599		1528		1787	3572		1787	3509	
Peak-hour factor, PHF	0.78	0.78	0.78	0.80	0.80	0.80	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	59	3	150	18	16	14	112	966	4	5	952	131
RTOR Reduction (vph)	0	0	133	0	12	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	62	18	0	36	0	112	970	0	5	1075	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		10.5	10.5		10.5		10.3	60.0		1.5	51.2	
Effective Green, g (s)		10.5	10.5		10.5		10.3	60.0		1.5	51.2	
Actuated g/C Ratio		0.12	0.12		0.12		0.11	0.67		0.02	0.57	
Clearance Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		4.0	4.0		4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)		153	186		178		204	2381		29	1996	
v/s Ratio Prot							c0.06	0.27		0.00	c0.31	
v/s Ratio Perm		c0.05	0.01		0.02							
v/c Ratio		0.41	0.09		0.20		0.55	0.41		0.17	0.54	
Uniform Delay, d1		36.9	35.5		36.0		37.7	6.9		43.6	12.1	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.4	0.3		0.8		3.8	0.5		3.8	1.0	
Delay (s)		39.2	35.8		36.7		41.4	7.4		47.5	13.1	
Level of Service		D	D		D		D	A		D	B	
Approach Delay (s/veh)		36.8			36.7			10.9			13.3	
Approach LOS		D			D			B			B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	0	3	1	67	0	29	2	41	41	0
Future Volume (Veh/h)	0	1	0	3	1	67	0	29	2	41	41	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.25	0.25	0.25	0.80	0.80	0.80	0.75	0.75	0.75	0.80	0.80	0.80
Hourly flow rate (vph)	0	4	0	4	1	84	0	39	3	51	51	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	278	195	51	196	194	41	51			42		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	278	195	51	196	194	41	51			42		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	100	99	100	92	100			97		
cM capacity (veh/h)	603	678	1017	741	679	1031	1555			1567		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	89	42	102
Volume Left	0	4	0	51
Volume Right	0	84	3	0
cSH	678	1007	1555	1567
Volume to Capacity	0.00*	0.09	0.00	0.03
Queue Length 95th (ft)	0	7	0	3
Control Delay (s/veh)	10.3	8.9	0.0	3.8
Lane LOS	B	A		A
Approach Delay (s/veh)	10.3	8.9	0.0	3.8
Approach LOS	B	A		

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	24.8%	ICU Level of Service	A
Analysis Period (min)	15		

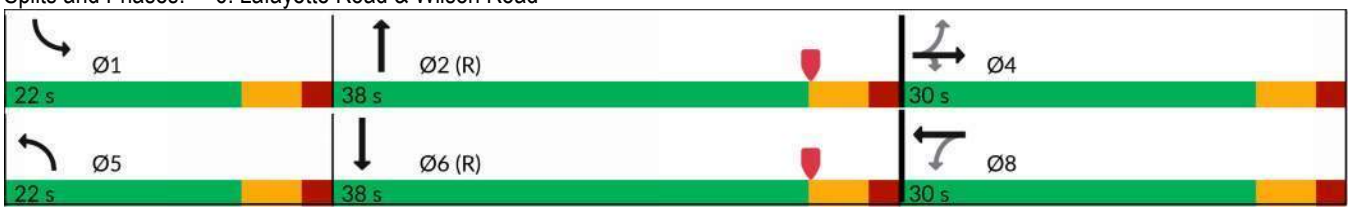
* Value less than 0.01.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	47	2	124	14	13	111	950	5	933
Future Volume (vph)	47	2	124	14	13	111	950	5	933
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	10.0	5.0	10.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	11.0	16.0	11.0	16.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	22.0	38.0	22.0	38.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	24.4%	42.2%	24.4%	42.2%
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	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		10.6	10.6		10.6	12.2	64.7	6.9	49.2
Actuated g/C Ratio		0.12	0.12		0.12	0.14	0.72	0.08	0.55
v/c Ratio		0.41	0.48		0.25	0.49	0.40	0.04	0.59
Control Delay (s/veh)		43.8	11.2		29.9	42.4	6.8	38.8	16.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		43.8	11.2		29.9	42.4	6.8	38.8	16.1
LOS		D	B		C	D	A	D	B
Approach Delay (s/veh)		20.5			29.9		10.5		16.2
Approach LOS		C			C		B		B

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay (s/veh): 14.3 Intersection LOS: B
Intersection Capacity Utilization 59.7% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 6: Lafayette Road & Wilson Road



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	63	159	48	119	1026	5	1137
v/c Ratio	0.41	0.48	0.25	0.49	0.40	0.04	0.59
Control Delay (s/veh)	43.8	11.2	29.9	42.4	6.8	38.8	16.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	43.8	11.2	29.9	42.4	6.8	38.8	16.1
Queue Length 50th (ft)	34	0	18	64	87	3	211
Queue Length 95th (ft)	61	34	42	112	234	14	338
Internal Link Dist (ft)	460		320		245		320
Turn Bay Length (ft)		100				225	
Base Capacity (vph)	351	543	418	319	2566	317	1927
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	0.18	0.29	0.11	0.37	0.40	0.02	0.59

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	2	124	14	13	11	111	950	4	5	933	125
Future Volume (vph)	47	2	124	14	13	11	111	950	4	5	933	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.96		1.00	1.00		1.00	0.98	
Flt Protected		0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1796	1599		1756		1787	3572		1787	3511	
Flt Permitted		0.70	1.00		0.85		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1319	1599		1528		1787	3572		1787	3511	
Peak-hour factor, PHF	0.78	0.78	0.78	0.80	0.80	0.80	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	60	3	159	18	16	14	119	1022	4	5	1003	134
RTOR Reduction (vph)	0	0	140	0	12	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	63	19	0	36	0	119	1026	0	5	1129	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		10.6	10.6		10.6		12.2	59.9		1.5	49.2	
Effective Green, g (s)		10.6	10.6		10.6		12.2	59.9		1.5	49.2	
Actuated g/C Ratio		0.12	0.12		0.12		0.14	0.67		0.02	0.55	
Clearance Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		4.0	4.0		4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)		155	188		179		242	2377		29	1919	
v/s Ratio Prot							c0.07	c0.29		0.00	c0.32	
v/s Ratio Perm		c0.05	0.01		0.02							
v/c Ratio		0.41	0.10		0.20		0.49	0.43		0.17	0.59	
Uniform Delay, d1		36.8	35.4		35.9		36.0	7.1		43.6	13.6	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.4	0.3		0.7		2.1	0.6		3.8	1.3	
Delay (s)		39.1	35.8		36.6		38.2	7.6		47.5	15.0	
Level of Service		D	D		D		D	A		D	B	
Approach Delay (s/veh)		36.7			36.6			10.8			15.1	
Approach LOS		D			D			B			B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1	0	4	1	74	0	32	2	46	45	0
Future Volume (Veh/h)	0	1	0	4	1	74	0	32	2	46	45	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	1	0	4	1	82	0	36	2	51	50	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	272	190	50	190	189	37	50			38		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	272	190	50	190	189	37	50			38		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	99	100	92	100			97		
cM capacity (veh/h)	611	682	1018	751	683	1035	1557			1572		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	1	87	38	101
Volume Left	0	4	0	51
Volume Right	0	82	2	0
cSH	682	1012	1557	1572
Volume to Capacity	0.00*	0.09	0.00	0.03
Queue Length 95th (ft)	0	7	0	3
Control Delay (s/veh)	10.3	8.9	0.0	3.8
Lane LOS	B	A		A
Approach Delay (s/veh)	10.3	8.9	0.0	3.8
Approach LOS	B	A		

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	26.6%	ICU Level of Service	A
Analysis Period (min)	15		

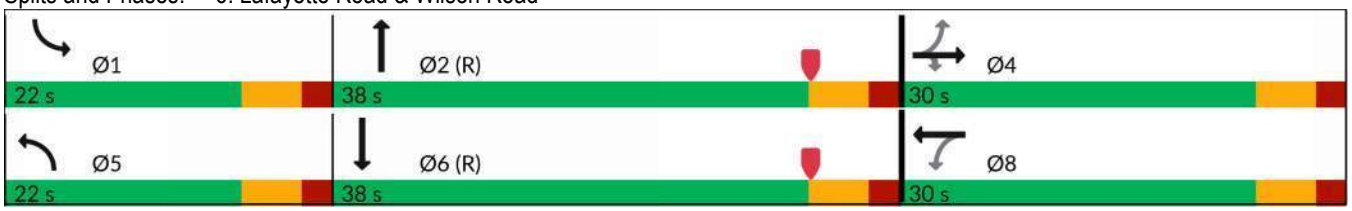
* Value less than 0.01.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	53	2	138	16	15	123	1057	6	1038
Future Volume (vph)	53	2	138	16	15	123	1057	6	1038
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	10.0	5.0	10.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	11.0	16.0	11.0	16.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	22.0	38.0	22.0	38.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	24.4%	42.2%	24.4%	42.2%
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	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		10.5	10.5		10.5	12.8	64.8	6.9	48.7
Actuated g/C Ratio		0.12	0.12		0.12	0.14	0.72	0.08	0.54
v/c Ratio		0.40	0.48		0.25	0.52	0.44	0.04	0.66
Control Delay (s/veh)		43.7	11.3		30.7	42.4	7.1	39.0	18.0
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		43.7	11.3		30.7	42.4	7.1	39.0	18.0
LOS		D	B		C	D	A	D	B
Approach Delay (s/veh)		20.6			30.7		10.8		18.1
Approach LOS		C			C		B		B

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay (s/veh): 15.2 — Intersection LOS: B
Intersection Capacity Utilization 64.0% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Lafayette Road & Wilson Road



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	61	153	48	132	1142	6	1267
v/c Ratio	0.40	0.48	0.25	0.52	0.44	0.04	0.66
Control Delay (s/veh)	43.7	11.3	30.7	42.4	7.1	39.0	18.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	43.7	11.3	30.7	42.4	7.1	39.0	18.0
Queue Length 50th (ft)	33	0	19	71	100	3	252
Queue Length 95th (ft)	69	53	50	121	271	15	403
Internal Link Dist (ft)	460		320		245		320
Turn Bay Length (ft)		100				225	
Base Capacity (vph)	350	538	418	322	2570	317	1907
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	0.17	0.28	0.11	0.41	0.44	0.02	0.66

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	2	138	16	15	12	123	1057	5	6	1038	140
Future Volume (vph)	53	2	138	16	15	12	123	1057	5	6	1038	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.96		1.00	1.00		1.00	0.98	
Flt Protected		0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1794	1599		1762		1787	3572		1787	3510	
Flt Permitted		0.70	1.00		0.85		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1313	1599		1533		1787	3572		1787	3510	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	59	2	153	18	17	13	132	1137	5	6	1116	151
RTOR Reduction (vph)	0	0	135	0	11	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	61	18	0	37	0	132	1142	0	6	1259	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		10.5	10.5		10.5		12.8	60.0		1.5	48.7	
Effective Green, g (s)		10.5	10.5		10.5		12.8	60.0		1.5	48.7	
Actuated g/C Ratio		0.12	0.12		0.12		0.14	0.67		0.02	0.54	
Clearance Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		4.0	4.0		4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)		153	186		178		254	2381		29	1899	
v/s Ratio Prot							c0.07	c0.32		0.00	c0.36	
v/s Ratio Perm		c0.05	0.01		0.02							
v/c Ratio		0.40	0.10		0.21		0.52	0.48		0.21	0.66	
Uniform Delay, d1		36.8	35.5		36.0		35.8	7.3		43.7	14.8	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.3	0.3		0.8		2.4	0.7		4.8	1.8	
Delay (s)		39.1	35.8		36.8		38.1	8.0		48.5	16.6	
Level of Service		D	D		D		D	A		D	B	
Approach Delay (s/veh)		36.8			36.8			11.2			16.8	
Approach LOS		D			D			B			B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	64.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	30	3	3	30	67	3	29	2	41	41	25
Future Volume (Veh/h)	24	30	3	3	30	67	3	29	2	41	41	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.80	0.80	0.80	0.75	0.75	0.75	0.80	0.80	0.80
Hourly flow rate (vph)	27	33	3	4	38	84	4	39	3	51	51	31
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	320	219	67	237	233	41	82			42		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	320	219	67	237	233	41	82			42		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	95	100	99	94	92	100			97		
cM capacity (veh/h)	540	656	997	670	644	1031	1515			1567		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	63	126	46	133
Volume Left	27	4	4	51
Volume Right	3	84	3	31
cSH	610	860	1515	1567
Volume to Capacity	0.10	0.15	0.00*	0.03
Queue Length 95th (ft)	9	13	0	3
Control Delay (s/veh)	11.6	9.9	0.7	3.0
Lane LOS	B	A	A	A
Approach Delay (s/veh)	11.6	9.9	0.7	3.0
Approach LOS	B	A		

Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	29.0%	ICU Level of Service	A
Analysis Period (min)	15		

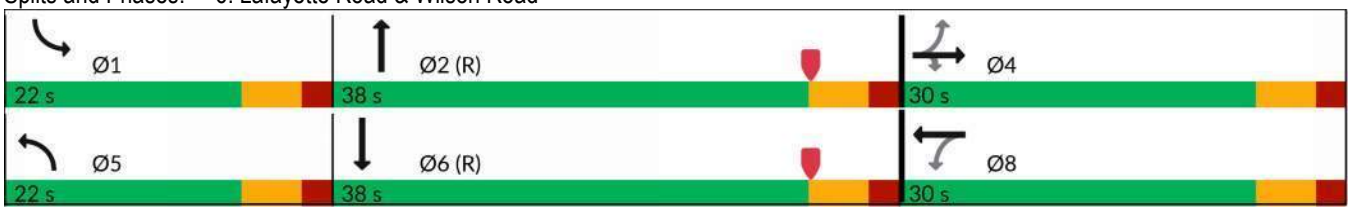
* Value less than 0.01.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	55	2	145	14	15	123	950	5	933
Future Volume (vph)	55	2	145	14	15	123	950	5	933
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	10.0	5.0	10.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	11.0	16.0	11.0	16.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	22.0	38.0	22.0	38.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	24.4%	42.2%	24.4%	42.2%
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	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		11.5	11.5		11.5	12.8	63.8	6.9	47.7
Actuated g/C Ratio		0.13	0.13		0.13	0.14	0.71	0.08	0.53
v/c Ratio		0.44	0.51		0.24	0.52	0.41	0.04	0.62
Control Delay (s/veh)		43.5	10.5		29.0	42.4	7.4	38.8	17.8
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		43.5	10.5		29.0	42.4	7.4	38.8	17.8
LOS		D	B		C	D	A	D	B
Approach Delay (s/veh)		19.9			29.0		11.3		17.9
Approach LOS		B			C		B		B

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay (s/veh): 15.4 — Intersection LOS: B
Intersection Capacity Utilization 61.0% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 6: Lafayette Road & Wilson Road



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	74	186	51	132	1026	5	1154
v/c Ratio	0.44	0.51	0.24	0.52	0.41	0.04	0.62
Control Delay (s/veh)	43.5	10.5	29.0	42.4	7.4	38.8	17.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	43.5	10.5	29.0	42.4	7.4	38.8	17.8
Queue Length 50th (ft)	40	0	19	71	91	3	224
Queue Length 95th (ft)	66	35	43	121	248	14	368
Internal Link Dist (ft)	460		320		245		320
Turn Bay Length (ft)		100				225	
Base Capacity (vph)	349	562	423	322	2529	317	1865
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	0.21	0.33	0.12	0.41	0.41	0.02	0.62

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	2	145	14	15	11	123	950	4	5	933	140
Future Volume (vph)	55	2	145	14	15	11	123	950	4	5	933	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.96		1.00	1.00		1.00	0.98	
Flt Protected		0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1795	1599		1763		1787	3572		1787	3504	
Flt Permitted		0.70	1.00		0.86		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1312	1599		1549		1787	3572		1787	3504	
Peak-hour factor, PHF	0.78	0.78	0.78	0.80	0.80	0.80	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	71	3	186	18	19	14	132	1022	4	5	1003	151
RTOR Reduction (vph)	0	0	162	0	12	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	74	24	0	39	0	132	1026	0	5	1144	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		11.5	11.5		11.5		12.8	59.0		1.5	47.7	
Effective Green, g (s)		11.5	11.5		11.5		12.8	59.0		1.5	47.7	
Actuated g/C Ratio		0.13	0.13		0.13		0.14	0.66		0.02	0.53	
Clearance Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		4.0	4.0		4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)		167	204		197		254	2341		29	1857	
v/s Ratio Prot							c0.07	0.29		0.00	c0.33	
v/s Ratio Perm		c0.06	0.01		0.03							
v/c Ratio		0.44	0.12		0.20		0.52	0.44		0.17	0.62	
Uniform Delay, d1		36.3	34.8		35.1		35.8	7.5		43.6	14.8	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.5	0.3		0.7		2.4	0.6		3.8	1.5	
Delay (s)		38.8	35.1		35.8		38.1	8.1		47.5	16.3	
Level of Service		D	D		D		D	A		D	B	
Approach Delay (s/veh)		36.2			35.8			11.5			16.4	
Approach LOS		D			D			B			B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	30	3	4	30	74	3	32	2	46	45	25
Future Volume (Veh/h)	24	30	3	4	30	74	3	32	2	46	45	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	27	33	3	4	33	82	3	36	2	51	50	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	308	210	64	229	223	37	78			38		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	308	210	64	229	223	37	78			38		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	95	100	99	95	92	100			97		
cM capacity (veh/h)	556	663	1000	679	653	1035	1520			1572		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	63	119	41	129
Volume Left	27	4	3	51
Volume Right	3	82	2	28
cSH	622	877	1520	1572
Volume to Capacity	0.10	0.14	0.00*	0.03
Queue Length 95th (ft)	8	12	0	3
Control Delay (s/veh)	11.4	9.7	0.6	3.1
Lane LOS	B	A	A	A
Approach Delay (s/veh)	11.4	9.7	0.6	3.1
Approach LOS	B	A		

Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	29.5%	ICU Level of Service	A
Analysis Period (min)	15		

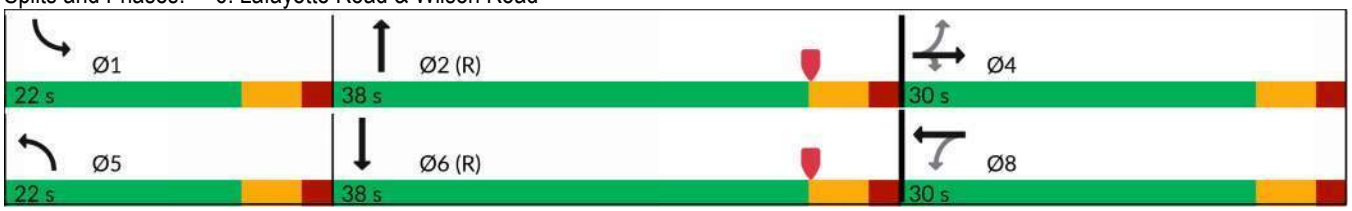
* Value less than 0.01.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	61	2	159	16	17	135	1057	6	1038
Future Volume (vph)	61	2	159	16	17	135	1057	6	1038
Turn Type	Perm	NA	Perm	Perm	NA	Prot	NA	Prot	NA
Protected Phases		4			8	5	2	1	6
Permitted Phases	4		4	8					
Detector Phase	4	4	4	8	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	5.0	10.0	5.0	10.0
Minimum Split (s)	13.0	13.0	13.0	13.0	13.0	11.0	16.0	11.0	16.0
Total Split (s)	30.0	30.0	30.0	30.0	30.0	22.0	38.0	22.0	38.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	24.4%	42.2%	24.4%	42.2%
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	Lag	Lead	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min
Act Effct Green (s)		11.3	11.3		11.3	13.4	64.0	6.9	47.3
Actuated g/C Ratio		0.13	0.13		0.13	0.15	0.71	0.08	0.53
v/c Ratio		0.43	0.50		0.24	0.55	0.45	0.04	0.69
Control Delay (s/veh)		43.4	10.6		29.7	42.5	7.6	39.0	19.9
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		43.4	10.6		29.7	42.5	7.6	39.0	19.9
LOS		D	B		C	D	A	D	B
Approach Delay (s/veh)		19.9			29.7		11.6		20.0
Approach LOS		B			C		B		B

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay (s/veh): 16.4 Intersection LOS: B
Intersection Capacity Utilization 65.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Lafayette Road & Wilson Road



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	70	177	50	145	1142	6	1283
v/c Ratio	0.43	0.50	0.24	0.55	0.45	0.04	0.69
Control Delay (s/veh)	43.4	10.6	29.7	42.5	7.6	39.0	19.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	43.4	10.6	29.7	42.5	7.6	39.0	19.9
Queue Length 50th (ft)	38	0	20	78	105	3	267
Queue Length 95th (ft)	75	54	51	130	285	15	#445
Internal Link Dist (ft)	460		320		245		320
Turn Bay Length (ft)		100				225	
Base Capacity (vph)	348	556	422	325	2539	317	1850
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	0.20	0.32	0.12	0.45	0.45	0.02	0.69

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	2	159	16	17	12	135	1057	5	6	1038	155
Future Volume (vph)	61	2	159	16	17	12	135	1057	5	6	1038	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95		1.00	0.95	
Frt		1.00	0.85		0.96		1.00	1.00		1.00	0.98	
Flt Protected		0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1794	1599		1766		1787	3572		1787	3504	
Flt Permitted		0.70	1.00		0.86		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1308	1599		1548		1787	3572		1787	3504	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	68	2	177	18	19	13	145	1137	5	6	1116	167
RTOR Reduction (vph)	0	0	155	0	11	0	0	0	0	0	9	0
Lane Group Flow (vph)	0	70	22	0	39	0	145	1142	0	6	1274	0
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		11.3	11.3		11.3		13.4	59.2		1.5	47.3	
Effective Green, g (s)		11.3	11.3		11.3		13.4	59.2		1.5	47.3	
Actuated g/C Ratio		0.13	0.13		0.13		0.15	0.66		0.02	0.53	
Clearance Time (s)		6.0	6.0		6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)		4.0	4.0		4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)		164	200		194		266	2349		29	1841	
v/s Ratio Prot							c0.08	0.32		0.00	c0.36	
v/s Ratio Perm		c0.05	0.01		0.02							
v/c Ratio		0.43	0.11		0.20		0.55	0.49		0.21	0.69	
Uniform Delay, d1		36.4	34.9		35.3		35.5	7.7		43.7	15.9	
Progression Factor		1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.4	0.3		0.7		2.8	0.7		4.8	2.2	
Delay (s)		38.8	35.2		36.0		38.3	8.5		48.5	18.1	
Level of Service		D	D		D		D	A		D	B	
Approach Delay (s/veh)		36.2			36.0			11.8			18.2	
Approach LOS		D			D			B			B	

Intersection Summary

HCM 2000 Control Delay (s/veh)	17.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX K

Signal Timing

NH DOT - SEQUENCE AND TIMING CHART

7/11/2022 10:22:05 AM

CITY/TOWN: PORTSMOUTH **SIGNAL ID#:** S-379-16

LOCATION: US 1

INTERSECT: WILSON AVENUE/INDUSTRIAL PARK ENTRA

CABINET TYPE: P TYPE-1 **METER NUMBER and MFR:** 74-398-049 ES

CONTROLLER INFO

INSTALL DATE: 6 /27/1995 **FIRE PREEMPT** TOMAR

*****CONTROLLER TIMINGS*****

	PH 1	PH 2	PH 4	PH 5	PH 6	PH 8
INITIAL	5	10	7	5	10	7
PASSAGE	4	5	4	4	5	4
YELLOW	4	4	4	4	4	4
ALL RED	2	2	2	2	2	4
MAXIMUM 1	16	32	24	16	32	24
MAXIMUM 2	20	50	28	20	50	28
MAXIMUM 3						
MAXIMUM EXT						
RECALL	NL	MIN	NL	NL	MIN	NL
WALK		4				4
DON'T WALK		8				16
FL YEL ARROW						
MOVEMENT	SLT	1N	EAST	NLT	1S	WEST
TIME TO REDUCE						
REDUCE BY						
MIN GAP						
DYN MAX LIMI						
DYN MAX STEP						

NOTES:

SYS 906
PAT 2 CYCLE = 86s OFF = 60s
SPLIT = 18, 42, 26, 18, 42, 26 cord 2

PAT 3 CYCLE = 110s OFF = 73s
SPLIT = 26, 51, 33, 26, 51, 33 cord 2
DP1 0000 54, 0700 2, 1000 3, 1900 54, 2000 1(254) M-F

APPENDIX L

Turning Movement Counts

Location Map: 228713 Portsmouth, NH

Precision Data Industries, LLC 157 Washington Street, Suite 2, Hudson, MA 01749 ph: 508-875-0100 email: datarequests@pdillc.com

Client:	Engineer:	Site Code:	Date:	PDI Job #	City, State:
TFMoran	J. Porter	47107.02	Thurs 6/23 and Sat 6/25/2022	228713	Portsmouth, NH

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	27	5	0	32	3	0	3	0	6	1	18	0	0	19	0	0	0	0	0	57
7:15 AM	0	24	4	0	28	3	0	1	0	4	0	10	0	0	10	0	0	0	0	0	42
7:30 AM	0	35	4	0	39	4	0	0	0	4	4	24	0	0	28	0	0	0	0	0	71
7:45 AM	2	61	2	0	65	7	0	7	0	14	4	22	0	0	26	0	0	0	0	0	105
Total	2	147	15	0	164	17	0	11	0	28	9	74	0	0	83	0	0	0	0	0	275
8:00 AM	0	65	8	0	73	7	0	3	0	10	1	25	0	0	26	0	0	0	0	0	109
8:15 AM	0	46	4	0	50	8	0	7	0	15	6	24	0	0	30	0	0	0	0	0	95
8:30 AM	0	32	5	0	37	9	0	5	0	14	3	29	0	0	32	0	0	0	0	0	83
8:45 AM	0	39	7	0	46	5	0	1	0	6	5	26	0	0	31	0	0	0	0	0	83
Total	0	182	24	0	206	29	0	16	0	45	15	104	0	0	119	0	0	0	0	0	370
Grand Total	2	329	39	0	370	46	0	27	0	73	24	178	0	0	202	0	0	0	0	0	645
Approach %	0.5	88.9	10.5	0.0		63.0	0.0	37.0	0.0		11.9	88.1	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.3	51.0	6.0	0.0	57.4	7.1	0.0	4.2	0.0	11.3	3.7	27.6	0.0	0.0	31.3	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					224					63					356					2	645
Cars	2	309	37	0	348	43	0	22	0	65	18	153	0	0	171	0	0	0	0	0	584
% Cars	100.0	93.9	94.9	0.0	94.1	93.5	0.0	81.5	0.0	89.0	75.0	86.0	0.0	0.0	84.7	0.0	0.0	0.0	0.0	0.0	90.5
Exiting Leg Total					196					55					331					2	584
Heavy Vehicles	0	20	2	0	22	3	0	5	0	8	6	25	0	0	31	0	0	0	0	0	61
% Heavy Vehicles	0.0	6.1	5.1	0.0	5.9	6.5	0.0	18.5	0.0	11.0	25.0	14.0	0.0	0.0	15.3	0.0	0.0	0.0	0.0	0.0	9.5
Exiting Leg Total					28					8					25					0	61

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	2	61	2	0	65	7	0	7	0	14	4	22	0	0	26	0	0	0	0	0	105
8:00 AM	0	65	8	0	73	7	0	3	0	10	1	25	0	0	26	0	0	0	0	0	109
8:15 AM	0	46	4	0	50	8	0	7	0	15	6	24	0	0	30	0	0	0	0	0	95
8:30 AM	0	32	5	0	37	9	0	5	0	14	3	29	0	0	32	0	0	0	0	0	83
Total Volume	2	204	19	0	225	31	0	22	0	53	14	100	0	0	114	0	0	0	0	0	392
% Approach Total	0.9	90.7	8.4	0.0		58.5	0.0	41.5	0.0		12.3	87.7	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.250	0.785	0.594	0.000	0.771	0.861	0.000	0.786	0.000	0.883	0.583	0.862	0.000	0.000	0.891	0.000	0.000	0.000	0.000	0.000	0.899
Cars	2	192	18	0	212	29	0	20	0	49	11	89	0	0	100	0	0	0	0	0	361
Cars %	100.0	94.1	94.7	0.0	94.2	93.5	0.0	90.9	0.0	92.5	78.6	89.0	0.0	0.0	87.7	0.0	0.0	0.0	0.0	0.0	92.1
Heavy Vehicles	0	12	1	0	13	2	0	2	0	4	3	11	0	0	14	0	0	0	0	0	31
Heavy Vehicles %	0.0	5.9	5.3	0.0	5.8	6.5	0.0	9.1	0.0	7.5	21.4	11.0	0.0	0.0	12.3	0.0	0.0	0.0	0.0	0.0	7.9
Cars Enter Leg	2	192	18	0	212	29	0	20	0	49	11	89	0	0	100	0	0	0	0	0	361
Heavy Enter Leg	0	12	1	0	13	2	0	2	0	4	3	11	0	0	14	0	0	0	0	0	31
Total Entering Leg	2	204	19	0	225	31	0	22	0	53	14	100	0	0	114	0	0	0	0	0	392
Cars Exiting Leg					118					29					212					2	361
Heavy Exiting Leg					13					4					14					0	31
Total Exiting Leg					131					33					226					2	392

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	24	5	0	29	3	0	1	0	4	0	15	0	0	15	0	0	0	0	0	48
7:15 AM	0	23	4	0	27	3	0	1	0	4	0	8	0	0	8	0	0	0	0	0	39
7:30 AM	0	33	3	0	36	4	0	0	0	4	2	20	0	0	22	0	0	0	0	0	62
7:45 AM	2	60	2	0	64	6	0	7	0	13	3	20	0	0	23	0	0	0	0	0	100
Total	2	140	14	0	156	16	0	9	0	25	5	63	0	0	68	0	0	0	0	0	249
8:00 AM	0	60	7	0	67	7	0	1	0	8	0	23	0	0	23	0	0	0	0	0	98
8:15 AM	0	41	4	0	45	8	0	7	0	15	6	22	0	0	28	0	0	0	0	0	88
8:30 AM	0	31	5	0	36	8	0	5	0	13	2	24	0	0	26	0	0	0	0	0	75
8:45 AM	0	37	7	0	44	4	0	0	0	4	5	21	0	0	26	0	0	0	0	0	74
Total	0	169	23	0	192	27	0	13	0	40	13	90	0	0	103	0	0	0	0	0	335
Grand Total	2	309	37	0	348	43	0	22	0	65	18	153	0	0	171	0	0	0	0	0	584
Approach %	0.6	88.8	10.6	0.0		66.2	0.0	33.8	0.0		10.5	89.5	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.3	52.9	6.3	0.0	59.6	7.4	0.0	3.8	0.0	11.1	3.1	26.2	0.0	0.0	29.3	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					196					55					331					2	584

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	2	60	2	0	64	6	0	7	0	13	3	20	0	0	23	0	0	0	0	0	100
8:00 AM	0	60	7	0	67	7	0	1	0	8	0	23	0	0	23	0	0	0	0	0	98
8:15 AM	0	41	4	0	45	8	0	7	0	15	6	22	0	0	28	0	0	0	0	0	88
8:30 AM	0	31	5	0	36	8	0	5	0	13	2	24	0	0	26	0	0	0	0	0	75
Total Volume	2	192	18	0	212	29	0	20	0	49	11	89	0	0	100	0	0	0	0	0	361
% Approach Total	0.9	90.6	8.5	0.0		59.2	0.0	40.8	0.0		11.0	89.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.250	0.800	0.643	0.000	0.791	0.906	0.000	0.714	0.000	0.817	0.458	0.927	0.000	0.000	0.893	0.000	0.000	0.000	0.000	0.000	0.903
Entering Leg	2	192	18	0	212	29	0	20	0	49	11	89	0	0	100	0	0	0	0	0	361
Exiting Leg					118					29					212					2	361
Total					330					78					312					2	722

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	3	0	0	3	0	0	2	0	2	1	3	0	0	4	0	0	0	0	0	9
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
7:30 AM	0	2	1	0	3	0	0	0	0	0	2	4	0	0	6	0	0	0	0	0	9
7:45 AM	0	1	0	0	1	1	0	0	0	1	1	2	0	0	3	0	0	0	0	0	5
Total	0	7	1	0	8	1	0	2	0	3	4	11	0	0	15	0	0	0	0	0	26
8:00 AM	0	5	1	0	6	0	0	2	0	2	1	2	0	0	3	0	0	0	0	0	11
8:15 AM	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	7
8:30 AM	0	1	0	0	1	1	0	0	0	1	1	5	0	0	6	0	0	0	0	0	8
8:45 AM	0	2	0	0	2	1	0	1	0	2	0	5	0	0	5	0	0	0	0	0	9
Total	0	13	1	0	14	2	0	3	0	5	2	14	0	0	16	0	0	0	0	0	35
Grand Total	0	20	2	0	22	3	0	5	0	8	6	25	0	0	31	0	0	0	0	0	61
Approach %	0.0	90.9	9.1	0.0		37.5	0.0	62.5	0.0		19.4	80.6	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	32.8	3.3	0.0	36.1	4.9	0.0	8.2	0.0	13.1	9.8	41.0	0.0	0.0	50.8	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					28					8					25					0	61
Buses	0	1	0	0	1	0	0	2	0	2	2	1	0	0	3	0	0	0	0	0	6
% Buses	0.0	5.0	0.0	0.0	4.5	0.0	0.0	40.0	0.0	25.0	33.3	4.0	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0	9.8
Exiting Leg Total					1					2					3					0	6
Single-Unit Trucks	0	17	2	0	19	2	0	3	0	5	3	22	0	0	25	0	0	0	0	0	49
% Single-Unit	0.0	85.0	100.0	0.0	86.4	66.7	0.0	60.0	0.0	62.5	50.0	88.0	0.0	0.0	80.6	0.0	0.0	0.0	0.0	0.0	80.3
Exiting Leg Total					24					5					20					0	49
Articulated Trucks	0	2	0	0	2	1	0	0	0	1	1	2	0	0	3	0	0	0	0	0	6
% Articulated	0.0	10.0	0.0	0.0	9.1	33.3	0.0	0.0	0.0	12.5	16.7	8.0	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0	9.8
Exiting Leg Total					3					1					2					0	6

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	5	1	0	6	0	0	2	0	2	1	2	0	0	3	0	0	0	0	0	11
8:15 AM	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	7
8:30 AM	0	1	0	0	1	1	0	0	0	1	1	5	0	0	6	0	0	0	0	0	8
8:45 AM	0	2	0	0	2	1	0	1	0	2	0	5	0	0	5	0	0	0	0	0	9
Total Volume	0	13	1	0	14	2	0	3	0	5	2	14	0	0	16	0	0	0	0	0	35
% Approach Total	0.0	92.9	7.1	0.0		40.0	0.0	60.0	0.0		12.5	87.5	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.650	0.250	0.000	0.583	0.500	0.000	0.375	0.000	0.625	0.500	0.700	0.000	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.795
Buses	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	2
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	20.0	50.0	0.0	0.0	0.0	6.3	0.0	0.0	0.0	0.0	0.0	5.7
Single-Unit Trucks	0	11	1	0	12	1	0	2	0	3	1	12	0	0	13	0	0	0	0	0	28
Single-Unit %	0.0	84.6	100.0	0.0	85.7	50.0	0.0	66.7	0.0	60.0	50.0	85.7	0.0	0.0	81.3	0.0	0.0	0.0	0.0	0.0	80.0
Articulated Trucks	0	2	0	0	2	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	5
Articulated %	0.0	15.4	0.0	0.0	14.3	50.0	0.0	0.0	0.0	20.0	0.0	14.3	0.0	0.0	12.5	0.0	0.0	0.0	0.0	0.0	14.3
Buses	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	2
Single-Unit Trucks	0	11	1	0	12	1	0	2	0	3	1	12	0	0	13	0	0	0	0	0	28
Articulated Trucks	0	2	0	0	2	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	5
Total Entering Leg	0	13	1	0	14	2	0	3	0	5	2	14	0	0	16	0	0	0	0	0	35
Buses					0					1					1					0	2
Single-Unit Trucks					13					2					13					0	28
Articulated Trucks					3					0					2					0	5
Total Exiting Leg					16					3					16					0	35

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Buses

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	4
8:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	2
Grand Total	0	1	0	0	1	0	0	2	0	2	2	1	0	0	3	0	0	0	0	0	6
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		66.7	33.3	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	16.7	0.0	0.0	16.7	0.0	0.0	33.3	0.0	33.3	33.3	16.7	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					1					2					3					0	6

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	1	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	4
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		50.0	50.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.250	0.250	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.333
Entering Leg	0	1	0	0	1	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	4
Exiting Leg					1					1					2					0	4
Total					2					2					4					0	8

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Single-Unit Trucks

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	3	0	0	3	0	0	1	0	1	1	3	0	0	4	0	0	0	0	0	8
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
7:30 AM	0	1	1	0	2	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	6
7:45 AM	0	1	0	0	1	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	4
Total	0	6	1	0	7	1	0	1	0	2	2	10	0	0	12	0	0	0	0	0	21
8:00 AM	0	3	1	0	4	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	8
8:15 AM	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	6
8:30 AM	0	1	0	0	1	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	6
8:45 AM	0	2	0	0	2	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	8
Total	0	11	1	0	12	1	0	2	0	3	1	12	0	0	13	0	0	0	0	0	28
Grand Total	0	17	2	0	19	2	0	3	0	5	3	22	0	0	25	0	0	0	0	0	49
Approach %	0.0	89.5	10.5	0.0		40.0	0.0	60.0	0.0		12.0	88.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	34.7	4.1	0.0	38.8	4.1	0.0	6.1	0.0	10.2	6.1	44.9	0.0	0.0	51.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					24					5					20					0	49

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	3	1	0	4	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	8
8:15 AM	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	6
8:30 AM	0	1	0	0	1	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	6
8:45 AM	0	2	0	0	2	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	8
Total Volume	0	11	1	0	12	1	0	2	0	3	1	12	0	0	13	0	0	0	0	0	28
% Approach Total	0.0	91.7	8.3	0.0		33.3	0.0	66.7	0.0		7.7	92.3	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.550	0.250	0.000	0.600	0.250	0.000	0.500	0.000	0.750	0.250	0.600	0.000	0.000	0.650	0.000	0.000	0.000	0.000	0.000	0.875
Entering Leg	0	11	1	0	12	1	0	2	0	3	1	12	0	0	13	0	0	0	0	0	28
Exiting Leg					13					2					13					0	28
Total					25					5					26					0	56

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Articulated Trucks

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
8:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	0	2	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	5
Grand Total	0	2	0	0	2	1	0	0	0	1	1	2	0	0	3	0	0	0	0	0	6
Approach %	0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		33.3	66.7	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	33.3	0.0	0.0	33.3	16.7	0.0	0.0	0.0	16.7	16.7	33.3	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					3					1					2					0	6

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
8:00 AM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total Volume	0	2	0	0	2	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	5
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		33.3	66.7	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.625
Entering Leg	0	2	0	0	2	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	5
Exiting Leg					2					1					2					0	5
Total					4					1					5					0	10

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	West Road from North							Wilson Road from East							West Road from South							Driveway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	West Road from North							Wilson Road from East							West Road from South							Driveway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	West Road from North							Wilson Road from East							West Road from South							Driveway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0	0	0	0	0	0		0	0	0	0	0	100		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							0							1							0							0	1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	West Road from North							Wilson Road from East							West Road from South							Driveway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg							0							1							0							0	1
Total							0							2							0							0	2

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	24	5	0	29	15	0	3	0	18	11	52	0	0	63	0	0	0	0	0	110
4:15 PM	0	17	6	0	23	11	1	2	0	14	7	34	0	0	41	0	0	1	0	1	79
4:30 PM	0	18	11	0	29	9	0	1	0	10	17	55	0	0	72	0	0	0	0	0	111
4:45 PM	0	16	10	0	26	12	0	3	0	15	6	46	0	0	52	0	0	0	0	0	93
Total	0	75	32	0	107	47	1	9	0	57	41	187	0	0	228	0	0	1	0	1	393
5:00 PM	0	17	10	0	27	14	0	4	0	18	6	64	0	0	70	0	1	0	0	1	116
5:15 PM	0	13	17	0	30	15	0	1	0	16	4	40	0	0	44	0	0	0	0	0	90
5:30 PM	0	12	13	0	25	14	0	1	0	15	4	27	0	0	31	1	0	0	0	1	72
5:45 PM	0	3	9	0	12	7	0	0	0	7	2	24	0	0	26	0	0	0	0	0	45
Total	0	45	49	0	94	50	0	6	0	56	16	155	0	0	171	1	1	0	0	2	323
Grand Total	0	120	81	0	201	97	1	15	0	113	57	342	0	0	399	1	1	1	0	3	716
Approach %	0.0	59.7	40.3	0.0		85.8	0.9	13.3	0.0		14.3	85.7	0.0	0.0		33.3	33.3	33.3	0.0		
Total %	0.0	16.8	11.3	0.0	28.1	13.5	0.1	2.1	0.0	15.8	8.0	47.8	0.0	0.0	55.7	0.1	0.1	0.1	0.0	0.4	
Exiting Leg Total					440					139					136					1	716
Cars	0	113	79	0	192	95	1	12	0	108	53	334	0	0	387	1	1	1	0	3	690
% Cars	0.0	94.2	97.5	0.0	95.5	97.9	100.0	80.0	0.0	95.6	93.0	97.7	0.0	0.0	97.0	100.0	100.0	100.0	0.0	100.0	96.4
Exiting Leg Total					430					133					126					1	690
Heavy Vehicles	0	7	2	0	9	2	0	3	0	5	4	8	0	0	12	0	0	0	0	0	26
% Heavy Vehicles	0.0	5.8	2.5	0.0	4.5	2.1	0.0	20.0	0.0	4.4	7.0	2.3	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	3.6
Exiting Leg Total					10					6					10					0	26

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	18	11	0	29	9	0	1	0	10	17	55	0	0	72	0	0	0	0	0	111
4:45 PM	0	16	10	0	26	12	0	3	0	15	6	46	0	0	52	0	0	0	0	0	93
5:00 PM	0	17	10	0	27	14	0	4	0	18	6	64	0	0	70	0	1	0	0	1	116
5:15 PM	0	13	17	0	30	15	0	1	0	16	4	40	0	0	44	0	0	0	0	0	90
Total Volume	0	64	48	0	112	50	0	9	0	59	33	205	0	0	238	0	1	0	0	1	410
% Approach Total	0.0	57.1	42.9	0.0		84.7	0.0	15.3	0.0		13.9	86.1	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.889	0.706	0.000	0.933	0.833	0.000	0.563	0.000	0.819	0.485	0.801	0.000	0.000	0.826	0.000	0.250	0.000	0.000	0.250	0.884
Cars	0	59	46	0	105	49	0	8	0	57	31	204	0	0	235	0	1	0	0	1	398
Cars %	0.0	92.2	95.8	0.0	93.8	98.0	0.0	88.9	0.0	96.6	93.9	99.5	0.0	0.0	98.7	0.0	100.0	0.0	0.0	100.0	97.1
Heavy Vehicles	0	5	2	0	7	1	0	1	0	2	2	1	0	0	3	0	0	0	0	0	12
Heavy Vehicles %	0.0	7.8	4.2	0.0	6.3	2.0	0.0	11.1	0.0	3.4	6.1	0.5	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	2.9
Cars Enter Leg	0	59	46	0	105	49	0	8	0	57	31	204	0	0	235	0	1	0	0	1	398
Heavy Enter Leg	0	5	2	0	7	1	0	1	0	2	2	1	0	0	3	0	0	0	0	0	12
Total Entering Leg	0	64	48	0	112	50	0	9	0	59	33	205	0	0	238	0	1	0	0	1	410
Cars Exiting Leg					253					78					67					0	398
Heavy Exiting Leg					2					4					6					0	12
Total Exiting Leg					255					82					73					0	410

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	24	5	0	29	14	0	2	0	16	11	50	0	0	61	0	0	0	0	0	106
4:15 PM	0	15	6	0	21	11	1	1	0	13	6	31	0	0	37	0	0	1	0	1	72
4:30 PM	0	17	10	0	27	9	0	1	0	10	16	55	0	0	71	0	0	0	0	0	108
4:45 PM	0	16	10	0	26	12	0	3	0	15	5	46	0	0	51	0	0	0	0	0	92
Total	0	72	31	0	103	46	1	7	0	54	38	182	0	0	220	0	0	1	0	1	378
5:00 PM	0	15	9	0	24	13	0	4	0	17	6	63	0	0	69	0	1	0	0	1	111
5:15 PM	0	11	17	0	28	15	0	0	0	15	4	40	0	0	44	0	0	0	0	0	87
5:30 PM	0	12	13	0	25	14	0	1	0	15	3	27	0	0	30	1	0	0	0	1	71
5:45 PM	0	3	9	0	12	7	0	0	0	7	2	22	0	0	24	0	0	0	0	0	43
Total	0	41	48	0	89	49	0	5	0	54	15	152	0	0	167	1	1	0	0	2	312
Grand Total	0	113	79	0	192	95	1	12	0	108	53	334	0	0	387	1	1	1	0	3	690
Approach %	0.0	58.9	41.1	0.0		88.0	0.9	11.1	0.0		13.7	86.3	0.0	0.0		33.3	33.3	33.3	0.0		
Total %	0.0	16.4	11.4	0.0	27.8	13.8	0.1	1.7	0.0	15.7	7.7	48.4	0.0	0.0	56.1	0.1	0.1	0.1	0.0	0.4	
Exiting Leg Total					430					133					126					1	690

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:30 PM	0	17	10	0	27	9	0	1	0	10	16	55	0	0	71	0	0	0	0	0	108
4:45 PM	0	16	10	0	26	12	0	3	0	15	5	46	0	0	51	0	0	0	0	0	92
5:00 PM	0	15	9	0	24	13	0	4	0	17	6	63	0	0	69	0	1	0	0	1	111
5:15 PM	0	11	17	0	28	15	0	0	0	15	4	40	0	0	44	0	0	0	0	0	87
Total Volume	0	59	46	0	105	49	0	8	0	57	31	204	0	0	235	0	1	0	0	1	398
% Approach Total	0.0	56.2	43.8	0.0		86.0	0.0	14.0	0.0		13.2	86.8	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.868	0.676	0.000	0.938	0.817	0.000	0.500	0.000	0.838	0.484	0.810	0.000	0.000	0.827	0.000	0.250	0.000	0.000	0.250	0.896
Entering Leg	0	59	46	0	105	49	0	8	0	57	31	204	0	0	235	0	1	0	0	1	398
Exiting Leg					253					78					67					0	398
Total					358					135					302					1	796

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	1	0	1	0	2	0	2	0	0	2	0	0	0	0	0	4
4:15 PM	0	2	0	0	2	0	0	1	0	1	1	3	0	0	4	0	0	0	0	0	7
4:30 PM	0	1	1	0	2	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total	0	3	1	0	4	1	0	2	0	3	3	5	0	0	8	0	0	0	0	0	15
5:00 PM	0	2	1	0	3	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	5
5:15 PM	0	2	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Total	0	4	1	0	5	1	0	1	0	2	1	3	0	0	4	0	0	0	0	0	11
Grand Total	0	7	2	0	9	2	0	3	0	5	4	8	0	0	12	0	0	0	0	0	26
Approach %	0.0	77.8	22.2	0.0		40.0	0.0	60.0	0.0		33.3	66.7	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	26.9	7.7	0.0	34.6	7.7	0.0	11.5	0.0	19.2	15.4	30.8	0.0	0.0	46.2	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					10					6					10					0	26
Buses	0	0	0	0	0	0	0	2	0	2	2	1	0	0	3	0	0	0	0	0	5
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	40.0	50.0	12.5	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	19.2
Exiting Leg Total					1					2					2					0	5
Single-Unit Trucks	0	7	2	0	9	2	0	1	0	3	1	6	0	0	7	0	0	0	0	0	19
% Single-Unit	0.0	100.0	100.0	0.0	100.0	100.0	0.0	33.3	0.0	60.0	25.0	75.0	0.0	0.0	58.3	0.0	0.0	0.0	0.0	0.0	73.1
Exiting Leg Total					8					3					8					0	19
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	12.5	0.0	0.0	16.7	0.0	0.0	0.0	0.0	0.0	7.7
Exiting Leg Total					1					1					0					0	2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:15 PM	0	2	0	0	2	0	0	1	0	1	1	3	0	0	4	0	0	0	0	0	7
4:30 PM	0	1	1	0	2	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
5:00 PM	0	2	1	0	3	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	5
Total Volume	0	5	2	0	7	1	0	1	0	2	3	4	0	0	7	0	0	0	0	0	16
% Approach Total	0.0	71.4	28.6	0.0		50.0	0.0	50.0	0.0		42.9	57.1	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.625	0.500	0.000	0.583	0.250	0.000	0.250	0.000	0.500	0.750	0.333	0.000	0.000	0.438	0.000	0.000	0.000	0.000	0.000	0.571
Buses	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	25.0	0.0	0.0	28.6	0.0	0.0	0.0	0.0	0.0	12.5
Single-Unit Trucks	0	5	2	0	7	1	0	1	0	2	1	3	0	0	4	0	0	0	0	0	13
Single-Unit %	0.0	100.0	100.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	33.3	75.0	0.0	0.0	57.1	0.0	0.0	0.0	0.0	0.0	81.3
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	6.3
Buses	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
Single-Unit Trucks	0	5	2	0	7	1	0	1	0	2	1	3	0	0	4	0	0	0	0	0	13
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total Entering Leg	0	5	2	0	7	1	0	1	0	2	3	4	0	0	7	0	0	0	0	0	16
Buses					1					1					0					0	2
Single-Unit Trucks					4					3					6					0	13
Articulated Trucks					0					1					0					0	1
Total Exiting Leg					5					5					6					0	16

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Buses

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	2
Grand Total	0	0	0	0	0	0	0	2	0	2	2	1	0	0	3	0	0	0	0	0	5
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		66.7	33.3	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	40.0	40.0	20.0	0.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					1					2					2					0	5

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	3
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		50.0	50.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.250	0.250	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.750
Entering Leg	0	0	0	0	0	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	3
Exiting Leg					1					1					1					0	3
Total					1					2					3					0	6

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Single-Unit Trucks

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	2
4:15 PM	0	2	0	0	2	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	6
4:30 PM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	3	1	0	4	1	0	1	0	2	1	3	0	0	4	0	0	0	0	0	10
5:00 PM	0	2	1	0	3	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	5
5:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
Total	0	4	1	0	5	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	9
Grand Total	0	7	2	0	9	2	0	1	0	3	1	6	0	0	7	0	0	0	0	0	19
Approach %	0.0	77.8	22.2	0.0		66.7	0.0	33.3	0.0		14.3	85.7	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	36.8	10.5	0.0	47.4	10.5	0.0	5.3	0.0	15.8	5.3	31.6	0.0	0.0	36.8	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					8					3					8					0	19

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:15 PM	0	2	0	0	2	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	6
4:30 PM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	2	1	0	3	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	5
Total Volume	0	5	2	0	7	1	0	1	0	2	1	3	0	0	4	0	0	0	0	0	13
% Approach Total	0.0	71.4	28.6	0.0		50.0	0.0	50.0	0.0		25.0	75.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.625	0.500	0.000	0.583	0.250	0.000	0.250	0.000	0.500	0.250	0.375	0.000	0.000	0.333	0.000	0.000	0.000	0.000	0.000	0.542
Entering Leg	0	5	2	0	7	1	0	1	0	2	1	3	0	0	4	0	0	0	0	0	13
Exiting Leg					4					3					6					0	13
Total					11					5					10					0	26

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Articulated Trucks

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					1					1					0					0	2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	2
Exiting Leg					1					1					0					0	2
Total					1					1					2					0	4

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	West Road							Wilson Road							West Road							Driveway							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	West Road							Wilson Road							West Road							Driveway							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	West Road from North							Wilson Road from East							West Road from South							Driveway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							0							0							0							0	0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	West Road from North							Wilson Road from East							West Road from South							Driveway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg							0							0							0							0	0
Total							0							0							0							0	0

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Saturday, June 25, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	8	12	0	20	7	0	1	0	8	3	8	0	0	11	0	0	0	0	0	39
11:15 AM	0	12	10	0	22	8	0	0	0	8	0	6	0	0	6	0	0	0	0	0	36
11:30 AM	0	9	8	0	17	15	1	2	0	18	1	8	0	0	9	0	1	0	0	1	45
11:45 AM	0	7	6	0	13	16	0	0	0	16	1	7	0	0	8	0	0	0	0	0	37
Total	0	36	36	0	72	46	1	3	0	50	5	29	0	0	34	0	1	0	0	1	157
12:00 PM	0	8	10	0	18	18	0	1	0	19	0	4	0	0	4	0	0	0	0	0	41
12:15 PM	0	6	6	0	12	15	0	1	0	16	1	6	0	0	7	0	0	0	0	0	35
12:30 PM	0	8	5	0	13	10	0	1	0	11	1	4	0	0	5	0	0	0	0	0	29
12:45 PM	0	5	4	0	9	9	0	2	0	11	3	8	0	0	11	0	0	0	0	0	31
Total	0	27	25	0	52	52	0	5	0	57	5	22	0	0	27	0	0	0	0	0	136
1:00 PM	0	11	6	0	17	10	0	1	0	11	2	9	1	0	12	1	0	0	0	1	41
1:15 PM	0	3	4	0	7	8	0	0	0	8	0	7	0	0	7	0	0	0	0	0	22
1:30 PM	0	5	5	0	10	7	0	3	0	10	3	4	0	0	7	0	0	0	0	0	27
1:45 PM	0	4	4	0	8	11	0	3	0	14	3	8	0	0	11	0	0	0	0	0	33
Total	0	23	19	0	42	36	0	7	0	43	8	28	1	0	37	1	0	0	0	1	123
Grand Total	0	86	80	0	166	134	1	15	0	150	18	79	1	0	98	1	1	0	0	2	416
Approach %	0.0	51.8	48.2	0.0		89.3	0.7	10.0	0.0		18.4	80.6	1.0	0.0		50.0	50.0	0.0	0.0		
Total %	0.0	20.7	19.2	0.0	39.9	32.2	0.2	3.6	0.0	36.1	4.3	19.0	0.2	0.0	23.6	0.2	0.2	0.0	0.0	0.5	
Exiting Leg Total					213					99					102					2	416
Cars	0	78	78	0	156	133	1	15	0	149	18	72	1	0	91	1	1	0	0	2	398
% Cars	0.0	90.7	97.5	0.0	94.0	99.3	100.0	100.0	0.0	99.3	100.0	91.1	100.0	0.0	92.9	100.0	100.0	0.0	0.0	100.0	95.7
Exiting Leg Total					205					97					94					2	398
Heavy Vehicles	0	8	2	0	10	1	0	0	0	1	0	7	0	0	7	0	0	0	0	0	18
% Heavy Vehicles	0.0	9.3	2.5	0.0	6.0	0.7	0.0	0.0	0.0	0.7	0.0	8.9	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0	4.3
Exiting Leg Total					8					2					8					0	18

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:15 AM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:15 AM	0	12	10	0	22	8	0	0	0	8	0	6	0	0	6	0	0	0	0	0	36
11:30 AM	0	9	8	0	17	15	1	2	0	18	1	8	0	0	9	0	1	0	0	1	45
11:45 AM	0	7	6	0	13	16	0	0	0	16	1	7	0	0	8	0	0	0	0	0	37
12:00 PM	0	8	10	0	18	18	0	1	0	19	0	4	0	0	4	0	0	0	0	0	41
Total Volume	0	36	34	0	70	57	1	3	0	61	2	25	0	0	27	0	1	0	0	1	159
% Approach Total	0.0	51.4	48.6	0.0		93.4	1.6	4.9	0.0		7.4	92.6	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.750	0.850	0.000	0.795	0.792	0.250	0.375	0.000	0.803	0.500	0.781	0.000	0.000	0.750	0.000	0.250	0.000	0.000	0.250	0.883
Cars	0	32	34	0	66	56	1	3	0	60	2	21	0	0	23	0	1	0	0	1	150
Cars %	0.0	88.9	100.0	0.0	94.3	98.2	100.0	100.0	0.0	98.4	100.0	84.0	0.0	0.0	85.2	0.0	100.0	0.0	0.0	100.0	94.3
Heavy Vehicles	0	4	0	0	4	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	9
Heavy Vehicles %	0.0	11.1	0.0	0.0	5.7	1.8	0.0	0.0	0.0	1.6	0.0	16.0	0.0	0.0	14.8	0.0	0.0	0.0	0.0	0.0	5.7
Cars Enter Leg	0	32	34	0	66	56	1	3	0	60	2	21	0	0	23	0	1	0	0	1	150
Heavy Enter Leg	0	4	0	0	4	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	9
Total Entering Leg	0	36	34	0	70	57	1	3	0	61	2	25	0	0	27	0	1	0	0	1	159
Cars Exiting Leg					77					37					35					1	150
Heavy Exiting Leg					5					0					4					0	9
Total Exiting Leg					82					37					39					1	159

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Saturday, June 25, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	7	11	0	18	7	0	1	0	8	3	8	0	0	11	0	0	0	0	0	37
11:15 AM	0	9	10	0	19	8	0	0	0	8	0	4	0	0	4	0	0	0	0	0	31
11:30 AM	0	8	8	0	16	15	1	2	0	18	1	8	0	0	9	0	1	0	0	1	44
11:45 AM	0	7	6	0	13	15	0	0	0	15	1	6	0	0	7	0	0	0	0	0	35
Total	0	31	35	0	66	45	1	3	0	49	5	26	0	0	31	0	1	0	0	1	147
12:00 PM	0	8	10	0	18	18	0	1	0	19	0	3	0	0	3	0	0	0	0	0	40
12:15 PM	0	6	5	0	11	15	0	1	0	16	1	5	0	0	6	0	0	0	0	0	33
12:30 PM	0	7	5	0	12	10	0	1	0	11	1	4	0	0	5	0	0	0	0	0	28
12:45 PM	0	4	4	0	8	9	0	2	0	11	3	8	0	0	11	0	0	0	0	0	30
Total	0	25	24	0	49	52	0	5	0	57	5	20	0	0	25	0	0	0	0	0	131
1:00 PM	0	10	6	0	16	10	0	1	0	11	2	8	1	0	11	1	0	0	0	1	39
1:15 PM	0	3	4	0	7	8	0	0	0	8	0	6	0	0	6	0	0	0	0	0	21
1:30 PM	0	5	5	0	10	7	0	3	0	10	3	4	0	0	7	0	0	0	0	0	27
1:45 PM	0	4	4	0	8	11	0	3	0	14	3	8	0	0	11	0	0	0	0	0	33
Total	0	22	19	0	41	36	0	7	0	43	8	26	1	0	35	1	0	0	0	1	120
Grand Total	0	78	78	0	156	133	1	15	0	149	18	72	1	0	91	1	1	0	0	2	398
Approach %	0.0	50.0	50.0	0.0		89.3	0.7	10.1	0.0		19.8	79.1	1.1	0.0		50.0	50.0	0.0	0.0		
Total %	0.0	19.6	19.6	0.0	39.2	33.4	0.3	3.8	0.0	37.4	4.5	18.1	0.3	0.0	22.9	0.3	0.3	0.0	0.0	0.5	
Exiting Leg Total					205					97					94					2	398

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:30 AM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:30 AM	0	8	8	0	16	15	1	2	0	18	1	8	0	0	9	0	1	0	0	1	44
11:45 AM	0	7	6	0	13	15	0	0	0	15	1	6	0	0	7	0	0	0	0	0	35
12:00 PM	0	8	10	0	18	18	0	1	0	19	0	3	0	0	3	0	0	0	0	0	40
12:15 PM	0	6	5	0	11	15	0	1	0	16	1	5	0	0	6	0	0	0	0	0	33
Total Volume	0	29	29	0	58	63	1	4	0	68	3	22	0	0	25	0	1	0	0	1	152
% Approach Total	0.0	50.0	50.0	0.0		92.6	1.5	5.9	0.0		12.0	88.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.906	0.725	0.000	0.806	0.875	0.250	0.500	0.000	0.895	0.750	0.688	0.000	0.000	0.694	0.000	0.250	0.000	0.000	0.250	0.864
Entering Leg	0	29	29	0	58	63	1	4	0	68	3	22	0	0	25	0	1	0	0	1	152
Exiting Leg					85					33					33					1	152
Total					143					101					58					2	304

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Saturday, June 25, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:15 AM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
11:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	2
Total	0	5	1	0	6	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	10
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
12:15 PM	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
12:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	1	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
1:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
Grand Total	0	8	2	0	10	1	0	0	0	1	0	7	0	0	7	0	0	0	0	0	18
Approach %	0.0	80.0	20.0	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	44.4	11.1	0.0	55.6	5.6	0.0	0.0	0.0	5.6	0.0	38.9	0.0	0.0	38.9	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					8					2					8					0	18
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0
Single-Unit Trucks	0	8	2	0	10	1	0	0	0	1	0	7	0	0	7	0	0	0	0	0	18
% Single-Unit	0.0	100.0	100.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Exiting Leg Total					8					2					8					0	18
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:15 AM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
11:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	2
Total Volume	0	5	1	0	6	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	10
% Approach Total	0.0	83.3	16.7	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.417	0.250	0.000	0.500	0.250	0.000	0.000	0.000	0.250	0.000	0.375	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.500
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Single-Unit Trucks	0	5	1	0	6	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	10
Single-Unit %	0.0	100.0	100.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	0	5	1	0	6	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	10
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	5	1	0	6	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	10
Buses					0					0					0					0	0
Single-Unit Trucks					4					1					5					0	10
Articulated Trucks					0					0					0					0	0
Total Exiting Leg					4					1					5					0	10

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Saturday, June 25, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Buses

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Saturday, June 25, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Single-Unit Trucks

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:15 AM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
11:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	2
Total	0	5	1	0	6	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	10
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
12:15 PM	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
12:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	1	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
1:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
Grand Total	0	8	2	0	10	1	0	0	0	1	0	7	0	0	7	0	0	0	0	0	18
Approach %	0.0	80.0	20.0	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	44.4	11.1	0.0	55.6	5.6	0.0	0.0	0.0	5.6	0.0	38.9	0.0	0.0	38.9	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					8					2					8					0	18

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:15 AM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
11:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	2
Total Volume	0	5	1	0	6	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	10
% Approach Total	0.0	83.3	16.7	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.417	0.250	0.000	0.500	0.250	0.000	0.000	0.000	0.250	0.000	0.375	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	5	1	0	6	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	10
Exiting Leg					4					1					5					0	10
Total					10					2					8					0	20

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Saturday, June 25, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Articulated Trucks

	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	West Road from North					Wilson Road from East					West Road from South					Driveway from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Saturday, June 25, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	West Road from North							Wilson Road from East							West Road from South							Driveway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	2
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							2							0							0	2

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	West Road from North							Wilson Road from East							West Road from South							Driveway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Exiting Leg							0							1							0							0	1
Total							0							1							1							0	2

PDI File #: **228713 A**
Location: **N: West Road S: West Road**
Location: **E: Wilson Road W: Driveway**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Saturday, June 25, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	West Road from North							Wilson Road from East							West Road from South							Driveway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Grand Total	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3
Approach %	0	0	0	0	0	100		0	0	0	0	0	100		0	0	0	0	0	0		0	0	0	0	0	100		
Total %	0	0	0	0	0	33.3	33.3	0	0	0	0	0	33.3	33.3	0	0	0	0	0	0	0	0	0	0	0	0	33.3	33.3	
Exiting Leg Total							1							1							0							1	3

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	West Road from North							Wilson Road from East							West Road from South							Driveway from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Exiting Leg							1							1							0							0	2
Total							2							2							0							0	4

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	10	102	0	0	112	4	1	0	0	5	0	118	11	0	129	4	1	2	0	7	253
7:15 AM	12	116	0	0	128	2	1	0	0	3	0	131	12	0	143	8	1	4	0	13	287
7:30 AM	12	104	1	0	117	2	1	1	0	4	0	180	13	0	193	12	1	5	0	18	332
7:45 AM	12	128	5	0	145	5	3	3	0	11	2	177	16	0	195	9	0	8	0	17	368
Total	46	450	6	0	502	13	6	4	0	23	2	606	52	0	660	33	3	19	0	55	1240
8:00 AM	17	148	1	0	166	3	1	4	0	8	0	179	8	0	187	12	0	1	0	13	374
8:15 AM	16	168	0	0	184	3	1	2	0	6	0	161	11	0	172	13	0	5	0	18	380
8:30 AM	7	157	0	0	164	1	0	3	0	4	0	162	19	0	181	12	0	5	0	17	366
8:45 AM	33	167	0	0	200	6	1	3	0	10	1	145	14	0	160	15	0	9	0	24	394
Total	73	640	1	0	714	13	3	12	0	28	1	647	52	0	700	52	0	20	0	72	1514
Grand Total	119	1090	7	0	1216	26	9	16	0	51	3	1253	104	0	1360	85	3	39	0	127	2754
Approach %	9.8	89.6	0.6	0.0		51.0	17.6	31.4	0.0		0.2	92.1	7.6	0.0		66.9	2.4	30.7	0.0		
Total %	4.3	39.6	0.3	0.0	44.2	0.9	0.3	0.6	0.0	1.9	0.1	45.5	3.8	0.0	49.4	3.1	0.1	1.4	0.0	4.6	
Exiting Leg Total					1318					13					1191					232	2754
Cars	113	1031	5	0	1149	26	9	16	0	51	3	1166	92	0	1261	78	3	29	0	110	2571
% Cars	95.0	94.6	71.4	0.0	94.5	100.0	100.0	100.0	0.0	100.0	100.0	93.1	88.5	0.0	92.7	91.8	100.0	74.4	0.0	86.6	93.4
Exiting Leg Total					1221					11					1125					214	2571
Heavy Vehicles	6	59	2	0	67	0	0	0	0	0	0	87	12	0	99	7	0	10	0	17	183
% Heavy Vehicles	5.0	5.4	28.6	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	6.9	11.5	0.0	7.3	8.2	0.0	25.6	0.0	13.4	6.6
Exiting Leg Total					97					2					66					18	183

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	17	148	1	0	166	3	1	4	0	8	0	179	8	0	187	12	0	1	0	13	374
8:15 AM	16	168	0	0	184	3	1	2	0	6	0	161	11	0	172	13	0	5	0	18	380
8:30 AM	7	157	0	0	164	1	0	3	0	4	0	162	19	0	181	12	0	5	0	17	366
8:45 AM	33	167	0	0	200	6	1	3	0	10	1	145	14	0	160	15	0	9	0	24	394
Total Volume	73	640	1	0	714	13	3	12	0	28	1	647	52	0	700	52	0	20	0	72	1514
% Approach Total	10.2	89.6	0.1	0.0		46.4	10.7	42.9	0.0		0.1	92.4	7.4	0.0		72.2	0.0	27.8	0.0		
PHF	0.553	0.952	0.250	0.000	0.893	0.542	0.750	0.750	0.000	0.700	0.250	0.904	0.684	0.000	0.936	0.867	0.000	0.556	0.000	0.750	0.961
Cars	70	601	1	0	672	13	3	12	0	28	1	609	46	0	656	49	0	17	0	66	1422
Cars %	95.9	93.9	100.0	0.0	94.1	100.0	100.0	100.0	0.0	100.0	100.0	94.1	88.5	0.0	93.7	94.2	0.0	85.0	0.0	91.7	93.9
Heavy Vehicles	3	39	0	0	42	0	0	0	0	0	0	38	6	0	44	3	0	3	0	6	92
Heavy Vehicles %	4.1	6.1	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	5.9	11.5	0.0	6.3	5.8	0.0	15.0	0.0	8.3	6.1
Cars Enter Leg	70	601	1	0	672	13	3	12	0	28	1	609	46	0	656	49	0	17	0	66	1422
Heavy Enter Leg	3	39	0	0	42	0	0	0	0	0	0	38	6	0	44	3	0	3	0	6	92
Total Entering Leg	73	640	1	0	714	13	3	12	0	28	1	647	52	0	700	52	0	20	0	72	1514
Cars Exiting Leg					639					2					662					119	1422
Heavy Exiting Leg					41					0					42					9	92
Total Exiting Leg					680					2					704					128	1514

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	8	101	0	0	109	4	1	0	0	5	0	110	8	0	118	3	1	1	0	5	237
7:15 AM	11	105	0	0	116	2	1	0	0	3	0	112	11	0	123	7	1	4	0	12	254
7:30 AM	12	100	1	0	113	2	1	1	0	4	0	166	12	0	178	11	1	3	0	15	310
7:45 AM	12	124	3	0	139	5	3	3	0	11	2	169	15	0	186	8	0	4	0	12	348
Total	43	430	4	0	477	13	6	4	0	23	2	557	46	0	605	29	3	12	0	44	1149
8:00 AM	14	137	1	0	152	3	1	4	0	8	0	170	8	0	178	10	0	0	0	10	348
8:15 AM	16	162	0	0	178	3	1	2	0	6	0	147	11	0	158	13	0	4	0	17	359
8:30 AM	7	147	0	0	154	1	0	3	0	4	0	155	15	0	170	11	0	4	0	15	343
8:45 AM	33	155	0	0	188	6	1	3	0	10	1	137	12	0	150	15	0	9	0	24	372
Total	70	601	1	0	672	13	3	12	0	28	1	609	46	0	656	49	0	17	0	66	1422
Grand Total	113	1031	5	0	1149	26	9	16	0	51	3	1166	92	0	1261	78	3	29	0	110	2571
Approach %	9.8	89.7	0.4	0.0		51.0	17.6	31.4	0.0		0.2	92.5	7.3	0.0		70.9	2.7	26.4	0.0		
Total %	4.4	40.1	0.2	0.0	44.7	1.0	0.4	0.6	0.0	2.0	0.1	45.4	3.6	0.0	49.0	3.0	0.1	1.1	0.0	4.3	
Exiting Leg Total					1221					11					1125					214	2571

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	14	137	1	0	152	3	1	4	0	8	0	170	8	0	178	10	0	0	0	10	348
8:15 AM	16	162	0	0	178	3	1	2	0	6	0	147	11	0	158	13	0	4	0	17	359
8:30 AM	7	147	0	0	154	1	0	3	0	4	0	155	15	0	170	11	0	4	0	15	343
8:45 AM	33	155	0	0	188	6	1	3	0	10	1	137	12	0	150	15	0	9	0	24	372
Total Volume	70	601	1	0	672	13	3	12	0	28	1	609	46	0	656	49	0	17	0	66	1422
% Approach Total	10.4	89.4	0.1	0.0		46.4	10.7	42.9	0.0		0.2	92.8	7.0	0.0		74.2	0.0	25.8	0.0		
PHF	0.530	0.927	0.250	0.000	0.894	0.542	0.750	0.750	0.000	0.700	0.250	0.896	0.767	0.000	0.921	0.817	0.000	0.472	0.000	0.688	0.956
Entering Leg	70	601	1	0	672	13	3	12	0	28	1	609	46	0	656	49	0	17	0	66	1422
Exiting Leg					639					2					662					119	1422
Total					1311					30					1318					185	2844

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	2	1	0	0	3	0	0	0	0	0	0	8	3	0	11	1	0	1	0	2	16
7:15 AM	1	11	0	0	12	0	0	0	0	0	0	19	1	0	20	1	0	0	0	1	33
7:30 AM	0	4	0	0	4	0	0	0	0	0	0	14	1	0	15	1	0	2	0	3	22
7:45 AM	0	4	2	0	6	0	0	0	0	0	0	8	1	0	9	1	0	4	0	5	20
Total	3	20	2	0	25	0	0	0	0	0	0	49	6	0	55	4	0	7	0	11	91
8:00 AM	3	11	0	0	14	0	0	0	0	0	0	9	0	0	9	2	0	1	0	3	26
8:15 AM	0	6	0	0	6	0	0	0	0	0	0	14	0	0	14	0	0	1	0	1	21
8:30 AM	0	10	0	0	10	0	0	0	0	0	0	7	4	0	11	1	0	1	0	2	23
8:45 AM	0	12	0	0	12	0	0	0	0	0	0	8	2	0	10	0	0	0	0	0	22
Total	3	39	0	0	42	0	0	0	0	0	0	38	6	0	44	3	0	3	0	6	92
Grand Total	6	59	2	0	67	0	0	0	0	0	0	87	12	0	99	7	0	10	0	17	183
Approach %	9.0	88.1	3.0	0.0		0.0	0.0	0.0	0.0		0.0	87.9	12.1	0.0		41.2	0.0	58.8	0.0		
Total %	3.3	32.2	1.1	0.0	36.6	0.0	0.0	0.0	0.0	0.0	0.0	47.5	6.6	0.0	54.1	3.8	0.0	5.5	0.0	9.3	
Exiting Leg Total					97					2					66					18	183
Buses	3	1	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	3	0	3	9
% Buses	50.0	1.7	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	2.0	0.0	0.0	30.0	0.0	17.6	4.9
Exiting Leg Total					5					0					1					3	9
Single-Unit Trucks	3	48	1	0	52	0	0	0	0	0	0	70	11	0	81	7	0	6	0	13	146
% Single-Unit	50.0	81.4	50.0	0.0	77.6	0.0	0.0	0.0	0.0	0.0	0.0	80.5	91.7	0.0	81.8	100.0	0.0	60.0	0.0	76.5	79.8
Exiting Leg Total					76					1					55					14	146
Articulated Trucks	0	10	1	0	11	0	0	0	0	0	0	15	1	0	16	0	0	1	0	1	28
% Articulated	0.0	16.9	50.0	0.0	16.4	0.0	0.0	0.0	0.0	0.0	0.0	17.2	8.3	0.0	16.2	0.0	0.0	10.0	0.0	5.9	15.3
Exiting Leg Total					16					1					10					1	28

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	1	11	0	0	12	0	0	0	0	0	0	19	1	0	20	1	0	0	0	1	33
7:30 AM	0	4	0	0	4	0	0	0	0	0	0	14	1	0	15	1	0	2	0	3	22
7:45 AM	0	4	2	0	6	0	0	0	0	0	0	8	1	0	9	1	0	4	0	5	20
8:00 AM	3	11	0	0	14	0	0	0	0	0	0	9	0	0	9	2	0	1	0	3	26
Total Volume	4	30	2	0	36	0	0	0	0	0	0	50	3	0	53	5	0	7	0	12	101
% Approach Total	11.1	83.3	5.6	0.0		0.0	0.0	0.0	0.0		0.0	94.3	5.7	0.0		41.7	0.0	58.3	0.0		
PHF	0.333	0.682	0.250	0.000	0.643	0.000	0.000	0.000	0.000	0.000	0.000	0.658	0.750	0.000	0.663	0.625	0.000	0.438	0.000	0.600	0.765
Buses	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	4
Buses %	50.0	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	1.9	0.0	0.0	14.3	0.0	8.3	4.0
Single-Unit Trucks	2	23	1	0	26	0	0	0	0	0	0	43	3	0	46	5	0	5	0	10	82
Single-Unit %	50.0	76.7	50.0	0.0	72.2	0.0	0.0	0.0	0.0	0.0	0.0	86.0	100.0	0.0	86.8	100.0	0.0	71.4	0.0	83.3	81.2
Articulated Trucks	0	7	1	0	8	0	0	0	0	0	0	6	0	0	6	0	0	1	0	1	15
Articulated %	0.0	23.3	50.0	0.0	22.2	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0	11.3	0.0	0.0	14.3	0.0	8.3	14.9
Buses	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	4
Single-Unit Trucks	2	23	1	0	26	0	0	0	0	0	0	43	3	0	46	5	0	5	0	10	82
Articulated Trucks	0	7	1	0	8	0	0	0	0	0	0	6	0	0	6	0	0	1	0	1	15
Total Entering Leg	4	30	2	0	36	0	0	0	0	0	0	50	3	0	53	5	0	7	0	12	101
Buses					2					0					0					2	4
Single-Unit Trucks					48					1					28					5	82
Articulated Trucks					7					1					7					0	15
Total Exiting Leg					57					2					35					7	101

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **7:00 AM**
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Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Buses

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	3
8:00 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	2	1	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	2	0	2	6
Grand Total	3	1	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	3	0	3	9
Approach %	75.0	25.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		
Total %	33.3	11.1	0.0	0.0	44.4	0.0	0.0	0.0	0.0	0.0	0.0	22.2	0.0	0.0	22.2	0.0	0.0	33.3	0.0	33.3	
Exiting Leg Total					5					0					1					3	9

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total Volume	2	1	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	2	0	2	6
% Approach Total	66.7	33.3	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		
PHF	0.250	0.250	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.500	0.000	0.500	0.750
Entering Leg	2	1	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	2	0	2	6
Exiting Leg					3					0					1					2	6
Total					6					0					2					4	12

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Single-Unit Trucks

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	1	1	0	0	2	0	0	0	0	0	0	7	3	0	10	1	0	1	0	2	14
7:15 AM	1	10	0	0	11	0	0	0	0	0	0	16	1	0	17	1	0	0	0	1	29
7:30 AM	0	3	0	0	3	0	0	0	0	0	0	12	1	0	13	1	0	1	0	2	18
7:45 AM	0	4	1	0	5	0	0	0	0	0	0	6	1	0	7	1	0	3	0	4	16
Total	2	18	1	0	21	0	0	0	0	0	0	41	6	0	47	4	0	5	0	9	77
8:00 AM	1	6	0	0	7	0	0	0	0	0	0	9	0	0	9	2	0	1	0	3	19
8:15 AM	0	6	0	0	6	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	16
8:30 AM	0	8	0	0	8	0	0	0	0	0	0	6	4	0	10	1	0	0	0	1	19
8:45 AM	0	10	0	0	10	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	15
Total	1	30	0	0	31	0	0	0	0	0	0	29	5	0	34	3	0	1	0	4	69
Grand Total	3	48	1	0	52	0	0	0	0	0	0	70	11	0	81	7	0	6	0	13	146
Approach %	5.8	92.3	1.9	0.0		0.0	0.0	0.0	0.0		0.0	86.4	13.6	0.0		53.8	0.0	46.2	0.0		
Total %	2.1	32.9	0.7	0.0	35.6	0.0	0.0	0.0	0.0	0.0	0.0	47.9	7.5	0.0	55.5	4.8	0.0	4.1	0.0	8.9	
Exiting Leg Total					76					1					55					14	146

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:15 AM	1	10	0	0	11	0	0	0	0	0	0	16	1	0	17	1	0	0	0	1	29
7:30 AM	0	3	0	0	3	0	0	0	0	0	0	12	1	0	13	1	0	1	0	2	18
7:45 AM	0	4	1	0	5	0	0	0	0	0	0	6	1	0	7	1	0	3	0	4	16
8:00 AM	1	6	0	0	7	0	0	0	0	0	0	9	0	0	9	2	0	1	0	3	19
Total Volume	2	23	1	0	26	0	0	0	0	0	0	43	3	0	46	5	0	5	0	10	82
% Approach Total	7.7	88.5	3.8	0.0		0.0	0.0	0.0	0.0		0.0	93.5	6.5	0.0		50.0	0.0	50.0	0.0		
PHF	0.500	0.575	0.250	0.000	0.591	0.000	0.000	0.000	0.000	0.000	0.000	0.672	0.750	0.000	0.676	0.625	0.000	0.417	0.000	0.625	0.707
Entering Leg	2	23	1	0	26	0	0	0	0	0	0	43	3	0	46	5	0	5	0	10	82
Exiting Leg					48					1					28					5	82
Total					74					1					74					15	164

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Articulated Trucks

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	4
7:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
7:45 AM	0	0	1	0	1	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	4
Total	0	2	1	0	3	0	0	0	0	0	0	7	0	0	7	0	0	1	0	1	11
8:00 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
8:45 AM	0	2	0	0	2	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	6
Total	0	8	0	0	8	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	17
Grand Total	0	10	1	0	11	0	0	0	0	0	0	15	1	0	16	0	0	1	0	1	28
Approach %	0.0	90.9	9.1	0.0		0.0	0.0	0.0	0.0		0.0	93.8	6.3	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	35.7	3.6	0.0	39.3	0.0	0.0	0.0	0.0	0.0	0.0	53.6	3.6	0.0	57.1	0.0	0.0	3.6	0.0	3.6	
Exiting Leg Total					16					1					10					1	28

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
8:00 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
8:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
8:45 AM	0	2	0	0	2	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	6
Total Volume	0	8	0	0	8	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	17
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	88.9	11.1	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.400	0.000	0.000	0.400	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.563	0.000	0.000	0.000	0.000	0.000	0.708
Entering Leg	0	8	0	0	8	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	17
Exiting Leg					8					0					8					1	17
Total					16					0					17					1	34

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	Lafayette Road (Route 1) from North							Wilson Road from East							Lafayette Road (Route 1) from South							Wilson Road from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total							0							1							0							0	1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Lafayette Road (Route 1) from North							Wilson Road from East							Lafayette Road (Route 1) from South							Wilson Road from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg							0							1							0							0	1
Total							0							2							0							0	2

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **7:00 AM**
End Time: **9:00 AM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Lafayette Road (Route 1) from North							Wilson Road from East							Lafayette Road (Route 1) from South							Wilson Road from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5
Grand Total	0	0	0	0	0	0	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5
Approach %	0	0	0	0	0	0		0	0	0	0	50	50		0	0	0	0	0	0		0	0	0	0	100	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	40	40	80	0	0	0	0	0	0	0	0	0	0	0	20	0	20	
Exiting Leg Total							0							4							0							1	5

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Lafayette Road (Route 1) from North							Wilson Road from East							Lafayette Road (Route 1) from South							Wilson Road from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.500	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.625
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5
Exiting Leg							0							4							0							1	5
Total							0							8							0							2	10

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	21	202	2	0	225	1	1	2	0	4	2	209	13	0	224	31	2	11	0	44	497
4:15 PM	23	203	5	0	231	4	1	1	0	6	3	187	20	0	210	31	1	9	0	41	488
4:30 PM	26	203	2	0	231	4	0	2	0	6	2	180	24	0	206	27	4	12	0	43	486
4:45 PM	25	193	1	0	219	3	1	3	0	7	2	171	22	0	195	13	1	10	0	24	445
Total	95	801	10	0	906	12	3	8	0	23	9	747	79	0	835	102	8	42	0	152	1916
5:00 PM	27	205	0	0	232	3	4	3	0	10	1	213	18	0	232	35	4	14	0	53	527
5:15 PM	20	201	2	1	224	3	0	2	0	5	1	212	22	0	235	29	4	9	0	42	506
5:30 PM	28	204	2	0	234	0	1	4	0	5	2	209	11	0	222	39	1	10	0	50	511
5:45 PM	17	171	2	0	190	4	1	2	0	7	0	225	13	0	238	29	2	4	0	35	470
Total	92	781	6	1	880	10	6	11	0	27	4	859	64	0	927	132	11	37	0	180	2014
Grand Total	187	1582	16	1	1786	22	9	19	0	50	13	1606	143	0	1762	234	19	79	0	332	3930
Approach %	10.5	88.6	0.9	0.1		44.0	18.0	38.0	0.0		0.7	91.1	8.1	0.0		70.5	5.7	23.8	0.0		
Total %	4.8	40.3	0.4	0.0	45.4	0.6	0.2	0.5	0.0	1.3	0.3	40.9	3.6	0.0	44.8	6.0	0.5	2.0	0.0	8.4	
Exiting Leg Total					1708					48					1835					339	3930
Cars	184	1563	16	1	1764	22	9	18	0	49	13	1590	141	0	1744	231	19	75	0	325	3882
% Cars	98.4	98.8	100.0	100.0	98.8	100.0	100.0	94.7	0.0	98.0	100.0	99.0	98.6	0.0	99.0	98.7	100.0	94.9	0.0	97.9	98.8
Exiting Leg Total					1688					48					1812					334	3882
Heavy Vehicles	3	19	0	0	22	0	0	1	0	1	0	16	2	0	18	3	0	4	0	7	48
% Heavy Vehicles	1.6	1.2	0.0	0.0	1.2	0.0	0.0	5.3	0.0	2.0	0.0	1.0	1.4	0.0	1.0	1.3	0.0	5.1	0.0	2.1	1.2
Exiting Leg Total					20					0					23					5	48

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
5:00 PM	27	205	0	0	232	3	4	3	0	10	1	213	18	0	232	35	4	14	0	53	527
5:15 PM	20	201	2	1	224	3	0	2	0	5	1	212	22	0	235	29	4	9	0	42	506
5:30 PM	28	204	2	0	234	0	1	4	0	5	2	209	11	0	222	39	1	10	0	50	511
5:45 PM	17	171	2	0	190	4	1	2	0	7	0	225	13	0	238	29	2	4	0	35	470
Total Volume	92	781	6	1	880	10	6	11	0	27	4	859	64	0	927	132	11	37	0	180	2014
% Approach Total	10.5	88.8	0.7	0.1		37.0	22.2	40.7	0.0		0.4	92.7	6.9	0.0		73.3	6.1	20.6	0.0		
PHF	0.821	0.952	0.750	0.250	0.940	0.625	0.375	0.688	0.000	0.675	0.500	0.954	0.727	0.000	0.974	0.846	0.688	0.661	0.000	0.849	0.955
Cars	91	774	6	1	872	10	6	11	0	27	4	855	63	0	922	131	11	36	0	178	1999
Cars %	98.9	99.1	100.0	100.0	99.1	100.0	100.0	100.0	0.0	100.0	100.0	99.5	98.4	0.0	99.5	99.2	100.0	97.3	0.0	98.9	99.3
Heavy Vehicles	1	7	0	0	8	0	0	0	0	0	0	4	1	0	5	1	0	1	0	2	15
Heavy Vehicles %	1.1	0.9	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.6	0.0	0.5	0.8	0.0	2.7	0.0	1.1	0.7
Cars Enter Leg	91	774	6	1	872	10	6	11	0	27	4	855	63	0	922	131	11	36	0	178	1999
Heavy Enter Leg	1	7	0	0	8	0	0	0	0	0	0	4	1	0	5	1	0	1	0	2	15
Total Entering Leg	92	781	6	1	880	10	6	11	0	27	4	859	64	0	927	132	11	37	0	180	2014
Cars Exiting Leg					902					21					916					160	1999
Heavy Exiting Leg					5					0					8					2	15
Total Exiting Leg					907					21					924					162	2014

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	20	198	2	0	220	1	1	2	0	4	2	204	12	0	218	30	2	11	0	43	485
4:15 PM	23	198	5	0	226	4	1	1	0	6	3	185	20	0	208	31	1	9	0	41	481
4:30 PM	25	200	2	0	227	4	0	2	0	6	2	178	24	0	204	26	4	11	0	41	478
4:45 PM	25	193	1	0	219	3	1	2	0	6	2	168	22	0	192	13	1	8	0	22	439
Total	93	789	10	0	892	12	3	7	0	22	9	735	78	0	822	100	8	39	0	147	1883
5:00 PM	27	204	0	0	231	3	4	3	0	10	1	212	17	0	230	35	4	14	0	53	524
5:15 PM	19	197	2	1	219	3	0	2	0	5	1	211	22	0	234	28	4	9	0	41	499
5:30 PM	28	203	2	0	233	0	1	4	0	5	2	208	11	0	221	39	1	9	0	49	508
5:45 PM	17	170	2	0	189	4	1	2	0	7	0	224	13	0	237	29	2	4	0	35	468
Total	91	774	6	1	872	10	6	11	0	27	4	855	63	0	922	131	11	36	0	178	1999
Grand Total	184	1563	16	1	1764	22	9	18	0	49	13	1590	141	0	1744	231	19	75	0	325	3882
Approach %	10.4	88.6	0.9	0.1		44.9	18.4	36.7	0.0		0.7	91.2	8.1	0.0		71.1	5.8	23.1	0.0		
Total %	4.7	40.3	0.4	0.0	45.4	0.6	0.2	0.5	0.0	1.3	0.3	41.0	3.6	0.0	44.9	6.0	0.5	1.9	0.0	8.4	
Exiting Leg Total					1688					48					1812					334	3882

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
5:00 PM	27	204	0	0	231	3	4	3	0	10	1	212	17	0	230	35	4	14	0	53	524
5:15 PM	19	197	2	1	219	3	0	2	0	5	1	211	22	0	234	28	4	9	0	41	499
5:30 PM	28	203	2	0	233	0	1	4	0	5	2	208	11	0	221	39	1	9	0	49	508
5:45 PM	17	170	2	0	189	4	1	2	0	7	0	224	13	0	237	29	2	4	0	35	468
Total Volume	91	774	6	1	872	10	6	11	0	27	4	855	63	0	922	131	11	36	0	178	1999
% Approach Total	10.4	88.8	0.7	0.1		37.0	22.2	40.7	0.0		0.4	92.7	6.8	0.0		73.6	6.2	20.2	0.0		
PHF	0.813	0.949	0.750	0.250	0.936	0.625	0.375	0.688	0.000	0.675	0.500	0.954	0.716	0.000	0.973	0.840	0.688	0.643	0.000	0.840	0.954
Entering Leg	91	774	6	1	872	10	6	11	0	27	4	855	63	0	922	131	11	36	0	178	1999
Exiting Leg					902					21					916					160	1999
Total					1774					48					1838					338	3998

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	4	0	0	5	0	0	0	0	0	0	5	1	0	6	1	0	0	0	1	12
4:15 PM	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	7
4:30 PM	1	3	0	0	4	0	0	0	0	0	0	2	0	0	2	1	0	1	0	2	8
4:45 PM	0	0	0	0	0	0	0	1	0	1	0	3	0	0	3	0	0	2	0	2	6
Total	2	12	0	0	14	0	0	1	0	1	0	12	1	0	13	2	0	3	0	5	33
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	3
5:15 PM	1	4	0	0	5	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	7
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	3
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Total	1	7	0	0	8	0	0	0	0	0	0	4	1	0	5	1	0	1	0	2	15
Grand Total	3	19	0	0	22	0	0	1	0	1	0	16	2	0	18	3	0	4	0	7	48
Approach %	13.6	86.4	0.0	0.0		0.0	0.0	100.0	0.0		0.0	88.9	11.1	0.0		42.9	0.0	57.1	0.0		
Total %	6.3	39.6	0.0	0.0	45.8	0.0	0.0	2.1	0.0	2.1	0.0	33.3	4.2	0.0	37.5	6.3	0.0	8.3	0.0	14.6	
Exiting Leg Total					20					0					23					5	48
Buses	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2	6
% Buses	0.0	10.5	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	0.0	11.1	0.0	0.0	50.0	0.0	28.6	12.5
Exiting Leg Total					4					0					2					0	6
Single-Unit Trucks	3	15	0	0	18	0	0	1	0	1	0	11	2	0	13	3	0	1	0	4	36
% Single-Unit	100.0	78.9	0.0	0.0	81.8	0.0	0.0	100.0	0.0	100.0	0.0	68.8	100.0	0.0	72.2	100.0	0.0	25.0	0.0	57.1	75.0
Exiting Leg Total					12					0					19					5	36
Articulated Trucks	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	6
% Articulated	0.0	10.5	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	18.8	0.0	0.0	16.7	0.0	0.0	25.0	0.0	14.3	12.5
Exiting Leg Total					4					0					2					0	6

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	4	0	0	5	0	0	0	0	0	0	5	1	0	6	1	0	0	0	1	12
4:15 PM	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	7
4:30 PM	1	3	0	0	4	0	0	0	0	0	0	2	0	0	2	1	0	1	0	2	8
4:45 PM	0	0	0	0	0	0	0	1	0	1	0	3	0	0	3	0	0	2	0	2	6
Total Volume	2	12	0	0	14	0	0	1	0	1	0	12	1	0	13	2	0	3	0	5	33
% Approach Total	14.3	85.7	0.0	0.0		0.0	0.0	100.0	0.0		0.0	92.3	7.7	0.0		40.0	0.0	60.0	0.0		
PHF	0.500	0.600	0.000	0.000	0.700	0.000	0.000	0.250	0.000	0.250	0.000	0.600	0.250	0.000	0.542	0.500	0.000	0.375	0.000	0.625	0.688
Buses	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
Buses %	0.0	16.7	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	20.0	9.1
Single-Unit Trucks	2	9	0	0	11	0	0	1	0	1	0	10	1	0	11	2	0	1	0	3	26
Single-Unit %	100.0	75.0	0.0	0.0	78.6	0.0	0.0	100.0	0.0	100.0	0.0	83.3	100.0	0.0	84.6	100.0	0.0	33.3	0.0	60.0	78.8
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	4
Articulated %	0.0	8.3	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	16.7	0.0	0.0	15.4	0.0	0.0	33.3	0.0	20.0	12.1
Buses	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
Single-Unit Trucks	2	9	0	0	11	0	0	1	0	1	0	10	1	0	11	2	0	1	0	3	26
Articulated Trucks	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	4
Total Entering Leg	2	12	0	0	14	0	0	1	0	1	0	12	1	0	13	2	0	3	0	5	33
Buses					1					0					2					0	3
Single-Unit Trucks					11					0					12					3	26
Articulated Trucks					3					0					1					0	4
Total Exiting Leg					15					0					15					3	33

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Buses

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	3
Grand Total	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2	6
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	33.3	0.0	0.0	33.3	0.0	33.3	
Exiting Leg Total					4					0					2					0	6

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.375
Entering Leg	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
Exiting Leg					1					0					2					0	3
Total					3					0					2					1	6

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Single-Unit Trucks

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	3	0	0	4	0	0	0	0	0	0	4	1	0	5	1	0	0	0	1	10
4:15 PM	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	6
4:30 PM	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	6
4:45 PM	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	0	1	0	1	4
Total	2	9	0	0	11	0	0	1	0	1	0	10	1	0	11	2	0	1	0	3	26
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2
5:15 PM	1	4	0	0	5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	6
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	1	6	0	0	7	0	0	0	0	0	0	1	1	0	2	1	0	0	0	1	10
Grand Total	3	15	0	0	18	0	0	1	0	1	0	11	2	0	13	3	0	1	0	4	36
Approach %	16.7	83.3	0.0	0.0		0.0	0.0	100.0	0.0		0.0	84.6	15.4	0.0		75.0	0.0	25.0	0.0		
Total %	8.3	41.7	0.0	0.0	50.0	0.0	0.0	2.8	0.0	2.8	0.0	30.6	5.6	0.0	36.1	8.3	0.0	2.8	0.0	11.1	
Exiting Leg Total					12					0					19					5	36

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	1	3	0	0	4	0	0	0	0	0	0	4	1	0	5	1	0	0	0	1	10
4:15 PM	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	6
4:30 PM	1	2	0	0	3	0	0	0	0	0	0	2	0	0	2	1	0	0	0	1	6
4:45 PM	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	0	0	1	0	1	4
Total Volume	2	9	0	0	11	0	0	1	0	1	0	10	1	0	11	2	0	1	0	3	26
% Approach Total	18.2	81.8	0.0	0.0		0.0	0.0	100.0	0.0		0.0	90.9	9.1	0.0		66.7	0.0	33.3	0.0		
PHF	0.500	0.563	0.000	0.000	0.688	0.000	0.000	0.250	0.000	0.250	0.000	0.625	0.250	0.000	0.550	0.500	0.000	0.250	0.000	0.750	0.650
Entering Leg	2	9	0	0	11	0	0	1	0	1	0	10	1	0	11	2	0	1	0	3	26
Exiting Leg					11					0					12					3	26
Total					22					1					23					6	52

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Articulated Trucks

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
Total	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Grand Total	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	6
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		
Total %	0.0	33.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	0.0	0.0	16.7	0.0	16.7	
Exiting Leg Total					4					0					2					0	6

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
Total Volume	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	4
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.250	0.000	0.250	0.500
Entering Leg	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	1	0	1	4
Exiting Leg					3					0					1					0	4
Total					4					0					3					1	8

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	Lafayette Road (Route 1) from North							Wilson Road from East							Lafayette Road (Route 1) from South							Wilson Road from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	1	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	1	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	2	0	0	0	0	3	5	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
5:45 PM	0	0	0	0	3	0	3	0	0	0	0	3	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Total	2	0	0	0	3	3	8	0	0	0	0	3	4	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Grand Total	2	0	0	0	5	3	10	0	0	0	0	3	4	7	0	0	1	0	0	0	1	0	0	0	0	1	0	1	19
Approach %	20.0	0.0	0.0	0.0	50.0	30.0		0.0	0.0	0.0	0.0	42.9	57.1		0.0	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	100.0	0.0		
Total %	10.5	0.0	0.0	0.0	26.3	15.8	52.6	0.0	0.0	0.0	0.0	15.8	21.1	36.8	0.0	0.0	5.3	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.0	5.3	0.0	5.3	
Exiting Leg Total							8							7							0							4	19

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Lafayette Road (Route 1) from North							Wilson Road from East							Lafayette Road (Route 1) from South							Wilson Road from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	2	0	0	0	0	3	5	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
5:45 PM	0	0	0	0	3	0	3	0	0	0	0	3	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Total Volume	2	0	0	0	3	3	8	0	0	0	0	3	4	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
% Approach Total	25.0	0.0	0.0	0.0	37.5	37.5		0.0	0.0	0.0	0.0	42.9	57.1		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.250	0.250	0.400	0.000	0.000	0.000	0.000	0.250	0.333	0.438	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.469
Entering Leg	2	0	0	0	3	3	8	0	0	0	0	3	4	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Exiting Leg							6							7							0							2	15
Total							14							14							0							2	30

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Thursday, June 23, 2022**
Start Time: **4:00 PM**
End Time: **6:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Lafayette Road (Route 1) from North							Wilson Road from East							Lafayette Road (Route 1) from South							Wilson Road from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0	0	0	0	100	0		0	0	0	0	0	0		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	100	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							1							0							0							0	1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Lafayette Road (Route 1) from North							Wilson Road from East							Lafayette Road (Route 1) from South							Wilson Road from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
4:00 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg							1							0							0							0	1
Total							2							0							0							0	2

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Saturday, June 25, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars and Heavy Vehicles (Combined)

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	23	199	2	0	224	4	3	3	0	10	1	218	29	0	248	22	0	14	0	36	518
11:15 AM	24	194	1	1	220	2	1	3	0	6	3	193	26	0	222	28	0	9	0	37	485
11:30 AM	32	216	2	0	250	2	4	2	0	8	0	201	24	0	225	37	1	11	0	49	532
11:45 AM	33	205	0	1	239	2	4	5	0	11	0	213	17	0	230	21	1	8	0	30	510
Total	112	814	5	2	933	10	12	13	0	35	4	825	96	0	925	108	2	42	0	152	2045
12:00 PM	28	206	0	0	234	3	1	2	0	6	0	200	21	0	221	30	2	11	0	43	504
12:15 PM	22	193	2	0	217	4	2	4	0	10	1	204	22	0	227	26	1	11	0	38	492
12:30 PM	24	189	0	0	213	1	0	5	0	6	0	176	25	0	201	32	1	5	0	38	458
12:45 PM	29	195	4	0	228	4	0	1	0	5	1	207	25	0	233	25	1	10	0	36	502
Total	103	783	6	0	892	12	3	12	0	27	2	787	93	0	882	113	5	37	0	155	1956
1:00 PM	26	203	1	0	230	4	1	2	0	7	1	223	13	0	237	21	1	4	0	26	500
1:15 PM	23	187	0	0	210	0	1	5	0	6	0	231	16	0	247	30	2	11	0	43	506
1:30 PM	26	190	1	0	217	6	1	2	0	9	1	195	12	0	208	22	0	12	0	34	468
1:45 PM	31	202	1	0	234	6	1	4	0	11	0	187	19	0	206	15	3	10	0	28	479
Total	106	782	3	0	891	16	4	13	0	33	2	836	60	0	898	88	6	37	0	131	1953
Grand Total	321	2379	14	2	2716	38	19	38	0	95	8	2448	249	0	2705	309	13	116	0	438	5954
Approach %	11.8	87.6	0.5	0.1		40.0	20.0	40.0	0.0		0.3	90.5	9.2	0.0		70.5	3.0	26.5	0.0		
Total %	5.4	40.0	0.2	0.0	45.6	0.6	0.3	0.6	0.0	1.6	0.1	41.1	4.2	0.0	45.4	5.2	0.2	1.9	0.0	7.4	
Exiting Leg Total					2604					35					2726					589	5954
Cars	320	2355	14	2	2691	38	19	38	0	95	8	2424	249	0	2681	308	13	116	0	437	5904
% Cars	99.7	99.0	100.0	100.0	99.1	100.0	100.0	100.0	0.0	100.0	100.0	99.0	100.0	0.0	99.1	99.7	100.0	100.0	0.0	99.8	99.2
Exiting Leg Total					2580					35					2701					588	5904
Heavy Vehicles	1	24	0	0	25	0	0	0	0	0	0	24	0	0	24	1	0	0	0	1	50
% Heavy Vehicles	0.3	1.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.9	0.3	0.0	0.0	0.0	0.2	0.8
Exiting Leg Total					24					0					25					1	50

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	23	199	2	0	224	4	3	3	0	10	1	218	29	0	248	22	0	14	0	36	518
11:15 AM	24	194	1	1	220	2	1	3	0	6	3	193	26	0	222	28	0	9	0	37	485
11:30 AM	32	216	2	0	250	2	4	2	0	8	0	201	24	0	225	37	1	11	0	49	532
11:45 AM	33	205	0	1	239	2	4	5	0	11	0	213	17	0	230	21	1	8	0	30	510
Total Volume	112	814	5	2	933	10	12	13	0	35	4	825	96	0	925	108	2	42	0	152	2045
% Approach Total	12.0	87.2	0.5	0.2		28.6	34.3	37.1	0.0		0.4	89.2	10.4	0.0		71.1	1.3	27.6	0.0		
PHF	0.848	0.942	0.625	0.500	0.933	0.625	0.750	0.650	0.000	0.795	0.333	0.946	0.828	0.000	0.932	0.730	0.500	0.750	0.000	0.776	0.961
Cars	111	807	5	2	925	10	12	13	0	35	4	818	96	0	918	107	2	42	0	151	2029
Cars %	99.1	99.1	100.0	100.0	99.1	100.0	100.0	100.0	0.0	100.0	100.0	99.2	100.0	0.0	99.2	99.1	100.0	100.0	0.0	99.3	99.2
Heavy Vehicles	1	7	0	0	8	0	0	0	0	0	0	7	0	0	7	1	0	0	0	1	16
Heavy Vehicles %	0.9	0.9	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.8	0.9	0.0	0.0	0.0	0.7	0.8
Cars Enter Leg	111	807	5	2	925	10	12	13	0	35	4	818	96	0	918	107	2	42	0	151	2029
Heavy Enter Leg	1	7	0	0	8	0	0	0	0	0	0	7	0	0	7	1	0	0	0	1	16
Total Entering Leg	112	814	5	2	933	10	12	13	0	35	4	825	96	0	925	108	2	42	0	152	2045
Cars Exiting Leg					872					11					927					219	2029
Heavy Exiting Leg					7					0					8					1	16
Total Exiting Leg					879					11					935					220	2045

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Saturday, June 25, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Cars

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	23	197	2	0	222	4	3	3	0	10	1	215	29	0	245	21	0	14	0	35	512
11:15 AM	24	192	1	1	218	2	1	3	0	6	3	192	26	0	221	28	0	9	0	37	482
11:30 AM	32	214	2	0	248	2	4	2	0	8	0	199	24	0	223	37	1	11	0	49	528
11:45 AM	32	204	0	1	237	2	4	5	0	11	0	212	17	0	229	21	1	8	0	30	507
Total	111	807	5	2	925	10	12	13	0	35	4	818	96	0	918	107	2	42	0	151	2029
12:00 PM	28	204	0	0	232	3	1	2	0	6	0	197	21	0	218	30	2	11	0	43	499
12:15 PM	22	188	2	0	212	4	2	4	0	10	1	202	22	0	225	26	1	11	0	38	485
12:30 PM	24	186	0	0	210	1	0	5	0	6	0	175	25	0	200	32	1	5	0	38	454
12:45 PM	29	193	4	0	226	4	0	1	0	5	1	204	25	0	230	25	1	10	0	36	497
Total	103	771	6	0	880	12	3	12	0	27	2	778	93	0	873	113	5	37	0	155	1935
1:00 PM	26	202	1	0	229	4	1	2	0	7	1	218	13	0	232	21	1	4	0	26	494
1:15 PM	23	186	0	0	209	0	1	5	0	6	0	229	16	0	245	30	2	11	0	43	503
1:30 PM	26	188	1	0	215	6	1	2	0	9	1	195	12	0	208	22	0	12	0	34	466
1:45 PM	31	201	1	0	233	6	1	4	0	11	0	186	19	0	205	15	3	10	0	28	477
Total	106	777	3	0	886	16	4	13	0	33	2	828	60	0	890	88	6	37	0	131	1940
Grand Total	320	2355	14	2	2691	38	19	38	0	95	8	2424	249	0	2681	308	13	116	0	437	5904
Approach %	11.9	87.5	0.5	0.1		40.0	20.0	40.0	0.0		0.3	90.4	9.3	0.0		70.5	3.0	26.5	0.0		
Total %	5.4	39.9	0.2	0.0	45.6	0.6	0.3	0.6	0.0	1.6	0.1	41.1	4.2	0.0	45.4	5.2	0.2	2.0	0.0	7.4	
Exiting Leg Total					2580					35					2701					588	5904

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	23	197	2	0	222	4	3	3	0	10	1	215	29	0	245	21	0	14	0	35	512
11:15 AM	24	192	1	1	218	2	1	3	0	6	3	192	26	0	221	28	0	9	0	37	482
11:30 AM	32	214	2	0	248	2	4	2	0	8	0	199	24	0	223	37	1	11	0	49	528
11:45 AM	32	204	0	1	237	2	4	5	0	11	0	212	17	0	229	21	1	8	0	30	507
Total Volume	111	807	5	2	925	10	12	13	0	35	4	818	96	0	918	107	2	42	0	151	2029
% Approach Total	12.0	87.2	0.5	0.2		28.6	34.3	37.1	0.0		0.4	89.1	10.5	0.0		70.9	1.3	27.8	0.0		
PHF	0.867	0.943	0.625	0.500	0.932	0.625	0.750	0.650	0.000	0.795	0.333	0.951	0.828	0.000	0.937	0.723	0.500	0.750	0.000	0.770	0.961
Entering Leg	111	807	5	2	925	10	12	13	0	35	4	818	96	0	918	107	2	42	0	151	2029
Exiting Leg					872					11					927					219	2029
Total					1797					46					1845					370	4058

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Saturday, June 25, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	6
11:15 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
11:30 AM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4
11:45 AM	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
Total	1	7	0	0	8	0	0	0	0	0	0	7	0	0	7	1	0	0	0	1	16
12:00 PM	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	5
12:15 PM	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	7
12:30 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4
12:45 PM	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	5
Total	0	12	0	0	12	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	21
1:00 PM	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6
1:15 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
1:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:45 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
Total	0	5	0	0	5	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	13
Grand Total	1	24	0	0	25	0	0	0	0	0	0	24	0	0	24	1	0	0	0	1	50
Approach %	4.0	96.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	2.0	48.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	48.0	0.0	0.0	48.0	2.0	0.0	0.0	0.0	2.0	
Exiting Leg Total					24					0					25					1	50
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total					0					0					0					0	0
Single-Unit Trucks	1	22	0	0	23	0	0	0	0	0	0	21	0	0	21	1	0	0	0	1	45
% Single-Unit	100.0	91.7	0.0	0.0	92.0	0.0	0.0	0.0	0.0	0.0	0.0	87.5	0.0	0.0	87.5	100.0	0.0	0.0	0.0	100.0	90.0
Exiting Leg Total					21					0					23					1	45
Articulated Trucks	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	5
% Articulated	0.0	8.3	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	0.0	12.5	0.0	0.0	0.0	0.0	0.0	10.0
Exiting Leg Total					3					0					2					0	5

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:15 PM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:15 PM	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	7
12:30 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4
12:45 PM	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	5
1:00 PM	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6
Total Volume	0	11	0	0	11	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	22
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.550	0.000	0.000	0.550	0.000	0.000	0.000	0.000	0.000	0.000	0.550	0.000	0.000	0.550	0.000	0.000	0.000	0.000	0.000	0.786
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Single-Unit Trucks	0	9	0	0	9	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	19
Single-Unit %	0.0	81.8	0.0	0.0	81.8	0.0	0.0	0.0	0.0	0.0	0.0	90.9	0.0	0.0	90.9	0.0	0.0	0.0	0.0	0.0	86.4
Articulated Trucks	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
Articulated %	0.0	18.2	0.0	0.0	18.2	0.0	0.0	0.0	0.0	0.0	0.0	9.1	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	13.6
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	0	9	0	0	9	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	19
Articulated Trucks	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
Total Entering Leg	0	11	0	0	11	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	22
Buses					0					0					0					0	0
Single-Unit Trucks					10					0					9					0	19
Articulated Trucks					1					0					2					0	3
Total Exiting Leg					11					0					11					0	22

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Saturday, June 25, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Buses

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					0					0					0					0	0

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg					0					0					0					0	0
Total					0					0					0					0	0

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Saturday, June 25, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Single-Unit Trucks

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	1	0	0	0	1	6
11:15 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
11:30 AM	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
11:45 AM	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
Total	1	7	0	0	8	0	0	0	0	0	0	6	0	0	6	1	0	0	0	1	15
12:00 PM	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	5
12:15 PM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
12:30 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4
12:45 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4
Total	0	10	0	0	10	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	18
1:00 PM	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6
1:15 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
1:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	5	0	0	5	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	12
Grand Total	1	22	0	0	23	0	0	0	0	0	0	21	0	0	21	1	0	0	0	1	45
Approach %	4.3	95.7	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		100.0	0.0	0.0	0.0		
Total %	2.2	48.9	0.0	0.0	51.1	0.0	0.0	0.0	0.0	0.0	0.0	46.7	0.0	0.0	46.7	2.2	0.0	0.0	0.0	2.2	
Exiting Leg Total					21					0					23					1	45

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

12:15 PM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
12:15 PM	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	5
12:30 PM	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	4
12:45 PM	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	4
1:00 PM	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	6
Total Volume	0	9	0	0	9	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	19
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.792
Entering Leg	0	9	0	0	9	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	19
Exiting Leg					10					0					9					0	19
Total					19					0					19					0	38

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Saturday, June 25, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Articulated Trucks

	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Grand Total	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	5
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	40.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total					3					0					2					0	5

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:30 AM	Lafayette Road (Route 1) from North					Wilson Road from East					Lafayette Road (Route 1) from South					Wilson Road from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.375
Entering Leg	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
Exiting Leg					1					0					2					0	3
Total					3					0					3					0	6

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Saturday, June 25, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Bicycles (on Roadway and Crosswalks)

	Lafayette Road (Route 1) from North							Wilson Road from East							Lafayette Road (Route 1) from South							Wilson Road from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	5	0	0	0	0	5	0	0	0	0	0	0	0	6
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	5	0	0	0	0	5	0	0	0	0	0	1	1	8
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:15 PM	0	2	0	0	0	0	2	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	1	6
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	2
1:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	0	0	0	2	1	0	1	0	3	0	5	0	0	0	0	0	0	0	1	1	0	0	0	1	3	10
Grand Total	0	2	0	0	0	1	3	1	0	1	0	5	1	8	0	5	0	0	0	0	5	1	1	0	0	0	2	4	20
Approach %	0.0	66.7	0.0	0.0	0.0	33.3		12.5	0.0	12.5	0.0	62.5	12.5		0.0	100.0	0.0	0.0	0.0	0.0		25.0	25.0	0.0	0.0	0.0	50.0		
Total %	0.0	10.0	0.0	0.0	0.0	5.0	15.0	5.0	0.0	5.0	0.0	25.0	5.0	40.0	0.0	25.0	0.0	0.0	0.0	0.0	25.0	5.0	5.0	0.0	0.0	0.0	10.0	20.0	
Exiting Leg Total							7							7							4							2	20

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Lafayette Road (Route 1) from North							Wilson Road from East							Lafayette Road (Route 1) from South							Wilson Road from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
1:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1:15 PM	0	2	0	0	0	0	2	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	1	6
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	2
1:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	2	0	0	0	0	2	1	0	1	0	3	0	5	0	0	0	0	0	0	0	1	1	0	0	0	1	3	10
% Approach Total	0.0	100.0	0.0	0.0	0.0	0.0		20.0	0.0	20.0	0.0	60.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		33.3	33.3	0.0	0.0	0.0	33.3		
PHF	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.250	0.000	0.250	0.000	0.417	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.250	0.375	0.417
Entering Leg	0	2	0	0	0	0	2	1	0	1	0	3	0	5	0	0	0	0	0	0	0	1	1	0	0	0	1	3	10
Exiting Leg							1							4							4							1	10
Total							3							9							4							4	20

PDI File #: **228713 B**
Location: **N: Lafayette Road (Route 1) S: Lafayette Road (Route 1)**
Location: **E: Wilson Road W: Wilson Road**
City, State: **Portsmouth, NH**
Client: **TFMoran/J. Porter**
Site Code: **47107.02**
Count Date: **Saturday, June 25, 2022**
Start Time: **11:00 AM**
End Time: **2:00 PM**
Class:

PRECISION DATA INDUSTRIES, LLC
157 Washington Street, Suite 2
Hudson, MA 01749
Office: 508-875-0100 Fax: 508-875-0118

Pedestrians

	Lafayette Road (Route 1) from North							Wilson Road from East							Lafayette Road (Route 1) from South							Wilson Road from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	1	5	6	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	5	6	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
12:00 PM	0	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	6	0	6	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	7	5	12	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
Approach %	0	0	0	0	58.3	41.7		0	0	0	0	50	50		0	0	0	0	0	0		0	0	0	0	0	0		
Total %	0	0	0	0	43.8	31.3	75	0	0	0	0	12.5	12.5	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg Total							12							4							0							0	16

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

11:00 AM	Lafayette Road (Route 1) from North							Wilson Road from East							Lafayette Road (Route 1) from South							Wilson Road from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
11:00 AM	0	0	0	0	1	5	6	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	5	6	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
% Approach Total	0.0	0.0	0.0	0.0	16.7	83.3		0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.250	0.250	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.286
Entering Leg	0	0	0	0	1	5	6	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Exiting Leg							6							2							0							0	8
Total							12							4							0							0	16

APPENDIX M

Site Plan

PARKING OCCUPANCY RATE TABLE

USE	WEEKDAY				WEEKEND					
	DAYTIME (8 AM - 5 PM)		EVENING (6 PM - MIDNIGHT)		DAYTIME (8 AM - 5 PM)		EVENING (6 PM - MIDNIGHT)		NIGHTIME (MIDNIGHT - 6 AM)	
	PARKING OCCUPANCY RATE	# REQUIRED SPACES	PARKING OCCUPANCY RATE	# REQUIRED SPACES	PARKING OCCUPANCY RATE	# REQUIRED SPACES	PARKING OCCUPANCY RATE	# REQUIRED SPACES	PARKING OCCUPANCY RATE	# REQUIRED SPACES
OFFICE	100%	5	20%	1	10%	1	5%	1	5%	1
EATING & DRINKING PLACES	70%	59	100%	84	80%	68	100%	84	10%	9
INDOOR RECREATION	40%	4	100%	10	80%	8	100%	10	10%	1
TOTAL SPACES		68		95		77		95		11

NOTES

1) OWNER OF RECORD:
ROAD TO THE WEST, LLC
TAX MAP 252, LOT 2-13
140 WEST RD
PORTSMOUTH, NH 03801
RCRD: 6434-0553
AREA: 87,507 SF, 2.01 ACRES

2) PARCEL IS IN INDUSTRIAL ZONE (I):
MINIMUM LOT AREA.....2 ACRES
MINIMUM FRONTAGE.....200 FT
MINIMUM DEPTH.....200 FT
SETBACKS:
FRONT.....70 FT
SIDE.....50 FT
REAR.....50 FT
MAXIMUM BUILDING HEIGHT.....70 FT
MAXIMUM BUILDING COVERAGE.....50%
MINIMUM OPEN SPACE.....20%

3) BUILDING COVERAGE
EXISTING
BUILDING 17,500 SF
TOTAL 17,500 SF
COVERAGE = 17500 / 87507 = 20.0%

PROPOSED
BUILDING.....17,500 SF
LANDING & STAIRS >18" 54 SF
TOTAL 17,554 SF
COVERAGE = 17554 / 87507 = 20.1%

4) OPEN SPACE
EXISTING
SEE EXISTING OPEN SPACE DETAIL.
EXISTING OPEN SPACE IS 21,485.

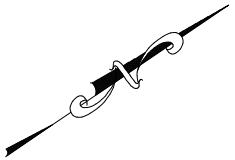
OPEN SPACE = 21485 / 87507 = 24.6%

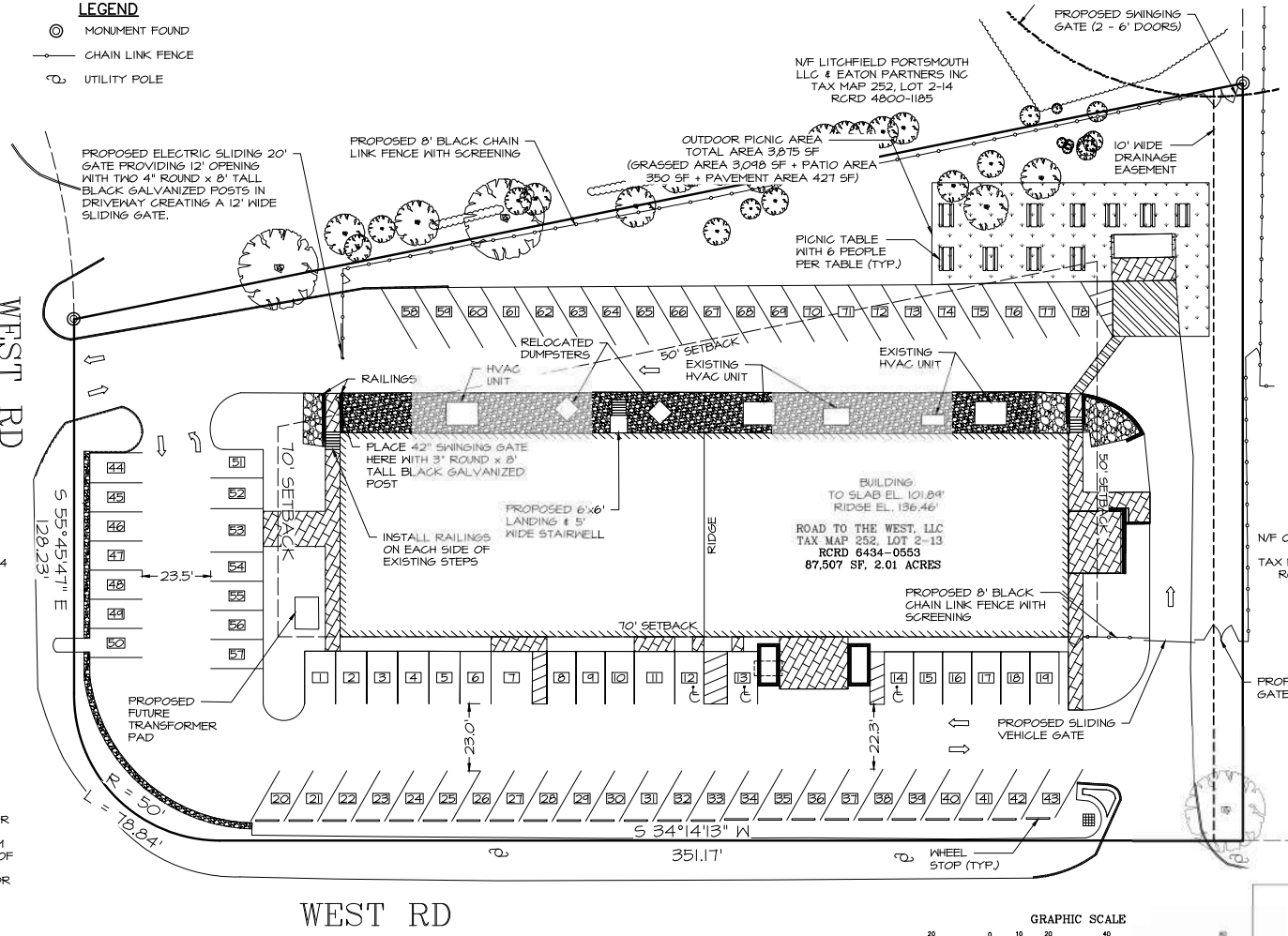
PROPOSED
SEE PROPOSED OPEN SPACE DETAIL.
PROPOSED OPEN SPACE IS 21,510 SF.

OPEN SPACE = 21,816 / 87507 = 24.9%

LEGEND

MONUMENT FOUND
CHAIN LINK FENCE
UTILITY POLE





NOTES (CONT...)

5) PARKING
AS PER PORTSMOUTH ZONING ORDINANCE 10.1112.321 THE FOLLOWING NUMBER OF PARKING SPACES ARE REQUIRED

- INDOOR RECREATION (4.30) - 1 PER 4 PERSONS MAXIMUM OCCUPANCY
- OFFICE (5.10-5.30) - 1 PER 350 SF GFA
- EATING & DRINKING PLACES - 1 PER 100 SF GFA

REQUIRED PARKING
- MAXIMUM OCCUPANCY OF INDOOR RECREATION= 40 PEOPLE
40 PEOPLE X 1 SPACE/4 PEOPLE = 10
- OFFICE GFA = 1,700 SF
1700 SF X 1 SPACE/350 SF = 4.9 = 5
- EATING & DRINKING PLACE GFA = 8,398 SF
8398 SF X 1 SPACE/100 SF = 84

AS PER PORTSMOUTH ZONING ORDINANCE 10.1112.60 THE MINIMUM PARKING REQUIREMENT SHALL BE OBTAINED BY MULTIPLYING THE REQUIREMENT FOR EACH LAND USE FOR EACH OCCUPANCY RATE AT THE FIVE DIFFERENT TIME PERIODS. THE MINIMUM REQUIREMENT SHALL BE THE HIGHEST OF THE FIVE TIME PERIOD TOTALS. SEE PARKING OCCUPANCY RATE TABLE FOR MORE DETAIL.

MINIMUM REQUIRED PARKING = 95 SPACES

78 PARKING SPACES ARE SHOWN. THE PARKING CAN BE RECONFIGURED TO SHOW 95 SPACES.

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
SCALE 1" = 20'

ISS.	DATE	DESCRIPTION OF ISSUE
4	7/21/2026	PRELIMINARY
3	7/15/2026	PRELIMINARY

SCALE 1" = 20'
CHECKED A.ROSS
DRAWN D.D.D.
CHECKED

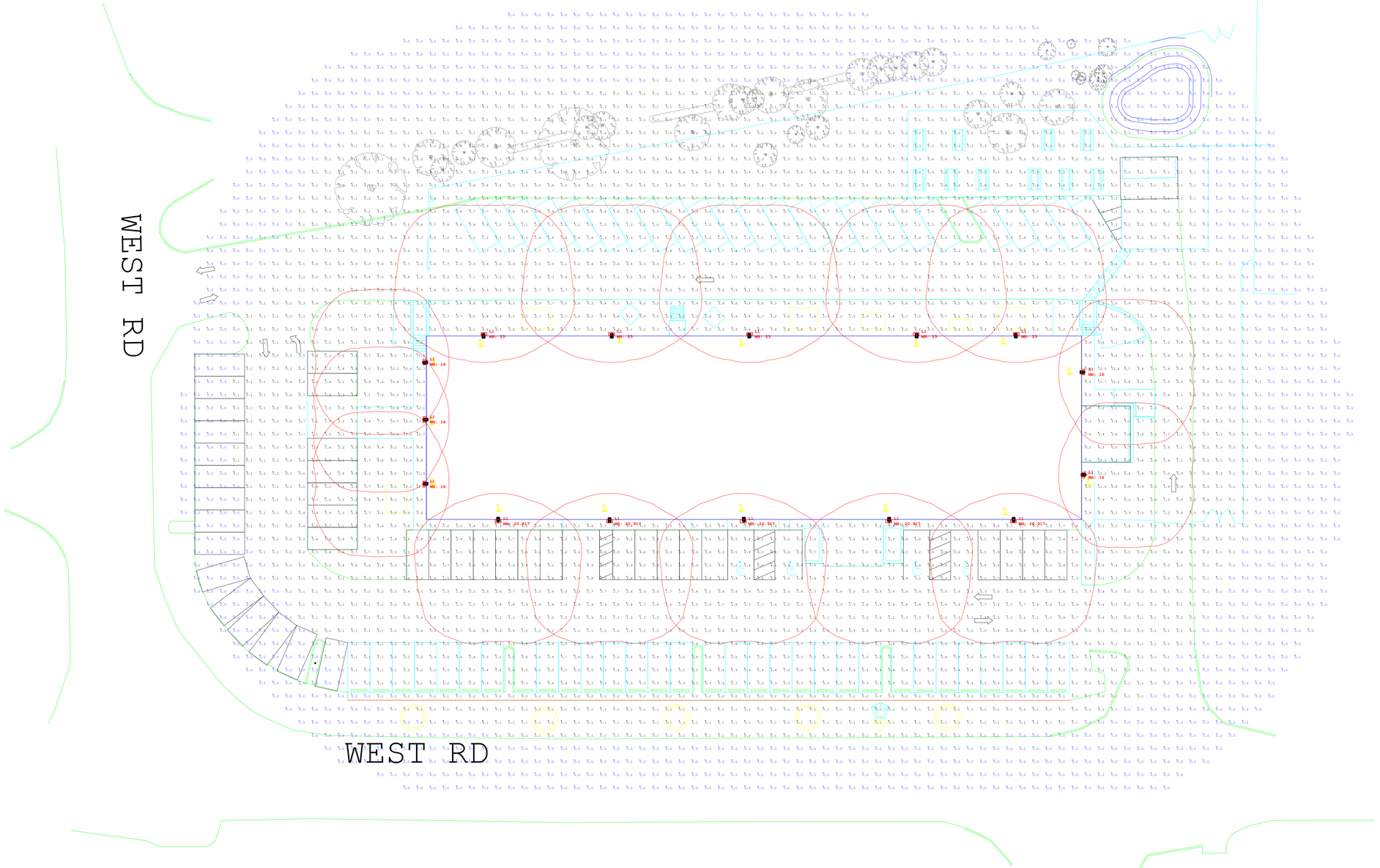
ROSS ENGINEERING, LLC
Civil/Structural Engineering & Surveying
909 Islington St.
Portsmouth, NH 03801
(603) 433-7560

CLIENT
ROAD TO THE WEST, LLC
ALEXANDER B. CHOQUETTE
140 WEST ROAD
PORTSMOUTH, NH 03801

TITLE
SITE PLAN

140 WEST RD
PORTSMOUTH, NH 03801
TAX MAP 252, LOT 2-13

JOB NUMBER 21-168 | DWG. NO. 2 OF 4 | ISSUE 4



Luminaire Schedule (Note fixture catalog numbers are not complete)					
Qty	Label	Luminaire Watts	Arrangement	LLF	Description
15	L1	81	Single	0.900	XTOR8B

Please Note: Do not use this schedule for quoting or wattage calculating, contact Illuminate for a complete fixture schedule

Calculation Summary						
Label	Units	Avg	Max	Min	Avg/Min	Max/Min
Site	Fc	1.00	14.3	0.0	N.A.	N.A.

Project:
140 West Road - Site

Contact:
Mike Corrao
Director of Spec Sales - NNE
207-219-1716
mcorrao@illuminatene.com

Generated For:
PORTSMOUTH ARCHITECTS

Detail: Photometric Calculation
Date: 09/21/2026
Revision: 4
Scale: 1" = 20'-0"
Drawn By: SHJ

Drawing Number:

L-1

illuminate
263 Winn Street
Burlington, MA 01803
(781) 272-2300