

**Town of Kittery
Planning Board Meeting
August 24, 2023**

ITEM 3—120 US Route 1—Site Plan — Preliminary Review

Action: accept site plan as complete. Schedule site walk/public hearing. Nicole Duquette, on behalf of owner/applicant Kittery Circle LLC, is proposing to re-develop the site of a former gas station into a hotel with 102 rooms and associated parking and utilities. The proposed hotel is located on the properties of 112 & 120 US Route 1 Bypass and 139 Old Post Road, Map 14 Lots 10, 12, & 12A, in the C-3 (Bypass/Old Post Road Commercial) Zone.

PROCESS SUMMARY

REQ'D	ACTION	COMMENTS	STATUS
NO	Sketch Plan Acceptance/Approval	6/8/23	Accepted
YES	Planning board determination of completeness	Scheduled for 8/24/23	Pending
NO	Site Visit		TBD
YES	Public Hearing	Required for Preliminary Site Plan or Subdivision Approval	TBD
YES	Preliminary Plan Approval		TBD
YES	Final Plan Review and Decision		TBD
<p>Applicant: Prior to the signing of the approved Plan any Conditions of Approval related to the Findings of Fact along with waivers and variances (by the BOA) must be placed on the Final Plan and, when applicable, recorded at the York County Registry of Deeds. PLACE THE MAP AND LOT NUMBER IN 1/4" HIGH LETTERS AT LOWER RIGHT BORDER OF ALL PLAN SHEETS. As per Section 16.4.4.L - Grading/Construction Final Plan Required. - Grading or construction of roads, grading of land or lots, or construction of buildings is prohibited until the original copy of the approved final plan endorsed has been duly recorded in the York County registry of deeds when applicable.</p>			

OTHER PERMITS REQUIRED

- Wetland delineation study
- DOT Traffic movement pattern.
- State Fire Marshal NFPA #13 fire protection system approval.
- DEP construction permitting and site review.

PROJECT INTRODUCTION

This is the first preliminary review for a proposed 102-room hotel on the property of 3 adjacent parcels on US Route 1, as a redevelopment of a pre-existing gas station. The now demolished gas station, and most of the land proposed for development, is within the property of 120 US Route 1, abutting an exit from the Maine Turnpike onto the Kittery Traffic Circle. The other two properties within the proposal are located directly southwest of 120 US Route 1, abutting two single family residential dwellings, and containing 2 small, isolated wetland pockets.

The applicant proposes developing the three lots for a hotel with 102 rooms and associated parking and utilities. Access will be provided through a proposed driveway on Old Post Road. Existing water and wastewater services are available for access, and the applicant possesses a sewer easement to address any necessary capacity buildout issues. A 6' high stockade fence will be built around the abutting residential properties southwest of the development. The application proposes crosswalks from the building to the ADA parking spaces on the lot, and a sidewalk leading from the driveway along Old Post Road leading to the Kittery Traffic Circle. The applicant has provided the submission requirements for a preliminary site plan. Staff advise determining application completeness and providing initial feedback during this meeting.

33 **STAFF COMMENTS**

34 Listed below are additional comments provided by staff in addition to general review of standards:
35

- 36 1. At the sketch plan review, police and public works staff both requested the applicant provide a crosswalk to
37 connect the hotel to the commercial businesses on the other side of Old Post Road. When asked, the applicant said
38 the traffic impact study discouraged a crosswalk due to the impact it would have on traffic on Old Post Road and
39 the traffic circle.
40 2. Public works staff indicated concerns regarding the proposed drainage plan, as the proposed stormwater retention
41 pond directly abuts route 1 and the Kittery Traffic Circle. They are requesting the peer review engineer to shed
42 light on potential flood risk the proposed system may have during inclement weather events.
43 3. As part of the purchase agreement for Map 14, Lot 10, a warranty deed stipulates the maintenance of a metal
44 guard rail along the entire length of the property line abutting a private way on the southwest side of the
45 development site. As requested, a guard rail has been included in the site plan.
46 4. Wastewater staff have confirmed with the applicant that the sewer easement will allow the proposed development
47 to connect to existing infrastructure and confirmed adequate capacity of wastewater systems. The provided sewer
48 utility plan shows pipelines outside of the indicated easement area; unless approved by the wastewater
49 department, future iterations of the plan must site all proposed sewage pipeline within the indicated easement.
50 5. Remains of a 15-inch metal drainage pipe appear to extend into the property. The other end of the pipe is
51 unknown. Reference plans appear to show a brook crossing the parcel to a culvert under Old Post Road.
52 Surveyors found no evidence of a culvert or brook, nor any drainage easements. The applicant will communicate
53 with MDOT to determine if there is an active draining pipe crossing the subject property.
54 6. With a projection of 816 trips on an average weekday, the traffic impact analysis concluded the development
55 would not lead to a significant increase in delays over anticipated future conditions.
56 7. The Kittery Traffic Circle is included on MDOT’s high crash location list for 2019 through 2021. The traffic
57 impact study provided recommendations to advance safety related improvements on the rotary. This includes
58 maintaining vegetation and snow along the driveway to protect site lines, adding a stop sign at the exit of the
59 property, and working with the Cooperative Alliance for Seacoast Transportation (COAST).
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61 **PROJECT ANALYSIS**

62 Staff reviewed the application and provided materials and have provided their determination on the requirements and
63 standards below:
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Code Ref.	§16.4 Land Use Zone Standards	
	Standard	Determination
§16.4.21.B/C.	Permitted/Special Exception Uses	The proposed use is permitted
§16.4.21.E.(2).(a).	Lot size: 40,000 sq ft. minimum	It appears the standard is satisfied.
§16.4.21.E.(2).(b).	Street frontage: no requirements in C-3 Zone	It appears the standard is satisfied. The applicant has provided a truck turning plan to show emergency vehicles can access the lot.
§16.4.21.E.(2).(c).	Front setback: lot is double fronted. <ul style="list-style-type: none"> • 15 ft maximum along Route 1 Bypass • 15 ft minimum along Old Post Road 	It appears the standard is satisfied.

§16.4.21.E.(2).(d).	Rear and side setbacks: 10 ft minimum. NOTE: side yard setback if 15 ft minimums where property abuts residential structures	It appears the standard is satisfied.
§16.4.21.E.(2).(e).	Building height: 40 ft maximum NOTE: structures along Old Post Road may not exceed 25 ft building heights within a 30 ft setback from the road	It appears the standard is satisfied.
§16.4.21.E.(2).(f).	Imperious surface: 70% maximum for currently developed lots	It appears the standard is satisfied.
§16.4.21.E.(2).(m)..	Underground utilities required	The utility plan notates an overhead wire connecting to a transformer on the property. Applicant plans to explain why the line is necessary during the meeting. Otherwise, it appears the standard is satisfied.
§16.4.21.E.(3).(a).	Parking standards: parking areas must be visually screened when abutting residential properties. NOTE: due to a deed restriction, the portion of M14 L10 abutting a paper road requires a metal guard rail	The plan indicates a 6' fence abutting residential properties and the required guard rail. It appears the standard is satisfied
§16.4.21.E.(3).(a).[2]	Parking space dimensions: minimum 19' x 9'	The applicant is requesting relief on the length of 27 parking spaces to meet open space requirements. Otherwise, it appears the standard is satisfied. NOTE: compact car spaces are allowed in this zone
§16.4.21.E.(3).(b).	Building design standards	The proposed plan appears to be missing the location of loading docks and overhead doors. Otherwise, the standards appear to be satisfied.
§16.4.21.E.(3).(c).[2].	Landscaping improvements: minimum 15 ft vegetated landscape planter strips between the lot and adjacent all rights-of-way. NOTE: A planter strip is not required on the eastern portion of the lot. The exit from the highway does not count as a street, meaning the property does not count as a corner lot per the definition in §16.3	The applicant is requesting relief to reduce part of the landscape strip along a portion of the property abutting the Route 1 Bypass (15 ft to 7 ft)
§16.4.21.E.(3).(d).	Traffic circulation standards: sidewalks are required along the entire portion of the lot facing Old Post Road. Additionally, Public Works staff requested the applicant provide a crosswalk connecting the lot to commercial businesses across the street	The proposed plan only provides sidewalks on one side of the proposed driveway, leading to the nearby traffic circle. A crosswalk was not provided: traffic impact study did not

		recommend building a sidewalk, as one currently exists on the abutting Kittery Traffic Circle.
§16.4.21.E.(3).(e).	Open Space standards: 20% minimum. Designated open space areas must be notated on the plan	The plan meets the open space minimum. While identified wetland pockets are notated on the plan, other open space areas appear to be omitted.
Code Ref.	§16.5 Performance Standards	
	Standard	Determination
§16.5.14.C	Double-fronted lots typically require a minimum 10 ft planting screen along lot lines abutting traffic arteries. In the C-3 Zone, the minimum is 15 ft	The 15 ft standard appears to be met, except for the portion the applicant is seeking relief for (see note above)
§16.5.10	Essential Services	A sewer easement has been provided; however, the utility plan appears to show the proposed sewer line would be constructed outside of the easement area. Wastewater staff have not approved the proposed area outside of the easement.
§16.5.23	Freestanding sign standards: * 20 ft minimum from any travel way * 20 ft maximum height * 1 sign permitted per use	The proposed sign appears to meet standards. Proposed area of 300 sq ft.
§16.5.25	Sprinkler Systems are required in all hotels and must meet NFPA standards	Fire staff notated the proposed 6" fire service line is too small for the property.
§16.5.27	Street Standards: sidewalks are required along the entire Old Post Road ROW	The plan proposes sidewalks connecting the lot to the Kittery Traffic Circle, but does not cross the entire lot
§16.5.30	All wetlands of 501 sq ft. or greater trigger setbacks for certain uses	A wetland delineation has been provided as notated by Note #9 on the existing condition survey (page 4). All identified wetlands are below the threshold to trigger setbacks, including for the fence proposed to be placed in the wetland abutting residential properties on the southwest side of the lot. This standard appears to be satisfied.

§16.7.11.F.(e).	A minimum of 102 parking spaces are required	<p>The plan appears to only have 101 spaces in the site plan. When notified, the applicant said they would amend the site plan at a later stage to add the single required parking space.</p> <p>The plan appears to meet ADA space requirements</p>
Code Ref.	§16.7.10 Preliminary Site Plan Requirements	
§16.7.10.C.(4).(a-i).	<p style="text-align: center;">Standard</p> <ul style="list-style-type: none"> • Paper plan sheets no smaller than 11” x 17” • Scale of drawing no greater than 1 inch = 30 feet • Code block in right-hand corner • Standard boundary survey of existing conditions • Compass with arrow pointing true north • Locus map of property • Vicinity map and aerial photograph • Surveyed acreage of parcel(s), rights-of-way, wetlands, and amount of street frontage • Names and addresses of owners of record abutting property 	<p style="text-align: center;">Determination</p> <p style="text-align: center;">Provided</p>
§16.7.10.C.(4).(j).	Existing conditions survey including all identified structures, natural resources, rights-of-way, and utilities located on and within 100 feet of the property.	<p style="text-align: center;">Provided</p>
§16.7.10.C.(4).(k).	<ul style="list-style-type: none"> • Proposed development area including: • Location and detail of proposed structures and signs • Proposed utilities including power, water, and sewer. • Sewage facilities type and placement. • Domestic water source • Lot lines, rights-of-way, and street alignments • Road and other paved area plans • Existing and proposed setbacks • Storage areas for waste or hazardous materials • Topographic contours of existing contours and finished grade elevations • Locations and dimensions of artificial features such as pedestrian ways, sidewalks, curb cuts, driveways, fences, retaining walls, 	<p style="text-align: center;">Provided</p>
§16.7.10.C.(4).(l).	Natural features or site elements to be preserved.	<p style="text-align: center;">Provided</p>
§16.7.10.C.(4).(m).	Identified property encumbrances.	<p style="text-align: center;">Provided</p>
§16.7.10.C.(4).(n).	Kittery Water District approval letter.	<p style="text-align: center;">Provided</p>

§16.7.10.C.(4).(o).	Erosion and sedimentation control plan.	Provided
§16.7.10.C.(4).(p).	Stormwater management plan and drainage analysis.	Provided
§16.7.10.C.(4).(q).	Soil survey.	Provided
§16.7.10.C.(4).(r).	Vehicular traffic report.	Provided
§16.7.10.C.(4).(s).	Traffic impact analysis.	Provided
§16.7.10.C.(4).(t).	Test pit analysis.	Not applicable
§16.7.10.C.(4).(u).	Approval letter from Town sewage.	Provided
§16.7.10.C.(4).(v).	Evaluation of development by Technical Review Committee department heads.	Provided
§16.7.10.C.(4).(w).	Additional submissions as required.	None identified at this time

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DISCUSSION, NEXT STEPS, AND RECOMMENDATIONS

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The purpose of the first meeting of a preliminary site plan is to determine the completeness of the application, provide specific feedback to the applicant, and determine whether the plan is ready to schedule a public hearing. The outstanding issues that have been identified are able to be modified at later iterations of the preliminary site plan. Staff believe the application meets all submission requirements for initial acceptance and suggest the planning board advise the applicant regarding their willingness to entertain the proposed modifications.

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RECOMMENDED MOTIONS

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Below are recommended motions for the Board's use and consideration:

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Motion to accept the application as complete

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Move to accept the preliminary site plan by Nicole Duquette, on behalf of owner/applicant Kittery Circle LLC, proposing to re-develop the site of a former gas station into a hotel with 102 rooms and associated parking and utilities on the properties of 112 & 120 US Route 1 Bypass and 139 Old Post Road, Map 14 Lots 10, 12, & 12A, in the C-3 (Bypass/Old Post Road Commercial) Zone.

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Motion to schedule a site walk

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Move to visit the site of the preliminary site plan by Nicole Duquette, on behalf of owner/applicant Kittery Circle LLC, proposing to re-develop the site of a former gas station into a hotel with 102 rooms and associated parking and utilities on the properties of 112 & 120 US Route 1 Bypass and 139 Old Post Road, Map 14 Lots 10, 12, & 12A, in the C-3 (Bypass/Old Post Road Commercial) Zone.

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Motion to schedule a public hearing

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Move to schedule a public hearing for the preliminary site plan by Nicole Duquette, on behalf of owner/applicant Kittery Circle LLC, proposing to re-develop the site of a former gas station into a hotel with 102 rooms and associated parking and utilities on the properties of 112 & 120 US Route 1 Bypass and 139 Old Post Road, Map 14 Lots 10, 12, & 12A, in the C-3 (Bypass/Old Post Road Commercial) Zone.

SITE DEVELOPMENT PLANS PROPOSED HOTEL

for

ASSESSORS MAP 14 LOTS 10,12 & 12A

139 OLD POST ROAD, 112 & 120 US ROUTE 1 BYPASS

KITTERY, MAINE

Prepared for:

KITTERY CIRCLE, LLC

321D LAFAYETTE ROAD

HAMPTON, NH 03842



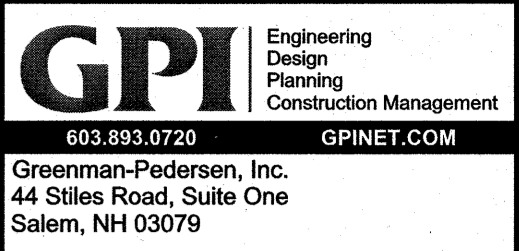
VICINITY MAP
SCALE: 1"=200'

INDEX TO DRAWINGS

1. TITLE SHEET
2. GENERAL NOTES
- 3-5. EXISTING CONDITIONS PLAN
6. DEMOLITION PLAN
7. SITE PLAN
8. GRADING & DRAINAGE PLAN
9. UTILITY PLAN
10. SEWER CONNECTION PLAN
11. EROSION & SEDIMENT CONTROL PLAN
12. LANDSCAPE PLAN
13. DETAIL SHEET
14. DETAIL SHEET
15. DETAIL SHEET
16. DETAIL SHEET
17. DETAIL SHEET
18. DETAIL SHEET
- 1 OF 1. TRUCK TURN PLAN
- 1 OF 1. LIGHTING PLAN (LO-158514)
- 1 OF 1. BUILDING ELEVATIONS (AX.X)

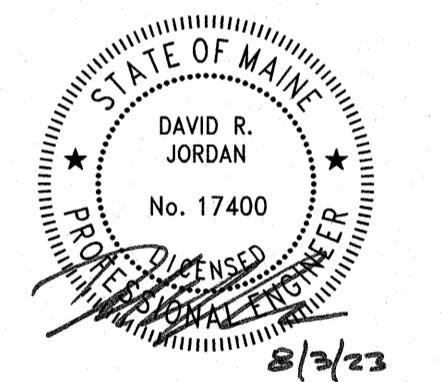
ABUTTERS

PARCEL ID #	NAME & ADDRESS
MAP 13 LOT 9	COBALT PROPERTIES LLC PO BOX 868 CALAIS, ME 04819
MAP 14 LOT 36	CHRISTYS REALTY LIMITED PART. ATTN: CORP TAX DEPT LOC 125 PO BOX 711 DALLAS, TX 75221-0711
MAP 14 LOT 34	VISTA REALTY TRUST PO BOX 390419 CAMBRIDGE, MA 02139
MAP 14 LOT 11	ELIZABETH M. EVANS 135 OLD POST ROAD KITTERY, ME 03904
MAP 14 LOT 9	JEFFREY S. PELKEY PO BOX 1 ELIOT, ME 03903
MAP 14 LOT 1	FONTAINE MEMORIAL LLC 84 BROAD ST. PORTSMOUTH, NH 03801



PREPARED FOR
KITTERY CIRCLE, LLC
321D LAFAYETTE ROAD
HAMPTON, NH 03842

ASSESSORS MAP 14 LOTS 10, 12 & 12A
139 OLD POST ROAD,
112 & 120 US ROUTE 1 BYPASS
KITTERY, MAINE



REVISIONS

NO.	REVISION	DATE

AUGUST 2, 2023

DRAWN/DESIGN BY: CCC/NID CHECKED BY: DRJ

TITLE SHEET

SCALE: NOT TO SCALE

PROJECT NO.
NEX-2200380

1 OF 18

F:\Projects\NEX-2200380 - Kittery, ME - Tropic_Ster\CAD Files\2200380_CVR.dwg GEN NOTES 8/03/23 10:02am cccil

LEGEND

Table with 2 columns: Symbol/Line Style and Description. Includes items like DEED BOOK/PAGE NUMBER, CONCRETE, HIGH DENSITY POLYETHYLENE, etc.

DEMOLITION PLAN NOTES:

- 1) A DEMOLITION PERMIT MUST BE OBTAINED FROM THE TOWN OF KITTERY PRIOR TO COMMENCEMENT OF WORK. ALL EXISTING UTILITY DISCONNECTIONS MUST BE COORDINATED WITH RESPECTIVE UTILITY COMPANIES.
2) ALL DEMOLITION ACTIVITIES ARE TO BE PERFORMED IN STRICT ADHERENCE TO ALL FEDERAL, STATE AND LOCAL REGULATIONS...

SITE PLAN NOTES:

- 1) THE PURPOSE OF THIS PLAN IS TO PROPOSE THE CONSTRUCTION OF A NEW 4-STORY, 102 ROOM HOTEL.
2) EXISTING BOUNDARY AND PLANIMETRIC INFORMATION AS SHOWN IS THE RESULT OF A FIELD SURVEY BY CIVIL CONSULTANTS OF SOUTH BERWICK, MAINE.
3) TAX MAP 14 LOTS 10, 12, 12A

GRADING & DRAINAGE PLAN NOTES:

- 1) ALL SITE DRAINAGE PIPE SHALL BE CORRUGATED HIGH-DENSITY POLYETHYLENE PIPE WITH STANDARD JOINTS, DUAL-WALL, SMOOTH INTERIOR, AS MANUFACTURED BY ADS, INC., OR APPROVED EQUAL, UNLESS OTHERWISE NOTED ON PLAN.
2) ALL ROOF AND CANOPY DRAIN PIPE SHALL BE 6" PVC (SDR-35).
3) ELEVATIONS ARE BASED ON NAVD88 DATUM+0.34' (REFERENCE PLAN DATUM).

UTILITY PLAN NOTES:

- 1) ALL SANITARY SEWER PIPE SHALL BE PVC (SDR-35), UNLESS OTHERWISE NOTED.
2) ALL WATER PIPE SHALL BE COPPER (TYPE K), UNLESS OTHERWISE NOTED.
3) ANY UTILITY FIELD ADJUSTMENTS SHALL BE APPROVED BY THE ENGINEER OF RECORD AND COORDINATED WITH THE APPROPRIATE LOCAL UTILITY COMPANY.

EROSION & SEDIMENT CONTROL PLAN NOTES:

- 1) THE EROSION CONTROL PROCEDURES SHALL CONFORM TO THE MAINE EROSION SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs) MANUAL FOR DESIGNERS AND ENGINEERS DATED OCTOBER 2016, OR LATEST EDITION.
2) DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED: THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT...

TEMPORARY EROSION CONTROL MEASURES:

- 1) THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME.
2) SEDIMENT CONTROL FENCE SHALL BE INSTALLED AS REQUIRED. FENCE IS TO BE MAINTAINED AND CLEANED UNTIL ALL SLOPES HAVE A HEALTHY STAND OF GRASS.
3) BALED HAY AND MULCH SHALL BE MOWINGS OF ACCEPTABLE HERBACEOUS GROWTH, FREE FROM NOXIOUS WEEDS OR WOODY STEMS...

CONSTRUCTION SEQUENCE:

- 1) SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY ON-SITE CONSTRUCTION AS SHOWN. ADDITIONAL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED AS SOON AS PRACTICAL.
2) REMOVE AND STOCKPILE SOIL AS REQUIRED. STOCKPILE SHALL BE SURROUNDED WITH SEDIMENT CONTROL FENCING TO PREVENT EROSION.
3) CONSTRUCT DRIVEWAYS AND PERFORM SITE GRADING.

WINTER STABILIZATION NOTES:

- MAINTENANCE REQUIREMENTS: MAINTENANCE MEASURES SHOULD CONTINUE AS NEEDED THROUGHOUT CONSTRUCTION, INCLUDING THE OVER-WINTER PERIOD. AFTER EACH RAINFALL, SNOWSTORM, OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHOULD CONDUCT AN INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUING FUNCTION.
2) STABILIZATION AS FOLLOWS SHOULD BE COMPLETED WITHIN A DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS.

LANDSCAPE PLAN NOTES:

- 1) ALL PLANT STOCK SHALL CONFORM TO ANSI Z260.1 - NURSERY STOCK, LATEST EDITION (AMERICAN ASSOCIATION OF NURSERYMEN, INC.).
2) A 4" DIA. TREE RING WITH 3" AGED PINE BARK MULCH TO BE INSTALLED AT BASE OF ALL TREES IN LAWN AREAS.
3) 3" AGED PINE BARK MULCH SHALL BE APPLIED TO ALL SHRUB AND GROUND COVER BEDS.

GPI Engineering Design Planning Construction Management. 603.893.0720. Greenman-Pedersen, Inc. 44 Siles Road, Suite One Salem, NH 03079

PREPARED FOR KITTERY CIRCLE, LLC 321D LAFAYETTE ROAD HAMPTON, NH 03842

ASSESSORS MAP 14 LOTS 10, 12 & 12A 139 OLD POST ROAD, 112 & 120 US ROUTE 1 BYPASS KITTERY, MAINE

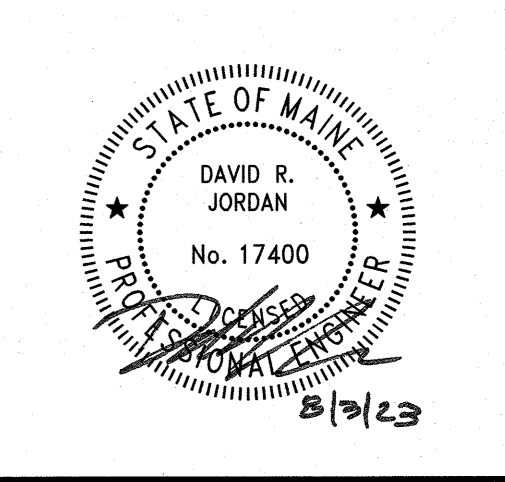
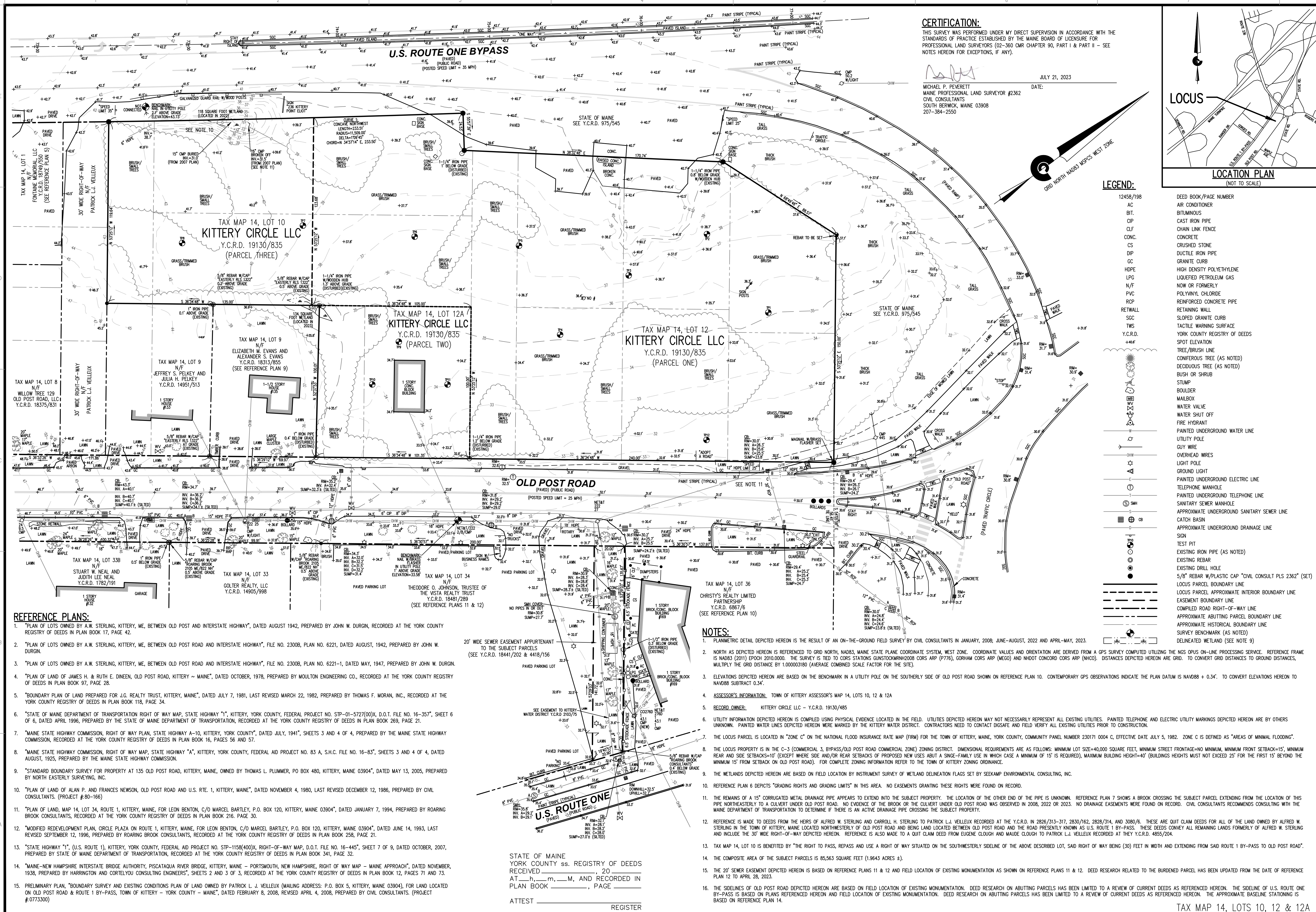


Table with 3 columns: NO., REVISION, DATE. Includes revision for AUGUST 2, 2023.

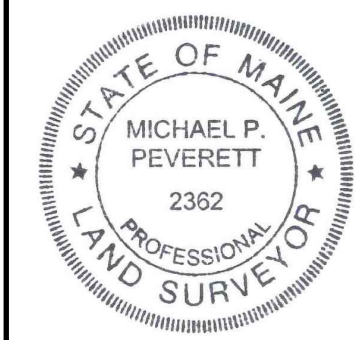
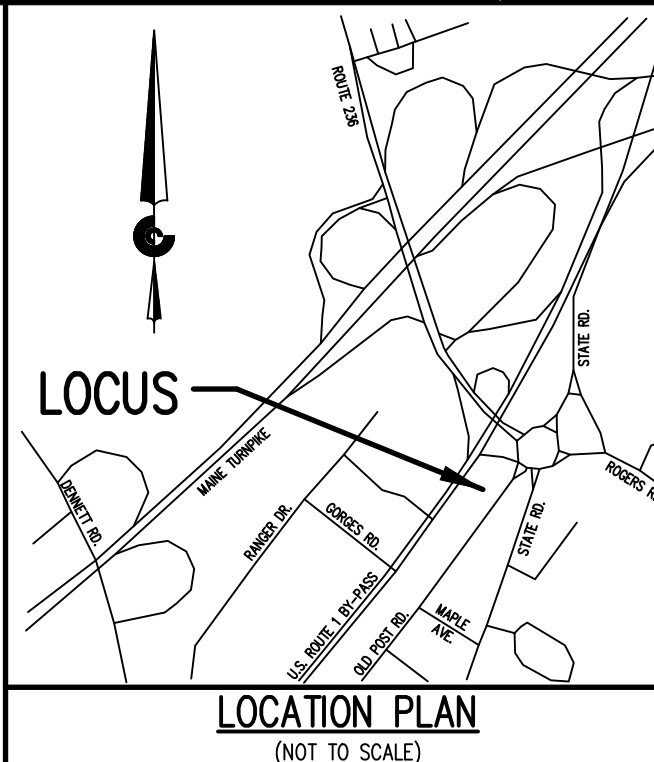
GENERAL NOTES. SCALE: NOT TO SCALE. PROJECT NO: NEX-2200380. 2 OF 18



CERTIFICATION:
 THIS SURVEY WAS PERFORMED UNDER MY DIRECT SUPERVISION AND IN ACCORDANCE WITH THE STANDARDS OF PRACTICE ESTABLISHED BY THE MAINE BOARD OF LICENSED PROFESSIONAL LAND SURVEYORS (02-360 CMR CHAPTER 90, PART 1 & PART 2 - SEE NOTES HEREON FOR EXCEPTIONS, IF ANY).

MICHAEL P. PEVERETT
 MAINE PROFESSIONAL LAND SURVEYOR #2362
 CIVIL CONSULTANTS
 SOUTH BERWICK, MAINE 03908
 207-384-2550

DATE: JULY 21, 2023



CIVIL CONSULTANTS
 Engineers
 Planners
 Surveyors
 P.O. Box 100
 South Berwick
 Maine
 03908
 207-384-2550
 www.civcon.com

LEGEND:

12458/198	DEED BOOK/PAGE NUMBER
AC	AIR CONDITIONER
BIT.	BITUMINOUS
OP	CAST IRON PIPE
CLF	CHAIN LINK FENCE
CONC.	CONCRETE
CS	CRUSHED STONE
DIP	DUCTILE IRON PIPE
OC	GRANITE CURB
HPE	HIGH DENSITY POLYETHYLENE
LPG	LIQUEFIED PETROLEUM GAS
N/F	NOW OR FORMERLY
PVC	POLYVINYL CHLORIDE
ROP	REINFORCED CONCRETE PIPE
RETWALL	RETAINING WALL
SC	SLOPED GRANITE CURB
TWS	TACTILE WARNING SURFACE
Y.C.R.D.	YORK COUNTY REGISTRY OF DEEDS
+4.4'	SPOT ELEVATION
	TREE/BRUSH LINE
	CONFEROUS TREE (AS NOTED)
	DECIDUOUS TREE (AS NOTED)
	BUSH OR SHRUB
	STUMP
	BOULDER
	MAILBOX
	WATER VALVE
	WATER SHUT OFF
	FIRE HYDRANT
	PAINTED UNDERGROUND WATER LINE
	UTILITY POLE
	GUY WIRE
	OVERHEAD WIRES
	LIGHT POLE
	GROUND LIGHT
	PAINTED UNDERGROUND ELECTRIC LINE
	TELEPHONE MANHOLE
	PAINTED UNDERGROUND TELEPHONE LINE
	SANITARY SEWER MANHOLE
	APPROXIMATE UNDERGROUND SANITARY SEWER LINE
	CATCH BASIN
	APPROXIMATE UNDERGROUND DRAINAGE LINE
	SIGN
	TEST PIT
	EXISTING IRON PIPE (AS NOTED)
	EXISTING REBAR
	EXISTING DRILL HOLE
	5/8" REBAR W/PLASTIC CAP "CIVIL CONSULT PLS 2362" (SET)
	LOCUS PARCEL BOUNDARY LINE
	LOCUS PARCEL APPROXIMATE INTERIOR BOUNDARY LINE
	EASEMENT BOUNDARY LINE
	COMPILED ROAD RIGHT-OF-WAY LINE
	APPROXIMATE ABUTTING PARCEL BOUNDARY LINE
	APPROXIMATE HISTORICAL BOUNDARY LINE
	SURVEY BENCHMARK (AS NOTED)
	DELINEATED WETLAND (SEE NOTE 9)

- REFERENCE PLANS:**
- "PLAN OF LOTS OWNED BY A.W. STERLING, KITTERY, ME, BETWEEN OLD POST AND INTERSTATE HIGHWAY", DATED AUGUST 1942, PREPARED BY JOHN W. DURGIN, RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 17, PAGE 42.
 - "PLAN OF LOTS OWNED BY A.W. STERLING, KITTERY, ME, BETWEEN OLD POST ROAD AND INTERSTATE HIGHWAY", FILE NO. 23008, PLAN NO. 6221, DATED AUGUST, 1942, PREPARED BY JOHN W. DURGIN.
 - "PLAN OF LOTS OWNED BY A.W. STERLING, KITTERY, ME, BETWEEN OLD POST ROAD AND INTERSTATE HIGHWAY", FILE NO. 23008, PLAN NO. 6221-1, DATED MAY, 1947, PREPARED BY JOHN W. DURGIN.
 - "PLAN OF LAND OF JAMES H. & RUTH E. DINEEN, OLD POST ROAD, KITTERY ~ MAINE", DATED OCTOBER, 1978, PREPARED BY MOULTON ENGINEERING CO., RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 97, PAGE 28.
 - "BOUNDARY PLAN OF LAND PREPARED FOR J.G. REALTY TRUST, KITTERY, MAINE", DATED JULY 7, 1981, LAST REVISED MARCH 22, 1982, PREPARED BY THOMAS F. MORAN, INC., RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 118, PAGE 34.
 - "STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, STATE HIGHWAY "1", KITTERY, YORK COUNTY, FEDERAL PROJECT NO. STP-01-5727(00)X, D.O.T. FILE NO. 16-357", SHEET 6 OF 6, DATED APRIL 1996, PREPARED BY THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION, RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 269, PAGE 21.
 - "MAINE STATE HIGHWAY COMMISSION, RIGHT OF WAY PLAN, STATE HIGHWAY A-10, KITTERY, YORK COUNTY", DATED JULY, 1941, SHEETS 3 AND 4 OF 4, PREPARED BY THE MAINE STATE HIGHWAY COMMISSION, RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 16, PAGES 56 AND 57.
 - "MAINE STATE HIGHWAY COMMISSION, RIGHT OF WAY MAP, STATE HIGHWAY "A", KITTERY, YORK COUNTY, FEDERAL AID PROJECT NO. 83 A, S.H.C. FILE NO. 16-83", SHEETS 3 AND 4 OF 4, DATED AUGUST, 1925, PREPARED BY THE MAINE STATE HIGHWAY COMMISSION.
 - "STANDARD BOUNDARY SURVEY FOR PROPERTY AT 135 OLD POST ROAD, KITTERY, MAINE, OWNED BY THOMAS L. PLUMMER, PO BOX 480, KITTERY, MAINE 03904", DATED MAY 13, 2005, PREPARED BY NORTH EASTERLY SURVEYING, INC.
 - "PLAN OF LAND OF ALAN P. AND FRANCES NEWSON, OLD POST ROAD AND U.S. RTE. 1, KITTERY, MAINE", DATED NOVEMBER 4, 1980, LAST REVISED DECEMBER 12, 1986, PREPARED BY CIVIL CONSULTANTS. (PROJECT #80-166)
 - "PLAN OF LAND, MAP 14, LOT 34, ROUTE 1, KITTERY, MAINE, FOR LEON BENTON, C/O MARCEL BARTLEY, P.O. BOX 120, KITTERY, MAINE 03904", DATED JANUARY 7, 1994, PREPARED BY ROARING BROOK CONSULTANTS, RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 216, PAGE 30.
 - "MODIFIED REDEVELOPMENT PLAN, CIRCLE PLAZA ON ROUTE 1, KITTERY, MAINE, FOR LEON BENTON, C/O MARCEL BARTLEY, P.O. BOX 120, KITTERY, MAINE 03904", DATED JUNE 14, 1993, LAST REVISED SEPTEMBER 12, 1996, PREPARED BY ROARING BROOK CONSULTANTS, RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 236, PAGE 21.
 - "STATE HIGHWAY "1", (U.S. ROUTE 1), KITTERY, YORK COUNTY, FEDERAL AID PROJECT NO. STP-1158(400)X, RIGHT-OF-WAY MAP, D.O.T. FILE NO. 16-445", SHEET 7 OF 9, DATED OCTOBER, 2007, PREPARED BY STATE OF MAINE DEPARTMENT OF TRANSPORTATION, RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 341, PAGE 32.
 - "MAINE-NEW HAMPSHIRE INTERSTATE BRIDGE AUTHORITY, PISCATAQUA RIVER BRIDGE, KITTERY, MAINE - PORTSMOUTH, NEW HAMPSHIRE, RIGHT OF WAY MAP - MAINE APPROACH", DATED NOVEMBER, 1938, PREPARED BY HARRINGTON AND CORTELYOU CONSULTING ENGINEERS, SHEETS 2 AND 3 OF 3, RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 12, PAGES 71 AND 73.
 - PRELIMINARY PLAN, "BOUNDARY SURVEY AND EXISTING CONDITIONS PLAN OF LAND OWNED BY PATRICK L. J. VELLEUX (MAILING ADDRESS: P.O. BOX 5, KITTERY, MAINE 03904), FOR LAND LOCATED ON OLD POST ROAD & ROUTE 1 BY-PASS, TOWN OF KITTERY - YORK COUNTY - MAINE", DATED FEBRUARY 8, 2008, REVISED APRIL 4, 2008, PREPARED BY CIVIL CONSULTANTS. (PROJECT #0773300)

STATE OF MAINE
 YORK COUNTY S.S. REGISTRY OF DEEDS
 RECEIVED _____, 20____
 AT _____ h., _____ m., _____ M., AND RECORDED IN
 PLAN BOOK _____, PAGE _____
 ATTEST _____ REGISTER

- NOTES:**
- PLANIMETRIC DETAIL DEPICTED HEREON IS THE RESULT OF AN ON-THE-GROUND FIELD SURVEY BY CIVIL CONSULTANTS IN JANUARY, 2008; JUNE-AUGUST, 2022 AND APRIL-MAY, 2023.
 - NORTH AS DEPICTED HEREON IS REFERENCED TO GRID NORTH, NAD83, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE. COORDINATE VALUES AND ORIENTATION ARE DERIVED FROM A GPS SURVEY COMPUTED UTILIZING THE NGS OPUS ON-LINE PROCESSING SERVICE. REFERENCE FRAME IS NAD83 (2011) EPOCH 2010.0000. THE SURVEY IS TIED TO CORRS STATIONS GUNSTOCKMNH2008 CORRS ARP (P716), GORHAM CORRS ARP (MEG0) AND HADOT CONCORD CORRS ARP (NH00). DISTANCES DEPICTED HEREON ARE GRID. TO CONVERT GRID DISTANCES TO GROUND DISTANCES, MULTIPLY THE GRID DISTANCE BY 1.000003180 (AVERAGE COMBINED SCALE FACTOR FOR THE SITE).
 - ELEVATIONS DEPICTED HEREON ARE BASED ON THE BENCHMARK IN A UTILITY POLE ON THE SOUTHERLY SIDE OF OLD POST ROAD SHOWN ON REFERENCE PLAN 10. CONTEMPORARY GPS OBSERVATIONS INDICATE THE PLAN DATUM IS NAD83 + 0.34'. TO CONVERT ELEVATIONS HEREON TO NAD83 SUBTRACT 0.34'.
 - ASSESSOR'S INFORMATION: TOWN OF KITTERY ASSESSOR'S MAP 14, LOTS 10, 12 & 12A
 - RECORD OWNER: KITTERY CIRCLE LLC - Y.C.R.D. 19130/835
 - UTILITY INFORMATION DEPICTED HEREON IS COMPILED USING PHYSICAL EVIDENCE LOCATED IN THE FIELD. UTILITIES DEPICTED HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. PAINTED TELEPHONE AND ELECTRIC UTILITY MARKINGS DEPICTED HEREON ARE BY OTHERS UNKNOWN. PAINTED WATER LINES DEPICTED HEREON WERE MARKED BY THE KITTERY WATER DISTRICT. CONTRACTORS NEED TO CONTACT DIGSAFE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
 - THE LOCUS PARCEL IS LOCATED IN "ZONE C" ON THE NATIONAL FLOOD INSURANCE RATE MAP (FIRM) FOR THE TOWN OF KITTERY, MAINE, YORK COUNTY, COMMUNITY PANEL NUMBER 230171 0004 C, EFFECTIVE DATE JULY 5, 1982. ZONE C IS DEFINED AS "AREAS OF MINIMAL FLOODING".
 - THE LOCUS PROPERTY IS IN THE C-3 (COMMERCIAL 3, BYPASS/OLD POST ROAD COMMERCIAL ZONE) ZONING DISTRICT. DIMENSIONAL REQUIREMENTS ARE AS FOLLOWS: MINIMUM LOT SIZE=40,000 SQUARE FEET, MINIMUM STREET FRONTAGE=NO MINIMUM, MINIMUM FRONT SETBACK=15', MINIMUM REAR AND SIDE SETBACKS=10' (EXCEPT WHERE SIDE AND/OR REAR SETBACKS OF PROPOSED NEW USES ABUT A SINGLE-FAMILY USE IN WHICH CASE A MINIMUM OF 15' IS REQUIRED), MAXIMUM BUILDING HEIGHT=40' (BUILDINGS HEIGHTS MUST NOT EXCEED 25' FOR THE FIRST 15' BEYOND THE MINIMUM 15' FROM SETBACK ON OLD POST ROAD). FOR COMPLETE ZONING INFORMATION REFER TO THE TOWN OF KITTERY ZONING ORDINANCE.
 - THE WETLANDS DEPICTED HEREON ARE BASED ON FIELD LOCATION BY INSTRUMENT SURVEY OF WETLAND DELINEATION FLAGS SET BY SEEKAMP ENVIRONMENTAL CONSULTING, INC.
 - REFERENCE PLAN 6 DEPICTS "GRADING RIGHTS AND GRADING LIMITS" IN THIS AREA. NO EASEMENTS GRANTING THESE RIGHTS WERE FOUND ON RECORD.
 - THE REMAINS OF A 15" CORRUGATED METAL DRAINAGE PIPE APPEARS TO EXTEND INTO THE SUBJECT PROPERTY. THE LOCATION OF THE OTHER END OF THE PIPE IS UNKNOWN. REFERENCE PLAN 7 SHOWS A BROOK CROSSING THE SUBJECT PARCEL EXTENDING FROM THE LOCATION OF THIS PIPE NORTHEASTERLY TO A CULVERT UNDER OLD POST ROAD. NO EVIDENCE OF THE BROOK OR THE CULVERT UNDER OLD POST ROAD WAS OBSERVED IN 2008, 2022 OR 2023. NO DRAINAGE EASEMENTS WERE FOUND ON RECORD. CIVIL CONSULTANTS RECOMMENDS CONSULTING WITH THE MAINE DEPARTMENT OF TRANSPORTATION TO DETERMINE IF THERE IS AN ACTIVE DRAINAGE PIPE CROSSING THE SUBJECT PROPERTY.
 - REFERENCE IS MADE TO DEEDS FROM THE HEIRS OF ALFRED W. STERLING AND CARROLL H. STERLING TO PATRICK L.J. VELLEUX RECORDED AT THE Y.C.R.D. IN 2826/313-317, 2830/162, 2828/314, AND 3080/6. THESE ARE QUIT CLAIM DEEDS FOR ALL OF THE LAND OWNED BY ALFRED W. STERLING IN THE TOWN OF KITTERY, MAINE LOCATED NORTHEASTERLY OF OLD POST ROAD AND BEING LAND LOCATED BETWEEN OLD POST ROAD AND STATE HIGHWAY 1 BY-PASS. THESE DEEDS CONVEY ALL REMAINING LANDS FORMERLY OF ALFRED W. STERLING AND INCLUDE THE 30' WIDE RIGHT-OF-WAY DEPICTED HEREON. REFERENCE IS ALSO MADE TO A QUIT CLAIM DEED FROM EUGENE CLOUGH AND MAUDE CLOUGH TO PATRICK L.J. VELLEUX RECORDED AT THE Y.C.R.D. 4855/294.
 - TAX MAP 14, LOT 10 IS BENEFITED BY THE RIGHT TO PASS, REPASS AND USE A RIGHT OF WAY SITUATED ON THE SOUTHWESTERLY SIDELINE OF THE ABOVE DESCRIBED LOT, SAID RIGHT OF WAY BEING (30) FEET IN WIDTH AND EXTENDING FROM SAID ROUTE 1 BY-PASS TO OLD POST ROAD.
 - THE COMPOSITE AREA OF THE SUBJECT PARCELS IS 85,563 SQUARE FEET (1.9643 ACRES ±).
 - THE 20' SEWER EASEMENT DEPICTED HEREON IS BASED ON REFERENCE PLANS 11 & 12 AND FIELD LOCATION OF EXISTING MONUMENTATION AS SHOWN ON REFERENCE PLANS 11 & 12. DEED RESEARCH RELATED TO THE BURDENED PARCEL HAS BEEN UPDATED FROM THE DATE OF REFERENCE PLAN 12 TO APRIL 28, 2023.
 - THE SIDELINES OF OLD POST ROAD DEPICTED HEREON ARE BASED ON FIELD LOCATION OF EXISTING MONUMENTATION. DEED RESEARCH ON ABUTTING PARCELS HAS BEEN LIMITED TO A REVIEW OF CURRENT DEEDS AS REFERENCED HEREON. THE SIDELINE OF U.S. ROUTE ONE BY-PASS IS BASED ON PLAN REFERENCED HEREON AND FIELD LOCATION OF EXISTING MONUMENTATION. DEED RESEARCH ON ABUTTING PARCELS HAS BEEN LIMITED TO A REVIEW OF CURRENT DEEDS AS REFERENCED HEREON. THE APPROXIMATE BASELINE STATIONING IS BASED ON REFERENCE PLAN 14.

BOUNDARY/EXISTING CONDITIONS SURVEY
LAND OF KITTERY CIRCLE LLC
OLD POST ROAD / U.S. ROUTE 1 BY-PASS
TAX MAP 14, LOTS 10, 12 & 12A
KITTERY, YORK COUNTY, MAINE

RECORD OWNER:
 KITTERY CIRCLE LLC
 ADDRESS:
 3210 LAFAVETTE ROAD
 HAMPTON, NH 03842

PREPARED FOR:
 TROPIC STAR DEVELOPMENT
 CLIENT ADDRESS:
 3210 LAFAVETTE ROAD, HAMPTON, NH 03842

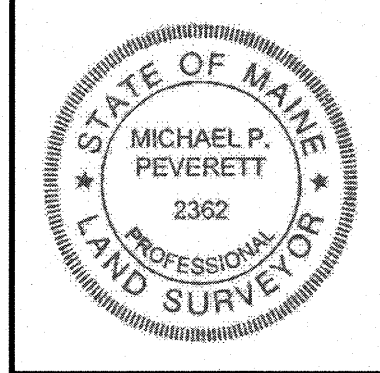
DATE: JULY 21, 2023
 DRAWN BY: MPP
 CHECKED BY: CHM
 APPROVED BY: MPP

BOUNDARY/EXISTING CONDITIONS PLAN

PROJECT NO: 2220701

EC1

SHEET: 1 OF 1



CIVIL CONSULTANTS
 Engineers
 Planners
 Surveyors
 P.O. Box 100
 South Berwick
 Maine
 03908
 207-364-2550
 www.civcon.com

NO.	REVISIONS	INT.	DATE

RECORD OWNER OF SUBJECT PARCELS:
 KITTERY CIRCLE, LLC
 ADDRESS:
 3210 LAFAYETTE ROAD
 HAMPTON, NH 03842

PREPARED FOR:
 CLIENT ADDRESS:
 TROPIC STAR DEVELOPMENT
 3210 LAFAYETTE ROAD, HAMPTON, NH 03842

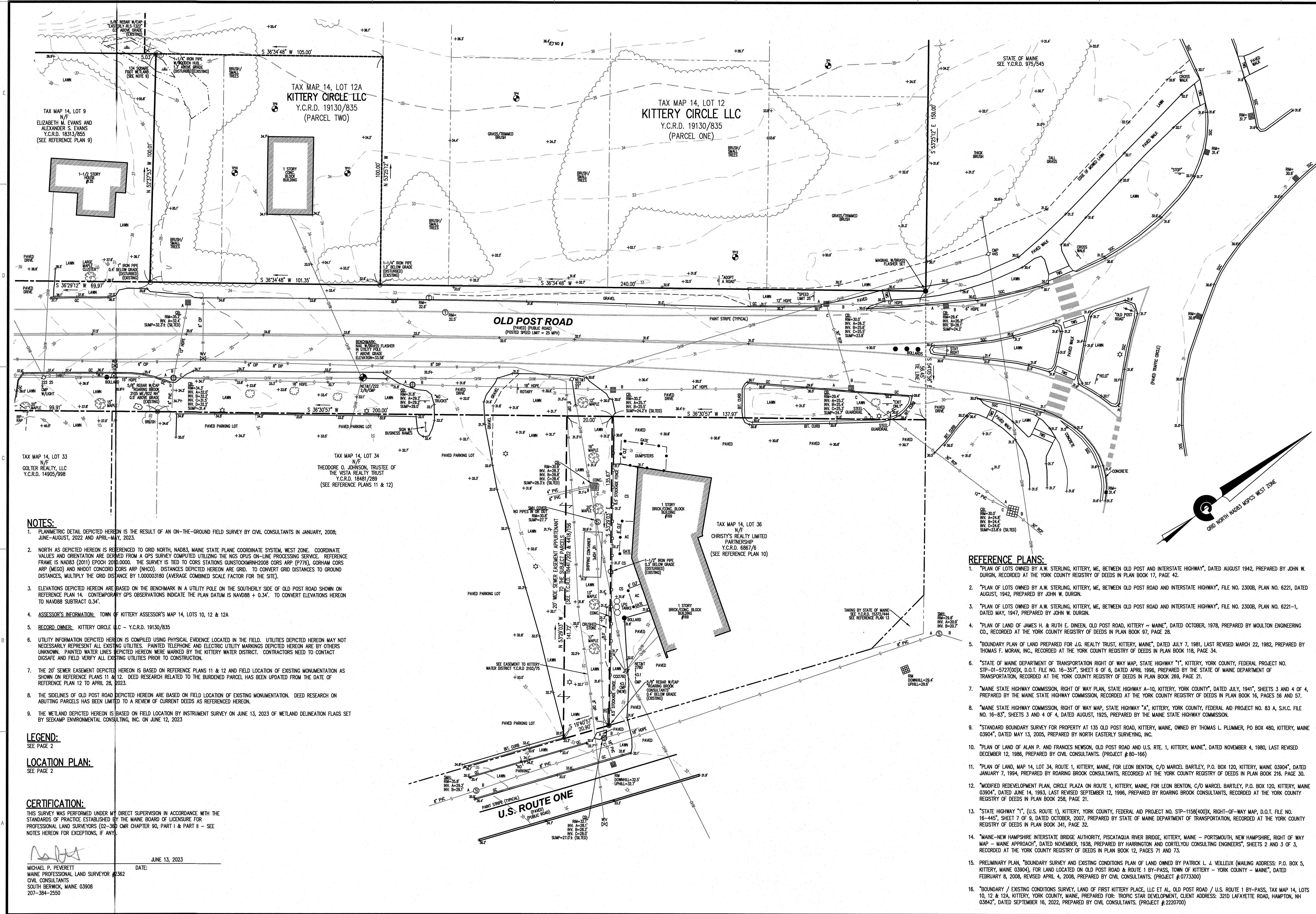
DATE: JUNE 13, 2023
 DRAWN BY: MPP
 CHECKED BY: CHM
 APPROVED BY: MPP

RIGHT-OF-WAY & EXISTING CONDITIONS PLAN

PROJECT NO: 2220701

R1

SHEET: 1 OF 2



TAX MAP 14, LOT 9
 N/F
 ELIZABETH M. EVANS AND
 ALEXANDER S. EVANS
 Y.C.R.D. 1913/955
 (SEE REFERENCE PLAN 9)

TAX MAP 14, LOT 12A
 KITTERY CIRCLE LLC
 Y.C.R.D. 19130/835
 (PARCEL TWO)

TAX MAP 14, LOT 12
 KITTERY CIRCLE LLC
 Y.C.R.D. 19130/835
 (PARCEL ONE)

OLD POST ROAD
 (PAVED) (PUBLIC ROAD)
 (POSTED SPEED LIMIT = 25 MPH)

TAX MAP 14, LOT 33
 N/F
 GOLDER REALTY, LLC
 Y.C.R.D. 14905/998

TAX MAP 14, LOT 34
 N/F
 THEODORE O. JOHNSON, TRUSTEE OF
 THE VISTA REALTY TRUST
 Y.C.R.D. 16481/299
 (SEE REFERENCE PLANS 11 & 12)

TAX MAP 14, LOT 36
 N/F
 CHRISTY'S REALTY LIMITED
 PARTNERSHIP
 Y.C.R.D. 5867/6
 (SEE REFERENCE PLAN 10)

NOTES:

1. PLANIMETRIC DETAIL DEPICTED HEREIN IS THE RESULT OF AN ON-THE-GROUND FIELD SURVEY BY CIVIL CONSULTANTS IN JANUARY, 2008; JUNE-AUGUST, 2022 AND APRIL-MAY, 2023.
2. NORTH AS DEPICTED HEREON IS REFERENCED TO GRID NORTH, NAD83, MAINE STATE COORDINATE SYSTEM, WEST ZONE. COORDINATE VALUES AND ORIENTATION ARE DERIVED FROM A GPS SURVEY COMPUTED UTILIZING THE NIS GPS ON-LINE PROCESSING SERVICE. REFERENCE FRAME IS NAD83 (2011) EPOCH 2010.0000. THE SURVEY IS TIED TO CORS STATIONS GUNSTOCKMNH2008 CORS ARP (P776), GORHAM CORS ARP (ME02) AND NHDOT CONCORD CORS ARP (NH02). DISTANCES DEPICTED HEREON ARE GRID. TO CONVERT GRID DISTANCES TO GROUND DISTANCES, MULTIPLY THE GRID DISTANCE BY 1.000003190 (AVERAGE COMBINED SCALE FACTOR FOR THE SITE).
3. ELEVATIONS DEPICTED HEREON ARE BASED ON THE BENCHMARK IN A UTILITY POLE ON THE SOUTHERLY SIDE OF OLD POST ROAD SHOWN ON REFERENCE PLAN 14. CONTEMPORARY GPS OBSERVATIONS INDICATE THE PLAN DATUM IS NAVD83 + 0.34'. TO CONVERT ELEVATIONS HEREON TO NAVD83 SUBTRACT 0.34'.
4. ASSESSOR'S INFORMATION: TOWN OF KITTERY ASSESSOR'S MAP 14, LOTS 10, 12 & 12A
5. RECORD OWNER: KITTERY CIRCLE LLC - Y.C.R.D. 19130/835
6. UTILITY INFORMATION DEPICTED HEREON IS COMPILED USING PHYSICAL EVIDENCE LOCATED IN THE FIELD. UTILITIES DEPICTED HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. PAINTED TELEPHONE AND ELECTRIC UTILITY MARKINGS DEPICTED HEREON ARE BY OTHERS UNKNOWN. PAINTED WATER LINES DEPICTED HEREON WERE MARKED BY THE KITTERY WATER DISTRICT. CONTRACTORS NEED TO CONTACT DISSAFE AND FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
7. THE 20' SEWER EASEMENT DEPICTED HEREON IS BASED ON REFERENCE PLANS 11 & 12 AND FIELD LOCATION OF EXISTING MONUMENTATION AS SHOWN ON REFERENCE PLANS 11 & 12. DEED RESEARCH RELATED TO THE BURDENED PARCEL HAS BEEN UPDATED FROM THE DATE OF REFERENCE PLAN 12 TO APRIL 28, 2023.
8. THE SLOPES OF OLD POST ROAD DEPICTED HEREON ARE BASED ON FIELD LOCATION OF EXISTING MONUMENTATION. DEED RESEARCH ON ADJUTING PARCELS HAS BEEN LIMITED TO A REVIEW OF CURRENT DEEDS AS REFERENCED HEREON.
9. THE WETLAND DEPICTED HEREON IS BASED ON FIELD LOCATION BY INSTRUMENT SURVEY ON JUNE 13, 2023 OF WETLAND DELINEATION FLAGS SET BY SEKEMP ENVIRONMENTAL CONSULTING, INC. ON JUNE 12, 2023

LEGEND:

SEE PAGE 2

LOCATION PLAN:

SEE PAGE 2

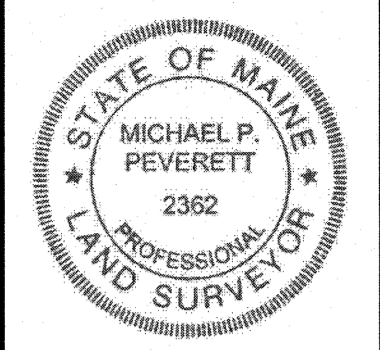
CERTIFICATION:

THIS SURVEY WAS PERFORMED UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE STANDARDS OF PRACTICE ESTABLISHED BY THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS (02-360) CMR CHAPTER 90, PART 1 & PART II - SEE NOTES HEREON FOR EXCEPTIONS, IF ANY.

Michael P. Peverett
 MICHAEL P. PEVERETT DATE: JUNE 13, 2023
 MAINE PROFESSIONAL LAND SURVEYOR #2362
 CIVIL CONSULTANTS
 SOUTH BERWICK, MAINE 03908
 207-364-2550

REFERENCE PLANS:

1. "PLAN OF LOTS OWNED BY A.W. STERLING, KITTERY, ME, BETWEEN OLD POST AND INTERSTATE HIGHWAY", DATED AUGUST 1942, PREPARED BY JOHN W. DURGIN, RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 17, PAGE 42.
2. "PLAN OF LOTS OWNED BY A.W. STERLING, KITTERY, ME, BETWEEN OLD POST ROAD AND INTERSTATE HIGHWAY", FILE NO. 23008, PLAN NO. 6221, DATED AUGUST, 1942, PREPARED BY JOHN W. DURGIN.
3. "PLAN OF LOTS OWNED BY A.W. STERLING, KITTERY, ME, BETWEEN OLD POST ROAD AND INTERSTATE HIGHWAY", FILE NO. 23008, PLAN NO. 6221-1, DATED MAY, 1947, PREPARED BY JOHN W. DURGIN.
4. "PLAN OF LAND OF JAMES H. & RUTH E. DINEEN, OLD POST ROAD, KITTERY - MAINE", DATED OCTOBER, 1978, PREPARED BY MOULTON ENGINEERING CO., RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 97, PAGE 28.
5. "BOUNDARY PLAN OF LAND PREPARED FOR J.G. REALTY TRUST, KITTERY, MAINE", DATED JULY 7, 1981, LAST REVISED MARCH 22, 1982, PREPARED BY THOMAS F. MORAN, INC., RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 118, PAGE 34.
6. "STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, STATE HIGHWAY "1", KITTERY, YORK COUNTY, FEDERAL PROJECT NO. SIP-01-5727(00)X, D.O.T. FILE NO. 16-357, SHEET 6 OF 6, DATED APRIL 1996, PREPARED BY THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION, RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 269, PAGE 21.
7. "MAINE STATE HIGHWAY COMMISSION, RIGHT OF WAY PLAN, STATE HIGHWAY A-10, KITTERY, YORK COUNTY", DATED JULY, 1941", SHEETS 3 AND 4 OF 4, PREPARED BY THE MAINE STATE HIGHWAY COMMISSION, RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 16, PAGES 56 AND 57.
8. "MAINE STATE HIGHWAY COMMISSION, RIGHT OF WAY MAP, STATE HIGHWAY "A", KITTERY, YORK COUNTY, FEDERAL AID PROJECT NO. 83 A, S.H.C. FILE NO. 16-83", SHEETS 3 AND 4 OF 4, DATED AUGUST, 1925, PREPARED BY THE MAINE STATE HIGHWAY COMMISSION.
9. "STANDARD BOUNDARY SURVEY FOR PROPERTY AT 135 OLD POST ROAD, KITTERY, MAINE, OWNED BY THOMAS L. PUMMER, PO BOX 480, KITTERY, MAINE 03904", DATED MAY 13, 2005, PREPARED BY NORTH EASTERLY SURVEYING, INC.
10. "PLAN OF LAND OF ALAN P. AND FRANCES NEWSON, OLD POST ROAD AND U.S. RTE. 1, KITTERY, MAINE", DATED NOVEMBER 4, 1980, LAST REVISED DECEMBER 12, 1986, PREPARED BY CIVIL CONSULTANTS. (PROJECT #80-168)
11. "PLAN OF LAND, MAP 14, LOT 34, ROUTE 1, KITTERY, MAINE, FOR LEON BENTON, C/O MARCEL BARTLEY, P.O. BOX 120, KITTERY, MAINE 03904", DATED JANUARY 7, 1994, PREPARED BY ROARING BROOK CONSULTANTS, RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 216, PAGE 30.
12. "MODIFIED REDEVELOPMENT PLAN, CIRCLE PLAZA ON ROUTE 1, KITTERY, MAINE, FOR LEON BENTON, C/O MARCEL BARTLEY, P.O. BOX 120, KITTERY, MAINE 03904", DATED JUNE 14, 1993, LAST REVISED SEPTEMBER 12, 1996, PREPARED BY ROARING BROOK CONSULTANTS, RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 258, PAGE 21.
13. "STATE HIGHWAY "1", (U.S. ROUTE 1), KITTERY, YORK COUNTY, FEDERAL AID PROJECT NO. SIP-1158(400)X, RIGHT-OF-WAY MAP, D.O.T. FILE NO. 16-445", SHEET 7 OF 9, DATED OCTOBER, 2007, PREPARED BY STATE OF MAINE DEPARTMENT OF TRANSPORTATION, RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 341, PAGE 32.
14. "MAINE-NEW HAMPSHIRE INTERSTATE BRIDGE AUTHORITY, PISCATAQUA RIVER BRIDGE, KITTERY, MAINE - PORTSMOUTH, NEW HAMPSHIRE, RIGHT OF WAY MAP - MAINE APPROACH", DATED NOVEMBER, 1938, PREPARED BY HARRINGTON AND CORTELYOU CONSULTING ENGINEERS", SHEETS 2 AND 3 OF 3, RECORDED AT THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 12, PAGES 71 AND 73.
15. PRELIMINARY PLAN, "BOUNDARY SURVEY AND EXISTING CONDITIONS PLAN OF LAND OWNED BY PATRICK L. J. VELLEUX (MAILING ADDRESS: P.O. BOX 5, KITTERY, MAINE 03904), FOR LAND LOCATED ON OLD POST ROAD & ROUTE 1 BY-PASS, TOWN OF KITTERY - YORK COUNTY - MAINE", DATED FEBRUARY 8, 2008, REVISED APRIL 4, 2008, PREPARED BY CIVIL CONSULTANTS. (PROJECT #0773300)
16. "BOUNDARY / EXISTING CONDITIONS SURVEY, LAND OF FIRST KITTERY PLACE, LLC ET AL, OLD POST ROAD / U.S. ROUTE 1 BY-PASS, TAX MAP 14, LOTS 10, 12 & 12A, KITTERY, YORK COUNTY, MAINE, PREPARED FOR: TROPIC STAR DEVELOPMENT, CLIENT ADDRESS: 3210 LAFAYETTE ROAD, HAMPTON, NH 03842", DATED SEPTEMBER 16, 2022, PREPARED BY CIVIL CONSULTANTS. (PROJECT #2220700)



© CIVIL CONSULTANTS
CIVIL CONSULTANTS
 Engineers
 Planners
 Surveyors
 P.O. Box 100
 South Berwick
 Maine
 03908
 207-384-2560
 www.cicon.com

NO.	REVISIONS	INT.	DATE

RECORD OWNER OF SUBJECT PARCELS:
 HITTERY ORCLE, LLC
 ADDRESS:
 3210 LAFAYETTE ROAD
 HAMPTON, NH 03842

**COMPILED RIGHT-OF-WAY AND EXISTING CONDITIONS SURVEY
 OLD POST ROAD
 KITTERY, YORK COUNTY, MAINE**
 TROPIC STAR DEVELOPMENT
 3210 LAFAYETTE ROAD, HAMPTON, NH 03842
 PREPARED FOR:
 CLIENT ADDRESS:

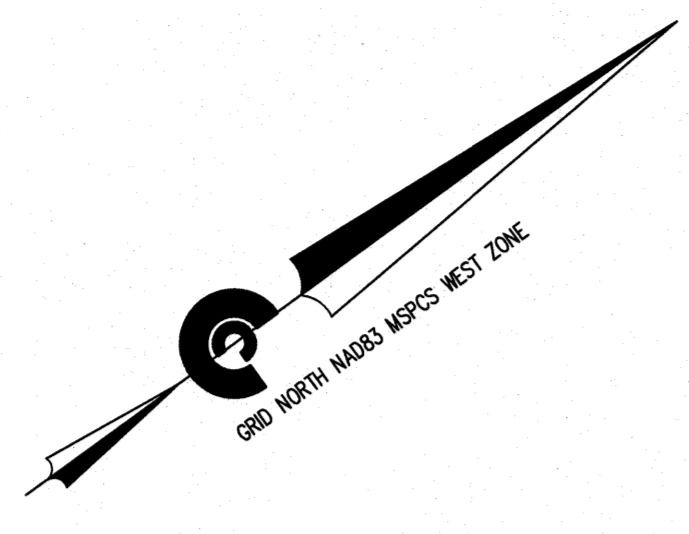
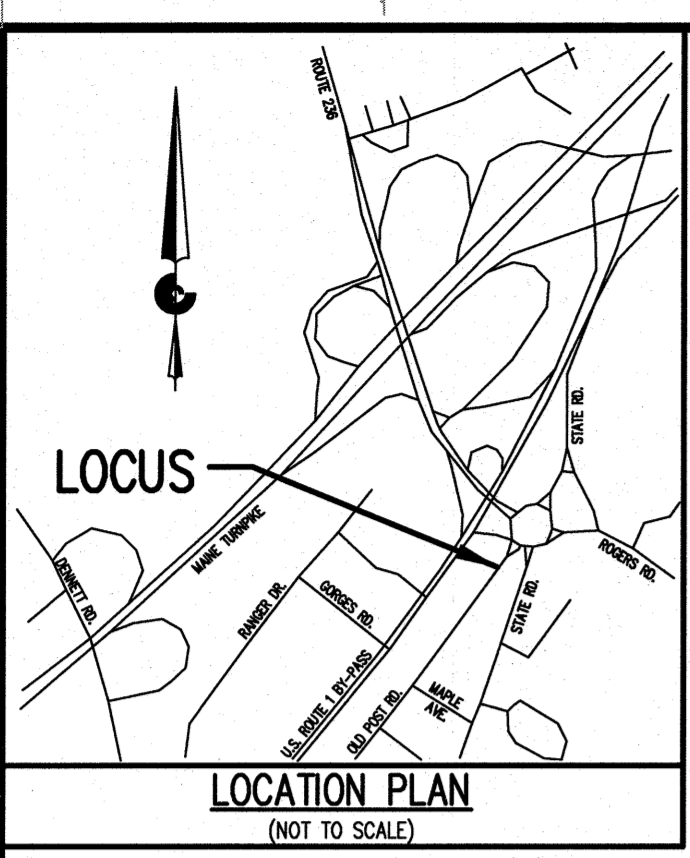
DATE: JUNE 13, 2023
 DRAWN BY: MPP
 CHECKED BY: CHM
 APPROVED BY: MPP

RIGHT-OF-WAY & EXISTING CONDITIONS PLAN

PROJECT NO: 2220701

R2

SHEET: 2 OF 2



TAX MAP 14, LOT 1
 N/F
 FONTANE MEMORIAL, LLC
 Y.C.R.D. 18749/550
 (SEE REFERENCE PLAN 5)

TAX MAP 14, LOT 7
 N/F
 PATRICK L.J. VELLEUX AND
 DORIS H. VELLEUX
 Y.C.R.D. 5172/37

TAX MAP 14, LOT 8
 N/F
 WILLOW TREE 129 OLD POST
 ROAD, LLC
 Y.C.R.D. 18375/831

TAX MAP 14, LOT 9
 N/F
 JEFFREY S. PELKEY AND
 JULIA H. PELKEY
 Y.C.R.D. 14951/513

TAX MAP 14, LOT 9
 N/F
 ELIZABETH M. EVANS AND
 ALEXANDER S. EVANS
 Y.C.R.D. 18313/855
 (SEE REFERENCE PLAN 9)

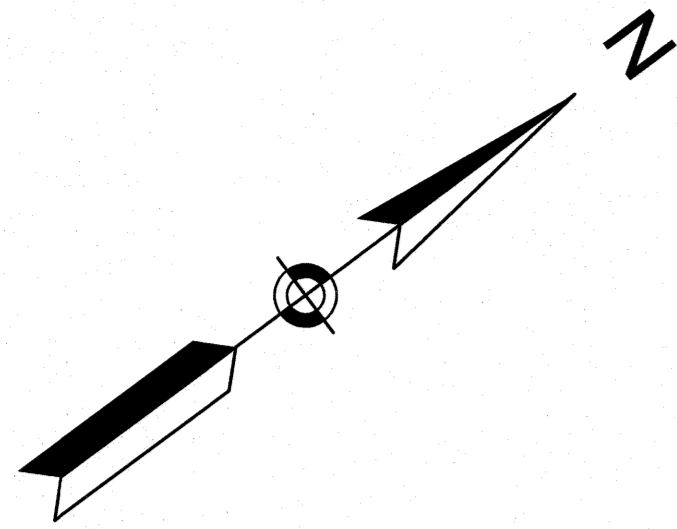
TAX MAP 14, LOT 13
 N/F
 SANDRA WINTER AND
 JOSEPH A. WINTER
 Y.C.R.D. 5141/146

TAX MAP 14, LOT 33B
 N/F
 STUART W. NEAL AND
 JUDITH LEE NEAL
 Y.C.R.D. 1782/191

TAX MAP 14, LOT 33
 N/F
 COLTER REALTY, LLC
 Y.C.R.D. 14905/998

LEGEND:

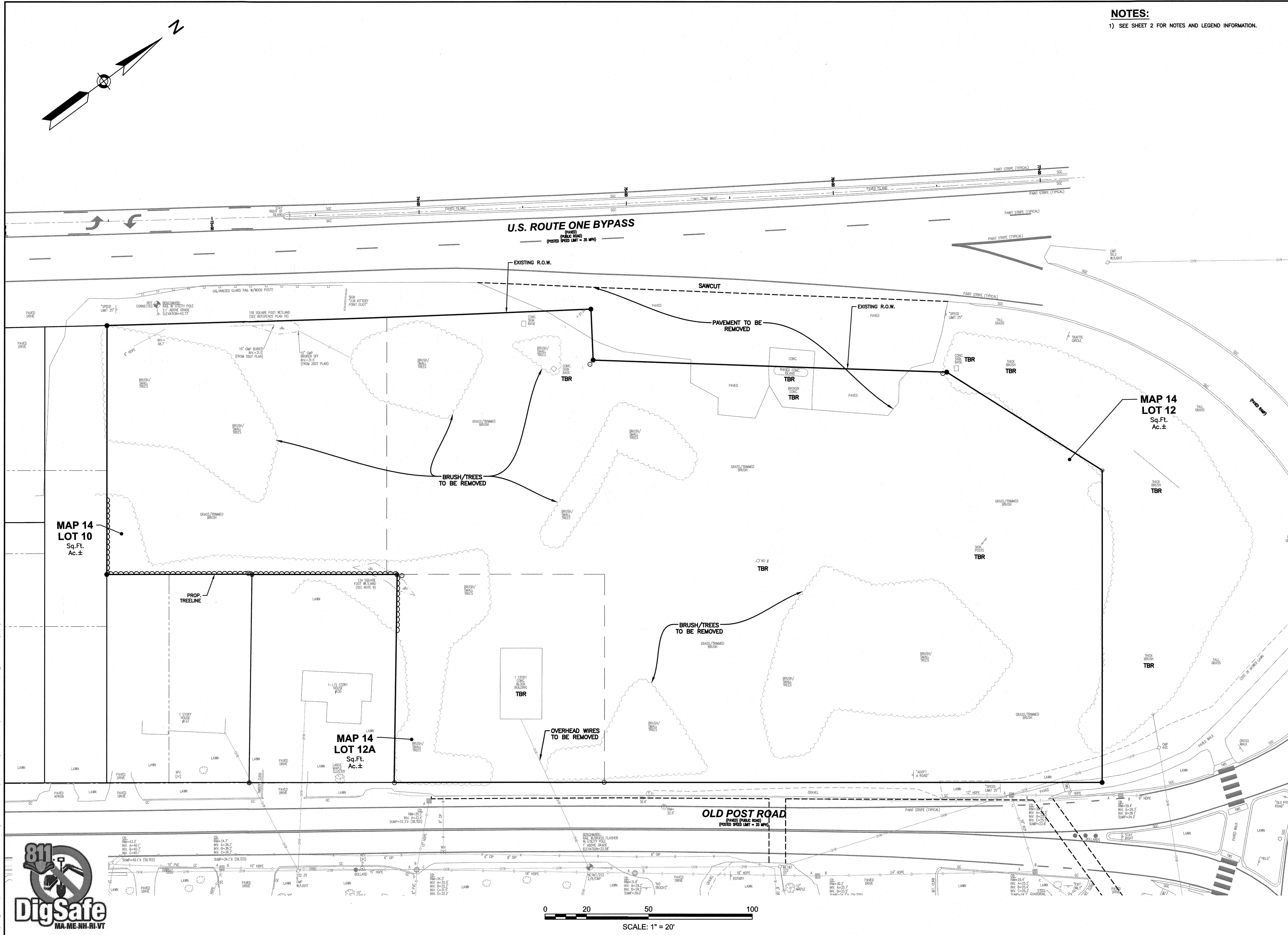
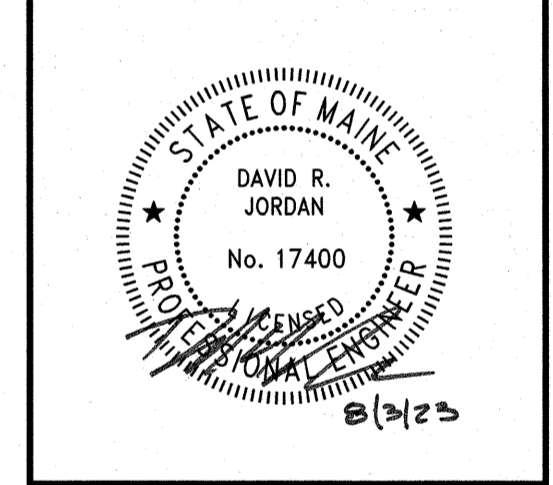
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|-----------|-------------------------------------------------------------------------|
| 12458/198 | DEED BOOK/PAGE NUMBER |
| AC | AIR CONDITIONER |
| BIT. | BITUMINOUS |
| CP | CAST IRON PIPE |
| CLF | CHAIN LINK FENCE |
| CONC. | CONCRETE |
| CS | CRUSHED STONE |
| DF | DUCTILE IRON PIPE |
| GC | GRANITE CURB |
| HDPE | HIGH DENSITY POLYETHYLENE |
| LPG | LIQUEFIED PETROLEUM GAS |
| N/F | NOW OR FORMERLY |
| PVC | POLYVINYL CHLORIDE |
| ROP | REINFORCED CONCRETE PIPE |
| RETWALL | RETAINING WALL |
| SOC | SLOPED GRANITE CURB |
| TWS | TACTILE WARNING SURFACE |
| Y.C.R.D. | YORK COUNTY REGISTRY OF DEEDS |
| +48.4' | SPOT ELEVATION |
| | TREE/BRUSH LINE |
| | CONIFEROUS TREE (AS NOTED) |
| | DECIDUOUS TREE (AS NOTED) |
| | BUSH OR SHRUB |
| | STUMP |
| | BOULDER |
| | MAILBOX |
| | WATER VALVE |
| | WATER SHUT OFF |
| | FIRE HYDRANT |
| | PAINTED UNDERGROUND WATER LINE |
| | UTILITY POLE |
| | GUY WIRE |
| | OVERHEAD WIRES |
| | LIGHT POLE |
| | GROUND LIGHT |
| | PAINTED UNDERGROUND ELECTRIC LINE |
| | TELEPHONE MANHOLE |
| | PAINTED UNDERGROUND TELEPHONE LINE |
| | SANITARY SEWER MANHOLE |
| | APPROXIMATE UNDERGROUND SANITARY SEWER LINE |
| | CATCH BASIN |
| | APPROXIMATE UNDERGROUND DRAINAGE LINE |
| | SIGN |
| | TEST PIT |
| | EXISTING IRON PIPE (AS NOTED) |
| | EXISTING REBAR |
| | EXISTING DRILL HOLE |
| | 5/8" REBAR W/ PLASTIC CAP "CIVIL CONSULT PLS 2362" (SET) |
| | LOCUS PARCEL BOUNDARY LINE (SEE REFERENCE PLAN 16) |
| | LOCUS PARCEL APPROXIMATE INTERIOR BOUNDARY LINE (SEE REFERENCE PLAN 16) |
| | EASEMENT BOUNDARY LINE |
| | COMPILED ROAD RIGHT-OF-WAY LINE |
| | APPROXIMATE ABUTTING PARCEL BOUNDARY LINE |
| | APPROXIMATE HISTORICAL BOUNDARY LINE |
| | SURVEY BENCHMARK (AS NOTED) |
| | DELINEATED WETLAND (SEE NOTE 9) |



NOTES:
1) SEE SHEET 2 FOR NOTES AND LEGEND INFORMATION.

PREPARED FOR
KITTERY CIRCLE, LLC
321D LAFAYETTE ROAD
HAMPTON, NH 03842

ASSESSORS MAP 14 LOTS 10, 12 & 12A
139 OLD POST ROAD,
112 & 120 US ROUTE 1 BYPASS
KITTERY, MAINE



REVISIONS		
NO.	REVISION	DATE

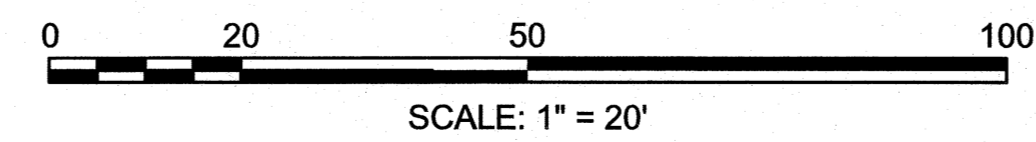
DEMOLITION PLAN

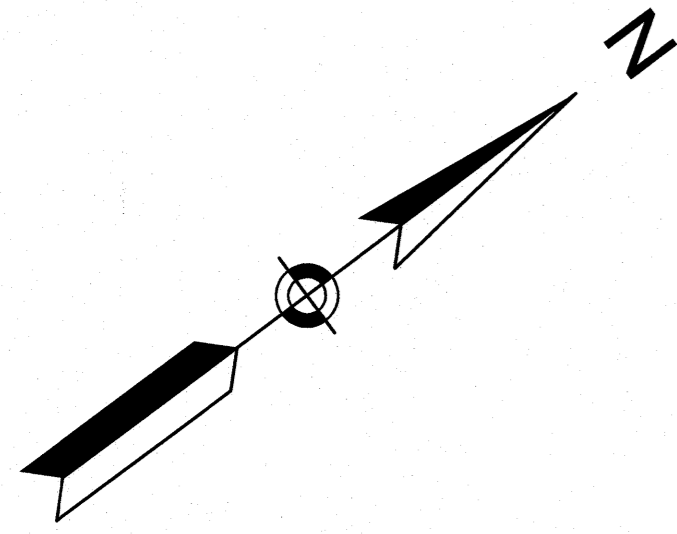
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PROJECT NO. NEX-2200380

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NOTES:
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DRAINAGE PIPE SCHEDULE					
FROM STRUCTURE NUMBER	PIPE SIZE (INCHES)	TYPE OF PIPE	APPROX. PIPE LENGTH (FEET)	SLOPE OF PIPE (FT./FT.)	TO STRUCTURE NUMBER
CB-1	12	HDPE	88	0.033	DMH-1(PS)
CB-2	12	HDPE	7	0.015	DMH-1(PS)
CB-3(PS)	12	HDPE	4	0.025	DET IN2
CB-4	12	HDPE	7	0.014	DMH-2(PS)
CB-5	12	HDPE	81	0.010	DMH-2(PS)
CB-6(PS)	12	HDPE	9	0.011	DMH-3
DET OUT	24	HDPE	4	0.000	OCS
DMH-1(PS)	12	HDPE	11	0.027	DET IN1
DMH-2(PS)	12	HDPE	5	0.037	DET IN4
DMH-3	12	HDPE	24	0.006	JF IN
DMH-4	12	HDPE	10	0.010	EX. CB
JF OUT	12	HDPE	171	0.005	DMH-4
OCS	12	HDPE	116	0.005	DMH-3
ROOF DRAIN	12	HDPE	35	0.014	DET IN3

DRAINAGE STRUCTURES

CB-1
RIM=34.05
INV.OUT=34.05

CB-2
RIM=35.20
INV.OUT=31.20

CB-3(PS)
RIM=33.80
INV.OUT=30.80

CB-4
RIM=33.80
INV.OUT=30.80

CB-5
RIM=33.80
INV.OUT=30.80

CB-6(PS)
RIM=33.80
INV.OUT=28.05

DMH-1(PS)
RIM=34.00
INV.IN=28.05
INV.OUT=30.15

DMH-2(PS)
RIM=34.05
INV.IN=30.70(CB-4)
INV.OUT=29.55

DMH-3
RIM=33.80
INV.IN=30.05(CB-6(PS))
INV.OUT=28.20

DMH-4
RIM=30.75
INV.IN=26.70(JF OUT)
INV.OUT=26.60

JELLYFISH
CONTECH MODEL#TBD
RIM=34.00
INV.IN=28.05
INV.OUT=27.55

UNDERGROUND DETENTION SYSTEM (UG DET)
(136) STORMTECH SC-740 CHAMBERS
INV.IN=
INV.OUT=
INV.CHAMBERS=29.35
DEFENSE FD-4HC BY HYDRO INTERNATIONAL OR APPROVED EQUAL

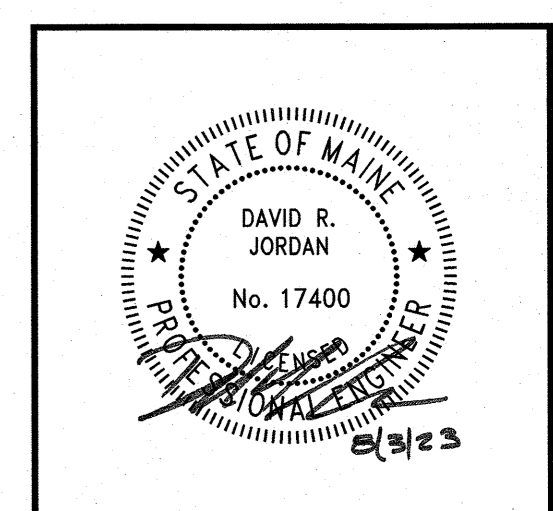
OUTLET CONTROL STRUCTURE (OW)
RIM=34.15
INV.IN=28.85
INV.OUT=28.85

(PS) DENOTES HYDRODYNAMIC PARTICLE SEPARATOR, FIRST DEFENSE FD-4HC BY HYDRO INTERNATIONAL OR APPROVED EQUAL.

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HAMPTON, NH 03842

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112 & 120 US ROUTE 1 BYPASS
KITTERY, MAINE



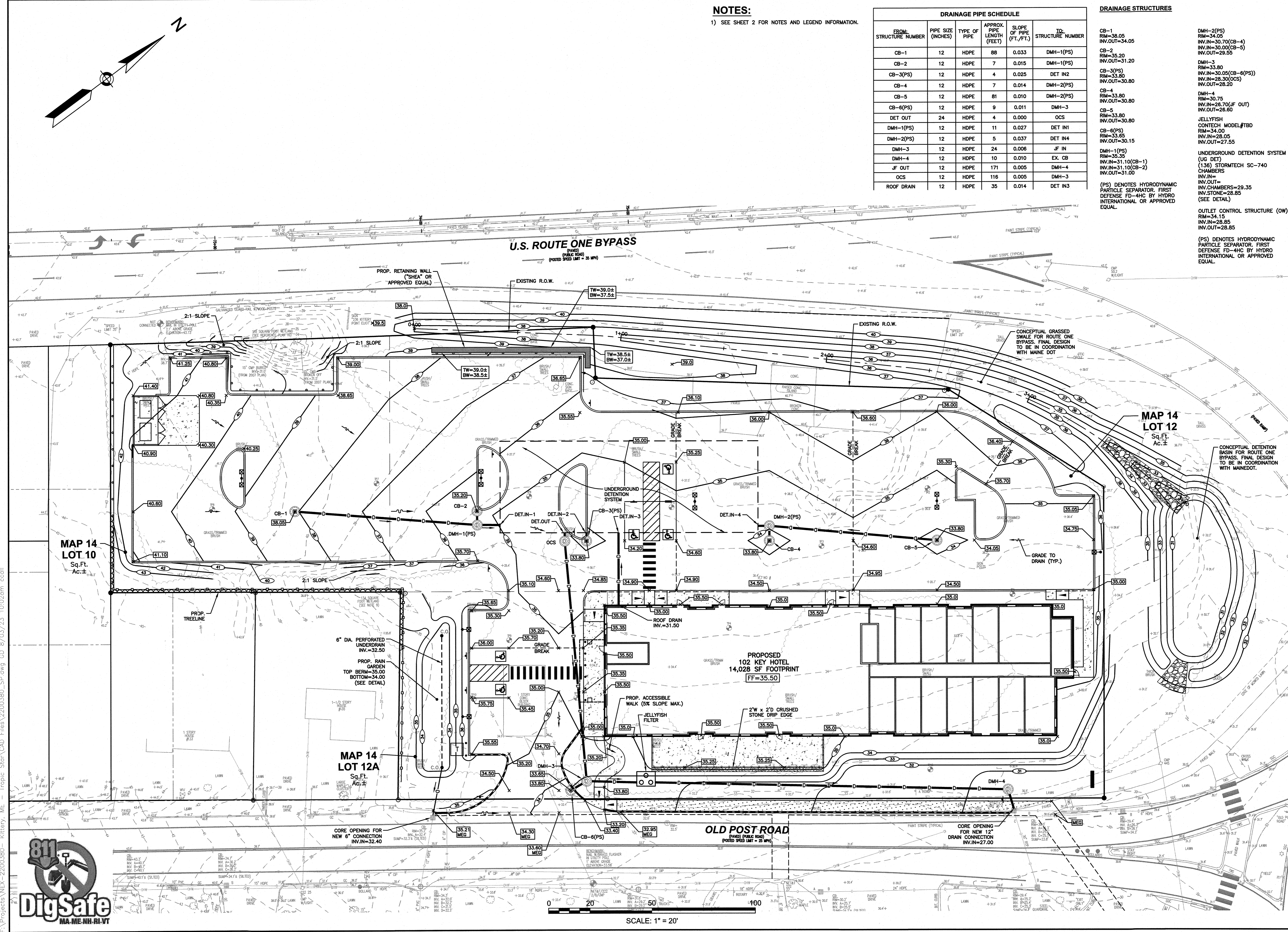
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NO.	REVISION	DATE

GRADING & DRAINAGE PLAN

SCALE: 1"=20'

PROJECT NO. NEX-2200380

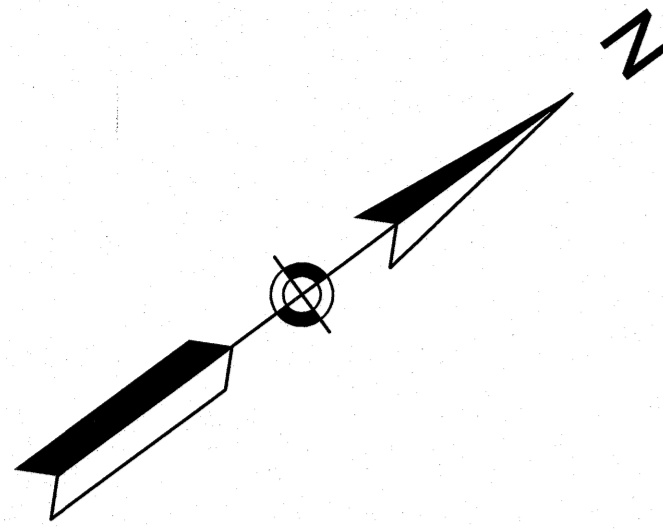
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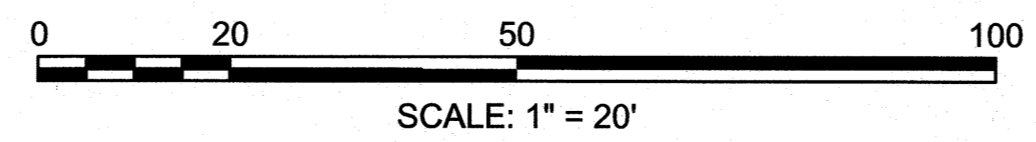
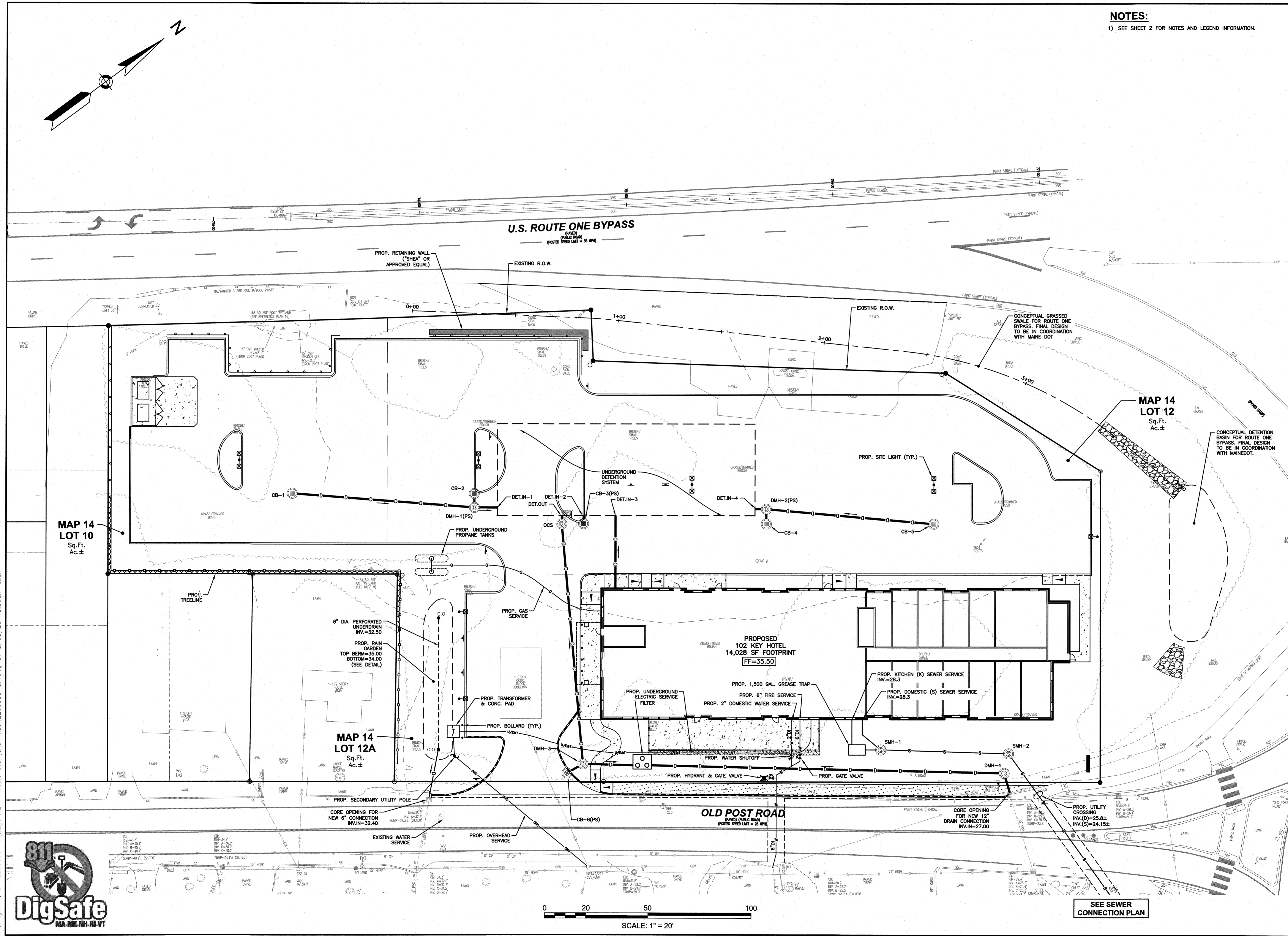
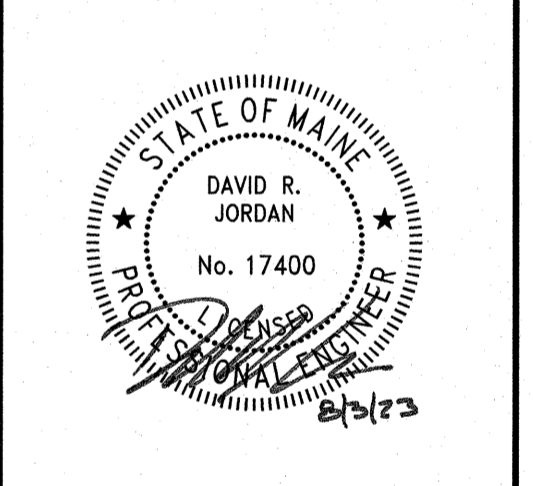
NOTES:

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SEE SEWER CONNECTION PLAN

REVISIONS

NO.	REVISION	DATE

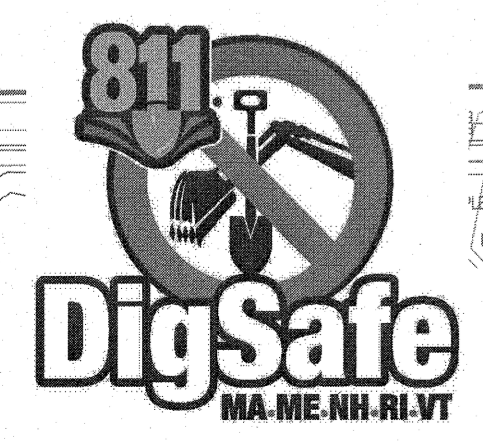
UTILITY PLAN

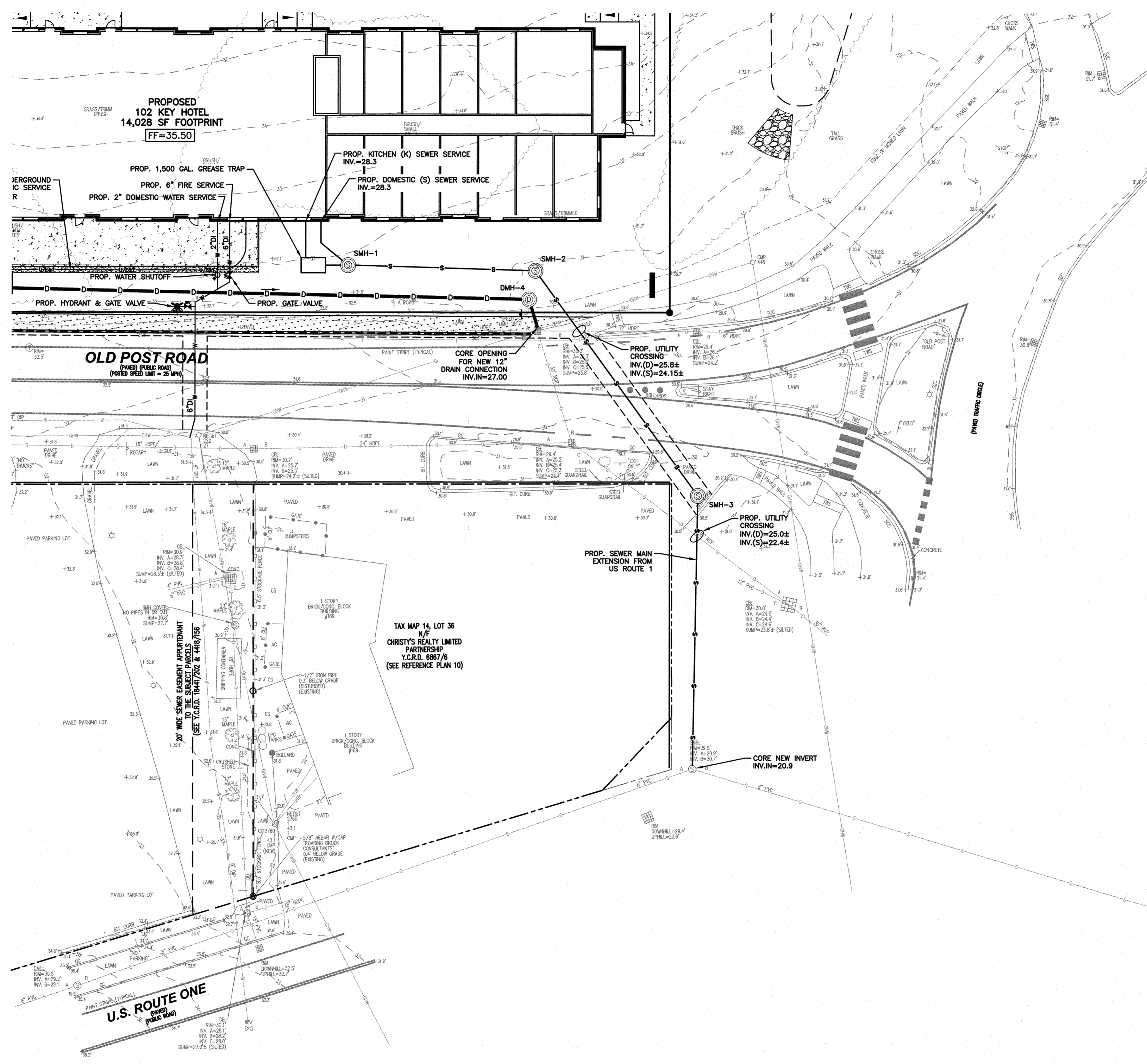
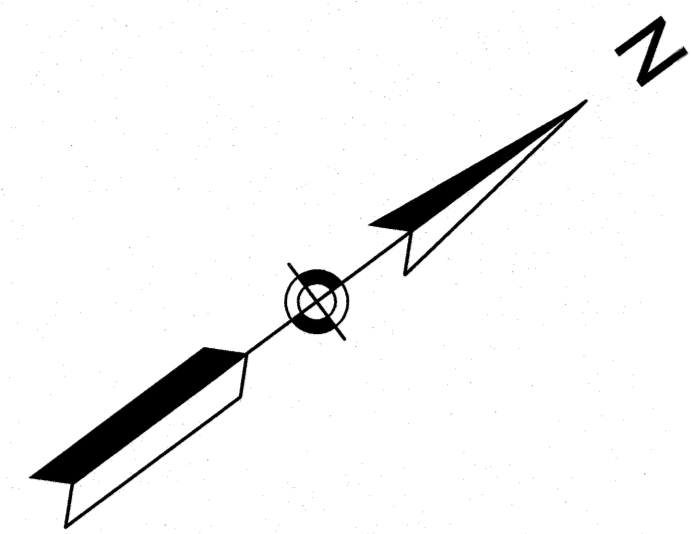
SCALE: 1"=20'

PROJECT NO.
NEX-2200380

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NOTES:
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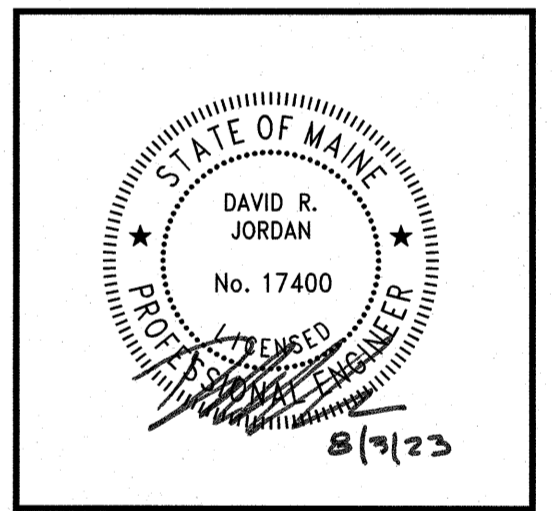
SEWER PIPE SCHEDULE					
FROM STRUCTURE NUMBER	PIPE SIZE (inches)	TYPE OF PIPE	APPROX. PIPE LENGTH (feet)	SLOPE OF PIPE (ft./ft.)	TO STRUCTURE NUMBER
BLDG. (K)	6	PVC	12	0.0750	GR. TRAP
GR. TRAP	6	PVC	6	0.0670	SMH-1
BLDG. (S)	8	PVC	18	0.0890	SMH-2
SMH-1	8	PVC	61	0.0310	SMH-3
SMH-2	8	PVC	91	0.0200	SMH-3
SMH-3	8	PVC	90	0.0200	EX. SMH

- SEWER STRUCTURES**
- 1,500 GAL. GREASE TRAP
 RIM=32.0±
 INV.IN=27.4
 INV.OUT=27.15
 - SMH-1
 RIM=32.0±
 INV.IN=26.7
 INV.OUT=26.6
 - SMH-2
 RIM=31.0±
 INV.IN=24.7
 INV.OUT=24.6
 - SMH-3
 RIM=30.35±
 INV.IN=22.80
 INV.OUT=22.70

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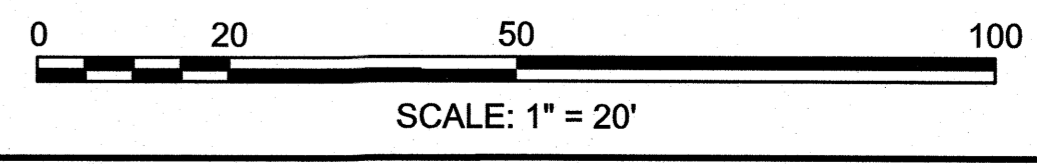
REVISIONS		
NO.	REVISION	DATE

SEWER CONNECTION PLAN

SCALE: 1"=20'

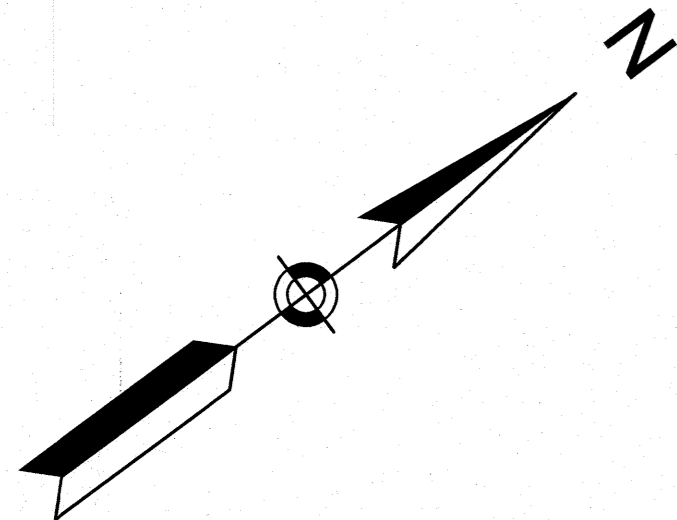
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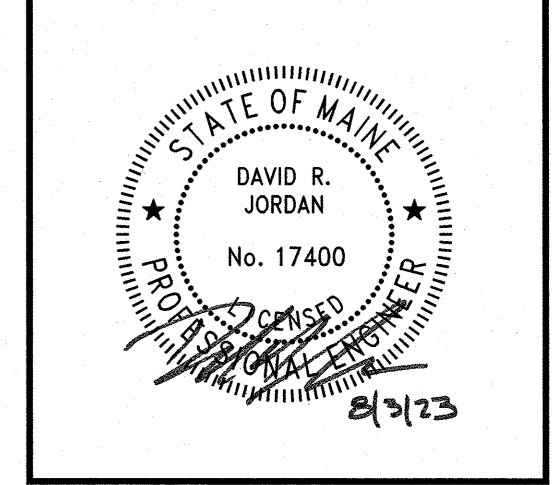


NOTES:
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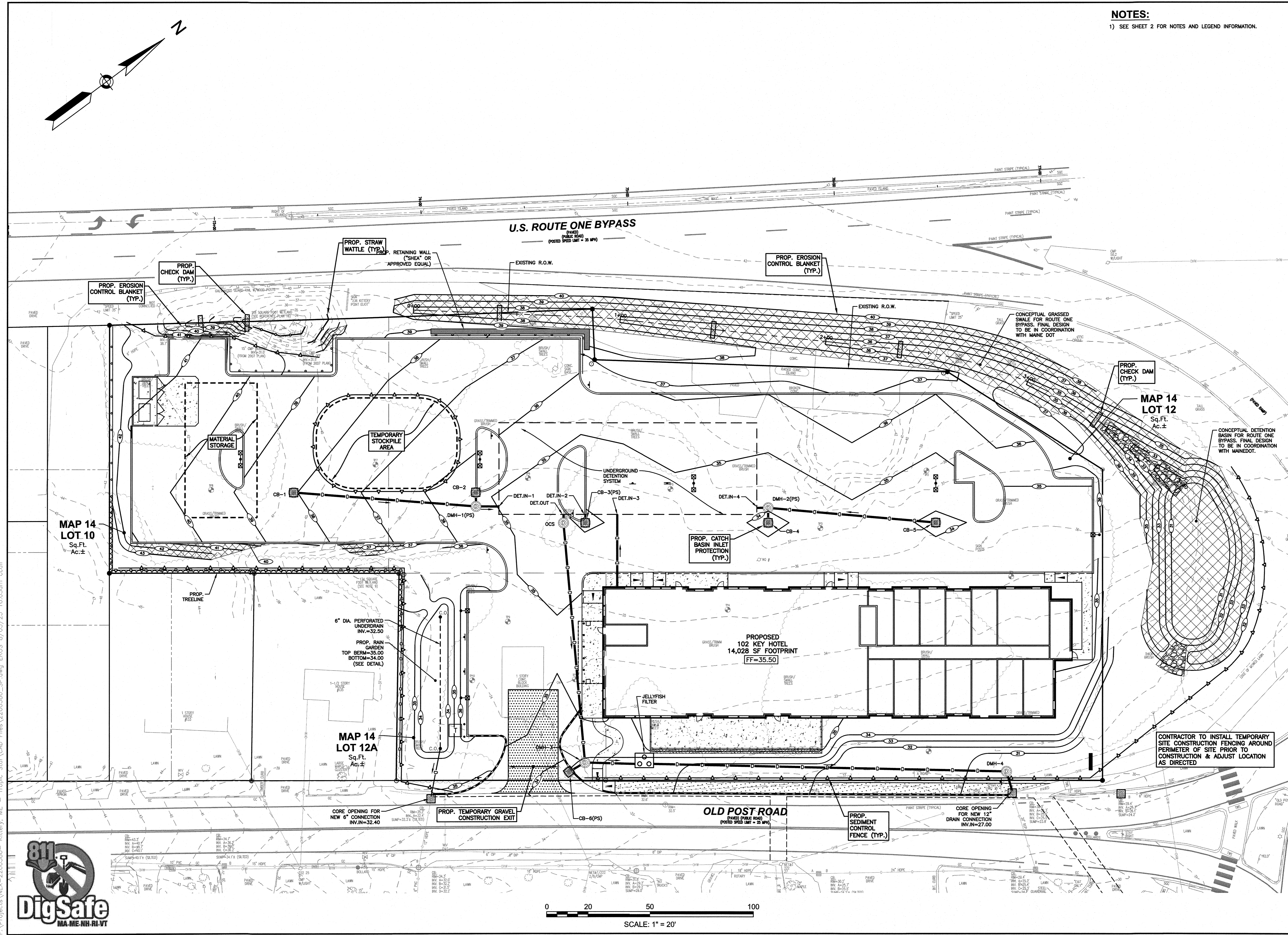
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DRAWN/DESIGN BY CCC/NID	CHECKED BY DRJ

EROSION & SEDIMENT CONTROL PLAN

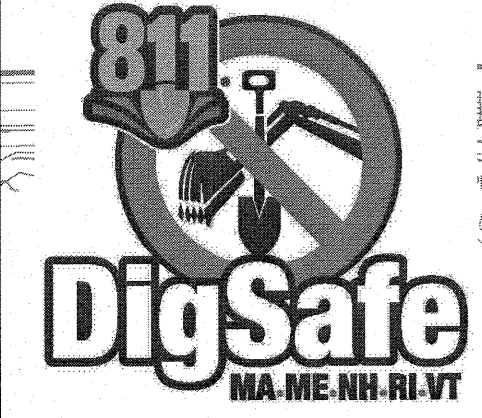
SCALE: 1"=20'

PROJECT NO.
NEX-2200380

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0 20 50 100
SCALE: 1" = 20'

PLANTING SCHEDULE				
PLANT	QNTY	BOTANICAL NAME	COMMON NAME	REMARKS
TREES				
AB	6	ABIES BALSAMICA	BALSAM FIR	6'-7" HT., B&B
AR	6	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2 1/2" - 3" CAL., B&B
BN	9	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	12'-14" HT., B&B
GT	5	QUERCUS 'SKYLINE'	SKYLINE HONEY LOCUST	2 1/2" - 3" CAL., B&B
MG	4	MALUS 'SPRING SNOW'	SPRING SNOW CRABAPPLE	2'-2 1/2" HT., B&B
PG	5	PICEA GLAUCA	WHITE SPRUCE	6'-7" HT., B&B
SHRUBS				
AW	19	AZALEA 'PLEASANT WHITE'	PLEASANT WHITE AZALEA	18"-24" HT., 3 GAL.
CA	12	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	HUMMINGBIRD SUMMERSWEET	18"-24" HT., 3 GAL.
HP	7	HYDRANGEA PANICULATA GRANDIFLORA	PEE GEE HYDRANGEA	5'-8" HT., B&B
IG	51	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY	2'-3" HT., 3 GAL.
JC	38	JUNIPERUS CHINENSIS 'SEA GREEN'	SEA GREEN JUNIPER	2'-2 1/2" HT., 3 GAL.
PT	20	POTENTILLA FRUTICOSA 'GOLDSTAR'	GOLDSTAR BUSH CINQUEFOIL	2'-3" HT., 3 GAL.
SJ	21	SPIREA JAPONICA 'GOLDMOUND'	GOLDMOUND SPIREA	18"-24" HT., 3 GAL.
TO	10	THUJA OCCIDENTALIS 'SMARAGD'	EMERALD GREEN ARBORVITAE	5'-8" HT., B&B
PERENNIALS & GRASSES				
AV	13	ASTILBE 'VISIONS IN WHITE'	VISIONS IN WHITE ASTILBE	1 GAL.
HD	103	HEMEROCALLIS 'STELLA DE ORO'	DWARF YELLOW DAYLILY	1 GAL.
PV	43	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	1 GAL.
ES	47	ERAGROSTIS SPECTABILIS	PURPLE LOVE GRASS	1 GAL.

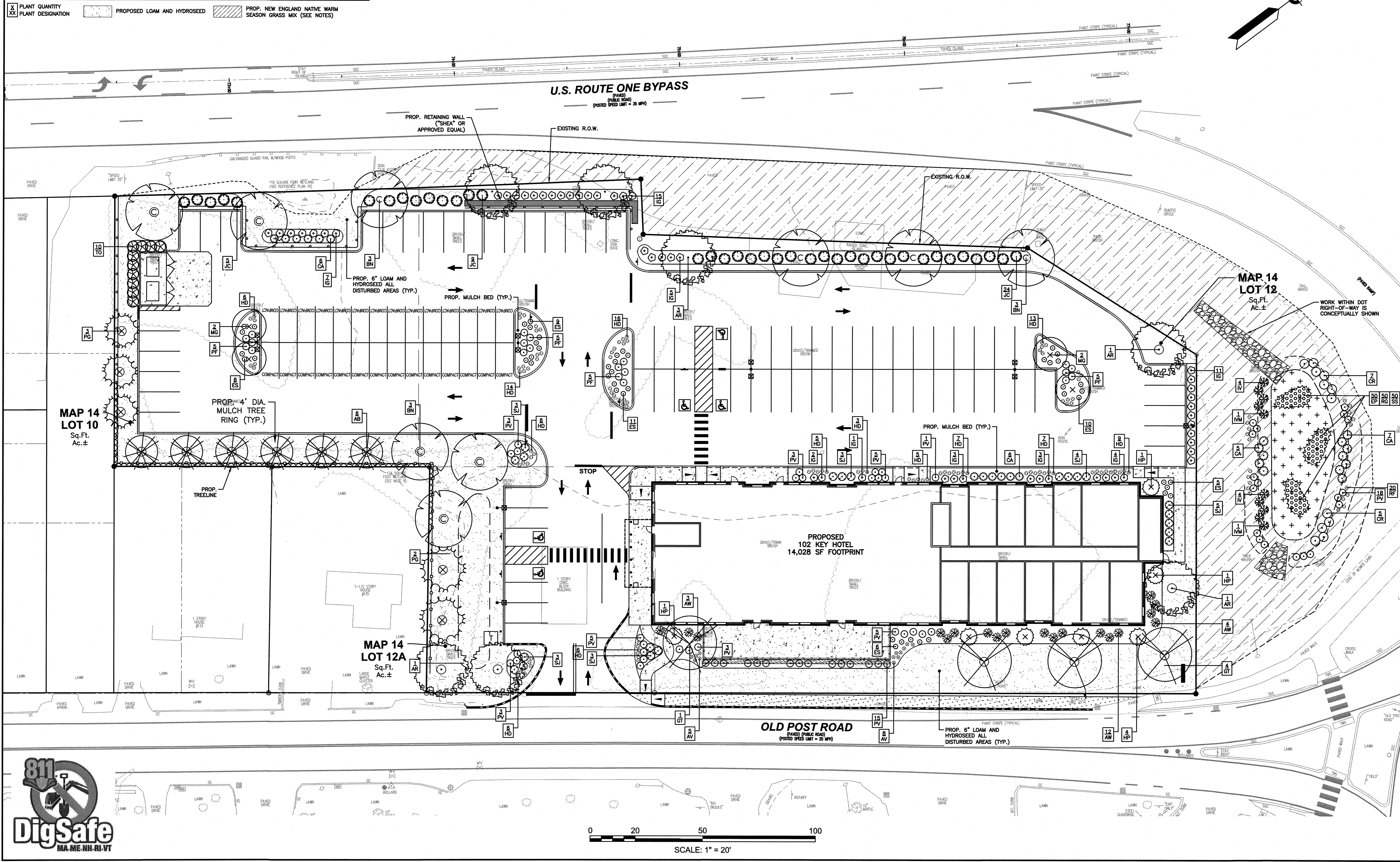
PLANTING SCHEDULE - DETENTION BASIN				
PLANT	QNTY	BOTANICAL NAME	COMMON NAME	REMARKS
SHRUBS				
CA	12	CLETHRA ALNIFOLIA	SUMMERSWEET	2'-3" HT., 3 GAL.
CR	12	CORNUS ANOMUM	SILKY DOGWOOD	2'-3" HT., 3 GAL.
IV	8	ILEX VERTICILLATA 'SPARKLEBERRY'	SPARKLEBERRY WINTERBERRY	2'-3" HT., 3 GAL.
IVM	2	ILEX VERTICILLATA 'SOUTHERN GENTLEMAN'	SOUTHERN GENT. WINTERBERRY	2'-3" HT., 3 GAL.
PERENNIALS & GRASSES				
RF	18	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	1 GAL.
RF	20	RUDEBECKIA FULGIDA 'GOLDSTRUM'	'GOLDSTRUM' BLACK-EYED SUSAN	1 GAL.
PLUGS				
EP	50	EUPATORIUM PURPUREUM	JOE PYE WEED	5" PLUG
RG	50	RUDEBECKIA FULGIDA 'GOLDSTRUM'	'GOLDSTRUM' BLACK-EYED SUSAN	5" PLUG
SS	50	SCHIZANTHUS SCOPARIUM 'THE BLUES'	'THE BLUES' LITTLE BLUESTEM	5" PLUG

LANDSCAPE REQUIREMENTS		
TOWN OF KITTERY - LAND USE ZONE REGULATIONS (C3)	REQUIRED	PROVIDED
16.4.21 E.3.c.2.b STANDARDS - LANDSCAPING SITE IMPROVEMENTS	A MINIMUM OF ONE TREE MUST BE PLANTED FOR EACH 50 FEET OF STREET FRONTAGE...THE TREES MUST BE A MINIMUM OF TWO-AND-ONE-HALF-INCH CALIPER AND BE AT LEAST 12 FEET HIGH AT THE TIME OF PLANTING.	OLD POST ROAD: 6 TREES AT 2 1/2" CAL. OR GREATER RT. 1 BYPASS: 9 TREES AT 2 1/2" CAL. OR GREATER
TOWN OF KITTERY - GENERAL DEVELOPMENT REQUIREMENTS	16.7.11.F.4.g PARKING AND LOADING - OFF-STREET PARKING STANDARDS	14 TREES AT 1 1/2" CAL. OR GREATER

NOTES:
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STATE OF MAINE
DAVID R. JORDAN
No. 17400
LICENSED PROFESSIONAL ENGINEER
8/2/23

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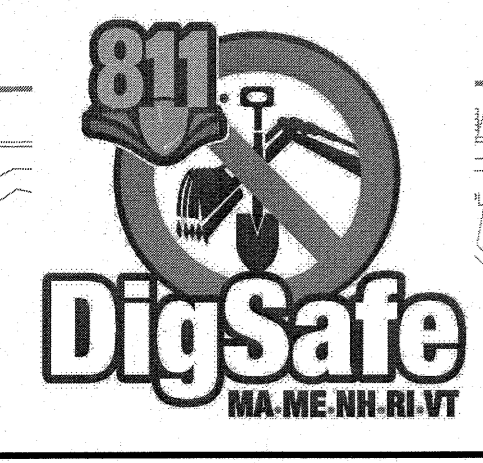
LANDSCAPE PLAN

SCALE: 1"=20'

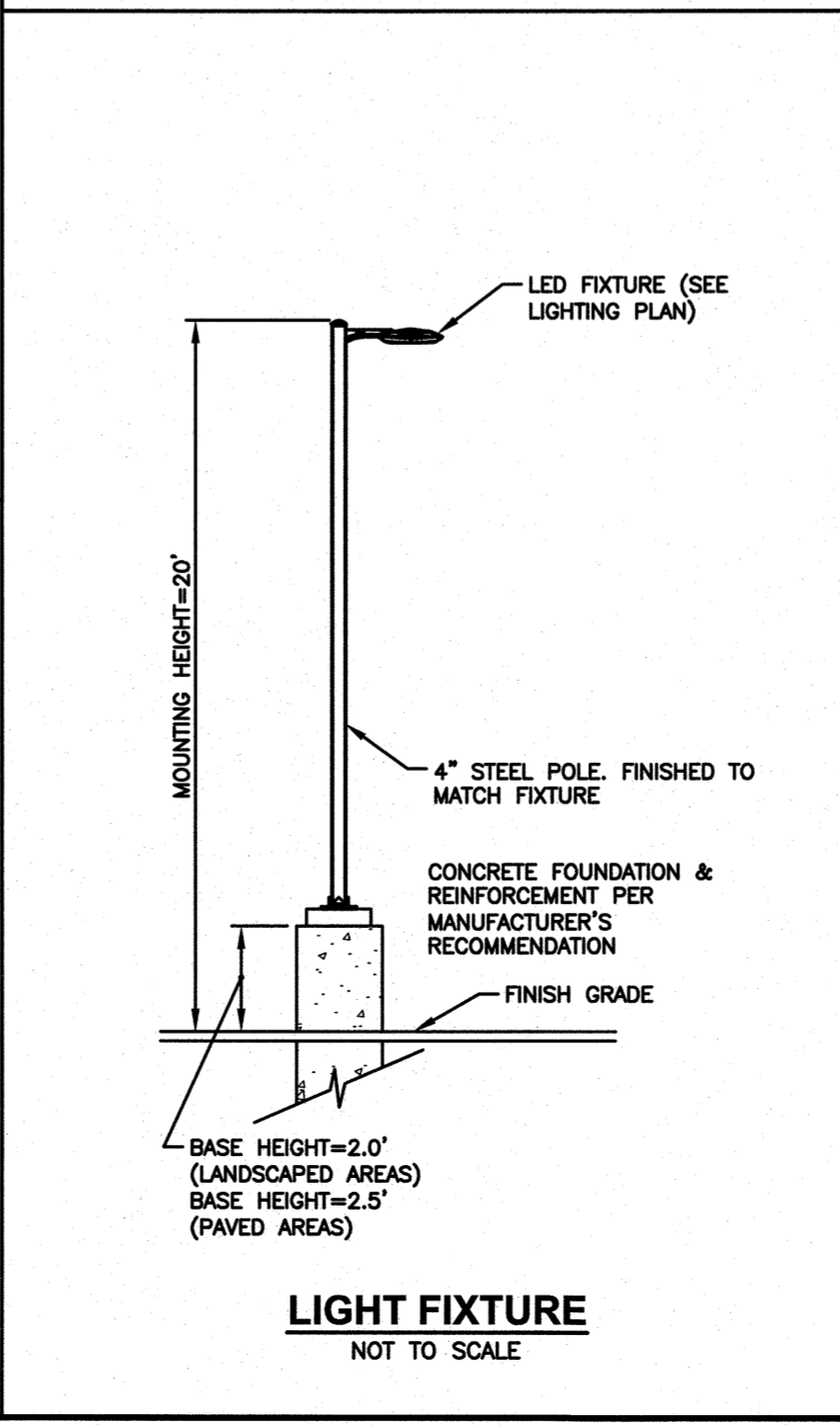
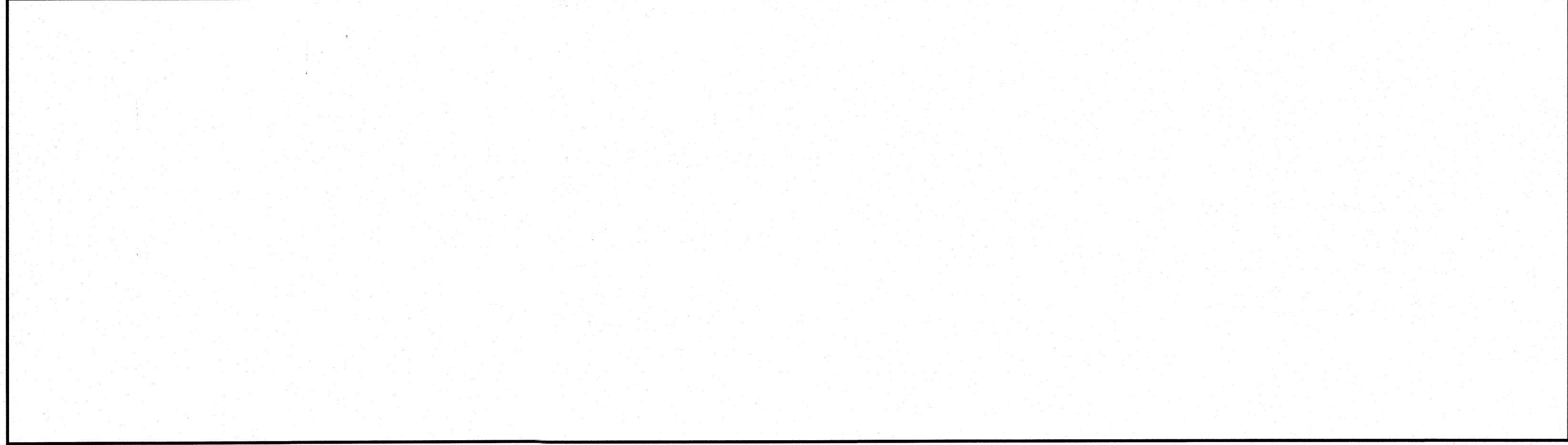
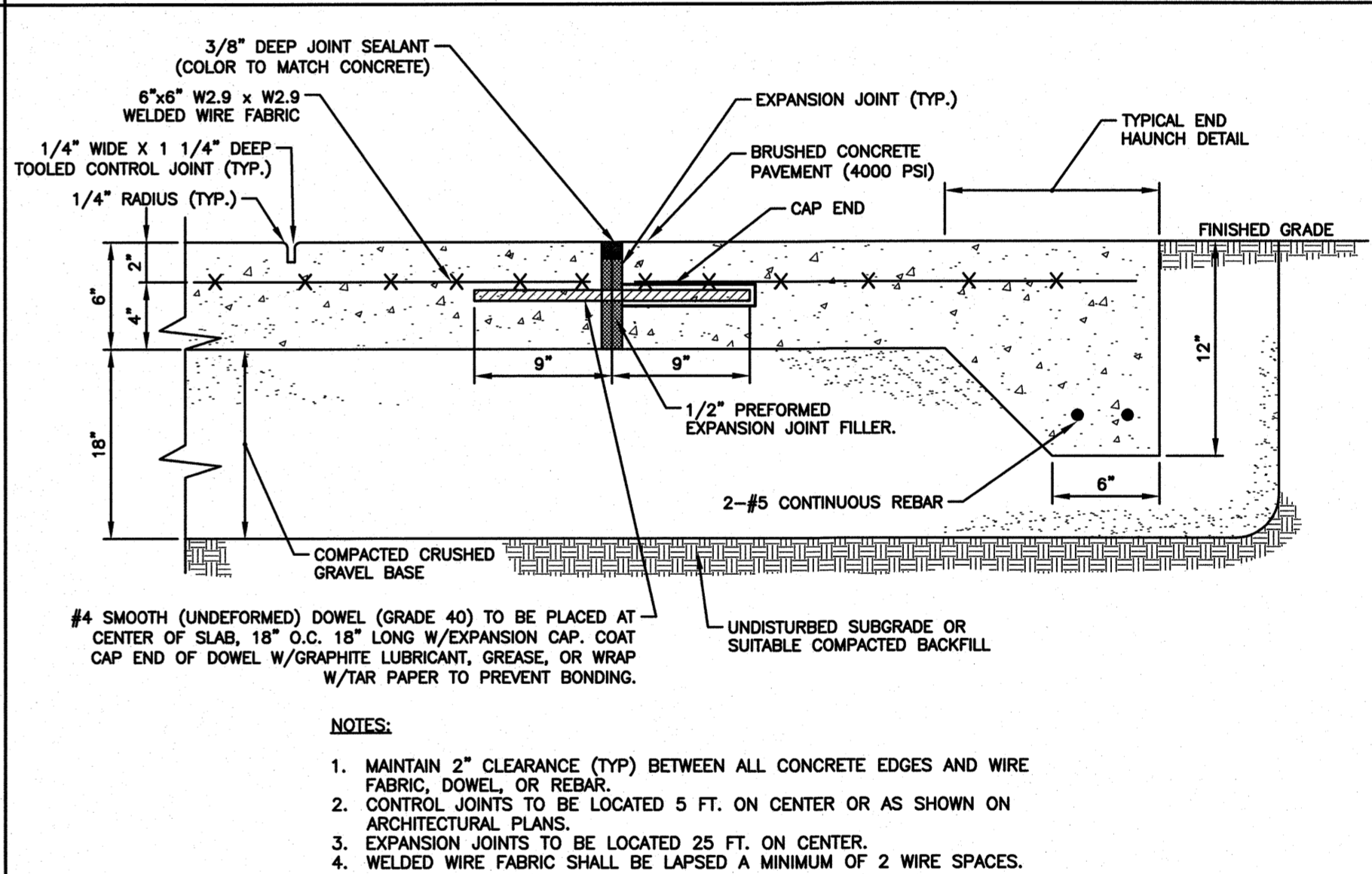
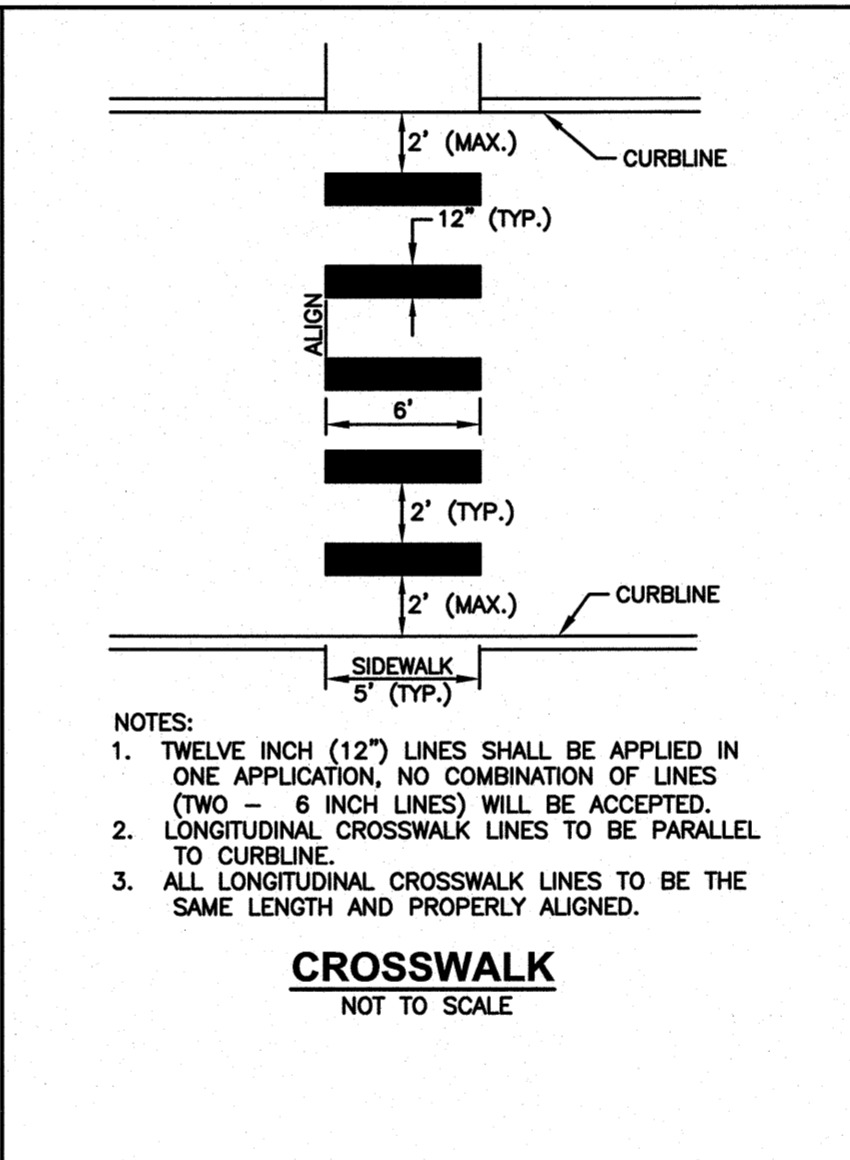
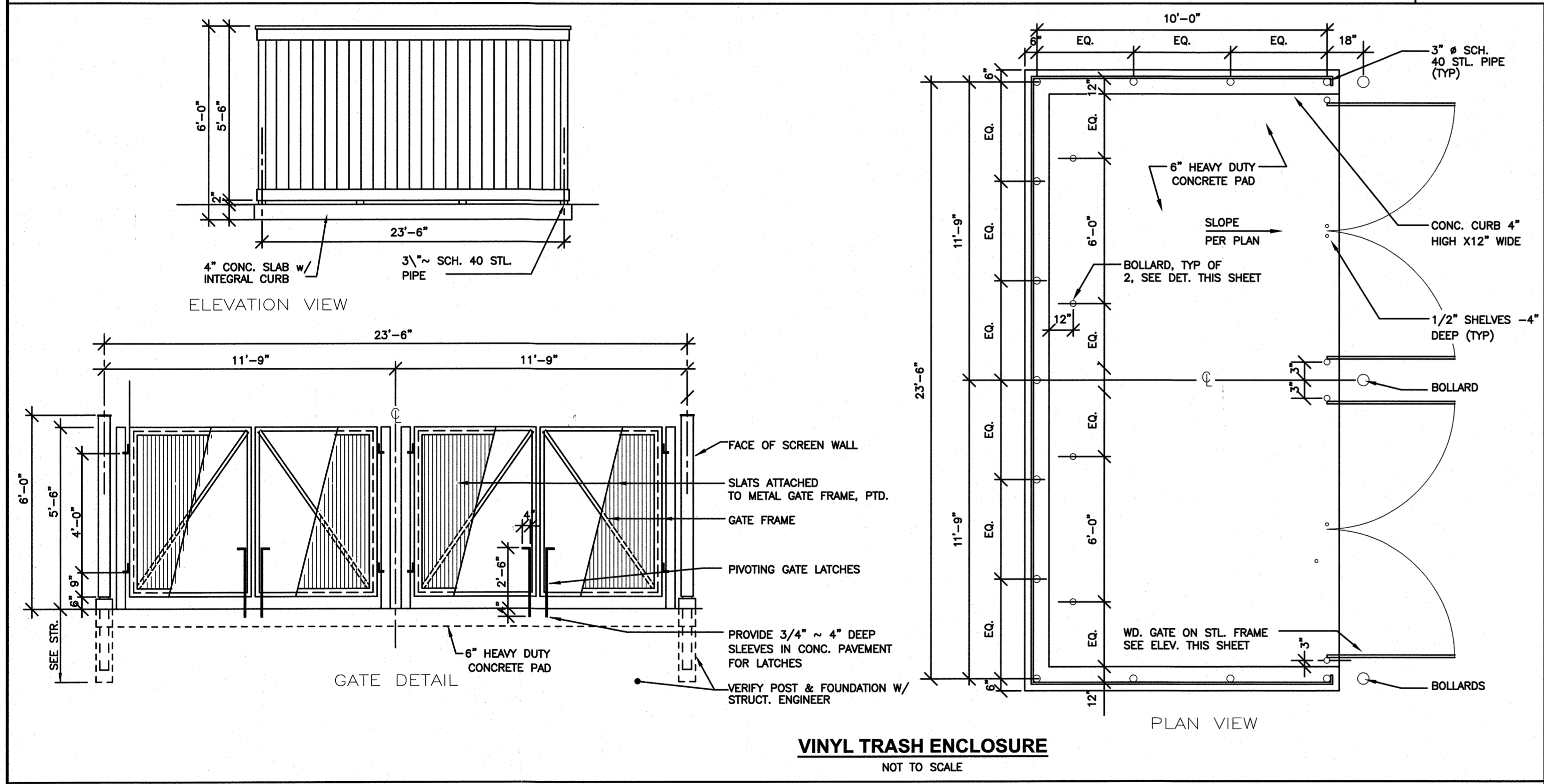
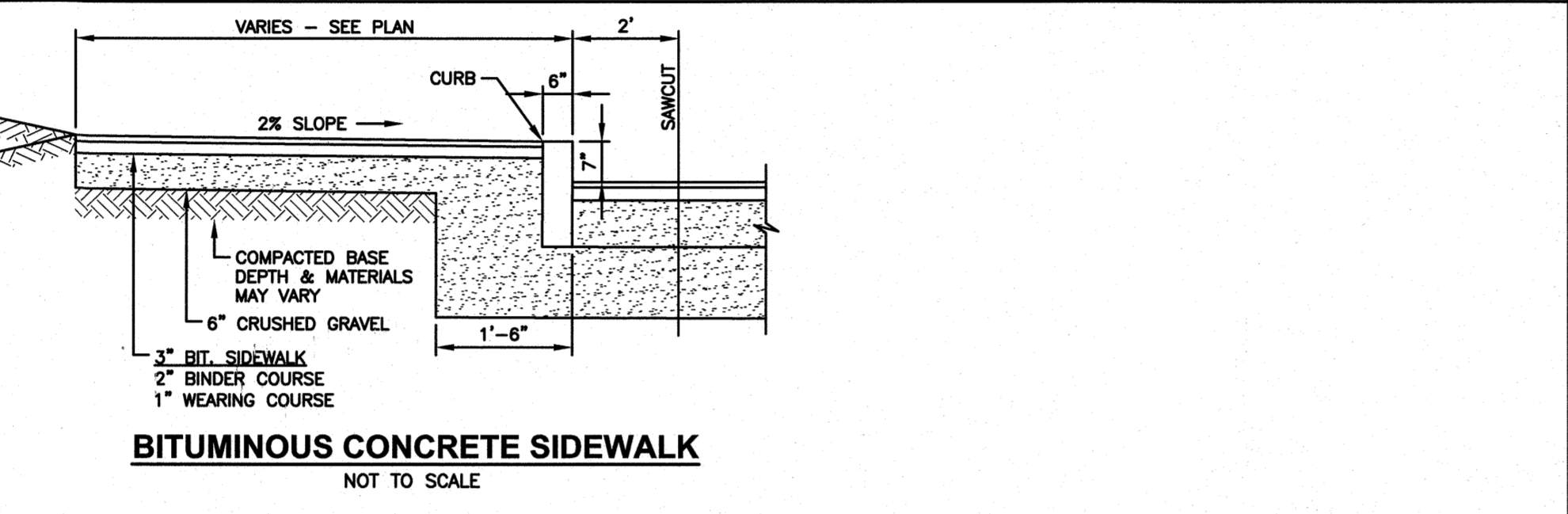
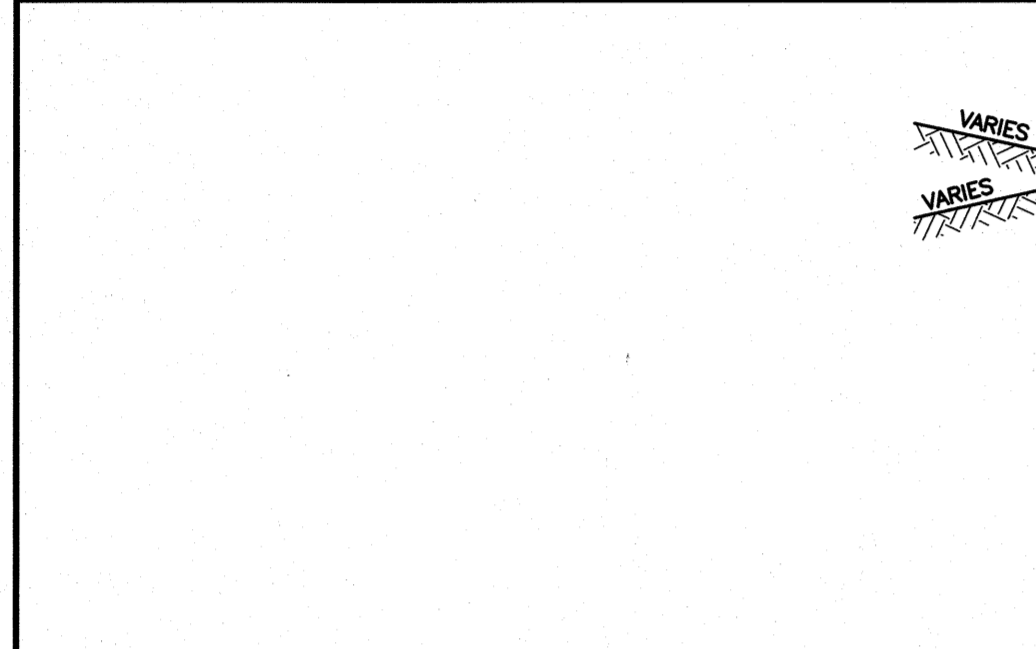
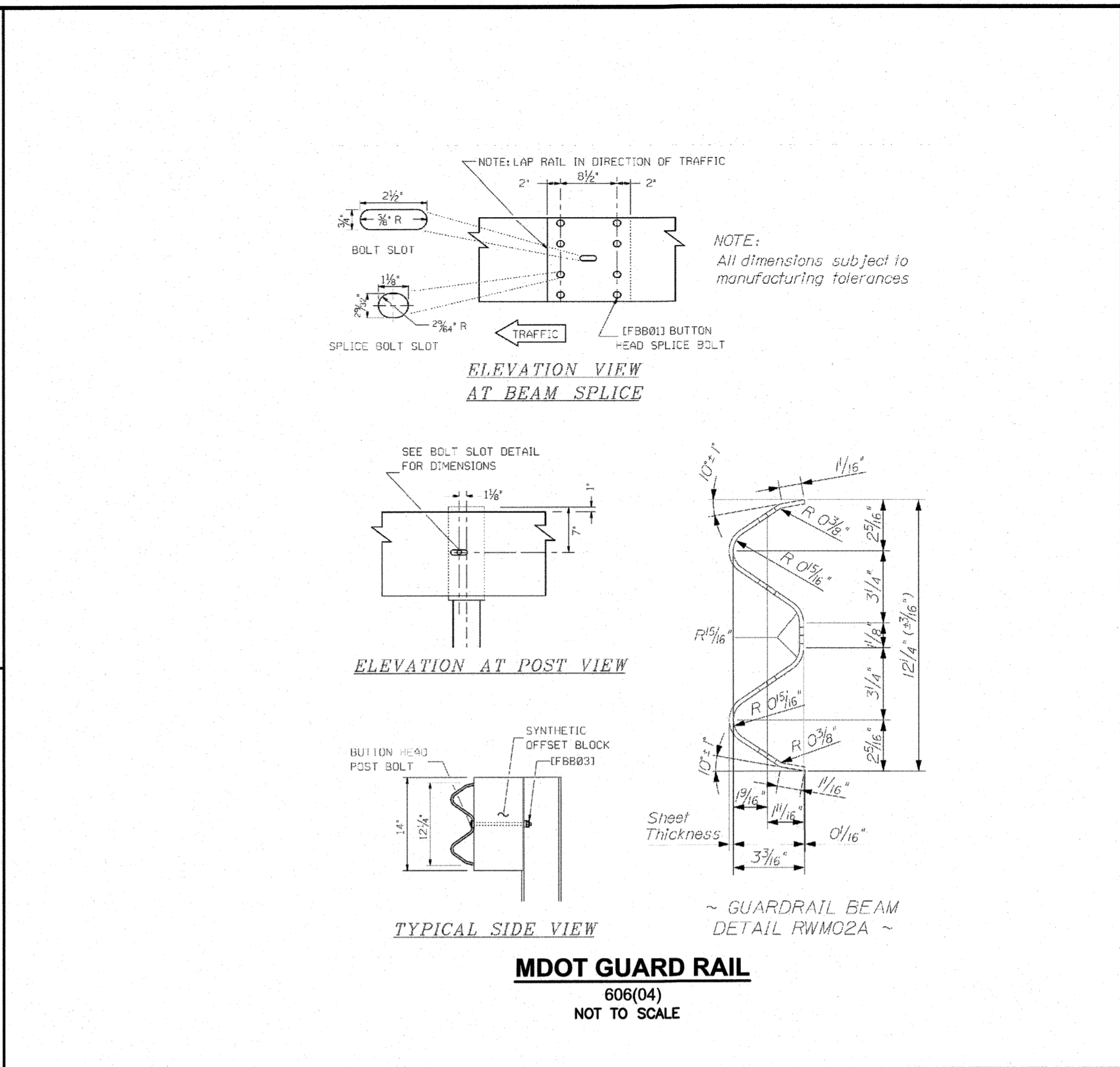
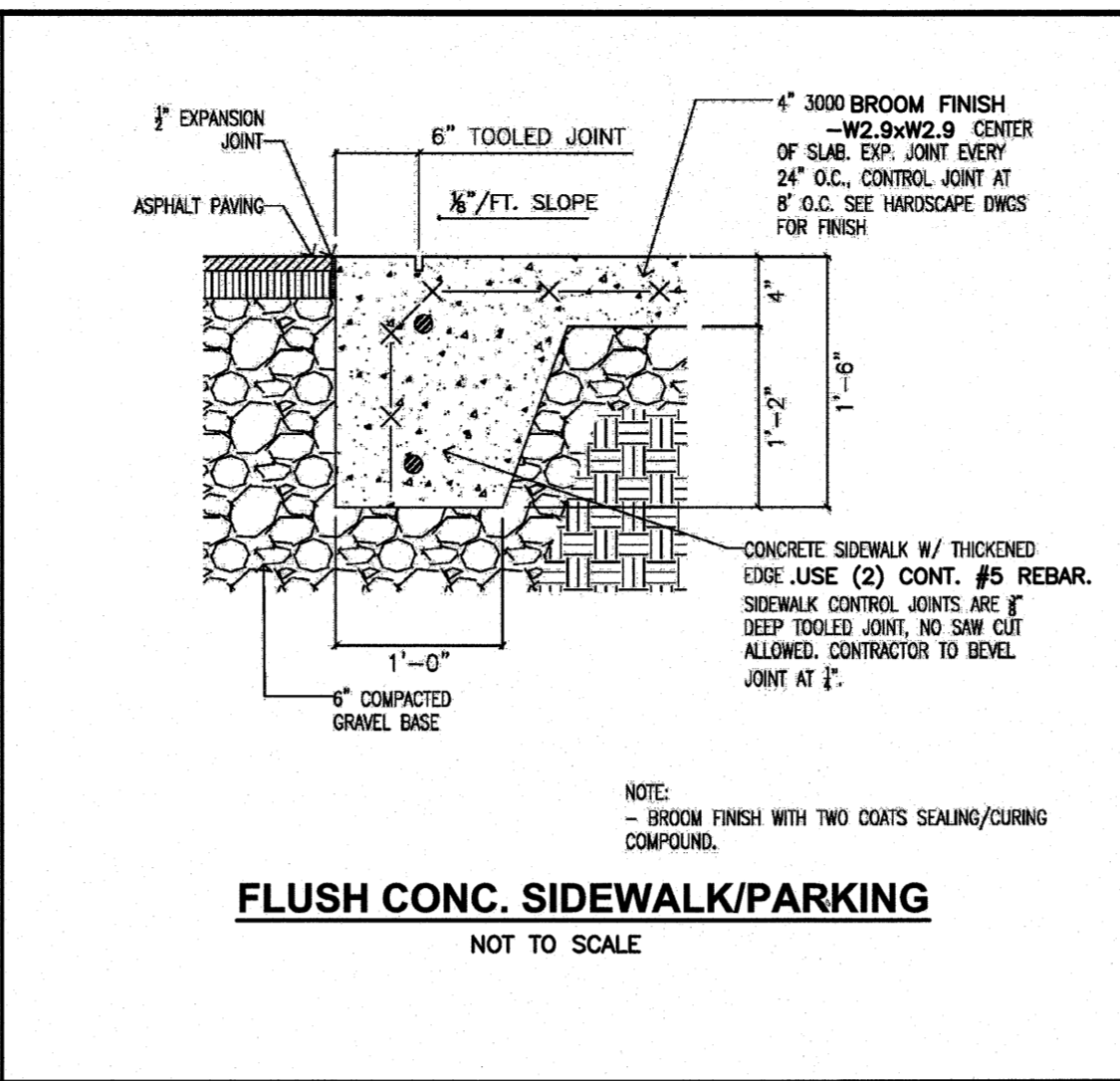
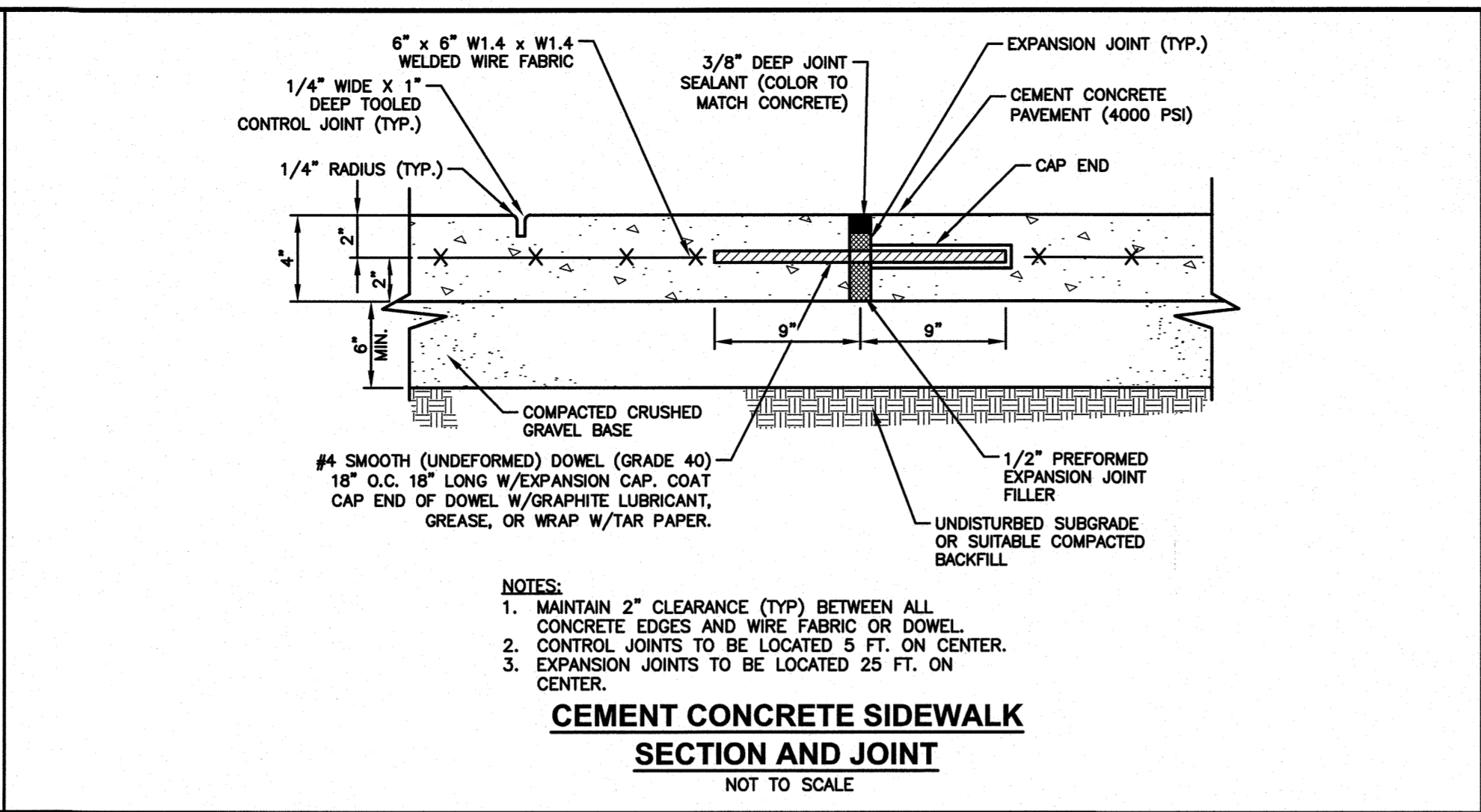
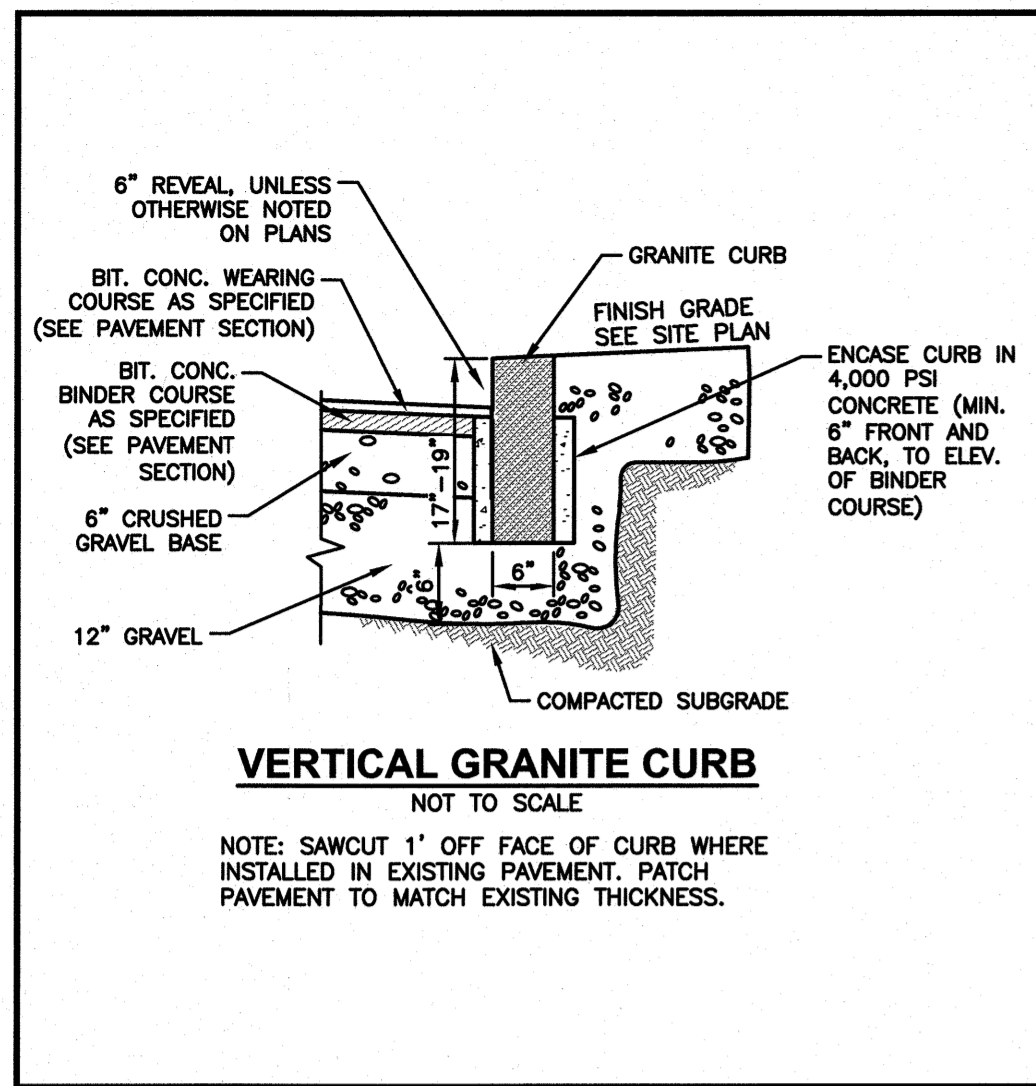
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8/23

REVISIONS		
NO.	REVISION	DATE

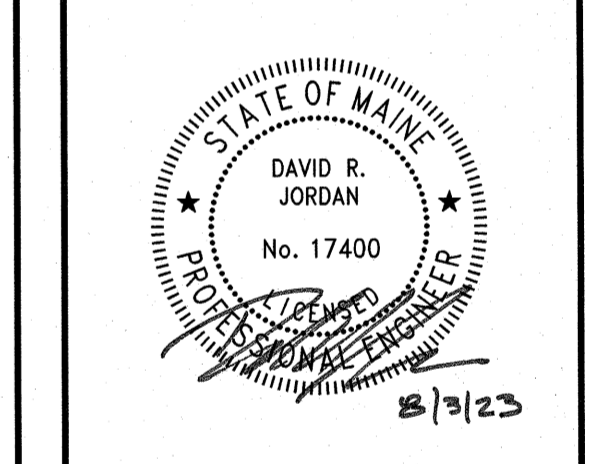
AUGUST XX, 2023
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CHECKED BY: DRJ

DETAIL SHEET

SCALE: AS SHOWN
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13 OF 18

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 KITTERY, MAINE

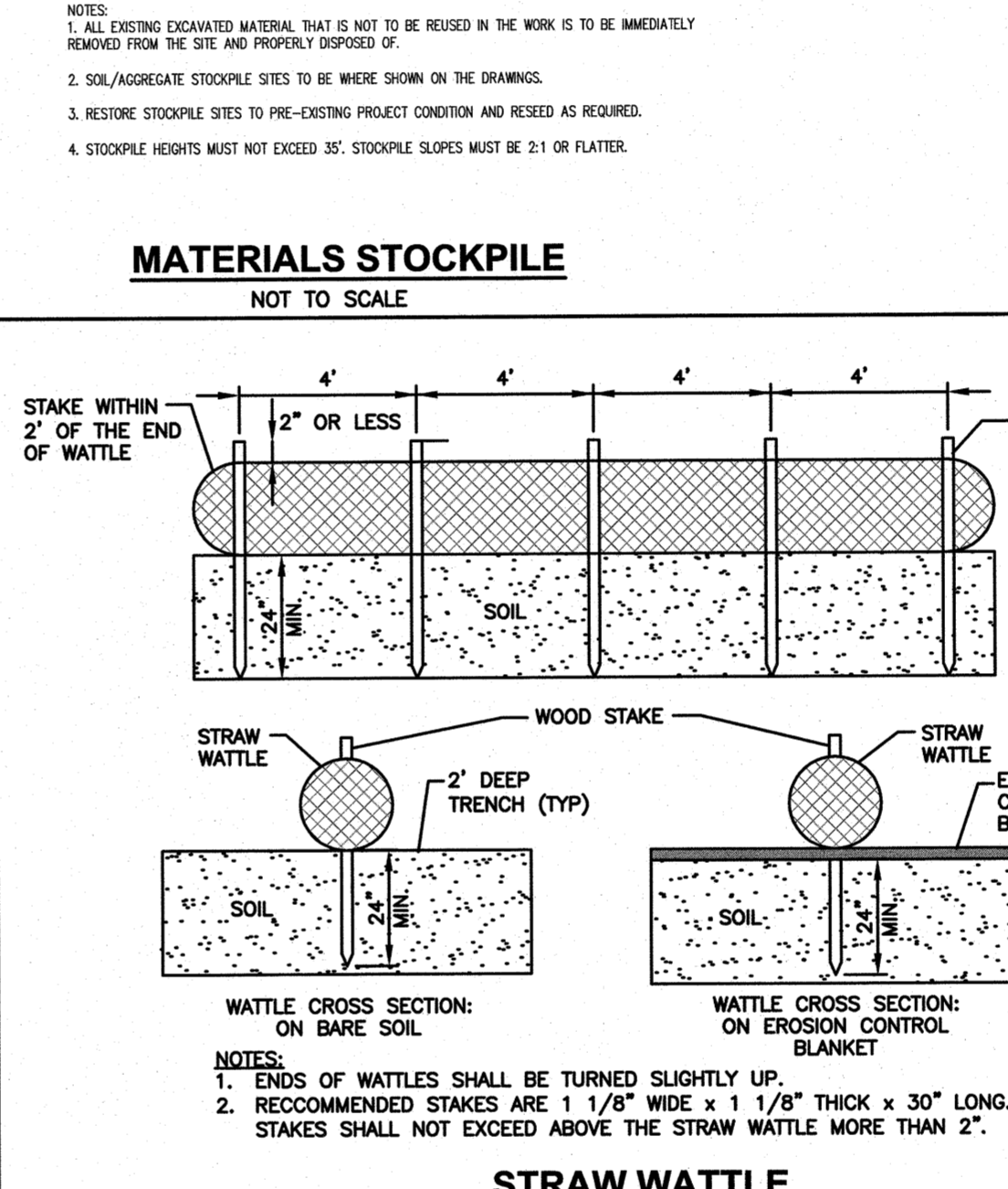
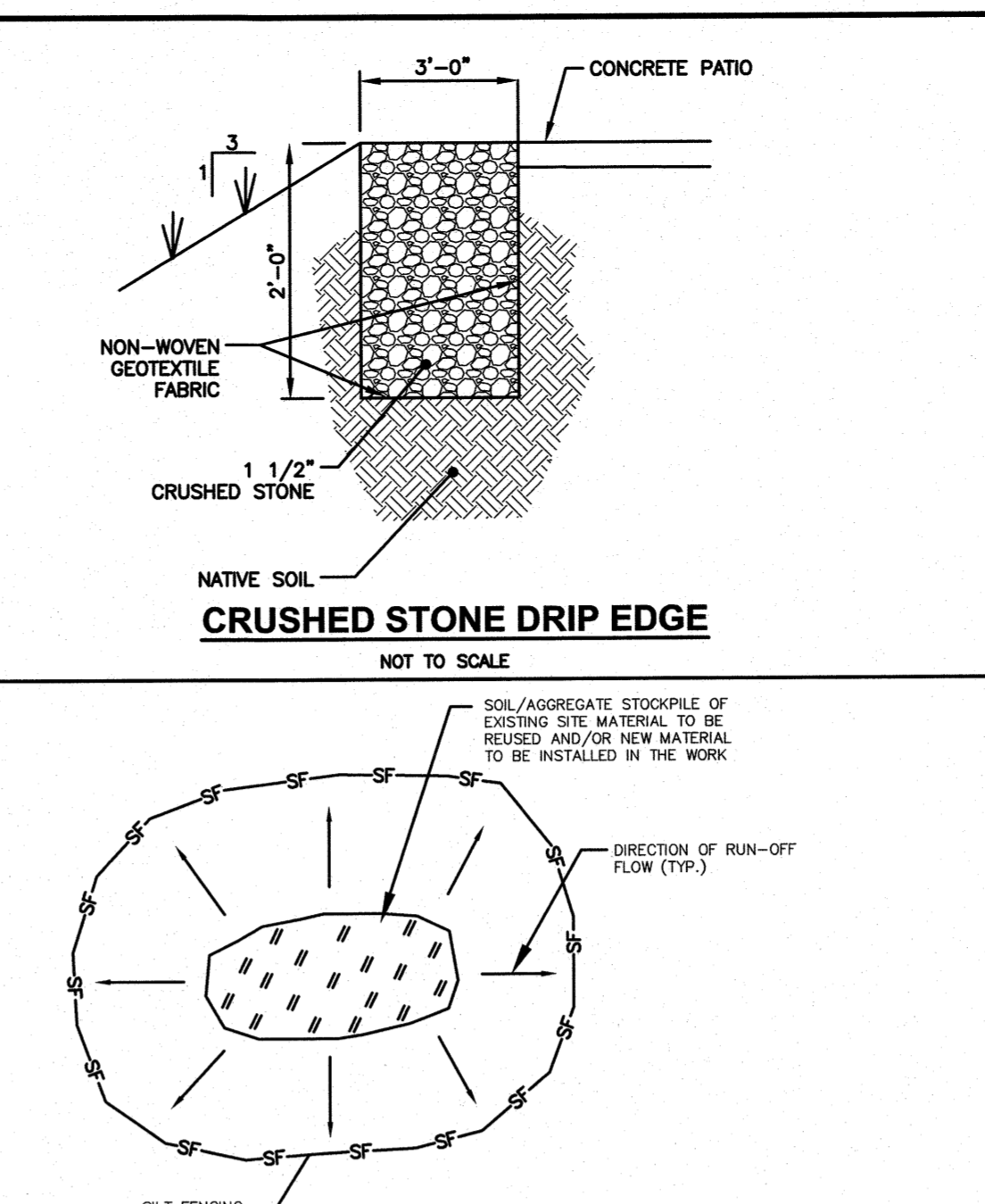
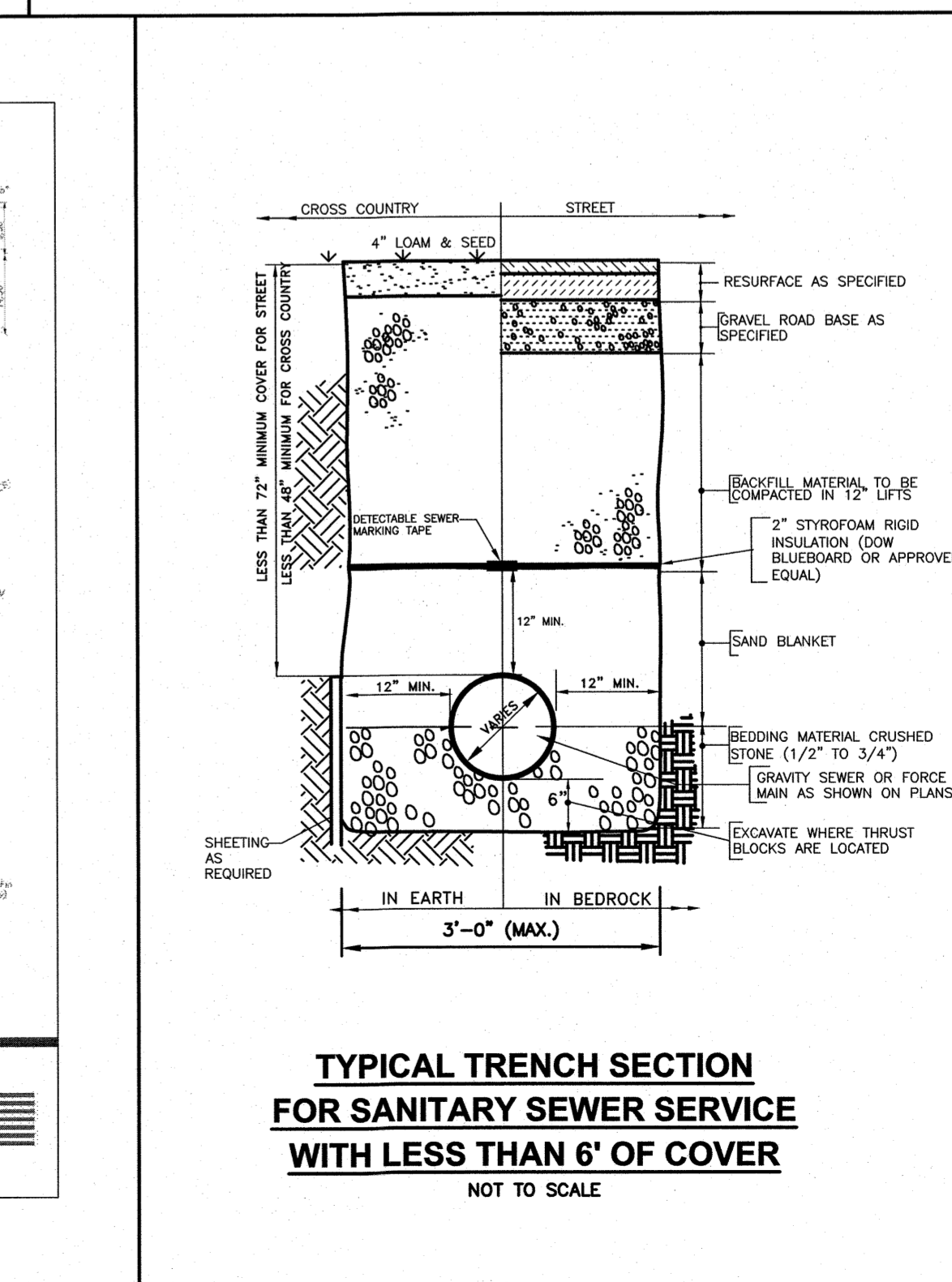
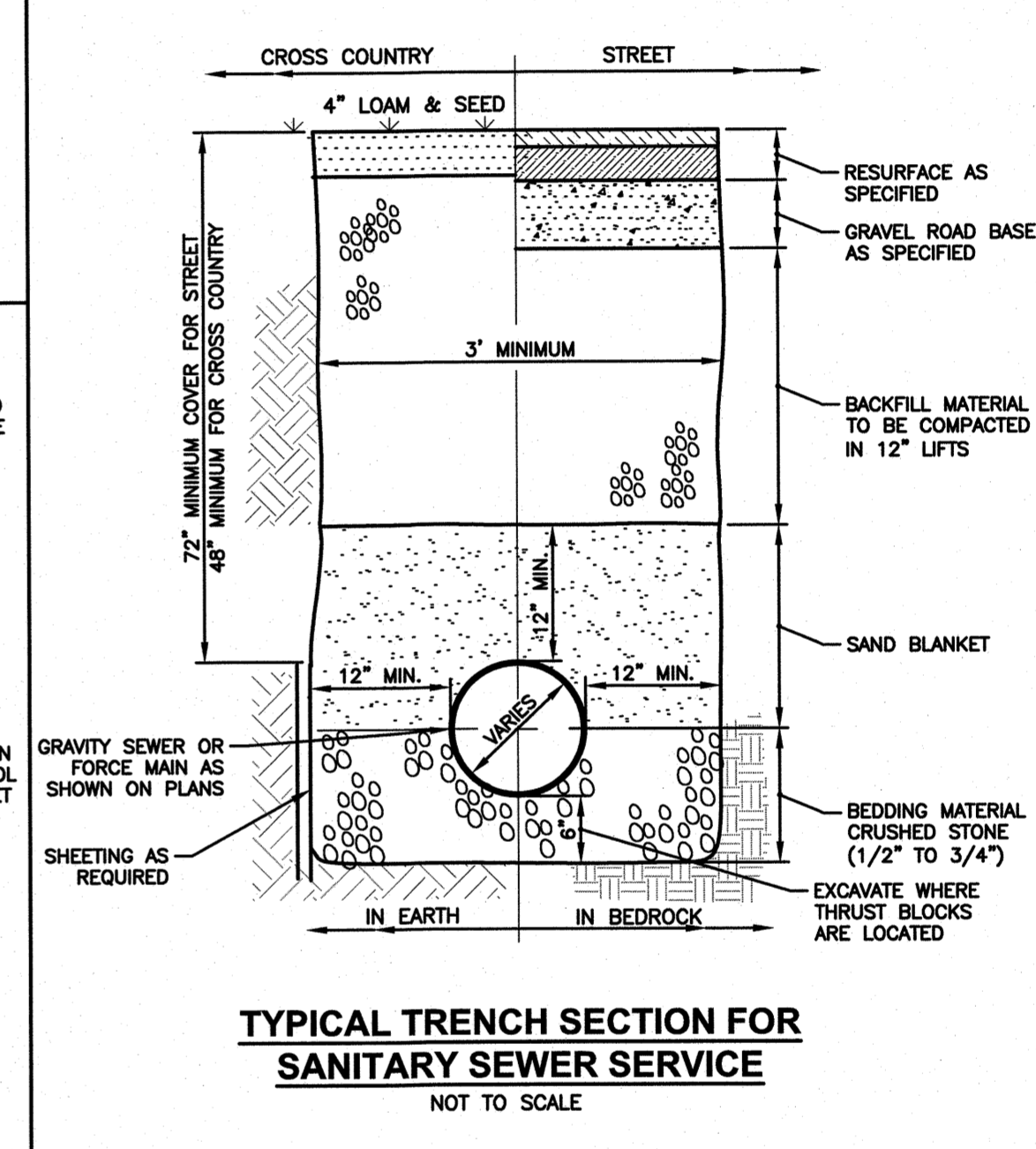
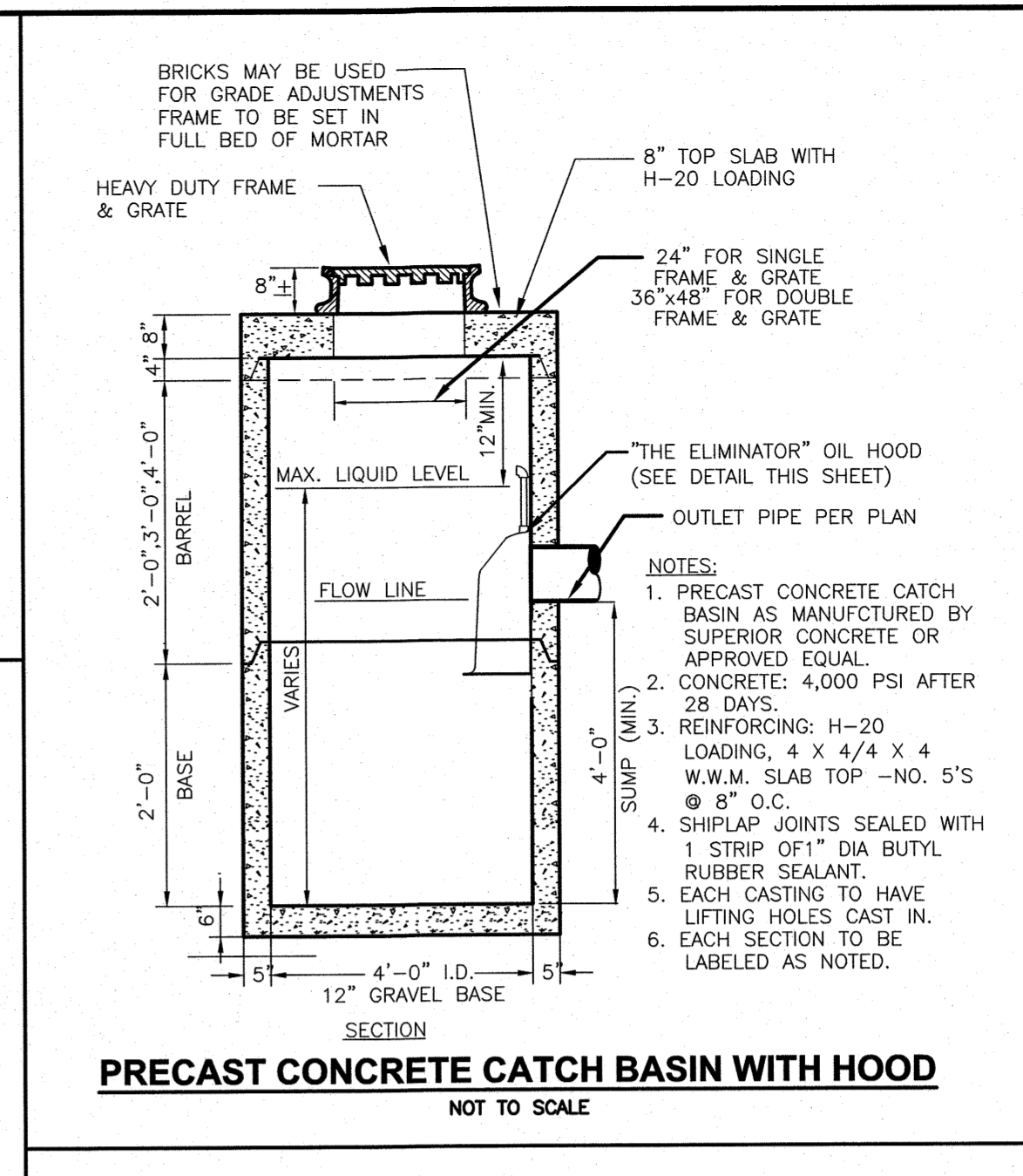


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NO.	REVISION	DATE

August 2, 2023
 DRAWN/DESIGN BY: CCC/NID
 CHECKED BY: DRJ

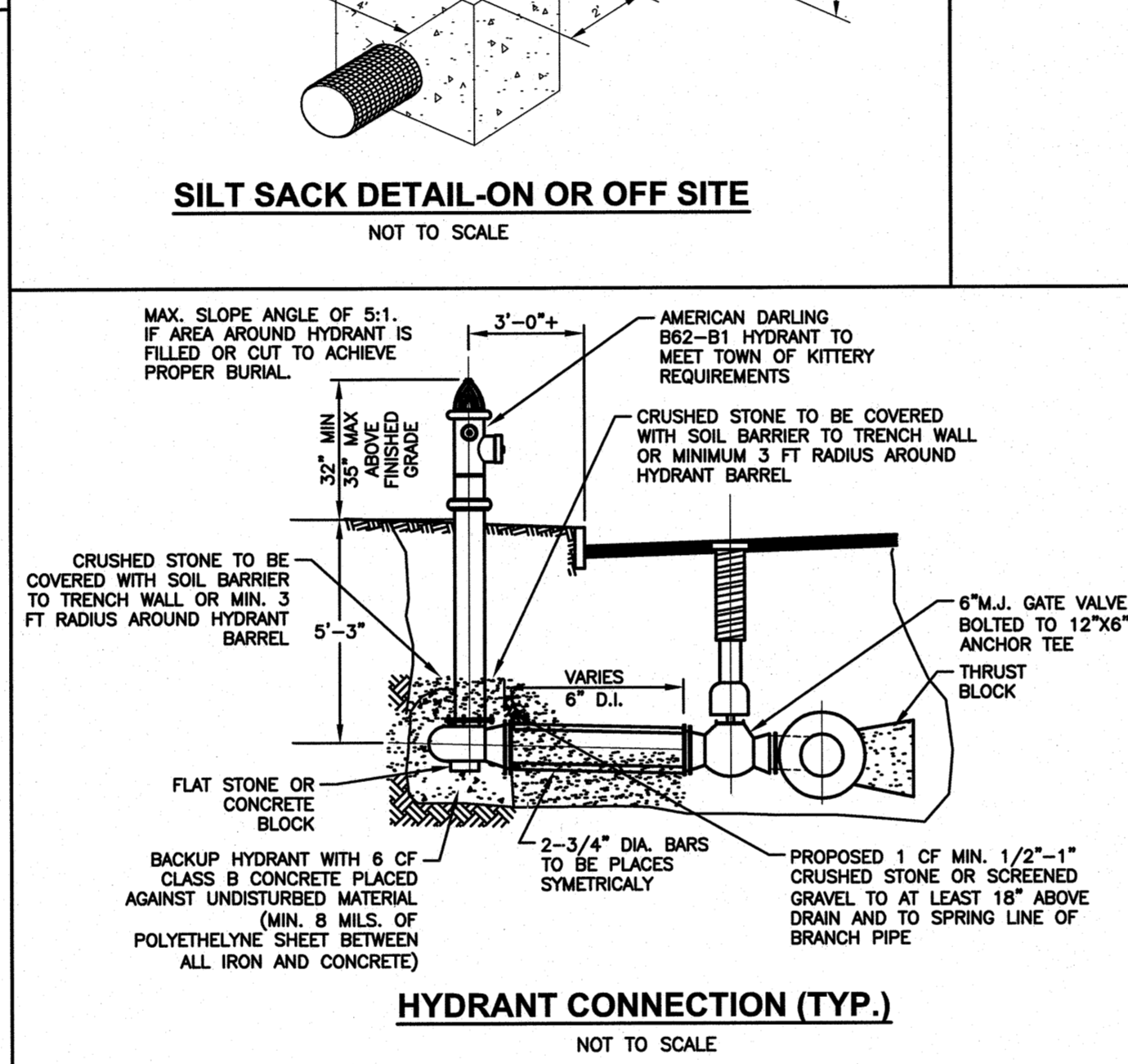
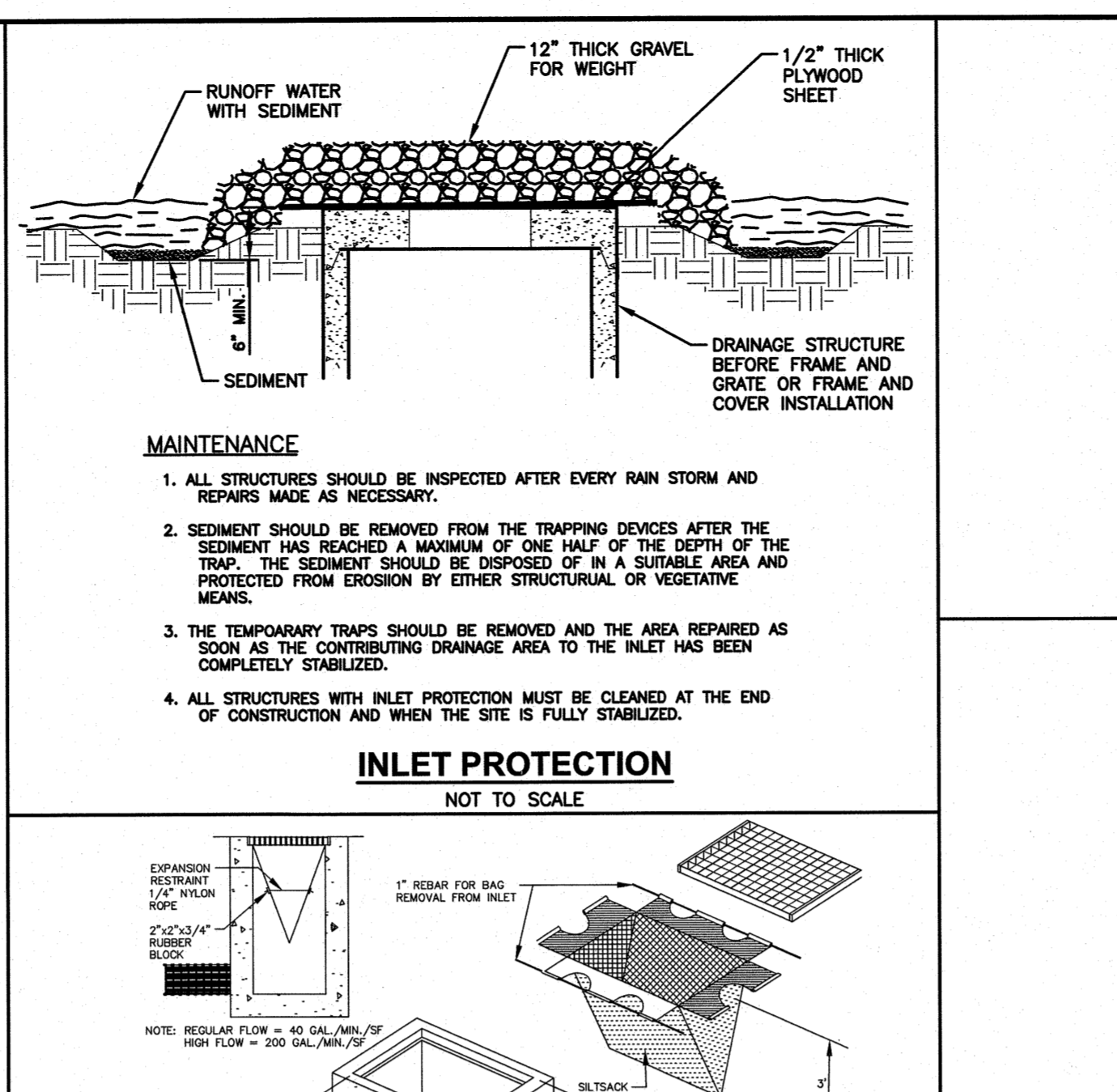
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SCALE: AS SHOWN
 PROJECT NO. NEX-2200380
 15 OF 18



The Eliminator Catch Basin Oil & Debris Trap

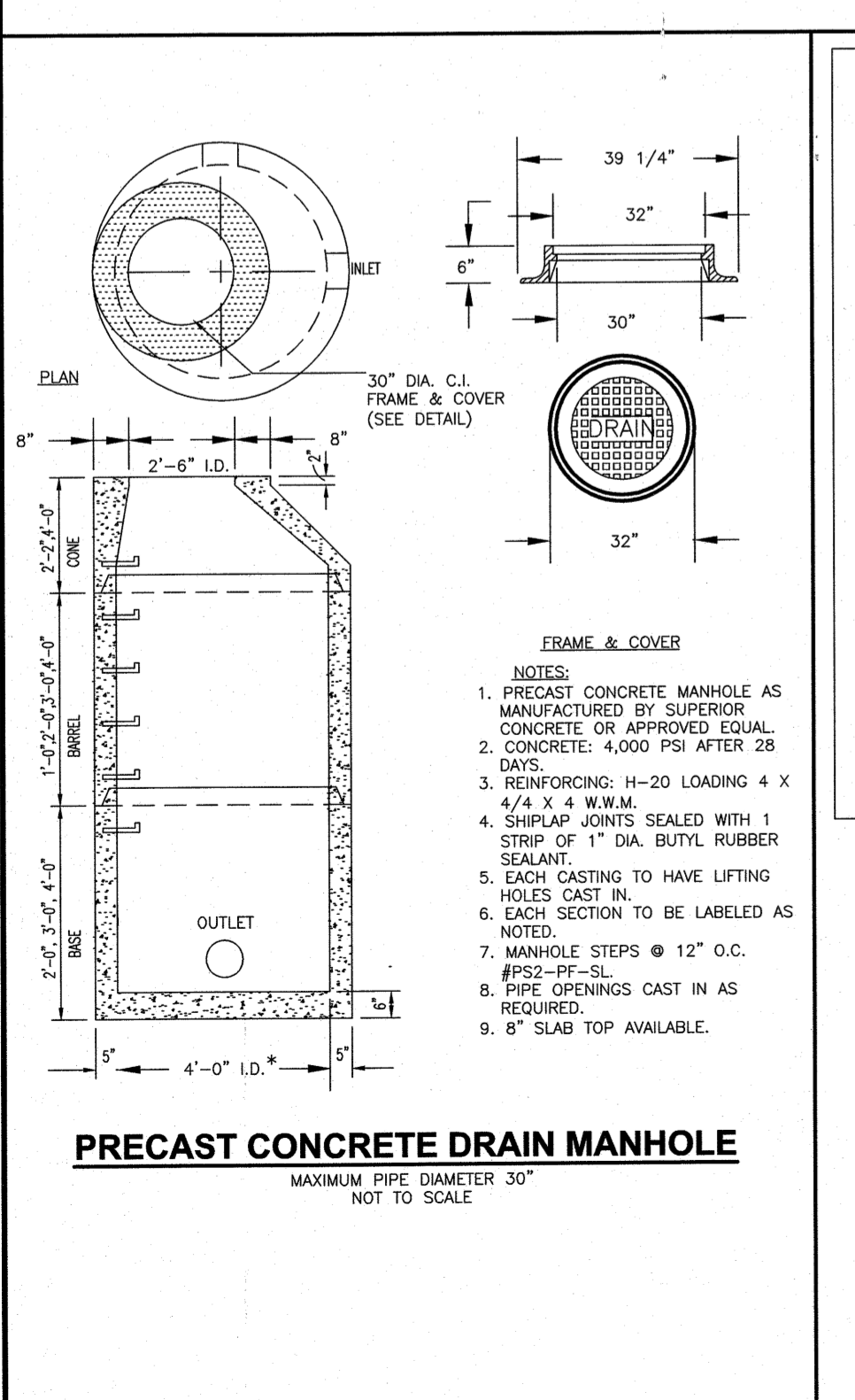
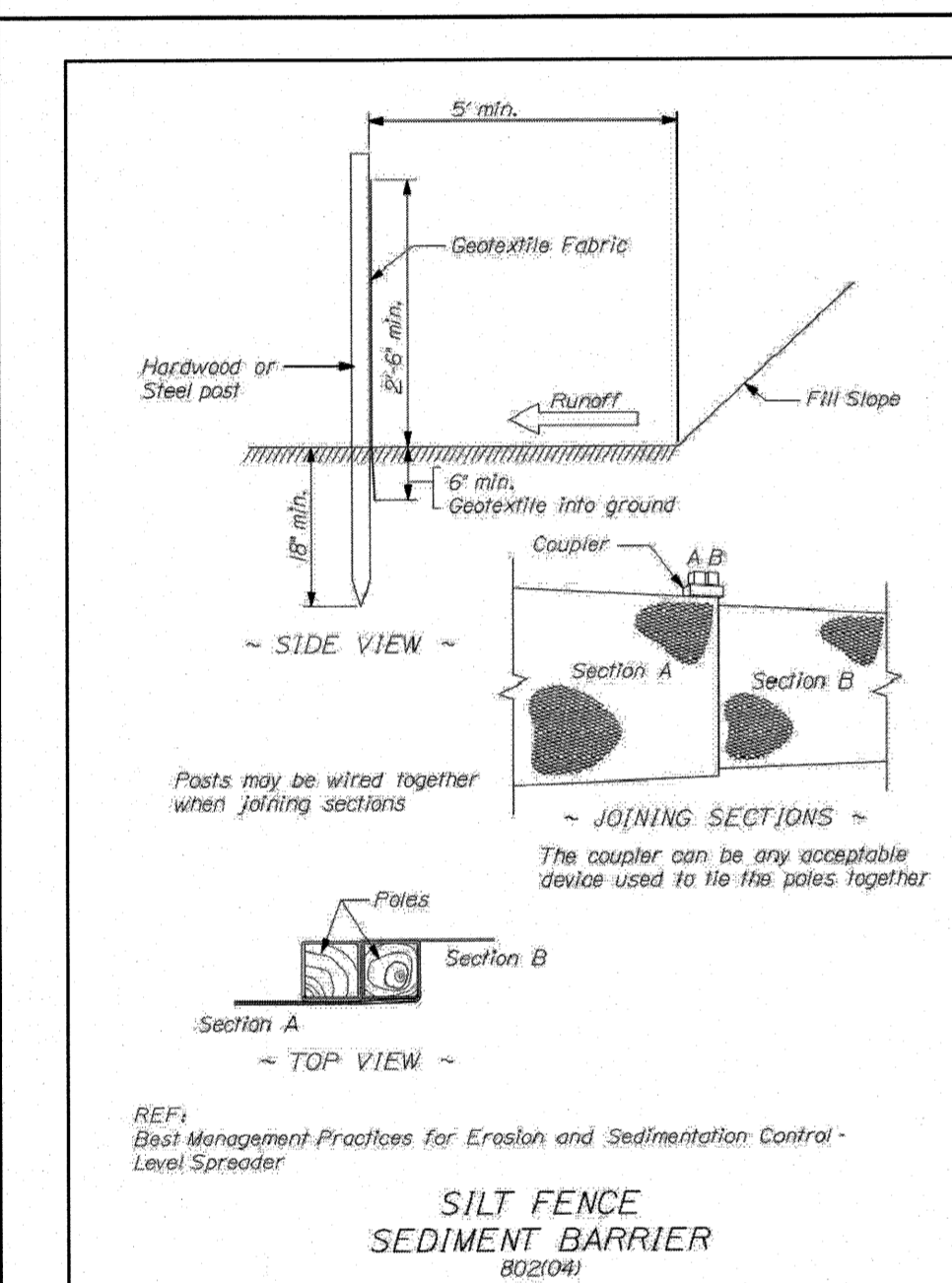
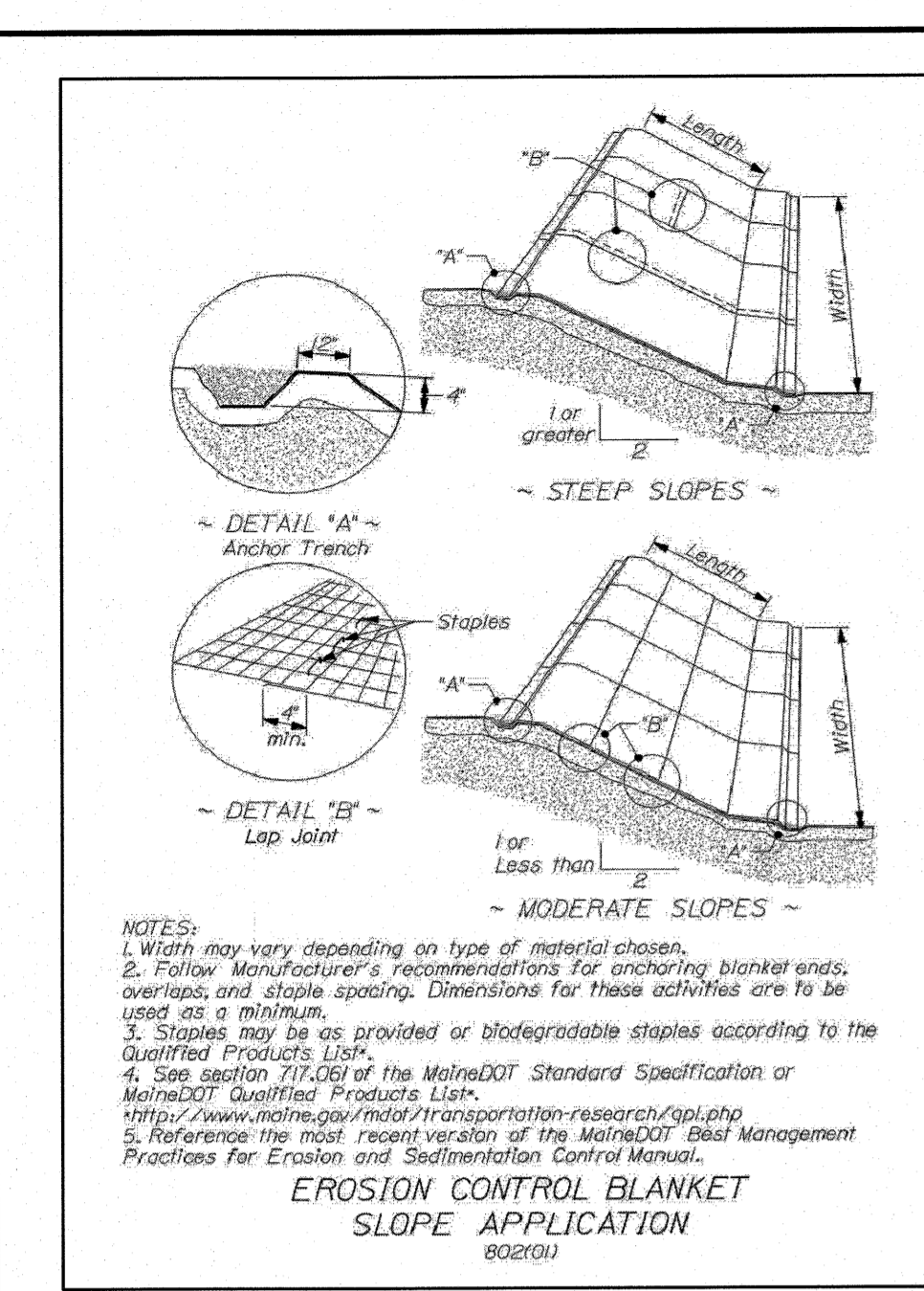
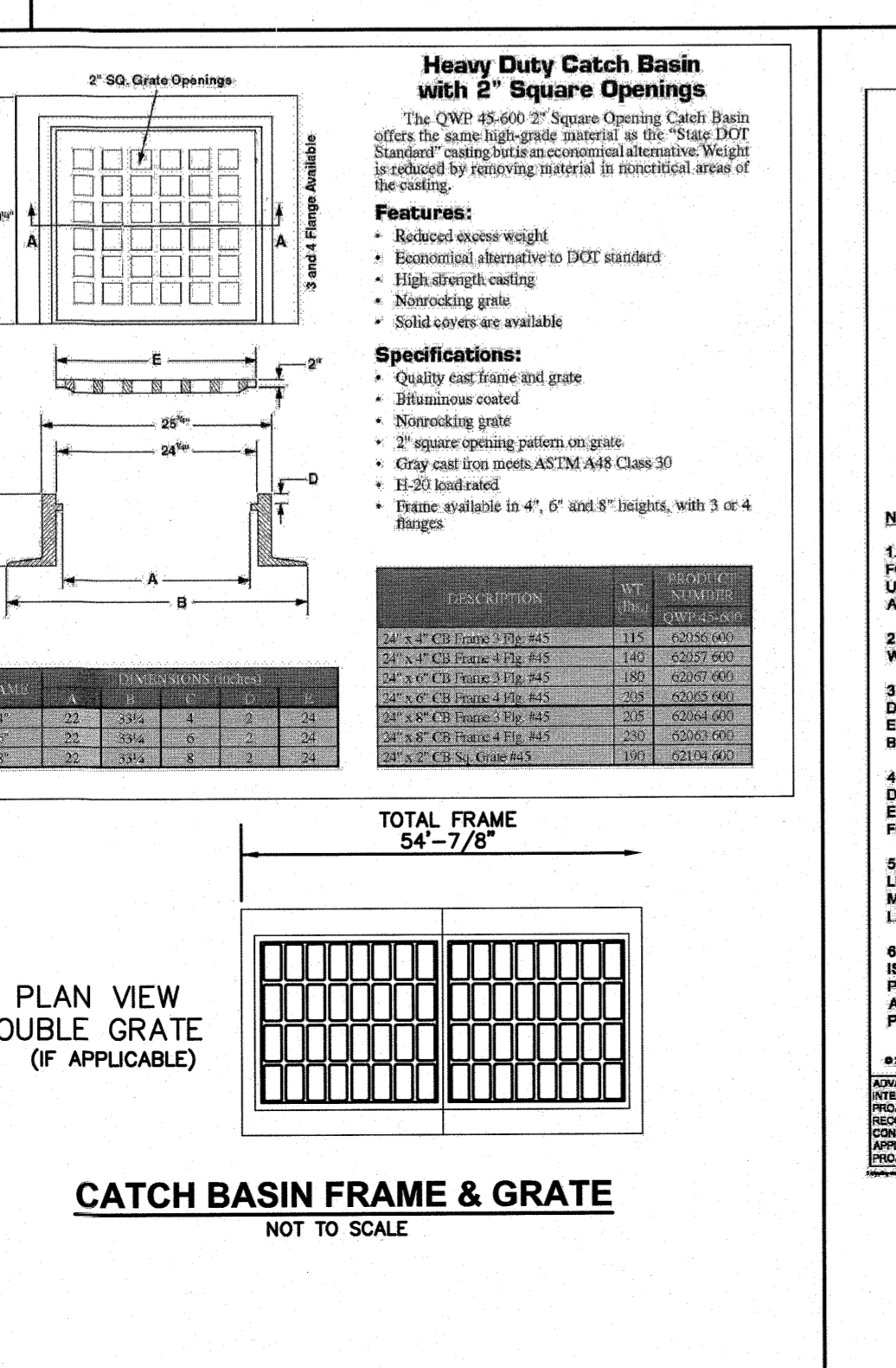
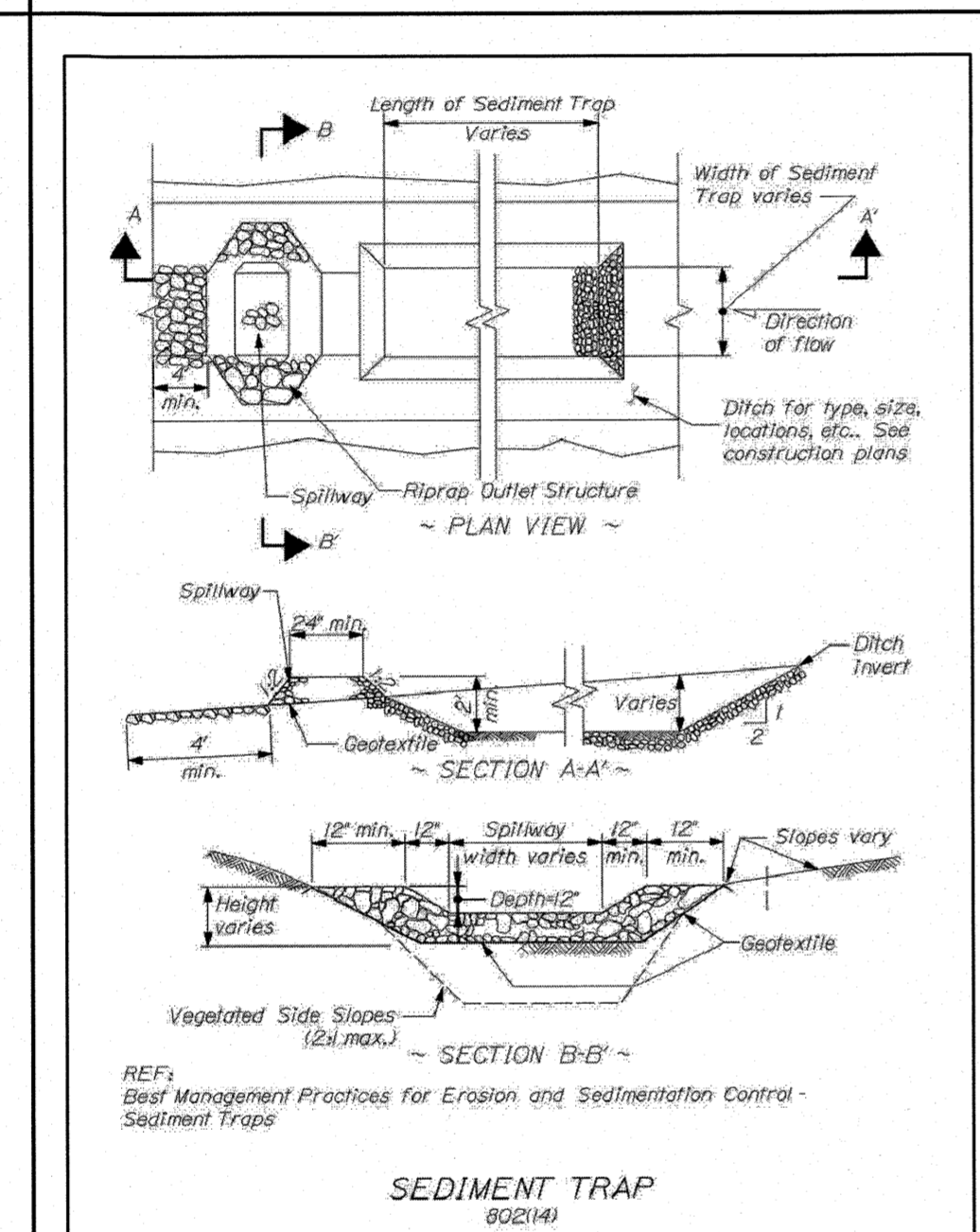
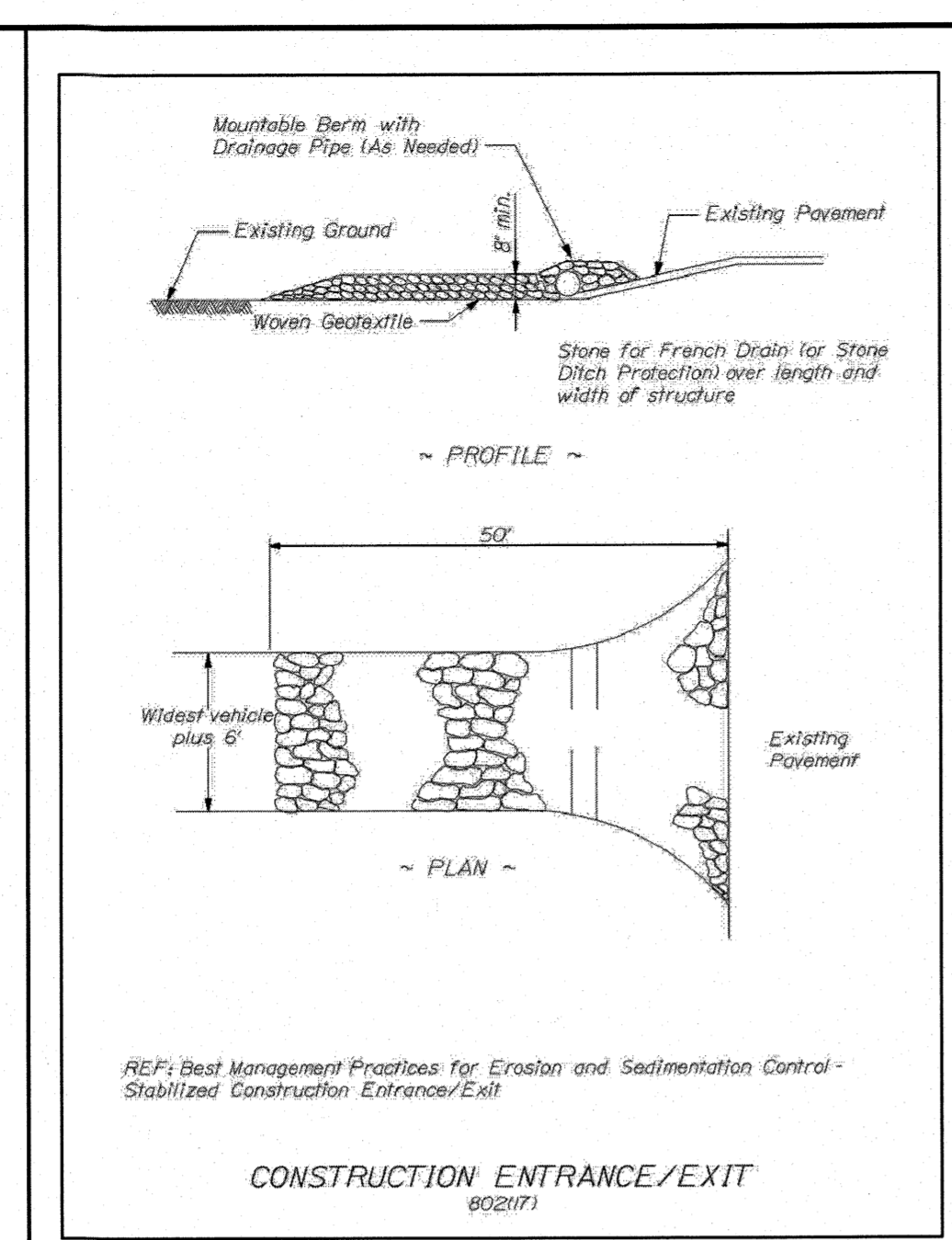
Ground Water Rescue, Inc.
 24 Hyden St., Quincy, MA 02269
 Tel: 617-773-1128 Fax: 617-773-0510
 www.kleanstream.com



HDPE PIPE TRENCH
 NOT TO SCALE

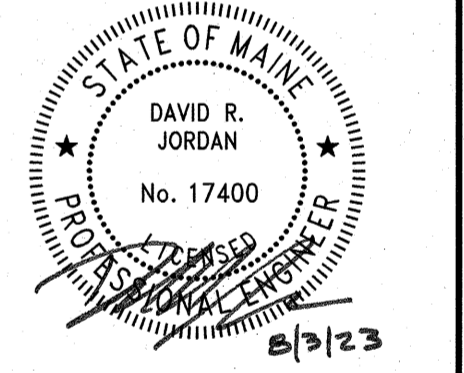
PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	36"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

NOTES:
 1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2221, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS," LATEST EDITION.
 2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
 3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
 4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 1' ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2221, LATEST EDITION.
 5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 1' ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2221, LATEST EDITION.
 6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FISSION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" TO 48" DIAMETER PIPE AND 24" OF COVER FOR 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO TOP OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.



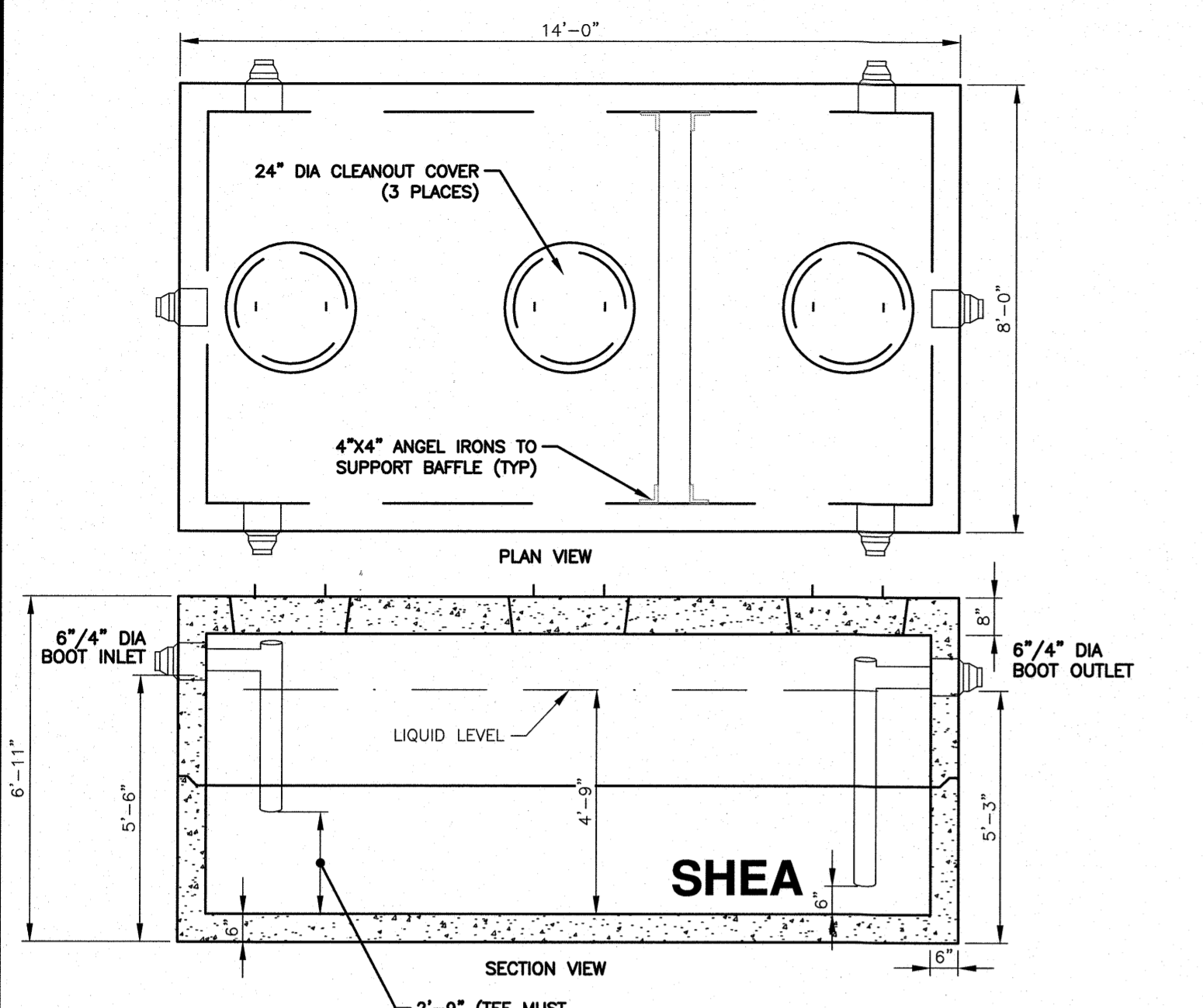
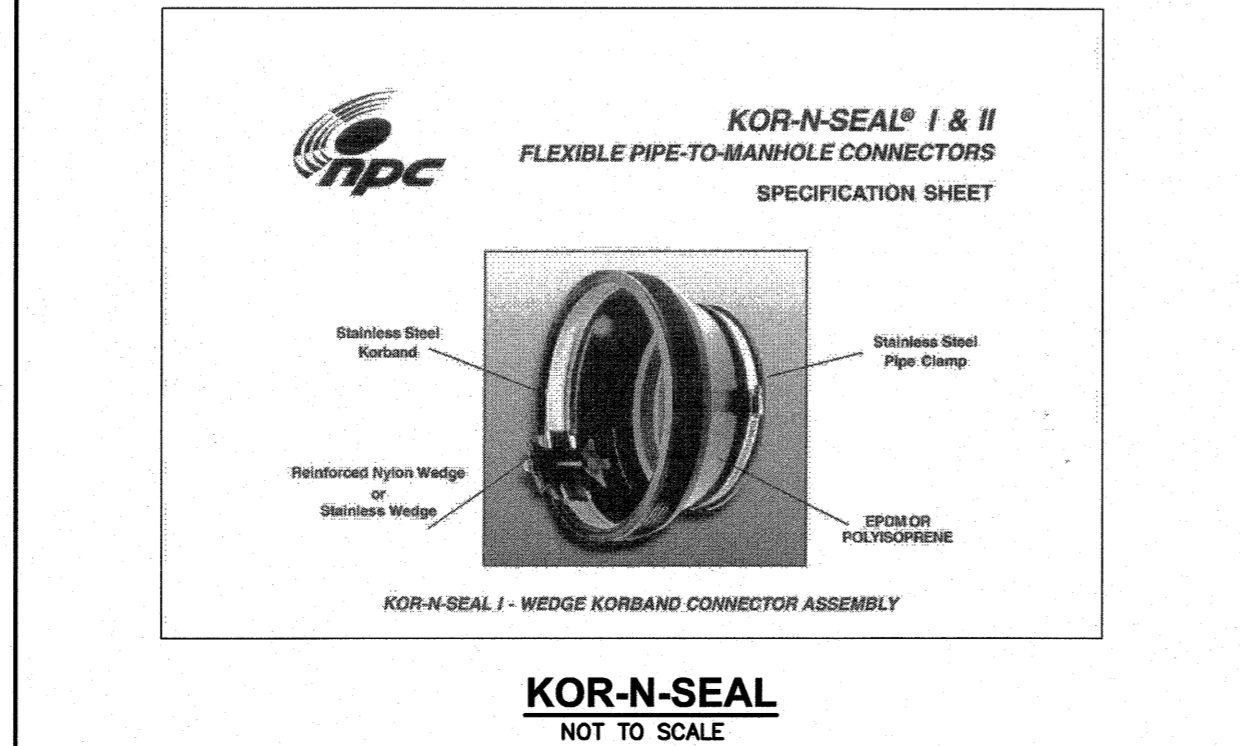
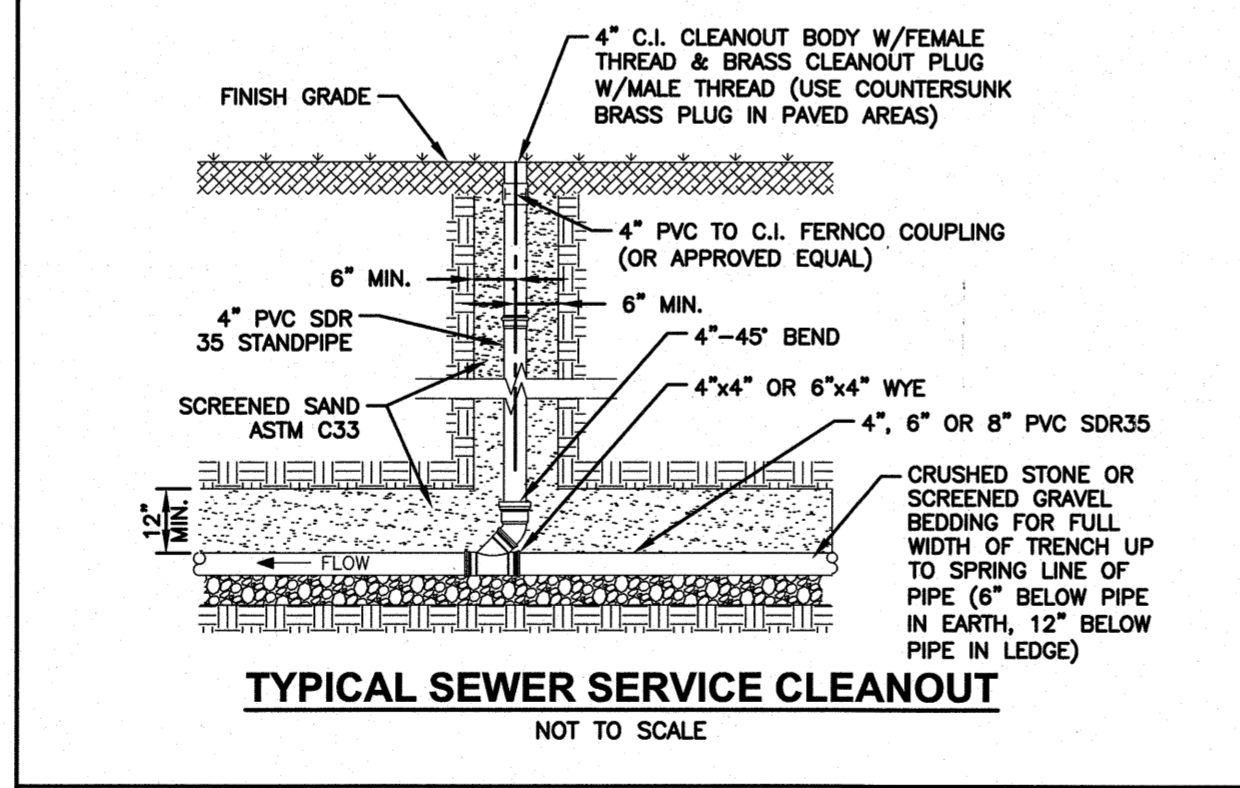
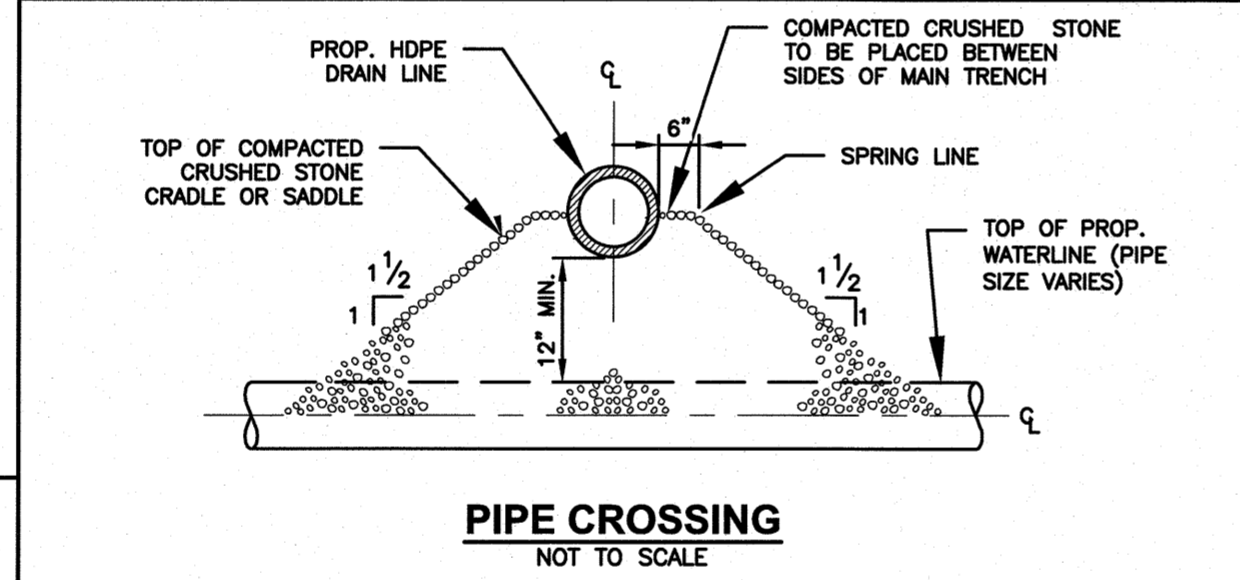
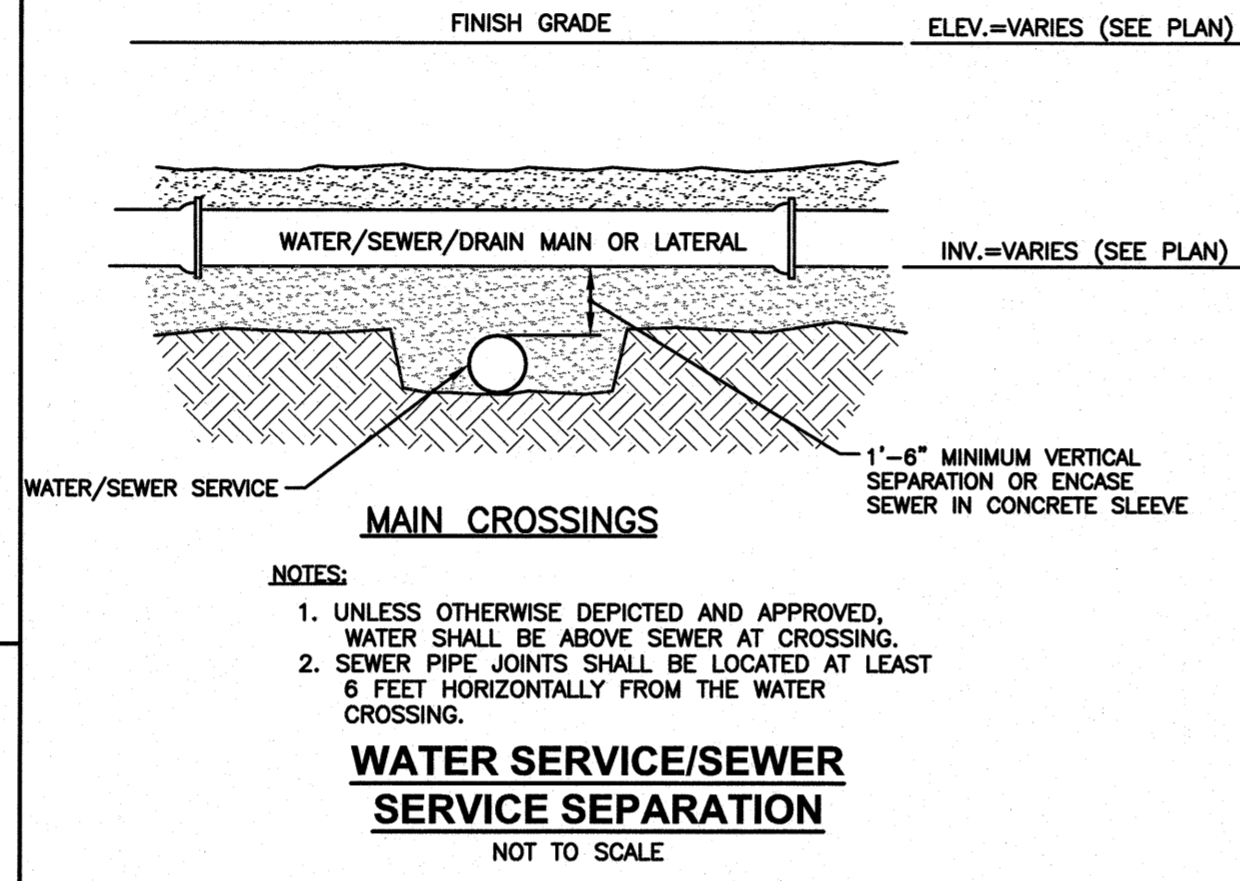
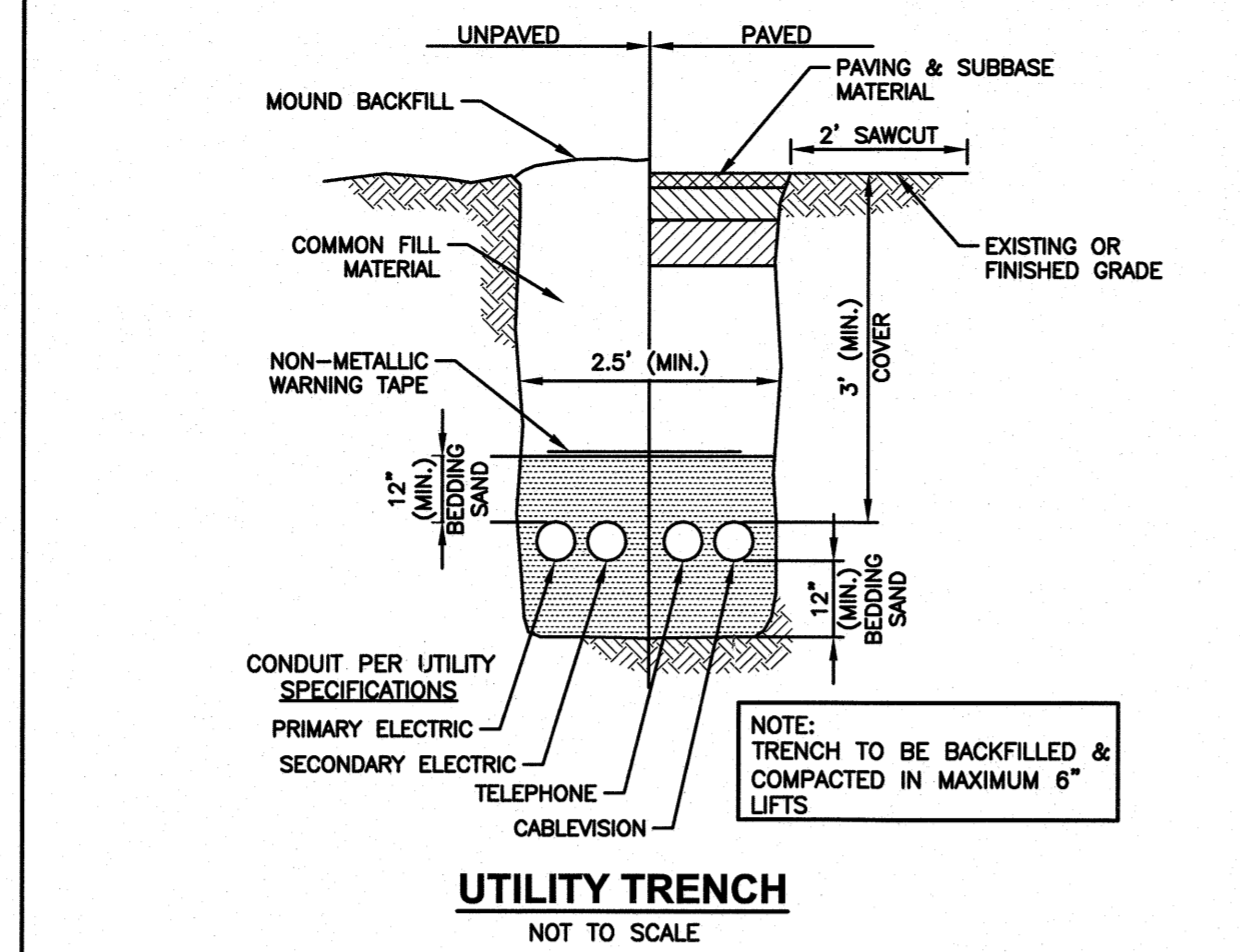
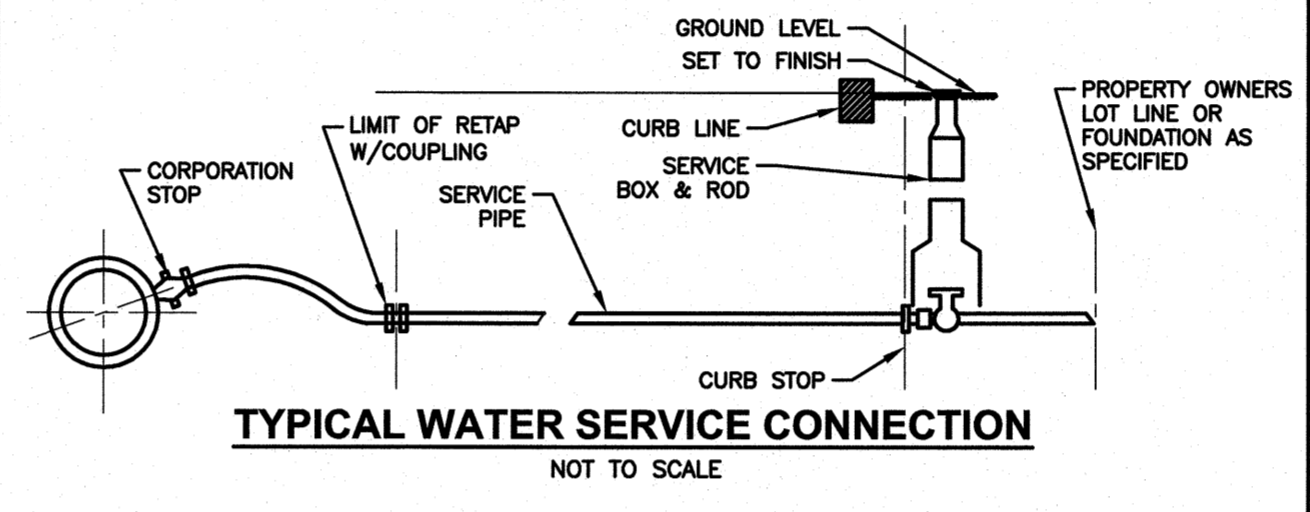
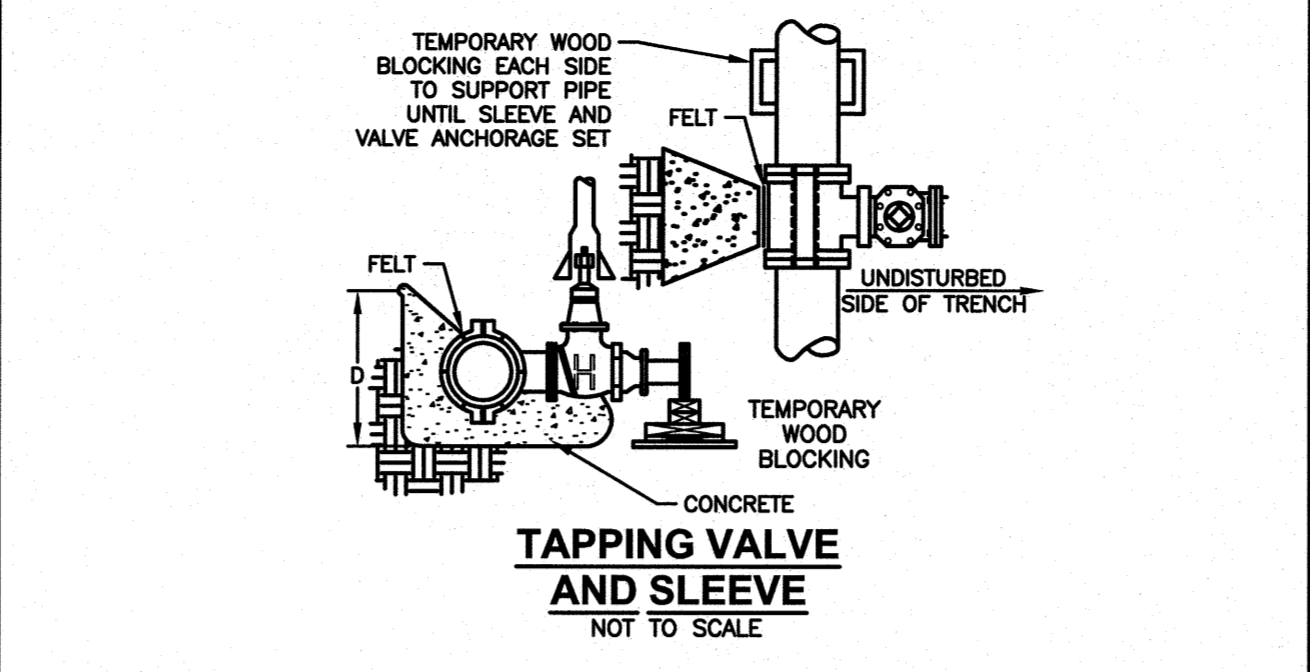
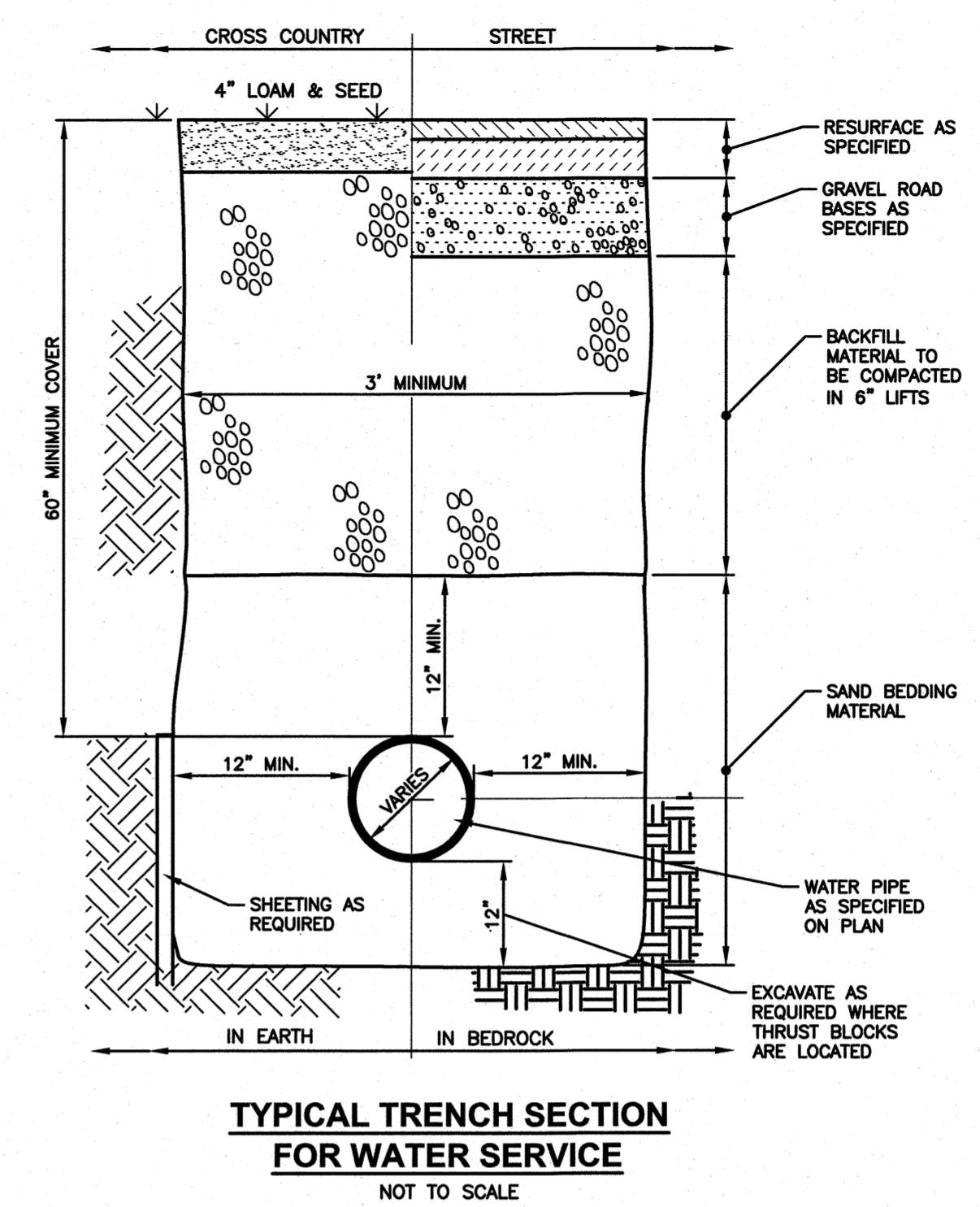
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ASSESSORS MAP 14 LOTS 10, 12 & 12A
139 OLD POST ROAD,
112 & 120 US ROUTE 1 BYPASS
KITTERY, MAINE



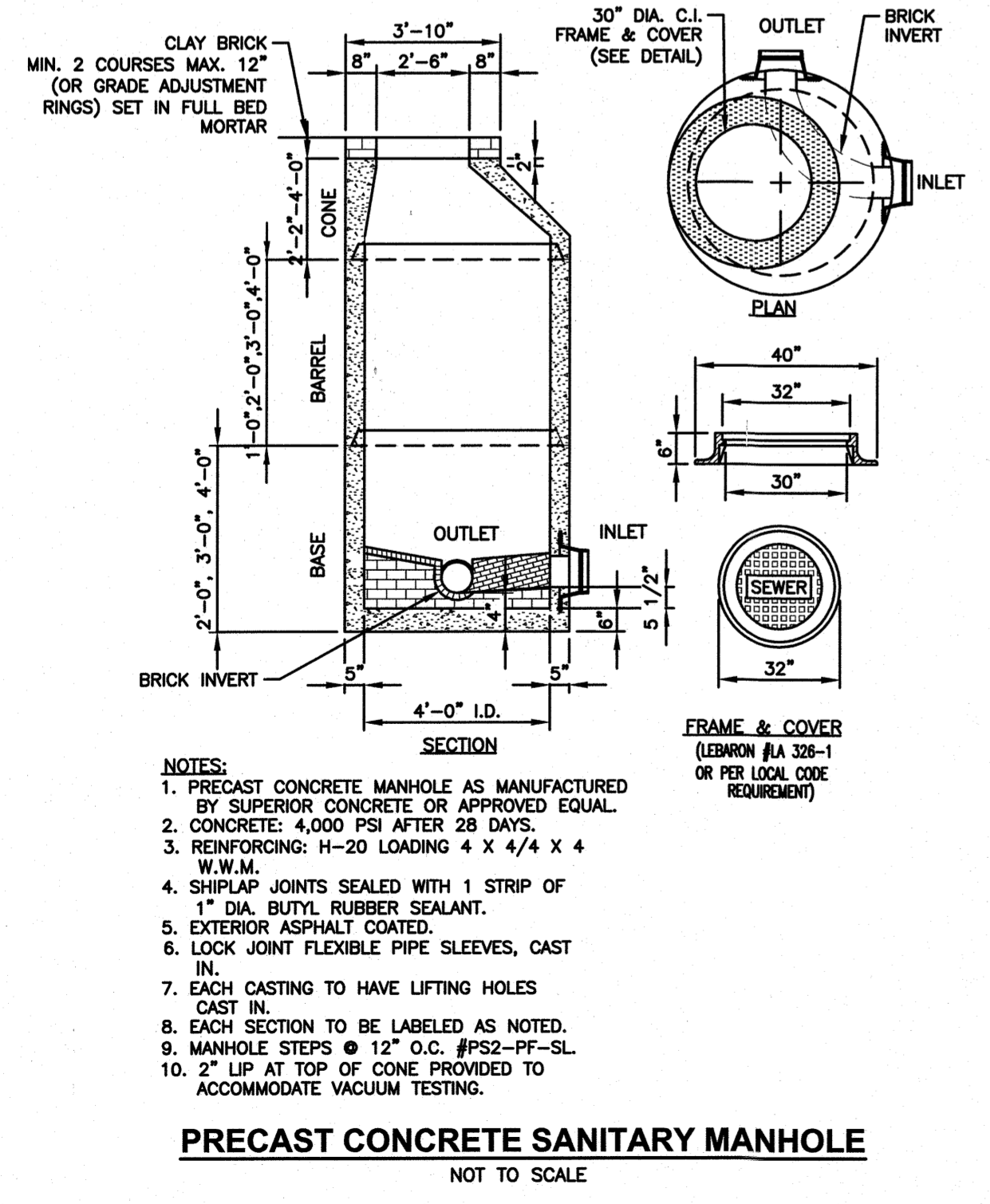
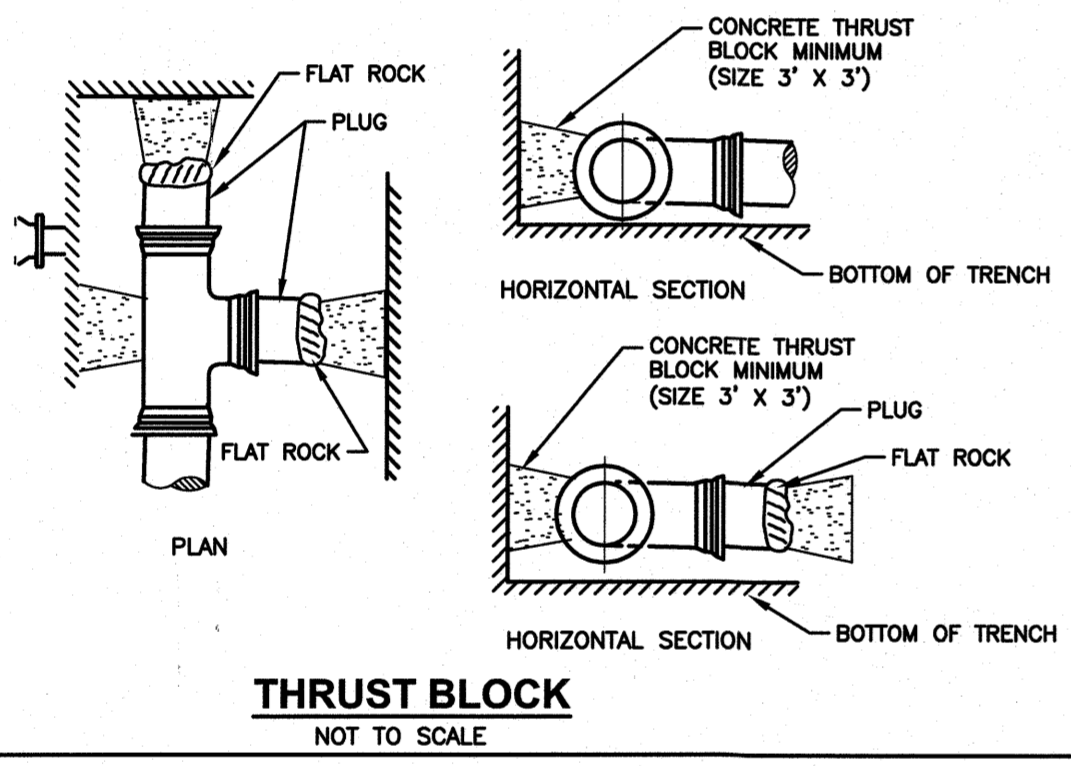
REVISIONS		
NO.	REVISION	DATE

AUGUST 2, 2023
DRAWN/DESIGN BY: CCC/NID
CHECKED BY: DRJ



NOTES:
1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
2. DESIGN CONFORMS WITH NHDES ENV-WO 1000 SEPTIC TANKS
3. ALL REINFORCEMENT PER ASTM C1227.
4. DESIGNED FOR MS-20 LOADING, 1 TO 5 FT COVER.
5. TONGUE & GROOVE JOINT SEALED WITH BUTYL RESIN.
6. TEES AND BAFFLES SOLD SEPARATELY.
7. OPTIONAL BAFFLE WALL HELD IN PLACE WITH ANGLE BRACKETS.

3,000 GALLON GREASE TRAP
(H2O LOADING)
NOT TO SCALE



NOTES:
1. PRECAST CONCRETE MANHOLE AS MANUFACTURED BY SUPERIOR CONCRETE OR APPROVED EQUAL.
2. CONCRETE: 4,000 PSI AFTER 28 DAYS.
3. REINFORCING: H-20 LOADING 4 x 4/4 x 4 W.W.M.
4. SHIPLAP JOINTS SEALED WITH 1 STRIP OF 1" DIA. BUTYL RUBBER SEALANT.
5. EXTERIOR ASPHALT COATED.
6. LOCK JOINT FLEXIBLE PIPE SLEEVES, CAST IN.
7. EACH CASTING TO HAVE LIFTING HOLES CAST IN.
8. EACH SECTION TO BE LABELED AS NOTED.
9. MANHOLE STEPS @ 12" O.C. #PS2-PF-SL.
10. 2" LIP AT TOP OF CONE PROVIDED TO ACCOMMODATE VACUUM TESTING.

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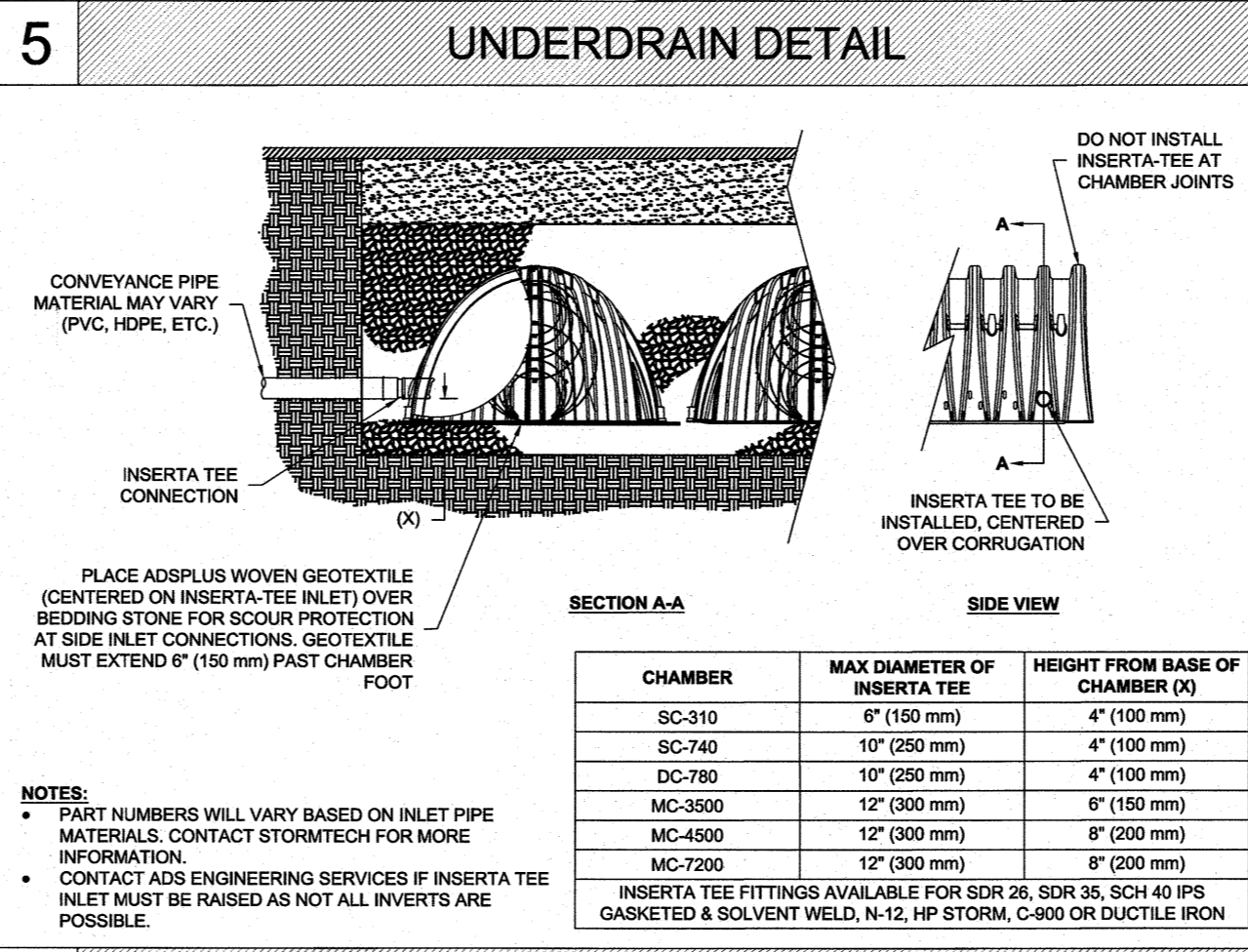
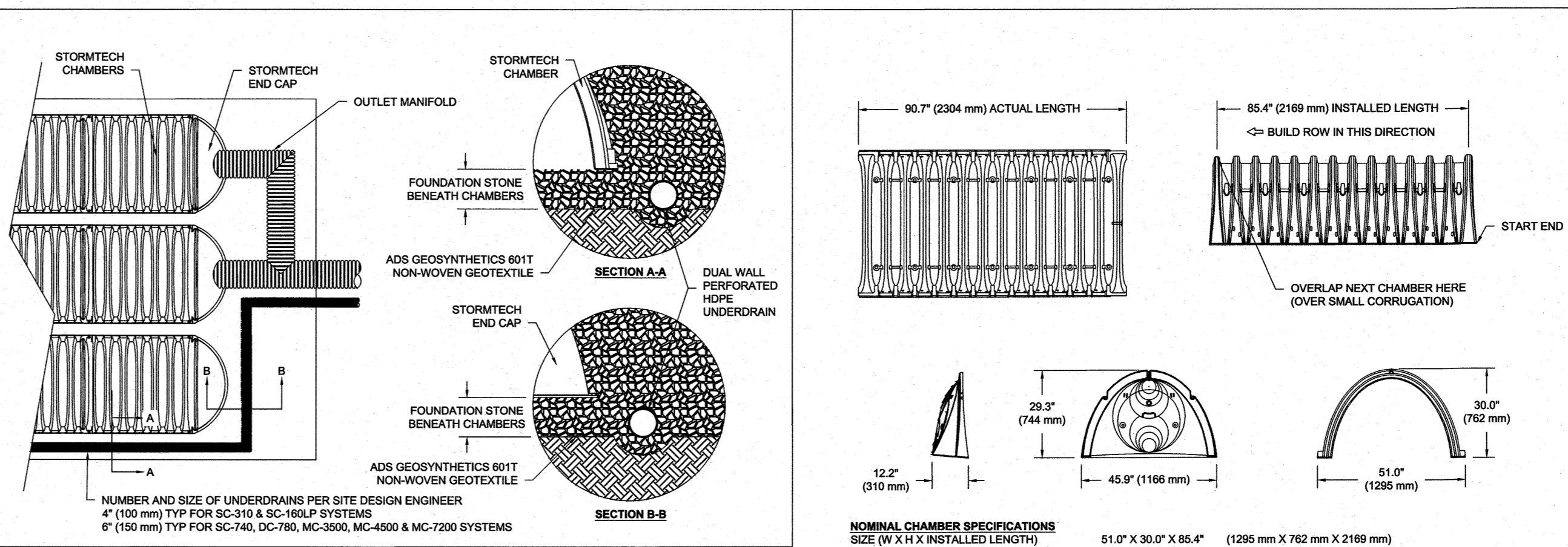
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SC-740 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-740.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT². THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
 - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.65 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
 - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-740 SYSTEM

- STORMTECH SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
 - STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONE SHOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
 - THE FOUNDATION STONE SHALL BE LEVELLED AND COMPACTED PRIOR TO PLACING CHAMBERS.
 - JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
 - MAINTAIN MINIMUM 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
 - EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4"-2" (20-50 mm).
 - THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
 - ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.
- NOTES FOR CONSTRUCTION EQUIPMENT**
- STORMTECH SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - THE USE OF CONSTRUCTION EQUIPMENT OVER SC-740 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BASE CHAMBERS.
 - NO RUBBER TIERED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
 - FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.
- USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.
- CONTACT STORMTECH AT 1-888-892-2894 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



SC-740 TECHNICAL SPECIFICATIONS

NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	CHAMBER STORAGE	MINIMUM INSTALLED STORAGE*	WEIGHT
51.0" X 30.0" X 95.4" (1300 mm X 762 mm X 2419 mm)	45.9 CUBIC FEET (1.30 m ³)	74.9 CUBIC FEET (2.12 m ³)	75.0 lbs.

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS

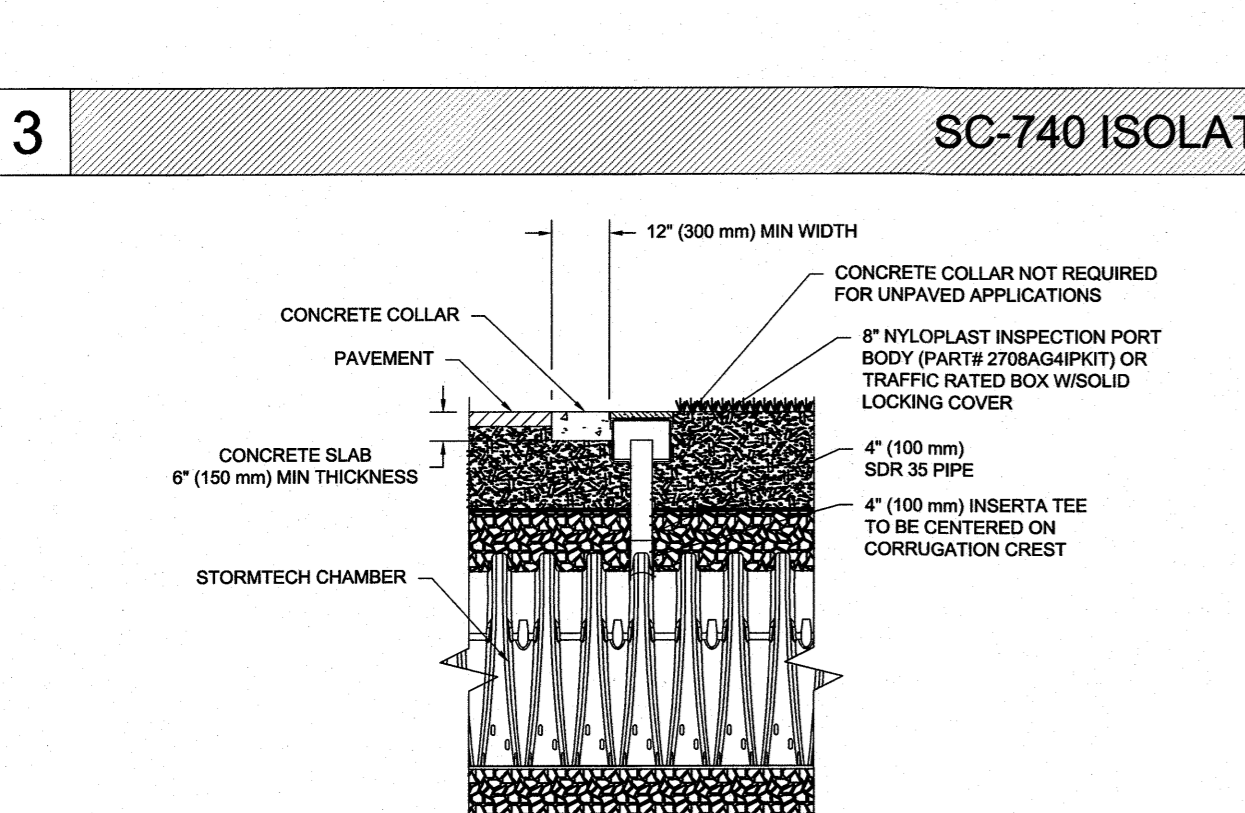
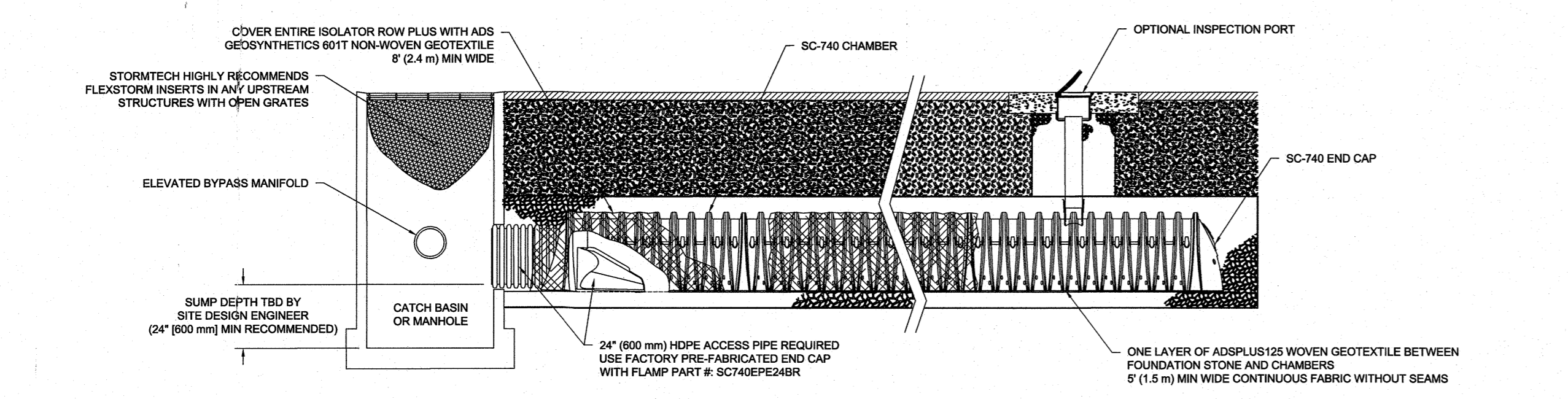
PRE-FAB STUB AT BOTTOM OF END CAP WITH FLANGE END WITH "B".
PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "D".
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T".
PRE-CORED END CAPS END WITH "C".

PART #	STUB	A	B	C
SC740EP001 / SC740EP001PC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EP008 / SC740EP008PC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	0.5" (13 mm)
SC740EP017 / SC740EP017PC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	0.6" (15 mm)
SC740EP101 / SC740EP101PC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	0.7" (18 mm)
SC740EP121 / SC740EP121PC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	1.2" (31 mm)
SC740EP151 / SC740EP151PC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EP108 / SC740EP108PC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	1.3" (33 mm)
SC740EP181 / SC740EP181PC	18" (450 mm)	19.7" (500 mm)	---	1.6" (41 mm)
SC740EP248*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)
SC740EP248R*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EP248/SC740EP248R ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2894.

* FOR THE SC740EP248/SC740EP248R THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL.

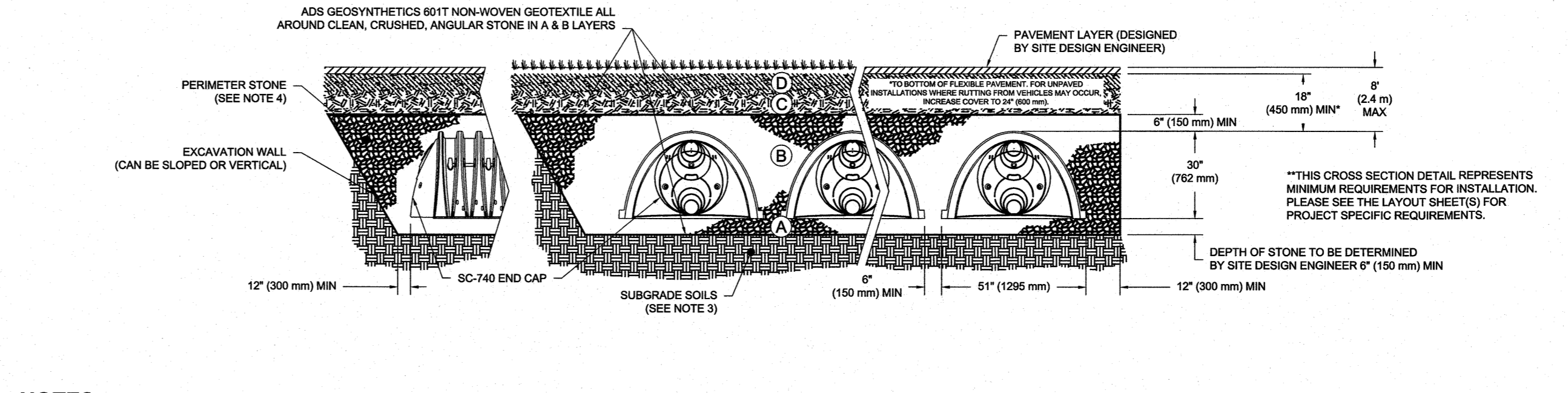


- INSPECTION & MAINTENANCE**
- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
- A.1. REMOVE/OFFEN LID ON NYLOPLAST INLINE DRAIN
- A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
- A.3. USING A FLASHLIGHT AND STAIN ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
- A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
- A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
- B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
- B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
- B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SLUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.
- NOTES**
- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION, ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
 - CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT	
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.	
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. OR MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 ¹ A-1, A-2.4, A-3 OR AASHTO M43 ² 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 90% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN), DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ² 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 ² 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

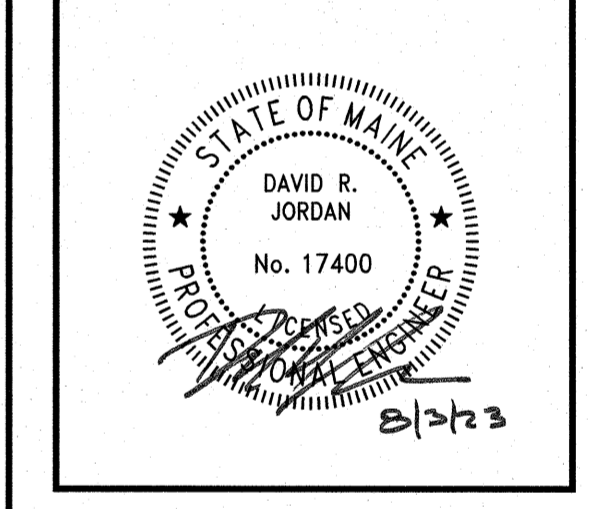
- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR ALL LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) MAX LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
 - WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
 - ONCE LAYER 'C' IS PLACED, ANY SOLI-MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



- NOTES:**
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 - SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 - THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
 - PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
 - REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT². AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

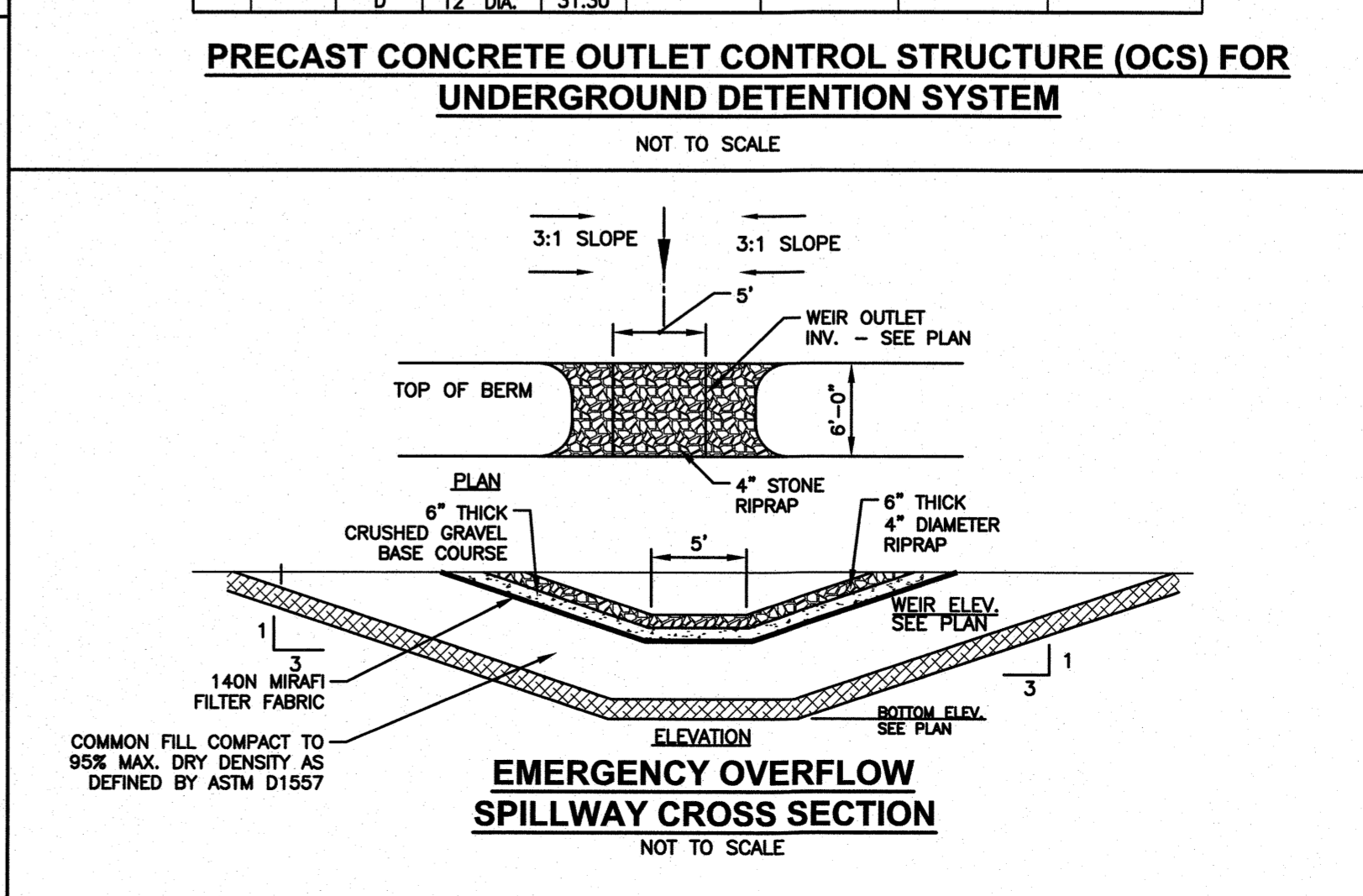
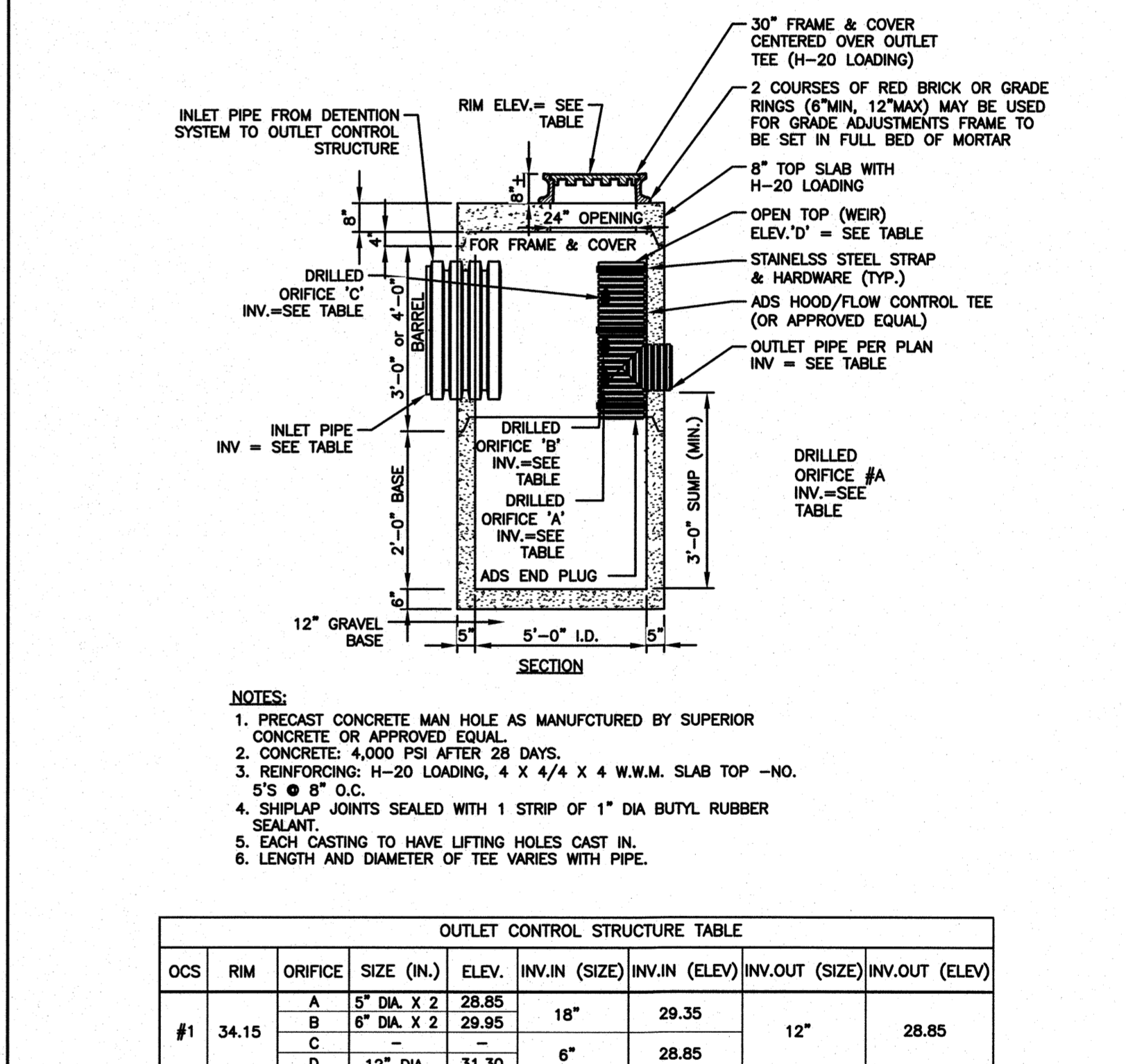
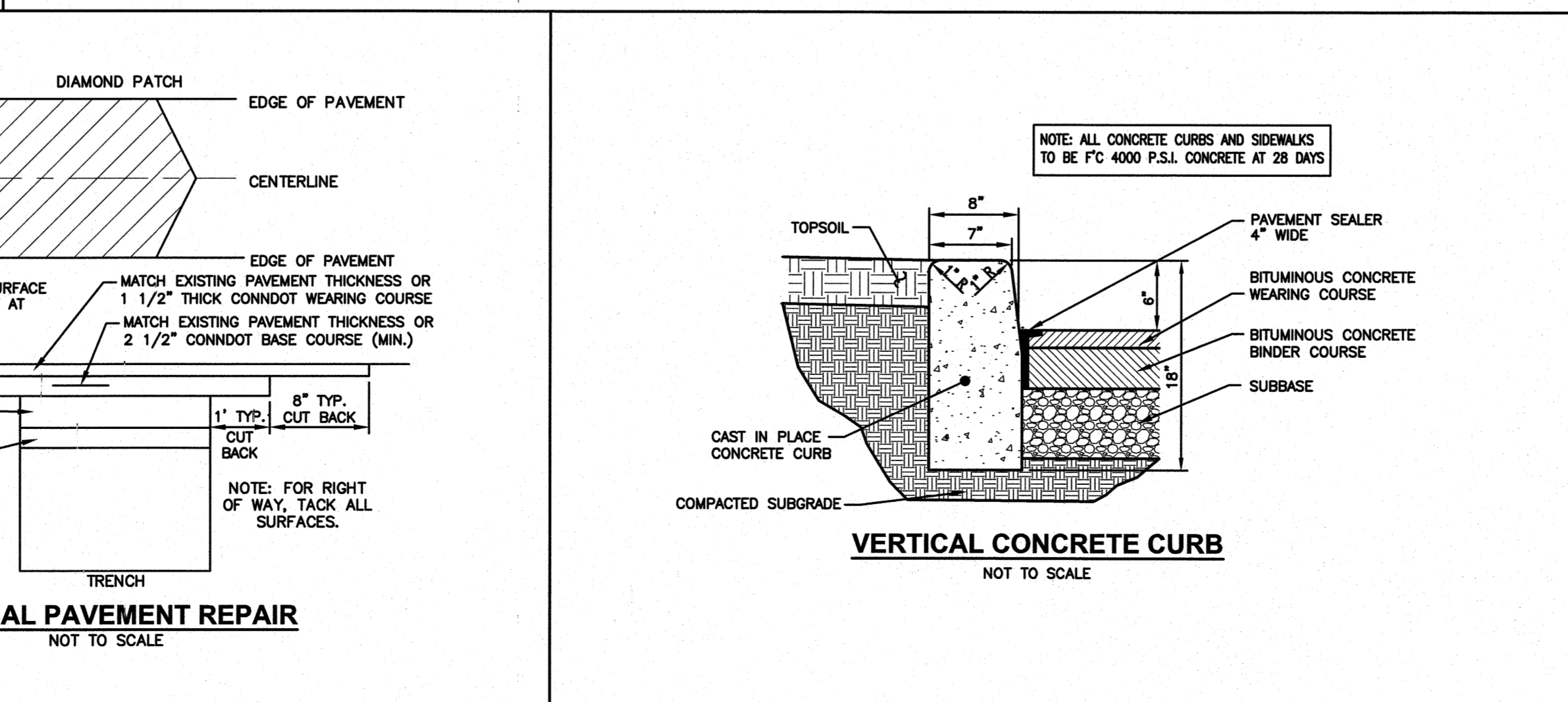
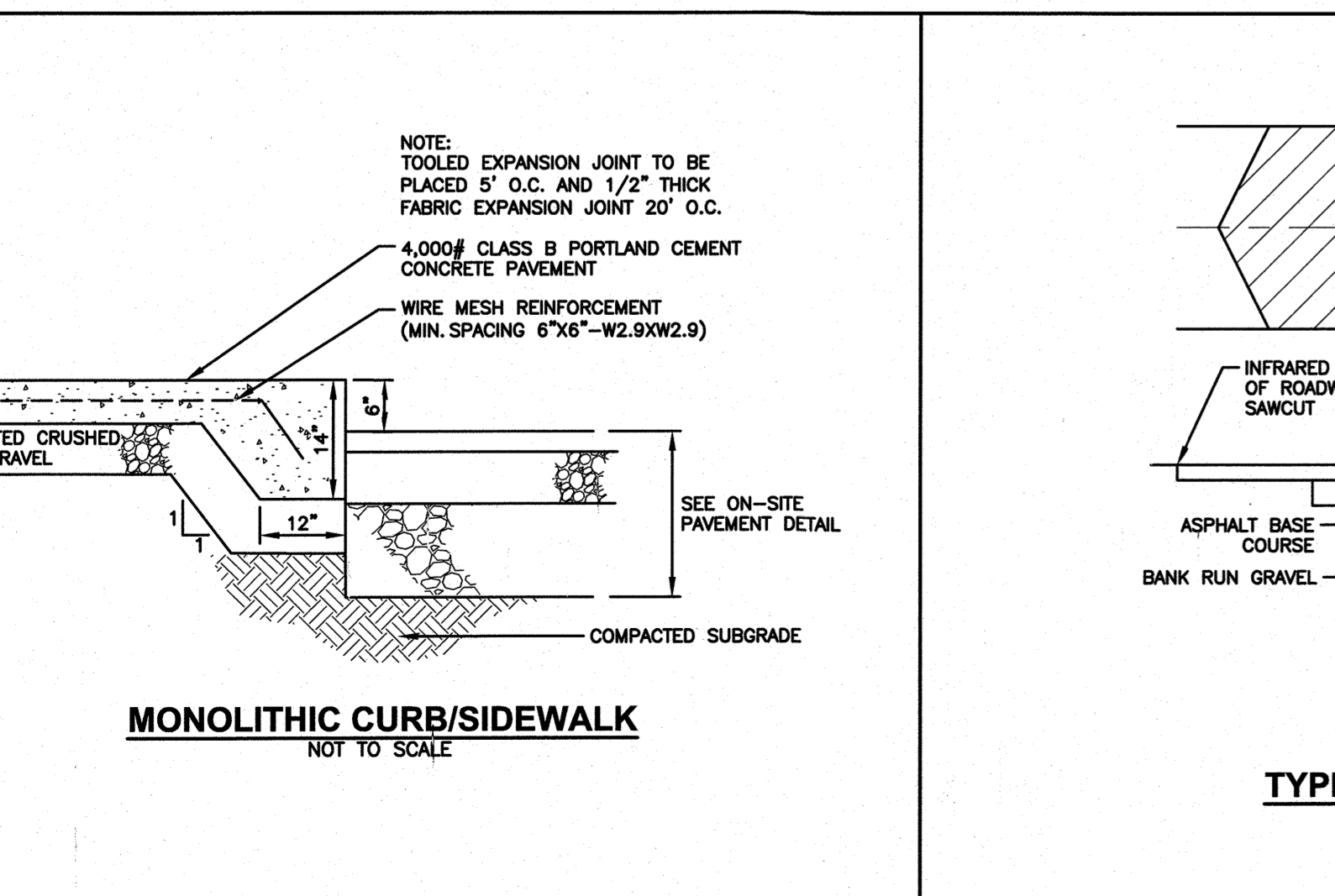
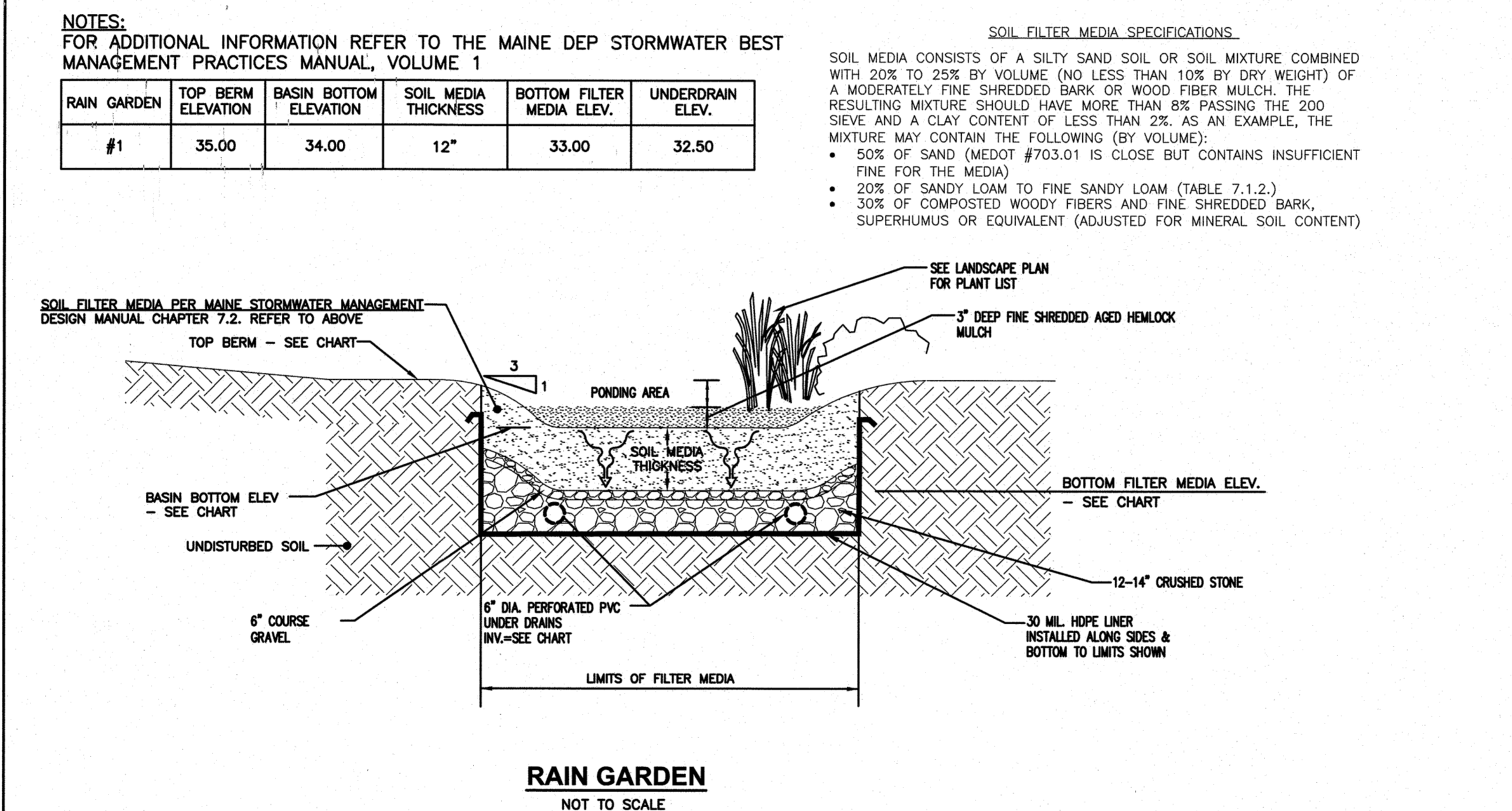
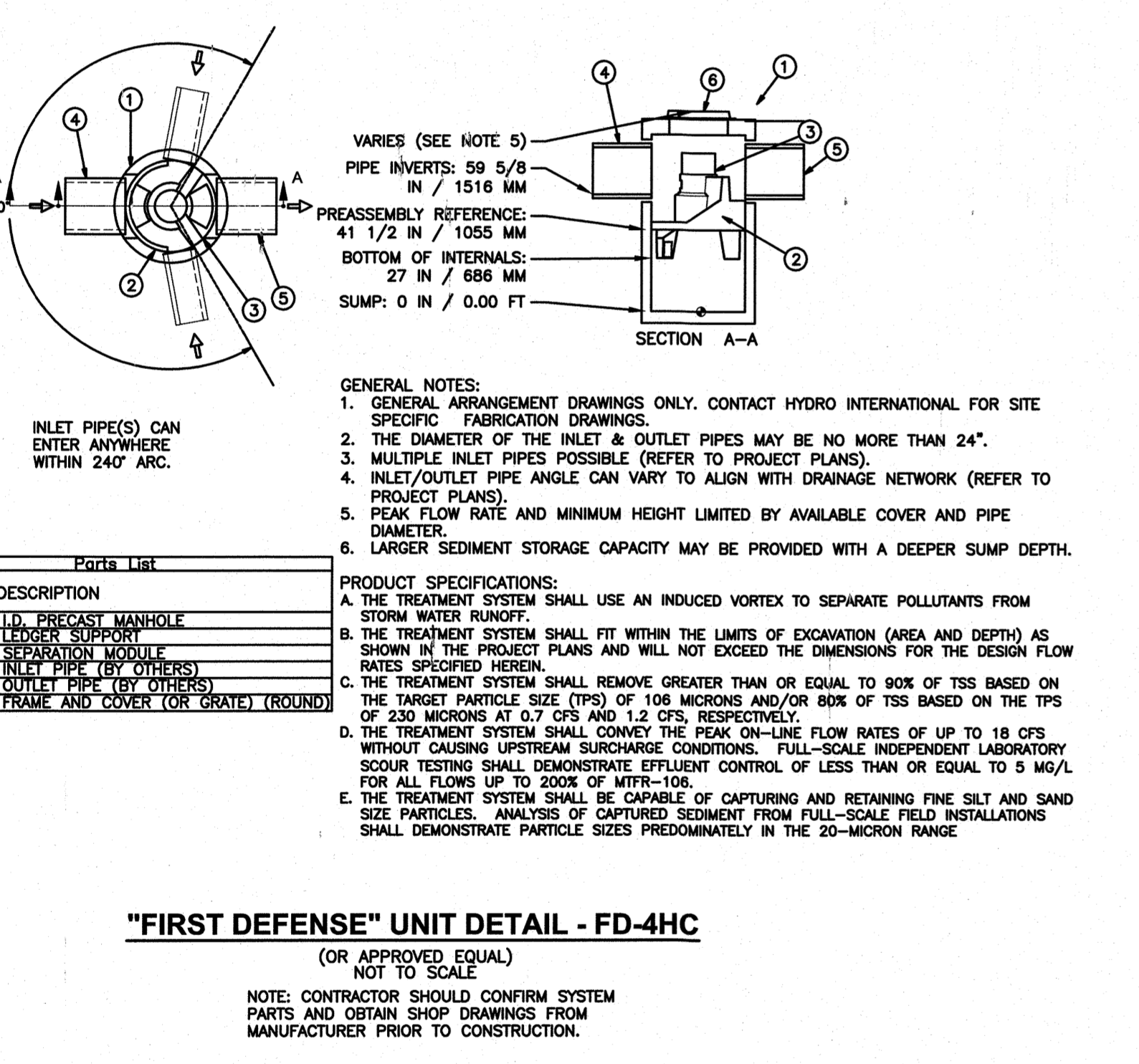
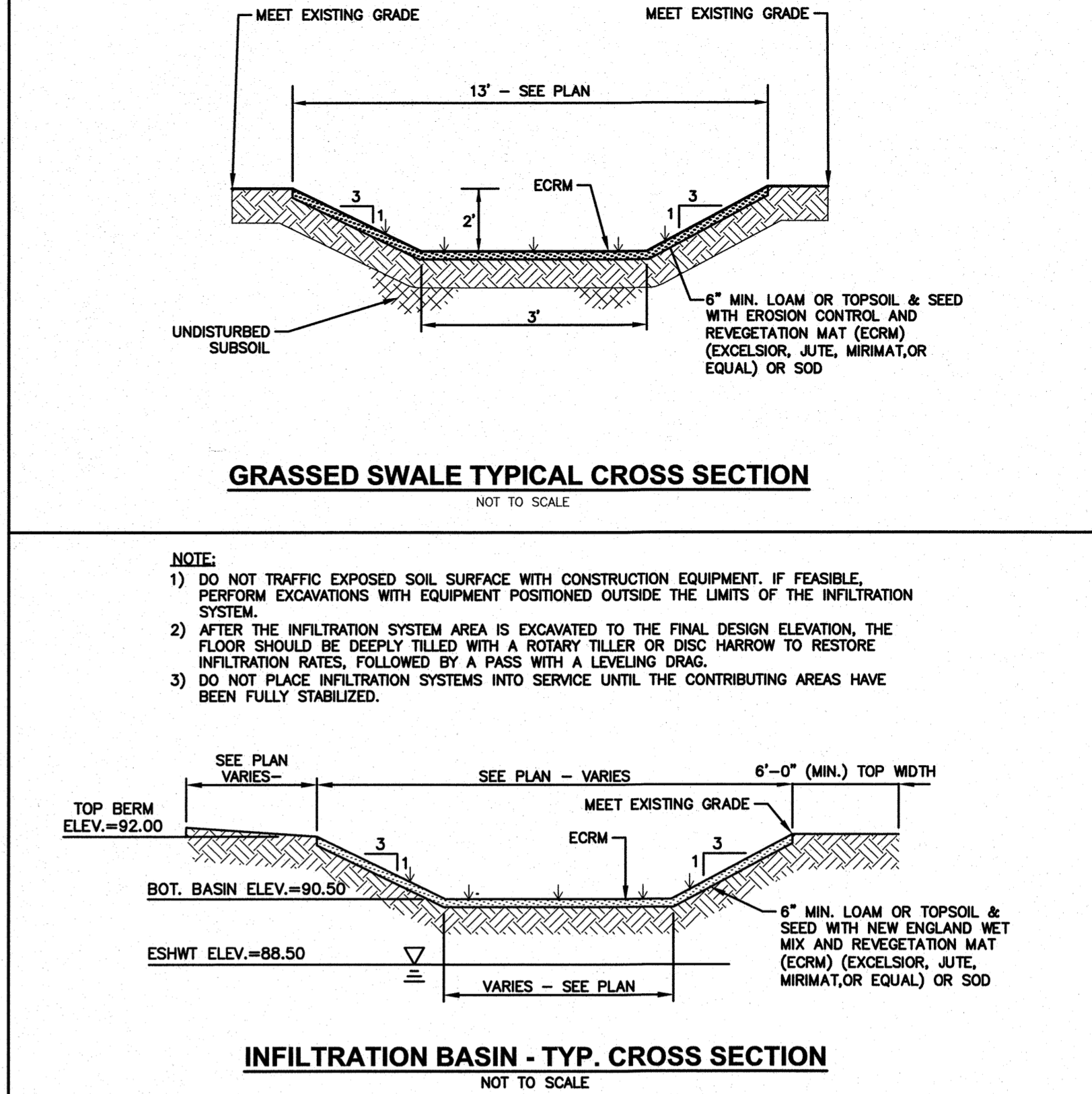
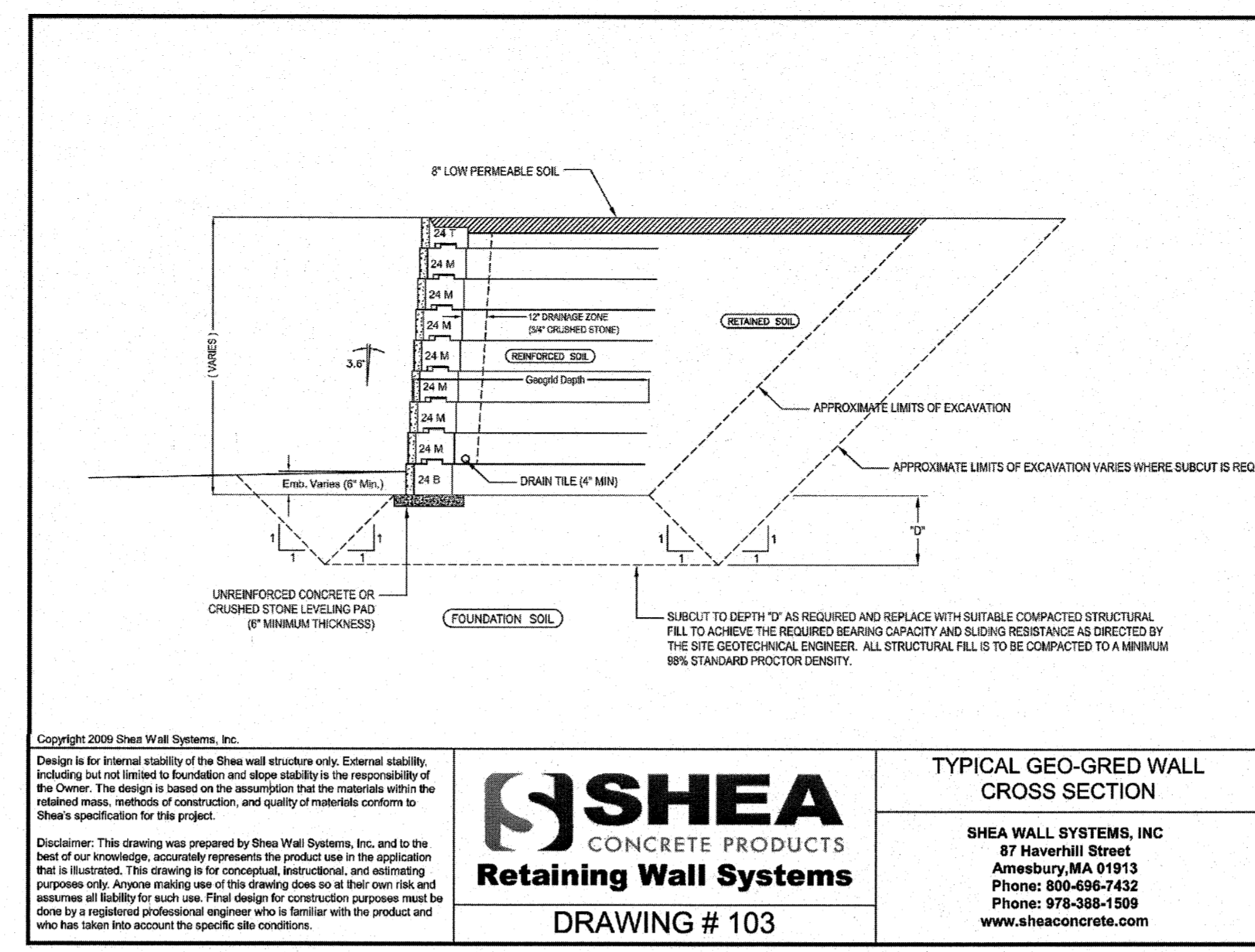
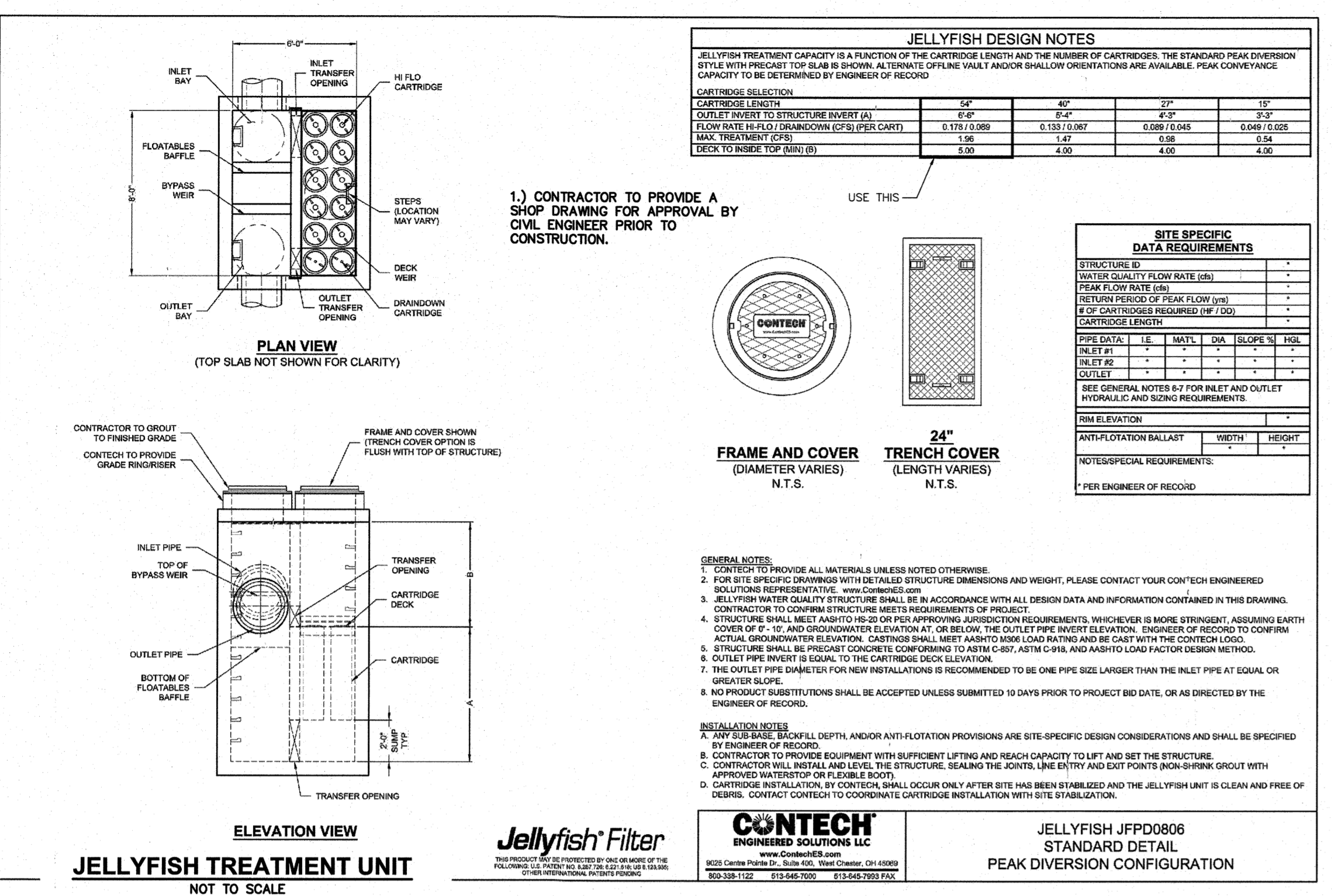
PREPARED FOR
KITTERY CIRCLE, LLC
321D LAFAYETTE ROAD
HAMPTON, NH 03842

ASSESSORS MAP 14 LOTS 10, 12 & 12A
139 OLD POST ROAD,
112 & 120 US ROUTE 1 BYPASS
KITTERY, MAINE

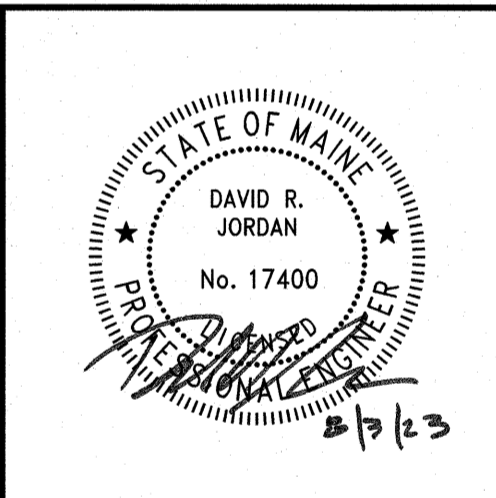
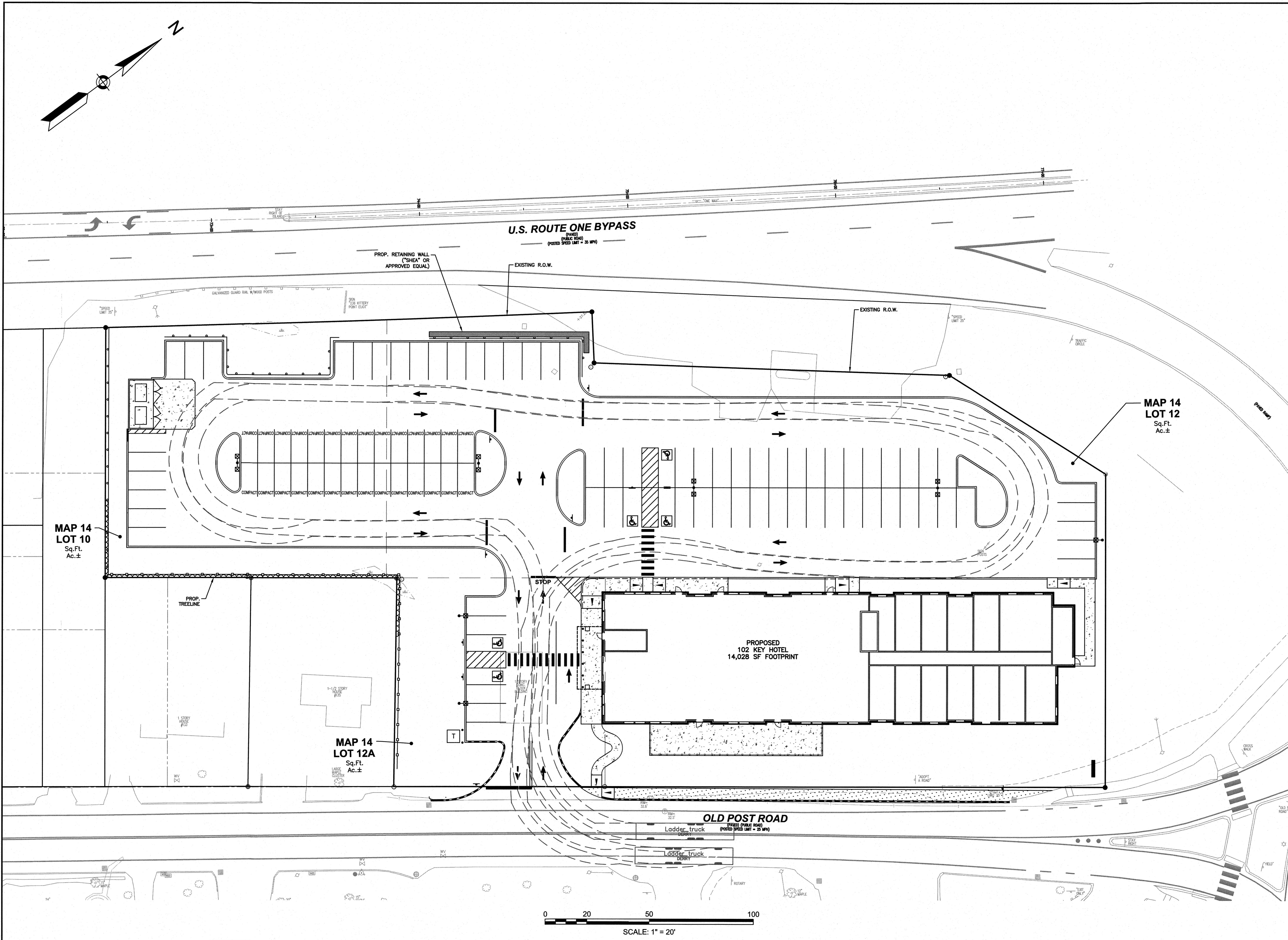
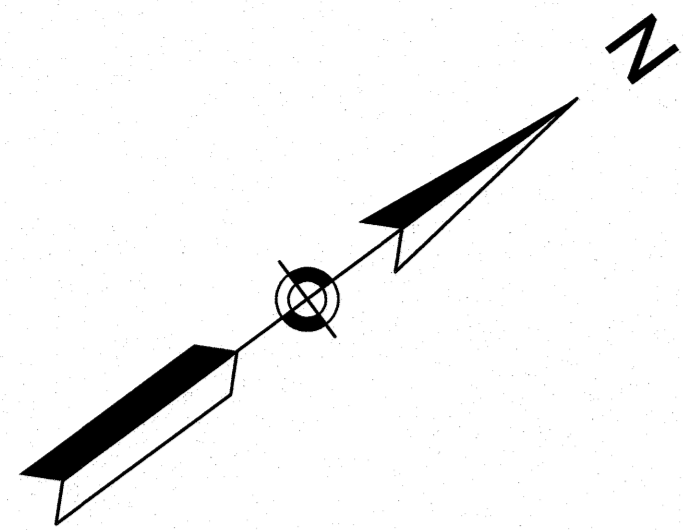


REVISIONS		
NO.	REVISION	DATE

AUGUST 2, 2023
DRAWN/DESIGN BY: CCC/NID
CHECKED BY: DRJ
DETAIL SHEET
SCALE: AS SHOWN
PROJECT NO: NEX-2200380
18 OF 18



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REVISIONS		
NO.	REVISION	DATE

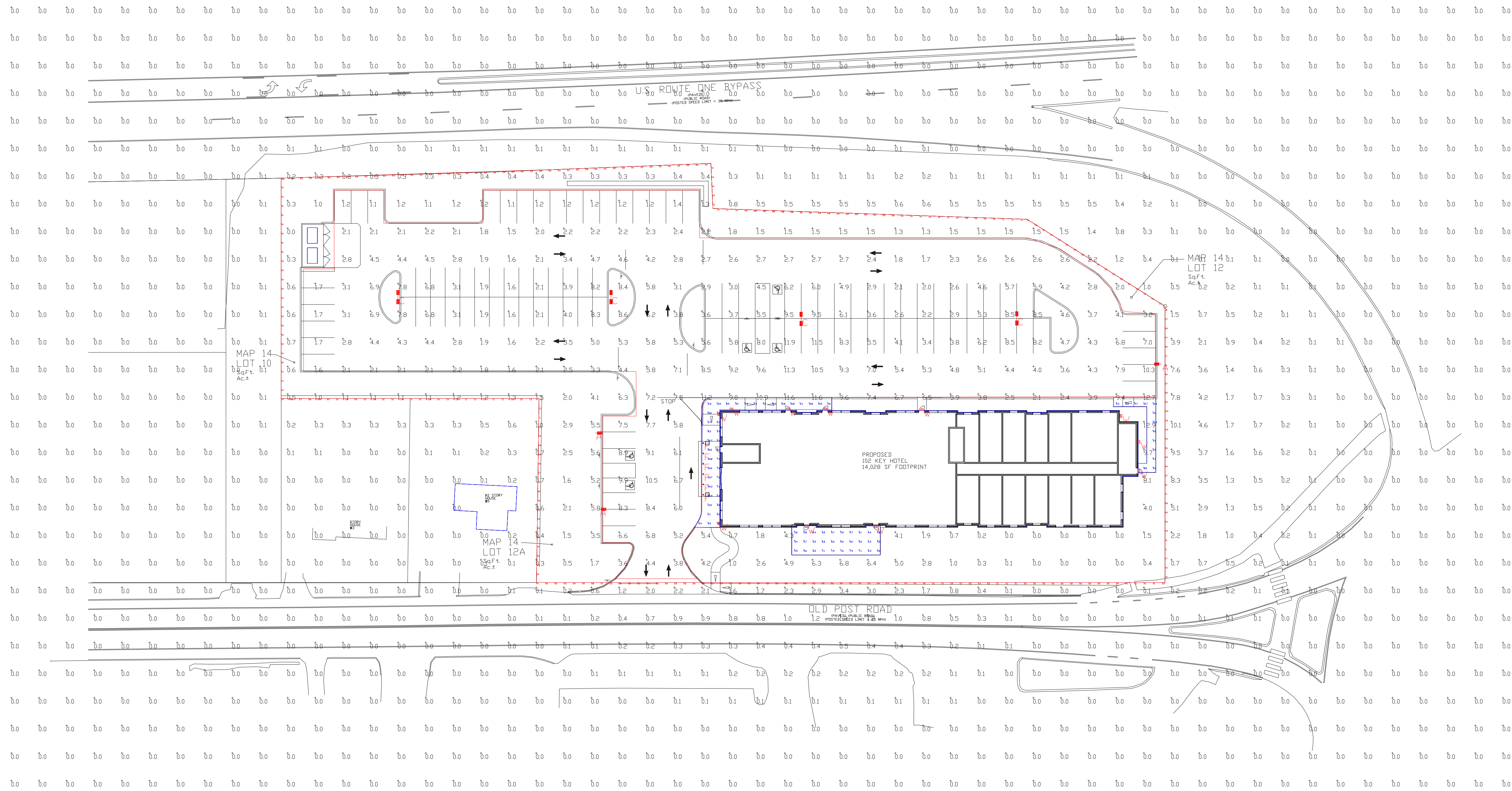
TRUCK TURN PLAN

SCALE: 1" = 20'

PROJECT NO.
NEX-2200380

1 OF 1

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Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
ALL CALCS AT GRADE	Illuminance	Fc	0.90	12.9	0.0	N.A.	N.A.
DROP OFF-SIDEWALK	Illuminance	Fc	14.87	53.7	5.4	2.75	9.94
PROPERTY LINE	Illuminance	Fc	1.50	11.9	0.0	N.A.	N.A.
PROPOSED CONCRETE PATIO AREA	Illuminance	Fc	6.23	7.6	5.0	1.25	1.52
REAR SIDE WALK	Illuminance	Fc	10.19	13.5	5.3	1.92	2.55
PARKING LOT	Illuminance	Fc	4.76	12.7	1.1	4.33	11.55

Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Description	Mounting Height	LLD	LLF	Arr. Lum. Lumens	Arr. Watts
	3	A	Single	MRS-LED-21L-SIL-FT-50-70CRI-SINGLE	20'	1.000	0.950	20025	165
	4	C	D180°	MRS-LED-21L-SIL-5W-50-70CRI-D180	20'	1.000	0.950	39946	330
	6	F	Single	MRB-LED-25L-ACR-S-50	3'	1.000	0.980	2485	30.5
	11	W	Single	XWM-FT-LED-15L-50	20'	1.000	0.950	15750	105

PHOTOMETRIC EVALUATION
NOT FOR CONSTRUCTION

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine the applicability of the layout to existing or future field conditions.

This lighting plan represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with The Illuminating Engineering Society (IES) approved methods. Actual performance of any manufacturer's luminaires may vary due to changes in electrical voltage, tolerance in lamps/LED's and other variable field conditions. Calculations do not include obstructions such as buildings, curbs, landscaping, or any other architectural elements unless noted. Fixture nomenclature noted does not include mounting hardware or poles. This drawing is for photometric evaluation purposes only and should not be used as a construction document or as a final document for ordering product.

Total Project Watts
Total Watts = 3153

LIGHTING PROPOSAL LD-158514

TROPIC STAR KITTERY HOTEL
OLD POST ROAD
KITTERY, ME

BY: RAK	DATE: 07/25/23	REV:	SHEET 1 OF 1
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SCALE: 1"=30'

GPI PROJECT NO. 2200380 SHEET 1 OF 1

Traffic Impact Study

Proposed Extended Stay Hotel
Old Post Road
Kittery, Maine

Prepared for:

 **Tropic Star**
Development
Hampton, New Hampshire

July 2023

Prepared by:

 **Vanasse &
Associates inc**
Transportation Engineers & Planners

35 New England Business Center Drive
Suite 140
Andover, MA 01810

Dear Reviewer:

This letter shall certify that this *Traffic Impact Study* has been prepared under my direct supervision and responsible charge. I am a Registered Professional Engineer (P.E.) in the State of Maine (Maine P.E. No. 9163) and hold Certification as a Professional Traffic Operations Engineer (PTOE) from the Transportation Professional Certification Board, Inc. (TPCB), an independent affiliate of the Institute of Transportation Engineers (ITE) (PTOE Certificate No. 993). I am also a Fellow of the Institute of Transportation Engineers (FITE).

Sincerely,

VANASSE & ASSOCIATES, INC.



Jeffrey S. Dirk, P.E., PTOE, FITE
Managing Partner

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EXECUTIVE SUMMARY

Vanasse & Associates, Inc. (VAI) has conducted a Traffic Impact Study (TIS) in order to determine the potential impacts on the transportation infrastructure associated with the proposed construction of an extended stay hotel to be located adjacent to the Kittery Traffic Circle and generally between Old Post Road and the Route 1 Bypass in Kittery, Maine (hereafter referred to as the “Project”). This assessment was prepared in consultation with the Maine Department of Transportation (MaineDOT) and the Town of Kittery; was performed in general accordance with Section 7, Traffic Study Requirements, of MaineDOT’s *Traffic Movement Permit* guidelines; and was conducted pursuant to the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports.

Based on this assessment, we have concluded the following with respect to the Project:

1. Using trip-generation statistics published by the Institute of Transportation Engineers (ITE),¹ the Project is expected to generate approximately 816 vehicle trips on an average weekday (two-way, 24-hour volume), with 44 vehicle trips expected during the weekday morning peak-hour and 48 vehicle trips expected during the weekday evening peak-hour;
2. The Project will not result in a significant impact (increase) on motorist delays or vehicle queuing over anticipated future conditions without the Project (No-Build condition); however, it was noted one or more movements at the Kittery Traffic Circle are currently operating over capacity (defined as level-of-service (LOS) “F”) during the weekday evening peak-hour independent of the Project. Project-related impacts on these movements was defined as a predicted increase in vehicle queuing of between two (2) and four (4) vehicles;
3. All movements at the Project site driveway intersection with Old Post Road are predicted to operate at LOS A with negligible vehicle queuing;
4. Independent of the Project, the Kittery Traffic Circle is included on MaineDOT’s High Crash Location (HCL) list for 2019 through 2021. As such, specific recommendations have been provided to advance safety-related improvements at the rotary; and

¹*Trip Generation*, 11th Edition; Institute of Transportation Engineers; Washington, DC; 2021.

5. Lines of sight to and from the Project site driveway intersection with Old Post Road were found to exceed the recommended minimum sight distance for the intersection to operate in a safe and efficient manner based on the appropriate approach speed.

In consideration of the above, we have concluded that the Project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner with implementation of the recommendations that follow.

RECOMMENDATIONS

A detailed transportation improvement program has been developed that is designed to provide safe and efficient access to the Project site and address any deficiencies identified at off-site locations evaluated in conjunction with this study. The following improvements have been recommended as a part of this evaluation and, where applicable, will be completed in conjunction with the Project subject to receipt of all necessary rights, permits, and approvals.

Project Access

Access to the Project site will be provided by way of a new driveway that will intersect the northwest side of Old Post Road approximately 350 feet south of the Kittery Traffic Circle. The following recommendations are offered with respect to the design and operation of the Project site access and internal circulation, many of which are reflected on the Site Plans:

- The Project site driveway will be 24 feet in width and designed to accommodate the turning and maneuvering requirements of delivery vehicles and the largest anticipated responding emergency vehicle.
- Where perpendicular parking is proposed, the drive aisle behind the parking will be a minimum of 23 feet in width (24 feet is proposed) in order to facilitate parking maneuvers.
- Vehicles exiting the Project site should be placed under STOP-sign control with a marked STOP-line provided.
- All signs and pavement markings to be installed within the Project site should conform to the applicable standards of the *Manual on Uniform Traffic Control Devices (MUTCD)*.²
- A sidewalk is proposed along the north side of the Project site driveway that will extend to Old Post Road where a sidewalk will be constructed along the Project site frontage that will connect to the existing sidewalk at the Kittery Traffic Circle.
- Americans with Disabilities Act (ADA)-compliant wheelchair ramps should be provided at all pedestrian crossings to be constructed or modified in conjunction with the Project.
- Signs and landscaping to be installed as a part of the Project within the intersection sight triangle areas of the Project site driveway should be designed and maintained so as not to restrict lines of sight.

²*Manual on Uniform Traffic Control Devices (MUTCD)*; Federal Highway Administration; Washington, D.C.; 2009.

- Existing trees and vegetation located within the sight triangles areas of the Project site driveway should be selectively trimmed or removed and maintained so as to provide the necessary sight lines for the driveway to operate in a safe manner.
- Snow accumulations (windrows) within the sight triangle areas of the Project site driveway will be promptly removed where such accumulations would impede sight lines.

Off-Site

Kittery Traffic Circle (Route 1/Route 236/Old Post Road)

Independent of the Project, specific movements at the Kittery Traffic Circle are currently operating over capacity during the weekday evening peak-hour, with Project-related impacts on these movement shown to be a predicted increase in vehicle queuing of between two (2) and four (4) vehicles. In addition to and also independent of the Project, the intersection was identified by MaineDOT as a High Crash Location (HCL) for the years 2019 through 2021. To the extent so desired by the Town and in an effort to identify both safety and capacity improvements at the intersection, the Project proponent will undertake an intersection safety assessment in coordination with the Town of Kittery and MaineDOT. The intersection safety assessment will be completed prior to the issuance of a Certificate of Occupancy for the Project and can be used by the Town and MaineDOT for the implementation of the suggested improvements that will be an outcome of the intersection safety assessment.

Transportation Demand Management (TDM)

Public transportation services are provided within the study area by the Cooperative Alliance for Seacoast Transportation (COAST). COAST provides fixed-route bus service along Route 1, south of the Kittery Traffic Circle, and on Route 236, west of the Kittery Traffic Circle, by way of Route 100, *Somersworth/Berwick/Kittery (PNSY Gate 1)*, which provides service between Tri-City Plaza in Somersworth, Maine and Government Street in Kittery, Maine. The closest stop to the Project site is Government Street, approximately 1.3 miles to the south of the Project site. In addition to fixed-route bus services, COAST provides ADA paratransit services for eligible persons who cannot use fixed-route transit all or some of the time due to a physical, cognitive or mental disability.

In an effort to encourage the use of alternative modes of transportation to single-occupancy vehicles (SOVs), the following Transportation Demand Management (TDM) measures will be implemented as a part of the Project:

- A transportation coordinator will be designated for the Project to coordinate the elements of the TDM program;
- The transportation coordinator should facilitate a carpool program for employees;
- Work with the Town and COAST to establish bus service to the Project site;
- Information regarding public transportation services, maps, schedules, and fare information will be posted in a central location and/or otherwise made available to employees and guests;
- A “welcome packet” will be provided to new employees detailing available public transportation services, bicycle and walking alternatives, and other commuting options;

- Pedestrian accommodations have been incorporated within the Project site and consist of sidewalks that extend to Old Post Road and to the existing pedestrian accommodations at the Kittery Traffic Circle; and
- Secure bicycle parking should be provided within the Project site.

With implementation of the aforementioned recommendations, safe and efficient access will be provided to the Project site and the Project can be accommodated within the confines of the existing and improved transportation system.

INTRODUCTION

Vanasse & Associates, Inc. (VAI) has conducted a Traffic Impact Study (TIS) in order to determine the potential impacts on the transportation infrastructure associated the proposed construction of an extended stay hotel to be located adjacent to the Kittery Traffic Circle and generally between Old Post Road and the Route 1 Bypass in Kittery, Maine (hereafter referred to as the “Project”). This study evaluates the following specific areas as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; and identifies and analyzes existing traffic conditions and future traffic conditions, both with and without the Project, along Old Post Road and at the Kittery Traffic Circle (Route 236 at State Road (Route 1) and Old Post Road).

PROJECT DESCRIPTION

As proposed, the Project will entail the construction of a 102-key, extended stay hotel to be located adjacent to the Kittery Traffic Circle and generally between Old Post Road and the Route 1 Bypass in Kittery, Maine. The Project site encompasses approximately 1.96± acres of land that is bounded by the Route 1 Bypass and its off-ramp to the Kittery Traffic Circle to the north; Old Post Road and residential properties to the south; Old Post Road to the east; and the Route 1 Bypass to the west. Figure 1 depicts the Project site location in relation to the existing roadway network. The Project site consists of previously disturbed areas, areas of open and wooded space and a vacant building that will be removed to accommodate the Project.

Access to the Project site will be provided by way of a new driveway that will intersect the northwest side of Old Post Road approximately 350 feet south of the Kittery Traffic Circle. Off-street parking will be provided for 102 vehicles to accommodate guests and employees.



Figure 1
Site Location Map

STUDY METHODOLOGY

This study was prepared in consultation with the Maine Department of Transportation (MaineDOT) and the Town of Kittery; was performed in general accordance with Section 7, Traffic Study Requirements, of MaineDOT's *Traffic Movement Permit* guidelines and the standards of the Traffic Engineering and Transportation Planning professions for the preparation of such reports; and was conducted in three distinct stages.

The first stage involved an assessment of existing conditions in the study area and included an inventory of roadway geometrics; pedestrian and bicycle facilities; public transportation services; observations of traffic flow; and collection of daily and peak period traffic counts.

In the second stage of the study, future traffic conditions were projected and analyzed. Specific travel demand forecasts for the Project were assessed along with future traffic demands due to expected traffic growth independent of the Project. A five-year time horizon (2028) was selected for analyses consistent with MaineDOT's *Traffic Movement Permit* guidelines and represents the anticipated completion date of the Project. The traffic analysis conducted in stage two identifies existing or projected future roadway capacity, traffic safety, and site access issues.

The third stage of the study presents and evaluates measures to address traffic and safety issues, if any, identified in stage two of the study.

EXISTING CONDITIONS

A comprehensive field inventory of existing conditions within the study area was conducted in July 2023. The field investigation consisted of an inventory of existing roadway geometrics; pedestrian and bicycle facilities; public transportation services; traffic volumes; and operating characteristics; as well as posted speed limits and land use information within the study area. The study area that was assessed for the Project consisted of Old Post Road and the Kittery Traffic Circle (Route 236 at State Road (Route 1) and Old Post Road).

The following describes the study area roadway and intersection.

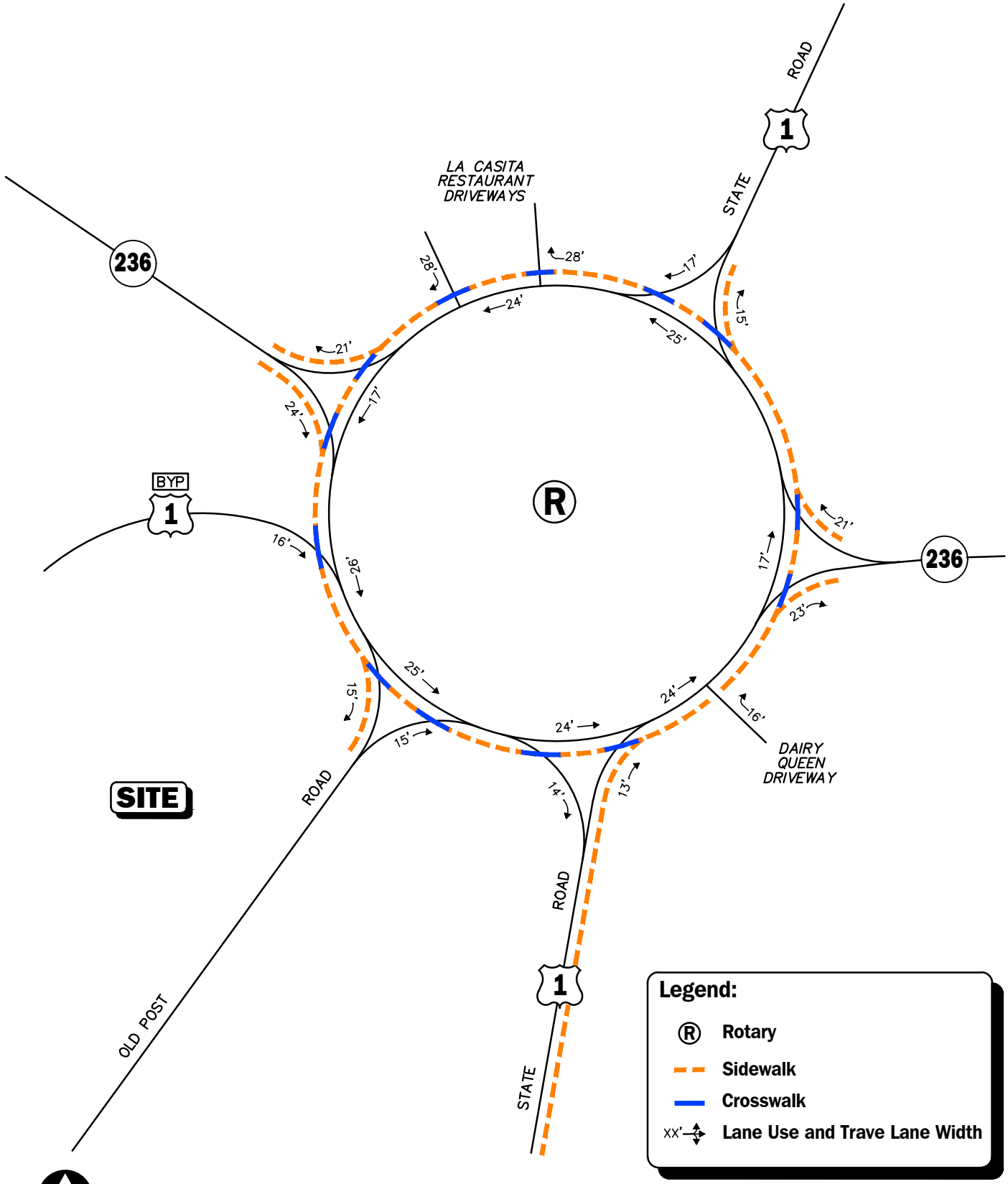
ROADWAY

Old Post Road

- Two-lane urban minor collector roadway under MaineDOT jurisdiction that traverses the study area in a general northeast-southwest direction between the Kittery Traffic Circle and Bridge Street;
- Provides two 11-foot-wide travel lanes that are separated by a double-yellow centerline with 5-foot-wide marked shoulders provided in the vicinity of the Project site;
- The posted speed limit in the vicinity of the Project site is 25 mph;
- Sidewalks are not provided within the study area;
- Illumination is provided intermittently by way of streetlights mounted on wood poles;
- Land use within the study area consists of the Project site and residential and commercial properties.

INTERSECTION

Table 1 and Figure 2 summarize existing lane use, traffic control, and pedestrian and bicycle accommodations at the study area intersection as observed in July 2023.



Not To Scale

Figure 2
Existing Intersection Lane Use, Travel Lane Width, and Pedestrian Facilities



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Table 1
STUDY AREA INTERSECTION DESCRIPTION

Intersection	Traffic Control Type ^a	No. of Travel Lanes Provided	Shoulder Provided? (Yes/No/Width)	Pedestrian Accommodations? (Yes/No/Description)	Bicycle Accommodations? (Yes/No/Description)
Kittery Traffic Circle (Rte. 236 at Rte. 1 and Old Post Rd.)	R	1 general-purpose travel lane on all approaches	Yes, 1 to 6 feet along all legs	Yes; sidewalks provided along the east side of Rte. 1 south of the Kittery Traffic Circle and around the perimeter of the Kittery Traffic Circle; marked crosswalks provided for crossing all legs and across the La Casita restaurant driveways	Yes; shared traveled-way ^b

^aRotary control.

^bCombined shoulder and travel lane width equal to or exceeding 14 feet.

TRAFFIC VOLUMES

In order to determine existing traffic-volume demands and flow patterns within the study area, automatic traffic recorder (ATR) counts, turning movement counts (TMCs), and vehicle classification counts were completed in July 2023. The ATR counts were conducted on July 12th through July 13th, 2023 (Wednesday and Thursday, inclusive) on Old Post Road, southwest of the Kittery Traffic Circle, and on the Route 1 Bypass, southwest of Route 236, in order to record weekday traffic conditions over an extended period, with weekday morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak-period TMCs performed at the Kittery Traffic Circle on July 13th, 2023 (Thursday). These time periods were selected for analysis purposes as they are representative of the peak-traffic-volume hours for both the Project and the adjacent roadway network.

Traffic-Volume Adjustments

In accordance with MaineDOT requirements, the raw traffic count data was adjusted to the 30th highest hour (6th highest week of the year) in order to develop design condition traffic volumes from which to assess the impact of the Project on the roadway network. In order to determine the appropriate adjustment factor, traffic count data available from MaineDOT was reviewed for Arterial Group 2 Roadways, the functional classification of Routes 1 and 236.³ Based on a review of this data, it was determined that the July traffic count data is approximately 1.2 percent *below* the 30th highest design hour traffic volumes. As such, the July traffic volume data collected as a part of this assessment was increased by 1.2 percent in order to be representative of the 30th highest design hour traffic volumes.

In order to account for the impact on traffic volumes and trip patterns resulting from the COVID-19 pandemic, traffic-volume data collected at the MaineDOT Continuous Count Station No. 133113054702, located on Interstate 95 (I-95) southbound at the Maine state line, in July 2023 was compared to data collected at the same count station in July 2019. Based on this pre- and post-COVID-19 traffic-volume comparison, the traffic-volume data that was collected as part of this

³MaineDOT Traffic Volume Counts, 2018 Annual Report, Arterial Group 2 Roadways.

assessment was found to be generally consistent with pre-COVID (2019) conditions. As such, no adjustment (beyond 30th highest hour adjustment) was made to the July 2023 traffic volume as they are representative of pre-COVID traffic volume conditions.

The 2023 Existing traffic volumes are summarized in Table 2, with the weekday morning and evening peak-hour traffic volumes graphically depicted on Figures 3 and 4, respectively. Note that the peak-hour traffic volumes that are presented in Table 2 were obtained from the aforementioned figures.

Table 2
2023 EXISTING TRAFFIC VOLUMES

Location/Peak Hour	AWT ^a	VPH ^b	K Factor ^c	Directional Distribution ^d
<i>Old Post Road, southwest of Traffic Circle:</i>	2,050	--	--	--
Weekday Morning (8:00 – 9:00 AM)	--	146	7.1	54.8% NEB
Weekday Evening (4:30 – 5:30 PM)	--	178	8.7	59.6% NEB
<i>Route 1 Bypass, southwest of Route 236:</i>	7,110	--	--	--
Weekday Morning (8:00 – 9:00 AM)	--	644	9.1	61.2% SB
Weekday Evening (4:30 – 5:30 PM)	--	816	11.5	57.1% NB

^aAverage weekday traffic in vehicles per day.

^bVehicles per hour.

^cPercent of daily traffic occurring during the peak hour.

^dPercent traveling in peak direction.

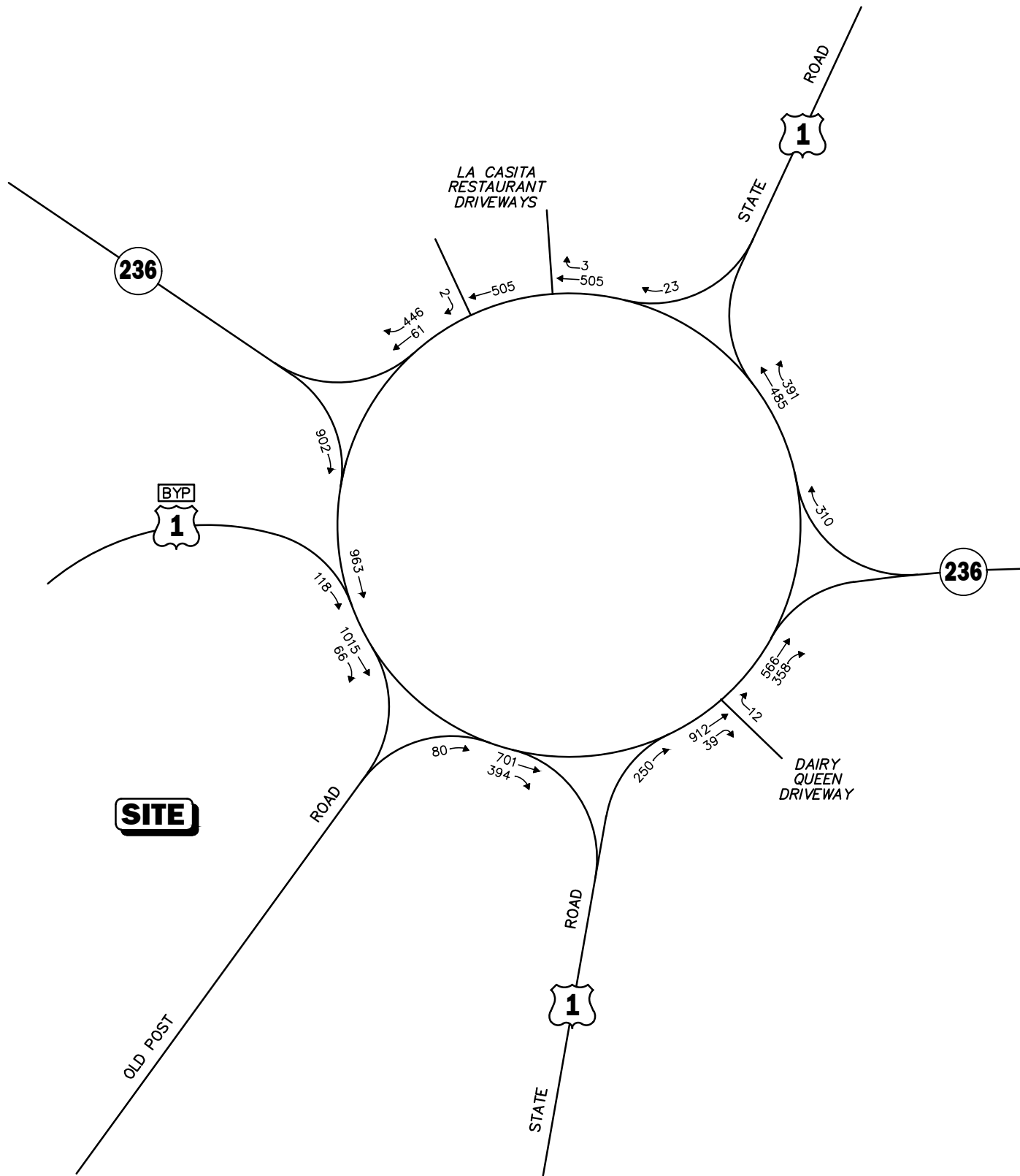
NB = northbound; SB = southbound; NEB = northeastbound.

As can be seen in Table 2, Old Post Road in the vicinity of the Project site was found to accommodate approximately 2,050 vehicles on an average weekday (two-way, 24-hour volume), with approximately 146 vehicles per hour (vph) during the weekday morning peak-hour and 178 vph during the weekday evening peak-hour.

The Route 1 Bypass, southwest of Route 236, was found to accommodate approximately 7,110 vehicles on an average weekday, with approximately 644 vph during the weekday morning peak hour and 816 vph during the weekday evening peak-hour.

PEDESTRIAN AND BICYCLE FACILITIES

A comprehensive field inventory of pedestrian and bicycle facilities within the study area was undertaken in July 2023. The field inventory consisted of a review of the location of sidewalks and pedestrian crossing locations along the study roadways and at the study area intersections, as well as the location of existing and planned future bicycle facilities. As detailed on Figure 2, sidewalks are provided along the east side of Route 1 and around the perimeter of the Kittery Traffic Circle, with marked crosswalks provided for crossing all legs of the Kittery Traffic Circle and across the La Casita restaurant driveways.

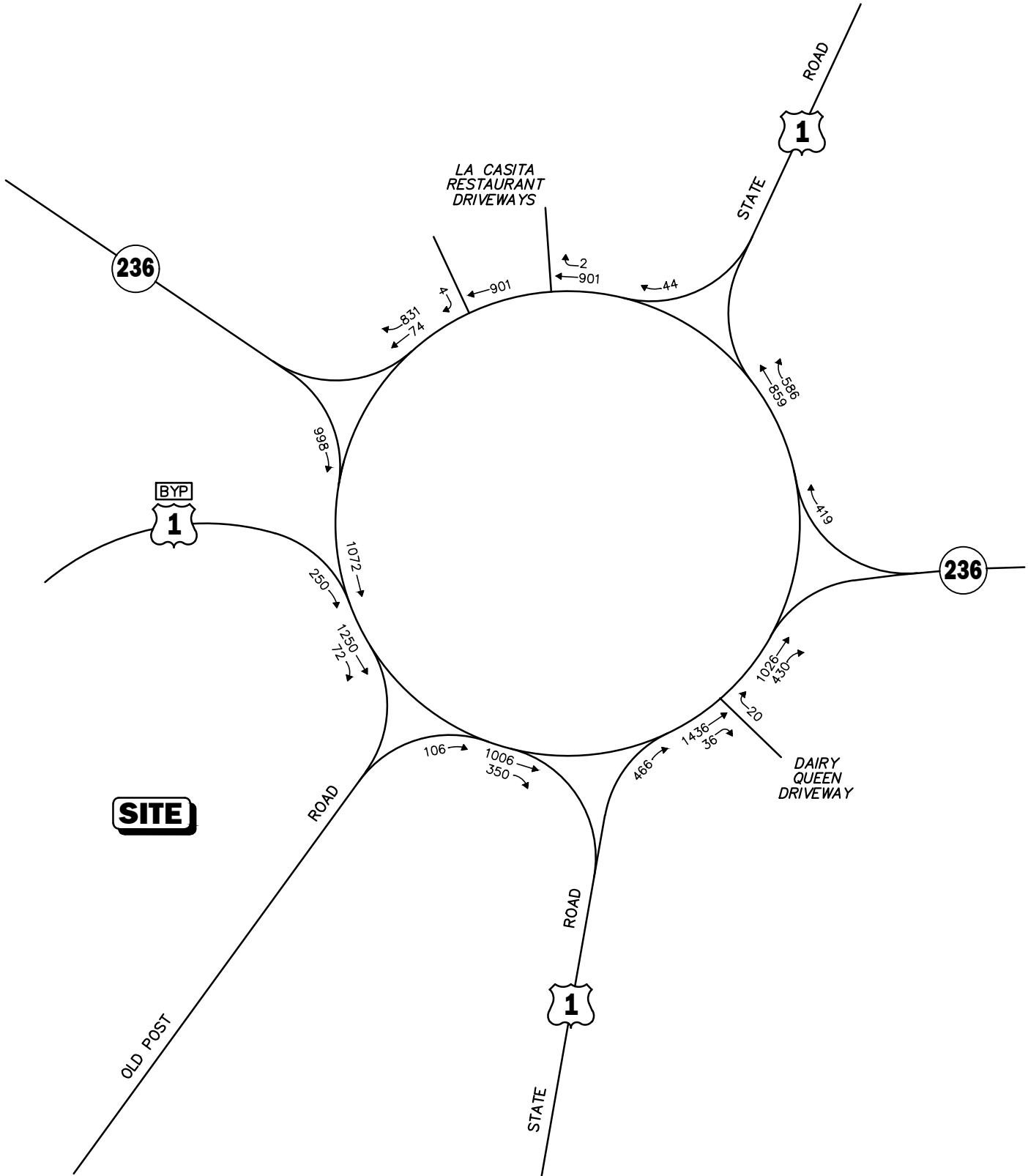


Not To Scale

Figure 3



2023 Existing Weekday Morning Peak-Hour Traffic Volumes



Not To Scale

Figure 4



2023 Existing Weekday Evening Peak-Hour Traffic Volumes

Formal bicycle facilities are not provided within the study area; however, the study area roadways generally provides sufficient width (combined travel lane and shoulder) to support bicycle travel in a shared traveled-way configuration.⁴

PUBLIC TRANSPORTATION

Public transportation services are provided within the study area by the Cooperative Alliance for Seacoast Transportation (COAST). COAST provides fixed-route bus service along Route 1, south of the Kittery Traffic Circle, and on Route 236, west of the Kittery Traffic Circle, by way of Route 100, *Somersworth/Berwick/Kittery (PNSY Gate 1)*, which provides service between Tri-City Plaza in Somersworth, Maine and Government Street in Kittery, Maine. The closest stop to the Project site is Government Street, approximately 1.3 miles to the south of the Project site. In addition to fixed-route bus services, COAST provides paratransit services for eligible persons who cannot use fixed-route transit all or some of the time due to a physical, cognitive or mental disability in compliance with the Americans with Disabilities Act (ADA).

The public transportation schedules and fare information are provided in the Appendix.

SPOT SPEED MEASUREMENTS

Vehicle travel speed measurements were performed on Old Post Road in the vicinity of the Project site in conjunction with the ATR counts. Table 3 summarizes the vehicle travel speed measurements.

Table 3
VEHICLE TRAVEL SPEED MEASUREMENTS

	Old Post Road	
	Northeastbound	Southwestbound
Mean Travel Speed (mph)	25	27
85 th Percentile Speed (mph)	32	33
Posted Speed Limit (mph)	25	25

mph = miles per hour.

As can be seen in Table 3, the mean vehicle travel speed along Old Post Road in the vicinity of the Project site was found to be 25 mph in the northeastbound direction and 27 mph southwestbound. The measured 85th percentile vehicle travel speed, or the speed at which 85 percent of the observed vehicles traveled at or below, was found to be 32 mph in the northeastbound direction and 33 mph southwestbound, which is 7 to 8 mph *above* the posted speed limit in the vicinity of the Project site (25 mph).

⁴A minimum combined travel lane and paved shoulder width of 14 feet is required to support bicycle travel in a shared traveled-way condition.

MOTOR VEHICLE CRASH DATA

Motor vehicle crash information for the study area intersections was provided by the MaineDOT and the Maine Bureau of Highway Safety for the most recent three-year period available (2019 through 2021, inclusive) in order to examine motor vehicle crash trends occurring within the study area. The data is summarized by intersection, type, severity, and day of occurrence, and presented in Table 4.

Table 4
MOTOR VEHICLE CRASH DATA SUMMARY^a

	Kittery Traffic Circle	Old Post Road at the Project Site Driveway
Traffic Control Type ^b	R	U
<i>Year:</i>		
2019	12	0
2020	6	0
<u>2021</u>	<u>11</u>	<u>0</u>
Total	29	0
Average	9.67	0.00
<i>Type:</i>		
Intersection Movement	4	0
Rear-End/Sideswipe	22	0
Went off Road	2	0
Pedestrian/Bicycle	0	0
<u>Other</u>	<u>1</u>	<u>0</u>
Total	29	0
<i>Day of Week:</i>		
Monday-Friday	21	0
Saturday	7	0
<u>Sunday</u>	<u>1</u>	<u>0</u>
Total	29	0
<i>Severity:</i>		
Property Damage Only	25	0
Non-fatal Injury	4	0
<u>Not Reported</u>	<u>0</u>	<u>0</u>
Total	29	0

^aSource: MaineDOT and the Maine Bureau of Highway Safety records, 2019 through 2021.

^bTraffic Control Type: R = signalized, U = unsignalized.

As can be seen in Table 4, no (0) reported motor vehicle crashes were reported to have occurred along Old Post Road in the vicinity of the Project site over the three-year review period. The Kittery Traffic Circle was reported to have experienced 29 reported motor vehicle crashes over the three-year review period, or an average of 9.67 crashes per year, the majority of which occurred on a weekday and involved rear-end or sideswipe type collisions that resulted in property damage only.

A review of the MaineDOT statewide high crash location list indicated that the Kittery Traffic Circle is included on MaineDOT's High Crash Location (HCL) list for 2019 through 2021. MaineDOT defines an HCL as a location where the critical rate factor (CRF) is at least 1.00 and at

least eight (8) motor vehicle crashes were reported to have occurred within the three-year period that includes the review year and the two years prior. As such, specific recommendations have been provided to advance safety-related improvements at this intersection (discussed in the *Recommendations* section of this assessment).

FUTURE CONDITIONS

Traffic volumes in the study area were projected to the year 2028, which reflects a five-year planning horizon consistent with MaineDOT's *Traffic Movement Permit* guidelines and represents the anticipated completion date of the Project. Independent of the Project, traffic volumes on the roadway network in the year 2028 under No-Build conditions include all existing traffic and new traffic resulting from background traffic growth. Anticipated Project-generated traffic volumes superimposed upon the 2028 No-Build traffic volumes to reflect 2028 Build traffic-volume conditions with the Project.

FUTURE TRAFFIC GROWTH

Future traffic growth is a function of the expected land development in the immediate area and the surrounding region. Several methods can be used to estimate this growth. A procedure frequently employed estimates an annual percentage increase in traffic growth and applies that percentage to all traffic volumes under study. The drawback to such a procedure is that some turning volumes may actually grow at either a higher or a lower rate at particular intersections.

An alternative procedure identifies the location and type of planned development, estimates the traffic to be generated, and assigns it to the area roadway network. This procedure produces a more realistic estimate of growth for local traffic; however, potential population growth and development external to the study area would not be accounted for in the resulting traffic projections.

To provide a conservative analysis framework, both procedures were used, the salient components of which are described below.

Specific Development by Others

The Planning and Development Department of the Town of Kittery was consulted in order to determine if there were any projects planned within the study area that would have an impact on future traffic volumes at the study intersections. Based on this consultation, the following specific developments by others were identified for inclusion in this assessment:

- ***Proposed Hotel Development, 85 U.S. Route 1, Kittery, Maine.*** This project entails the construction of a 107-room hotel to be located at 85 U.S. Route 1 to the southwest of the Project site.

- ***Proposed Hotel Development, 90 U.S. Route 1, Kittery, Maine.*** This project entails the construction of a 63-room hotel to be located at 90 U.S. Route 1 to the southwest of the Project site.
- ***Proposed Hotel/Multifamily Development, 283 U.S. Route 1, Kittery, Maine.*** This project will entail the construction of a hotel and multifamily residential building to be located at 283 U.S. Route 1 to the north of the Project that will provide a total of 220 occupiable units (hotel rooms and residential units). For the purpose of this assessment, it was assumed that all 220 units would be associated with a hotel use, which was determined to result in the higher overall peak-hour traffic volume for the development.

Traffic volumes associated with the aforementioned specific developments projects by others were estimated using trip-generation statistics published by the ITE⁵ and were assigned onto the study area roadway network based on existing traffic patterns where no other information was available. No other developments were identified that are expected to result in an increase in traffic within the study area beyond the general background traffic growth rate (discussion follows).

General Background Traffic Growth

Traffic-volume data compiled by MaineDOT from permanent count stations located along Interstate 95 (I-95) in Kittery were reviewed in order to determine general traffic growth trends in the area. This data indicates that traffic volumes have fluctuated over the past several years, with the average growth rate found to be approximately 0.98 percent. As such, a 1.0 percent per year compounded annual background traffic growth rate was used in order to account for future traffic growth and presently unforeseen development within the study area.

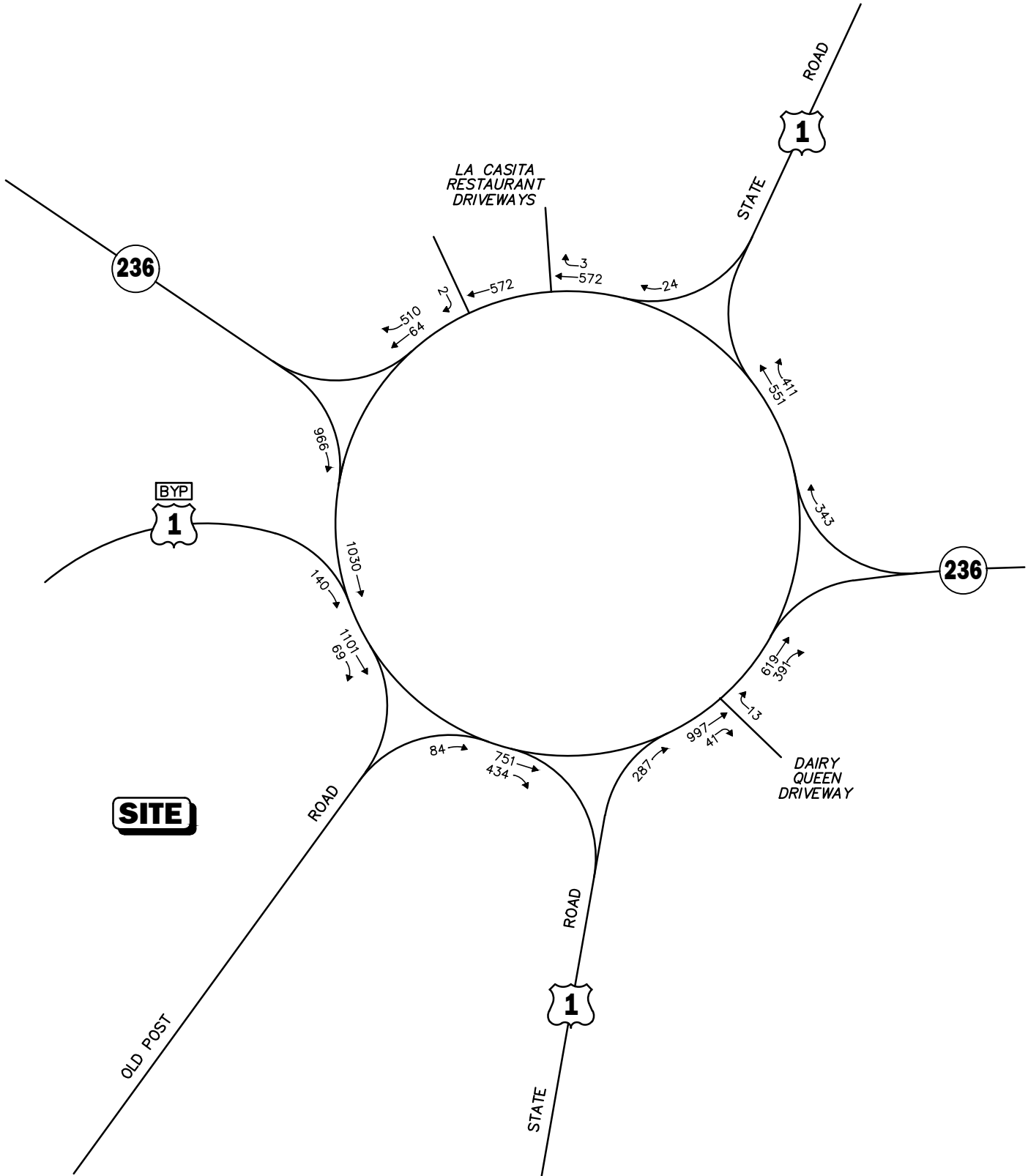
Roadway Improvement Projects

MaineDOT and the Town of Kittery were consulted in order to determine if there were any planned future roadway improvement projects expected to be completed by 2028 within the study area. Based on these discussions, no roadway improvement projects aside from routine maintenance activities were identified to be planned within the study area at this time.

No-Build Traffic Volumes

The 2028 No-Build condition peak-hour traffic volumes were developed by applying the 1.0 percent per year compounded annual background traffic growth rate to the 2023 Existing peak-hour traffic volumes. The resulting 2028 No-Build weekday morning and evening peak-hour traffic volumes are shown on Figures 5 and 6, respectively.

⁵Institute of Transportation Engineers, op. cit. 1.

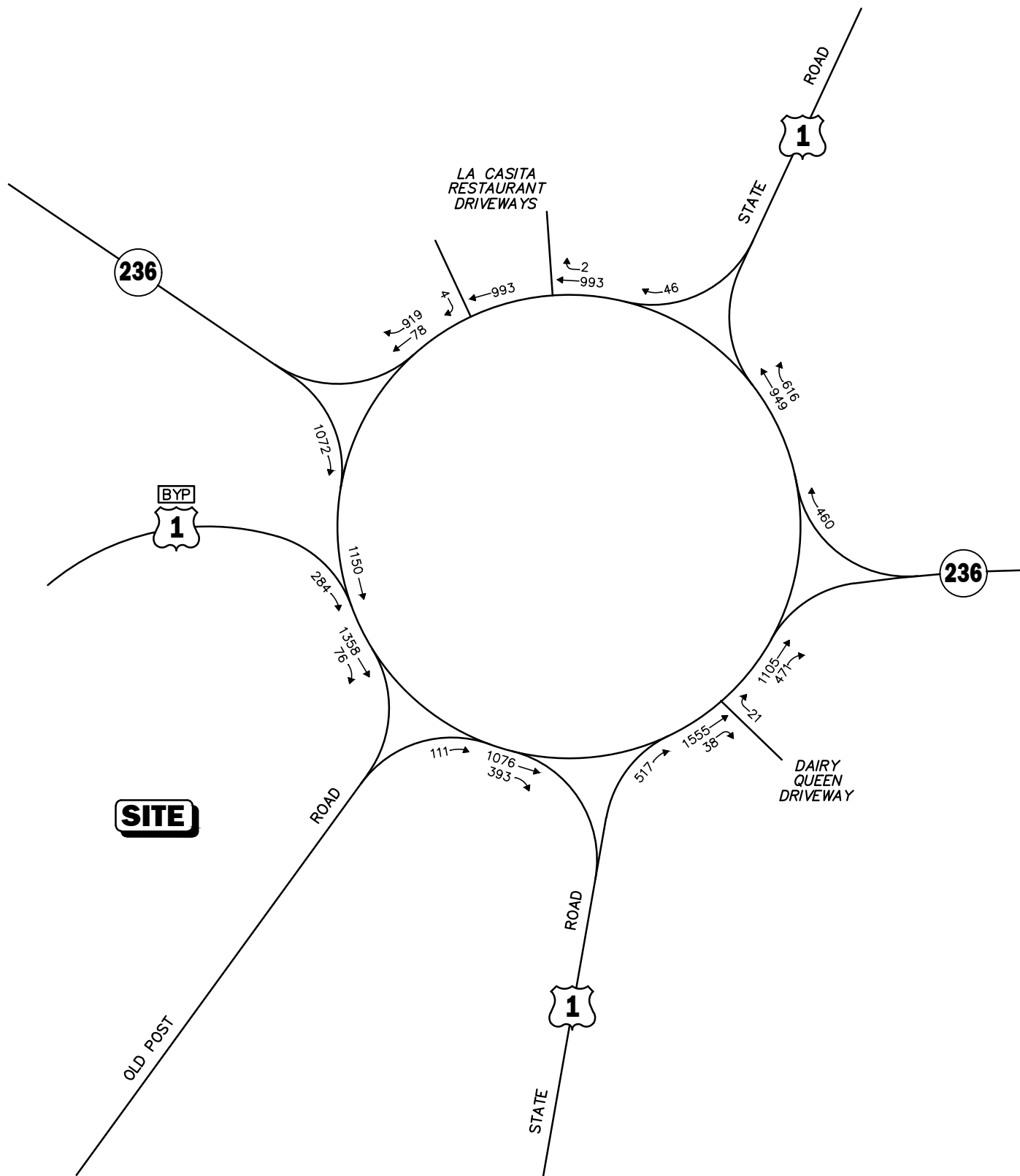


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Figure 5

2028 No-Build
Weekday Morning
Peak-Hour Traffic Volumes



Not To Scale



Figure 6

2028 No-Build
Weekday Evening
Peak-Hour Traffic Volumes

PROJECT-GENERATED TRAFFIC

Design year (2028 Build) traffic volumes for the study area roadways were determined by estimating Project-generated traffic volumes and assigning those volumes on the study roadways. The following sections describe the methodology used to develop the anticipated traffic characteristics of the Project.

As proposed, the Project will entail the construction of a 102-room extended stay hotel. In order to develop the traffic characteristics of the Project, trip-generation statistics published by the Institute of Transportation Engineers (ITE)⁶ for various hotel uses were reviewed, including those for a conventional hotel and a business hotel. Based on this review, ITE Land Use Code (LUC) 310, *Hotel*, was used to develop the traffic characteristics of the Project given that it produced higher overall traffic volumes from which to assess the impacts of the Project. The resulting traffic volumes are summarized in Table 5.

Table 5
TRIP GENERATION SUMMARY

Time Period	Vehicle Trips^a		
	Entering	Exiting	Total
<i>Average Weekday:</i>	408	408	816
<i>Weekday Morning Peak-Hour:</i>	24	20	44
<i>Weekday Evening Peak-Hour:</i>	24	24	48

^aBased on ITE LUC 310, *Hotel* (102 rooms).

Project-Generated Traffic-Volume Summary

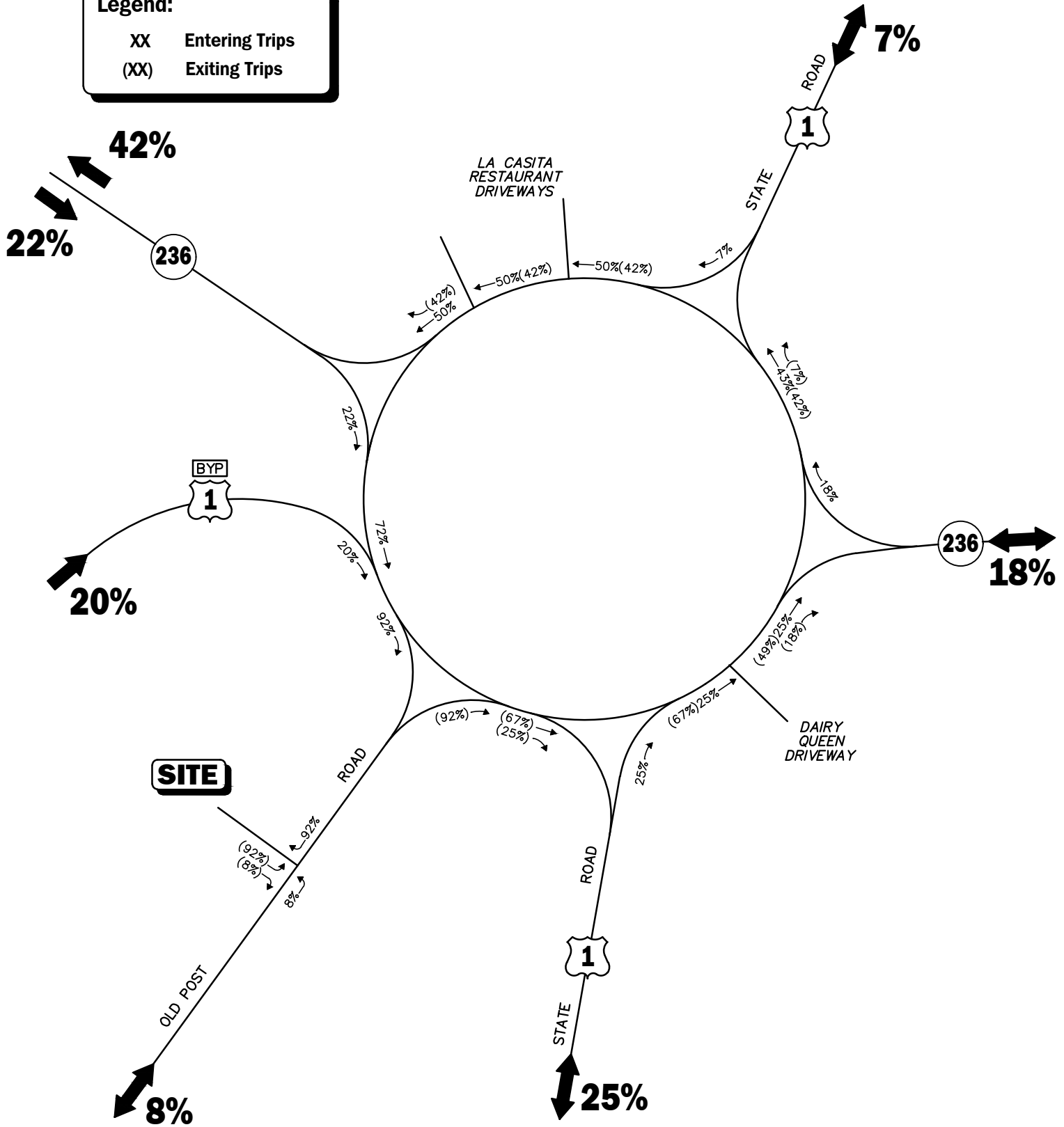
As can be seen in Table 5, the Project is expected to generate approximately 816 vehicle trips on an average weekday (two-way, 24-hour volume, or 408 vehicles entering and 408 exiting), with 44 vehicle trips (24 vehicles entering and 20 exiting) expected during the weekday morning peak-hour and 48 vehicle trips (24 vehicles entering and 24 exiting) expected during the weekday evening peak-hour.

TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution of generated trips to and from the Project site was determined based on a review of Journey-to-Work data obtained from the U.S. Census for the Town of Kittery and then refined based on existing travel patterns and the most direct travel route between the Project site, the Interstate Highway System (I-95). The general trip distribution for the Project is graphically depicted on Figure 7. The additional traffic expected to be generated by the Project was assigned on the study area roadway network as shown on Figures 8 and 9 for the weekday morning and evening peak hours, respectively.

⁶Ibid.

Legend:
 XX Entering Trips
 (XX) Exiting Trips



Not To Scale Figure 7

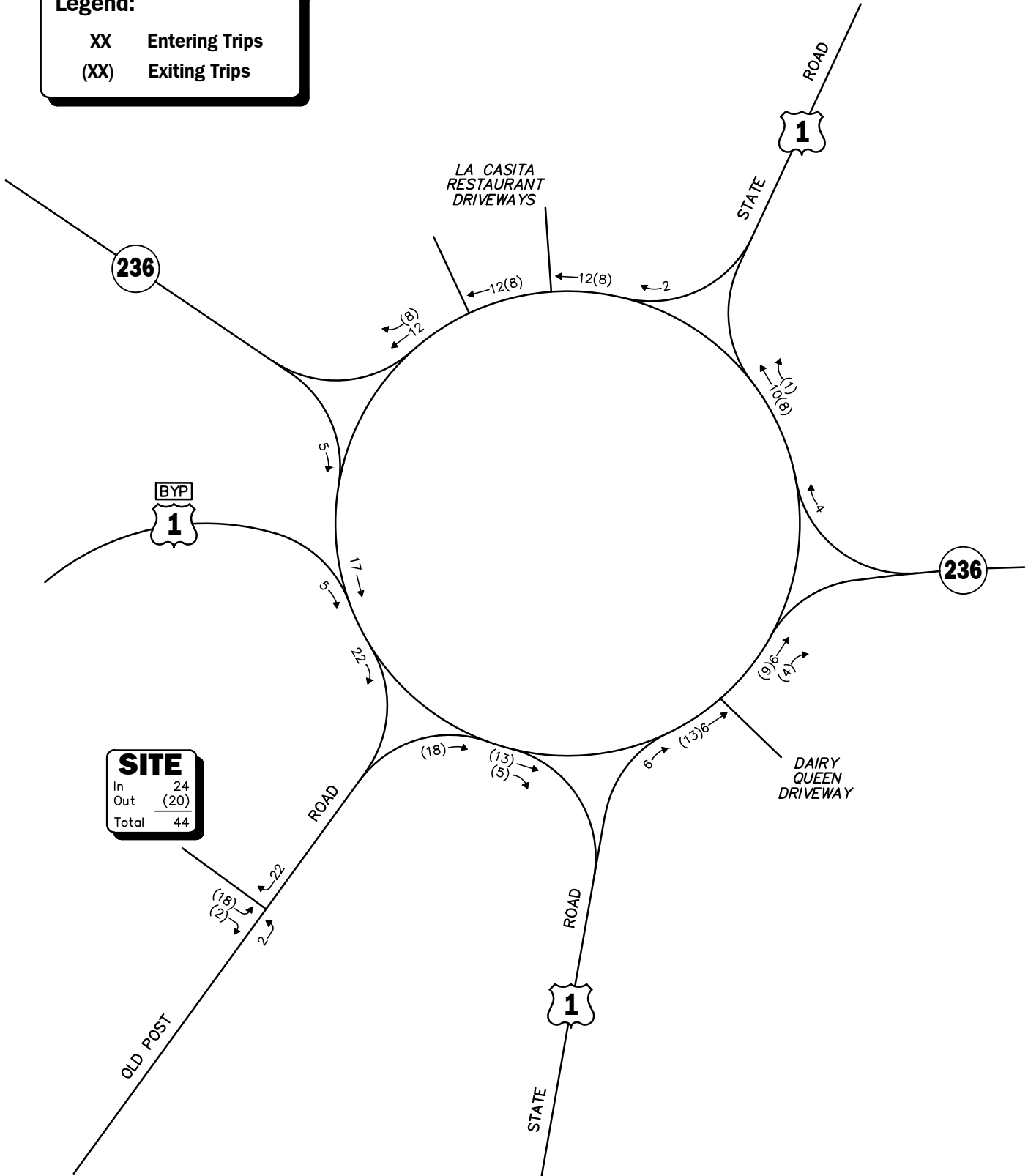


Trip Distribution Map

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Legend:

- XX Entering Trips
- (XX) Exiting Trips



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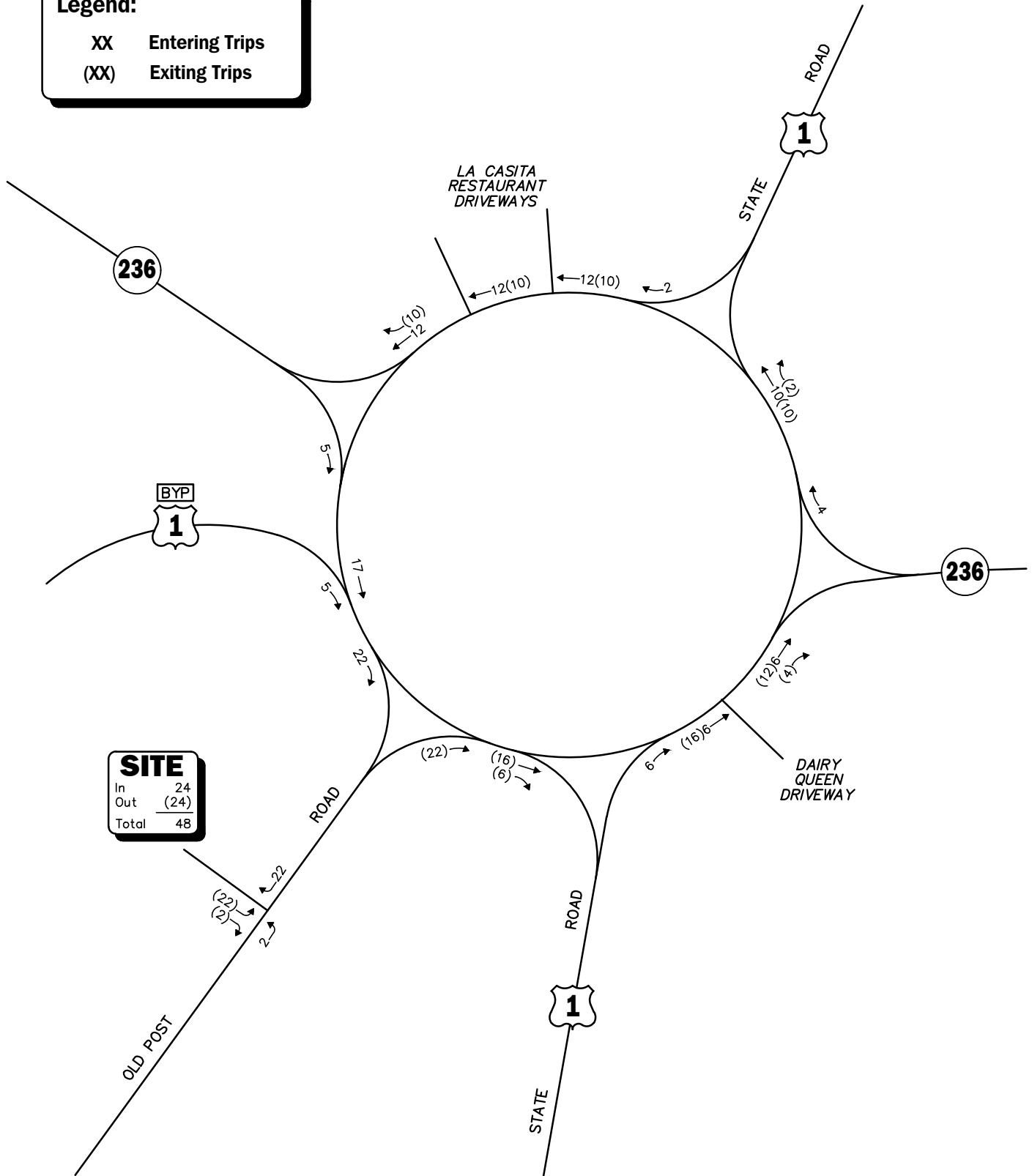
Figure 8



**Project-Generated
Weekday Morning
Peak-Hour Traffic Volumes**

Legend:

- XX** Entering Trips
- (XX)** Exiting Trips



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Figure 9

**Project-Generated
Weekday Evening
Peak-Hour Traffic Volumes**



FUTURE TRAFFIC VOLUMES - BUILD CONDITION

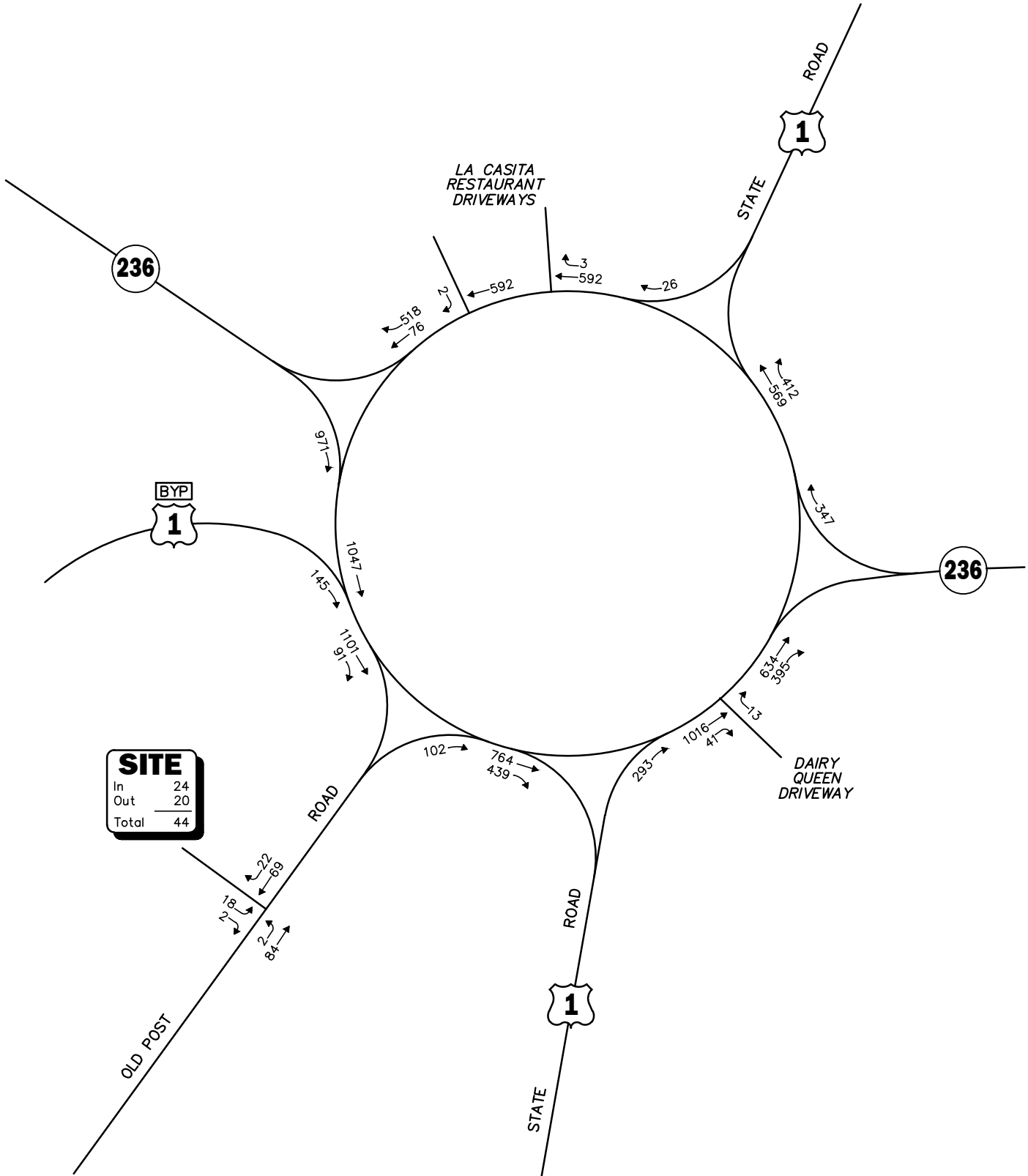
The 2028 Build condition traffic volumes consist of the 2028 No-Build traffic volumes with the additional traffic expected to be generated by the Project added to them. The 2028 Build weekday morning and evening peak-hour traffic volumes are graphically depicted on Figures 10 and 11, respectively.

A summary of peak-hour projected traffic-volume changes outside of the study area that is the subject of this assessment is shown in Table 6. These changes are a result of the construction of the Project.

**Table 6
PEAK-HOUR TRAFFIC-VOLUME INCREASES**

Location/Peak-Hour	2023 Existing	2028 No-Build	2028 Build	Traffic-Volume Increase Over No-Build	Percent Increase Over No-Build
<i>Route 1, north of Kittery Traffic Circle:</i>					
Weekday Morning	414	435	438	3	0.7
Weekday Evening	630	662	666	4	0.6
<i>Route 1, south of Kittery Traffic Circle:</i>					
Weekday Morning	644	721	732	11	1.5
Weekday Evening	816	910	922	12	1.3
<i>Route 236, east of Kittery Traffic Circle:</i>					
Weekday Morning	668	734	742	8	1.1
Weekday Evening	849	931	939	8	0.9
<i>Route 236, west of Kittery Traffic Circle:</i>					
Weekday Morning	1,348	1,476	1,489	13	0.9
Weekday Evening	1,829	1,991	2,006	15	0.8
<i>Old Post Road, south of the Project Site:</i>					
Weekday Morning	146	153	157	4	2.6
Weekday Evening	178	187	191	4	2.1

As shown in Table 6, Project-related traffic-volume changes outside of the study area relative to 2028 No-Build conditions are anticipated to range from increases of between 0.6 and 2.6 percent during the peak periods, or an increase of between 3 and 15 vehicles. *When distributed over the respective peak hours and to the roadway network that serves the Project site, the identified traffic-volume increases outside the immediate study area are not expected to result in a significant increase in motorist delays or vehicle queuing over anticipated future conditions without the Project (i.e., No-Build conditions).*



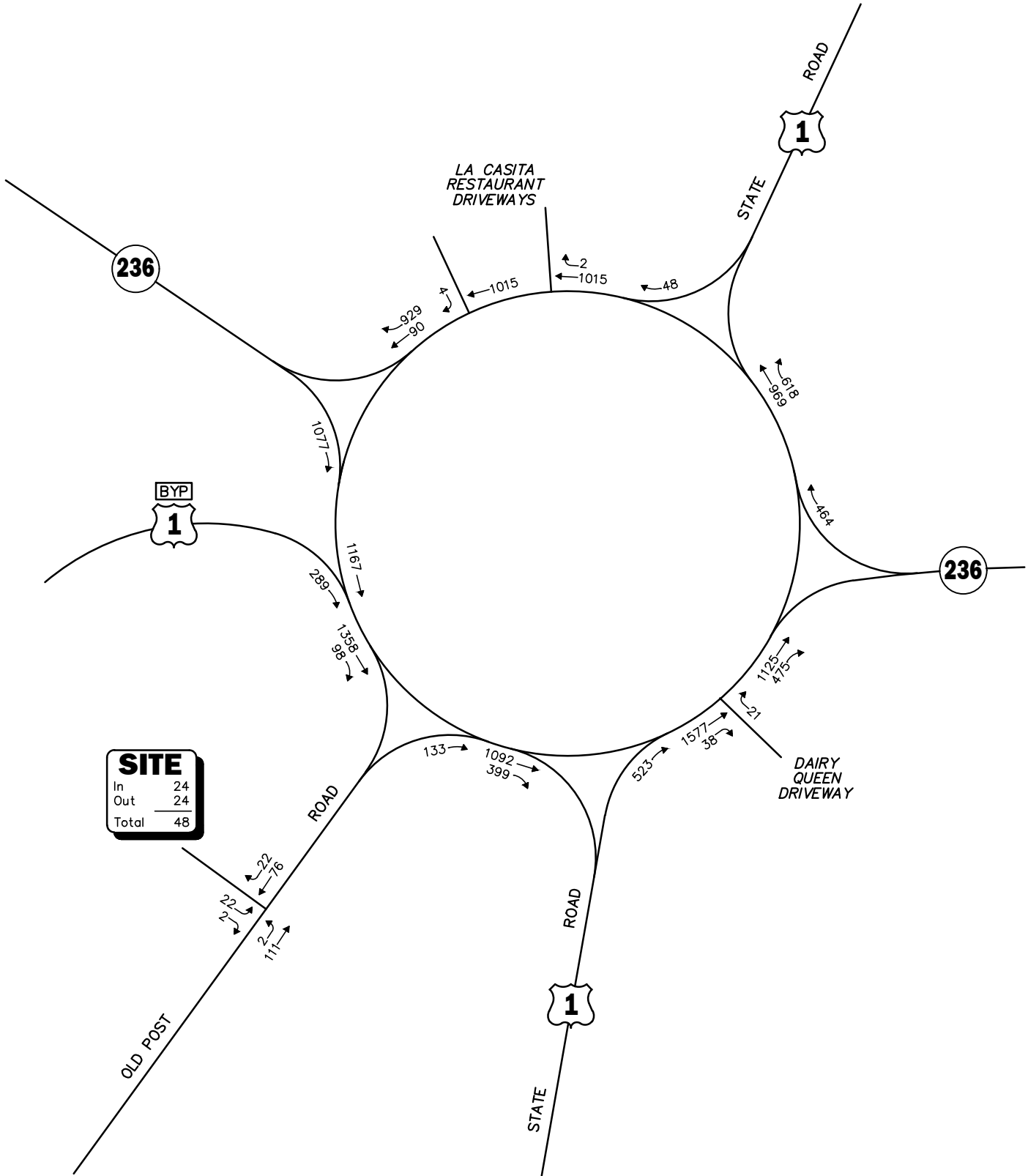
SITE	
In	24
Out	20
Total	44

Not To Scale

Figure 10
2028 Build
Weekday Morning
Peak-Hour Traffic Volumes



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SITE	
In	24
Out	24
Total	48

Not To Scale

Figure 11

2028 Build
Weekday Evening
Peak-Hour Traffic Volumes



TRAFFIC OPERATIONS ANALYSIS

Measuring existing and future traffic volumes quantifies traffic flow within the study area. To assess quality of flow, roadway capacity and vehicle queue analyses were conducted under Existing, No-Build, and Build traffic-volume conditions. Capacity analyses provide an indication of how well the roadway facilities serve the traffic demands placed upon them, with vehicle queue analyses providing a secondary measure of the operational characteristics of an intersection or section of roadway under study.

METHODOLOGY

Levels of Service

A primary result of capacity analyses is the assignment of level of service to traffic facilities under various traffic-flow conditions.⁷ The concept of level of service is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six levels of service are defined for each type of facility. They are given letter designations from A to F, with level-of-service (LOS) A representing the best-operating conditions and LOS F representing congested or constrained operating conditions.

Since the level of service of a traffic facility is a function of the traffic flows placed upon it, such a facility may operate at a wide range of levels of service, depending on the time of day, day of week, or period of year.

⁷The capacity analysis methodology is based on the concepts and procedures presented in the *Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010.

Unsignalized Intersections

The six levels of service for unsignalized intersections may be described as follows:

- *LOS A* represents a condition with little or no control delay to minor street traffic.
- *LOS B* represents a condition with short control delays to minor street traffic.
- *LOS C* represents a condition with average control delays to minor street traffic.
- *LOS D* represents a condition with long control delays to minor street traffic.
- *LOS E* represents operating conditions at or near capacity level, with very long control delays to minor street traffic.
- *LOS F* represents a condition where minor street demand volume exceeds capacity of an approach lane, with extreme control delays resulting.

The levels of service of unsignalized intersections are determined by application of a procedure described in the 2010 *Highway Capacity Manual*.⁸ Level of service is measured in terms of average control delay. Mathematically, control delay is a function of the capacity and degree of saturation of the lane group and/or approach under study and is a quantification of motorist delay associated with traffic control devices such as traffic signals and STOP signs. Control delay includes the effects of initial deceleration delay approaching a STOP sign, stopped delay, queue move-up time, and final acceleration delay from a stopped condition. Definitions for level of service at unsignalized intersections are also given in the 2000 *Highway Capacity Manual*. Table 7 summarizes the relationship between level of service and average control delay for two-way STOP-controlled and all-way STOP-controlled intersections.

Table 7
LEVEL-OF-SERVICE CRITERIA FOR
UNSIGNALIZED INTERSECTIONS^a

Level-of-Service	Average Control Delay (Seconds Per Vehicle)
A	≤ 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	> 50.0

^aSource: *Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010; page 17-2.

⁸*Highway Capacity Manual*; Transportation Research Board; Washington, DC; 2010.

Rotaries

The rotary capacity analysis is based on the procedures described in the *aaTraffic Signalized and Unsignalized Intersection Design and Research Aid (aaSIDRA)*.⁹ The main features of the *aaSIDRA* method for rotary capacity estimation are the dependence of gap acceptance parameters on rotary geometry, circulating flows and entry lane flows, and the designation of approach lanes as controlling and otherwise that have different capacity characteristics. Provision of two-lane approaches tend to substantially increase rotary capacity. As a general rule, individual approach volumes exceeding 85 percent of the calculated capacity of that approach are considered over-saturated and indicate areas of concern.

The *aaSIDRA* analytical model calculates several components of delay. One of these, the average total delay component, produces level-of-service results based on the concepts described in the HCM. Using this level-of-service delay definition for rotaries results in criteria that are the same for signalized intersections. The delay ranges that define levels of service for rotaries are shown in Table 8.

Table 8
LEVEL-OF-SERVICE CRITERIA FOR ROTARIES

Level of Service	Control Delay Per Vehicle (Seconds)
A	≤ 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	>50.0

Source: *aaSIDRA 6.1 Users Guide*; Akcelik & Associates Pty Ltd; Greythorn, Victoria 3104, Australia; November 2012.

Vehicle Queue Analysis

Vehicle queue analyses are a direct measurement of an intersection's ability to process vehicles under various traffic control and volume scenarios and lane use arrangements. The vehicle queue analysis was performed using the Synchro® intersection capacity analysis software for unsignalized and signalized intersections, and using the *aaSIDRA* analytical model for rotaries, which are based upon the methodology and procedures presented in the 2010 *Highway Capacity Manual*. The Synchro® vehicle queue analysis methodology is a simulation based model which reports the number of vehicles that experience a delay of six seconds or more at an intersection. For signalized intersections, Synchro® reports both the average (50th percentile) and the 95th percentile vehicle queue. For unsignalized intersections and rotaries, Synchro® and *aaSIDRA*, respectively, report the 95th percentile vehicle queue. Vehicle queue lengths are a function of the capacity of the movement under study and the volume of traffic being processed by the intersection during the analysis period. The 95th percentile vehicle queue is the vehicle queue length that will be exceeded only 5 percent of the time, or approximately 3 minutes out of 60 minutes during the

⁹*aaTraffic Signalized and Unsignalized Intersection Design and Research Aid, aaSIDRA 6.1 User Guide*; Akcelik & Associates Pty Ltd; Greythorn, Victoria 3104, Australia; November 2012.

peak one hour of the day (during the remaining 57 minutes, the vehicle queue length will be less than the 95th percentile queue length).

ANALYSIS RESULTS

Level-of-service and vehicle queue analyses were conducted for 2023 Existing, 2028 No-Build, and 2028 Build conditions for the intersections within the study area. The results of the intersection capacity and vehicle queue analyses are summarized in Tables 9 and 10, with the detailed analysis results presented in the Appendix.

The following is a summary of the level-of-service and vehicle queue analyses for the intersections within the study area. For context, an LOS of “D” or better is generally defined as “acceptable” operating conditions. Project-related impacts at the study area intersections are shown in Tables 9 and 10 and are defined as follows:

Kittery Traffic Circle (Route 1 at Route 236 and Old Post Road)

No change in overall intersection operations was shown to occur over No-Build conditions, with Project-related impacts generally defined as a predicted increase in overall average motorist delay that resulted in an increase in vehicle queuing of up to four (4) vehicles. Focusing on individual movements, the Old Post Road approach was shown to experience an increase in average motorist delay of 1.3 seconds during the weekday morning peak-hour that caused a change in level of service from LOS B to LOS C and an increase of 3.6 seconds during the weekday evening peak-hour that caused a change in level of service from LOS C to LOS D. Independent of the Project, overall intersection operations as well as specific movements entering the rotary are currently operating over capacity (i.e., LOS “F”) during the weekday evening peak-hour.

Old Post Road at the Project Site Driveway

All movements at the Project site driveway intersection with Old Post Road are predicted to operate at LOS A with negligible vehicle queuing.

Table 9
UNSIGNALIZED INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Unsignalized Intersection/ Peak Hour/Movement	2023 Existing				2028 No-Build				2028 Build			
	Demand ^a	Delay ^b	LOS ^c	Queue ^d 95 th	Demand	Delay	LOS	Queue 95 th	Demand	Delay	LOS	Queue 95 th
Old Post Road at Project Site Driveway												
<i>Weekday Morning:</i>												
Project Site Driveway EB LT/RT	--	--	--	--	--	--	--	--	20	9.5	A	0
Old Post Road NB LT/TH	--	--	--	--	--	--	--	--	86	0.2	A	0
Old Post Road SB TH/RT	--	--	--	--	--	--	--	--	91	0.0	A	0
<i>Weekday Evening:</i>												
Project Site Driveway EB LT/RT	--	--	--	--	--	--	--	--	24	9.8	A	0
Old Post Road NB LT/TH	--	--	--	--	--	--	--	--	113	0.1	A	0
Old Post Road SB TH/RT	--	--	--	--	--	--	--	--	98	0.0	A	0

^aVolume-to-capacity ratio.

^bControl (signal) delay per vehicle in seconds.

^cLevel of service.

^dQueue length in vehicles.

NB = northbound; SB = southbound; EB = eastbound; WB = westbound; LT = left-turning movements; TH = through movements; RT = right-turning movements

Table 11
ROTARY INTERSECTION LEVEL-OF-SERVICE AND VEHICLE QUEUE SUMMARY

Roundabout Intersection/Peak Hour/Movement	2023 Existing				2028 No-Build				2028 Build			
	Demand ^a	Delay ^b	LOS ^c	Queue ^d 95 th	Demand	Delay	LOS	Queue 95 th	Demand	Delay	LOS	Queue 95 th
Kittery Traffic Circle												
<i>Weekday Morning:</i>												
Route 1 NB	294	13.9	B	3	338	17.9	C	4	345	19.1	C	5
Dairy Queen Driveway NWB	20	8.3	A	0	22	9.3	A	0	22	9.5	A	0
Route 236 WB	352	13.1	B	4	390	16.6	C	5	394	17.6	C	5
Route 1 SWB	28	5.1	A	0	29	5.6	A	0	32	5.8	A	0
La Casita Driveways SB	4	5.0	A	0	4	5.4	A	0	4	5.5	A	0
Route 236 SEB	970	15.8	C	11	1,039	19.2	C	14	1,044	20.7	C	14
Route 1 Bypass EB	137	12.7	B	1	163	15.6	C	2	169	16.5	C	2
Old Post Road NEB	98	12.0	B	1	102	13.9	B	1	124	15.2	C	2
Overall	--	14.3	B	--	--	17.7	C	--	--	18.8	C	--
<i>Weekday Evening:</i>												
Route 1 NB	480	>50.0	F	28	533	>50.0	F	53	539	>50.0	F	57
Dairy Queen Driveway NWB	28	14.4	B	1	30	15.3	C	1	30	15.5	C	1
Route 236 WB	530	>50.0	F	38	582	>50.0	F	55	587	>50.0	F	57
Route 1 SWB	66	8.4	A	1	69	8.5	A	1	72	8.7	A	1
La Casita Driveways SB	4	7.4	A	0	4	7.4	A	0	4	7.5	A	0
Route 236 SEB	1,062	21.9	C	15	1,140	29.4	D	22	1,146	31.9	D	24
Route 1 Bypass EB	291	31.3	D	5	330	>50.0	F	8	336	>50.0	F	10
Old Post Road NEB	116	18.7	C	2	122	23.2	C	2	146	26.8	D	2
Overall	--	>50.0	F	--	--	>50.0	F	--	--	>50.0	F	--

^aDemand in vehicles per hour.

^bAverage control delay per vehicle (in seconds).

^cLevel of service.

^dQueue length in vehicles.

NB = northbound; SB = southbound; EB = eastbound; WB = westbound; NEB = northeastbound; SEB = southeastbound.

SIGHT DISTANCE EVALUATION

Sight distance measurements were performed at the Project site driveway intersection with Old Post Road in accordance with American Association of State Highway and Transportation Officials (AASHTO)¹⁰ requirements. Both stopping sight distance (SSD) and intersection sight distance (ISD) measurements were performed. In brief, SSD is the distance required by a vehicle traveling at the design speed of a roadway, on wet pavement, to stop prior to striking an object in its travel path. ISD or corner sight distance (CSD) is the sight distance required by a driver entering or crossing an intersecting roadway to perceive an on-coming vehicle and safely complete a turning or crossing maneuver with on-coming traffic. In accordance with AASHTO standards, if the measured ISD is at least equal to the required SSD value for the appropriate design speed, the intersection can operate in a safe manner. Table 11 presents the measured SSD and ISD at the subject intersection.

¹⁰*A Policy on Geometric Design of Highway and Streets*, 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); Washington D.C.; 2018.

Table 11
SIGHT DISTANCE MEASUREMENTS^a

Intersection/Sight Distance Measurement	Feet		
	Required Minimum (SSD)	Desirable (ISD) ^b	Measured
<i>Old Post Road at the Project Site Driveway</i>			
<i>Stopping Sight Distance:</i>			
Old Post Road approaching from the north	250	--	352
Old Post Road approaching from the south	250	--	500+
<i>Intersection Sight Distance:</i>			
Looking to the north from the Project Site Driveway	250	335	270/380 ^c
Looking to the south from the Project Site Driveway	250	390	240/500+ ^c

^aRecommended minimum values obtained from *A Policy on Geometric Design of Highways and Streets*, 7th Edition; American Association of State Highway and Transportation Officials (AASHTO); 2018; and based on a 35 mph approach speed along Old Post Road.

^bValues shown are the intersection sight distance for a vehicle turning right or left exiting a roadway under STOP control such that motorists approaching the intersection on the major street should not need to adjust their travel speed to less than 70 percent of their initial approach speed.

^cAvailable line of sight provided with the selective trimming/removal of vegetation within the sight triangle areas of the Project site driveway.

As can be seen in Table 11, with selective trimming/removal of vegetation within the sight triangle areas of the Project site driveway, the available lines of sight at the Project site driveway intersection with Old Post Road exceed the recommended minimum sight distances to function in a safe (SSD) and efficient (ISD) manner based on a 35 mph approach speed along Old Post Road, which is above both the measured 85th percentile vehicle travel speed (32/33 mph) and the posted speed limit along Old Post Road in the vicinity of the Project site (25 mph).

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

VAI has conducted a TIS in order to determine the potential impacts on the transportation infrastructure associated with the proposed construction of an extended stay hotel to be located adjacent to the Kittery Traffic Circle and generally between Old Post Road and the Route 1 Bypass in Kittery, Maine. The following specific areas have been evaluated as they relate to the Project: i) access requirements; ii) potential off-site improvements; and iii) safety considerations; under existing and future conditions, both with and without the Project. Based on this assessment, we have concluded the following with respect to the Project:

1. Using trip-generation statistics published by the ITE,¹¹ the Project is expected to generate approximately 816 vehicle trips on an average weekday (two-way, 24-hour volume), with 44 vehicle trips expected during the weekday morning peak-hour and 48 vehicle trips expected during the weekday evening peak-hour;
2. The Project will not result in a significant impact (increase) on motorist delays or vehicle queuing over anticipated future conditions without the Project (No-Build condition); however, it was noted one or more movements at the Kittery Traffic Circle are currently operating over capacity (defined as LOS “F”) during the weekday evening peak-hour independent of the Project. Project-related impacts on these movements was defined as a predicted increase in vehicle queuing of between two (2) and four (4) vehicles;
3. All movements at the Project site driveway intersection with Old Post Road are predicted to operate at LOS A with negligible vehicle queuing;
4. Independent of the Project, the Kittery Traffic Circle is included on MaineDOT’s High Crash Location (HCL) list for 2019 through 2021. As such, specific recommendations have been provided to advance safety-related improvements at the rotary; and
5. Lines of sight to and from the Project site driveway intersection with Old Post Road were found to exceed the recommended minimum sight distance for the intersection to operate in a safe and efficient manner based on the appropriate approach speed.

¹¹Institute of Transportation Engineers, op. cit. 1.

In consideration of the above, we have concluded that the Project can be accommodated within the confines of the existing transportation infrastructure in a safe and efficient manner with implementation of the recommendations that follow.

RECOMMENDATIONS

A detailed transportation improvement program has been developed that is designed to provide safe and efficient access to the Project site and address any deficiencies identified at off-site locations evaluated in conjunction with this study. The following improvements have been recommended as a part of this evaluation and, where applicable, will be completed in conjunction with the Project subject to receipt of all necessary rights, permits, and approvals.

Project Access

Access to the Project site will be provided by way of a new driveway that will intersect the northwest side of Old Post Road approximately 350 feet south of the Kittery Traffic Circle. The following recommendations are offered with respect to the design and operation of the Project site access and internal circulation, many of which are reflected on the Site Plans:

- The Project site driveway will be 24 feet in width and designed to accommodate the turning and maneuvering requirements of delivery vehicles and the largest anticipated responding emergency vehicle.
- Where perpendicular parking is proposed, the drive aisle behind the parking will be a minimum of 23 feet in width (24 feet is proposed) in order to facilitate parking maneuvers.
- Vehicles exiting the Project site should be placed under STOP-sign control with a marked STOP-line provided.
- All signs and pavement markings to be installed within the Project site should conform to the applicable standards of the *Manual on Uniform Traffic Control Devices* (MUTCD).¹²
- A sidewalk is proposed along the north side of the Project site driveway that will extend to Old Post Road where a sidewalk will be constructed along the Project site frontage that will connect to the existing sidewalk at the Kittery Traffic Circle.
- Americans with Disabilities Act (ADA)-compliant wheelchair ramps should be provided at all pedestrian crossings to be constructed or modified in conjunction with the Project.
- Signs and landscaping to be installed as a part of the Project within the intersection sight triangle areas of the Project site driveway should be designed and maintained so as not to restrict lines of sight.
- Existing trees and vegetation located within the sight triangles areas of the Project site driveway should be selectively trimmed or removed and maintained so as to provide the necessary sight lines for the driveway to operate in a safe manner.
- Snow accumulations (windrows) within the sight triangle areas of the Project site driveway will be promptly removed where such accumulations would impede sight lines.

¹²Federal Highway Administration; op. cit. 2.

Off-Site

Kittery Traffic Circle (Route 1/Route 236/Old Post Road)

Independent of the Project, specific movements at the Kittery Traffic Circle are currently operating over capacity during the weekday evening peak-hour, with Project-related impacts on these movement shown to be a predicted increase in vehicle queuing of between two (2) and four (4) vehicles. In addition to and also independent of the Project, the intersection was identified by MaineDOT as a High Crash Location (HCL) for the years 2019 through 2021. To the extent so desired by the Town and in an effort to identify both safety and capacity improvements at the intersection, the Project proponent will undertake an intersection safety assessment in coordination with the Town of Kittery and MaineDOT. The intersection safety assessment will be completed prior to the issuance of a Certificate of Occupancy for the Project and can be used by the Town and MaineDOT for the implementation of the suggested improvements that will be an outcome of the intersection safety assessment.

Transportation Demand Management (TDM)

Public transportation services are provided within the study area by COAST. COAST provides fixed-route bus service along Route 1, south of the Kittery Traffic Circle, and on Route 236, west of the Kittery Traffic Circle, by way of Route 100, *Somersworth/Berwick/Kittery (PNSY Gate 1)*, which provides service between Tri-City Plaza in Somersworth, Maine and Government Street in Kittery, Maine. The closest stop to the Project site is Government Street, approximately 1.3 miles to the south of the Project site. In addition to fixed-route bus services, COAST provides ADA paratransit services for eligible persons who cannot use fixed-route transit all or some of the time due to a physical, cognitive or mental disability.

In an effort to encourage the use of alternative modes of transportation to single-occupancy vehicles (SOVs), the following Transportation Demand Management (TDM) measures will be implemented as a part of the Project:

- A transportation coordinator will be designated for the Project to coordinate the elements of the TDM program;
- The transportation coordinator should facilitate a carpool program for employees;
- Work with the Town and COAST to establish bus service to the Project site;
- Information regarding public transportation services, maps, schedules, and fare information will be posted in a central location and/or otherwise made available to employees and guests;
- A “welcome packet” will be provided to new employees detailing available public transportation services, bicycle and walking alternatives, and other commuting options;
- Pedestrian accommodations have been incorporated within the Project site and consist of sidewalks that extend to Old Post Road and to the existing pedestrian accommodations at the Kittery Traffic Circle; and
- Secure bicycle parking should be provided within the Project site.

With implementation of the aforementioned recommendations, safe and efficient access will be provided to the Project site and the Project can be accommodated within the confines of the existing and improved transportation system.

APPENDIX

PROJECT SITE PLAN
AUTOMATIC TRAFFIC RECORDER COUNT DATA
TURNING MOVEMENT COUNT DATA
SEASONAL ADJUSTMENT DATA
COVID ADJUSTMENT DATA
PUBLIC TRANSPORTATION SCHEDULES
VEHICLE TRAVEL SPEED DATA
GENERAL BACKGROUND TRAFFIC GROWTH
TRIP-GENERATION CALCULATIONS
TRIP-DISTRIBUTION
CAPACITY ANALYSIS WORKSHEETS

PROJECT SITE PLAN

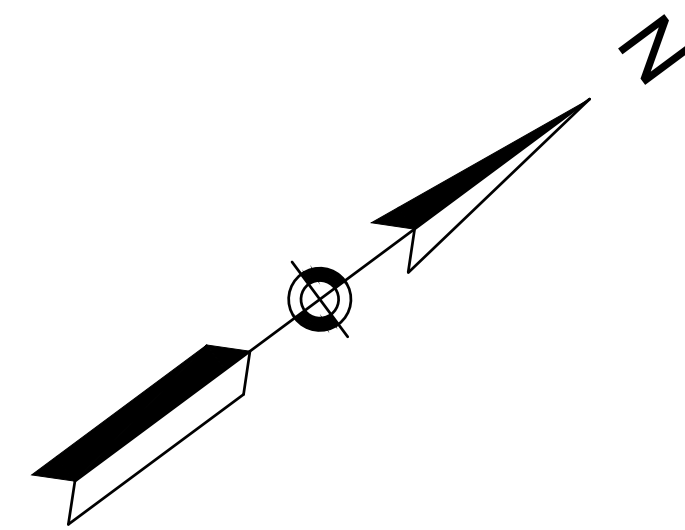
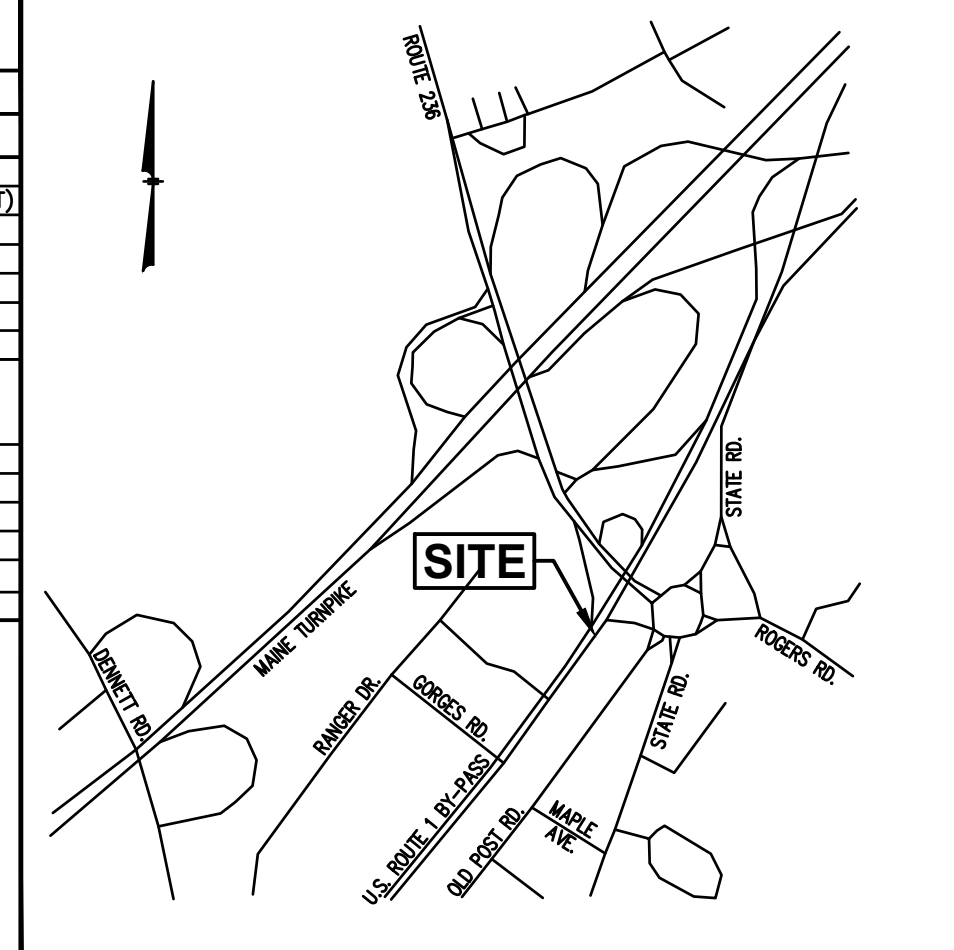


TABLE OF ZONING REGULATIONS - KITTERY, MAINE		
ZONE: COMMERCIAL 3, BYPASS/OLD POST ROAD COMMERCIAL (C-3)		
DESCRIPTION	REQUIRED	PROVIDED
MINIMUM LOT AREA - Sq. Ft.	40,000 SF	85,563 SF
MINIMUM LOT FRONTAGE	N/A	341'± (OLD POST RD.), 640'± (DOT)
MINIMUM FRONT YARD BUILDING SETBACK	30' (OLD POST ROAD), 15' (DOT R.O.W.)	30' (OLD POST RD.)
MINIMUM SIDE YARD BUILDING SETBACK	10' (15' ADJACENT TO RESIDENTIAL)	15'
MINIMUM REAR YARD BUILDING SETBACK	10'	N/A
MINIMUM FRONT LANDSCAPE STRIP	15'	7'
PARKING SPACE DIMENSIONS	9'x19', 8'x18' (COMPACT)	9'x19', 9'x18', 8'x18' (COMPACT)
MINIMUM NUMBER PARKING SPACES	HOTEL: 1 SPACE PER RENTAL UNIT = 102 SPACES	104 SPACES
MAXIMUM BUILDING HEIGHT	40'	< 40'
MINIMUM OPEN SPACE	20%	26,057 SF / 85,563 SF = 30.5%
MAXIMUM IMPERVIOUS COVERAGE	70%	59,506 SF / 85,563 SF = 69.5%
MINIMUM INTERNAL LANDSCAPING	10%	8,305 SF / 43,486 SF = 19%
FREESTANDING SIGN HEIGHT+SETBACK	20' HIGH, 20' FROM TRAVEL WAY (DOT)	TBD
TOTAL AGGREGATE SIGN AREA	300 SF	TBD

* MODIFICATION TO THE REGULATIONS REQUESTED

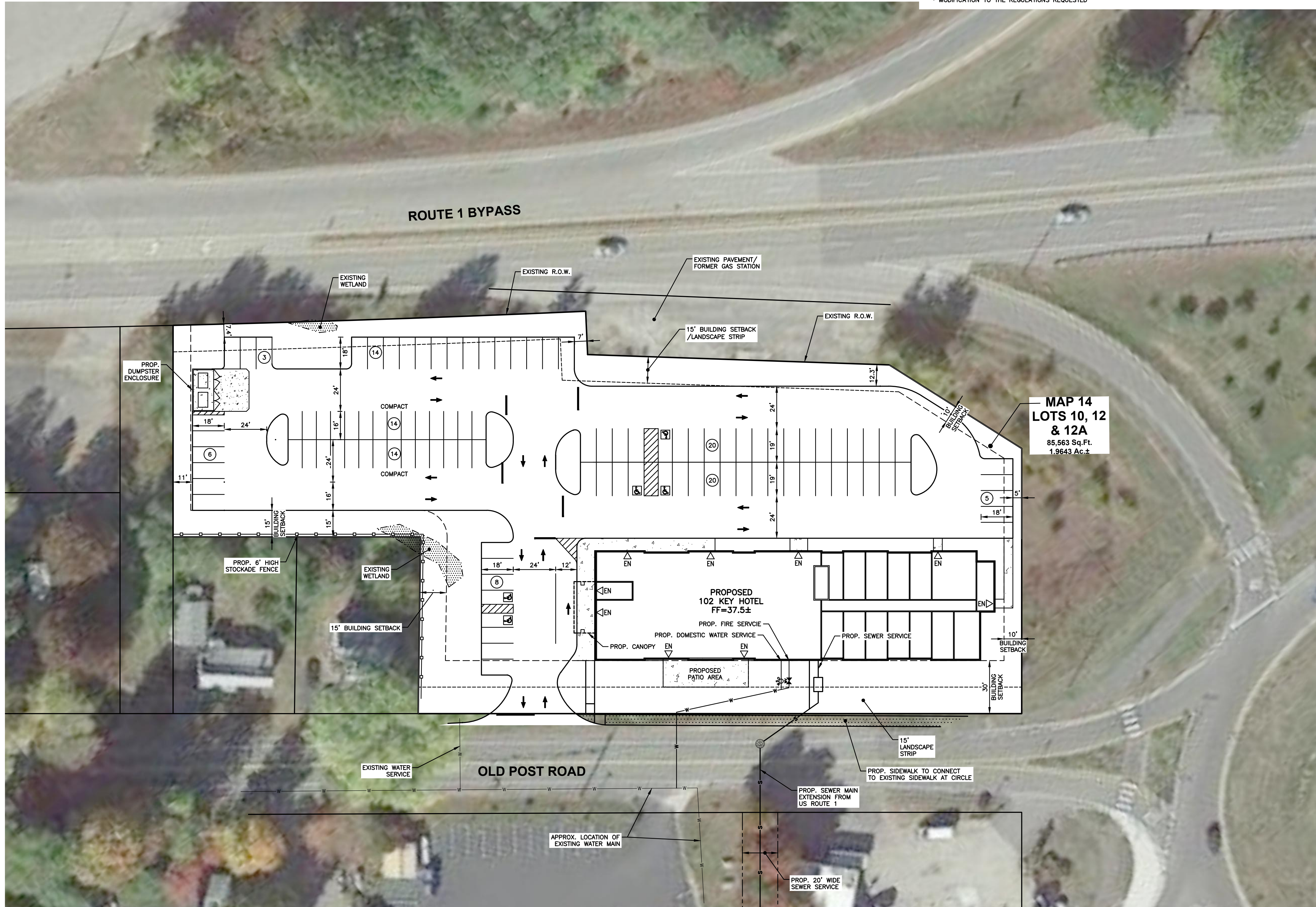


LOCATION MAP
(NOT TO SCALE)

GPI Engineering
Design
Planning
Construction Management
603.893.0720
GPI.NET.COM
Greenman-Pedersen, Inc.
44 Siles Road, Suite One
Salem, NH 03079

PREPARED FOR
TROPIC STAR DEVELOPMENT, LLC
321D LAFAYETTE ROAD
HAMPTON, NH 03842

ASSESSORS MAP 14 LOTS 10, 12 & 12A
OLD POST ROAD
KITTERY, MAINE



NOTES:

- EXISTING BOUNDARY AND PLANIMETRIC INFORMATION AS SHOWN WAS TAKEN FROM PLAN REFERENCE #1 AND IS NOT THE RESULT OF AN ACTUAL FIELD SURVEY BY THIS OFFICE.
- TAX MAP 14 LOTS 10, 12 & 12A
- ZONING DISTRICT: COMMERCIAL 3, BYPASS/OLD POST ROAD COMMERCIAL ZONE (C-3)
- LOT AREA = 85,563 Sq.Ft.
= 1.9643 Ac.±
- EXISTING USE: FORMER GAS STATION
PROPOSED USE: 102 ROOM EXTENDED STAY HOTEL
- THE FOLLOWING MODIFICATIONS FROM THE PLANNING BOARD WILL BE REQUIRED:
 - TO ALLOW A REDUCTION IN THE LANDSCAPE STRIP FROM 15' TO 7' ALONG THE DOT RIGHT OF WAY.
 - TO ALLOW A REDUCTION IN THE LENGTH OF A STANDARD SPACE FROM 19' TO 18' TO REDUCE IMPERVIOUS AREA.
- PER SECTION 16.4.21.E.(3)(c)(3)(b), IN INSTANCES WHERE THE REQUIRED MINIMUM DEPTH OF THE LANDSCAPE PLANTER STRIP IS LEGALLY UTILIZED, IN ACCORDANCE WITH PREVIOUS PERMITS OR APPROVALS, FOR PARKING, DISPLAY, STORAGE, BUILDING OR NECESSARY VEHICLE CIRCULATION, THE DEPTH MAY BE NARROWED BY THE PLANNING BOARD TO ACHIEVE THE OBJECTIVE OF THE PROPOSED PROJECT, PROVIDED THAT THE REQUIRED SHRUBS AND PERENNIALS ARE PLANTED ALONG THE STREET FRONTAGE TO SOFTEN THE APPEARANCE OF THE DEVELOPMENT FROM THE PUBLIC STREET.

PLAN REFERENCES:

- BOUNDARY/EXISTING CONDITIONS SURVEY, LAND OF FIRST KITTERY PLACE, LLC ET AL, PREPARED FOR TROPIC STAR DEVELOPMENT, PREPARED BY CIVIL CONSULTANTS, DATE: SEPTEMBER 16, 2022. SCALE: 1"=40', SHEET EC1.

REVISIONS

NO.	REVISION	DATE
1	REV. PER STAFF COMMENTS	6/1/23

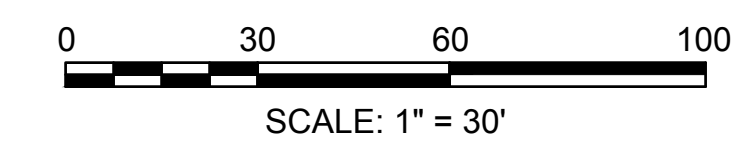
MAY 4, 2023

DRAWN/DESIGN BY CCC/NID	CHECKED BY FCM
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SITE SKETCH PLAN

SCALE: 1"=30'

PROJECT NO.
NEX-2200380



AUTOMATIC TRAFFIC RECORDER COUNT DATA

The Traffic Group, Inc.
 (800) 583-8411
www.trafficgroup.com
 Merging Innovation and Excellence

Old Post Road
 South of SR 236 Rotary
 Kittery, Maine

Site Code: POST RD
 Station ID: POST RD

Northbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
07/12/2																
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
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05:30	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5
05:45	1	5	4	0	0	0	0	0	0	0	0	0	0	0	0	10
06:00	0	6	3	0	0	0	0	0	0	0	0	0	0	0	0	9
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07:15	0	7	2	0	0	0	0	0	0	0	0	0	0	0	0	9
07:30	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
07:45	0	36	3	0	1	0	0	0	0	0	0	0	0	0	0	40
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08:15	0	5	6	0	1	0	0	0	0	0	0	0	0	0	0	12
08:30	0	10	7	0	0	0	0	0	0	0	0	0	0	0	0	17
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10:30	0	17	5	0	0	0	0	0	0	0	0	0	0	0	0	22
10:45	0	13	3	0	1	0	0	0	0	0	0	0	0	0	2	19
11:00	0	21	2	0	0	0	0	0	0	0	0	0	0	0	0	23
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11:30	0	72	20	0	2	0	0	0	0	0	0	0	0	0	2	96
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12:15	0	18	1	0	0	0	0	0	0	0	0	0	0	0	0	19
12:30	0	14	5	0	0	0	0	0	0	0	0	0	0	0	0	19
12:45	0	59	9	0	2	0	0	1	0	0	0	0	0	0	1	72
13:00	0	12	3	0	0	0	0	0	0	0	0	0	0	0	0	15
13:15	2	16	2	0	0	0	0	0	0	0	0	0	0	0	0	20
13:30	0	18	5	0	0	0	0	1	0	0	0	0	0	0	0	24
13:45	0	14	1	0	0	1	0	0	0	0	0	0	0	0	0	16
Total	2	60	11	0	0	1	0	1	0	0	0	0	0	0	0	75
Percent	1.1%	75.9%	19.3%	0.0%	1.5%	0.4%	0.0%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	457

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Old Post Road
 South of SR 236 Rotary
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Site Code: POST RD
 Station ID: POST RD

Northbound, Southbound

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
07/12/2																
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
00:30	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
00:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
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03:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
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04:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5
05:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
05:15	0	8	2	0	0	0	0	0	0	0	0	0	0	0	0	10
05:30	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5
05:45	1	7	5	0	0	0	0	0	0	0	0	0	0	0	0	13
06:00	0	7	3	0	0	0	0	0	0	0	0	0	0	0	0	10
06:15	0	4	1	0	1	0	0	0	0	0	0	0	0	0	0	6
06:30	1	21	11	0	1	0	0	0	0	0	0	0	0	0	0	34
06:45	0	14	2	0	1	0	0	0	0	0	0	0	0	0	0	17
07:00	0	11	2	0	0	0	0	0	0	0	0	0	0	0	0	13
07:15	0	8	3	0	0	0	0	0	0	0	0	0	0	0	0	11
07:30	0	10	1	0	0	0	0	0	0	0	0	0	0	0	0	11
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08:15	0	8	7	0	1	0	0	0	0	0	0	0	0	0	0	16
08:30	0	13	10	0	1	0	0	0	0	0	0	0	0	0	0	24
08:45	1	19	4	0	0	0	0	0	0	0	0	0	0	0	0	24
09:00	1	48	29	0	2	0	0	0	0	0	0	0	0	0	0	80
09:15	1	20	4	0	0	0	0	0	0	0	0	0	0	0	0	26
09:30	0	20	5	0	0	1	0	0	0	0	0	0	0	0	0	27
09:45	1	20	4	0	0	0	0	0	0	0	0	0	0	0	0	26
10:00	0	25	8	0	0	0	0	0	1	0	0	0	0	0	0	34
10:15	2	85	21	0	0	1	0	0	1	0	0	0	0	0	3	113
10:30	0	32	10	0	0	0	0	0	0	0	0	0	0	0	0	42
10:45	0	23	8	0	2	0	0	0	0	0	0	0	0	0	2	35
11:00	0	30	6	0	0	0	0	0	0	0	0	0	0	0	0	36
11:15	0	38	12	0	1	0	0	0	0	0	0	0	0	0	0	51
11:30	0	123	36	0	3	0	0	0	0	0	0	0	0	0	2	164
11:45	1	20	3	0	0	0	0	0	0	0	0	0	0	0	0	24
12:00	0	25	4	0	3	0	0	0	1	0	0	0	0	0	1	34
12:15	0	37	2	0	0	0	0	0	0	0	0	0	0	0	0	39
12:30	0	29	9	0	0	0	0	0	0	0	0	0	0	0	0	38
12:45	1	111	18	0	3	0	0	1	0	0	0	0	0	0	1	135
13:00	0	21	4	0	0	0	0	0	0	0	0	0	0	0	0	26
13:15	2	24	5	1	0	0	0	0	0	0	0	0	0	0	0	32
13:30	0	30	6	0	0	0	0	1	0	0	0	0	0	0	0	37
13:45	0	26	4	0	1	1	0	0	0	0	0	0	0	0	0	32
Total	2	101	19	1	1	1	0	1	0	0	0	0	0	0	1	127
Percent	1.0%	75.8%	19.9%	0.1%	1.5%	0.3%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	727

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SU 1 Bypass
Between SR 236 Ramps and Irving Oil
Kittery, Maine

Site Code: US 1 NB
Station ID:

Northbound 1, Northbound 2

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
07/12/2																
3	0	5	7	0	0	0	0	0	3	0	0	0	0	0	0	15
00:15	1	7	0	0	0	1	0	0	2	0	0	0	0	0	0	11
00:30	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	7
00:45	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	5
	1	22	9	0	0	1	0	0	5	0	0	0	0	0	0	38
01:00	1	4	1	0	0	0	0	0	2	0	0	1	0	0	0	9
01:15	0	10	1	0	1	0	0	0	4	0	0	1	0	0	1	18
01:30	0	4	0	0	0	0	0	0	2	0	0	0	0	0	0	6
01:45	0	2	2	0	0	0	0	0	2	0	0	0	0	0	0	6
	1	20	4	0	1	0	0	0	10	0	0	2	0	0	1	39
02:00	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2
02:15	2	2	1	1	0	2	0	0	1	0	0	0	0	0	0	9
02:30	0	3	1	0	0	0	0	0	3	3	0	0	0	0	0	10
02:45	0	3	1	0	0	0	0	0	1	1	0	0	0	0	0	6
	2	9	3	1	0	2	0	0	6	4	0	0	0	0	0	27
03:00	1	3	5	0	0	0	0	0	4	0	1	2	0	0	0	16
03:15	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
03:30	1	1	1	0	0	0	0	0	3	0	0	0	0	0	1	7
03:45	0	2	1	0	0	0	0	0	1	0	0	0	0	0	0	4
	2	10	7	0	0	0	0	0	8	0	1	2	0	0	1	31
04:00	0	6	2	0	0	0	0	0	0	0	0	0	0	0	0	8
04:15	1	9	4	0	0	0	0	0	6	2	0	0	0	0	0	22
04:30	0	14	10	0	0	0	0	0	0	0	0	0	0	0	0	24
04:45	0	28	18	0	0	0	0	0	7	1	0	0	0	0	0	54
	1	57	34	0	0	0	0	0	13	3	0	0	0	0	0	108
05:00	0	22	8	0	0	0	0	0	1	0	0	0	0	0	0	31
05:15	0	21	10	0	1	0	0	0	4	0	0	0	0	0	1	37
05:30	2	46	22	0	1	0	0	0	5	0	0	0	0	0	0	76
05:45	5	35	19	0	0	3	0	1	1	0	0	0	0	0	2	66
	7	124	59	0	2	3	0	1	11	0	0	0	0	0	3	210
06:00	3	25	13	1	0	2	0	0	5	0	0	0	0	0	0	49
06:15	1	26	9	1	0	0	0	0	4	0	0	0	0	0	0	41
06:30	0	35	12	0	0	2	0	1	3	1	0	0	0	0	0	54
06:45	1	25	12	1	1	1	0	0	2	0	0	0	0	0	0	43
	5	111	46	3	1	5	0	1	14	1	0	0	0	0	0	187
07:00	1	27	11	0	0	1	0	1	3	0	0	0	0	0	0	44
07:15	0	39	9	0	0	0	1	0	3	0	0	0	0	0	0	52
07:30	1	42	19	3	2	1	1	0	5	2	0	0	0	0	0	76
07:45	2	42	19	0	1	4	0	1	5	1	0	0	0	0	0	75
	4	150	58	3	3	6	2	2	16	3	0	0	0	0	0	247
08:00	0	41	24	2	0	0	0	0	3	0	0	0	0	0	0	70
08:15	0	50	17	3	2	3	1	0	5	1	0	0	0	0	1	83
08:30	0	60	22	0	1	0	0	0	3	0	0	0	0	0	0	86
08:45	1	54	22	5	1	2	2	1	4	0	0	0	0	0	0	92
	1	205	85	10	4	5	3	1	15	1	0	0	0	0	1	331
09:00	0	68	26	0	2	4	0	0	2	1	0	0	0	0	1	104
09:15	1	56	19	0	0	0	2	0	4	0	0	0	0	0	0	82
09:30	2	66	24	0	0	2	0	1	4	0	0	0	0	0	0	99
09:45	1	64	22	0	2	0	2	1	6	0	0	0	0	0	0	98
	4	254	91	0	4	6	4	2	16	1	0	0	0	0	1	383
10:00	5	76	19	1	2	1	1	1	4	1	0	0	0	0	0	111
10:15	4	73	26	2	0	0	1	0	2	1	0	0	0	0	0	109
10:30	2	74	31	0	0	5	2	0	1	0	0	0	0	0	0	115
10:45	1	85	30	2	1	5	2	1	5	0	0	0	0	0	1	133
	12	308	106	5	3	11	6	2	12	2	0	0	0	0	1	468
11:00	1	91	29	2	0	1	1	0	5	0	0	0	0	0	0	130
11:15	7	74	24	0	1	5	2	0	8	1	0	1	0	0	0	123
11:30	5	70	37	1	0	0	0	0	4	3	0	0	0	0	0	120
11:45	2	87	31	0	3	0	1	0	4	3	0	0	0	0	0	131
	15	322	121	3	4	6	4	0	21	7	0	1	0	0	0	504
Total	55	1592	623	25	22	45	19	9	147	22	1	5	0	0	8	2573
Percent	2.1%	61.9%	24.2%	1.0%	0.9%	1.7%	0.7%	0.3%	5.7%	0.9%	0.0%	0.2%	0.0%	0.0%	0.3%	

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SU 1 Bypass
Between SR 236 Ramps and Irving Oil
Kittery, Maine

Site Code: US 1 NB
Station ID:

Northbound 1, Northbound 2

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12 PM	3	91	34	0	0	2	1	0	4	1	0	0	0	0	1	137
12:15	3	90	31	0	1	4	2	1	8	3	0	0	0	0	1	144
12:30	0	90	25	0	1	4	0	1	6	1	0	0	0	0	0	128
12:45	2	81	24	1	3	7	2	0	2	1	0	0	0	0	0	123
	8	352	114	1	5	17	5	2	20	6	0	0	0	0	2	532
13:00	2	67	16	0	0	2	1	1	2	0	0	0	0	0	0	91
13:15	2	72	30	0	2	5	0	1	0	1	0	0	0	0	0	113
13:30	2	72	30	1	2	4	2	1	4	0	0	0	0	0	0	118
13:45	1	69	40	1	2	3	0	1	3	1	0	0	0	0	0	121
	7	280	116	2	6	14	3	4	9	2	0	0	0	0	0	443
14:00	2	78	36	0	4	0	1	0	3	1	0	0	0	0	0	125
14:15	1	68	42	1	4	1	1	0	3	0	0	0	0	0	0	121
14:30	3	76	36	0	1	2	0	1	3	1	0	0	0	0	0	123
14:45	3	78	42	2	6	0	3	2	4	0	0	0	0	0	0	140
	9	300	156	3	15	3	5	3	13	2	0	0	0	0	0	509
15:00	2	107	39	1	4	0	0	0	3	0	0	0	0	0	0	156
15:15	2	80	29	0	2	2	0	0	3	0	0	0	0	0	0	118
15:30	1	79	40	0	3	5	0	0	3	1	0	0	0	0	0	132
15:45	3	97	41	1	1	0	0	0	3	1	0	0	0	0	0	147
	8	363	149	2	10	7	0	0	12	2	0	0	0	0	0	553
16:00	2	102	32	1	1	2	0	0	5	0	0	0	0	0	0	145
16:15	5	126	39	0	2	0	0	0	1	1	0	0	0	0	0	174
16:30	2	108	34	2	4	3	0	0	0	1	0	0	0	0	0	154
16:45	3	124	37	0	2	2	0	0	0	0	0	0	0	0	0	168
	12	460	142	3	9	7	0	0	6	2	0	0	0	0	0	641
17:00	1	98	32	2	0	2	0	1	3	0	0	0	0	0	0	139
17:15	5	111	38	0	1	1	0	0	3	0	0	0	0	0	0	159
17:30	3	87	38	0	2	0	1	0	2	0	0	0	0	0	1	134
17:45	2	76	29	1	2	2	0	1	4	0	0	0	0	0	0	117
	11	372	137	3	5	5	1	2	12	0	0	0	0	0	1	549
18:00	0	67	28	2	0	0	0	0	3	2	0	0	0	0	0	102
18:15	3	68	9	0	0	3	0	0	1	0	0	0	0	0	0	84
18:30	2	70	19	1	2	2	0	0	0	0	0	0	0	0	0	96
18:45	0	64	23	0	0	2	0	0	3	0	0	0	0	0	0	92
	5	269	79	3	2	7	0	0	7	2	0	0	0	0	0	374
19:00	1	40	22	1	1	2	0	0	3	0	0	0	0	0	0	70
19:15	2	54	14	0	1	1	0	0	2	1	0	0	0	0	0	75
19:30	1	72	13	0	1	1	0	0	2	0	0	0	0	0	1	91
19:45	2	53	13	0	0	1	0	0	3	1	0	0	0	0	1	74
	6	219	62	1	3	5	0	0	10	2	0	0	0	0	2	310
20:00	0	53	15	0	2	0	0	0	1	0	0	0	0	0	0	71
20:15	2	50	19	0	0	2	0	0	2	0	0	0	0	0	0	75
20:30	5	36	5	0	0	2	0	0	1	0	0	0	0	0	0	49
20:45	1	29	10	0	0	1	0	0	1	0	0	0	0	0	0	42
	8	168	49	0	2	5	0	0	5	0	0	0	0	0	0	237
21:00	3	29	10	0	1	3	0	0	1	0	0	0	0	0	0	47
21:15	0	21	3	0	0	0	0	1	2	0	0	0	0	0	0	27
21:30	1	35	7	0	0	0	0	0	0	0	0	0	0	0	0	43
21:45	2	23	3	0	0	2	0	0	0	0	0	0	0	0	2	32
	6	108	23	0	1	5	0	1	3	0	0	0	0	0	2	149
22:00	0	14	3	0	1	0	0	0	2	0	0	0	0	0	0	20
22:15	1	16	0	0	0	0	0	0	0	0	0	0	0	0	0	17
22:30	2	18	3	0	0	3	0	0	2	0	0	0	0	0	0	28
22:45	0	11	2	0	0	0	0	0	1	0	0	0	0	0	0	14
	3	59	8	0	1	3	0	0	5	0	0	0	0	0	0	79
23:00	1	9	2	0	0	1	0	0	2	0	0	0	0	0	0	15
23:15	2	14	4	1	2	0	0	0	0	0	0	0	0	0	0	23
23:30	0	12	8	1	0	0	0	0	0	0	0	0	0	0	0	21
23:45	1	7	3	0	0	1	0	0	1	0	0	0	0	0	0	13
	4	42	17	2	2	2	0	0	3	0	0	0	0	0	0	72
Total	87	2992	1052	20	61	80	14	12	105	18	0	0	0	0	7	4448
Percent	2.0%	67.3%	23.7%	0.4%	1.4%	1.8%	0.3%	0.3%	2.4%	0.4%	0.0%	0.0%	0.0%	0.0%	0.2%	

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Site Code: US 1 NB
 Station ID:

Northbound 1, Northbound 2

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
07:13/2																
3	1	8	4	0	0	0	0	0	1	1	0	0	0	0	0	15
00:15	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	7
00:30	0	13	1	0	0	0	0	0	0	0	1	0	0	0	0	15
00:45	1	5	1	0	0	2	0	0	0	0	0	0	0	0	0	9
	2	30	9	0	0	2	0	0	1	1	1	0	0	0	0	46
01:00	1	6	1	0	0	2	0	0	0	0	0	0	0	0	0	10
01:15	1	6	1	0	0	2	0	0	1	0	0	0	0	0	0	11
01:30	0	3	0	0	0	0	0	0	2	0	0	1	0	0	0	6
01:45	0	4	2	0	0	0	0	0	1	0	0	0	0	0	0	7
	2	19	4	0	0	4	0	0	4	0	0	1	0	0	0	34
02:00	0	3	1	0	0	0	0	0	2	0	0	0	0	0	0	6
02:15	0	2	0	0	1	0	0	0	1	0	0	0	0	0	0	4
02:30	0	1	1	0	0	1	0	0	0	0	0	0	0	0	1	4
02:45	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	6
	0	10	4	0	1	1	0	0	3	0	0	0	0	0	1	20
03:00	0	1	0	0	1	1	0	0	1	0	0	0	0	0	0	4
03:15	0	1	1	0	0	1	0	1	0	0	0	0	0	0	0	4
03:30	1	3	3	0	1	2	0	0	1	0	0	0	0	0	0	11
03:45	0	2	3	0	0	1	0	0	1	0	0	0	0	0	0	7
	1	7	7	0	2	5	0	1	3	0	0	0	0	0	0	26
04:00	1	6	6	0	0	5	0	0	3	1	0	0	0	0	0	22
04:15	1	7	2	0	1	2	0	0	2	0	0	0	0	0	0	15
04:30	0	8	9	0	0	0	0	2	2	0	0	0	0	0	0	21
04:45	0	20	20	0	3	3	0	0	1	0	0	0	0	0	0	47
	2	41	37	0	4	10	0	2	8	1	0	0	0	0	0	105
05:00	1	15	10	0	0	1	0	0	1	2	0	0	0	0	0	30
05:15	3	31	20	6	3	3	0	0	2	1	0	0	0	0	4	73
05:30	4	52	22	3	3	6	0	0	0	1	0	0	0	0	9	100
05:45	4	36	23	4	2	6	0	2	2	0	0	0	0	0	7	86
	12	134	75	13	8	16	0	2	5	4	0	0	0	0	20	289
06:00	1	28	19	3	2	3	0	1	6	2	0	0	0	0	2	67
06:15	1	20	12	0	0	1	0	1	2	0	0	0	0	0	1	38
06:30	0	20	12	0	2	1	0	1	3	1	1	0	0	0	0	41
06:45	1	19	10	0	0	7	0	0	0	0	0	0	0	0	1	38
	3	87	53	3	4	12	0	3	11	3	1	0	0	0	4	184
07:00	1	20	12	1	0	1	0	0	2	0	0	0	0	0	0	37
07:15	3	32	12	0	1	6	0	0	1	0	0	0	0	0	1	56
07:30	3	30	20	1	1	2	0	0	0	1	0	0	0	0	1	59
07:45	2	36	19	1	3	2	0	0	1	1	0	0	0	0	0	65
	9	118	63	3	5	11	0	0	4	2	0	0	0	0	2	217
08:00	1	43	25	1	1	3	0	0	3	0	0	0	0	0	0	77
08:15	0	37	22	1	2	5	1	0	0	1	0	0	0	0	0	69
08:30	2	54	26	1	1	6	0	0	5	1	0	0	0	0	2	98
08:45	3	61	32	0	1	2	0	2	2	0	0	0	0	0	0	103
	6	195	105	3	5	16	1	2	10	2	0	0	0	0	2	347
09:00	3	52	16	1	2	2	0	1	2	1	0	0	0	0	1	81
09:15	1	50	31	0	2	2	0	0	3	1	0	0	0	0	0	90
09:30	2	55	16	0	4	2	1	1	5	0	0	0	0	0	0	86
09:45	1	63	30	3	3	6	1	1	4	0	0	0	0	0	0	112
	7	220	93	4	11	12	2	3	14	2	0	0	0	0	1	369
10:00	4	55	25	3	2	3	0	1	4	1	0	0	0	0	1	99
10:15	3	63	25	3	0	3	0	1	2	2	0	0	0	0	0	102
10:30	1	56	37	1	2	2	0	1	1	0	0	0	0	0	0	101
10:45	1	70	40	1	5	1	0	0	2	1	0	0	0	0	0	121
	9	244	127	8	9	9	0	3	9	4	0	0	0	0	1	423
11:00	4	64	40	0	1	2	0	0	1	2	0	1	0	0	1	116
11:15	1	81	45	0	0	3	0	0	6	2	0	0	0	0	0	138
11:30	5	64	40	0	2	6	0	1	3	1	0	0	0	0	1	123
11:45	2	97	40	1	1	2	0	1	2	1	0	0	0	0	0	147
	12	306	165	1	4	13	0	2	12	6	0	1	0	0	2	524
Total	65	1411	742	35	53	111	3	18	84	25	2	2	0	0	33	2584
Percent	2.5%	54.6%	28.7%	1.4%	2.1%	4.3%	0.1%	0.7%	3.3%	1.0%	0.1%	0.1%	0.0%	0.0%	1.3%	

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Northbound 1, Northbound 2

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12 PM	3	81	31	0	2	1	0	1	2	0	0	0	0	0	0	121
12:15	3	98	25	1	0	2	0	0	2	0	0	0	0	0	0	131
12:30	1	87	34	0	0	0	0	1	2	0	0	0	0	0	0	125
12:45	3	75	27	0	1	2	0	1	6	0	0	0	0	0	0	115
	10	341	117	1	3	5	0	3	12	0	0	0	0	0	0	492
13:00	2	92	33	1	0	4	0	0	2	1	0	0	0	0	1	136
13:15	1	98	30	0	1	3	0	0	3	0	0	0	0	0	0	136
13:30	3	99	22	0	2	1	1	0	2	0	0	0	0	0	1	131
13:45	1	98	28	0	2	1	1	0	0	0	0	0	0	0	2	133
	7	387	113	1	5	9	2	0	7	1	0	0	0	0	4	536
14:00	1	92	28	0	0	1	0	1	0	1	0	0	0	0	3	127
14:15	2	77	26	1	2	2	0	1	3	0	0	0	0	0	3	117
14:30	2	119	13	1	0	1	0	0	1	1	0	0	0	0	1	139
14:45	1	116	14	0	0	1	0	0	2	0	0	0	0	0	2	136
	6	404	81	2	2	5	0	2	6	2	0	0	0	0	9	519
15:00	0	103	27	0	1	1	0	0	2	0	0	0	0	0	5	139
15:15	2	115	20	0	2	1	0	0	0	1	0	0	0	0	2	143
15:30	0	105	30	1	2	1	0	0	0	0	0	0	0	0	1	140
15:45	0	114	23	0	0	1	0	0	1	0	0	0	0	0	1	140
	2	437	100	1	5	4	0	0	3	1	0	0	0	0	9	562
16:00	2	129	24	0	2	1	0	0	1	0	0	0	0	0	1	160
16:15	0	126	25	1	0	2	0	1	0	0	0	0	0	0	4	159
16:30	4	117	18	0	1	3	0	0	0	0	0	0	0	0	1	144
16:45	2	115	24	1	0	1	0	0	0	1	0	0	0	0	11	155
	8	487	91	2	3	7	0	1	1	1	0	0	0	0	17	618
17:00	2	94	37	1	1	1	0	0	2	0	0	0	0	0	9	147
17:15	1	98	54	0	1	1	0	1	1	1	0	0	0	0	8	166
17:30	0	75	31	1	1	1	0	0	1	1	0	0	0	0	4	115
17:45	1	81	28	0	0	0	0	0	0	0	0	0	0	0	7	117
	4	348	150	2	3	3	0	1	4	2	0	0	0	0	28	545
18:00	0	56	21	0	1	1	0	0	0	1	0	0	0	0	2	82
18:15	2	55	19	0	0	1	0	0	1	0	0	0	0	0	4	82
18:30	2	63	16	1	0	2	0	1	1	0	0	0	0	0	3	89
18:45	1	57	6	0	0	2	0	0	0	0	0	0	0	0	2	68
	5	231	62	1	1	6	0	1	2	1	0	0	0	0	11	321
19:00	1	59	16	0	0	1	0	1	1	2	0	0	0	0	4	85
19:15	3	55	15	1	1	3	0	0	1	0	0	0	0	0	5	84
19:30	1	37	12	0	0	1	0	0	2	0	0	0	0	0	3	56
19:45	3	53	13	0	1	1	0	0	0	1	0	0	0	0	4	76
	8	204	56	1	2	6	0	1	4	3	0	0	0	0	16	301
20:00	2	47	12	0	0	1	0	0	0	0	0	0	0	0	1	63
20:15	1	47	9	0	2	1	0	0	0	1	0	0	0	0	1	62
20:30	4	49	7	1	1	0	0	0	3	0	0	0	0	0	0	65
20:45	2	38	7	0	0	1	0	0	0	0	0	0	0	0	3	51
	9	181	35	1	3	3	0	0	3	1	0	0	0	0	5	241
21:00	0	26	6	0	0	0	0	0	0	1	0	0	0	0	2	35
21:15	0	40	5	0	0	0	0	0	1	0	0	0	0	0	0	46
21:30	0	23	5	0	0	2	0	0	0	1	0	0	0	0	1	32
21:45	0	24	3	0	0	0	0	0	0	0	0	0	0	0	1	28
	0	113	19	0	0	2	0	0	1	2	0	0	0	0	4	141
22:00	2	21	6	0	0	0	0	0	0	0	0	0	0	0	0	29
22:15	0	15	4	0	0	1	0	0	1	0	0	0	0	0	1	22
22:30	0	26	4	0	0	2	0	0	0	0	0	0	0	0	0	32
22:45	0	18	2	0	0	0	0	0	0	0	0	0	0	0	3	23
	2	80	16	0	0	3	0	0	1	0	0	0	0	0	4	106
23:00	0	12	2	0	1	1	0	0	0	0	0	0	0	0	2	18
23:15	0	7	1	0	0	1	0	0	0	0	0	0	0	0	0	9
23:30	2	12	1	0	0	2	0	0	0	0	0	0	0	0	0	17
23:45	1	14	3	0	0	0	0	0	1	1	0	0	0	0	0	20
	3	45	7	0	1	4	0	0	1	1	0	0	0	0	2	64
Total	64	3258	847	12	28	57	2	9	45	15	0	0	0	0	109	4446
Percent	1.4%	73.3%	19.1%	0.3%	0.6%	1.3%	0.0%	0.2%	1.0%	0.3%	0.0%	0.0%	0.0%	0.0%	2.5%	
Grand Total	271	9253	3264	92	164	293	38	48	381	80	3	7	0	0	157	14051
Percent	1.9%	65.9%	23.2%	0.7%	1.2%	2.1%	0.3%	0.3%	2.7%	0.6%	0.0%	0.0%	0.0%	0.0%	1.1%	

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US 1 Bypass
 Between SR 236 Ramps and Irving Oil
 Kittery, Maine

Site Code: US 1 SB
 Station ID:

Southbound 1, Southbound 2

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
07/12/2																
3	2	6	3	0	0	2	0	1	4	0	0	0	0	0	0	18
00:15	3	4	2	0	0	3	0	0	0	0	0	0	0	0	0	12
00:30	0	6	1	0	0	1	0	0	1	0	0	0	0	0	0	9
00:45	1	1	1	0	0	1	0	0	1	0	0	0	0	0	1	6
	6	17	7	0	0	7	0	1	6	0	0	0	0	0	1	45
01:00	0	4	0	0	0	0	0	0	4	0	0	0	0	0	0	8
01:15	0	1	1	0	0	0	0	0	2	1	0	0	0	0	0	5
01:30	0	2	2	0	0	0	0	0	3	0	0	0	0	0	0	7
01:45	1	9	1	0	0	1	0	0	2	0	0	0	0	0	0	14
	1	16	4	0	0	1	0	0	11	1	0	0	0	0	0	34
02:00	2	2	1	0	0	2	0	0	1	0	0	0	0	0	0	8
02:15	1	3	1	0	0	1	0	0	3	3	0	0	0	0	0	12
02:30	1	2	2	0	1	1	0	0	1	0	1	0	0	0	0	9
02:45	0	2	0	0	0	0	0	0	4	2	0	0	0	0	0	8
	4	9	4	0	1	4	0	0	9	5	1	0	0	0	0	37
03:00	0	2	4	0	1	2	0	0	0	0	0	0	0	0	0	9
03:15	0	3	1	0	2	1	0	0	6	0	0	0	0	0	0	13
03:30	1	4	0	0	0	1	0	0	4	0	0	0	0	0	0	10
03:45	2	6	1	0	0	2	0	0	2	0	0	0	0	0	0	13
	3	15	6	0	3	6	0	0	12	0	0	0	0	0	0	45
04:00	1	4	4	0	0	1	0	0	2	3	0	0	0	0	0	15
04:15	0	8	5	0	2	0	0	0	2	0	0	0	0	0	0	17
04:30	1	15	16	0	0	0	0	0	3	1	0	0	0	0	0	36
04:45	3	18	5	0	0	1	0	0	3	1	0	0	0	0	0	31
	5	45	30	0	2	2	0	0	10	5	0	0	0	0	0	99
05:00	6	20	8	0	1	5	0	0	5	1	0	0	0	0	0	46
05:15	1	22	9	0	0	1	0	0	2	0	0	0	0	0	0	35
05:30	7	41	17	1	1	4	0	1	3	1	0	0	0	0	2	78
05:45	6	29	21	0	1	2	0	0	4	1	0	0	0	0	2	66
	20	112	55	1	3	12	0	1	14	3	0	0	0	0	4	225
06:00	3	34	21	0	1	0	0	0	0	0	0	0	0	0	0	59
06:15	2	41	18	1	1	0	0	2	4	3	0	0	0	0	1	73
06:30	2	54	20	0	0	4	0	0	3	1	0	0	1	0	0	85
06:45	1	49	28	1	1	1	0	0	6	3	0	0	0	0	1	91
	8	178	87	2	3	5	0	2	13	7	0	0	1	0	2	308
07:00	5	50	25	0	1	5	0	0	2	0	0	0	0	0	0	88
07:15	3	66	41	0	1	2	1	2	4	5	0	0	0	0	2	127
07:30	4	82	29	1	1	4	0	1	6	1	0	0	0	0	2	131
07:45	3	108	32	1	1	2	0	0	5	1	0	0	0	0	0	153
	15	306	127	2	4	13	1	3	17	7	0	0	0	0	4	499
08:00	0	87	23	2	1	2	0	0	2	0	0	0	0	0	0	117
08:15	3	74	26	1	2	1	0	0	4	1	0	0	0	0	0	112
08:30	1	93	23	3	1	2	2	0	4	1	0	0	0	0	1	131
08:45	3	106	34	1	0	3	1	0	5	1	0	0	0	0	4	158
	7	360	106	7	4	8	3	0	15	3	0	0	0	0	5	518
09:00	0	91	24	0	2	1	1	1	8	0	0	0	0	0	0	128
09:15	2	86	37	1	2	2	1	0	4	2	0	0	0	0	0	137
09:30	2	81	21	2	4	3	1	0	4	0	0	0	0	0	0	118
09:45	2	62	29	0	0	3	0	1	5	3	0	0	0	0	3	108
	6	320	111	3	8	9	3	2	21	5	0	0	0	0	3	491
10:00	2	96	26	0	2	1	1	0	3	0	0	0	0	0	2	133
10:15	2	71	23	2	1	4	1	1	3	1	0	0	0	0	1	110
10:30	5	75	29	3	1	3	1	0	9	2	0	0	0	0	1	129
10:45	3	113	24	0	0	2	0	0	4	2	0	0	1	0	1	150
	12	355	102	5	4	10	3	1	19	5	0	0	1	0	5	522
11:00	4	82	28	1	3	3	3	0	5	2	0	0	0	0	1	132
11:15	6	73	27	1	0	5	0	0	8	3	0	0	0	0	1	124
11:30	2	98	30	1	1	6	1	0	7	2	0	0	0	0	1	149
11:45	2	100	34	0	0	2	1	1	4	0	0	0	0	0	1	145
	14	353	119	3	4	16	5	1	24	7	0	0	0	0	4	550
Total	101	2086	758	23	36	93	15	11	171	48	1	0	2	0	28	3373
Percent	3.0%	61.8%	22.5%	0.7%	1.1%	2.8%	0.4%	0.3%	5.1%	1.4%	0.0%	0.0%	0.1%	0.0%	0.8%	

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US 1 Bypass
Between SR 236 Ramps and Irving Oil
Kittery, Maine

Site Code: US 1 SB
Station ID:

Southbound 1, Southbound 2

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12 PM	4	78	24	2	1	8	2	0	6	0	0	0	0	0	0	125
12:15	3	79	36	0	0	2	0	1	2	3	0	0	1	0	0	127
12:30	3	70	22	0	1	4	1	0	4	2	0	0	0	0	2	109
12:45	3	76	21	1	0	1	0	0	4	1	0	0	0	0	0	107
	13	303	103	3	2	15	3	1	16	6	0	0	1	0	2	468
13:00	2	81	16	0	1	2	2	0	2	1	0	0	0	0	1	108
13:15	4	76	23	2	2	4	1	0	7	1	0	0	0	0	0	120
13:30	5	84	27	1	2	0	0	2	3	0	0	0	0	0	1	125
13:45	2	84	31	0	1	3	2	0	4	0	0	0	0	0	0	127
	13	325	97	3	6	9	5	2	16	2	0	0	0	0	2	480
14:00	5	80	23	0	2	6	0	0	3	4	0	0	0	0	0	123
14:15	0	85	23	0	0	1	0	0	3	1	0	0	1	0	0	114
14:30	4	97	43	1	0	7	2	1	4	0	0	0	0	0	4	163
14:45	3	106	22	0	0	3	0	0	4	0	0	0	0	0	0	138
	12	368	111	1	2	17	2	1	14	5	0	0	1	0	4	538
15:00	1	81	21	0	0	5	2	0	3	1	0	0	0	0	1	115
15:15	3	88	17	0	1	4	0	1	3	1	0	0	0	0	0	118
15:30	7	90	16	1	1	5	1	0	3	1	0	0	0	0	1	126
15:45	2	80	23	0	1	1	0	1	7	1	0	0	0	0	2	118
	13	339	77	1	3	15	3	2	16	4	0	0	0	0	4	477
16:00	5	84	24	1	0	4	0	0	3	0	0	0	0	0	0	121
16:15	3	91	21	0	2	4	0	0	5	3	0	0	0	0	1	130
16:30	5	90	24	0	0	0	0	0	5	3	0	0	0	0	1	128
16:45	2	95	15	0	0	2	0	0	3	0	0	0	0	0	1	118
	15	360	84	1	2	10	0	0	16	6	0	0	0	0	3	497
17:00	5	95	18	1	0	4	0	1	6	0	0	0	0	0	2	132
17:15	4	93	20	0	0	2	0	0	5	2	0	0	0	0	0	126
17:30	1	70	19	2	0	4	0	0	6	0	0	0	0	0	1	103
17:45	3	78	11	1	0	4	0	0	6	2	0	0	0	0	1	106
	13	336	68	4	0	14	0	1	23	4	0	0	0	0	4	467
18:00	3	83	11	0	0	2	0	0	9	0	0	0	0	0	0	108
18:15	7	71	13	0	2	3	0	0	3	2	0	0	0	0	1	102
18:30	1	68	12	0	0	2	0	0	0	1	0	0	0	0	0	84
18:45	1	46	11	0	1	1	0	0	5	0	0	0	0	0	0	65
	12	268	47	0	3	8	0	0	17	3	0	0	0	0	1	359
19:00	5	57	9	0	0	5	0	0	3	3	0	0	0	0	1	83
19:15	4	54	10	0	0	3	0	1	5	2	0	0	0	0	0	79
19:30	4	48	9	0	0	3	0	2	2	1	0	0	0	0	0	69
19:45	3	49	8	0	1	2	0	0	2	1	0	0	0	0	0	66
	16	208	36	0	1	13	0	3	12	7	0	0	0	0	1	297
20:00	2	47	6	0	0	1	0	0	1	1	0	0	0	0	1	59
20:15	4	41	7	0	0	3	0	0	1	1	0	0	0	0	0	57
20:30	2	46	3	0	0	2	0	0	5	1	1	0	0	0	1	61
20:45	2	34	3	0	0	4	0	0	3	2	0	0	0	0	0	48
	10	168	19	0	0	10	0	0	10	5	1	0	0	0	2	225
21:00	3	25	5	0	0	2	0	0	3	0	0	0	0	0	0	38
21:15	0	18	2	0	0	1	0	0	1	2	0	1	0	0	0	25
21:30	0	22	3	0	0	0	0	0	2	0	0	0	0	0	0	27
21:45	0	21	3	0	0	1	0	0	1	1	0	0	0	0	0	27
	3	86	13	0	0	4	0	0	7	3	0	1	0	0	0	117
22:00	1	7	2	0	0	1	0	0	3	0	0	0	0	0	0	14
22:15	1	8	2	0	0	1	0	0	2	0	0	0	0	0	0	14
22:30	0	9	2	1	0	0	0	0	1	1	0	0	0	0	0	14
22:45	1	10	1	0	0	1	0	0	1	0	1	1	0	0	0	16
	3	34	7	1	0	3	0	0	7	1	1	1	0	0	0	58
23:00	1	15	3	0	0	0	0	0	1	0	0	0	0	0	0	20
23:15	3	10	6	1	0	2	0	0	3	2	0	0	0	0	0	27
23:30	0	10	1	0	1	0	0	0	1	0	0	0	0	0	0	13
23:45	0	1	2	0	0	0	0	0	1	0	1	1	0	0	0	6
	4	36	12	1	1	2	0	0	6	2	1	1	0	0	0	66
Total	127	2831	674	15	20	120	13	10	160	48	3	3	2	0	23	4049
Percent	3.1%	69.9%	16.6%	0.4%	0.5%	3.0%	0.3%	0.2%	4.0%	1.2%	0.1%	0.1%	0.0%	0.0%	0.6%	

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US 1 Bypass
 Between SR 236 Ramps and Irving Oil
 Kittery, Maine

Site Code: US 1 SB
 Station ID:

Southbound 1, Southbound 2

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
07/13/2																
3	1	6	1	0	0	2	0	0	3	1	0	0	0	0	2	16
00:15	0	2	0	0	0	0	0	0	3	0	0	0	0	0	0	5
00:30	1	3	0	0	0	1	0	0	1	0	0	0	0	0	0	6
00:45	1	4	0	0	0	1	0	0	2	0	0	0	0	0	0	8
	3	15	1	0	0	4	0	0	9	1	0	0	0	0	2	35
01:00	0	4	0	0	0	0	0	0	1	0	0	0	0	0	0	5
01:15	0	2	2	0	0	0	0	0	2	1	0	0	0	0	0	7
01:30	4	1	2	0	0	2	0	0	1	0	0	0	0	0	0	10
01:45	0	4	0	0	0	0	0	0	3	0	0	0	0	0	0	7
	4	11	4	0	0	2	0	0	7	1	0	0	0	0	0	29
02:00	0	3	1	0	0	0	0	0	5	0	0	0	0	0	0	9
02:15	0	4	1	0	0	0	0	0	3	1	0	0	0	0	0	9
02:30	0	2	0	0	0	1	0	0	1	0	0	0	0	0	0	4
02:45	1	4	1	0	0	1	0	0	2	1	0	0	0	0	0	10
	1	13	3	0	0	2	0	0	11	2	0	0	0	0	0	32
03:00	0	3	2	0	0	0	0	0	4	2	0	0	0	0	0	11
03:15	0	3	4	0	0	2	0	1	3	0	0	0	0	0	1	14
03:30	0	4	4	0	2	0	0	0	2	1	0	0	0	0	0	13
03:45	1	6	1	0	0	1	0	0	2	0	0	0	0	0	0	11
	1	16	11	0	2	3	0	1	11	3	0	0	0	0	1	49
04:00	1	8	1	0	0	2	0	0	1	1	0	0	0	0	0	14
04:15	1	7	10	0	1	2	0	1	3	1	0	0	0	0	2	28
04:30	1	13	5	0	0	0	0	0	3	1	0	0	0	0	0	23
04:45	3	18	10	0	0	6	0	0	3	3	0	0	0	0	1	44
	6	46	26	0	1	10	0	1	10	6	0	0	0	0	3	109
05:00	0	19	13	0	0	1	0	0	3	1	0	0	0	0	1	38
05:15	9	51	33	0	0	2	0	1	1	0	0	0	0	0	2	99
05:30	3	57	34	0	2	4	0	2	4	1	0	0	0	0	6	113
05:45	5	54	45	2	2	5	0	3	1	1	0	0	0	0	7	125
	17	181	125	2	4	12	0	6	9	3	0	0	0	0	16	375
06:00	2	44	22	0	0	3	0	1	5	1	0	0	0	0	0	78
06:15	1	33	20	0	1	2	0	0	1	1	0	0	1	0	1	61
06:30	5	37	15	0	0	8	0	0	0	0	0	0	0	0	0	65
06:45	1	73	18	0	0	1	1	1	4	0	0	0	0	0	1	100
	9	187	75	0	1	14	1	2	10	2	0	0	1	0	2	304
07:00	2	37	26	0	2	3	0	0	3	0	0	0	0	0	1	74
07:15	1	68	39	1	0	0	0	1	3	0	0	0	0	0	0	113
07:30	4	60	30	0	0	2	0	0	5	3	0	0	0	0	3	107
07:45	4	94	32	0	1	1	0	0	1	0	0	0	0	0	1	134
	11	259	127	1	3	6	0	1	12	3	0	0	0	0	5	428
08:00	3	91	32	1	0	5	0	1	8	3	0	0	0	0	3	147
08:15	2	83	34	1	0	6	0	0	4	0	0	0	0	0	1	131
08:30	2	95	27	0	2	2	0	3	5	2	0	0	0	0	2	140
08:45	3	104	33	1	2	3	1	0	7	0	0	0	0	0	0	154
	10	373	126	3	4	16	1	4	24	5	0	0	0	0	6	572
09:00	5	73	23	2	1	2	0	1	5	0	0	0	0	0	0	112
09:15	3	77	27	1	2	1	0	0	5	1	0	0	0	0	2	119
09:30	2	103	28	2	0	4	0	2	5	2	0	0	0	0	0	148
09:45	4	93	15	1	1	3	0	1	4	2	0	0	0	0	2	126
	14	346	93	6	4	10	0	4	19	5	0	0	0	0	4	505
10:00	2	71	30	1	2	6	2	0	6	2	0	0	0	0	1	123
10:15	1	79	23	0	1	3	1	1	6	2	0	0	0	0	0	117
10:30	2	71	16	1	4	3	0	0	6	1	0	0	0	0	2	106
10:45	2	103	19	1	1	2	0	0	3	1	0	0	0	0	2	134
	7	324	88	3	8	14	3	1	21	6	0	0	0	0	5	480
11:00	3	68	17	0	0	2	0	1	5	4	0	0	0	0	0	100
11:15	3	88	34	0	1	3	0	2	6	1	0	0	0	0	0	138
11:30	1	91	23	0	2	2	0	0	7	0	0	0	1	0	0	127
11:45	2	93	20	0	1	1	0	2	5	3	0	0	0	0	0	127
	9	340	94	0	4	8	0	5	23	8	0	0	1	0	0	492
Total	92	2111	773	15	31	101	5	25	166	45	0	0	2	0	44	3410
Percent	2.7%	61.9%	22.7%	0.4%	0.9%	3.0%	0.1%	0.7%	4.9%	1.3%	0.0%	0.0%	0.1%	0.0%	1.3%	

The Traffic Group, Inc.

(800) 583-8411

www.trafficgroup.com

Merging Innovation and Excellence

US 1 Bypass
Between SR 236 Ramps and Irving Oil
Kittery, Maine

Site Code: US 1 SB
Station ID:

Southbound 1, Southbound 2

Start Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Class 14	Class 15	Total
12 PM	1	100	27	0	4	3	0	0	6	1	0	0	0	0	2	144
12:15	4	88	21	0	0	10	1	1	6	0	0	0	0	0	2	133
12:30	5	88	34	0	1	6	0	0	3	1	0	0	0	0	1	139
12:45	7	93	22	1	0	4	0	0	8	1	0	0	0	0	0	136
	17	369	104	1	5	23	1	1	23	3	0	0	0	0	5	552
13:00	3	93	22	2	0	3	0	0	7	1	0	0	0	0	0	131
13:15	3	88	20	0	1	4	0	0	2	0	0	0	0	0	0	118
13:30	2	90	22	0	0	3	1	1	3	2	0	0	0	0	5	129
13:45	5	85	27	0	0	3	0	0	2	2	0	0	0	0	0	124
	13	356	91	2	1	13	1	1	14	5	0	0	0	0	5	502
14:00	6	73	23	1	1	6	0	0	2	2	0	0	0	0	0	114
14:15	2	89	25	2	2	1	1	0	2	2	0	0	0	0	0	126
14:30	2	79	34	0	0	3	1	1	4	0	0	0	0	0	0	124
14:45	6	81	34	0	0	3	0	0	10	0	0	0	0	0	0	134
	16	322	116	3	3	13	2	1	18	4	0	0	0	0	0	498
15:00	5	101	28	0	1	2	0	0	3	1	0	0	0	0	0	141
15:15	0	112	19	1	1	1	0	0	4	1	0	0	0	0	4	143
15:30	0	102	22	0	0	0	0	0	6	0	0	0	0	0	1	131
15:45	3	91	28	0	0	4	0	0	3	0	0	0	0	0	0	129
	8	406	97	1	2	7	0	0	16	2	0	0	0	0	5	544
16:00	3	82	34	1	2	3	0	0	5	0	0	0	0	0	2	132
16:15	1	95	25	0	0	0	0	0	6	0	0	0	0	0	0	127
16:30	0	96	25	1	0	0	0	0	5	0	0	0	0	0	0	127
16:45	2	86	24	1	1	1	0	0	3	0	0	0	0	0	1	119
	6	359	108	3	3	4	0	0	19	0	0	0	0	0	3	505
17:00	3	83	20	1	1	2	0	0	6	1	0	0	0	0	0	117
17:15	1	92	22	1	1	1	0	0	4	0	0	0	0	0	3	125
17:30	4	99	22	0	0	1	0	0	4	1	0	0	0	0	0	131
17:45	5	72	17	0	1	1	0	0	2	2	0	0	0	0	1	101
	13	346	81	2	3	5	0	0	16	4	0	0	0	0	4	474
18:00	2	72	9	0	0	3	0	0	6	0	0	0	0	0	1	93
18:15	5	86	16	0	0	4	0	0	1	0	0	0	0	0	1	113
18:30	2	52	13	0	0	1	0	0	4	0	0	0	0	0	0	72
18:45	4	53	5	0	0	1	0	0	5	0	0	0	0	0	1	69
	13	263	43	0	0	9	0	0	16	0	0	0	0	0	3	347
19:00	4	46	12	0	0	5	0	1	3	1	0	0	0	0	0	72
19:15	2	60	10	1	0	3	0	0	7	0	0	0	0	0	0	83
19:30	1	44	4	0	1	1	0	0	4	2	0	0	0	0	1	58
19:45	2	37	4	0	0	2	0	0	2	0	0	0	0	0	0	47
	9	187	30	1	1	11	0	1	16	3	0	0	0	0	1	260
20:00	1	44	7	0	1	3	0	1	4	0	0	0	0	0	0	61
20:15	1	48	10	0	0	1	0	0	5	0	0	0	0	0	0	65
20:30	3	38	6	0	1	0	0	0	3	1	1	0	0	0	0	53
20:45	2	25	9	0	0	1	0	0	3	1	0	0	0	0	0	41
	7	155	32	0	2	5	0	1	15	2	1	0	0	0	0	220
21:00	1	34	5	0	1	0	0	0	0	1	0	0	0	0	0	42
21:15	0	28	7	0	0	0	0	0	2	0	0	0	0	0	0	37
21:30	2	25	3	0	0	4	0	0	3	0	0	0	0	0	0	37
21:45	2	23	1	0	0	0	0	0	0	0	0	1	0	0	0	27
	5	110	16	0	1	4	0	0	5	1	0	1	0	0	0	143
22:00	0	13	4	0	1	0	0	0	4	1	1	0	0	0	0	24
22:15	1	16	5	0	2	1	0	0	1	0	0	0	0	0	0	26
22:30	1	18	3	0	0	1	0	0	2	0	0	0	0	0	0	25
22:45	0	7	1	0	0	0	0	0	0	0	1	0	0	0	0	9
	2	54	13	0	3	2	0	0	7	1	2	0	0	0	0	84
23:00	2	16	4	0	0	0	0	0	2	0	0	0	0	0	0	24
23:15	0	8	2	0	0	0	0	0	4	0	0	0	0	0	0	14
23:30	1	11	1	0	0	1	0	0	3	0	0	0	0	0	0	17
23:45	1	14	0	1	0	0	0	0	0	0	0	0	0	0	0	16
	4	49	7	1	0	1	0	0	9	0	0	0	0	0	0	71
Total	113	2976	738	14	24	97	4	5	174	25	3	1	0	0	26	4200
Percent	2.7%	70.9%	17.6%	0.3%	0.6%	2.3%	0.1%	0.1%	4.1%	0.6%	0.1%	0.0%	0.0%	0.0%	0.6%	
Grand Total	433	10004	2943	67	111	411	37	51	671	166	7	4	6	0	121	15032
Percent	2.9%	66.6%	19.6%	0.4%	0.7%	2.7%	0.2%	0.3%	4.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.8%	

TURNING MOVEMENT COUNT DATA

TURNING MOVEMENT COUNT - SUMMARY

Intersection of: SR 236/State Road
and: Rogers Road/Old Post Road
Location: York County, Maine

Counted by: VCU
Date: July 13, 2023
Thursday
Weather: Sunny, Warm
Entered by: ARG

State Road_SB To Time	SR 236_WB All Classes	Dairy Queen Access All Classes	State Road_NB All Classes	Old Post Road All Classes	From US 1 All Classes	SR 236_EB All Classes	La Casita Access All Classes	State Road_SB All Classes	TOTAL	PEDS		PCL	
										CW	CCW	CW	CCW
7:00	2	0	0	0	0	0	0	0	2	0	0	0	0
7:15	1	0	1	0	0	3	0	1	6	0	0	0	0
7:30	0	0	2	0	0	4	0	0	6	0	0	1	0
7:45	0	0	1	0	0	0	0	1	2	16	0	0	0
8:00	0	0	2	0	0	4	0	0	6	20	0	0	0
8:15	0	0	1	1	0	1	0	0	3	17	0	0	0
8:30	0	1	5	0	0	1	0	0	7	18	0	0	0
8:45	0	0	1	0	0	6	0	0	7	23	0	0	0
TOTAL	3	1	13	1	0	19	0	2	39			1	0
PEAK HOUR (8a-9a)	0	1	9	1	0	12	0	0	23				
									82%				
Time	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	TOTAL	CW	CCW	CW	CCW
16:00	1	1	4	1	0	15	0	0	22	0	0	0	0
16:15	1	0	3	2	0	22	1	0	29	0	0	0	0
16:30	0	0	6	0	0	9	0	1	16	0	0	0	0
16:45	0	2	3	2	0	5	0	0	12	79	0	0	0
17:00	0	0	1	0	0	5	0	0	6	63	0	0	0
17:15	0	0	3	0	0	5	0	1	9	43	0	0	0
17:30	0	0	5	0	0	7	0	0	12	39	0	0	0
17:45	1	0	5	1	0	7	1	0	15	42	0	0	0
TOTAL	3	3	30	6	0	75	2	2	121			0	0
PEAK HOUR (4:30p-5:30p)	0	2	13	2	0	24	0	2	43				
									67%				

TURNING MOVEMENT COUNT - SUMMARY

Intersection of: SR 236/State Road
and: Rogers Road/Old Post Road
Location: York County, Maine

Counted by: VCU
Date: July 13, 2023
Thursday
Weather: Sunny, Warm
Entered by: ARG

SR 236_WB To Time	State Road_SB All Classes	Dairy Queen Access All Classes	State Road_NB All Classes	Old Post Road All Classes	From US 1 All Classes	SR 236_EB All Classes	La Casita Access All Classes	SR 236_WB All Classes	TOTAL	PEDS		PCL	
										CW	CCW	CW	CCW
7:00	1	0	7	1	0	30	0	0	39	0	0	0	0
7:15	0	0	5	2	0	51	0	0	58	0	0	0	0
7:30	1	1	8	2	0	59	1	0	72	0	0	0	0
7:45	3	0	8	5	0	57	1	1	75	244	0	0	0
8:00	4	1	4	3	0	56	0	0	68	273	0	0	0
8:15	2	0	3	1	0	63	0	0	69	284	0	0	0
8:30	2	1	7	6	0	70	1	0	87	299	0	0	0
8:45	1	0	12	5	0	64	0	0	82	306	0	0	0
TOTAL	14	3	54	25	0	450	3	1	550				
PEAK HOUR (8a-9a)	9	2	26	15	0	253	1	0	306				
									88%				
Time	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	TOTAL	CW	CCW	CW	CCW
16:00	0	0	6	2	0	125	0	1	134	0	0	0	0
16:15	6	0	9	6	0	95	0	2	118	0	0	0	0
16:30	3	0	7	3	0	118	0	0	131	0	0	0	0
16:45	0	0	7	4	0	94	0	0	105	488	0	0	0
17:00	4	0	9	4	0	84	1	0	102	456	0	0	0
17:15	2	0	5	6	0	61	0	2	76	414	0	0	0
17:30	3	0	5	5	0	60	0	0	73	356	0	0	0
17:45	4	0	2	3	0	44	0	0	53	304	0	0	0
TOTAL	22	0	50	33	0	681	1	5	792				
PEAK HOUR (4:30p-5:30p)	9	0	28	17	0	357	1	2	414				
									79%				

TURNING MOVEMENT COUNT - SUMMARY

Intersection of: SR 236/State Road
and: Rogers Road/Old Post Road
Location: York County, Maine

Counted by: VCU
Date: July 13, 2023
Thursday
Weather: Sunny, Warm
Entered by: ARG

Dairy Queen Access To	State Road_SB All Classes	SR 236_WB All Classes	State Road_NB All Classes	Old Post Road All Classes	From US 1 All Classes	SR 236_EB All Classes	La Casita Access All Classes	Dairy Queen Access All Classes	TOTAL	PEDS		PCL	
										CW	CCW	CW	CCW
7:00	0	0	0	0	0	0	0	0	0	0	0	0	
7:15	2	1	0	0	0	0	0	3	0	0	0	0	
7:30	0	0	0	0	0	1	0	1	0	0	0	0	
7:45	0	0	0	0	0	0	0	0	4	0	0	0	
8:00	0	0	1	0	0	2	0	3	7	0	0	0	
8:15	1	0	0	0	0	1	0	2	6	0	0	0	
8:30	0	1	1	0	0	0	0	2	7	0	0	0	
8:45	1	0	2	0	0	2	0	5	12	0	0	0	
TOTAL	4	2	4	0	0	6	0	16		0	0	0	
PEAK HOUR (8a-9a)	2	1	4	0	0	5	0	12					
								60%					
16:00	3	0	1	0	0	2	0	6	0	0	0	0	
16:15	0	0	1	0	0	3	0	4	0	0	0	0	
16:30	2	0	0	1	0	2	0	5	0	0	0	0	
16:45	1	0	2	0	0	4	0	7	22	0	0	0	
17:00	2	0	0	0	0	1	0	3	19	0	0	0	
17:15	3	0	0	2	0	0	0	5	20	0	0	0	
17:30	2	0	0	0	0	3	0	5	20	0	0	0	
17:45	2	0	0	0	0	1	0	3	16	0	0	0	
TOTAL	15	0	4	3	0	16	0	38		0	0	0	
PEAK HOUR (4:30p-5:30p)	8	0	2	3	0	7	0	20					
								71%					

TURNING MOVEMENT COUNT - SUMMARY

Intersection of: SR 236/State Road
and: Rogers Road/Old Post Road
Location: York County, Maine

Counted by: VCU
Date: July 13, 2023
Thursday
Weather: Sunny, Warm
Entered by: ARG

State Road_NB To Time	State Road_SB All Classes	SR 236_WB All Classes	Dairy Queen Access All Classes	Old Post Road All Classes	From US 1 All Classes	SR 236_EB All Classes	La Casita Access All Classes	State Road_NB All Classes	TOTAL	PEDS		PCL	
										CW	CCW	CW	CCW
7:00	23	3	2	0	0	18	0	0	46	0	0	0	0
7:15	9	0	0	0	0	13	0	0	22	0	1	0	0
7:30	12	6	1	0	0	17	0	0	36	0	0	0	0
7:45	23	6	0	0	0	15	0	1	45	149	0	0	0
8:00	25	7	2	0	0	14	0	1	49	152	0	0	0
8:15	25	7	0	0	0	21	0	0	53	183	0	0	0
8:30	37	10	0	0	0	26	0	0	73	220	0	1	0
8:45	35	12	2	0	0	23	0	0	72	247	0	0	0
TOTAL	189	51	7	0	0	147	0	2	396	0	2	0	0
PEAK HOUR (8a-9a)	122	36	4	0	0	84	0	1	247				
									85%				
Time	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	TOTAL	CW	CCW	CW	CCW
16:00	54	2	1	0	0	54	0	0	111	0	0	0	0
16:15	66	2	5	0	0	31	0	0	104	0	0	0	0
16:30	70	0	1	0	0	46	0	0	117	0	0	0	0
16:45	35	8	2	0	0	60	0	0	105	437	0	0	0
17:00	61	0	4	0	0	54	0	0	119	445	0	0	0
17:15	55	1	6	0	0	57	0	0	119	460	0	0	0
17:30	67	2	2	0	0	44	0	0	115	458	0	0	0
17:45	41	0	3	0	0	34	0	0	78	431	0	0	0
TOTAL	449	15	24	0	0	380	0	0	868	0	0	0	0
PEAK HOUR (4:30p-5:30p)	221	9	13	0	0	217	0	0	460				
									97%				

TURNING MOVEMENT COUNT - SUMMARY

Intersection of: SR 236/State Road
and: Rogers Road/Old Post Road
Location: York County, Maine

Counted by: VCU
Date: July 13, 2023
Thursday
Weather: Sunny, Warm
Entered by: ARG

Old Post Road To Time	State Road_SB All Classes	SR 236_WB All Classes	Dairy Queen Access All Classes	State Road_NB All Classes	From US 1 All Classes	SR 236_EB All Classes	La Casita Access All Classes	Old Post Road All Classes	TOTAL	PEDS		PCL	
										CW	CCW	CW	CCW
7:00	4	6	1	0	0	3	0	1	15	0	0	0	0
7:15	5	7	0	0	0	6	0	0	18	0	0	0	0
7:30	4	4	0	0	0	7	0	0	15	0	0	0	0
7:45	8	6	3	0	0	6	0	0	23	71	0	0	0
8:00	5	5	0	1	0	4	0	0	15	71	0	0	0
8:15	6	7	2	1	0	8	0	0	24	77	0	0	0
8:30	4	10	0	1	0	7	0	0	22	84	0	0	0
8:45	5	7	0	2	0	4	0	0	18	79	0	0	0
TOTAL	41	52	6	5	0	45	0	1	150				
PEAK HOUR (8a-9a)	20	29	2	5	0	23	0	0	79				
									82%				
Time	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	TOTAL	CW	CCW	CW	CCW
16:00	14	9	1	2	0	13	0	1	40	0	0	0	0
16:15	16	15	1	2	0	18	0	0	52	0	0	0	0
16:30	10	7	0	0	0	11	0	0	28	0	0	0	0
16:45	6	9	0	0	0	5	0	0	20	140	0	0	0
17:00	8	11	1	1	0	8	0	0	29	129	0	0	0
17:15	8	9	0	2	0	9	0	0	28	105	0	0	0
17:30	5	7	0	1	0	10	0	0	23	100	0	0	0
17:45	4	6	2	0	0	10	0	0	22	102	0	0	0
TOTAL	71	73	5	8	0	84	0	1	242				
PEAK HOUR (4:30p-5:30p)	32	36	1	3	0	33	0	0	105				
									91%				

TURNING MOVEMENT COUNT - SUMMARY

Intersection of: SR 236/State Road
and: Rogers Road/Old Post Road
Location: York County, Maine

Counted by: VCU
Date: July 13, 2023
Thursday
Weather: Sunny, Warm
Entered by: ARG

From US 1 To Time	State Road_SB All Classes	SR 236_WB All Classes	Dairy Queen Access All Classes	State Road_NB All Classes	Old Post Road All Classes	SR 236_EB All Classes	La Casita Access All Classes	From US 1 All Classes	TOTAL	PEDS		PCL	
										CW	CCW	CW	CCW
7:00	3	5	0	1	0	3	2	1	15	0	0	0	0
7:15	3	2	2	1	0	4	0	0	12	0	0	0	0
7:30	4	3	0	1	1	6	0	0	15	0	0	0	0
7:45	0	4	0	2	1	8	0	0	15	57	0	0	0
8:00	2	3	0	2	1	18	0	0	26	68	0	0	0
8:15	1	5	1	2	1	16	0	0	26	82	0	0	0
8:30	1	9	1	4	3	16	0	0	34	101	0	0	0
8:45	2	8	0	7	1	13	0	0	31	117	0	0	0
TOTAL	16	39	4	20	8	84	2	1	174	0	0	0	0
PEAK HOUR (8a-9a)	6	25	2	15	6	63	0	0	117	0	0	0	0
									86%				
Time	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	TOTAL	CW	CCW	CW	CCW
16:00	2	13	1	2	0	33	0	0	51	0	0	0	0
16:15	1	14	0	1	3	41	0	0	60	0	0	0	0
16:30	2	9	1	0	1	49	0	0	62	0	0	0	0
16:45	4	8	1	2	2	48	0	0	65	238	0	0	0
17:00	4	10	1	3	0	30	0	0	48	235	0	0	0
17:15	4	11	1	2	1	53	0	0	72	247	0	0	0
17:30	3	6	0	0	3	20	0	0	32	217	0	0	0
17:45	6	12	0	2	0	31	0	0	51	203	0	0	0
TOTAL	26	83	5	12	10	305	0	0	441	0	0	0	0
PEAK HOUR (4:30p-5:30p)	14	38	4	7	4	180	0	0	247	0	0	0	0
									86%				

TURNING MOVEMENT COUNT - SUMMARY

Intersection of: SR 236/State Road
and: Rogers Road/Old Post Road
Location: York County, Maine

Counted by: VCU
Date: July 13, 2023
Thursday
Weather: Sunny, Warm
Entered by: ARG

SR 236_EB To Time	State Road_SB All Classes	SR 236_WB All Classes	Dairy Queen Access All Classes	State Road_NB All Classes	Old Post Road All Classes	From US 1 All Classes	La Casita Access All Classes	SR 236_EB All Classes	TOTAL	PEDS		PCL	
										CW	CCW	CW	CCW
7:00	36	92	5	71	3	0	1	0	208	0	0	0	0
7:15	43	79	3	75	6	0	0	0	206	0	0	0	0
7:30	31	60	9	97	8	0	0	0	205	0	0	0	0
7:45	38	51	2	94	12	0	1	0	198	817	0	0	0
8:00	49	56	9	87	10	0	0	0	211	820	0	0	0
8:15	56	60	10	70	5	0	0	0	201	815	0	0	0
8:30	66	68	5	85	15	0	1	0	240	850	0	0	0
8:45	56	78	4	87	13	0	1	0	239	891	0	0	0
TOTAL	375	544	47	666	72	0	4	0	1708		0	0	0
PEAK HOUR (8a-9a)	227	262	28	329	43	0	2	0	891		0	0	0
									93%				
Time	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	TOTAL	CW	CCW	CW	CCW
16:00	48	98	6	48	11	0	1	2	214	0	0	0	0
16:15	50	113	7	51	8	0	1	0	230	0	0	0	0
16:30	65	108	5	66	12	0	1	0	257	0	0	0	0
16:45	64	70	4	63	11	0	0	0	212	913	0	0	0
17:00	82	76	2	83	10	0	0	1	254	953	0	0	0
17:15	81	86	4	81	11	0	0	0	263	986	0	0	0
17:30	75	87	3	75	8	0	0	0	248	977	0	0	0
17:45	64	71	6	63	8	0	0	0	212	977	0	0	0
TOTAL	529	709	37	530	79	0	3	3	1890		0	0	0
PEAK HOUR (4:30p-5:30p)	292	340	15	293	44	0	1	1	986		0	0	0
									94%				

TURNING MOVEMENT COUNT - SUMMARY

Intersection of: SR 236/State Road
and: Rogers Road/Old Post Road
Location: York County, Maine

Counted by: VCU
Date: July 13, 2023
Thursday
Weather: Sunny, Warm
Entered by: ARG

La Casita Access To	State Road_SB All Classes	SR 236_WB All Classes	Dairy Queen Access All Classes	State Road_NB All Classes	Old Post Road All Classes	From US 1 All Classes	SR 236_EB All Classes	La Casita Access All Classes	TOTAL	PEDS		PCL	
										CW	CCW	CW	CCW
Time													
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	1	0	0	0	0	0	0	1	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	2	0	0	0
7:45	0	0	0	0	0	0	2	0	2	3	0	0	0
8:00	0	0	0	0	0	0	0	0	0	3	0	0	0
8:15	0	0	0	0	0	0	0	0	0	2	0	0	0
8:30	0	1	0	0	0	0	0	0	1	3	0	0	0
8:45	0	0	0	0	0	0	1	0	1	2	0	0	0
TOTAL	0	2	0	0	0	0	3	0	5	2	0	0	0
PEAK HOUR (8a-9a)	0	1	0	0	0	0	1	0	2				
									50%				
Time	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	All Classes	TOTAL	CW	CCW	CW	CCW
16:00	1	1	0	0	0	0	0	0	2	0	0	0	0
16:15	0	0	0	1	1	0	2	1	4	0	0	0	0
16:30	0	0	0	0	1	0	0	0	1	0	0	0	0
16:45	1	0	0	0	0	0	0	0	1	8	0	2	0
17:00	0	0	0	0	0	0	1	0	1	7	0	0	0
17:15	0	0	0	0	0	0	1	0	1	4	0	0	0
17:30	0	0	0	0	0	0	0	0	0	3	0	0	0
17:45	0	0	0	0	0	0	0	0	0	2	0	0	1
TOTAL	2	1	0	1	2	0	4	0	10	0	0	2	1
PEAK HOUR (4:30p-5:30p)	1	0	0	0	1	0	2	0	4				
									100%				

SEASONAL ADJUSTMENT DATA

2018
Weekly Group Mean Factors
Average: 2015, 2016, 2017

Month	Start Date	Dates	Month	Urban	Arterial	Recreational	Group	Group	Group	Year
Month	Start Date	Dates	Week #	Group I	Group II	Group III	I + II	II + III	I + III	Week #
Dec	31	1	1	1.04	1.19	1.37	1.12	1.28	1.21	1
Jan	07	2	2	1.03	1.21	1.41	1.12	1.31	1.22	2
	14	3	3	1.02	1.19	1.41	1.11	1.30	1.22	3
	21	4	4	1.03	1.21	1.41	1.12	1.31	1.22	4
	28	5	5	1.11	1.33	1.55	1.22	1.44	1.33	5
Feb	04	1	1	1.12	1.34	1.64	1.23	1.49	1.38	6
	11	2	2	1.10	1.29	1.57	1.20	1.43	1.34	7
	18	3	3	1.02	1.17	1.39	1.10	1.28	1.21	8
	25	4	4	0.99	1.17	1.41	1.08	1.29	1.20	9
Mar	04	1	1	0.98	1.14	1.36	1.06	1.25	1.17	10
	11	2	2	1.03	1.19	1.44	1.11	1.32	1.24	11
	18	3	3	1.01	1.17	1.42	1.09	1.30	1.22	12
	25	4	4	0.98	1.14	1.33	1.06	1.24	1.16	13
Apr	01	1	1	0.97	1.13	1.32	1.05	1.23	1.15	14
	08	2	2	0.94	1.09	1.27	1.02	1.18	1.11	15
	15	3	3	0.94	1.05	1.17	1.00	1.11	1.06	16
	22	4	4	0.94	1.07	1.19	1.01	1.13	1.07	17
	29	5	5	0.91	1.04	1.16	0.98	1.10	1.04	18
May	06	1	1	0.89	0.99	1.06	0.94	1.03	0.98	19
	13	2	2	0.88	0.97	1.00	0.93	0.99	0.94	20
	20	3	3	0.88	0.93	0.94	0.91	0.94	0.91	21
	27	4	4	0.86	0.93	0.94	0.90	0.94	0.90	22
Jun	03	1	1	0.88	0.93	0.95	0.91	0.94	0.92	23
	10	2	2	0.86	0.90	0.87	0.88	0.89	0.87	24
	17	3	3	0.86	0.88	0.83	0.87	0.86	0.85	25
	24	4	4	0.86	0.85	0.77	0.86	0.81	0.82	26
Jul	01	1	1	0.85	0.80	0.70	0.83	0.75	0.78	27
	08	2	2	0.85	0.82	0.73	0.84	0.78	0.79	28
	15	3	3	0.85	0.81	0.71	0.83	0.76	0.78	29
	22	4	4	0.85	0.81	0.68	0.83	0.75	0.77	30
	29	5	5	0.85	0.79	0.66	0.82	0.73	0.76	31
Aug	05	1	1	0.86	0.79	0.65	0.83	0.72	0.76	32
	12	2	2	0.85	0.79	0.68	0.82	0.74	0.77	33
	19	3	3	0.85	0.80	0.70	0.83	0.75	0.78	34
	26	4	4	0.86	0.84	0.78	0.85	0.81	0.82	35
Sep	02	1	1	0.86	0.88	0.86	0.87	0.87	0.86	36
	09	2	2	0.87	0.89	0.87	0.88	0.88	0.87	37
	16	3	3	0.88	0.90	0.91	0.89	0.91	0.90	38
	23	4	4	0.88	0.90	0.91	0.89	0.91	0.90	39
	30	5	5	0.88	0.88	0.93	0.88	0.91	0.91	40
Oct	07	1	1	0.87	0.88	0.93	0.88	0.91	0.90	41
	14	2	2	0.89	0.93	0.99	0.91	0.96	0.94	42
	21	3	3	0.92	0.99	1.11	0.96	1.05	1.02	43
	28	4	4	0.92	1.03	1.16	0.98	1.10	1.04	44
Nov	04	1	1	0.92	1.01	1.15	0.97	1.08	1.04	45
	11	2	2	0.93	1.03	1.19	0.98	1.11	1.06	46
	18	3	3	0.92	0.99	1.19	0.96	1.09	1.06	47
	25	4	4	0.94	1.05	1.23	1.00	1.14	1.09	48
Dec	02	1	1	0.95	1.11	1.27	1.03	1.19	1.11	49
	09	2	2	0.98	1.14	1.34	1.06	1.24	1.16	50
	16	3	3	0.94	1.07	1.28	1.01	1.18	1.11	51
	23	4	4	1.02	1.11	1.32	1.07	1.22	1.17	52

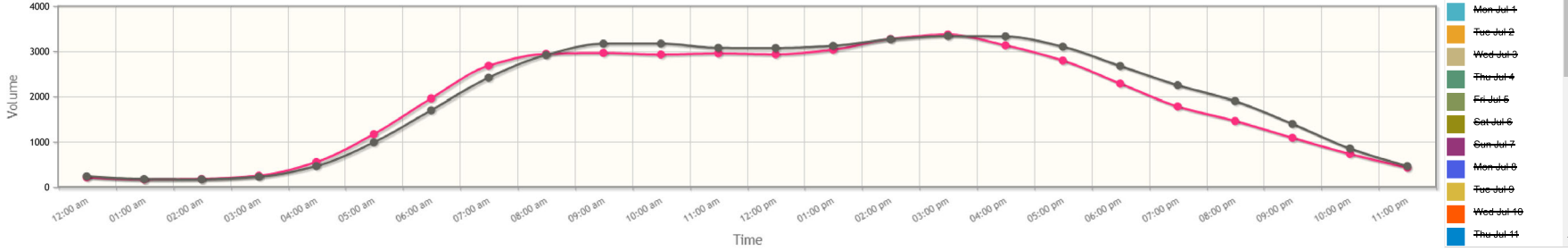
0.82
0.81
1.2%

COVID ADJUSTMENT DATA

Multi-Day Volume Report MAINE_DOT_CCS 133113054702

Monday, July 1, 2019 to Wednesday, July 31, 2019

Multi-Day Volume Report MAINE_DOT_CCS 133113054702 Monday, July 1, 2019 to Wednesday, July 31, 2019



Site Name KITTERY 54702 Site ID 133113054702 Description I-95 (SB) @ NH SL

All Lanes Time Period: 1 hour Exclude data: None

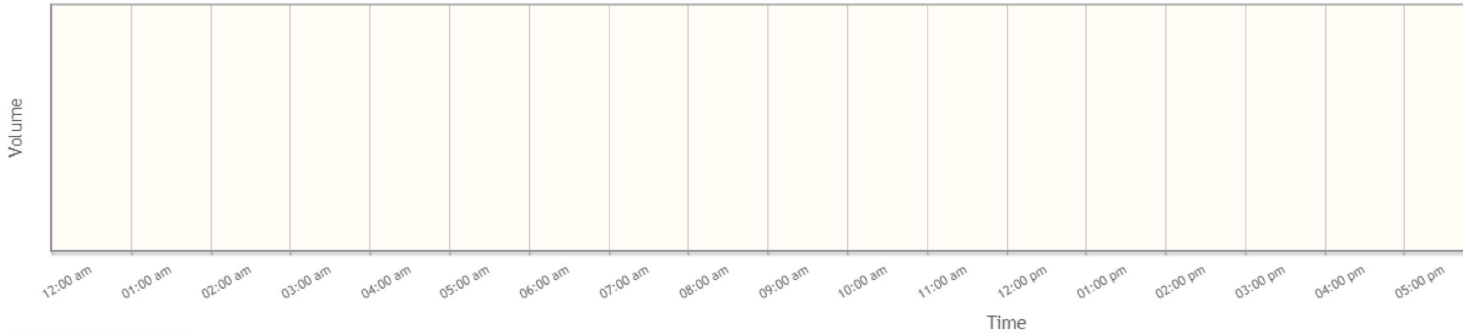
	Mon Jul 1	Tue Jul 2	Wed Jul 3	Thu Jul 4	Fri Jul 5	Sat Jul 6	Sun Jul 7	Mon Jul 8	Tue Jul 9	Wed Jul 10	Thu Jul 11	Fri Jul 12	Sat Jul 13	Sun Jul 14	Mon Jul 15	Tue Jul 16	Wed Jul 17	Thu Jul 18	Fri Jul 19	Sat Jul 20	Sun Jul 21	Mon Jul 22	Tue Jul 23	Wed Jul 24	Thu Jul 25	Fri Jul 26	Sat Jul 27	Sun Jul 28	Mon Jul 29	Tue Jul 30	Wed Jul 31	Average 7 Day	Total Count		
12:00 am	173	200	223	259	455	306	378	252	178	169	208	193	238	286	214	225	205	206	230	280	359	-	168	219	201	252	284	303	245	198	224	247	7107		
01:00 am	152	165	172	187	233	222	224	173	152	165	154	183	203	178	159	161	180	170	197	213	227	-	182	164	143	207	203	202	181	183	-	175	185	5335	
02:00 am	171	184	199	139	194	184	149	202	199	161	199	178	162	147	166	196	189	215	214	163	172	-	181	177	188	185	175	128	206	184	-	187	179	5207	
03:00 am	291	242	229	151	239	206	172	325	228	243	297	198	188	160	307	264	262	226	227	190	142	-	259	269	309	282	211	159	-	327	296	-	261	237	6899
04:00 am	737	521	477	219	388	265	253	829	543	484	530	465	258	208	742	608	540	596	554	274	191	-	580	574	589	501	313	207	782	605	-	565	474	13843	
05:00 am	1434	1121	1004	397	814	628	661	1793	1192	932	1214	1052	557	434	1697	1239	1182	1197	1008	610	425	-	1145	1136	1214	1078	586	446	1769	1271	-	1185	1002	29236	
06:00 am	2314	1860	1692	692	1496	1116	1346	2837	2109	1823	1997	1705	975	880	2598	2126	1995	2011	1757	1097	944	-	1993	2015	1971	1774	1175	944	2659	2168	-	1977	1715	50669	
07:00 am	3073	2645	2303	939	2116	1762	2430	3430	2829	2874	2842	2491	1700	1466	3160	2893	2780	2815	2577	1892	1585	-	2842	2851	2655	2547	1849	1485	3275	2878	-	2700	2435	70984	
08:00 am	3043	2812	2651	1347	2519	2974	3910	3575	2998	3017	3198	2892	2631	2531	3413	3077	3145	3142	2833	2611	2786	-	3089	3004	3061	2939	2831	2717	3417	3139	-	2964	2939	85302	
09:00 am	2907	2687	2594	1798	3252	4313	4600	3716	2757	2867	2981	3171	3582	3852	3239	2966	3050	3020	3159	1046	4085	-	2949	2841	3032	3169	3995	4172	3652	2446	-	2985	3191	92108	
10:00 am	3079	2800	2799	2124	4189	4582	4209	3161	2839	2847	3113	3593	4116	4523	3622	3065	3168	3185	3538	892	3020	-	3242	2863	3143	3577	4454	4629	1401	42	-	2950	3193	91815	
11:00 am	3177	2811	2783	2346	4389	3103	4638	2822	2974	3020	3276	3917	4128	4559	3599	3073	3220	3295	3635	1918	16	-	3402	2873	3252	3859	4381	4469	66	218	-	2976	3097	89219	
12:00 pm	2845	2711	2817	2153	4403	3527	4633	4128	2832	3015	3187	3743	3676	4515	3547	2929	3212	3193	3341	1135	1324	-	3194	2756	3122	3690	4379	4370	65	664	-	2954	3094	89106	
01:00 pm	2900	2790	2842	2016	4118	2041	4558	3690	3017	2935	3275	3648	3469	4526	3640	2977	3285	3259	3449	2472	1546	-	3050	3129	3182	3794	3826	4412	279	2795	-	3057	3143	90920	
02:00 pm	3108	2965	2967	2070	4322	2257	3958	3751	3144	3106	3454	3764	3405	4521	3548	3089	3330	3111	3545	2311	1463	-	3143	3205	3432	3820	3752	4513	2946	3271	-	3298	3291	95271	
03:00 pm	3251	3047	2905	2134	4151	4485	3553	3523	3229	3298	3511	3720	3486	4596	3697	3254	3279	3258	3787	559	1004	-	3006	3433	3537	3817	4069	4463	3835	3405	-	3394	3361	97292	
04:00 pm	3136	2854	2718	2245	3920	3718	3775	3349	2989	3158	3143	3331	3453	4576	3279	3048	2999	3252	3429	2764	4253	-	2851	3275	3311	3277	3786	4483	3445	3024	-	3154	3353	96841	
05:00 pm	2759	2555	2635	2167	3733	3895	3690	2951	2722	2716	2850	2856	3249	4561	2815	2659	2537	2819	2985	3295	4535	-	2456	2763	3141	3229	3446	4495	2949	2614	-	2815	3124	90077	
06:00 pm	2139	2102	2182	2039	3226	3762	3882	2430	2067	2249	2080	2366	2925	4209	2414	2006	2024	2140	2592	3044	4127	-	1917	2379	2355	2823	3119	4276	2393	2218	-	2304	2694	77485	
07:00 pm	1589	1641	1811	1977	2863	2990	4072	1850	1233	1747	1591	1786	2621	3905	1815	1669	1447	1715	2071	2527	4129	-	1370	1655	1889	2175	2764	4528	1925	1693	-	1800	2269	65048	
08:00 pm	1343	1351	1460	1754	2484	2572	3598	1481	1316	1347	1242	1219	2314	3375	1444	1378	1133	1420	1652	2360	3491	-	1177	1391	1521	1792	2615	3812	1477	1509	-	1477	1917	55028	
09:00 pm	950	1030	1112	1432	2013	1934	2675	1018	974	984	911	1040	1982	2084	988	971	817	1038	1322	2093	2300	-	871	1006	1132	1353	1917	2454	1078	993	-	1103	1411	40472	
10:00 pm	538	619	808	1909	1284	1221	1171	578	583	595	501	733	1207	926	576	508	554	687	981	1344	1081	-	518	572	765	966	1258	1136	562	636	-	745	866	24817	
11:00 pm	317	339	452	1238	635	669	480	305	306	291	398	415	591	404	314	335	323	373	569	787	420	-	814	388	504	582	674	447	326	400	-	439	473	13596	
7am-7pm	35417	32779	32196	23378	44338	40419	47836	40526	34397	35202	36910	39492	39820	48445	40073	35056	36029	36489	38870	23939	29744	-	35121	35372	37223	40541	43887	48484	27723	26714	-	35552	36915	1066420	
6am-10pm	41613	38661	38271	29233	53194	49031	59527	47712	40029	41103	42651	45242	47712	58689	46918	41200	41421	42673	45672	32016	40608	-	40532	41439	43736	47635	52358	60222	34862	33077	-	41909	44226	1277037	
6am-12am	42468	39619	39531	32380	55113	50921	61178	48595	40918	41989	43550	46390	49510	60019	47808	42043	42298	43733	47222	34147	42109	-	41364	42399	45005	49183	54290	61805	35750	34113	-	43093	45566	1315450	
12am-12am	45426	42052	41835	33732	57436	52732	63015	52169	43410	44143	46152	48659	51116	61432	51093	44736	44856	46343	49652	35877	43625	-	43879	44938	47649	51688	56062	63250	39270	36850	-	45689	47889	1383077	
am Peak	11:00 am	08:00 am	10:00 am	11:00 am	10:00 am	11:00 am	09:00 am	08:00 am	11:00 am	11:00 am	11:00 am	11:00 am	11:00 am	11:00 am	10:00 am	08:00 am	11:00 am	11:00 am	11:00 am	08:00 am	09:00 am	-	11:00 am	08:00 am	11:00 am	11:00 am	10:00 am	10:00 am	09:00 am	08:00 am	-	09:00 am	10:00 am		
Peak Volume	3177	2812	2799	2346	4389	4582	4638	3716	2998	3020	3276	3917	4128	4559	3622	3077	3220	3295	3635	2611	4085	-	3402	3004	3004	3252	3859	4454	4629	3652	3139	-	2985	3193	
pm Peak	03:00 pm	03:00 pm	02:00 pm	04:00 pm	12:00 pm	03:00 pm	12:00 pm	03:00 pm	03:00 pm	03:00 pm	02:00 pm	12:00 pm	03:00 pm	03:00 pm	03:00 pm	02:00 pm	01:00 pm	03:00 pm	03:00 pm	05:00 pm	05:00 pm	-	12:00 pm	03:00 pm	03:00 pm	02:00 pm	12:00 pm	07:00 pm	03:00 pm	03:00 pm	-	03:00 pm	03:00 pm		
Peak Volume	3251	3047	2967	2245	4403	4485	4633	4128	3229	3298	3511	3764	3676	4596	3697	3254	3330	3259	3787	3295	4535	-	3194	3433	3537	3820	4379	4528	3835	3405	-	3394	3361		

Event key: ■ QC Failure ■ QC Outlier ■ QC Atypical ■ Events ■ Special ■ Holiday ■ Offline
■ Weekends and defined holidays

Notes on data:
 Weekly

Multi-Day Volume Report MAINE_DOT_CCS 133113054702 Saturday, July 1, 2023 to Thursday, July 20, 2023

Multi-Day Volume Report MAINE_DOT_CCS 133113054702 Saturday, July 1, 2023 to Thursday, July 20, 2023



- Toggle All
- Sat Jul 1
- Sun Jul 2
- Mon Jul 3
- Tue Jul 4
- Wed Jul 5
- Thu Jul 6
- Fri Jul 7
- Sat Jul 8
- Sun Jul 9
- Mon Jul 10
- Tue Jul 11
- Wed Jul 12
- Thu Jul 13
- Fri Jul 14
- Sat Jul 15
- Sun Jul 16
- Mon Jul 17
- Tue Jul 18
- Wed Jul 19
- Thu Jul 20

Site Name KITTERY 54702 **Site ID** 133113054702 **Description** I-95 (SB) @ NH SL

All Lanes Time Period: 1 hour Exclude data: None

	Sat Jul 1	Sun Jul 2	Mon Jul 3	Tue Jul 4	Wed Jul 5	Thu Jul 6	Fri Jul 7	Sat Jul 8	Sun Jul 9	Mon Jul 10	Tue Jul 11	Wed Jul 12	Thu Jul 13	Fri Jul 14	Sat Jul 15	Sun Jul 16	Mon Jul 17	Tue Jul 18	Wed Jul 19	Thu Jul 20	Average Workday 7 Day	Total Count
12:00 am	251	252	186	258	283	-	-	-	-	-	-	-	228	-	-	-	-	-	-	-	-	1458
01:00 am	204	137	147	168	190	-	-	-	-	-	-	-	145	-	-	-	-	-	-	-	-	991
02:00 am	162	139	132	133	175	-	-	-	-	-	-	-	183	-	-	-	-	-	-	-	-	924
03:00 am	188	138	161	145	219	-	-	-	-	-	-	-	244	-	-	-	-	-	-	-	-	1095
04:00 am	266	178	283	160	529	-	-	-	-	-	-	-	424	-	-	-	-	-	-	-	-	1840
05:00 am	495	348	590	338	1331	-	-	-	-	-	-	-	1041	-	-	-	-	-	-	-	-	4143
06:00 am	870	663	1178	624	2337	-	-	-	-	-	-	-	1736	-	-	-	-	-	-	-	-	7408
07:00 am	1404	929	1604	966	2995	-	-	-	-	-	-	-	2453	-	-	-	-	-	-	-	-	10351
08:00 am	2086	1646	2044	1509	3306	-	-	-	-	-	-	-	2906	-	-	-	-	-	-	-	-	13497
09:00 am	3231	2481	2750	2376	3658	-	-	-	-	-	-	-	2949	-	-	-	-	-	-	-	-	17445
10:00 am	4185	3579	3437	3339	4120	-	-	-	-	-	-	-	3260	-	-	-	-	-	-	-	-	21920
11:00 am	4253	4195	3912	3836	4432	-	-	-	-	-	-	-	3329	-	-	-	-	-	-	-	-	23957
12:00 pm	3922	4298	3869	3878	4230	-	-	-	-	-	-	-	3325	-	-	-	-	-	-	-	-	23522
01:00 pm	3629	4118	3760	3739	4156	-	-	-	-	-	-	-	3390	-	-	-	-	-	-	-	-	22792
02:00 pm	3247	3959	3535	3615	4284	-	-	-	-	-	-	-	3579	-	-	-	-	-	-	-	-	22219
03:00 pm	3154	3554	3365	3392	4353	-	-	-	-	-	-	-	3690	-	-	-	-	-	-	-	-	21508
04:00 pm	2955	3351	3180	3149	4226	-	-	-	-	-	-	-	3391	-	-	-	-	-	-	-	-	20252
05:00 pm	2800	2987	2748	2721	3744	-	-	-	-	-	-	-	3080	-	-	-	-	-	-	-	-	18080
06:00 pm	2437	2410	2434	2481	3063	-	-	-	-	-	-	-	2382	-	-	-	-	-	-	-	-	15207
07:00 pm	2037	1869	2009	2320	2504	-	-	-	-	-	-	-	1778	-	-	-	-	-	-	-	-	12517
08:00 pm	1622	1437	1601	1991	1905	-	-	-	-	-	-	-	1424	-	-	-	-	-	-	-	-	9980
09:00 pm	1304	931	1194	1602	1437	-	-	-	-	-	-	-	1026	-	-	-	-	-	-	-	-	7494
10:00 pm	809	619	842	1243	954	-	-	-	-	-	-	-	577	-	-	-	-	-	-	-	-	5044
11:00 pm	503	331	568	645	428	-	-	-	-	-	-	-	407	-	-	-	-	-	-	-	-	2882
7am-7pm	37303	37507	36638	35001	46567	-	-	-	-	-	-	-	37734	-	-	-	-	-	-	-	-	230750
6am-10pm	43136	42407	42620	41538	54750	-	-	-	-	-	-	-	43698	-	-	-	-	-	-	-	-	268149
6am-12am	44448	43357	44030	43426	56132	-	-	-	-	-	-	-	44682	-	-	-	-	-	-	-	-	276075
12am-12am	46014	44549	45529	44628	58859	-	-	-	-	-	-	-	46947	-	-	-	-	-	-	-	-	286526
am Peak	11:00 am	11:00 am	11:00 am	11:00 am	11:00 am	-	-	-	-	-	-	-	11:00 am	-	-	-	-	-	-	-	-	-
Peak Volume	4253	4195	3912	3836	4432	-	-	-	-	-	-	-	3329	-	-	-	-	-	-	-	-	-
pm Peak	12:00 pm	12:00 pm	12:00 pm	12:00 pm	03:00 pm	-	-	-	-	-	-	-	03:00 pm	-	-	-	-	-	-	-	-	-
Peak Volume	3922	4298	3869	3878	4353	-	-	-	-	-	-	-	3690	-	-	-	-	-	-	-	-	-

Event key: ■ QC Failure ■ QC Outlier ■ QC Atypical ■ Events ■ Special ■ Holiday ■ Offline
■ Weekends and defined holidays

Notes on data:
 Weekly (7-day) averages are weighted by each day of the week.

Holidays & Events:

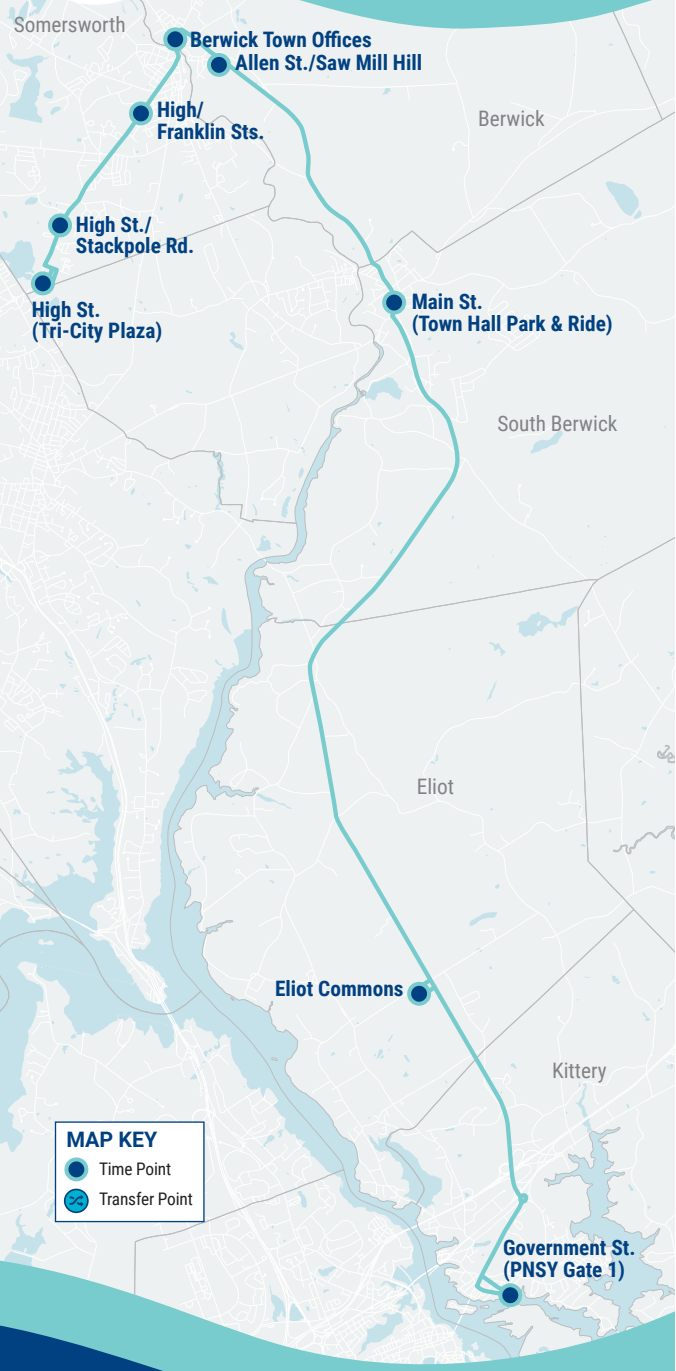
Start	End	Type	Lanes	Included	Description
07/04/2023 12:00 am	07/04/2023 11:59 pm	Holiday	-	Yes	Holiday

PUBLIC TRANSPORTATION SCHEDULES

100

Route 100 Map

Somersworth • Berwick • Kittery • PNSY



MAP KEY

- Time Point
- Transfer Point



Ride Information

COAST BUS FARES

Base Cash Fare **\$1.50**
 All passengers ages 5 and up are required to pay this fare each time they board a COAST bus.

Half-Fare **\$ 0.75**
 Passengers 65 and older, or passengers with a disability are entitled to pay half the cash fare. Proof of eligibility is required by showing a Medicare card, photo ID with birth date, COAST ADA Paratransit Card, or COAST Half-Fare Card. Please contact COAST to apply for a Half-Fare Card.

Multi-Ride Tickets and Passes
 Available at www.coastbus.org or call 603-743-5777, TTY 711.

Unlimited Monthly Pass **\$ 52**
 Unlimited rides on COAST Routes for the month.

YOUR RIGHTS

COAST adheres to all Federal regulations regarding Civil Rights. If you need to request an ADA Reasonable Modification/ Accommodation, or if you believe you have been discriminated against or would like to file a complaint under the ADA or Title VI, please contact COAST's Civil Rights Officer at 603-516-0788, TTY 711 or email CivilRights@coastbus.org.

NO SERVICE DAYS

COAST does not operate on the following holidays:

- New Year's Day
- Labor Day
- Martin Luther King Jr./ Civil Rights Day
- Thanksgiving Day
- Memorial Day
- Christmas Eve Day
- Independence Day
- Christmas Day



42 Sumner Drive • Dover, NH 03820
 603-743-5777 • TTY 711 • www.coastbus.org
 This brochure is available in alternative formats upon request.

Bus Schedule & Map ¹⁰⁰



Effective 07.01.22

ROUTE 100

Somersworth • Berwick • Kittery • PNSY



Find all of the full COAST schedules online at coastbus.org

MAP OUT YOUR GAME PLAN

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COAST SYSTEM MAP



SOUTHBOUND • NORTHBOUND Route 100

Somersworth • Berwick • Kittery • PNSY

How to Read the Schedule

Printed Southbound bus schedules only show the timepoints (major bus stops where the bus will hold until the scheduled departure time). In between those timepoints are many other stops that you can use. Northbound times after leaving the PNSY are estimates.

For a full listing of bus stops, visit www.coastbus.org, or use the Passio GO! App.

SOUTHBOUND (M-F)	Single Run Only
High St. (Tri-City Plaza) - Government St. (PNSY Gate 1)	Run Time
• High St. (Tri-City Plaza #140)	5:20am
• High St./Stackpole Rd. (Seacoast Redi-Care)	5:24am
• High/Franklin Sts.	5:26am
• Sullivan St. (Berwick Town Hall)	5:31am
• Main/Norton Sts.	5:39am
• Downtown Park & Ride (Central School)	5:40am
• Eliot Commons	5:50am
• Government St. (PNSY Gate 1)	6:03am

NORTHBOUND (M-F)	Single Run Only
Government St. (PNSY Gate 1) - High St. (Tri-City Plaza)	Run Time
• Government St. (PNSY Gate 1)	3:15pm
• Eliot Commons	3:25pm
• Main St. (Town Hall Park & Ride)	3:40pm
• Main/Norton Sts. (Post Office)	3:43pm
• Allen St./Saw Mill Hill	3:49pm
• Berwick Town Offices	3:52pm
• High St. (VFW/City Hall)	3:55pm
• High St./Memorial Dr.	3:57pm
• High/Bernier Sts.	4:00pm
• High St. (Tri-City Plaza #140)	4:07pm

Northbound times after leaving the PNSY are estimates. The bus will not hold at stops and may leave early.



VEHICLE TRAVEL SPEED DATA

The Traffic Group, Inc.

(800) 583-8411

www.trafficgroup.com

Merging Innovation and Excellence

Old Post Road
South of SR 236 Rotary
Kittery, Maine

Site Code: POST RD
Station ID: POST RD

Northbound

Start Time	0 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 999	Total
12 PM	12	2	6	4	0	0	0	0	0	0	0	0	0	0	0	24
12:15	10	4	10	3	1	0	0	0	0	0	0	0	0	0	0	28
12:30	6	6	7	2	0	0	0	0	0	0	0	0	0	0	0	21
12:45	5	1	8	0	3	0	0	0	0	0	0	0	0	0	0	17
13:00	33	13	31	9	4	0	0	0	0	0	0	0	0	0	0	90
13:15	10	1	3	1	2	0	0	0	0	0	0	0	0	0	0	17
13:30	4	2	4	9	2	0	0	0	0	0	0	0	0	0	0	21
13:45	5	2	9	4	1	0	0	0	0	0	0	0	0	0	0	21
14:00	11	2	10	3	1	0	0	0	0	0	0	0	0	0	0	27
14:15	30	7	26	17	6	0	0	0	0	0	0	0	0	0	0	86
14:30	5	2	12	7	0	0	0	0	0	0	0	0	0	0	0	26
14:45	5	1	5	10	1	0	0	0	0	0	0	0	0	0	0	22
15:00	12	9	17	6	3	0	0	0	0	0	0	0	0	0	0	47
15:15	12	4	16	16	2	0	0	0	0	0	0	0	0	0	0	50
15:30	34	16	50	39	6	0	0	0	0	0	0	0	0	0	0	145
15:45	10	13	26	10	2	0	0	0	0	0	0	0	0	0	0	61
16:00	8	9	36	5	2	0	0	0	0	0	0	0	0	0	0	60
16:15	21	14	17	8	2	0	0	0	0	0	0	0	0	0	0	62
16:30	5	6	10	6	0	0	0	0	0	0	0	0	0	0	0	27
16:45	44	42	89	29	6	0	0	0	0	0	0	0	0	0	0	210
17:00	7	6	13	7	0	1	0	0	0	0	0	0	0	0	0	34
17:15	7	7	25	6	0	0	0	0	0	0	0	0	0	0	0	45
17:30	5	2	8	6	1	0	0	0	0	0	0	0	0	0	0	22
17:45	5	0	5	6	1	0	0	0	0	0	0	0	0	0	0	17
18:00	24	15	51	25	2	1	0	0	0	0	0	0	0	0	0	118
18:15	2	7	9	3	1	0	0	0	0	0	0	0	0	0	0	22
18:30	2	4	7	7	1	0	0	0	0	0	0	0	0	0	0	21
18:45	1	1	7	5	0	0	0	0	0	0	0	0	0	0	0	14
19:00	2	1	7	4	0	0	0	0	0	0	0	0	0	0	0	14
19:15	7	13	30	19	2	0	0	0	0	0	0	0	0	0	0	71
19:30	0	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
19:45	3	1	2	2	1	0	0	0	0	0	0	0	0	0	0	9
20:00	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	8
20:15	2	3	5	1	1	0	0	0	0	0	0	0	0	0	0	12
20:30	5	5	16	8	2	0	0	0	0	0	0	0	0	0	0	36
20:45	0	1	2	5	0	0	0	0	0	0	0	0	0	0	0	8
21:00	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	4
21:15	1	1	2	3	0	1	0	0	0	0	0	0	0	0	0	8
21:30	2	1	2	2	0	0	0	0	0	0	0	0	0	0	0	7
21:45	4	3	7	12	0	1	0	0	0	0	0	0	0	0	0	27
22:00	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	3
22:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
22:30	0	0	5	3	0	0	0	0	0	0	0	0	0	0	0	8
22:45	0	1	1	3	0	0	0	0	0	0	0	0	0	0	0	5
23:00	0	2	8	7	0	0	0	0	0	0	0	0	0	0	0	17
23:15	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
23:30	1	0	3	1	0	0	0	0	0	0	0	0	0	0	0	5
23:45	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
Total	183	118	317	172	29	2	0	0	0	0	0	0	0	0	0	821
Total Stats	588	320	884	612	84	5	0	0	0	0	0	0	0	0	0	2493

15th Percentile : 13 MPH
50th Percentile : 26 MPH
85th Percentile : 32 MPH
95th Percentile : 34 MPH

Mean Speed(Average) : 25 MPH
10 MPH Pace Speed : 26-35 MPH
Number in Pace : 1513
Percent in Pace : 60.7%
Number of Vehicles > 25 MPH : 1585
Percent of Vehicles > 25 MPH : 63.6%

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(800) 583-8411

www.trafficgroup.com

Merging Innovation and Excellence

Old Post Road
South of SR 236 Rotary
Kittery, Maine

Site Code: POST RD
Station ID: POST RD

Southbound

Start Time	020	2125	2630	3135	3640	4145	4650	5155	5660	6165	6670	7175	7680	8185	86999	Total
12 PM	2	1	7	6	0	0	0	0	0	0	0	0	0	0	0	16
12:15	2	2	8	4	0	0	0	0	0	0	0	0	0	0	0	16
12:30	2	0	6	5	0	0	0	0	0	0	0	0	0	0	0	13
12:45	3	1	5	6	1	1	0	0	0	0	0	0	0	0	0	17
	9	4	26	21	1	1	0	0	0	0	0	0	0	0	0	62
13:00	0	2	4	3	2	0	0	0	0	0	0	0	0	0	0	11
13:15	4	1	2	2	1	1	0	0	0	0	0	0	0	0	0	11
13:30	0	1	1	5	1	0	0	0	0	0	0	0	0	0	0	8
13:45	5	1	5	3	1	1	0	0	0	0	0	0	0	0	0	16
	9	5	12	13	5	2	0	0	0	0	0	0	0	0	0	46
14:00	2	0	7	5	0	0	0	0	0	0	0	0	0	0	0	14
14:15	3	2	4	5	0	0	0	0	0	0	0	0	0	0	0	14
14:30	3	2	7	6	1	0	0	0	0	0	0	0	0	0	0	19
14:45	1	2	5	5	2	0	0	0	0	0	0	0	0	0	0	15
	9	6	23	21	3	0	0	0	0	0	0	0	0	0	0	62
15:00	2	1	7	4	0	0	0	0	0	0	0	0	0	0	0	14
15:15	2	0	6	9	0	0	0	0	0	0	0	0	0	0	0	17
15:30	3	1	3	3	0	1	0	0	0	0	0	0	0	0	0	11
15:45	2	4	9	5	0	0	0	0	0	0	0	0	0	0	0	20
	9	6	25	21	0	1	0	0	0	0	0	0	0	0	0	62
16:00	5	4	4	4	1	1	0	0	0	0	0	0	0	0	0	19
16:15	6	2	8	6	0	0	0	0	0	0	0	0	0	0	0	22
16:30	2	0	1	8	2	0	0	0	0	0	0	0	0	0	0	13
16:45	5	0	9	9	1	0	0	0	0	0	0	0	0	0	0	24
	18	6	22	27	4	1	0	0	0	0	0	0	0	0	0	78
17:00	1	0	5	6	0	0	0	0	0	0	0	0	0	0	0	12
17:15	2	0	5	1	1	1	0	0	0	0	0	0	0	0	0	10
17:30	0	2	1	6	3	0	0	0	0	0	0	0	0	0	0	12
17:45	0	0	4	6	2	0	0	0	0	0	0	0	0	0	0	12
	3	2	15	19	6	1	0	0	0	0	0	0	0	0	0	46
18:00	1	1	4	0	0	0	0	0	0	0	0	0	0	0	0	6
18:15	3	0	1	4	2	0	0	0	0	0	0	0	0	0	0	10
18:30	2	1	5	6	0	0	1	0	0	0	0	0	0	0	0	15
18:45	2	2	5	4	0	0	0	0	0	0	0	0	0	0	0	13
	8	4	15	14	2	0	1	0	0	0	0	0	0	0	0	44
19:00	4	0	5	2	0	0	0	0	0	0	0	0	0	0	0	11
19:15	1	1	4	2	0	0	0	0	0	0	0	0	0	0	0	8
19:30	1	0	2	5	0	0	0	0	0	0	0	0	0	0	0	8
19:45	3	0	1	5	1	0	0	0	0	0	0	0	0	0	0	10
	9	1	12	14	1	0	0	0	0	0	0	0	0	0	0	37
20:00	2	1	2	2	2	0	0	0	0	0	0	0	0	0	0	9
20:15	2	1	5	0	0	0	0	0	0	0	0	0	0	0	0	8
20:30	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
20:45	0	1	5	3	0	0	0	0	0	0	0	0	0	0	0	9
	4	3	14	6	2	0	0	0	0	0	0	0	0	0	0	29
21:00	0	2	4	2	0	0	0	0	0	0	0	0	0	0	0	8
21:15	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	3
21:30	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	4
21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	5	6	4	0	0	0	0	0	0	0	0	0	0	0	15
22:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
22:15	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
22:30	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
22:45	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	1	1	4	1	0	0	0	0	0	0	0	0	0	0	0	7
23:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
23:15	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
23:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
23:45	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4
	3	2	1	3	0	0	0	0	0	0	0	0	0	0	0	9
Total	82	45	175	164	24	6	1	0	0	0	0	0	0	0	0	497
Total Stats	275	166	544	470	84	12	2	0	0	0	0	0	0	0	1	1554

15th Percentile : 17 MPH
 50th Percentile : 28 MPH
 85th Percentile : 33 MPH
 95th Percentile : 36 MPH

Mean Speed(Average) : 27 MPH
 10 MPH Pace Speed : 26-35 MPH
 Number in Pace : 1023
 Percent in Pace : 65.8%
 Number of Vehicles > 25 MPH : 1113
 Percent of Vehicles > 25 MPH : 71.6%

The Traffic Group, Inc.

(800) 583-8411

www.trafficgroup.com

Merging Innovation and Excellence

Old Post Road
South of SR 236 Rotary
Kittery, Maine

Site Code: POST RD
Station ID: POST RD

Northbound, Southbound

Start Time	020	2125	2630	3135	3640	4145	4650	5155	5660	6165	6670	7175	7680	8185	86999	Total
12 PM	14	3	13	10	0	0	0	0	0	0	0	0	0	0	0	40
12:15	12	6	18	7	1	0	0	0	0	0	0	0	0	0	0	44
12:30	8	6	13	7	0	0	0	0	0	0	0	0	0	0	0	34
12:45	8	2	13	6	4	1	0	0	0	0	0	0	0	0	0	34
	42	17	57	30	5	1	0	0	0	0	0	0	0	0	0	152
13:00	10	3	7	4	4	0	0	0	0	0	0	0	0	0	0	28
13:15	8	3	6	11	3	1	0	0	0	0	0	0	0	0	0	32
13:30	5	3	10	9	2	0	0	0	0	0	0	0	0	0	0	29
13:45	16	3	15	6	2	1	0	0	0	0	0	0	0	0	0	43
	39	12	38	30	11	2	0	0	0	0	0	0	0	0	0	132
14:00	7	2	19	12	0	0	0	0	0	0	0	0	0	0	0	40
14:15	8	3	9	15	1	0	0	0	0	0	0	0	0	0	0	36
14:30	15	11	24	12	4	0	0	0	0	0	0	0	0	0	0	66
14:45	13	6	21	21	4	0	0	0	0	0	0	0	0	0	0	65
	43	22	73	60	9	0	0	0	0	0	0	0	0	0	0	207
15:00	12	14	33	14	2	0	0	0	0	0	0	0	0	0	0	75
15:15	10	9	42	14	2	0	0	0	0	0	0	0	0	0	0	77
15:30	24	15	20	11	2	1	0	0	0	0	0	0	0	0	0	73
15:45	7	10	19	11	0	0	0	0	0	0	0	0	0	0	0	47
	53	48	114	50	6	1	0	0	0	0	0	0	0	0	0	272
16:00	12	10	17	11	1	2	0	0	0	0	0	0	0	0	0	53
16:15	13	9	33	12	0	0	0	0	0	0	0	0	0	0	0	67
16:30	7	2	9	14	3	0	0	0	0	0	0	0	0	0	0	35
16:45	10	0	14	15	2	0	0	0	0	0	0	0	0	0	0	41
	42	21	73	52	6	2	0	0	0	0	0	0	0	0	0	196
17:00	3	7	14	9	1	0	0	0	0	0	0	0	0	0	0	34
17:15	4	4	12	8	2	1	0	0	0	0	0	0	0	0	0	31
17:30	1	3	8	11	3	0	0	0	0	0	0	0	0	0	0	26
17:45	2	1	11	10	2	0	0	0	0	0	0	0	0	0	0	26
	10	15	45	38	8	1	0	0	0	0	0	0	0	0	0	117
18:00	1	1	10	1	0	0	0	0	0	0	0	0	0	0	0	13
18:15	6	1	3	6	3	0	0	0	0	0	0	0	0	0	0	19
18:30	2	2	8	10	0	0	1	0	0	0	0	0	0	0	0	23
18:45	4	5	10	5	1	0	0	0	0	0	0	0	0	0	0	25
	13	9	31	22	4	0	1	0	0	0	0	0	0	0	0	80
19:00	4	1	7	7	0	0	0	0	0	0	0	0	0	0	0	19
19:15	2	1	5	4	0	0	0	0	0	0	0	0	0	0	0	12
19:30	2	1	4	8	0	1	0	0	0	0	0	0	0	0	0	16
19:45	5	1	3	7	1	0	0	0	0	0	0	0	0	0	0	17
	13	4	19	26	1	1	0	0	0	0	0	0	0	0	0	64
20:00	2	2	3	3	2	0	0	0	0	0	0	0	0	0	0	12
20:15	2	1	6	0	0	0	0	0	0	0	0	0	0	0	0	9
20:30	0	0	7	4	0	0	0	0	0	0	0	0	0	0	0	11
20:45	0	2	6	6	0	0	0	0	0	0	0	0	0	0	0	14
	4	5	22	13	2	0	0	0	0	0	0	0	0	0	0	46
21:00	0	2	4	3	1	0	0	0	0	0	0	0	0	0	0	10
21:15	1	2	3	2	0	0	0	0	0	0	0	0	0	0	0	8
21:30	0	1	3	2	0	0	0	0	0	0	0	0	0	0	0	6
21:45	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
	2	5	10	8	1	0	0	0	0	0	0	0	0	0	0	26
22:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
22:15	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	5
22:30	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	5
22:45	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	1	3	6	4	0	0	0	0	0	0	0	0	0	0	0	14
23:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
23:15	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	4
23:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
23:45	3	0	1	1	0	0	0	0	0	0	0	0	0	0	0	5
	3	2	4	3	0	0	0	0	0	0	0	0	0	0	0	12
Total	265	163	492	336	53	8	1	0	0	0	0	0	0	0	0	1318
Total Stats	863	486	1428	1082	168	17	2	0	0	0	0	0	0	0	1	4047

15th Percentile : 14 MPH
50th Percentile : 27 MPH
85th Percentile : 33 MPH
95th Percentile : 34 MPH

Mean Speed(Average) : 26 MPH
10 MPH Pace Speed : 26-35 MPH
Number in Pace : 2536
Percent in Pace : 62.7%
Number of Vehicles > 25 MPH : 2698
Percent of Vehicles > 25 MPH : 66.7%

GENERAL BACKGROUND TRAFFIC GROWTH

General Background Traffic Growth - Daily Traffic Volumes

CITY/TOWN	ROUTE/STREET	LOCATION	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Annual Growth
Kittery	I-95 NB	Sta. 133113054701						36,320	37,400	40,420	43,200	38,810	37,990	1.13%
Kittery	I-95 SB	Sta. 133113054702						37,500	38,610	41,190	43,710	40,480	38,770	0.83%
														0.98%

TRIP-GENERATION CALCULATIONS

Graph Look Up



ITETripGen Web-based App

Graph Look Up

How to Use ITETripGen

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

310

LAND USE GROUP:

(300-399) Lodging

LAND USE :

310 - Hotel

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Rooms

TIME PERIOD:

Weekday

TRIP TYPE:

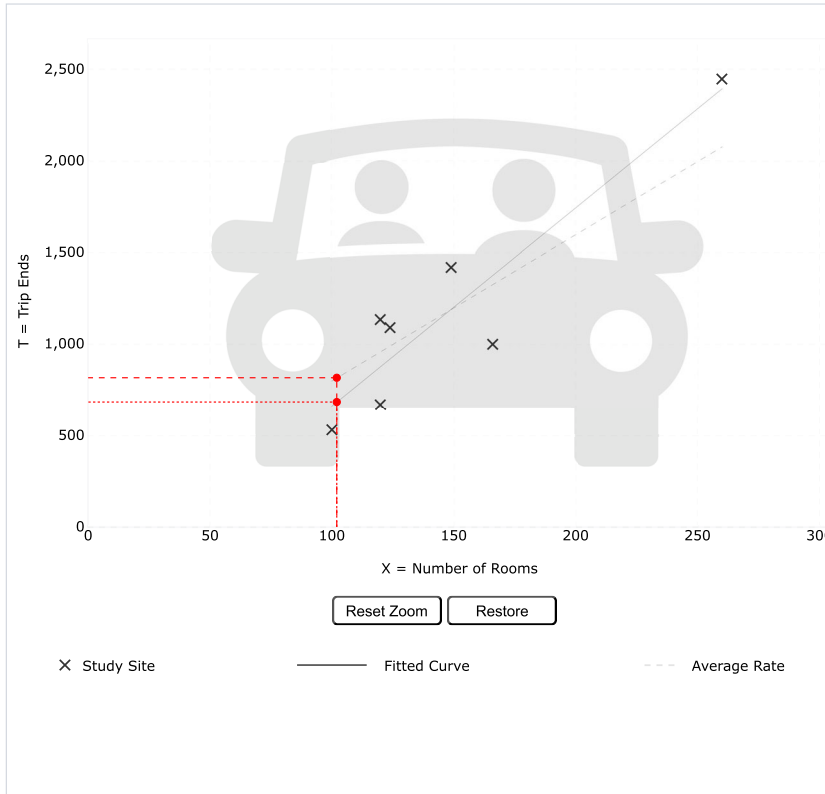
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

102

Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Hotel (310) [Click for Description and Data Plots](#)

Independent Variable:
Rooms

Time Period:
Weekday

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
7

Avg. Num. of Rooms:
148

Average Rate:
7.99

Range of Rates:
5.31 - 9.53

Standard Deviation:
1.92

Fitted Curve Equation:
 $T = 10.84(X) - 423.51$

R²:
0.85

Directional Distribution:
50% entering, 50% exiting

Calculated Trip Ends:
Average Rate: 815 (Total), 407 (Entry), 408 (Exit)
Fitted Curve: 682 (Total), 341 (Entry), 341 (Exit)

Add-ons to do more

Try OTISS Pro

Graph Look Up



ITETripGen Web-based App

Graph Look Up

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Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

310

LAND USE GROUP:

(300-399) Lodging

LAND USE :

310 - Hotel

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Rooms

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

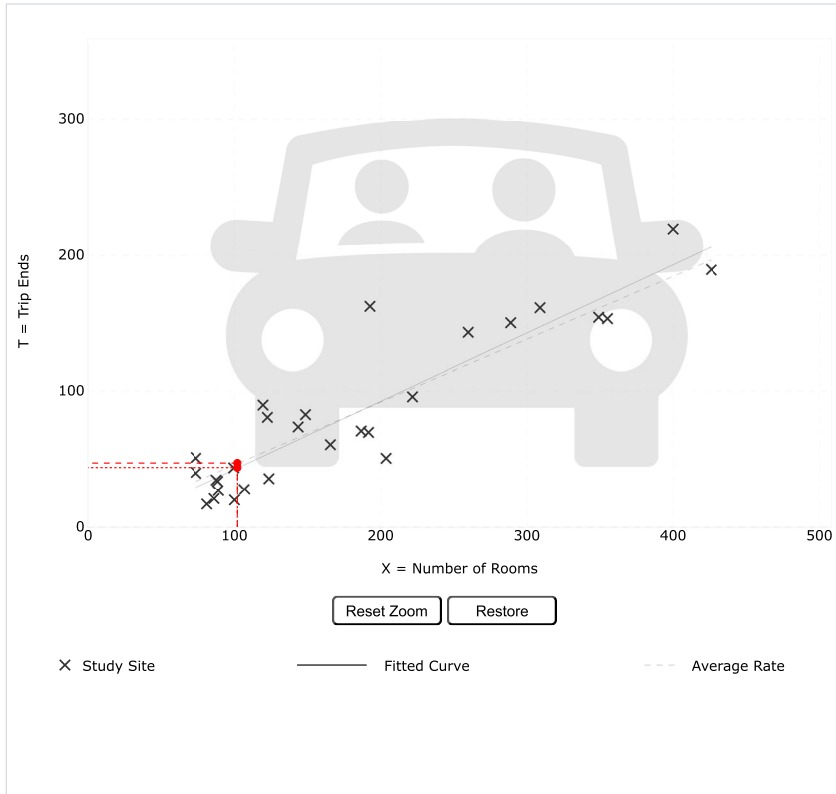
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

102 Calculate

Data Plot and Equation



X Study Site — Fitted Curve - - - Average Rate

Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Hotel (310) [Click for Description and Data Plots](#)

Independent Variable:
Rooms

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
28

Avq. Num. of Rooms:
182

Average Rate:
0.46

Range of Rates:
0.20 - 0.84

Standard Deviation:
0.14

Fitted Curve Equation:
 $T = 0.50(X) - 7.45$

R²:
0.84

Directional Distribution:
56% entering, 44% exiting

Calculated Trip Ends:
Average Rate: 47 (Total), 26 (Entry), 21 (Exit)
Fitted Curve: 44 (Total), 24 (Entry), 20 (Exit)

Add-ons to do more

Try OTISS Pro

Graph Look Up



ITETripGen Web-based App

Graph Look Up

How to Use ITETripGen

TGM Desk Reference

TGM Appendices

Support Documents

Add Users

Comments

Query Filter

DATA SOURCE:

Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE:

310

LAND USE GROUP:

(300-399) Lodging

LAND USE :

310 - Hotel

LAND USE SUBCATEGORY:

All Sites

SETTING/LOCATION:

General Urban/Suburban

INDEPENDENT VARIABLE (IV):

Rooms

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

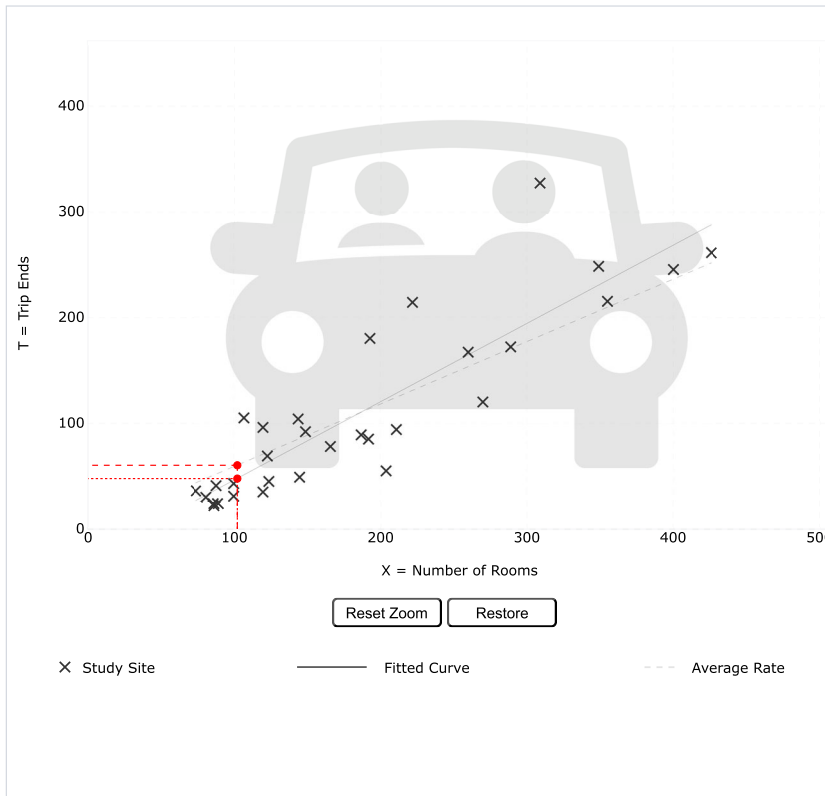
TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

102 Calculate

Data Plot and Equation



Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

DATA STATISTICS

Land Use:
Hotel (310) [Click for Description and Data Plots](#)

Independent Variable:
Rooms

Time Period:
Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 4 and 6 p.m.

Setting/Location:
General Urban/Suburban

Trip Type:
Vehicle

Number of Studies:
31

Av. Num. of Rooms:
186

Average Rate:
0.59

Range of Rates:
0.26 - 1.06

Standard Deviation:
0.22

Fitted Curve Equation:
 $T = 0.74(X) - 27.89$

R²:
0.78

Directional Distribution:
51% entering, 49% exiting

Calculated Trip Ends:
Average Rate: 60 (Total), 31 (Entry), 29 (Exit)
Fitted Curve: 48 (Total), 24 (Entry), 24 (Exit)

Add-ons to do more

Try OTISS Pro

TRIP-DISTRIBUTION

Proposed Extended Stay Hotel
Kittery, Maine

Residence	Workplace	Number	State Road (North)		State Road (South)		Route 236 (East)		Route 236 (West)		Old Post Road (South)		Route 1 Bypass (West)	
Kittery town	Kittery town	1,927		0	50%	964		0	15%	289	10%	193	25%	482
Kittery town	Portsmouth city	1,232		0	15%	185		0	50%	616	10%	123	25%	308
Kittery town	York town	279	100%	279		0		0		0		0		0
Kittery town	Newington town	197		0		0	15%	30	50%	99	10%	20	25%	49
Kittery town	Dover city	176		0		0	100%	176		0		0		0
Kittery town	Biddeford city	124		0		0	100%	124		0		0		0
Kittery town	Greenland town	106		0		0	100%	106		0		0		0
Kittery town	Eliot town	99		0		0	50%	50		0	25%	25	25%	25
Kittery town	Exeter town	83		0		0	100%	83		0		0		0
Kittery town	Somersworth city	66		0		0	100%	66		0		0		0
Kittery town	Methuen Town city	44		0		0	100%	44		0		0		0
Kittery town	Londonderry town	41		0		0	100%	41		0		0		0
Kittery town	North Hampton town	41		0		0	50%	21		0	25%	10	25%	10
Kittery town	Scarborough town	36	100%	36		0		0		0		0		0
Kittery town	Newburyport city	36		0		0	100%	36		0		0		0
Kittery town	Peabody city	36		0		0	100%	36		0		0		0
		4,523		315		1,148		812		1,004		371		874
				7.0%		25.4%		17.9%		22.2%		8.2%		19.3%
		<u>SAY</u>		7%		25%		18%		22%		8%		20%

CAPACITY ANALYSIS WORKSHEETS

Kittery Traffic Circle
Old Post Road at the Project Site Driveway

Kittery Traffic Circle

LANE SUMMARY

 Site: 101 [2023 Existing (Site Folder: Weekday Morning)]

New Site
 Site Category: (None)
 Roundabout

Lane Use and Performance													
	DEMAND FLOWS		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
	[Total veh/h]	[HV %]						[Veh]	[Dist] ft				
South: Route 1 (State Road)													
Lane 1 ^d	294	2.0	605	0.487	100	13.9	LOS B	2.9	72.9	Full	1600	0.0	0.0
Approach	294	2.0		0.487		13.9	LOS B	2.9	72.9				
SouthEast: Dairy Queen Driveway													
Lane 1 ^d	20	2.0	466	0.043	100	8.3	LOS A	0.2	3.9	Full	1600	0.0	0.0
Approach	20	2.0		0.043		8.3	LOS A	0.2	3.9				
East: Route 236													
Lane 1 ^d	352	2.0	689	0.511	100	13.1	LOS B	3.4	86.4	Full	1600	0.0	0.0
Approach	352	2.0		0.511		13.1	LOS B	3.4	86.4				
NorthEast: Route 1 (State Road)													
Lane 1 ^d	28	2.0	753	0.037	100	5.1	LOS A	0.1	3.6	Full	1600	0.0	0.0
Approach	28	2.0		0.037		5.1	LOS A	0.1	3.6				
North: La Casita Driveways													
Lane 1 ^d	4	2.0	734	0.005	100	5.0	LOS A	0.0	0.5	Full	1600	0.0	0.0
Approach	4	2.0		0.005		5.0	LOS A	0.0	0.5				
NorthWest: Route 236													
Lane 1 ^d	970	2.0	1254	0.774	100	15.8	LOS C	10.6	269.1	Full	1600	0.0	0.0
Approach	970	2.0		0.774		15.8	LOS C	10.6	269.1				
West: U.S. Route 1 Bypass Off-Ramp													
Lane 1 ^d	137	2.0	457	0.300	100	12.7	LOS B	1.2	30.9	Full	1600	0.0	0.0
Approach	137	2.0		0.300		12.7	LOS B	1.2	30.9				
SouthWest: Old Post Road													
Lane 1 ^d	98	2.0	427	0.228	100	12.0	LOS B	0.8	21.5	Full	1600	0.0	0.0
Approach	98	2.0		0.228		12.0	LOS B	0.8	21.5				
Intersectio n	1903	2.0		0.774		14.3	LOS B	10.6	269.1				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)													
South: Route 1 (State Road)													

Mov.	U	L1	R1	R2	R3	Total	%HV			Deg.	Lane	Prob.	Ov.	
From S								Cap.	Satn	Util.	SL	OV.	Lane	
To Exit:	S	NW	NE	E	SE			veh/h	v/c	%	%	%	No.	
Lane 1	1	100	146	42	5	294	2.0	605	0.487	100	NA	NA		
Approach	1	100	146	42	5	294	2.0		0.487					
SouthEast: Dairy Queen Driveway														
Mov.	L3	T1	R2	R3	Total	%HV				Deg.	Lane	Prob.	Ov.	
From SE								Cap.	Satn	Util.	SL	OV.	Lane	
To Exit:	S	NW	NE	E				veh/h	v/c	%	%	%	No.	
Lane 1	7	8	3	2	20	2.0		466	0.043	100	NA	NA		
Approach	7	8	3	2	20	2.0			0.043					
East: Route 236														
Mov.	L3	L2	L1	R1	R2	R3	Total	%HV			Deg.	Lane	Prob.	Ov.
From E											Deg.	Lane	Prob.	Ov.
To Exit:	SE	S	SW	NW	N	NE		Cap.	Satn	Util.	SL	OV.	Lane	No.
Lane 1	2	31	17	291	1	10	352	2.0	689	0.511	100	NA	NA	
Approach	2	31	17	291	1	10	352	2.0		0.511				
NorthEast: Route 1 (State Road)														
Mov.	L2	L1	T1	R2	Total	%HV					Deg.	Lane	Prob.	Ov.
From NE								Cap.	Satn	Util.	SL	OV.	Lane	No.
To Exit:	SE	S	SW	NW				veh/h	v/c	%	%	%	No.	
Lane 1	1	11	1	15	28	2.0		753	0.037	100	NA	NA		
Approach	1	11	1	15	28	2.0			0.037					
North: La Casita Driveways														
Mov.	L2	R3	Total	%HV							Deg.	Lane	Prob.	Ov.
From N								Cap.	Satn	Util.	SL	OV.	Lane	No.
To Exit:	E	NW						veh/h	v/c	%	%	%	No.	
Lane 1	2	2	4	2.0				734	0.005	100	NA	NA		
Approach	2	2	4	2.0					0.005					
NorthWest: Route 236														
Mov.	L3	L2	L1	T1	R1	R2	Total	%HV			Deg.	Lane	Prob.	Ov.
From NW											Deg.	Lane	Prob.	Ov.
To Exit:	N	NE	E	SE	S	SW		Cap.	Satn	Util.	SL	OV.	Lane	No.
Lane 1	2	247	285	30	358	47	970	2.0	1254	0.774	100	NA	NA	
Approach	2	247	285	30	358	47	970	2.0		0.774				
West: U.S. Route 1 Bypass Off-Ramp														
Mov.	L3	L1	T1	R1	R2	R3	Total	%HV			Deg.	Lane	Prob.	Ov.
From W											Deg.	Lane	Prob.	Ov.
To Exit:	NW	NE	E	SE	S	SW		Cap.	Satn	Util.	SL	OV.	Lane	No.
Lane 1	74	7	29	2	17	7	137	2.0	457	0.300	100	NA	NA	
Approach	74	7	29	2	17	7	137	2.0		0.300				
SouthWest: Old Post Road														
Mov.	L2	T1	R1	R2	R3	Total	%HV				Deg.	Lane	Prob.	Ov.
From SW											Deg.	Lane	Prob.	Ov.
To Exit:	NW	NE	E	SE	S			Cap.	Satn	Util.	SL	OV.	Lane	No.
Lane 1	28	24	37	2	6	98	2.0	427	0.228	100	NA	NA		
Approach	28	24	37	2	6	98	2.0		0.228					
Total %HV Deg.Satn (v/c)														
Intersection	1903	2.0									0.774			

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

LANE SUMMARY

 Site: 101 [2023 Existing (Site Folder: Weekday Evening)]

New Site
 Site Category: (None)
 Roundabout

Lane Use and Performance													
	DEMAND FLOWS		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
	[Total veh/h	[HV] %						[Veh	[Dist] ft				
South: Route 1 (State Road)													
Lane 1 ^d	480	2.0	431	1.114	100	108.7	LOS F	28.2	715.3	Full	1600	0.0	0.0
Approach	480	2.0		1.114		108.7	LOS F	28.2	715.3				
SouthEast: Dairy Queen Driveway													
Lane 1 ^d	28	2.0	285	0.099	100	14.4	LOS B	0.3	8.3	Full	1600	0.0	0.0
Approach	28	2.0		0.099		14.4	LOS B	0.3	8.3				
East: Route 236													
Lane 1 ^d	530	2.0	447	1.187	100	133.1	LOS F	38.2	970.4	Full	1600	0.0	0.0
Approach	530	2.0		1.187		133.1	LOS F	38.2	970.4				
NorthEast: Route 1 (State Road)													
Lane 1 ^d	66	2.0	522	0.126	100	8.4	LOS A	0.5	11.8	Full	1600	0.0	0.0
Approach	66	2.0		0.126		8.4	LOS A	0.5	11.8				
North: La Casita Driveways													
Lane 1 ^d	4	2.0	489	0.008	100	7.4	LOS A	0.0	0.7	Full	1600	0.0	0.0
Approach	4	2.0		0.008		7.4	LOS A	0.0	0.7				
NorthWest: Route 236													
Lane 1 ^d	1062	2.0	1233	0.861	100	21.9	LOS C	15.1	384.7	Full	1600	0.0	0.0
Approach	1062	2.0		0.861		21.9	LOS C	15.1	384.7				
West: U.S. Route 1 Bypass Off-Ramp													
Lane 1 ^d	291	2.0	409	0.711	100	31.3	LOS D	4.8	121.3	Full	1600	0.0	0.0
Approach	291	2.0		0.711		31.3	LOS D	4.8	121.3				
SouthWest: Old Post Road													
Lane 1 ^d	116	2.0	328	0.355	100	18.7	LOS C	1.4	35.8	Full	1600	0.0	0.0
Approach	116	2.0		0.355		18.7	LOS C	1.4	35.8				
Intersectio n	2578	2.0		1.187		61.4	LOS F	38.2	970.4				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)													
South: Route 1 (State Road)													

Mov.	L1	R1	R2	R3	Total	%HV								
From S To Exit:	NW	NE	E	SE			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.			
Lane 1	227	231	9	13	480	2.0	431	1.114	100	NA	NA			
Approach	227	231	9	13	480	2.0		1.114						
SouthEast: Dairy Queen Driveway														
Mov.	L3	L2	T1	R2	Total	%HV								
From SE To Exit:	S	SW	NW	NE			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.			
Lane 1	3	4	10	11	28	2.0	285	0.099	100	NA	NA			
Approach	3	4	10	11	28	2.0		0.099						
East: Route 236														
Mov.	U	L2	L1	R1	R2	R3	Total	%HV						
From E To Exit:	E	S	SW	NW	N	NE			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	4	35	22	457	1	11	530	2.0	447	1.187	100	NA	NA	
Approach	4	35	22	457	1	11	530	2.0		1.187				
NorthEast: Route 1 (State Road)														
Mov.	U	L2	L1	T1	R2	Total	%HV							
From NE To Exit:	NE	SE	S	SW	NW				Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	3	3	19	3	37	66	2.0	522	0.126	100	NA	NA		
Approach	3	3	19	3	37	66	2.0		0.126					
North: La Casita Driveways														
Mov.	L3	R1	R3	Total	%HV									
From N To Exit:	NE	SW	NW				Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.			
Lane 1	1	1	2	4	2.0		489	0.008	100	NA	NA			
Approach	1	1	2	4	2.0			0.008						
NorthWest: Route 236														
Mov.	U	L2	L1	T1	R1	R2	Total	%HV						
From NW To Exit:	NW	NE	E	SE	S	SW			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	1	315	366	16	316	48	1062	2.0	1233	0.861	100	NA	NA	
Approach	1	315	366	16	316	48	1062	2.0		0.861				
West: U.S. Route 1 Bypass Off-Ramp														
Mov.	L3	L1	T1	R1	R2	R3	Total	%HV						
From W To Exit:	NW	NE	E	SE	S	SW			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	212	16	44	6	8	5	291	2.0	409	0.711	100	NA	NA	
Approach	212	16	44	6	8	5	291	2.0		0.711				
SouthWest: Old Post Road														
Mov.	L2	L1	T1	R1	R2	R3	Total	%HV						
From SW To Exit:	NW	N	NE	E	SE	S			Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.	
Lane 1	36	1	35	40	1	3	116	2.0	328	0.355	100	NA	NA	
Approach	36	1	35	40	1	3	116	2.0		0.355				
Total %HV Deg.Satn (v/c)														
Intersection	2578	2.0								1.187				

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

LANE SUMMARY

 Site: 101 [2028 No-Build (Site Folder: Weekday Morning)]

New Site
 Site Category: (None)
 Roundabout

Lane Use and Performance													
	DEMAND FLOWS		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
	[Total veh/h]	[HV %]						[Veh]	[Dist] ft				
South: Route 1 (State Road)													
Lane 1 ^d	338	2.0	571	0.591	100	17.9	LOS C	4.0	102.3	Full	1600	0.0	0.0
Approach	338	2.0		0.591		17.9	LOS C	4.0	102.3				
SouthEast: Dairy Queen Driveway													
Lane 1 ^d	22	2.0	422	0.051	100	9.3	LOS A	0.2	4.6	Full	1600	0.0	0.0
Approach	22	2.0		0.051		9.3	LOS A	0.2	4.6				
East: Route 236													
Lane 1 ^d	390	2.0	647	0.603	100	16.6	LOS C	4.6	116.6	Full	1600	0.0	0.0
Approach	390	2.0		0.603		16.6	LOS C	4.6	116.6				
NorthEast: Route 1 (State Road)													
Lane 1 ^d	29	2.0	697	0.042	100	5.6	LOS A	0.2	4.1	Full	1600	0.0	0.0
Approach	29	2.0		0.042		5.6	LOS A	0.2	4.1				
North: La Casita Driveways													
Lane 1 ^d	4	2.0	678	0.006	100	5.4	LOS A	0.0	0.6	Full	1600	0.0	0.0
Approach	4	2.0		0.006		5.4	LOS A	0.0	0.6				
NorthWest: Route 236													
Lane 1 ^d	1039	2.0	1251	0.831	100	19.2	LOS C	13.7	347.0	Full	1600	0.0	0.0
Approach	1039	2.0		0.831		19.2	LOS C	13.7	347.0				
West: U.S. Route 1 Bypass Off-Ramp													
Lane 1 ^d	163	2.0	424	0.384	100	15.6	LOS C	1.7	43.0	Full	1600	0.0	0.0
Approach	163	2.0		0.384		15.6	LOS C	1.7	43.0				
SouthWest: Old Post Road													
Lane 1 ^d	102	2.0	388	0.264	100	13.9	LOS B	1.0	25.1	Full	1600	0.0	0.0
Approach	102	2.0		0.264		13.9	LOS B	1.0	25.1				
Intersectio n	2086	2.0		0.831		17.7	LOS C	13.7	347.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)													
South: Route 1 (State Road)													

Mov.	U	L1	R1	R2	R3	Total	%HV							
From S														
To Exit:	S	NW	NE	E	SE			Cap.	Deg.	Lane	Prob.	Ov.	Ov.	
								veh/h	Satn	Util.	SL	OV.	Lane	
									v/c	%	%	%	No.	
Lane 1	1	133	153	45	6	338	2.0	571	0.591	100	NA	NA		
Approach	1	133	153	45	6	338	2.0		0.591					
SouthEast: Dairy Queen Driveway														
Mov.	L3	T1	R2	R3	Total	%HV								
From SE														
To Exit:	S	NW	NE	E				Cap.	Deg.	Lane	Prob.	Ov.	Ov.	
								veh/h	Satn	Util.	SL	OV.	Lane	
									v/c	%	%	%	No.	
Lane 1	7	8	5	2	22	2.0		422	0.051	100	NA	NA		
Approach	7	8	5	2	22	2.0			0.051					
East: Route 236														
Mov.	L3	L2	L1	R1	R2	R3	Total	%HV						
From E														
To Exit:	SE	S	SW	NW	N	NE			Cap.	Deg.	Lane	Prob.	Ov.	
									veh/h	Satn	Util.	SL	OV.	
									v/c	%	%	%	Lane	
													No.	
Lane 1	2	32	18	326	1	10	390	2.0	647	0.603	100	NA	NA	
Approach	2	32	18	326	1	10	390	2.0		0.603				
NorthEast: Route 1 (State Road)														
Mov.	L2	L1	T1	R2	Total	%HV								
From NE														
To Exit:	SE	S	SW	NW				Cap.	Deg.	Lane	Prob.	Ov.	Ov.	
								veh/h	Satn	Util.	SL	OV.	Lane	
									v/c	%	%	%	No.	
Lane 1	1	11	1	16	29	2.0		697	0.042	100	NA	NA		
Approach	1	11	1	16	29	2.0			0.042					
North: La Casita Driveways														
Mov.	L2	R3	Total	%HV										
From N														
To Exit:	E	NW						Cap.	Deg.	Lane	Prob.	Ov.	Ov.	
								veh/h	Satn	Util.	SL	OV.	Lane	
									v/c	%	%	%	No.	
Lane 1	2	2	4	2.0				678	0.006	100	NA	NA		
Approach	2	2	4	2.0					0.006					
NorthWest: Route 236														
Mov.	L3	L2	L1	T1	R1	R2	Total	%HV						
From NW														
To Exit:	N	NE	E	SE	S	SW			Cap.	Deg.	Lane	Prob.	Ov.	
									veh/h	Satn	Util.	SL	OV.	
									v/c	%	%	%	Lane	
													No.	
Lane 1	2	260	308	31	388	49	1039	2.0	1251	0.831	100	NA	NA	
Approach	2	260	308	31	388	49	1039	2.0		0.831				
West: U.S. Route 1 Bypass Off-Ramp														
Mov.	L3	L1	T1	R1	R2	R3	Total	%HV						
From W														
To Exit:	NW	NE	E	SE	S	SW			Cap.	Deg.	Lane	Prob.	Ov.	
									veh/h	Satn	Util.	SL	OV.	
									v/c	%	%	%	Lane	
													No.	
Lane 1	78	7	38	2	30	7	163	2.0	424	0.384	100	NA	NA	
Approach	78	7	38	2	30	7	163	2.0		0.384				
SouthWest: Old Post Road														
Mov.	L2	T1	R1	R2	R3	Total	%HV							
From SW														
To Exit:	NW	NE	E	SE	S				Cap.	Deg.	Lane	Prob.	Ov.	
									veh/h	Satn	Util.	SL	OV.	
									v/c	%	%	%	Lane	
													No.	
Lane 1	29	26	39	2	6	102	2.0	388	0.264	100	NA	NA		
Approach	29	26	39	2	6	102	2.0		0.264					
Total %HV Deg.Satn (v/c)														
Intersection	2086	2.0		0.831										

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

LANE SUMMARY

 Site: 101 [2028 No-Build (Site Folder: Weekday Evening)]

New Site
 Site Category: (None)
 Roundabout

Lane Use and Performance													
	DEMAND FLOWS		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
	[Total veh/h	[HV] %						[Veh	[Dist] ft				
South: Route 1 (State Road)													
Lane 1 ^d	533	2.0	398	1.340	100	196.9	LOS F	52.5	1333.9	Full	1600	0.0	0.0
Approach	533	2.0		1.340		196.9	LOS F	52.5	1333.9				
SouthEast: Dairy Queen Driveway													
Lane 1 ^d	30	2.0	271	0.109	100	15.3	LOS C	0.4	9.0	Full	1600	0.0	0.0
Approach	30	2.0		0.109		15.3	LOS C	0.4	9.0				
East: Route 236													
Lane 1 ^d	582	2.0	445	1.310	100	180.8	LOS F	54.3	1378.8	Full	1600	0.0	0.8
Approach	582	2.0		1.310		180.8	LOS F	54.3	1378.8				
NorthEast: Route 1 (State Road)													
Lane 1 ^d	69	2.0	522	0.132	100	8.5	LOS A	0.5	12.4	Full	1600	0.0	0.0
Approach	69	2.0		0.132		8.5	LOS A	0.5	12.4				
North: La Casita Driveways													
Lane 1 ^d	4	2.0	487	0.008	100	7.4	LOS A	0.0	0.7	Full	1600	0.0	0.0
Approach	4	2.0		0.008		7.4	LOS A	0.0	0.7				
NorthWest: Route 236													
Lane 1 ^d	1140	2.0	1233	0.925	100	29.4	LOS D	21.6	549.4	Full	1600	0.0	0.0
Approach	1140	2.0		0.925		29.4	LOS D	21.6	549.4				
West: U.S. Route 1 Bypass Off-Ramp													
Lane 1 ^d	330	2.0	376	0.877	100	53.7	LOS F	8.2	209.0	Full	1600	0.0	0.0
Approach	330	2.0		0.877		53.7	LOS F	8.2	209.0				
SouthWest: Old Post Road													
Lane 1 ^d	122	2.0	291	0.420	100	23.2	LOS C	1.7	43.3	Full	1600	0.0	0.0
Approach	122	2.0		0.420		23.2	LOS C	1.7	43.3				
Intersectio n	2810	2.0		1.340		94.4	LOS F	54.3	1378.8				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)													
South: Route 1 (State Road)													

Mov.	L1	R1	R2	R3	Total	%HV			Cap.	Deg.	Lane	Prob.	Ov.
From S									veh/h	Satn	Util.	SL	Lane
To Exit:	NW	NE	E	SE						v/c	%	%	No.
Lane 1	267	242	9	14	533	2.0			398	1.340	100	NA	NA
Approach	267	242	9	14	533	2.0				1.340			
SouthEast: Dairy Queen Driveway													
Mov.	L3	L2	T1	R2	Total	%HV			Cap.	Deg.	Lane	Prob.	Ov.
From SE									veh/h	Satn	Util.	SL	Lane
To Exit:	S	SW	NW	NE						v/c	%	%	No.
Lane 1	3	6	10	11	30	2.0			271	0.109	100	NA	NA
Approach	3	6	10	11	30	2.0				0.109			
East: Route 236													
Mov.	U	L2	L1	R1	R2	R3	Total	%HV			Lane	Prob.	Ov.
From E									Cap.	Deg.	Lane	Prob.	Ov.
To Exit:	E	S	SW	NW	N	NE			veh/h	Satn	Util.	SL	Lane
Lane 1	4	38	23	505	1	11	582	2.0	445	1.310	100	NA	NA
Approach	4	38	23	505	1	11	582	2.0		1.310			
NorthEast: Route 1 (State Road)													
Mov.	U	L2	L1	T1	R2	Total	%HV				Lane	Prob.	Ov.
From NE									Cap.	Deg.	Lane	Prob.	Ov.
To Exit:	NE	SE	S	SW	NW				veh/h	Satn	Util.	SL	Lane
Lane 1	3	3	21	3	39	69	2.0		522	0.132	100	NA	NA
Approach	3	3	21	3	39	69	2.0			0.132			
North: La Casita Driveways													
Mov.	L3	R1	R3	Total	%HV				Cap.	Deg.	Lane	Prob.	Ov.
From N									veh/h	Satn	Util.	SL	Lane
To Exit:	NE	SW	NW							v/c	%	%	No.
Lane 1	1	1	2	4	2.0				487	0.008	100	NA	NA
Approach	1	1	2	4	2.0					0.008			
NorthWest: Route 236													
Mov.	U	L2	L1	T1	R1	R2	Total	%HV			Lane	Prob.	Ov.
From NW									Cap.	Deg.	Lane	Prob.	Ov.
To Exit:	NW	NE	E	SE	S	SW			veh/h	Satn	Util.	SL	Lane
Lane 1	1	331	396	17	346	50	1140	2.0	1233	0.925	100	NA	NA
Approach	1	331	396	17	346	50	1140	2.0		0.925			
West: U.S. Route 1 Bypass Off-Ramp													
Mov.	L3	L1	T1	R1	R2	R3	Total	%HV			Lane	Prob.	Ov.
From W									Cap.	Deg.	Lane	Prob.	Ov.
To Exit:	NW	NE	E	SE	S	SW			veh/h	Satn	Util.	SL	Lane
Lane 1	222	19	57	6	22	5	330	2.0	376	0.877	100	NA	NA
Approach	222	19	57	6	22	5	330	2.0		0.877			
SouthWest: Old Post Road													
Mov.	L2	L1	T1	R1	R2	R3	Total	%HV			Lane	Prob.	Ov.
From SW									Cap.	Deg.	Lane	Prob.	Ov.
To Exit:	NW	N	NE	E	SE	S			veh/h	Satn	Util.	SL	Lane
Lane 1	37	1	37	42	1	3	122	2.0	291	0.420	100	NA	NA
Approach	37	1	37	42	1	3	122	2.0		0.420			
Total %HV Deg.Satn (v/c)													
Intersection	2810	2.0		1.340									

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

LANE SUMMARY

 Site: 101 [2028 Build (Site Folder: Weekday Morning)]

New Site
 Site Category: (None)
 Roundabout

Lane Use and Performance													
	DEMAND FLOWS		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
	[Total veh/h	[HV %						[Veh	[Dist] ft				
South: Route 1 (State Road)													
Lane 1 ^d	345	2.0	562	0.613	100	19.1	LOS C	4.3	109.2	Full	1600	0.0	0.0
Approach	345	2.0		0.613		19.1	LOS C	4.3	109.2				
SouthEast: Dairy Queen Driveway													
Lane 1 ^d	22	2.0	412	0.053	100	9.5	LOS A	0.2	4.7	Full	1600	0.0	0.0
Approach	22	2.0		0.053		9.5	LOS A	0.2	4.7				
East: Route 236													
Lane 1 ^d	394	2.0	635	0.621	100	17.6	LOS C	4.8	122.9	Full	1600	0.0	0.0
Approach	394	2.0		0.621		17.6	LOS C	4.8	122.9				
NorthEast: Route 1 (State Road)													
Lane 1 ^d	32	2.0	681	0.047	100	5.8	LOS A	0.2	4.5	Full	1600	0.0	0.0
Approach	32	2.0		0.047		5.8	LOS A	0.2	4.5				
North: La Casita Driveways													
Lane 1 ^d	4	2.0	661	0.006	100	5.5	LOS A	0.0	0.6	Full	1600	0.0	0.0
Approach	4	2.0		0.006		5.5	LOS A	0.0	0.6				
NorthWest: Route 236													
Lane 1 ^d	1044	2.0	1233	0.847	100	20.7	LOS C	14.1	358.9	Full	1600	0.0	0.0
Approach	1044	2.0		0.847		20.7	LOS C	14.1	358.9				
West: U.S. Route 1 Bypass Off-Ramp													
Lane 1 ^d	169	2.0	416	0.405	100	16.5	LOS C	1.8	46.3	Full	1600	0.0	0.0
Approach	169	2.0		0.405		16.5	LOS C	1.8	46.3				
SouthWest: Old Post Road													
Lane 1 ^d	124	2.0	388	0.321	100	15.2	LOS C	1.3	32.6	Full	1600	0.0	0.0
Approach	124	2.0		0.321		15.2	LOS C	1.3	32.6				
Intersection	2133	2.0		0.847		18.8	LOS C	14.1	358.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)													
South: Route 1 (State Road)													

Mov.	U	L3	L1	R1	R2	R3	Total	%HV		Deg.	Lane	Prob.	Ov.
From S										Cap.	Util.	SL	Lane
To Exit:	S	SW	NW	NE	E	SE				veh/h	v/c	%	OV.
Lane 1	1	7	133	153	45	6	345	2.0	562	0.613	100	NA	NA
Approach	1	7	133	153	45	6	345	2.0		0.613			
SouthEast: Dairy Queen Driveway													
Mov.	L3	T1	R2	R3	Total	%HV			Deg.	Lane	Prob.	Ov.	Ov.
From SE									Cap.	Util.	SL	OV.	Lane
To Exit:	S	NW	NE	E					veh/h	v/c	%	%	No.
Lane 1	7	8	5	2	22	2.0			412	0.053	100	NA	NA
Approach	7	8	5	2	22	2.0				0.053			
East: Route 236													
Mov.	L3	L2	L1	R1	R2	R3	Total	%HV		Deg.	Lane	Prob.	Ov.
From E										Cap.	Util.	SL	OV.
To Exit:	SE	S	SW	NW	N	NE			veh/h	v/c	%	%	No.
Lane 1	2	32	23	326	1	10	394	2.0	635	0.621	100	NA	NA
Approach	2	32	23	326	1	10	394	2.0		0.621			
NorthEast: Route 1 (State Road)													
Mov.	L2	L1	T1	R2	Total	%HV			Deg.	Lane	Prob.	Ov.	Ov.
From NE									Cap.	Util.	SL	OV.	Lane
To Exit:	SE	S	SW	NW					veh/h	v/c	%	%	No.
Lane 1	1	11	4	16	32	2.0			681	0.047	100	NA	NA
Approach	1	11	4	16	32	2.0				0.047			
North: La Casita Driveways													
Mov.	L2	R3	Total	%HV					Deg.	Lane	Prob.	Ov.	Ov.
From N									Cap.	Util.	SL	OV.	Lane
To Exit:	E	NW							veh/h	v/c	%	%	No.
Lane 1	2	2	4	2.0					661	0.006	100	NA	NA
Approach	2	2	4	2.0						0.006			
NorthWest: Route 236													
Mov.	L3	L2	L1	T1	R1	R2	Total	%HV		Deg.	Lane	Prob.	Ov.
From NW										Cap.	Util.	SL	OV.
To Exit:	N	NE	E	SE	S	SW			veh/h	v/c	%	%	No.
Lane 1	2	260	308	31	388	55	1044	2.0	1233	0.847	100	NA	NA
Approach	2	260	308	31	388	55	1044	2.0		0.847			
West: U.S. Route 1 Bypass Off-Ramp													
Mov.	L3	L1	T1	R1	R2	R3	Total	%HV		Deg.	Lane	Prob.	Ov.
From W										Cap.	Util.	SL	OV.
To Exit:	NW	NE	E	SE	S	SW			veh/h	v/c	%	%	No.
Lane 1	78	7	38	2	30	13	169	2.0	416	0.405	100	NA	NA
Approach	78	7	38	2	30	13	169	2.0		0.405			
SouthWest: Old Post Road													
Mov.	L2	T1	R1	R2	R3	Total	%HV		Deg.	Lane	Prob.	Ov.	Ov.
From SW									Cap.	Util.	SL	OV.	Lane
To Exit:	NW	NE	E	SE	S				veh/h	v/c	%	%	No.
Lane 1	39	27	44	2	12	124	2.0		388	0.321	100	NA	NA
Approach	39	27	44	2	12	124	2.0			0.321			
Total %HV Deg.Satn (v/c)													
Intersection	2133	2.0								0.847			

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

LANE SUMMARY

Site: 101 [2028 Build (Site Folder: Weekday Evening)]

New Site
 Site Category: (None)
 Roundabout

Lane Use and Performance													
	DEMAND FLOWS		Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE		Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
	[Total veh/h	[HV] %						[Veh	[Dist] ft				
South: Route 1 (State Road)													
Lane 1 ^d	539	2.0	391	1.381	100	214.1	LOS F	56.5	1435.6	Full	1600	0.0	1.9
Approach	539	2.0		1.381		214.1	LOS F	56.5	1435.6				
SouthEast: Dairy Queen Driveway													
Lane 1 ^d	30	2.0	268	0.110	100	15.5	LOS C	0.4	9.1	Full	1600	0.0	0.0
Approach	30	2.0		0.110		15.5	LOS C	0.4	9.1				
East: Route 236													
Lane 1 ^d	587	2.0	441	1.331	100	189.7	LOS F	56.8	1442.1	Full	1600	0.0	2.0
Approach	587	2.0		1.331		189.7	LOS F	56.8	1442.1				
NorthEast: Route 1 (State Road)													
Lane 1 ^d	72	2.0	518	0.138	100	8.7	LOS A	0.5	13.1	Full	1600	0.0	0.0
Approach	72	2.0		0.138		8.7	LOS A	0.5	13.1				
North: La Casita Driveways													
Lane 1 ^d	4	2.0	482	0.008	100	7.5	LOS A	0.0	0.7	Full	1600	0.0	0.0
Approach	4	2.0		0.008		7.5	LOS A	0.0	0.7				
NorthWest: Route 236													
Lane 1 ^d	1146	2.0	1219	0.940	100	31.9	LOS D	42.2	1072.6	Full	1600	0.0	0.0
Approach	1146	2.0		0.940		31.9	LOS D	42.2	1072.6				
West: U.S. Route 1 Bypass Off-Ramp													
Lane 1 ^d	336	2.0	370	0.908	100	59.8	LOS F	9.3	235.6	Full	1600	0.0	0.0
Approach	336	2.0		0.908		59.8	LOS F	9.3	235.6				
SouthWest: Old Post Road													
Lane 1 ^d	146	2.0	291	0.503	100	26.8	LOS D	2.2	55.8	Full	1600	0.0	0.0
Approach	146	2.0		0.503		26.8	LOS D	2.2	55.8				
Intersectio n	2860	2.0		1.381		100.9	LOS F	56.8	1442.1				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
 Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Geometric Delay is not included).

Queue Model: HCM Queue Formula.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

^d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)												
South: Route 1 (State Road)												

Mov.	L3	L1	R1	R2	R3	Total	%HV		Cap.	Deg.	Lane	Prob.	Ov.
From S									veh/h	Satn	Util.	SL	Lane
To Exit:	SW	NW	NE	E	SE					v/c	%	%	No.
Lane 1	6	267	242	9	14	539	2.0		391	1.381	100	NA	NA
Approach	6	267	242	9	14	539	2.0			1.381			
SouthEast: Dairy Queen Driveway													
Mov.	L3	L2	T1	R2	Total	%HV			Cap.	Deg.	Lane	Prob.	Ov.
From SE									veh/h	Satn	Util.	SL	Lane
To Exit:	S	SW	NW	NE						v/c	%	%	No.
Lane 1	3	6	10	11	30	2.0			268	0.110	100	NA	NA
Approach	3	6	10	11	30	2.0				0.110			
East: Route 236													
Mov.	U	L2	L1	R1	R2	R3	Total	%HV			Lane	Prob.	Ov.
From E									Cap.	Deg.	Util.	SL	Lane
To Exit:	E	S	SW	NW	N	NE			veh/h	Satn	%	%	No.
Lane 1	4	38	28	505	1	11	587	2.0	441	1.331	100	NA	NA
Approach	4	38	28	505	1	11	587	2.0		1.331			
NorthEast: Route 1 (State Road)													
Mov.	U	L2	L1	T1	R2	Total	%HV				Lane	Prob.	Ov.
From NE									Cap.	Deg.	Util.	SL	Lane
To Exit:	NE	SE	S	SW	NW				veh/h	Satn	%	%	No.
Lane 1	3	3	21	6	39	72	2.0		518	0.138	100	NA	NA
Approach	3	3	21	6	39	72	2.0			0.138			
North: La Casita Driveways													
Mov.	L3	R1	R3	Total	%HV						Lane	Prob.	Ov.
From N									Cap.	Deg.	Util.	SL	Lane
To Exit:	NE	SW	NW						veh/h	Satn	%	%	No.
Lane 1	1	1	2	4	2.0				482	0.008	100	NA	NA
Approach	1	1	2	4	2.0					0.008			
NorthWest: Route 236													
Mov.	U	L2	L1	T1	R1	R2	Total	%HV			Lane	Prob.	Ov.
From NW									Cap.	Deg.	Util.	SL	Lane
To Exit:	NW	NE	E	SE	S	SW			veh/h	Satn	%	%	No.
Lane 1	1	331	396	17	346	55	1146	2.0	1219	0.940	100	NA	NA
Approach	1	331	396	17	346	55	1146	2.0		0.940			
West: U.S. Route 1 Bypass Off-Ramp													
Mov.	L3	L1	T1	R1	R2	R3	Total	%HV			Lane	Prob.	Ov.
From W									Cap.	Deg.	Util.	SL	Lane
To Exit:	NW	NE	E	SE	S	SW			veh/h	Satn	%	%	No.
Lane 1	222	19	57	6	22	10	336	2.0	370	0.908	100	NA	NA
Approach	222	19	57	6	22	10	336	2.0		0.908			
SouthWest: Old Post Road													
Mov.	L2	L1	T1	R1	R2	R3	Total	%HV			Lane	Prob.	Ov.
From SW									Cap.	Deg.	Util.	SL	Lane
To Exit:	NW	N	NE	E	SE	S			veh/h	Satn	%	%	No.
Lane 1	48	1	40	46	1	10	146	2.0	291	0.503	100	NA	NA
Approach	48	1	40	46	1	10	146	2.0		0.503			
Total %HV Deg.Satn (v/c)													
Intersection	2860	2.0		1.381									

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

Old Post Road at the Project Site Driveway

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	2	2	84	69	22
Future Vol, veh/h	18	2	2	84	69	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	2	2	91	75	24

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	182	87	99	0	0
Stage 1	87	-	-	-	-
Stage 2	95	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	807	971	1494	-	-
Stage 1	936	-	-	-	-
Stage 2	929	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	806	971	1494	-	-
Mov Cap-2 Maneuver	806	-	-	-	-
Stage 1	935	-	-	-	-
Stage 2	929	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1494	-	820	-	-
HCM Lane V/C Ratio	0.001	-	0.027	-	-
HCM Control Delay (s)	7.4	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

2028 Build Weekday Evening
 3: Old Post Road & Project Site Driveway

07/25/2023

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	2	2	111	76	22
Future Vol, veh/h	22	2	2	111	76	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	2	2	121	83	24

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	220	95	107	0	0
Stage 1	95	-	-	-	-
Stage 2	125	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	768	962	1484	-	-
Stage 1	929	-	-	-	-
Stage 2	901	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	767	962	1484	-	-
Mov Cap-2 Maneuver	767	-	-	-	-
Stage 1	928	-	-	-	-
Stage 2	901	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1484	-	780	-	-
HCM Lane V/C Ratio	0.001	-	0.033	-	-
HCM Control Delay (s)	7.4	0	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

STORMWATER MANAGEMENT REPORT

PROPOSED HOTEL DEVELOPMENT
ASSESSOR'S MAP 14 LOTS 10, 12 & 12A
139 OLD POST ROAD, 112 & 120 US ROUTE 1
BYPASS
KITTERY, MAINE

GPI

44 Stiles Road, Suite One
Salem, NH 03079
(603) 893-0720

Prepared For:
Kittery Circle, LLC
321D Lafayette Road
Hampton, NH 03842

August 17, 2023

(GPI Project No.: NEX-2200380)



**Kittery Circle, LLC
Proposed Hotel Development
Stormwater Management Report**

GPI

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Stormwater Management Report

Kittery Circle, LLC, Kittery, Maine

August 17, 2023

SECTION 1

EXECUTIVE SUMMARY

This report contains a stormwater management analysis for the proposed 102 key hotel development located at 139 Old Post Road and 112 & 120 US Route 1 Bypass in Kittery, Maine. The analysis includes both pre- and post-development calculations of stormwater runoff rates at specific locations on the project site.

This analysis has been prepared in accordance with both Town of Kittery requirements and the stormwater standards of the Stormwater Management Law as described in Maine Department of Environmental Protection (Maine DEP) Chapter 500.

The project site consists of three parcels identified as Map 14 Lots 10, 12, and 12A with a combined area of approximately 1.96 acres. The site is bordered by Old Post Road to the southeast, private residences to the south, a commercial business to the southwest, U.S. Route 1 Bypass to the northwest, and the Kittery traffic circle to the northeast.

The applicant, Kittery Circle, LLC, is proposing to develop the site by demolishing the existing concrete block building and constructing a new 102 key hotel with a 14,028 square foot footprint and associated paved parking lot with a full access driveway to Old Post Road.

In order to mitigate increases in peak discharge rates of stormwater runoff as a result of the new impervious surfaces, a comprehensive stormwater management system has been designed that includes deep-sump catch basins with hooded outlets, four hydrodynamic particle separators, an underground detention system with isolator row pretreatment and outlet control structure, a stormwater treatment filter, and a crushed stone drip edge.

Based on site topography and discharge points, three analysis points are identified for the purposes of this analysis. Design Point #1 represents the flagged isolated wetland between the site and Route 1 Bypass. Design Point #2 represents the flagged isolated wetland at the southern corner of the property abutting the adjacent residence. Design Point #3 represents the drainage system with Old Post Road which eventually flows to the east through a 30" reinforced concrete pipe (RCP).

The tables below summarize the comparative pre- and post-development peak rates of stormwater runoff at the design points.

Stormwater Management Report

Kittery Circle, LLC, Kittery, Maine

August 17, 2023

TABLE 1: PEAK RATE ANALYSIS SUMMARY

Design Storm	Pre-Development (cfs)	Post-Development (cfs)	Change (cfs)
Design Point #1 – Wetland			
2-year	4.6	4.5	-0.1
10-year	7.7	7.5	-0.2
25-year	10.3	10.0	-0.3
Design Point #2 – Wetland			
2-year	0.3	0.3	0.0
10-year	0.8	0.7	-0.1
25-year	1.2	1.0	-0.2
Design Point #3 – Roadway Drainage System			
2-year	3.1	2.9	-0.2
10-year	6.1	5.8	-0.3
25-year	8.9	7.7	-1.2

(All values shown are peak rates in CFS, cubic feet per second)

In conclusion, by incorporating a new on-site stormwater management system that includes provisions for stormwater treatment and detention, there will be a decrease or no change in the peak rates of stormwater runoff leaving the property at the design points during all storms analyzed.

Implementing the maintenance procedures outlined in the attached Inspection and Maintenance Plan (I&M) will ensure the long-term performance of the system.

Stormwater Management Report

Kittery Circle, LLC, Kittery, Maine

August 17, 2023

SECTION 2

EXISTING CONDITIONS

The project site consists of three parcels identified as Map 14 Lots 10, 12, and 12A with a combined area of approximately 1.96 acres. The site is bordered by Old Post Road to the southeast, private residences to the south, a commercial business to the southwest, U.S. Route 1 Bypass to the northwest, and the Kittery traffic circle to the northeast. The traffic circle is the intersection of Old Post Road, State Road (US Route 1), State Route 236, and the northerly offramp of Route 1 Bypass.

The majority of the site is currently undeveloped and contains a mix of woods and overgrown grass and brush. Lot 12 contains broken pavement along the shoulder of Route 1 Bypass and what remains of a former raised concrete fueling island. Lot 12A contains a vacant 680 square foot concrete block building along Old Post Road but is otherwise undeveloped.

There are two isolated wetlands which straddle the property boundary along Route 1 Bypass and the southern property corner abutting the adjacent residential property. The wetlands were delineated by Seekamp Environmental Consulting, Inc. on July 13, 2022 and located by the surveyor, Civil Consultants.

There are no drainage structures currently on the property. There are three drain pipes associated with the isolated wetland along Route 1 Bypass though only one was found during field survey. There is a piped drainage system within Old Post Road consisting of several catch basins and pipe which collects runoff from the roadway and directs it to the east. Both Old Post Road and Route 1 Bypass rise in elevation to the southwest of the project site, therefore, stormwater runoff from areas to the southwest flows through the site and is accounted for in the drainage analysis.

Route 1 Bypass along the site boundary is not curbed and does not have a closed drainage system. Stormwater runoff from a portion of Route 1 Bypass and abutting properties to the southwest flows into the road shoulder and eventually to the isolated wetland. Runoff from Route 1 Bypass northeast of the wetland flows to the southeast and through the project site where it is eventually captured by one of the catch basins in Old Post Road.

Site topography generally consists of moderate slopes (5%+/-) throughout much of site with steep slopes immediately adjacent to both isolated wetlands. Elevations range from 45 at the southern property corner to 30 at the eastern property corner towards the traffic circle.

The NRCS Web Soil Survey identifies on-site and surrounding soils as Urban land with no Hydrologic Soil Group (HSG) classification and Lyman loam with HSG-D classification. Refer to Appendix B for more information.

Stormwater Management Report

Kittery Circle, LLC, Kittery, Maine

August 17, 2023

A Phase I and II Environmental Site Assessment (ESA) was performed by Tomforde Environmental Services, LLC and results summarized in a report dated August 16, 2022. The ESA determined that the site “has not been impacted by a release of petroleum or hazardous substances.” As part of the assessment, many test pits were dug throughout the site to determine soil conditions. The pits generally encountered sand with silt and some gravel with clay encountered in one test pit near the building on Lot 12A. Test pit logs by Tomforde Environmental Services are included in Appendix C.

A former stream is identified on historic maps of the property dating to 1920, however, no signs of such stream are present today.

The site is not located in a special flood hazard area (100-year flood) per Flood Insurance Rate Map Number 2301710004C, with an effective date of July 5, 1984.

Stormwater Management Report

Kittery Circle, LLC, Kittery, Maine

August 17, 2023

SECTION 3

PROPOSED CONDITIONS

The applicant, Kittery Circle, LLC, is proposing to develop the site by demolishing the existing concrete block building and constructing a new 102 key hotel with a 14,028 square foot footprint and associated paved parking lot with a full access driveway to Old Post Road. A concrete patio will be located along the side of the building facing Old Post Road.

Water service will be provided by municipal water in Old Post Road. The proposed sewer service will extend across Old Post Road to the southeast to an existing manhole within US Route 1. Electric will be provided via a new on-site utility pole conveying overhead service across Old Post Road to a new on-site pad mounted transformer. Two underground propane tanks will be located in a landscaped area west of the building.

In order to mitigate increases in peak discharge rates of stormwater runoff as a result of the new impervious surfaces, a comprehensive stormwater management system has been designed that includes deep-sump catch basins with hooded outlets, four hydrodynamic particle separators, an underground detention system with isolator row pretreatment and outlet control structure, a stormwater treatment filter, and a crushed stone drip edge.

Contributing offsite runoff from the abutting properties to the southwest will flow into a grassed underdrained soil filter to detain and treat this runoff separate from the on-site runoff before discharging into an existing catch basin in Old Post Road.

Contributing runoff from Route 1 Bypass will be routed in a new grassed swale straddling the property boundary flowing to the northeast and east where it will enter a new infiltration basin within the State's right-of-way. This basin will provide detention and treatment of stormwater runoff from Route 1 Bypass and separate it from the on-site stormwater management system. Final design of the grassed swale and infiltration basin will be coordinated with MaineDOT; the design shown is conceptual and pending approval of DOT.

The proposed treatment filter is designed in accordance with the provisions outlined in the MaineDEP approval letter for a Jellyfish Filter. Detailed design information from the manufacturer is included in Appendix F.

Runoff from the new parking lot and driveway will be captured in deep sump catch basins with hooded outlets and directed through pipes to a hydrodynamic particle separator and eventually the underground detention system which incorporated an isolator row as an additional pretreatment measure. Peak flow rates, including the 24-hour water quality volume (WQV) drawdown are controlled by the outlet control structure (OCS) with orifices drilled into a flow control tee. Runoff from the detention system will be directed to the treatment filter for final

Stormwater Management Report

Kittery Circle, LLC, Kittery, Maine

August 17, 2023

removal of fine particles and nutrients prior to discharging to an existing catch basin along Old Post Road.

Runoff from the concrete patio will sheet flow into the crushed stone drip edge where it will infiltrate into the underlying soil.

To prevent erosion and sedimentation during construction, Best Management Practices including a stabilized construction exit, straw wattle, sediment control fence, check dam, catch basin inserts, erosion control blanket, and temporary and permanent seeding have been incorporated into the construction sequence.

The total area of disturbance related to the proposed development and stormwater management system construction is approximately 105,000 square feet therefore the project will require a Maine Construction General Permit (MCGP) from Maine DEP.

Compliance with the Maine DEP Chapter 500 stormwater standards is shown below.

Basic Standards:

The project implements an erosion and sediment control plan which includes catch basin inlet protection, silt fence and straw wattle erosion control barrier, erosion control blanket slope stabilization, stone stabilized construction entrances/exits, and permanent soil stabilization through landscaping and seeding of all disturbed areas. In addition, the development plans provide for both pre-development and post-development construction scheduling and maintenance, and an ongoing operation and maintenance manual for the stormwater management system once construction is completed.

General Standards:

On-site stormwater controls consist of pretreatment, treatment, and peak flow mitigation measures consistent with Maine DEP Chapter 500 Stormwater Standards. Pretreatment and treatment BMPs include deep sump catch basins with hooded outlets, hydrodynamic particle separators, and an isolator row. Though compliance with the flooding standard is not required for this project, stormwater peak flow mitigation is achieved through the underground detention system which utilizes an outlet control structure to mitigate post-development peak rates of runoff leaving the site during each design storm.

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In accordance with Chapter 500, sizing of treatment devices is as follows:

Water Quality Volume

Jellyfish Filter/Underground Detention System

$$V_{required} = (A_{impervious} * 1 \text{ inch}) + (A_{pervious} * 0.4 \text{ inch})$$

$$V_{required} = \left(1.352 \text{ ac} * \frac{43,560 \text{ sf}}{\text{ac}} * 1 \text{ in} * \frac{1 \text{ ft}}{12 \text{ in}} \right) + \left(0.523 \text{ ac} * \frac{43,560 \text{ sf}}{\text{ac}} * 0.4 \text{ inch} * \frac{1 \text{ ft}}{12 \text{ in}} \right) = \mathbf{5,668 \text{ cf}}$$

Refer to Appendix F for detailed design of Jellyfish filter performed by Contech.

Crushed Stone Drip Edge

$$V_{required} = (A_{impervious} * 1 \text{ inch}) + (A_{pervious} * 0.4 \text{ inch})$$

$$V_{required} = \left(0.029 \text{ ac} * \frac{43,560 \text{ sf}}{\text{ac}} * 1 \text{ in} * \frac{1 \text{ ft}}{12 \text{ in}} \right) + \left(0.000 \text{ ac} * \frac{43,560 \text{ sf}}{\text{ac}} * 0.4 \text{ inch} * \frac{1 \text{ ft}}{12 \text{ in}} \right) = \mathbf{105 \text{ cf}}$$

$$V_{provided} = \mathbf{133 \text{ cf}}$$

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SECTION 4 STORMWATER MODELING METHODOLOGY

The drainage system for this project was modeled using HydroCAD, a stormwater modeling computer program that analyzes the hydrology, and hydraulics of stormwater runoff. HydroCAD is based largely on the hydrology techniques developed by the Soil Conservation Service (SCS/NRCS), combined with other hydrology and hydraulics calculations. For a given rainfall event, these techniques are used to generate hydrographs throughout a watershed. This provides verification that a given drainage system is adequate for the area under consideration, or to predict where flooding or erosion is likely to occur.

In HydroCAD, each watershed is modeled as a subcatchment, streams and culverts as a Reach (or Pond, depending on available storage capacity), and large wetlands and other natural or artificial storage areas as a Pond. SCS hydrograph generation and routing procedures were used to model both Pre-development and Post-development runoff conditions.

The Pre-development and Post-development watershed limits and the subcatchment characteristics were determined using both USGS and on-the-ground topographic survey information and through visual, on-site inspection. Conservative estimates were used at all times in estimating the hydrologic characteristics of each watershed or subcatchment.

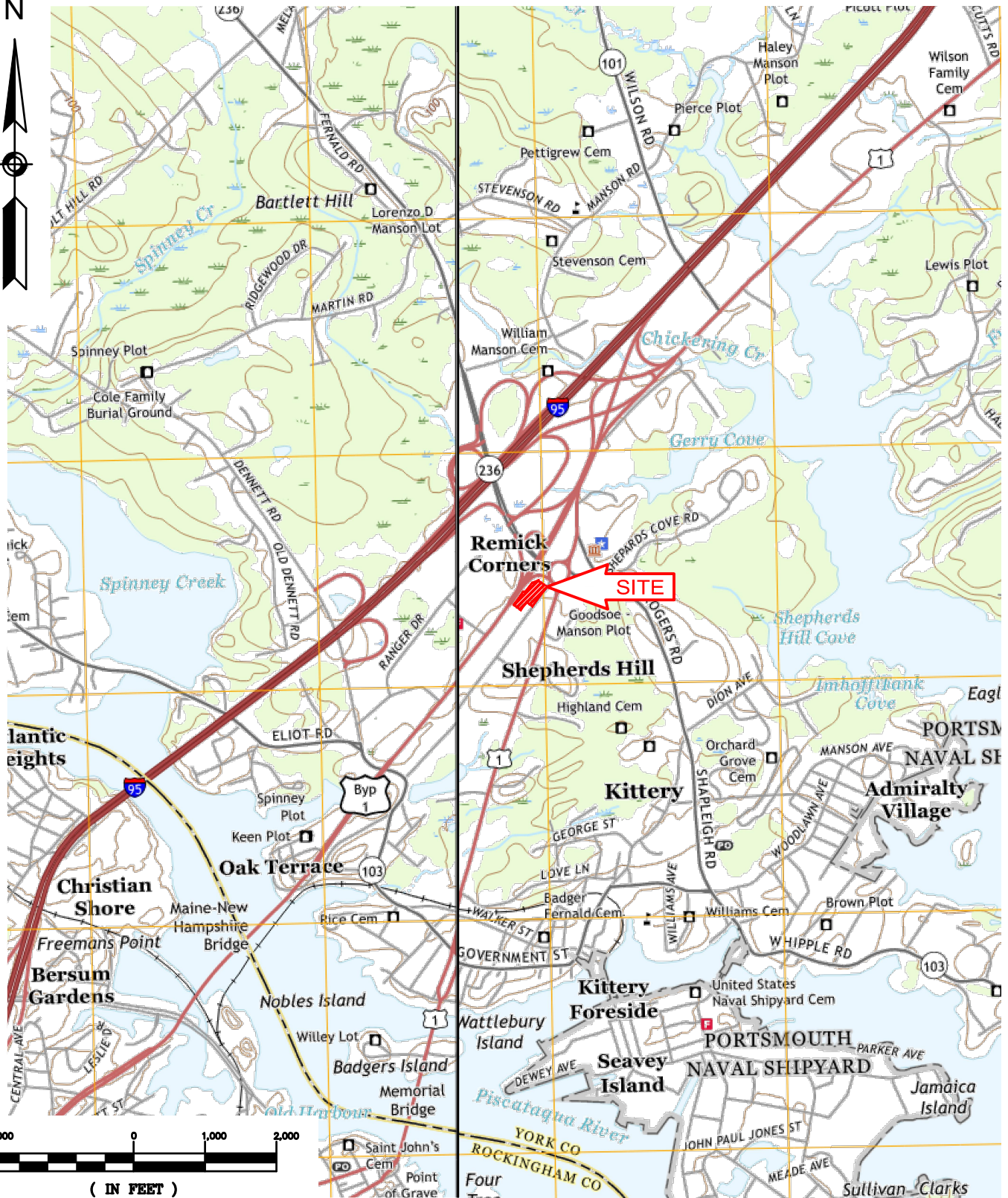
Stormwater Management Report

Kittery Circle, LLC, Kittery, Maine

August 17, 2023

APPENDIX A

USGS Map



2,000 0 1,000 2,000
 (IN FEET)
 1 inch = 2,000 ft.

USGS MAP

139 OLD POST ROAD
KITTERY, ME



Engineering
Design
Planning
Construction Management

603.893.0720
Greenman-Pedersen, Inc.
44 Stiles Road, Suite One
Salem, NH 03079

DRAWN BY: CNM
PROJECT #: NEX-2200380

DATE:
8/17/2023

FIGURE
1

Stormwater Management Report

Kittery Circle, LLC, Kittery, Maine

August 17, 2023

APPENDIX B

NRCS Soils Information

Custom Soil Resource Report for York County, Maine



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

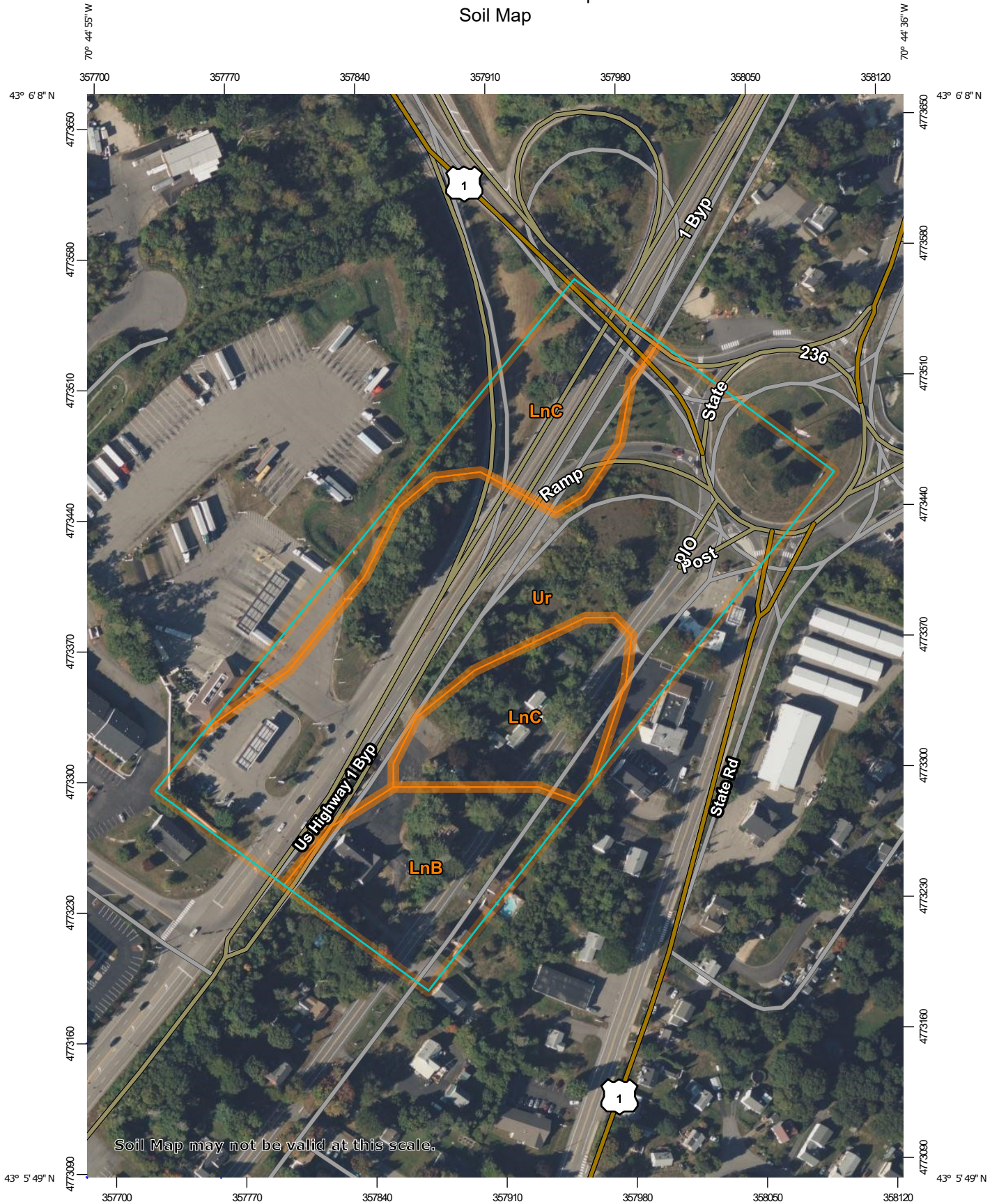
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.

Map Scale: 1:2,830 if printed on A portrait (8.5" x 11") sheet.


0 40 80 160 240 Meters

0 100 200 400 600 Feet

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 1:20,000.

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: York County, Maine
 Survey Area Data: Version 21, Aug 30, 2022

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
LnB	Lyman loam, 3 to 8 percent slopes, rocky	2.4	15.2%
LnC	Lyman loam, 8 to 15 percent slopes, rocky	4.4	28.3%
Ur	Urban land	8.8	56.5%
Totals for Area of Interest		15.6	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

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delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

York County, Maine

LnB—Lyman loam, 3 to 8 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2trq7

Elevation: 0 to 520 feet

Mean annual precipitation: 36 to 65 inches

Mean annual air temperature: 36 to 52 degrees F

Frost-free period: 60 to 160 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Lyman, rocky, and similar soils: 86 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman, Rocky

Setting

Landform: Hills, mountains

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: loam

E - 3 to 5 inches: fine sandy loam

Bhs - 5 to 7 inches: loam

Bs1 - 7 to 11 inches: loam

Bs2 - 11 to 18 inches: channery loam

R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 11 to 24 inches to lithic bedrock

Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: D

Hydric soil rating: No

LnC—Lyman loam, 8 to 15 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2trq9

Elevation: 0 to 690 feet

Mean annual precipitation: 36 to 65 inches

Mean annual air temperature: 36 to 52 degrees F

Frost-free period: 60 to 160 days

Farmland classification: Not prime farmland

Map Unit Composition

Lyman, rocky, and similar soils: 86 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman, Rocky

Setting

Landform: Hills, mountains

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Mountaintop, mountainflank, mountainbase, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: loam

E - 3 to 5 inches: fine sandy loam

Bhs - 5 to 7 inches: loam

Bs1 - 7 to 11 inches: loam

Bs2 - 11 to 18 inches: channery loam

R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: 11 to 24 inches to lithic bedrock

Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: D

Custom Soil Resource Report

Hydric soil rating: No

Ur—Urban land

Map Unit Composition

Urban land: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Base slope, tread

Down-slope shape: Linear

Across-slope shape: Linear

Typical profile

H1 - 0 to 6 inches: variable

Properties and qualities

Slope: 0 to 8 percent

Drainage class: Moderately well drained

Depth to water table: About 24 to 72 inches

Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s

Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

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

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

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

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

Custom Soil Resource Report

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

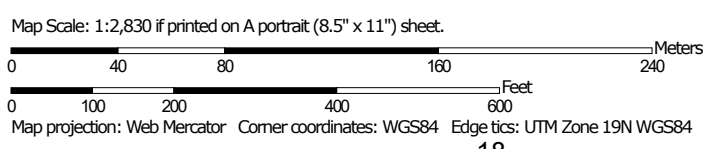
Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over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

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

Custom Soil Resource Report
Map—Hydrologic Soil Group




Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





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

Soil Rating Lines


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

Soil Rating Points






-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available


Water Features

 Streams and Canals

Transportation

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

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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: York County, Maine
 Survey Area Data: Version 21, Aug 30, 2022

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.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
LnB	Lyman loam, 3 to 8 percent slopes, rocky	D	2.4	15.2%
LnC	Lyman loam, 8 to 15 percent slopes, rocky	D	4.4	28.3%
Ur	Urban land		8.8	56.5%
Totals for Area of Interest			15.6	100.0%

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
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- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
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- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Stormwater Management Report

Kittery Circle, LLC, Kittery, Maine

August 17, 2023

APPENDIX C

Test Pit Logs



TEST PIT FIELD LOG

TEST PIT NO.: TP-1

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 8:00

WEATHER: Sunny 80-85°F
 TEST PIT LOCATION: Lot 12

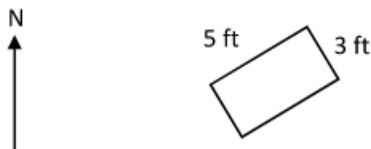
DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Easy	Brown fine to coarse SAND and Gravel, some cobbles. Dry.	
2			
3			0.0
4			
5		Refusal @ 4 feet on potential weathered bedrock.	
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

NOTES:

TEST PIT DIMENSIONS AND ORIENTATION

EXCAVATION EFFORT

DEFINITIONS



E = EASY
 M = MODERATE
 D = DIFFICULT

PPMV = PARTS-PER-MILLION BY VOLUME
 = DEPTH OF WATER TABLE
 TRACE = 1 - 10%
 LITTLE = 10 - 20%
 SOME = 20 - 35 %
 AND = 35 - 50%



TEST PIT FIELD LOG

TEST PIT NO.: TP-2

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 8:20

WEATHER: Sunny 85°F
 TEST PIT LOCATION: Lot 12

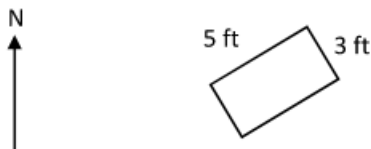
DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Easy	Dark brown, loamy SILT and fine Sand, some gravel, little trash. Dry.	
2			0.0
3		Brown fine SAND. Dry.	
4			0.0
5			
6		Refusal @ 5 feet on restrictive layer - potential weathered bedrock.	
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

NOTES:

TEST PIT DIMENSIONS AND ORIENTATION

EXCAVATION EFFORT

DEFINITIONS



E = EASY
 M = MODERATE
 D = DIFFICULT

PPMV = PARTS-PER-MILLION BY VOLUME
 = DEPTH OF WATER TABLE
 TRACE = 1 - 10%
 LITTLE = 10 - 20%
 SOME = 20 - 35 %
 AND = 35 - 50%



TEST PIT FIELD LOG

TEST PIT NO.: TP-3

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 8:45

WEATHER: Sunny 85°F
 TEST PIT LOCATION: Lot 12

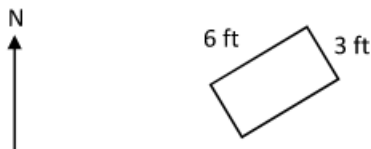
DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)	
1	Easy	Brown fine to coarse SAND and Gravel. Dry. Fill.		
2			0.0	
3				
4		Grey to brown clayey SILT and fine Sand, trace red bricks at top. Dry.		
5				
6				
7			0	
8				
9			End of test pit at 8 feet due to equipment reach. No refusal.	
10				
11				
12				
13				
14				
15				
16				

NOTES:

TEST PIT DIMENSIONS AND ORIENTATION

EXCAVATION EFFORT

DEFINITIONS



E = EASY
 M = MODERATE
 D = DIFFICULT

PPMV = PARTS-PER-MILLION BY VOLUME
 = DEPTH OF WATER TABLE
 TRACE = 1 - 10%
 LITTLE = 10 - 20%
 SOME = 20 - 35 %
 AND = 35 - 50%



TEST PIT FIELD LOG

TEST PIT NO.: TP-4

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 9:00

WEATHER: Sunny 85°F
 TEST PIT LOCATION: Lot 12

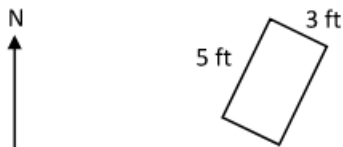
DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Moderate	Brown fine to coarse SAND and Gravel. Dry.	
2	Moderate	Grey SILT and fine Sand, some gravel. Dry.	0.0
3		Brown fine to coarse SAND and Gravel, some cobbles. Dry.	
4	Difficult		0.0
5			
6		Refusal at 5 feet on potential weathered bedrock or boulder.	
7			0
8			
9			
10			
11			
12			
13			
14			
15			
16			

NOTES:

TEST PIT DIMENSIONS AND ORIENTATION

EXCAVATION EFFORT

DEFINITIONS



E = EASY
 M = MODERATE
 D = DIFFICULT

PPMV = PARTS-PER-MILLION BY VOLUME
 = DEPTH OF WATER TABLE
 TRACE = 1 - 10%
 LITTLE = 10 - 20%
 SOME = 20 - 35 %
 AND = 35 - 50%



TEST PIT FIELD LOG

TEST PIT NO.: TP-5

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

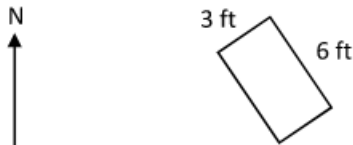
EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 9:35

WEATHER: Sunny 85°F
 TEST PIT LOCATION: Lot 12

DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Easy	Brown fine to coarse SAND and Gravel. Dry.	
2			0.0
3			
4		Dark brown fine to coarse SAND and Gravel. Wet.	
5			0.0
6		End of test pit at 5 feet.	
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

NOTES: Test pit could not be advanced deeper than 5 feet because sidewalls were collapsing.
 Collect water sample for VPH analysis.

TEST PIT DIMENSIONS AND ORIENTATION



EXCAVATION EFFORT

E = EASY
 M = MODERATE
 D = DIFFICULT

DEFINITIONS

PPMV = PARTS-PER-MILLION BY VOLUME
 = DEPTH OF WATER TABLE
 TRACE = 1 - 10%
 LITTLE = 10 - 20%
 SOME = 20 - 35 %
 AND = 35 - 50%



TEST PIT FIELD LOG

TEST PIT NO.: TP-6a

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 9:50

WEATHER: Sunny 85°F
 TEST PIT LOCATION: Lot 12

DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Easy	Green SILT with brick, asphalt and concrete pieces.	
2		Brown SAND and Gravel with buried piece of concrete slab.	0.0
3			
4		Refusal @ 3 feet on concrete piece.	
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

NOTES:

TEST PIT DIMENSIONS AND ORIENTATION

EXCAVATION EFFORT

DEFINITIONS



E = EASY
 M = MODERATE
 D = DIFFICULT

PPMV = PARTS-PER-MILLION BY VOLUME
 = DEPTH OF WATER TABLE
 TRACE = 1 - 10%
 LITTLE = 10 - 20%
 SOME = 20 - 35 %
 AND = 35 - 50%



TEST PIT FIELD LOG

TEST PIT NO.: TP-6b

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

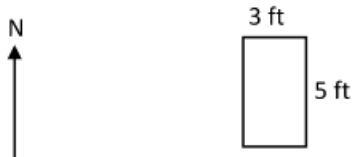
EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 10:00

WEATHER: Sunny 85°F
 TEST PIT LOCATION: 12 ft S of TP-6a

DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Easy	Bricks and mortar FILL. Wet at 4.5 feet.	
2			0.0
3			
4			
5			▼
6			
7		End of test pit @ 6 feet.	
8			
9			
10			
11			
12			
13			
14			
15			
16			

NOTES: Collected one soil sample for laboratory analysis of metals. Collected one water sample for laboratory analysis of PAHs, VOCs, and metals. Groundwater collected from 1-inch diameter PVC screen used with peristaltic pump. One gallon was purged then the sample was collected. The water was field filtered for PAH and metals.

TEST PIT DIMENSIONS AND ORIENTATION



EXCAVATION EFFORT

E = EASY
 M = MODERATE
 D = DIFFICULT

DEFINITIONS

PPMV = PARTS-PER-MILLION BY VOLUME
 ▼ = DEPTH OF WATER TABLE
 TRACE = 1 - 10%
 LITTLE = 10 - 20%
 SOME = 20 - 35 %
 AND = 35 - 50%



TEST PIT FIELD LOG

TEST PIT NO.: TP-7

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 10:30

WEATHER: Sunny 85°F
 TEST PIT LOCATION: Lot 12

DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Easy	Brown fine SAND and Silt, some gravel. Dry.	
2			
3			0.0
4			
5			
6			
7			
8			
9		Grey SILT and CLAY with roots at bottom. Wet. End of test pit @ 8 feet.	
10			
11			
12			
13			
14			
15			
16			

NOTES: The top 8 feet is sand fill.

<p align="center"><u>TEST PIT DIMENSIONS AND ORIENTATION</u></p>	<p align="center"><u>EXCAVATION EFFORT</u></p> <p align="center">E = EASY M = MODERATE D = DIFFICULT</p>	<p align="center"><u>DEFINITIONS</u></p> <p>PPMV = PARTS-PER-MILLION BY VOLUME = DEPTH OF WATER TABLE TRACE = 1 - 10% LITTLE = 10 - 20% SOME = 20 - 35 % AND = 35 - 50%</p>
-------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



TEST PIT FIELD LOG

TEST PIT NO.: TP-8a

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 11:30

WEATHER: Sunny 85°F
 TEST PIT LOCATION: Lot 10

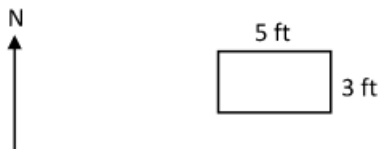
DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Difficult	Brown SILT and SAND mixed with concrete cinder blocks. Apparent block wall at west end of pit. Dry.	
2			0.0
3			
4			
5		Refusal at 4 feet.	
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

NOTES:

TEST PIT DIMENSIONS AND ORIENTATION

EXCAVATION EFFORT

DEFINITIONS



E = EASY
 M = MODERATE
 D = DIFFICULT

PPMV = PARTS-PER-MILLION BY VOLUME
 = DEPTH OF WATER TABLE
 TRACE = 1 - 10%
 LITTLE = 10 - 20%
 SOME = 20 - 35 %
 AND = 35 - 50%



TEST PIT FIELD LOG

TEST PIT NO.: TP-8b

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

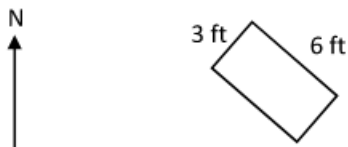
EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 11:40

WEATHER: Sunny 85°F
 TEST PIT LOCATION: Lot 10

DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Easy	Brown SILT and fine Sand, little gravel. Dry.	
2			
3			0.0
4			
5			
6			
7		End of test pit at 6 feet. No refusal.	
8			
9			
10			
11			
12			
13			
14			
15			
16			

NOTES: Test pit is approximately 40 feet west of TP-8a toward Irving Station.

TEST PIT DIMENSIONS AND ORIENTATION



EXCAVATION EFFORT

E = EASY
 M = MODERATE
 D = DIFFICULT

DEFINITIONS

PPMV = PARTS-PER-MILLION BY VOLUME
 = DEPTH OF WATER TABLE
 TRACE = 1 - 10%
 LITTLE = 10 - 20%
 SOME = 20 - 35 %
 AND = 35 - 50%



TEST PIT FIELD LOG

TEST PIT NO.: TP-8c

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

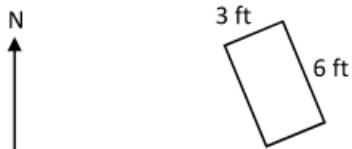
EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 11:50

WEATHER: Sunny 85°F
 TEST PIT LOCATION: Lot 10

DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Moderate	Brown SILT and fine Sand, some gravel. Concrete pieces and cinder blocks from 2 to 6 feet in north end of test pit. Dry.	
2			
3			0.0
4			
5			
6			
7		End of test pit at 6 feet. No refusal.	
8			
9			
10			
11			
12			
13			
14			
15			
16			

NOTES: Test pit is approximately 30 feet south of TP-8a toward property southern property corner.

TEST PIT DIMENSIONS AND ORIENTATION



EXCAVATION EFFORT

- E = EASY
- M = MODERATE
- D = DIFFICULT

DEFINITIONS

- PPMV = PARTS-PER-MILLION BY VOLUME
- = DEPTH OF WATER TABLE
- TRACE = 1 - 10%
- LITTLE = 10 - 20%
- SOME = 20 - 35 %
- AND = 35 - 50%



TEST PIT FIELD LOG

TEST PIT NO.: TP-9

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 12:15

WEATHER: Sunny 85°F
 TEST PIT LOCATION: Lot 12A
 behind building

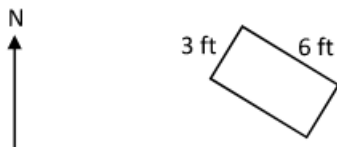
DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Easy	Brown fine SAND and Silt, little Gravel. Dry.	
2			0.0
3			
4		Grey SILT and CLAY. Wet at 5 feet.	
5			▼
6			0.0
7			
8		End of test pit at 7 feet.	
9			
10			
11			
12			
13			
14			
15			
16			

NOTES:

TEST PIT DIMENSIONS AND ORIENTATION

EXCAVATION EFFORT

DEFINITIONS



E = EASY
 M = MODERATE
 D = DIFFICULT

PPMV = PARTS-PER-MILLION BY VOLUME
 ▼ = DEPTH OF WATER TABLE
 TRACE = 1 - 10%
 LITTLE = 10 - 20%
 SOME = 20 - 35 %
 AND = 35 - 50%



TEST PIT FIELD LOG

TEST PIT NO.: TP-10

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 12:30

WEATHER: Sunny 85°F
 TEST PIT LOCATION: Lot 12A

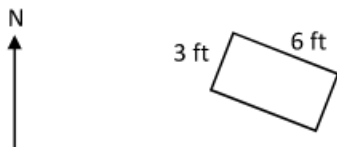
DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Easy	Brown fine to coarse SAND, some Gravel. Dry.	
2			0.0
3			
4		Brown-grey SILT and CLAY. Wet at 5 feet.	
5			▼
6			0.0
7			
8		End of test pit at 7 feet.	
9			
10			
11			
12			
13			
14			
15			
16			

NOTES:

TEST PIT DIMENSIONS AND ORIENTATION

EXCAVATION EFFORT

DEFINITIONS



E = EASY
 M = MODERATE
 D = DIFFICULT

PPMV = PARTS-PER-MILLION BY VOLUME
 ▼ = DEPTH OF WATER TABLE
 TRACE = 1 - 10%
 LITTLE = 10 - 20%
 SOME = 20 - 35 %
 AND = 35 - 50%



TEST PIT FIELD LOG

TEST PIT NO.: TP-11

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 12:45

WEATHER: Sunny 85°F
 TEST PIT LOCATION: Lot 12A

DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Easy	Brown fine to coarse SAND, some Gravel. Dry.	
2			0.0
3			
4		Brown-grey SILT and CLAY. Wet at 4 feet.	▼
5			
6			0.0
7			
8		End of test pit at 7 feet.	
9			
10			
11			
12			
13			
14			
15			
16			

NOTES:

TEST PIT DIMENSIONS AND ORIENTATION

EXCAVATION EFFORT

DEFINITIONS



E = EASY
 M = MODERATE
 D = DIFFICULT

PPMV = PARTS-PER-MILLION BY VOLUME
 ▼ = DEPTH OF WATER TABLE
 TRACE = 1 - 10%
 LITTLE = 10 - 20%
 SOME = 20 - 35 %
 AND = 35 - 50%



TEST PIT FIELD LOG

TEST PIT NO.: TP-12

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

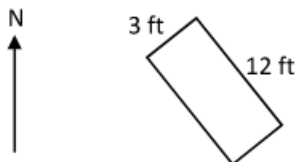
EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 13:30

WEATHER: Sunny 85°F
 TEST PIT LOCATION: Lot 12, NE area
 of property

DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Easy	Brown SAND and Gravel. Dry.	
2			
3			
4		Brown-grey silty CLAY.	
5			
6		End of test pit at 5 feet.	
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

NOTES: Test pit completed to investigate potential underground drainage from west to east. No culvert found in 12-foot long test pit perpendicular to where "stream" is depicted on 2007 Site Plan for H. Patten.

TEST PIT DIMENSIONS AND ORIENTATION



EXCAVATION EFFORT

E = EASY
 M = MODERATE
 D = DIFFICULT

DEFINITIONS

PPMV = PARTS-PER-MILLION BY VOLUME
 = DEPTH OF WATER TABLE
 TRACE = 1 - 10%
 LITTLE = 10 - 20%
 SOME = 20 - 35 %
 AND = 35 - 50%



TEST PIT FIELD LOG

TEST PIT NO.: TP-13

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 14:00

WEATHER: Sunny 85°F
 TEST PIT LOCATION: Lot 12, 20 feet
 N of TP-6a

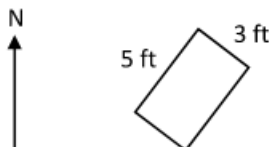
DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Easy	Dark brown fine to coarse SAND and Gravel. Wet at 4 feet. Asphalt chunks from 3 to 5 feet.	
2			
3			
4			▼ 0.0
5			
6		End of test pit at 5 feet.	
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

NOTES:

TEST PIT DIMENSIONS AND ORIENTATION

EXCAVATION EFFORT

DEFINITIONS



E = EASY
 M = MODERATE
 D = DIFFICULT

PPMV = PARTS-PER-MILLION BY VOLUME
 ▼ = DEPTH OF WATER TABLE
 TRACE = 1 - 10%
 LITTLE = 10 - 20%
 SOME = 20 - 35 %
 AND = 35 - 50%



TEST PIT FIELD LOG

TEST PIT NO.: TP-14

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 14:15

WEATHER: Sunny 85°F
 TEST PIT LOCATION: Lot 12, 20 feet
 NW of TP-6b

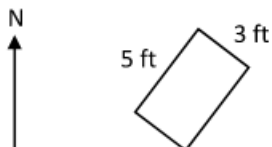
DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Easy	Brown fine to coarse SAND and Gravel. Dry.	
2			
3			0.0
4			
5			
6		End of test pit at 5 feet.	
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

NOTES:

TEST PIT DIMENSIONS AND ORIENTATION

EXCAVATION EFFORT

DEFINITIONS



E = EASY
 M = MODERATE
 D = DIFFICULT

PPMV = PARTS-PER-MILLION BY VOLUME
 = DEPTH OF WATER TABLE
 TRACE = 1 - 10%
 LITTLE = 10 - 20%
 SOME = 20 - 35 %
 AND = 35 - 50%



TEST PIT FIELD LOG

TEST PIT NO.: TP-15

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 14:30

WEATHER: Sunny 85°F
 TEST PIT LOCATION: Lot 12, 20 feet
 SW of TP-6b

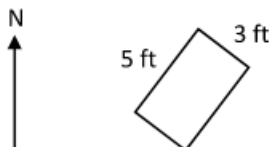
DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Easy	Brown SAND and Silt and bricks and concrete chunks. Dry.	
2			
3			0.0
4			
5			
6		End of test pit at 5 feet.	
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

NOTES:

TEST PIT DIMENSIONS AND ORIENTATION

EXCAVATION EFFORT

DEFINITIONS



E = EASY
 M = MODERATE
 D = DIFFICULT

PPMV = PARTS-PER-MILLION BY VOLUME
 = DEPTH OF WATER TABLE
 TRACE = 1 - 10%
 LITTLE = 10 - 20%
 SOME = 20 - 35 %
 AND = 35 - 50%



TEST PIT FIELD LOG

TEST PIT NO.: TP-16

SITE NAME: Tax Map 14, Lots 10, 12, 12A
 SITE ADDRESS: Old Post Road & Route 1 Bypass
 Kittery, ME

PROJECT NO.: 22053
 PREPARED BY: MC
 CHECKED BY: CT

CONTRACTOR: Green Site Services Grp.
 OPERATOR: Brandon Hallosey
 GEOLOGIST: Chad Tomforde, PG

EQUIPMENT: Mini Excavator
 CAPACITY AND REACH: 8 foot reach
 DATE: 7/27/22 TIME: 14:45

WEATHER: Sunny 85°F
 TEST PIT LOCATION: Lot 12, W-SW
 TP-6b

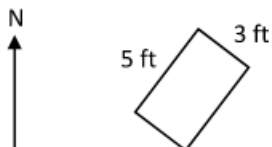
DEPTH (FEET)	EXCAVATION EFFORT	SAMPLE DESCRIPTION	FIELD SCREENING (PPMV)
1	Easy	Brown SAND. Dry.	
2		Brown SAND mixed with bricks and concrete. Dry.	
3			0.0
4			
5			
6			End of test pit at 5 feet.
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

NOTES:

TEST PIT DIMENSIONS AND ORIENTATION

EXCAVATION EFFORT

DEFINITIONS



E = EASY
 M = MODERATE
 D = DIFFICULT

PPMV = PARTS-PER-MILLION BY VOLUME
 = DEPTH OF WATER TABLE
 TRACE = 1 - 10%
 LITTLE = 10 - 20%
 SOME = 20 - 35 %
 AND = 35 - 50%

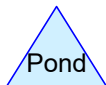
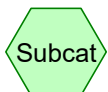
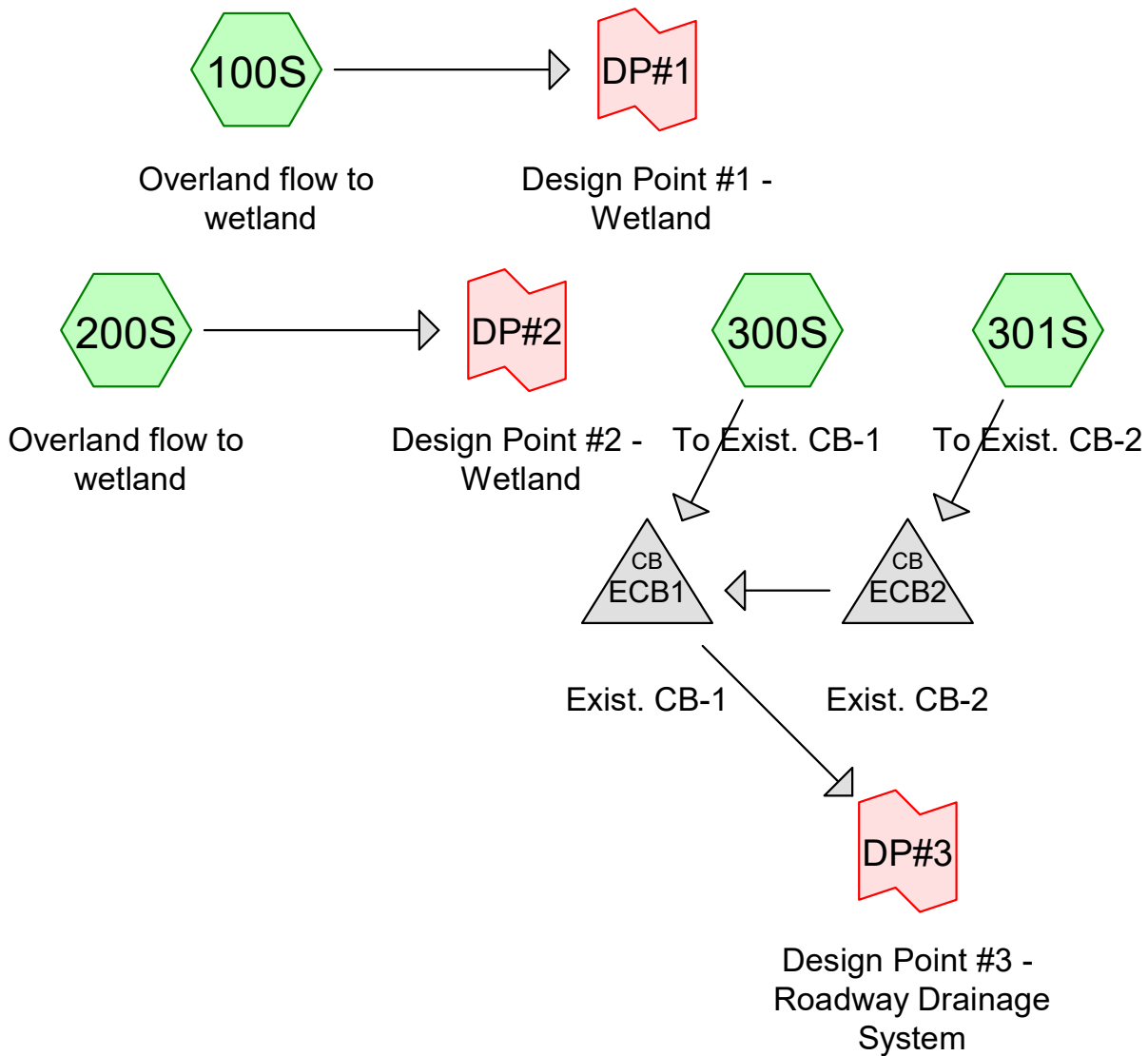
Stormwater Management Report

Kittery Circle, LLC, Kittery, Maine

August 17, 2023

APPENDIX D

Pre-Development HydroCAD Computations



2200380 Pre-Development

Prepared by Greenman-Pedersen, Inc
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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.055	74	>75% Grass cover, Good, HSG C (100S, 200S, 300S, 301S)
1.661	65	Brush, Good, HSG C (100S, 200S, 300S, 301S)
1.781	98	Paved parking, HSG C (100S, 300S, 301S)
0.163	98	Roofs, HSG C (100S, 200S, 300S)
0.577	70	Woods, Good, HSG C (100S, 200S, 300S)
0.836	72	Woods/grass comb., Good, HSG C (100S, 200S, 300S, 301S)
6.073	79	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
6.073	HSG C	100S, 200S, 300S, 301S
0.000	HSG D	
0.000	Other	
6.073		TOTAL AREA

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 Page 4

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	1.055	0.000	0.000	1.055	>75% Grass cover, Good	100S, 200S, 300S, 301S
0.000	0.000	1.661	0.000	0.000	1.661	Brush, Good	100S, 200S, 300S, 301S
0.000	0.000	1.781	0.000	0.000	1.781	Paved parking	100S, 300S, 301S
0.000	0.000	0.163	0.000	0.000	0.163	Roofs	100S, 200S, 300S
0.000	0.000	0.577	0.000	0.000	0.577	Woods, Good	100S, 200S, 300S
0.000	0.000	0.836	0.000	0.000	0.836	Woods/grass comb., Good	100S, 200S, 300S, 301S
0.000	0.000	6.073	0.000	0.000	6.073	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	ECB1	25.50	25.40	39.0	0.0026	0.012	0.0	30.0	0.0
2	ECB2	26.30	25.60	53.0	0.0132	0.012	0.0	12.0	0.0

2200380 Pre-Development

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Kittery Circle LLC - Kittery, ME

Type III 24-hr 2-year Rainfall=3.30"

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Page 1

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 100S: Overland flow to Runoff Area=2.193 ac 53.48% Impervious Runoff Depth=2.09"
Flow Length=505' Tc=7.4 min CN=WQ Runoff=4.58 cfs 0.381 af

Subcatchment 200S: Overland flow to Runoff Area=0.352 ac 5.83% Impervious Runoff Depth=1.01"
Flow Length=298' Tc=8.5 min CN=WQ Runoff=0.34 cfs 0.030 af

Subcatchment 300S: To Exist. CB-1 Runoff Area=2.483 ac 21.22% Impervious Runoff Depth=1.28"
Flow Length=907' Tc=20.0 min CN=WQ Runoff=2.19 cfs 0.264 af

Subcatchment 301S: To Exist. CB-2 Runoff Area=1.044 ac 21.37% Impervious Runoff Depth=1.38"
Flow Length=255' Tc=8.7 min CN=WQ Runoff=1.39 cfs 0.120 af

Pond ECB1: Exist. CB-1 Peak Elev=26.35' Inflow=3.08 cfs 0.385 af
30.0" Round Culvert n=0.012 L=39.0' S=0.0026 '/ Outflow=3.08 cfs 0.385 af

Pond ECB2: Exist. CB-2 Peak Elev=26.94' Inflow=1.39 cfs 0.120 af
12.0" Round Culvert n=0.012 L=53.0' S=0.0132 '/ Outflow=1.39 cfs 0.120 af

Link DP#1: Design Point #1 - Wetland Inflow=4.58 cfs 0.381 af
Primary=4.58 cfs 0.381 af

Link DP#2: Design Point #2 - Wetland Inflow=0.34 cfs 0.030 af
Primary=0.34 cfs 0.030 af

Link DP#3: Design Point #3 - Roadway Drainage System Inflow=3.08 cfs 0.385 af
Primary=3.08 cfs 0.385 af

Total Runoff Area = 6.073 ac Runoff Volume = 0.795 af Average Runoff Depth = 1.57"
68.00% Pervious = 4.129 ac 32.00% Impervious = 1.943 ac

2200380 Pre-Development

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Kittery Circle LLC - Kittery, ME
Type III 24-hr 10-year Rainfall=4.90"

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Page 2

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 100S: Overland flow to Runoff Area=2.193 ac 53.48% Impervious Runoff Depth=3.45"
Flow Length=505' Tc=7.4 min CN=WQ Runoff=7.66 cfs 0.631 af

Subcatchment 200S: Overland flow to Runoff Area=0.352 ac 5.83% Impervious Runoff Depth=2.11"
Flow Length=298' Tc=8.5 min CN=WQ Runoff=0.77 cfs 0.062 af

Subcatchment 300S: To Exist. CB-1 Runoff Area=2.483 ac 21.22% Impervious Runoff Depth=2.42"
Flow Length=907' Tc=20.0 min CN=WQ Runoff=4.40 cfs 0.500 af

Subcatchment 301S: To Exist. CB-2 Runoff Area=1.044 ac 21.37% Impervious Runoff Depth=2.58"
Flow Length=255' Tc=8.7 min CN=WQ Runoff=2.70 cfs 0.225 af

Pond ECB1: Exist. CB-1 Peak Elev=26.73' Inflow=6.14 cfs 0.725 af
30.0" Round Culvert n=0.012 L=39.0' S=0.0026 '/ Outflow=6.14 cfs 0.725 af

Pond ECB2: Exist. CB-2 Peak Elev=27.34' Inflow=2.70 cfs 0.225 af
12.0" Round Culvert n=0.012 L=53.0' S=0.0132 '/ Outflow=2.70 cfs 0.225 af

Link DP#1: Design Point #1 - Wetland Inflow=7.66 cfs 0.631 af
Primary=7.66 cfs 0.631 af

Link DP#2: Design Point #2 - Wetland Inflow=0.77 cfs 0.062 af
Primary=0.77 cfs 0.062 af

Link DP#3: Design Point #3 - Roadway Drainage System Inflow=6.14 cfs 0.725 af
Primary=6.14 cfs 0.725 af

Total Runoff Area = 6.073 ac Runoff Volume = 1.418 af Average Runoff Depth = 2.80"
68.00% Pervious = 4.129 ac 32.00% Impervious = 1.943 ac

2200380 Pre-Development

Prepared by Greenman-Pedersen, Inc

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Kittery Circle LLC - Kittery, ME
Type III 24-hr 25-year Rainfall=6.20"

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Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 100S: Overland flow to Runoff Area=2.193 ac 53.48% Impervious Runoff Depth=4.62"
Flow Length=505' Tc=7.4 min CN=WQ Runoff=10.29 cfs 0.845 af

Subcatchment 200S: Overland flow to Runoff Area=0.352 ac 5.83% Impervious Runoff Depth=3.12"
Flow Length=298' Tc=8.5 min CN=WQ Runoff=1.16 cfs 0.092 af

Subcatchment 300S: To Exist. CB-1 Runoff Area=2.483 ac 21.22% Impervious Runoff Depth=3.45"
Flow Length=907' Tc=20.0 min CN=WQ Runoff=6.40 cfs 0.714 af

Subcatchment 301S: To Exist. CB-2 Runoff Area=1.044 ac 21.37% Impervious Runoff Depth=3.65"
Flow Length=255' Tc=8.7 min CN=WQ Runoff=3.87 cfs 0.318 af

Pond ECB1: Exist. CB-1 Peak Elev=27.02' Inflow=8.90 cfs 1.032 af
30.0" Round Culvert n=0.012 L=39.0' S=0.0026 '/' Outflow=8.90 cfs 1.032 af

Pond ECB2: Exist. CB-2 Peak Elev=28.04' Inflow=3.87 cfs 0.318 af
12.0" Round Culvert n=0.012 L=53.0' S=0.0132 '/' Outflow=3.87 cfs 0.318 af

Link DP#1: Design Point #1 - Wetland Inflow=10.29 cfs 0.845 af
Primary=10.29 cfs 0.845 af

Link DP#2: Design Point #2 - Wetland Inflow=1.16 cfs 0.092 af
Primary=1.16 cfs 0.092 af

Link DP#3: Design Point #3 - Roadway Drainage System Inflow=8.90 cfs 1.032 af
Primary=8.90 cfs 1.032 af

Total Runoff Area = 6.073 ac Runoff Volume = 1.969 af Average Runoff Depth = 3.89"
68.00% Pervious = 4.129 ac 32.00% Impervious = 1.943 ac

2200380 Pre-Development

Prepared by Greenman-Pedersen, Inc

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Kittery Circle LLC - Kittery, ME
Type III 24-hr 25-year Rainfall=6.20"

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Summary for Subcatchment 100S: Overland flow to wetland

Runoff = 10.29 cfs @ 12.10 hrs, Volume= 0.845 af, Depth= 4.62"
Routed to Link DP#1 : Design Point #1 - Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.455	74	>75% Grass cover, Good, HSG C
0.143	65	Brush, Good, HSG C
1.097	98	Paved parking, HSG C
0.076	98	Roofs, HSG C
0.361	70	Woods, Good, HSG C
0.061	72	Woods/grass comb., Good, HSG C
2.193		Weighted Average
1.020		46.52% Pervious Area
1.173		53.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	25	0.0300	0.15		Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
1.3	94	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.3	266	0.0300	3.52		Shallow Concentrated Flow, Paved Kv= 20.3 fps
2.1	111	0.0300	0.87		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.0	9	0.6670	5.72		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.4	505	Total			

Summary for Subcatchment 200S: Overland flow to wetland

Runoff = 1.16 cfs @ 12.12 hrs, Volume= 0.092 af, Depth= 3.12"
Routed to Link DP#2 : Design Point #2 - Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.075	74	>75% Grass cover, Good, HSG C
0.123	65	Brush, Good, HSG C
0.021	98	Roofs, HSG C
0.018	70	Woods, Good, HSG C
0.115	72	Woods/grass comb., Good, HSG C
0.352		Weighted Average
0.331		94.17% Pervious Area
0.021		5.83% Impervious Area

2200380 Pre-Development

Prepared by Greenman-Pedersen, Inc

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Kittery Circle LLC - Kittery, ME

Type III 24-hr 25-year Rainfall=6.20"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	25	0.0800	0.10		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
3.2	164	0.0300	0.87		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.3	109	0.0800	1.41		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.5	298	Total			

Summary for Subcatchment 300S: To Exist. CB-1

Runoff = 6.40 cfs @ 12.28 hrs, Volume= 0.714 af, Depth= 3.45"
Routed to Pond ECB1 : Exist. CB-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.217	74	>75% Grass cover, Good, HSG C
1.138	65	Brush, Good, HSG C
0.460	98	Paved parking, HSG C
0.067	98	Roofs, HSG C
0.197	70	Woods, Good, HSG C
0.404	72	Woods/grass comb., Good, HSG C
2.483		Weighted Average
1.956		78.78% Pervious Area
0.527		21.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	25	0.0300	0.07		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
12.7	658	0.0300	0.87		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.4	224	0.0170	2.65		Shallow Concentrated Flow, Paved Kv= 20.3 fps
20.0	907	Total			

Summary for Subcatchment 301S: To Exist. CB-2

Runoff = 3.87 cfs @ 12.12 hrs, Volume= 0.318 af, Depth= 3.65"
Routed to Pond ECB2 : Exist. CB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=6.20"

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Area (ac)	CN	Description
0.308	74	>75% Grass cover, Good, HSG C
0.258	65	Brush, Good, HSG C
0.223	98	Paved parking, HSG C
0.255	72	Woods/grass comb., Good, HSG C
1.044		Weighted Average
0.821		78.63% Pervious Area
0.223		21.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	25	0.0430	0.08		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
3.6	225	0.0430	1.04		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.0	5	0.0300	3.52		Shallow Concentrated Flow, Paved Kv= 20.3 fps
8.7	255	Total			

Summary for Pond ECB1: Exist. CB-1

Inflow Area = 3.527 ac, 21.26% Impervious, Inflow Depth = 3.51" for 25-year event
 Inflow = 8.90 cfs @ 12.20 hrs, Volume= 1.032 af
 Outflow = 8.90 cfs @ 12.20 hrs, Volume= 1.032 af, Atten= 0%, Lag= 0.0 min
 Primary = 8.90 cfs @ 12.20 hrs, Volume= 1.032 af
 Routed to Link DP#3 : Design Point #3 - Roadway Drainage System

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 27.02' @ 12.20 hrs
 Flood Elev= 30.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.50'	30.0" Round Culvert L= 39.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.50' / 25.40' S= 0.0026' /' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 4.91 sf

Primary OutFlow Max=8.90 cfs @ 12.20 hrs HW=27.02' TW=0.00' (Dynamic Tailwater)
 ↑**1=Culvert** (Barrel Controls 8.90 cfs @ 4.10 fps)

Summary for Pond ECB2: Exist. CB-2

Inflow Area = 1.044 ac, 21.37% Impervious, Inflow Depth = 3.65" for 25-year event
 Inflow = 3.87 cfs @ 12.12 hrs, Volume= 0.318 af
 Outflow = 3.87 cfs @ 12.12 hrs, Volume= 0.318 af, Atten= 0%, Lag= 0.0 min
 Primary = 3.87 cfs @ 12.12 hrs, Volume= 0.318 af
 Routed to Pond ECB1 : Exist. CB-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

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Type III 24-hr 25-year Rainfall=6.20"

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Peak Elev= 28.04' @ 12.13 hrs

Flood Elev= 29.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.30'	12.0" Round Culvert L= 53.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 26.30' / 25.60' S= 0.0132 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.83 cfs @ 12.12 hrs HW=28.02' TW=26.95' (Dynamic Tailwater)

←1=Culvert (Outlet Controls 3.83 cfs @ 4.87 fps)

Summary for Link DP#1: Design Point #1 - Wetland

Inflow Area = 2.193 ac, 53.48% Impervious, Inflow Depth = 4.62" for 25-year event
Inflow = 10.29 cfs @ 12.10 hrs, Volume= 0.845 af
Primary = 10.29 cfs @ 12.10 hrs, Volume= 0.845 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Link DP#2: Design Point #2 - Wetland

Inflow Area = 0.352 ac, 5.83% Impervious, Inflow Depth = 3.12" for 25-year event
Inflow = 1.16 cfs @ 12.12 hrs, Volume= 0.092 af
Primary = 1.16 cfs @ 12.12 hrs, Volume= 0.092 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Link DP#3: Design Point #3 - Roadway Drainage System

Inflow Area = 3.527 ac, 21.26% Impervious, Inflow Depth = 3.51" for 25-year event
Inflow = 8.90 cfs @ 12.20 hrs, Volume= 1.032 af
Primary = 8.90 cfs @ 12.20 hrs, Volume= 1.032 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

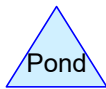
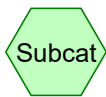
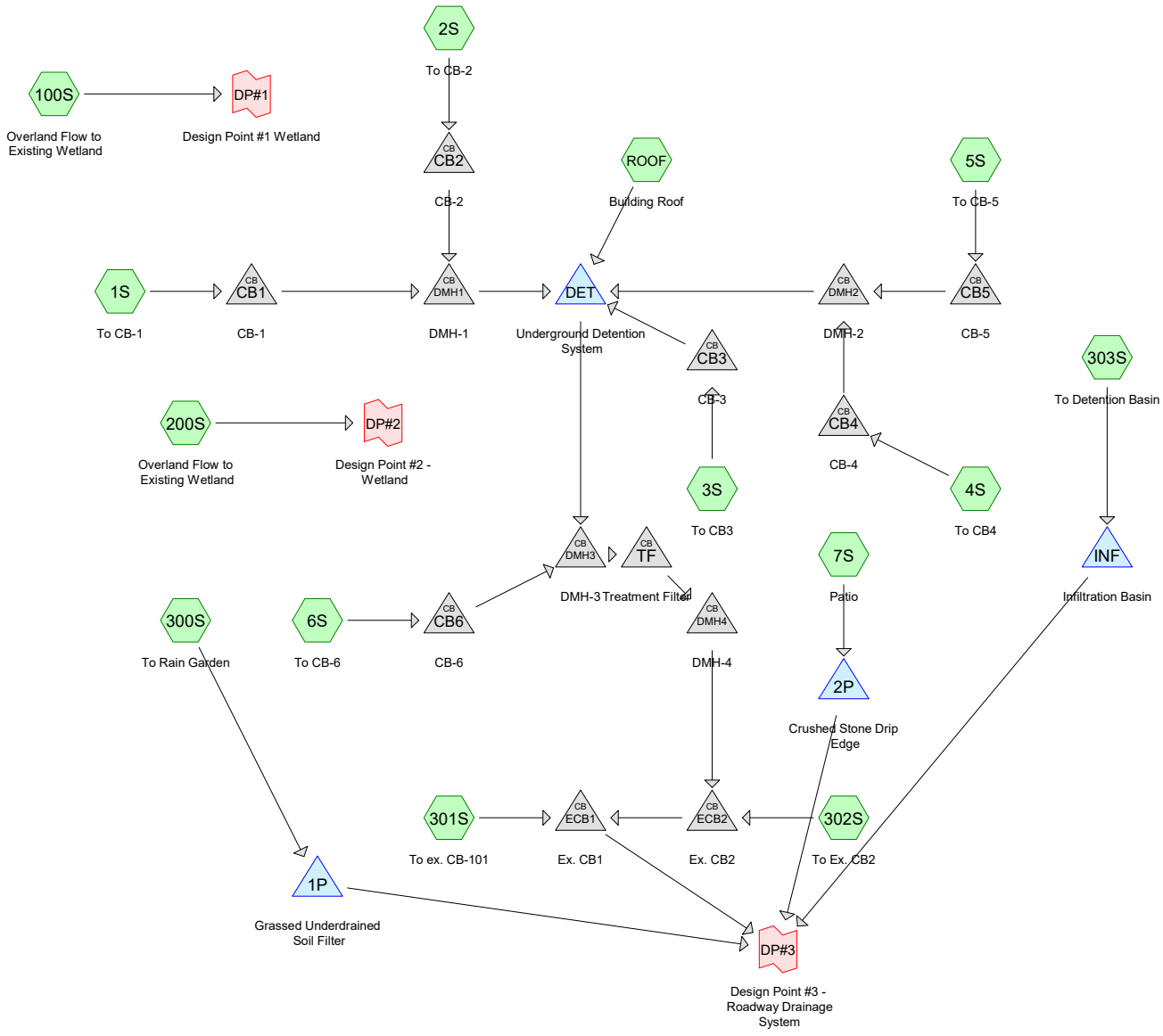
Stormwater Management Report

Kittery Circle, LLC, Kittery, Maine

August 17, 2023

APPENDIX E

Post-Development HydroCAD Computations



Routing Diagram for 2200380 Post-Development
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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.848	74	>75% Grass cover, Good, HSG C (1S, 2S, 3S, 4S, 5S, 100S, 200S, 300S, 301S, 302S, 303S)
0.262	65	Brush, Good, HSG C (1S, 100S, 200S, 300S, 303S)
2.713	98	Paved parking, HSG C (1S, 2S, 3S, 4S, 5S, 6S, 7S, 100S, 200S, 300S, 301S, 302S, 303S)
0.470	98	Roofs, HSG C (1S, 100S, 200S, 300S, ROOF)
0.577	70	Woods, Good, HSG C (1S, 100S, 200S, 300S)
0.204	72	Woods/grass comb., Good, HSG C (1S, 200S, 300S, 302S)
6.073	86	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
6.073	HSG C	1S, 2S, 3S, 4S, 5S, 6S, 7S, 100S, 200S, 300S, 301S, 302S, 303S, ROOF
0.000	HSG D	
0.000	Other	
6.073		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	1.848	0.000	0.000	1.848	>75% Grass cover, Good	1S, 2S, 3S, 4S, 5S, 100S, 200S, 300S, 301S, 302S, 303S
0.000	0.000	0.262	0.000	0.000	0.262	Brush, Good	1S, 100S, 200S, 300S, 303S
0.000	0.000	2.713	0.000	0.000	2.713	Paved parking	1S, 2S, 3S, 4S, 5S, 6S, 7S, 100S, 200S, 300S, 301S, 302S, 303S
0.000	0.000	0.470	0.000	0.000	0.470	Roofs	1S, 100S, 200S, 300S, ROOF
0.000	0.000	0.577	0.000	0.000	0.577	Woods, Good	1S, 100S, 200S, 300S
0.000	0.000	0.204	0.000	0.000	0.204	Woods/grass comb., Good	1S, 200S, 300S, 302S

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Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	6.073	0.000	0.000	6.073	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	CB1	34.05	31.10	90.0	0.0328	0.012	0.0	12.0	0.0
2	CB2	31.20	31.10	7.0	0.0143	0.012	0.0	12.0	0.0
3	CB3	29.80	29.68	6.0	0.0200	0.012	0.0	10.0	0.0
4	CB4	30.80	30.60	12.0	0.0167	0.012	0.0	12.0	0.0
5	CB5	30.80	29.80	82.0	0.0122	0.012	0.0	12.0	0.0
6	CB6	30.15	30.05	9.0	0.0111	0.012	0.0	12.0	0.0
7	DET	28.85	28.30	116.0	0.0047	0.012	0.0	12.0	0.0
8	DMH1	30.85	30.70	11.0	0.0136	0.012	0.0	15.0	0.0
9	DMH2	29.55	29.48	8.0	0.0088	0.012	0.0	15.0	0.0
10	DMH3	28.20	28.05	28.0	0.0054	0.012	0.0	12.0	0.0
11	DMH4	26.60	26.50	10.0	0.0100	0.012	0.0	12.0	0.0
12	ECB1	25.50	25.40	39.0	0.0026	0.012	0.0	30.0	0.0
13	ECB2	26.30	25.60	53.0	0.0132	0.012	0.0	12.0	0.0
14	TF	27.55	26.70	175.0	0.0049	0.012	0.0	12.0	0.0

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Kittery Circle LLC - Kittery, ME

Type III 24-hr 2-year Rainfall=3.30"

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Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: To CB-1	Runoff Area=0.478 ac 22.31% Impervious Runoff Depth=1.39" Flow Length=381' Tc=11.5 min CN=WQ Runoff=0.58 cfs 0.056 af
Subcatchment 2S: To CB-2	Runoff Area=0.228 ac 99.40% Impervious Runoff Depth=3.06" Flow Length=164' Slope=0.0400 '/' Tc=0.9 min CN=WQ Runoff=0.87 cfs 0.058 af
Subcatchment 3S: To CB3	Runoff Area=0.316 ac 86.72% Impervious Runoff Depth=2.81" Flow Length=89' Slope=0.0400 '/' Tc=2.7 min CN=WQ Runoff=1.05 cfs 0.074 af
Subcatchment 4S: To CB4	Runoff Area=0.223 ac 78.52% Impervious Runoff Depth=2.65" Flow Length=100' Slope=0.0400 '/' Tc=2.7 min CN=WQ Runoff=0.70 cfs 0.049 af
Subcatchment 5S: To CB-5	Runoff Area=0.252 ac 76.23% Impervious Runoff Depth=2.60" Flow Length=88' Slope=0.0400 '/' Tc=2.1 min CN=WQ Runoff=0.79 cfs 0.055 af
Subcatchment 6S: To CB-6	Runoff Area=0.056 ac 100.00% Impervious Runoff Depth=3.07" Flow Length=70' Slope=0.0400 '/' Tc=0.5 min CN=98 Runoff=0.22 cfs 0.014 af
Subcatchment 7S: Patio	Runoff Area=0.029 ac 100.00% Impervious Runoff Depth=3.07" Tc=1.0 min CN=98 Runoff=0.11 cfs 0.007 af
Subcatchment 100S: Overland Flow to	Runoff Area=2.108 ac 55.03% Impervious Runoff Depth=2.12" Flow Length=506' Tc=7.4 min CN=WQ Runoff=4.48 cfs 0.373 af
Subcatchment 200S: Overland Flow to	Runoff Area=0.272 ac 8.05% Impervious Runoff Depth=1.14" Flow Length=298' Tc=8.5 min CN=WQ Runoff=0.31 cfs 0.026 af
Subcatchment 300S: To Rain Garden	Runoff Area=0.297 ac 13.98% Impervious Runoff Depth=1.28" Tc=0.0 min CN=WQ Runoff=0.50 cfs 0.032 af
Subcatchment 301S: To ex. CB-101	Runoff Area=0.304 ac 55.70% Impervious Runoff Depth=2.20" Flow Length=211' Tc=4.0 min CN=WQ Runoff=0.76 cfs 0.056 af
Subcatchment 302S: To Ex. CB2	Runoff Area=0.449 ac 25.96% Impervious Runoff Depth=1.60" Flow Length=191' Slope=0.0500 '/' Tc=4.0 min CN=WQ Runoff=0.83 cfs 0.060 af
Subcatchment 303S: To Detention Basin	Runoff Area=0.739 ac 39.54% Impervious Runoff Depth=1.88" Flow Length=381' Slope=0.0170 '/' Tc=9.9 min CN=WQ Runoff=1.30 cfs 0.116 af
Subcatchment ROOF: Building Roof	Runoff Area=0.323 ac 100.00% Impervious Runoff Depth=3.07" Tc=0.0 min CN=98 Runoff=1.26 cfs 0.083 af
Pond 1P: Grassed Underdrained Soil Filter	Peak Elev=33.00' Storage=1 cf Inflow=0.50 cfs 0.032 af Outflow=0.48 cfs 0.032 af
Pond 2P: Crushed Stone Drip Edge	Peak Elev=34.53' Storage=85 cf Inflow=0.11 cfs 0.007 af Discarded=0.02 cfs 0.007 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.007 af

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Type III 24-hr 2-year Rainfall=3.30"

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Pond CB1: CB-1	Peak Elev=34.43'	Inflow=0.58 cfs	0.056 af
12.0" Round Culvert n=0.012 L=90.0' S=0.0328 '/	Outflow=0.58 cfs	0.056 af	
Pond CB2: CB-2	Peak Elev=31.74'	Inflow=0.87 cfs	0.058 af
12.0" Round Culvert n=0.012 L=7.0' S=0.0143 '/	Outflow=0.87 cfs	0.058 af	
Pond CB3: CB-3	Peak Elev=30.61'	Inflow=1.05 cfs	0.074 af
10.0" Round Culvert n=0.012 L=6.0' S=0.0200 '/	Outflow=1.05 cfs	0.074 af	
Pond CB4: CB-4	Peak Elev=31.23'	Inflow=0.70 cfs	0.049 af
12.0" Round Culvert n=0.012 L=12.0' S=0.0167 '/	Outflow=0.70 cfs	0.049 af	
Pond CB5: CB-5	Peak Elev=31.25'	Inflow=0.79 cfs	0.055 af
12.0" Round Culvert n=0.012 L=82.0' S=0.0122 '/	Outflow=0.79 cfs	0.055 af	
Pond CB6: CB-6	Peak Elev=30.40'	Inflow=0.22 cfs	0.014 af
12.0" Round Culvert n=0.012 L=9.0' S=0.0111 '/	Outflow=0.22 cfs	0.014 af	
Pond DET: Underground Detention System	Peak Elev=30.61'	Storage=0.160 af	Inflow=4.69 cfs 0.374 af
			Outflow=1.23 cfs 0.371 af
Pond DMH1: DMH-1	Peak Elev=31.40'	Inflow=1.14 cfs	0.114 af
15.0" Round Culvert n=0.012 L=11.0' S=0.0136 '/	Outflow=1.14 cfs	0.114 af	
Pond DMH2: DMH-2	Peak Elev=30.61'	Inflow=1.48 cfs	0.104 af
15.0" Round Culvert n=0.012 L=8.0' S=0.0088 '/	Outflow=1.48 cfs	0.104 af	
Pond DMH3: DMH-3	Peak Elev=28.90'	Inflow=1.27 cfs	0.385 af
12.0" Round Culvert n=0.012 L=28.0' S=0.0054 '/	Outflow=1.27 cfs	0.385 af	
Pond DMH4: DMH-4	Peak Elev=27.28'	Inflow=1.27 cfs	0.385 af
12.0" Round Culvert n=0.012 L=10.0' S=0.0100 '/	Outflow=1.27 cfs	0.385 af	
Pond ECB1: Ex. CB1	Peak Elev=26.28'	Inflow=2.59 cfs	0.501 af
30.0" Round Culvert n=0.012 L=39.0' S=0.0026 '/	Outflow=2.59 cfs	0.501 af	
Pond ECB2: Ex. CB2	Peak Elev=27.04'	Inflow=1.84 cfs	0.445 af
12.0" Round Culvert n=0.012 L=53.0' S=0.0132 '/	Outflow=1.84 cfs	0.445 af	
Pond INF: Infiltration Basin	Peak Elev=31.96'	Storage=1,902 cf	Inflow=1.30 cfs 0.116 af
	Discarded=0.13 cfs 0.116 af	Primary=0.00 cfs 0.000 af	Outflow=0.13 cfs 0.116 af
Pond TF: Treatment Filter	Peak Elev=28.23'	Inflow=1.27 cfs	0.385 af
12.0" Round Culvert n=0.012 L=175.0' S=0.0049 '/	Outflow=1.27 cfs	0.385 af	
Link DP#1: Design Point #1 Wetland		Inflow=4.48 cfs	0.373 af
		Primary=4.48 cfs	0.373 af
Link DP#2: Design Point #2 - Wetland		Inflow=0.31 cfs	0.026 af
		Primary=0.31 cfs	0.026 af

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Type III 24-hr 2-year Rainfall=3.30"

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Link DP#3: Design Point #3 - Roadway Drainage System

Inflow=2.93 cfs 0.532 af
Primary=2.93 cfs 0.532 af

Total Runoff Area = 6.073 ac Runoff Volume = 1.057 af Average Runoff Depth = 2.09"
47.59% Pervious = 2.890 ac 52.41% Impervious = 3.183 ac

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Kittery Circle LLC - Kittery, ME

Type III 24-hr 10-year Rainfall=4.90"

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Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: To CB-1	Runoff Area=0.478 ac 22.31% Impervious Runoff Depth=2.59" Flow Length=381' Tc=11.5 min CN=WQ Runoff=1.14 cfs 0.103 af
Subcatchment 2S: To CB-2	Runoff Area=0.228 ac 99.40% Impervious Runoff Depth=4.65" Flow Length=164' Slope=0.0400 '/' Tc=0.9 min CN=WQ Runoff=1.30 cfs 0.088 af
Subcatchment 3S: To CB3	Runoff Area=0.316 ac 86.72% Impervious Runoff Depth=4.35" Flow Length=89' Slope=0.0400 '/' Tc=2.7 min CN=WQ Runoff=1.60 cfs 0.114 af
Subcatchment 4S: To CB4	Runoff Area=0.223 ac 78.52% Impervious Runoff Depth=4.15" Flow Length=100' Slope=0.0400 '/' Tc=2.7 min CN=WQ Runoff=1.09 cfs 0.077 af
Subcatchment 5S: To CB-5	Runoff Area=0.252 ac 76.23% Impervious Runoff Depth=4.10" Flow Length=88' Slope=0.0400 '/' Tc=2.1 min CN=WQ Runoff=1.24 cfs 0.086 af
Subcatchment 6S: To CB-6	Runoff Area=0.056 ac 100.00% Impervious Runoff Depth=4.66" Flow Length=70' Slope=0.0400 '/' Tc=0.5 min CN=98 Runoff=0.33 cfs 0.022 af
Subcatchment 7S: Patio	Runoff Area=0.029 ac 100.00% Impervious Runoff Depth=4.66" Tc=1.0 min CN=98 Runoff=0.17 cfs 0.011 af
Subcatchment 100S: Overland Flow to	Runoff Area=2.108 ac 55.03% Impervious Runoff Depth=3.50" Flow Length=506' Tc=7.4 min CN=WQ Runoff=7.46 cfs 0.615 af
Subcatchment 200S: Overland Flow to	Runoff Area=0.272 ac 8.05% Impervious Runoff Depth=2.30" Flow Length=298' Tc=8.5 min CN=WQ Runoff=0.65 cfs 0.052 af
Subcatchment 300S: To Rain Garden	Runoff Area=0.297 ac 13.98% Impervious Runoff Depth=2.47" Tc=0.0 min CN=WQ Runoff=1.01 cfs 0.061 af
Subcatchment 301S: To ex. CB-101	Runoff Area=0.304 ac 55.70% Impervious Runoff Depth=3.61" Flow Length=211' Tc=4.0 min CN=WQ Runoff=1.25 cfs 0.091 af
Subcatchment 302S: To Ex. CB2	Runoff Area=0.449 ac 25.96% Impervious Runoff Depth=2.88" Flow Length=191' Slope=0.0500 '/' Tc=4.0 min CN=WQ Runoff=1.54 cfs 0.108 af
Subcatchment 303S: To Detention Basin	Runoff Area=0.739 ac 39.54% Impervious Runoff Depth=3.22" Flow Length=381' Slope=0.0170 '/' Tc=9.9 min CN=WQ Runoff=2.27 cfs 0.198 af
Subcatchment ROOF: Building Roof	Runoff Area=0.323 ac 100.00% Impervious Runoff Depth=4.66" Tc=0.0 min CN=98 Runoff=1.89 cfs 0.125 af
Pond 1P: Grassed Underdrained Soil Filter	Peak Elev=33.32' Storage=97 cf Inflow=1.01 cfs 0.061 af Outflow=0.71 cfs 0.061 af
Pond 2P: Crushed Stone Drip Edge	Peak Elev=35.25' Storage=133 cf Inflow=0.17 cfs 0.011 af Discarded=0.03 cfs 0.011 af Primary=0.04 cfs 0.000 af Outflow=0.07 cfs 0.011 af

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Pond CB1: CB-1	Peak Elev=34.61' Inflow=1.14 cfs 0.103 af 12.0" Round Culvert n=0.012 L=90.0' S=0.0328 '/ Outflow=1.14 cfs 0.103 af
Pond CB2: CB-2	Peak Elev=31.88' Inflow=1.30 cfs 0.088 af 12.0" Round Culvert n=0.012 L=7.0' S=0.0143 '/ Outflow=1.30 cfs 0.088 af
Pond CB3: CB-3	Peak Elev=31.33' Inflow=1.60 cfs 0.114 af 10.0" Round Culvert n=0.012 L=6.0' S=0.0200 '/ Outflow=1.60 cfs 0.114 af
Pond CB4: CB-4	Peak Elev=31.37' Inflow=1.09 cfs 0.077 af 12.0" Round Culvert n=0.012 L=12.0' S=0.0167 '/ Outflow=1.09 cfs 0.077 af
Pond CB5: CB-5	Peak Elev=31.47' Inflow=1.24 cfs 0.086 af 12.0" Round Culvert n=0.012 L=82.0' S=0.0122 '/ Outflow=1.24 cfs 0.086 af
Pond CB6: CB-6	Peak Elev=30.46' Inflow=0.33 cfs 0.022 af 12.0" Round Culvert n=0.012 L=9.0' S=0.0111 '/ Outflow=0.33 cfs 0.022 af
Pond DET: Underground Detention System	Peak Elev=31.30' Storage=0.223 af Inflow=7.31 cfs 0.594 af Outflow=2.65 cfs 0.590 af
Pond DMH1: DMH-1	Peak Elev=31.59' Inflow=1.86 cfs 0.192 af 15.0" Round Culvert n=0.012 L=11.0' S=0.0136 '/ Outflow=1.86 cfs 0.192 af
Pond DMH2: DMH-2	Peak Elev=31.31' Inflow=2.32 cfs 0.163 af 15.0" Round Culvert n=0.012 L=8.0' S=0.0088 '/ Outflow=2.32 cfs 0.163 af
Pond DMH3: DMH-3	Peak Elev=29.78' Inflow=2.73 cfs 0.612 af 12.0" Round Culvert n=0.012 L=28.0' S=0.0054 '/ Outflow=2.73 cfs 0.612 af
Pond DMH4: DMH-4	Peak Elev=28.26' Inflow=2.73 cfs 0.612 af 12.0" Round Culvert n=0.012 L=10.0' S=0.0100 '/ Outflow=2.73 cfs 0.612 af
Pond ECB1: Ex. CB1	Peak Elev=26.62' Inflow=5.10 cfs 0.812 af 30.0" Round Culvert n=0.012 L=39.0' S=0.0026 '/ Outflow=5.10 cfs 0.812 af
Pond ECB2: Ex. CB2	Peak Elev=27.85' Inflow=3.87 cfs 0.720 af 12.0" Round Culvert n=0.012 L=53.0' S=0.0132 '/ Outflow=3.87 cfs 0.720 af
Pond INF: Infiltration Basin	Peak Elev=32.57' Storage=3,399 cf Inflow=2.27 cfs 0.198 af Discarded=0.15 cfs 0.181 af Primary=0.36 cfs 0.018 af Outflow=0.50 cfs 0.198 af
Pond TF: Treatment Filter	Peak Elev=29.26' Inflow=2.73 cfs 0.612 af 12.0" Round Culvert n=0.012 L=175.0' S=0.0049 '/ Outflow=2.73 cfs 0.612 af
Link DP#1: Design Point #1 Wetland	Inflow=7.46 cfs 0.615 af Primary=7.46 cfs 0.615 af
Link DP#2: Design Point #2 - Wetland	Inflow=0.65 cfs 0.052 af Primary=0.65 cfs 0.052 af

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Link DP#3: Design Point #3 - Roadway Drainage System

Inflow=5.81 cfs 0.891 af

Primary=5.81 cfs 0.891 af

Total Runoff Area = 6.073 ac Runoff Volume = 1.754 af Average Runoff Depth = 3.47"
47.59% Pervious = 2.890 ac 52.41% Impervious = 3.183 ac

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Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: To CB-1	Runoff Area=0.478 ac 22.31% Impervious Runoff Depth=3.67" Flow Length=381' Tc=11.5 min CN=WQ Runoff=1.63 cfs 0.146 af
Subcatchment 2S: To CB-2	Runoff Area=0.228 ac 99.40% Impervious Runoff Depth=5.95" Flow Length=164' Slope=0.0400 '/' Tc=0.9 min CN=WQ Runoff=1.65 cfs 0.113 af
Subcatchment 3S: To CB3	Runoff Area=0.316 ac 86.72% Impervious Runoff Depth=5.62" Flow Length=89' Slope=0.0400 '/' Tc=2.7 min CN=WQ Runoff=2.06 cfs 0.148 af
Subcatchment 4S: To CB4	Runoff Area=0.223 ac 78.52% Impervious Runoff Depth=5.40" Flow Length=100' Slope=0.0400 '/' Tc=2.7 min CN=WQ Runoff=1.41 cfs 0.100 af
Subcatchment 5S: To CB-5	Runoff Area=0.252 ac 76.23% Impervious Runoff Depth=5.34" Flow Length=88' Slope=0.0400 '/' Tc=2.1 min CN=WQ Runoff=1.61 cfs 0.112 af
Subcatchment 6S: To CB-6	Runoff Area=0.056 ac 100.00% Impervious Runoff Depth=5.96" Flow Length=70' Slope=0.0400 '/' Tc=0.5 min CN=98 Runoff=0.41 cfs 0.028 af
Subcatchment 7S: Patio	Runoff Area=0.029 ac 100.00% Impervious Runoff Depth=5.96" Tc=1.0 min CN=98 Runoff=0.21 cfs 0.014 af
Subcatchment 100S: Overland Flow to	Runoff Area=2.108 ac 55.03% Impervious Runoff Depth=4.68" Flow Length=506' Tc=7.4 min CN=WQ Runoff=9.99 cfs 0.822 af
Subcatchment 200S: Overland Flow to	Runoff Area=0.272 ac 8.05% Impervious Runoff Depth=3.35" Flow Length=298' Tc=8.5 min CN=WQ Runoff=0.96 cfs 0.076 af
Subcatchment 300S: To Rain Garden	Runoff Area=0.297 ac 13.98% Impervious Runoff Depth=3.54" Tc=0.0 min CN=WQ Runoff=1.46 cfs 0.088 af
Subcatchment 301S: To ex. CB-101	Runoff Area=0.304 ac 55.70% Impervious Runoff Depth=4.81" Flow Length=211' Tc=4.0 min CN=WQ Runoff=1.67 cfs 0.122 af
Subcatchment 302S: To Ex. CB2	Runoff Area=0.449 ac 25.96% Impervious Runoff Depth=4.01" Flow Length=191' Slope=0.0500 '/' Tc=4.0 min CN=WQ Runoff=2.15 cfs 0.150 af
Subcatchment 303S: To Detention Basin	Runoff Area=0.739 ac 39.54% Impervious Runoff Depth=4.38" Flow Length=381' Slope=0.0170 '/' Tc=9.9 min CN=WQ Runoff=3.10 cfs 0.270 af
Subcatchment ROOF: Building Roof	Runoff Area=0.323 ac 100.00% Impervious Runoff Depth=5.96" Tc=0.0 min CN=98 Runoff=2.39 cfs 0.160 af
Pond 1P: Grassed Underdrained Soil Filter	Peak Elev=33.71' Storage=216 cf Inflow=1.46 cfs 0.088 af Outflow=0.93 cfs 0.088 af
Pond 2P: Crushed Stone Drip Edge	Peak Elev=35.26' Storage=133 cf Inflow=0.21 cfs 0.014 af Discarded=0.03 cfs 0.013 af Primary=0.19 cfs 0.002 af Outflow=0.22 cfs 0.014 af

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Pond CB1: CB-1	Peak Elev=34.74'	Inflow=1.63 cfs	0.146 af
12.0" Round Culvert n=0.012 L=90.0' S=0.0328 '/	Outflow=1.63 cfs	0.146 af	
Pond CB2: CB-2	Peak Elev=32.35'	Inflow=1.65 cfs	0.113 af
12.0" Round Culvert n=0.012 L=7.0' S=0.0143 '/	Outflow=1.65 cfs	0.113 af	
Pond CB3: CB-3	Peak Elev=32.33'	Inflow=2.06 cfs	0.148 af
10.0" Round Culvert n=0.012 L=6.0' S=0.0200 '/	Outflow=2.06 cfs	0.148 af	
Pond CB4: CB-4	Peak Elev=32.32'	Inflow=1.41 cfs	0.100 af
12.0" Round Culvert n=0.012 L=12.0' S=0.0167 '/	Outflow=1.41 cfs	0.100 af	
Pond CB5: CB-5	Peak Elev=32.32'	Inflow=1.61 cfs	0.112 af
12.0" Round Culvert n=0.012 L=82.0' S=0.0122 '/	Outflow=1.61 cfs	0.112 af	
Pond CB6: CB-6	Peak Elev=31.16'	Inflow=0.41 cfs	0.028 af
12.0" Round Culvert n=0.012 L=9.0' S=0.0111 '/	Outflow=0.41 cfs	0.028 af	
Pond DET: Underground Detention System	Peak Elev=32.29'	Storage=0.283 af	Inflow=9.48 cfs 0.779 af
			Outflow=3.25 cfs 0.774 af
Pond DMH1: DMH-1	Peak Elev=32.34'	Inflow=2.47 cfs	0.259 af
15.0" Round Culvert n=0.012 L=11.0' S=0.0136 '/	Outflow=2.47 cfs	0.259 af	
Pond DMH2: DMH-2	Peak Elev=32.31'	Inflow=3.01 cfs	0.212 af
15.0" Round Culvert n=0.012 L=8.0' S=0.0088 '/	Outflow=3.01 cfs	0.212 af	
Pond DMH3: DMH-3	Peak Elev=31.16'	Inflow=3.33 cfs	0.802 af
12.0" Round Culvert n=0.012 L=28.0' S=0.0054 '/	Outflow=3.33 cfs	0.802 af	
Pond DMH4: DMH-4	Peak Elev=29.10'	Inflow=3.33 cfs	0.802 af
12.0" Round Culvert n=0.012 L=10.0' S=0.0100 '/	Outflow=3.33 cfs	0.802 af	
Pond ECB1: Ex. CB1	Peak Elev=26.78'	Inflow=6.58 cfs	1.074 af
30.0" Round Culvert n=0.012 L=39.0' S=0.0026 '/	Outflow=6.58 cfs	1.074 af	
Pond ECB2: Ex. CB2	Peak Elev=28.56'	Inflow=4.92 cfs	0.952 af
12.0" Round Culvert n=0.012 L=53.0' S=0.0132 '/	Outflow=4.92 cfs	0.952 af	
Pond INF: Infiltration Basin	Peak Elev=32.68'	Storage=3,694 cf	Inflow=3.10 cfs 0.270 af
	Discarded=0.15 cfs 0.202 af	Primary=1.53 cfs 0.068 af	Outflow=1.68 cfs 0.270 af
Pond TF: Treatment Filter	Peak Elev=30.43'	Inflow=3.33 cfs	0.802 af
12.0" Round Culvert n=0.012 L=175.0' S=0.0049 '/	Outflow=3.33 cfs	0.802 af	
Link DP#1: Design Point #1 Wetland		Inflow=9.99 cfs	0.822 af
		Primary=9.99 cfs	0.822 af
Link DP#2: Design Point #2 - Wetland		Inflow=0.96 cfs	0.076 af
		Primary=0.96 cfs	0.076 af

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Link DP#3: Design Point #3 - Roadway Drainage System

Inflow=7.66 cfs 1.231 af

Primary=7.66 cfs 1.231 af

Total Runoff Area = 6.073 ac Runoff Volume = 2.348 af Average Runoff Depth = 4.64"
47.59% Pervious = 2.890 ac 52.41% Impervious = 3.183 ac

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Summary for Subcatchment 1S: To CB-1

Runoff = 1.63 cfs @ 12.16 hrs, Volume= 0.146 af, Depth= 3.67"
 Routed to Pond CB1 : CB-1

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.090	74	>75% Grass cover, Good, HSG C
0.055	65	Brush, Good, HSG C
0.095	98	Paved parking, HSG C
0.012	98	Roofs, HSG C
0.190	70	Woods, Good, HSG C
0.037	72	Woods/grass comb., Good, HSG C
0.478		Weighted Average
0.372		77.69% Pervious Area
0.107		22.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.9	25	0.0300	0.07		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
5.3	277	0.0300	0.87		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.3	79	0.0400	4.06		Shallow Concentrated Flow, Paved Kv= 20.3 fps
11.5	381	Total			

Summary for Subcatchment 2S: To CB-2

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.65 cfs @ 12.01 hrs, Volume= 0.113 af, Depth= 5.95"
 Routed to Pond CB2 : CB-2

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.001	74	>75% Grass cover, Good, HSG C
0.226	98	Paved parking, HSG C
0.228		Weighted Average
0.001		0.60% Pervious Area
0.226		99.40% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	25	0.0400	1.40		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.30"
0.6	139	0.0400	4.06		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.9	164	Total			

Summary for Subcatchment 3S: To CB3

Runoff = 2.06 cfs @ 12.04 hrs, Volume= 0.148 af, Depth= 5.62"
 Routed to Pond CB3 : CB-3

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.042	74	>75% Grass cover, Good, HSG C
0.274	98	Paved parking, HSG C
0.316		Weighted Average
0.042		13.28% Pervious Area
0.274		86.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	25	0.0400	0.17		Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
0.3	64	0.0400	4.06		Shallow Concentrated Flow, Paved Kv= 20.3 fps
2.7	89	Total			

Summary for Subcatchment 4S: To CB4

Runoff = 1.41 cfs @ 12.04 hrs, Volume= 0.100 af, Depth= 5.40"
 Routed to Pond CB4 : CB-4

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.048	74	>75% Grass cover, Good, HSG C
0.175	98	Paved parking, HSG C
0.223		Weighted Average
0.048		21.48% Pervious Area
0.175		78.52% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	25	0.0400	0.17		Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
0.3	75	0.0400	4.06		Shallow Concentrated Flow, Paved Kv= 20.3 fps
2.7	100	Total			

Summary for Subcatchment 5S: To CB-5

Runoff = 1.61 cfs @ 12.03 hrs, Volume= 0.112 af, Depth= 5.34"
 Routed to Pond CB5 : CB-5

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.060	74	>75% Grass cover, Good, HSG C
0.192	98	Paved parking, HSG C
0.252		Weighted Average
0.060		23.77% Pervious Area
0.192		76.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	17	0.0400	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
0.3	71	0.0400	4.06		Shallow Concentrated Flow, Paved Kv= 20.3 fps
2.1	88	Total			

Summary for Subcatchment 6S: To CB-6

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.41 cfs @ 12.01 hrs, Volume= 0.028 af, Depth= 5.96"
 Routed to Pond CB6 : CB-6

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.056	98	Paved parking, HSG C
0.056		100.00% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	25	0.0400	1.40		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.30"
0.2	45	0.0400	4.06		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	70	Total			

Summary for Subcatchment 7S: Patio

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.21 cfs @ 12.01 hrs, Volume= 0.014 af, Depth= 5.96"
Routed to Pond 2P : Crushed Stone Drip Edge

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.029	98	Paved parking, HSG C
0.029		100.00% Impervious Area

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

Summary for Subcatchment 100S: Overland Flow to Existing Wetland

Runoff = 9.99 cfs @ 12.10 hrs, Volume= 0.822 af, Depth= 4.68"
Routed to Link DP#1 : Design Point #1 Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.477	74	>75% Grass cover, Good, HSG C
0.110	65	Brush, Good, HSG C
1.084	98	Paved parking, HSG C
0.076	98	Roofs, HSG C
0.361	70	Woods, Good, HSG C
2.108		Weighted Average
0.948		44.97% Pervious Area
1.160		55.03% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.7	25	0.0300	0.15		Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
1.3	95	0.0300	1.21		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
1.3	266	0.0300	3.52		Shallow Concentrated Flow, Paved Kv= 20.3 fps
2.1	111	0.0300	0.87		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.0	9	0.6670	5.72		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.4	506	Total			

Summary for Subcatchment 200S: Overland Flow to Existing Wetland

Runoff = 0.96 cfs @ 12.12 hrs, Volume= 0.076 af, Depth= 3.35"
 Routed to Link DP#2 : Design Point #2 - Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.084	74	>75% Grass cover, Good, HSG C
0.035	65	Brush, Good, HSG C
0.002	98	Paved parking, HSG C
0.020	98	Roofs, HSG C
0.018	70	Woods, Good, HSG C
0.113	72	Woods/grass comb., Good, HSG C
0.272		Weighted Average
0.250		91.95% Pervious Area
0.022		8.05% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	25	0.0800	0.10		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
3.2	164	0.0300	0.87		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.3	109	0.0800	1.41		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
8.5	298	Total			

Summary for Subcatchment 300S: To Rain Garden

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 1.46 cfs @ 12.00 hrs, Volume= 0.088 af, Depth= 3.54"
 Routed to Pond 1P : Grassed Underdrained Soil Filter

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Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.188	74	>75% Grass cover, Good, HSG C
0.058	65	Brush, Good, HSG C
0.002	98	Paved parking, HSG C
0.040	98	Roofs, HSG C
0.008	70	Woods, Good, HSG C
0.001	72	Woods/grass comb., Good, HSG C
<hr/>		
0.297		Weighted Average
0.255		86.02% Pervious Area
0.041		13.98% Impervious Area

Summary for Subcatchment 301S: To ex. CB-101

Runoff = 1.67 cfs @ 12.06 hrs, Volume= 0.122 af, Depth= 4.81"
Routed to Pond ECB1 : Ex. CB1

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.134	74	>75% Grass cover, Good, HSG C
0.169	98	Paved parking, HSG C
<hr/>		
0.304		Weighted Average
0.134		44.30% Pervious Area
0.169		55.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.9	25	0.0700	0.22		Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
1.5	91	0.0200	0.99		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.6	95	0.0200	2.87		Shallow Concentrated Flow, Paved Kv= 20.3 fps
<hr/>					
4.0	211	Total			

Summary for Subcatchment 302S: To Ex. CB2

Runoff = 2.15 cfs @ 12.06 hrs, Volume= 0.150 af, Depth= 4.01"
Routed to Pond ECB2 : Ex. CB2

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=6.20"

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Area (ac)	CN	Description
0.280	74	>75% Grass cover, Good, HSG C
0.117	98	Paved parking, HSG C
0.053	72	Woods/grass comb., Good, HSG C
0.449		Weighted Average
0.333		74.04% Pervious Area
0.117		25.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	25	0.0500	0.19		Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
1.7	156	0.0500	1.57		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.0	5	0.0500	4.54		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.1	5	0.0500	1.57		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
4.0	191	Total			

Summary for Subcatchment 303S: To Detention Basin

Runoff = 3.10 cfs @ 12.13 hrs, Volume= 0.270 af, Depth= 4.38"
 Routed to Pond INF : Infiltration Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.443	74	>75% Grass cover, Good, HSG C
0.004	65	Brush, Good, HSG C
0.292	98	Paved parking, HSG C
0.739		Weighted Average
0.447		60.46% Pervious Area
0.292		39.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	25	0.0170	0.12		Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
6.5	356	0.0170	0.91		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
9.9	381	Total			

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Summary for Subcatchment ROOF: Building Roof

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 2.39 cfs @ 12.00 hrs, Volume= 0.160 af, Depth= 5.96"
Routed to Pond DET : Underground Detention System

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=6.20"

Area (ac)	CN	Description
0.323	98	Roofs, HSG C
0.323		100.00% Impervious Area

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

Summary for Pond 1P: Grassed Underdrained Soil Filter

[44] Hint: Outlet device #1 is below defined storage

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=580)

Inflow Area = 0.297 ac, 13.98% Impervious, Inflow Depth = 3.54" for 25-year event
Inflow = 1.46 cfs @ 12.00 hrs, Volume= 0.088 af
Outflow = 0.93 cfs @ 12.07 hrs, Volume= 0.088 af, Atten= 36%, Lag= 3.9 min
Primary = 0.93 cfs @ 12.07 hrs, Volume= 0.088 af
Routed to Link DP#3 : Design Point #3 - Roadway Drainage System

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 33.71' @ 12.07 hrs Surf.Area= 867 sf Storage= 216 cf
Flood Elev= 35.00' Surf.Area= 1,371 sf Storage= 1,419 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.9 min (806.3 - 805.4)

Volume	Invert	Avail.Storage	Storage Description			
#1	33.00'	1,419 cf	Custom Stage Data (Irregular) Listed below (Recalc)			

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Void (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
33.00	867	159.0	0.0	0	0	867
33.99	867	159.0	35.0	300	300	1,024
34.00	867	159.0	100.0	9	309	1,026
35.00	1,371	177.0	100.0	1,109	1,419	1,536

Device	Routing	Invert	Outlet Devices		
#1	Primary	32.50'	6.0" Vert. Orifice/Grate	C= 0.600	Limited to weir flow at low heads

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Primary OutFlow Max=0.93 cfs @ 12.07 hrs HW=33.71' TW=0.00' (Dynamic Tailwater)

↑1=Orifice/Grate (Orifice Controls 0.93 cfs @ 4.72 fps)

Summary for Pond 2P: Crushed Stone Drip Edge

[92] Warning: Device #2 is above defined storage

[93] Warning: Storage range exceeded by 0.01'

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

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=19)

Inflow Area = 0.029 ac, 100.00% Impervious, Inflow Depth = 5.96" for 25-year event
Inflow = 0.21 cfs @ 12.01 hrs, Volume= 0.014 af
Outflow = 0.22 cfs @ 12.05 hrs, Volume= 0.014 af, Atten= 0%, Lag= 2.1 min
Discarded = 0.03 cfs @ 12.04 hrs, Volume= 0.013 af
Primary = 0.19 cfs @ 12.05 hrs, Volume= 0.002 af
Routed to Link DP#3 : Design Point #3 - Roadway Drainage System

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 35.26' @ 12.05 hrs Surf.Area= 166 sf Storage= 133 cf

Plug-Flow detention time= 32.7 min calculated for 0.014 af (100% of inflow)
Center-of-Mass det. time= 32.7 min (772.8 - 740.0)

Volume	Invert	Avail.Storage	Storage Description
#1	33.25'	133 cf	2.00'W x 83.00'L x 2.00'H Prismatoid 332 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	33.25'	2.410 in/hr Exfiltration over Wetted area Phase-In= 0.01'
#2	Primary	35.25'	83.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Discarded OutFlow Max=0.03 cfs @ 12.04 hrs HW=35.26' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.03 cfs)

Primary OutFlow Max=0.18 cfs @ 12.05 hrs HW=35.26' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 0.18 cfs @ 0.24 fps)

Summary for Pond CB1: CB-1

Inflow Area = 0.478 ac, 22.31% Impervious, Inflow Depth = 3.67" for 25-year event
Inflow = 1.63 cfs @ 12.16 hrs, Volume= 0.146 af
Outflow = 1.63 cfs @ 12.16 hrs, Volume= 0.146 af, Atten= 0%, Lag= 0.0 min
Primary = 1.63 cfs @ 12.16 hrs, Volume= 0.146 af
Routed to Pond DMH1 : DMH-1

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 34.74' @ 12.16 hrs

Flood Elev= 38.05'

Device	Routing	Invert	Outlet Devices
#1	Primary	34.05'	12.0" Round Culvert L= 90.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 34.05' / 31.10' S= 0.0328 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.63 cfs @ 12.16 hrs HW=34.74' TW=32.07' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 1.63 cfs @ 2.82 fps)

Summary for Pond CB2: CB-2

Inflow Area = 0.228 ac, 99.40% Impervious, Inflow Depth = 5.95" for 25-year event
Inflow = 1.65 cfs @ 12.01 hrs, Volume= 0.113 af
Outflow = 1.65 cfs @ 12.01 hrs, Volume= 0.113 af, Atten= 0%, Lag= 0.0 min
Primary = 1.65 cfs @ 12.01 hrs, Volume= 0.113 af
Routed to Pond DMH1 : DMH-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 32.35' @ 12.34 hrs

Flood Elev= 35.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	31.20'	12.0" Round Culvert L= 7.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 31.20' / 31.10' S= 0.0143 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.58 cfs @ 12.01 hrs HW=32.00' TW=31.73' (Dynamic Tailwater)

↑1=Culvert (Outlet Controls 1.58 cfs @ 3.22 fps)

Summary for Pond CB3: CB-3

Inflow Area = 0.316 ac, 86.72% Impervious, Inflow Depth = 5.62" for 25-year event
Inflow = 2.06 cfs @ 12.04 hrs, Volume= 0.148 af
Outflow = 2.06 cfs @ 12.04 hrs, Volume= 0.148 af, Atten= 0%, Lag= 0.0 min
Primary = 2.06 cfs @ 12.04 hrs, Volume= 0.148 af
Routed to Pond DET : Underground Detention System

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 32.33' @ 12.34 hrs

Flood Elev= 33.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.80'	10.0" Round Culvert L= 6.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 29.80' / 29.68' S= 0.0200 '/ Cc= 0.900

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n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.55 sf

Primary OutFlow Max=1.93 cfs @ 12.04 hrs HW=31.84' TW=31.30' (Dynamic Tailwater)

↑1=Culvert (Inlet Controls 1.93 cfs @ 3.55 fps)

Summary for Pond CB4: CB-4

Inflow Area = 0.223 ac, 78.52% Impervious, Inflow Depth = 5.40" for 25-year event
Inflow = 1.41 cfs @ 12.04 hrs, Volume= 0.100 af
Outflow = 1.41 cfs @ 12.04 hrs, Volume= 0.100 af, Atten= 0%, Lag= 0.0 min
Primary = 1.41 cfs @ 12.04 hrs, Volume= 0.100 af
Routed to Pond DMH2 : DMH-2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 32.32' @ 12.36 hrs

Flood Elev= 33.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	30.80'	12.0" Round Culvert L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 30.80' / 30.60' S= 0.0167 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.16 cfs @ 12.04 hrs HW=31.63' TW=31.48' (Dynamic Tailwater)

↑1=Culvert (Outlet Controls 1.16 cfs @ 2.26 fps)

Summary for Pond CB5: CB-5

Inflow Area = 0.252 ac, 76.23% Impervious, Inflow Depth = 5.34" for 25-year event
Inflow = 1.61 cfs @ 12.03 hrs, Volume= 0.112 af
Outflow = 1.61 cfs @ 12.03 hrs, Volume= 0.112 af, Atten= 0%, Lag= 0.0 min
Primary = 1.61 cfs @ 12.03 hrs, Volume= 0.112 af
Routed to Pond DMH2 : DMH-2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 32.32' @ 12.36 hrs

Flood Elev= 33.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	30.80'	12.0" Round Culvert L= 82.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 30.80' / 29.80' S= 0.0122 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.43 cfs @ 12.03 hrs HW=31.73' TW=31.43' (Dynamic Tailwater)

↑1=Culvert (Outlet Controls 1.43 cfs @ 2.44 fps)

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Summary for Pond CB6: CB-6

Inflow Area = 0.056 ac, 100.00% Impervious, Inflow Depth = 5.96" for 25-year event
Inflow = 0.41 cfs @ 12.01 hrs, Volume= 0.028 af
Outflow = 0.41 cfs @ 12.01 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min
Primary = 0.41 cfs @ 12.01 hrs, Volume= 0.028 af
Routed to Pond DMH3 : DMH-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 31.16' @ 12.30 hrs
Flood Elev= 33.65'

Device	Routing	Invert	Outlet Devices
#1	Primary	30.15'	12.0" Round Culvert L= 9.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 30.15' / 30.05' S= 0.0111 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.41 cfs @ 12.01 hrs HW=30.50' TW=29.71' (Dynamic Tailwater)
↑1=Culvert (Barrel Controls 0.41 cfs @ 2.48 fps)

Summary for Pond DET: Underground Detention System

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=7)
[80] Warning: Exceeded Pond CB3 by 0.02' @ 24.15 hrs (0.00 cfs 0.000 af)
[80] Warning: Exceeded Pond DMH2 by 0.27' @ 24.17 hrs (0.26 cfs 0.012 af)

Inflow Area = 1.819 ac, 71.27% Impervious, Inflow Depth = 5.14" for 25-year event
Inflow = 9.48 cfs @ 12.03 hrs, Volume= 0.779 af
Outflow = 3.25 cfs @ 12.41 hrs, Volume= 0.774 af, Atten= 66%, Lag= 23.2 min
Primary = 3.25 cfs @ 12.41 hrs, Volume= 0.774 af
Routed to Pond DMH3 : DMH-3

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 32.29' @ 12.35 hrs Surf.Area= 0.132 ac Storage= 0.283 af
Flood Elev= 32.35' Surf.Area= 0.132 ac Storage= 0.286 af

Plug-Flow detention time= 161.0 min calculated for 0.774 af (99% of inflow)
Center-of-Mass det. time= 157.0 min (914.6 - 757.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	28.85'	0.118 af	49.00'W x 117.54'L x 3.50'H Field A 0.463 af Overall - 0.169 af Embedded = 0.294 af x 40.0% Voids
#2A	29.35'	0.169 af	ADS_StormTech SC-740 +Cap x 160 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 160 Chambers in 10 Rows
		0.286 af	Total Available Storage

Storage Group A created with Chamber Wizard

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Device	Routing	Invert	Outlet Devices
#1	Primary	28.85'	12.0" Round Culvert L= 116.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 28.85' / 28.30' S= 0.0047 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	28.85'	1.5" Vert. Orifice/Grate X 2.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	29.80'	5.0" Vert. Orifice/Grate X 2.00 C= 0.600 Limited to weir flow at low heads
#4	Device 1	30.50'	5.0" Vert. Orifice/Grate X 2.00 C= 0.600 Limited to weir flow at low heads
#5	Device 1	32.00'	12.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.23 cfs @ 12.41 hrs HW=32.26' TW=31.05' (Dynamic Tailwater)

↑**1=Culvert** (Outlet Controls 3.23 cfs @ 4.12 fps)
↑**2=Orifice/Grate** (Passes < 0.13 cfs potential flow)
↑**3=Orifice/Grate** (Passes < 1.45 cfs potential flow)
↑**4=Orifice/Grate** (Passes < 1.45 cfs potential flow)
↑**5=Orifice/Grate** (Passes < 1.36 cfs potential flow)

Summary for Pond DMH1: DMH-1

[80] Warning: Exceeded Pond CB2 by 0.01' @ 12.18 hrs (0.30 cfs 0.001 af)

Inflow Area = 0.706 ac, 47.17% Impervious, Inflow Depth = 4.40" for 25-year event
Inflow = 2.47 cfs @ 12.02 hrs, Volume= 0.259 af
Outflow = 2.47 cfs @ 12.02 hrs, Volume= 0.259 af, Atten= 0%, Lag= 0.0 min
Primary = 2.47 cfs @ 12.02 hrs, Volume= 0.259 af
Routed to Pond DET : Underground Detention System

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 32.34' @ 12.34 hrs
Flood Elev= 35.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	30.85'	15.0" Round Culvert L= 11.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 30.85' / 30.70' S= 0.0136 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.47 cfs @ 12.02 hrs HW=31.73' TW=31.16' (Dynamic Tailwater)

↑**1=Culvert** (Barrel Controls 2.47 cfs @ 3.74 fps)

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Summary for Pond DMH2: DMH-2

[80] Warning: Exceeded Pond CB4 by 0.01' @ 12.17 hrs (0.40 cfs 0.003 af)

Inflow Area = 0.474 ac, 77.31% Impervious, Inflow Depth = 5.37" for 25-year event
Inflow = 3.01 cfs @ 12.03 hrs, Volume= 0.212 af
Outflow = 3.01 cfs @ 12.03 hrs, Volume= 0.212 af, Atten= 0%, Lag= 0.0 min
Primary = 3.01 cfs @ 12.03 hrs, Volume= 0.212 af
Routed to Pond DET : Underground Detention System

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 32.31' @ 12.36 hrs
Flood Elev= 34.25'

Device	Routing	Invert	Outlet Devices
#1	Primary	29.55'	15.0" Round Culvert L= 8.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 29.55' / 29.48' S= 0.0088 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=2.57 cfs @ 12.03 hrs HW=31.45' TW=31.26' (Dynamic Tailwater)
↑1=Culvert (Inlet Controls 2.57 cfs @ 2.09 fps)

Summary for Pond DMH3: DMH-3

[80] Warning: Exceeded Pond CB6 by 0.12' @ 12.19 hrs (1.19 cfs 0.011 af)

Inflow Area = 1.875 ac, 72.13% Impervious, Inflow Depth > 5.14" for 25-year event
Inflow = 3.33 cfs @ 12.32 hrs, Volume= 0.802 af
Outflow = 3.33 cfs @ 12.32 hrs, Volume= 0.802 af, Atten= 0%, Lag= 0.0 min
Primary = 3.33 cfs @ 12.32 hrs, Volume= 0.802 af
Routed to Pond TF : Treatment Filter

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 31.16' @ 12.29 hrs
Flood Elev= 33.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	28.20'	12.0" Round Culvert L= 28.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 28.20' / 28.05' S= 0.0054 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.21 cfs @ 12.32 hrs HW=31.11' TW=30.39' (Dynamic Tailwater)
↑1=Culvert (Inlet Controls 3.21 cfs @ 4.08 fps)

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Summary for Pond DMH4: DMH-4

Inflow Area = 1.875 ac, 72.13% Impervious, Inflow Depth > 5.14" for 25-year event
Inflow = 3.33 cfs @ 12.32 hrs, Volume= 0.802 af
Outflow = 3.33 cfs @ 12.32 hrs, Volume= 0.802 af, Atten= 0%, Lag= 0.0 min
Primary = 3.33 cfs @ 12.32 hrs, Volume= 0.802 af
Routed to Pond ECB2 : Ex. CB2

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 29.10' @ 12.08 hrs
Flood Elev= 30.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.60'	12.0" Round Culvert L= 10.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 26.60' / 26.50' S= 0.0100 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.30 cfs @ 12.32 hrs HW=28.72' TW=27.96' (Dynamic Tailwater)
↑1=Culvert (Inlet Controls 3.30 cfs @ 4.20 fps)

Summary for Pond ECB1: Ex. CB1

Inflow Area = 2.628 ac, 62.34% Impervious, Inflow Depth > 4.90" for 25-year event
Inflow = 6.58 cfs @ 12.06 hrs, Volume= 1.074 af
Outflow = 6.58 cfs @ 12.06 hrs, Volume= 1.074 af, Atten= 0%, Lag= 0.0 min
Primary = 6.58 cfs @ 12.06 hrs, Volume= 1.074 af
Routed to Link DP#3 : Design Point #3 - Roadway Drainage System

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 26.78' @ 12.06 hrs
Flood Elev= 30.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	25.50'	30.0" Round Culvert L= 39.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.50' / 25.40' S= 0.0026 '/ Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 4.91 sf

Primary OutFlow Max=6.57 cfs @ 12.06 hrs HW=26.78' TW=0.00' (Dynamic Tailwater)
↑1=Culvert (Barrel Controls 6.57 cfs @ 3.78 fps)

Summary for Pond ECB2: Ex. CB2

Inflow Area = 2.324 ac, 63.20% Impervious, Inflow Depth > 4.92" for 25-year event
Inflow = 4.92 cfs @ 12.07 hrs, Volume= 0.952 af
Outflow = 4.92 cfs @ 12.07 hrs, Volume= 0.952 af, Atten= 0%, Lag= 0.0 min
Primary = 4.92 cfs @ 12.07 hrs, Volume= 0.952 af
Routed to Pond ECB1 : Ex. CB1

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Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 28.56' @ 12.07 hrs
 Flood Elev= 29.40'

Device	Routing	Invert	Outlet Devices
#1	Primary	26.30'	12.0" Round Culvert L= 53.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 26.30' / 25.60' S= 0.0132 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=4.91 cfs @ 12.07 hrs HW=28.55' TW=26.78' (Dynamic Tailwater)
 ←**1=Culvert** (Outlet Controls 4.91 cfs @ 6.25 fps)

Summary for Pond INF: Infiltration Basin

Final design of basin to be coordinated with MEDOT. Potential design utilized in this analysis.

Inflow Area = 0.739 ac, 39.54% Impervious, Inflow Depth = 4.38" for 25-year event
 Inflow = 3.10 cfs @ 12.13 hrs, Volume= 0.270 af
 Outflow = 1.68 cfs @ 12.32 hrs, Volume= 0.270 af, Atten= 46%, Lag= 11.4 min
 Discarded = 0.15 cfs @ 12.32 hrs, Volume= 0.202 af
 Primary = 1.53 cfs @ 12.32 hrs, Volume= 0.068 af
 Routed to Link DP#3 : Design Point #3 - Roadway Drainage System

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 32.68' @ 12.32 hrs Surf.Area= 2,697 sf Storage= 3,694 cf
 Flood Elev= 33.00' Surf.Area= 2,902 sf Storage= 4,588 cf

Plug-Flow detention time= 171.9 min calculated for 0.270 af (100% of inflow)
 Center-of-Mass det. time= 171.9 min (958.4 - 786.5)

Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	4,588 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)
31.00	1,727	177.0	0	0	1,727
32.00	2,286	196.0	2,000	2,000	2,321
33.00	2,902	215.0	2,588	4,588	2,976

Device	Routing	Invert	Outlet Devices
#1	Discarded	31.00'	2.410 in/hr Exfiltration over Surface area Phase-In= 0.01'
#2	Primary	32.50'	8.0' long + 3.0 '/ SideZ x 6.0' 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) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

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Type III 24-hr 25-year Rainfall=6.20"

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Discarded OutFlow Max=0.15 cfs @ 12.32 hrs HW=32.68' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.15 cfs)

Primary OutFlow Max=1.53 cfs @ 12.32 hrs HW=32.68' TW=0.00' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 1.53 cfs @ 0.99 fps)

Summary for Pond TF: Treatment Filter

Jellyfish JF6-3-1

Inflow Area = 1.875 ac, 72.13% Impervious, Inflow Depth > 5.14" for 25-year event
Inflow = 3.33 cfs @ 12.32 hrs, Volume= 0.802 af
Outflow = 3.33 cfs @ 12.32 hrs, Volume= 0.802 af, Atten= 0%, Lag= 0.0 min
Primary = 3.33 cfs @ 12.32 hrs, Volume= 0.802 af
Routed to Pond DMH4 : DMH-4

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Peak Elev= 30.43' @ 12.28 hrs

Flood Elev= 34.75'

Device	Routing	Invert	Outlet Devices
#1	Primary	27.55'	12.0" Round Culvert L= 175.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 27.55' / 26.70' S= 0.0049 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.27 cfs @ 12.32 hrs HW=30.39' TW=28.72' (Dynamic Tailwater)

↑1=Culvert (Outlet Controls 3.27 cfs @ 4.17 fps)

Summary for Link DP#1: Design Point #1 Wetland

Inflow Area = 2.108 ac, 55.03% Impervious, Inflow Depth = 4.68" for 25-year event
Inflow = 9.99 cfs @ 12.10 hrs, Volume= 0.822 af
Primary = 9.99 cfs @ 12.10 hrs, Volume= 0.822 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Summary for Link DP#2: Design Point #2 - Wetland

Inflow Area = 0.272 ac, 8.05% Impervious, Inflow Depth = 3.35" for 25-year event
Inflow = 0.96 cfs @ 12.12 hrs, Volume= 0.076 af
Primary = 0.96 cfs @ 12.12 hrs, Volume= 0.076 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

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Summary for Link DP#3: Design Point #3 - Roadway Drainage System

Inflow Area = 3.693 ac, 54.19% Impervious, Inflow Depth > 4.00" for 25-year event
Inflow = 7.66 cfs @ 12.07 hrs, Volume= 1.231 af
Primary = 7.66 cfs @ 12.07 hrs, Volume= 1.231 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Stormwater Management Report

Kittery Circle, LLC, Kittery, Maine

August 17, 2023

APPENDIX F

Supplemental Calculations and Backup Data

First Defense® High Capacity

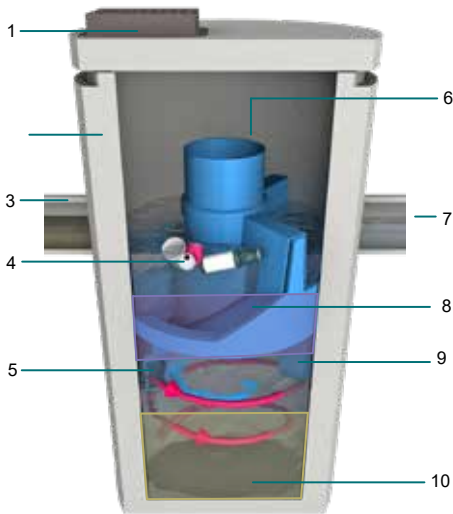
Advanced Hydrodynamic Separator

Product Summary

A Simple Solution for your Trickiest Sites

First Defense® High Capacity is a versatile stormwater separator with some of the highest approved flow rates in the United States, enabling engineers and contractors to save site space and projects costs by using the smallest possible footprint. It also works with single and multiple inlet pipes and inlet grates has an internal bypass to convey infrequent peak flows directly to the outlet.

Fig.1 The First Defense® High Capacity has internal components designed to efficiently capture pollutants and prevent washout at



Product Profile

- | | |
|-----------------------------------------------|-------------------------------|
| 1. Inlet Grate (optional) | 6. Internal Bypass |
| 2. Precast chamber | 7. Outlet pipe |
| 3. Inlet Pipe (optional) | 8. Oil and Floatables Storage |
| 4. Floatables Draw Off Slot
(not pictured) | 9. Outlet chute |
| 5. Inlet Chute | 10. Sediment Storage Sump |

Applications

- » Areas requiring a minimum of 50% TSS removal
- » Stormwater treatment at the point of entry into the drainage line
- » Sites constrained by space, topography or drainage profiles with limited slope and depth of cover
- » Highways, car parks, industrial areas and urban developments
- » Pre-treatment to ponds, storage systems, green infrastructure

How it Works

Highest Flow through the Smallest Footprint



Contaminated stormwater runoff enters the inlet chute from a surface grate and/or inlet pipe. The inlet chute introduces flow into the chamber tangentially to create a low energy vortex flow regime (magenta arrow) that directs sediment into the sump while oils, floating trash and debris rise to the surface.

Treated stormwater exits through a submerged outlet chute located opposite to the direction of the rotating flow (blue arrow). Enhanced vortex separation is provided by forcing the rotating flow within the vessel to follow the longest path possible rather than directly from inlet to outlet.

Higher flows bypass the treatment chamber to prevent turbulence and washout of captured pollutants. An internal bypass conveys infrequent peak flows directly to the outlet eliminating the need for, and expense of, external bypass control structures. A floatables draw off slot functions to convey floatables into the treatment chamber prior to bypass.

Benefits

Small & Simple

- » Cut footprint size, cut costs: First Defense® provides space-saving, easy-to-install surface water treatment in standard sized chambers/manholes.
- » Adapt to site limitations: Variable configurations will help you effectively slip First Defense® into a tight spot. It also works well with large pipes, multiple inlet pipes and inlet grates.
- » Save installation time: Every First Defense® unit is delivered to site pre-assembled and ready for installation – so installation is as easy as fitting any chamber/manhole.



Stormwater Solutions

→ hydro-int.com/firstdefense

Sizing & Design

This adaptable online treatment system works easily with large pipes, multiple inlet pipes, inlet grates and now, contains a high capacity bypass for the conveyance of large peak flows. Designed with site flexibility in mind, the First Defense® High Capacity allows engineers to maximize available site space without compromising treatment level.



Free Sizing Tool



This simple online tool will recommend the best separator, model size and online/offline arrangement based on site-specific data entered by the user.

Go to hydro-int.com/sizing to access the tool.

First Defense® High Capacity Model Number	Diameter	Typical TSS Treatment Flow Rates		Peak Online Flow Rate	Maximum Pipe Diameter ¹	Oil Storage Capacity	Typical Sediment Storage Capacity ²	Minimum Distance from Outlet Invert to Top of Rim ³	Standard Distance from Outlet Invert to Sump Floor
		NJDEP Certified	110µm						
	(ft / m)	(cfs / L/s)	(cfs / L/s)	(cfs / L/s)	(in / mm)	(gal / L)	(yd ³ / m ³)	(ft / m)	(ft / m)
FD-3HC	3 / 0.9	0.84 / 23.7	1.06 / 30.0	15 / 424	18 / 450	125 / 473	0.4 / 0.3	2.0 - 3.5 / 0.6 - 1.0	3.71 / 1.13
FD-4HC	4 / 1.2	1.50 / 42.4	1.88 / 53.2	18 / 510	24 / 600	191 / 723	0.7 / 0.5	2.3 - 3.9 / 0.7 - 1.2	4.97 / 1.5
FD-5HC	5 / 1.5	2.35 / 66.2	2.94 / 83.2	20 / 566	24 / 600	300 / 1135	1.1 / .84	2.5 - 4.5 / 0.7 - 1.3	5.19 / 1.5
FD-6HC	6 / 1.8	3.38 / 95.7	4.23 / 119.8	32 / 906	30 / 750	496 / 1,878	1.6 / 1.2	3.0 - 5.1 / 0.9 - 1.6	5.97 / 1.8
FD-8HC	8 / 2.4	6.00 / 169.9	7.52 / 212.9	50 / 1415	48 / 1200	1120 / 4239	2.8 / 2.1	3.0 - 6.0 / 0.9 - 1.8	7.40 / 2.2
FD-10HC	10 / 3.0	9.38 / 265.6	11.75 / 332.7	50 / 1415	48 / 1200	1742 / 6594	4.4 / 3.3	6.5 - 8.0 / 2.0 - 2.4	10.25 / 3.12

¹Contact Hydro International when larger pipe sizes are required.

²Contact Hydro International when custom sediment storage capacity is required.

³Minimum distance for models depends on pipe diameter.



Maintenance

Easy vector hose access through the center shaft of the system makes for quick, simple sump cleanout while trash and floatables can be fished out from the surface with a net.

Nobody maintains our systems better than we do. To ensure optimal, ongoing device performance, be sure to recommend Hydro International as a preferred service and maintenance provider to your clients.



📍 Hydro International, 94 Hutchins Drive, Portland, ME 04102

☎ Tel: (207) 756-6200

✉ Email: stormwaterinquiry@hydro-int.com

🌐 Web: www.hydro-int.com/firstdefense

FD_SS_B_2105

Download Drawings!

→ hydro-int.com/fddrawings

Access the Operation & Maintenance Manual

→ hydro-int.com/fd-om



Jellyfish Design Calculation

CONTECH Stormwater Solutions Inc. Engineer
Date Prepared:

DRA
8/16/2023

Site Information

Project Name	Proposed Hotel Old Post Road
Project State	ME
Project City	Kittery
Site Designation:	JF
Total Drainage Area, Ad	1.88 ac
Post Development Impervious Area, Ai	1.35 ac
Pervious Area, Ap	0.52 ac
% Impervious	72 %
Runoff Coefficient, Rc	0.70

Upstream Detention System

Detention pretreatment credit	50%
-------------------------------	------------

Mass Loading Calculations

Mean Annual Rainfall, P	46.7 in
Agency Required % Removal	80%
Percent Runoff Capture	90%
Mean Annual Runoff, Vt	199,949 ft ³
Event Mean Concentration of Pollutant, EMC	75 mg/l
Annual Mass Load, M total	936 lbs

Water Quality Volume

90% Rainfall Depth	0.95 in
Volume to be treated	0.104 ac-ft
Volume to be treated by filters	5,668 ft ³ (provided)

Filter System

Filtration Brand	Jelly Fish
Cartridge Length	54 in

Jelly Fish Sizing

Mass removed by pretreatment system	468 lbs
Mass load to filters after pretreatment	468 lbs
Mass to be Captured by System	374 lbs

Method to Use

MASS LOADING

Summary		
Mass	Treatment Mass	438.00 lbs
	Required Size	JF6-3-1

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Hydrograph for Pond DET: Underground Detention System

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
0.00	0.00	0.000	28.85	0.00
0.10	0.00	0.000	28.85	0.00
0.20	0.00	0.000	28.85	0.00
0.30	0.00	0.000	28.85	0.00
0.40	0.00	0.000	28.85	0.00
0.50	0.00	0.000	28.85	0.00
0.60	0.00	0.000	28.85	0.00
0.70	0.00	0.000	28.85	0.00
0.80	0.00	0.000	28.85	0.00
0.90	0.00	0.000	28.85	0.00
1.00	0.00	0.000	28.85	0.00
1.10	0.00	0.000	28.85	0.00
1.20	0.00	0.000	28.85	0.00
1.30	0.00	0.000	28.85	0.00
1.40	0.00	0.000	28.85	0.00
1.50	0.00	0.000	28.85	0.00
1.60	0.00	0.000	28.85	0.00
1.70	0.00	0.000	28.85	0.00
1.80	0.00	0.000	28.85	0.00
1.90	0.00	0.000	28.85	0.00
2.00	0.00	0.000	28.85	0.00
2.10	0.00	0.000	28.85	0.00
2.20	0.00	0.000	28.85	0.00
2.30	0.00	0.000	28.85	0.00
2.40	0.00	0.000	28.85	0.00
2.50	0.00	0.000	28.85	0.00
2.60	0.00	0.000	28.85	0.00
2.70	0.00	0.000	28.85	0.00
2.80	0.00	0.000	28.85	0.00
2.90	0.00	0.000	28.85	0.00
3.00	0.00	0.000	28.85	0.00
3.10	0.00	0.000	28.85	0.00
3.20	0.00	0.000	28.85	0.00
3.30	0.00	0.000	28.85	0.00
3.40	0.00	0.000	28.85	0.00
3.50	0.00	0.000	28.85	0.00
3.60	0.00	0.000	28.85	0.00
3.70	0.00	0.000	28.85	0.00
3.80	0.00	0.000	28.85	0.00
3.90	0.00	0.000	28.85	0.00
4.00	0.00	0.000	28.85	0.00
4.10	0.00	0.000	28.85	0.00
4.20	0.01	0.000	28.86	0.00
4.30	0.01	0.000	28.86	0.00
4.40	0.01	0.000	28.86	0.00
4.50	0.01	0.000	28.86	0.00
4.60	0.01	0.000	28.86	0.00
4.70	0.01	0.001	28.86	0.00
4.80	0.01	0.001	28.86	0.00
4.90	0.01	0.001	28.86	0.00
5.00	0.01	0.001	28.86	0.00

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Hydrograph for Pond DET: Underground Detention System (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
5.10	0.01	0.001	28.86	0.00
5.20	0.01	0.001	28.87	0.00
5.30	0.01	0.001	28.87	0.00
5.40	0.01	0.001	28.87	0.00
5.50	0.01	0.001	28.87	0.00
5.60	0.01	0.001	28.87	0.00
5.70	0.01	0.001	28.87	0.00
5.80	0.01	0.001	28.87	0.00
5.90	0.01	0.001	28.88	0.00
6.00	0.01	0.001	28.88	0.00
6.10	0.01	0.002	28.88	0.00
6.20	0.01	0.002	28.88	0.00
6.30	0.01	0.002	28.88	0.00
6.40	0.02	0.002	28.89	0.00
6.50	0.02	0.002	28.89	0.00
6.60	0.02	0.002	28.89	0.00
6.70	0.02	0.002	28.89	0.00
6.80	0.02	0.002	28.89	0.01
6.90	0.02	0.002	28.90	0.01
7.00	0.02	0.003	28.90	0.01
7.10	0.02	0.003	28.90	0.01
7.20	0.02	0.003	28.90	0.01
7.30	0.02	0.003	28.90	0.01
7.40	0.02	0.003	28.91	0.01
7.50	0.02	0.003	28.91	0.01
7.60	0.03	0.003	28.91	0.01
7.70	0.03	0.003	28.91	0.01
7.80	0.03	0.004	28.92	0.01
7.90	0.03	0.004	28.92	0.01
8.00	0.03	0.004	28.92	0.01
8.10	0.03	0.004	28.92	0.01
8.20	0.03	0.004	28.93	0.02
8.30	0.04	0.004	28.93	0.02
8.40	0.04	0.004	28.93	0.02
8.50	0.04	0.005	28.94	0.02
8.60	0.04	0.005	28.94	0.02
8.70	0.04	0.005	28.94	0.02
8.80	0.04	0.005	28.95	0.02
8.90	0.05	0.005	28.95	0.02
9.00	0.05	0.006	28.95	0.02
9.10	0.05	0.006	28.96	0.03
9.20	0.05	0.006	28.96	0.03
9.30	0.06	0.006	28.97	0.03
9.40	0.06	0.006	28.97	0.03
9.50	0.06	0.007	28.98	0.03
9.60	0.06	0.007	28.98	0.03
9.70	0.06	0.007	28.99	0.03
9.80	0.07	0.007	28.99	0.03
9.90	0.07	0.008	29.00	0.03
10.00	0.07	0.008	29.00	0.04
10.10	0.08	0.008	29.01	0.04

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Hydrograph for Pond DET: Underground Detention System (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
10.20	0.08	0.009	29.01	0.04
10.30	0.08	0.009	29.02	0.04
10.40	0.09	0.009	29.03	0.04
10.50	0.09	0.010	29.04	0.04
10.60	0.10	0.010	29.04	0.04
10.70	0.10	0.011	29.05	0.04
10.80	0.11	0.011	29.06	0.05
10.90	0.11	0.012	29.07	0.05
11.00	0.12	0.012	29.08	0.05
11.10	0.13	0.013	29.09	0.05
11.20	0.14	0.014	29.11	0.05
11.30	0.16	0.014	29.12	0.05
11.40	0.18	0.015	29.14	0.06
11.50	0.19	0.016	29.16	0.06
11.60	0.30	0.018	29.19	0.06
11.70	0.45	0.020	29.24	0.07
11.80	0.61	0.024	29.31	0.07
11.90	0.77	0.029	29.38	0.08
12.00	1.75	0.038	29.46	0.09
12.10	1.19	0.051	29.57	0.10
12.20	0.80	0.058	29.64	0.10
12.30	0.62	0.063	29.68	0.10
12.40	0.46	0.067	29.71	0.11
12.50	0.29	0.069	29.73	0.11
12.60	0.23	0.070	29.75	0.11
12.70	0.20	0.071	29.75	0.11
12.80	0.18	0.072	29.76	0.11
12.90	0.17	0.072	29.77	0.11
13.00	0.15	0.073	29.77	0.11
13.10	0.14	0.073	29.77	0.11
13.20	0.14	0.073	29.77	0.11
13.30	0.13	0.073	29.78	0.11
13.40	0.13	0.074	29.78	0.11
13.50	0.12	0.074	29.78	0.11
13.60	0.12	0.074	29.78	0.11
13.70	0.11	0.074	29.78	0.11
13.80	0.11	0.074	29.78	0.11
13.90	0.10	0.074	29.78	0.11
14.00	0.10	0.074	29.78	0.11
14.10	0.10	0.074	29.78	0.11
14.20	0.09	0.073	29.78	0.11
14.30	0.09	0.073	29.77	0.11
14.40	0.09	0.073	29.77	0.11
14.50	0.09	0.073	29.77	0.11
14.60	0.08	0.073	29.77	0.11
14.70	0.08	0.073	29.77	0.11
14.80	0.08	0.072	29.77	0.11
14.90	0.08	0.072	29.76	0.11
15.00	0.08	0.072	29.76	0.11
15.10	0.07	0.072	29.76	0.11
15.20	0.07	0.071	29.76	0.11

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Type III 24-hr WQV Storm Rainfall=1.45"

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Hydrograph for Pond DET: Underground Detention System (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
15.30	0.07	0.071	29.75	0.11
15.40	0.07	0.071	29.75	0.11
15.50	0.06	0.070	29.75	0.11
15.60	0.06	0.070	29.74	0.11
15.70	0.06	0.069	29.74	0.11
15.80	0.06	0.069	29.74	0.11
15.90	0.06	0.069	29.73	0.11
16.00	0.05	0.068	29.73	0.11
16.10	0.05	0.068	29.72	0.11
16.20	0.05	0.067	29.72	0.11
16.30	0.05	0.067	29.72	0.11
16.40	0.05	0.066	29.71	0.11
16.50	0.05	0.066	29.71	0.11
16.60	0.05	0.065	29.70	0.11
16.70	0.05	0.065	29.70	0.10
16.80	0.04	0.065	29.69	0.10
16.90	0.04	0.064	29.69	0.10
17.00	0.04	0.064	29.68	0.10
17.10	0.04	0.063	29.68	0.10
17.20	0.04	0.062	29.68	0.10
17.30	0.04	0.062	29.67	0.10
17.40	0.04	0.061	29.67	0.10
17.50	0.04	0.061	29.66	0.10
17.60	0.04	0.060	29.66	0.10
17.70	0.04	0.060	29.65	0.10
17.80	0.04	0.059	29.65	0.10
17.90	0.03	0.059	29.64	0.10
18.00	0.03	0.058	29.64	0.10
18.10	0.03	0.058	29.63	0.10
18.20	0.03	0.057	29.63	0.10
18.30	0.03	0.057	29.62	0.10
18.40	0.03	0.056	29.62	0.10
18.50	0.03	0.055	29.61	0.10
18.60	0.03	0.055	29.61	0.10
18.70	0.03	0.054	29.60	0.10
18.80	0.03	0.054	29.60	0.10
18.90	0.03	0.053	29.59	0.10
19.00	0.03	0.053	29.59	0.10
19.10	0.03	0.052	29.58	0.10
19.20	0.03	0.052	29.58	0.10
19.30	0.03	0.051	29.57	0.10
19.40	0.03	0.050	29.57	0.10
19.50	0.03	0.050	29.56	0.10
19.60	0.03	0.049	29.56	0.09
19.70	0.03	0.049	29.55	0.09
19.80	0.03	0.048	29.55	0.09
19.90	0.03	0.048	29.54	0.09
20.00	0.03	0.047	29.54	0.09
20.10	0.03	0.047	29.53	0.09
20.20	0.03	0.046	29.53	0.09
20.30	0.03	0.045	29.52	0.09

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Page 5

Hydrograph for Pond DET: Underground Detention System (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
20.40	0.03	0.045	29.52	0.09
20.50	0.03	0.044	29.51	0.09
20.60	0.03	0.044	29.51	0.09
20.70	0.03	0.043	29.50	0.09
20.80	0.02	0.043	29.50	0.09
20.90	0.02	0.042	29.49	0.09
21.00	0.02	0.042	29.49	0.09
21.10	0.02	0.041	29.48	0.09
21.20	0.02	0.041	29.48	0.09
21.30	0.02	0.040	29.47	0.09
21.40	0.02	0.040	29.47	0.09
21.50	0.02	0.039	29.46	0.09
21.60	0.02	0.038	29.46	0.09
21.70	0.02	0.038	29.45	0.09
21.80	0.02	0.037	29.45	0.09
21.90	0.02	0.037	29.44	0.09
22.00	0.02	0.036	29.44	0.09
22.10	0.02	0.036	29.43	0.09
22.20	0.02	0.035	29.43	0.08
22.30	0.02	0.035	29.42	0.08
22.40	0.02	0.034	29.42	0.08
22.50	0.02	0.034	29.42	0.08
22.60	0.02	0.033	29.41	0.08
22.70	0.02	0.033	29.41	0.08
22.80	0.02	0.032	29.40	0.08
22.90	0.02	0.032	29.40	0.08
23.00	0.02	0.031	29.39	0.08
23.10	0.02	0.031	29.39	0.08
23.20	0.02	0.030	29.38	0.08
23.30	0.02	0.030	29.38	0.08
23.40	0.02	0.029	29.37	0.08
23.50	0.02	0.029	29.37	0.08
23.60	0.02	0.028	29.36	0.08
23.70	0.02	0.028	29.36	0.08
23.80	0.02	0.027	29.36	0.08
23.90	0.02	0.027	29.35	0.08
24.00	0.02	0.026	29.34	0.08
24.10	0.00	0.026	29.33	0.08
24.20	0.00	0.025	29.32	0.08
24.30	0.00	0.024	29.31	0.07
24.40	0.00	0.024	29.30	0.07
24.50	0.00	0.023	29.29	0.07
24.60	0.00	0.022	29.27	0.07
24.70	0.00	0.022	29.26	0.07
24.80	0.00	0.021	29.25	0.07
24.90	0.00	0.021	29.24	0.07
25.00	0.00	0.020	29.23	0.07
25.10	0.00	0.020	29.22	0.07
25.20	0.00	0.019	29.21	0.06
25.30	0.00	0.019	29.20	0.06
25.40	0.00	0.018	29.19	0.06

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Hydrograph for Pond DET: Underground Detention System (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
25.50	0.00	0.018	29.18	0.06
25.60	0.00	0.017	29.17	0.06
25.70	0.00	0.017	29.16	0.06
25.80	0.00	0.016	29.15	0.06
25.90	0.00	0.016	29.14	0.06
26.00	0.00	0.015	29.14	0.06
26.10	0.00	0.015	29.13	0.05
26.20	0.00	0.014	29.12	0.05
26.30	0.00	0.014	29.11	0.05
26.40	0.00	0.013	29.10	0.05
26.50	0.00	0.013	29.09	0.05
26.60	0.00	0.013	29.09	0.05
26.70	0.00	0.012	29.08	0.05
26.80	0.00	0.012	29.07	0.05
26.90	0.00	0.011	29.06	0.05
27.00	0.00	0.011	29.06	0.04
27.10	0.00	0.011	29.05	0.04
27.20	0.00	0.010	29.04	0.04
27.30	0.00	0.010	29.04	0.04
27.40	0.00	0.010	29.03	0.04
27.50	0.00	0.009	29.02	0.04
27.60	0.00	0.009	29.02	0.04
27.70	0.00	0.009	29.01	0.04
27.80	0.00	0.008	29.01	0.04
27.90	0.00	0.008	29.00	0.04
28.00	0.00	0.008	29.00	0.03
28.10	0.00	0.007	28.99	0.03
28.20	0.00	0.007	28.99	0.03
28.30	0.00	0.007	28.98	0.03
28.40	0.00	0.007	28.98	0.03
28.50	0.00	0.006	28.97	0.03
28.60	0.00	0.006	28.97	0.03
28.70	0.00	0.006	28.96	0.03
28.80	0.00	0.006	28.96	0.03
28.90	0.00	0.006	28.95	0.02
29.00	0.00	0.005	28.95	0.02
29.10	0.00	0.005	28.95	0.02
29.20	0.00	0.005	28.94	0.02
29.30	0.00	0.005	28.94	0.02
29.40	0.00	0.005	28.94	0.02
29.50	0.00	0.004	28.94	0.02
29.60	0.00	0.004	28.93	0.02
29.70	0.00	0.004	28.93	0.02
29.80	0.00	0.004	28.93	0.02
29.90	0.00	0.004	28.93	0.01
30.00	0.00	0.004	28.92	0.01
30.10	0.00	0.004	28.92	0.01
30.20	0.00	0.004	28.92	0.01
30.30	0.00	0.004	28.92	0.01
30.40	0.00	0.003	28.92	0.01
30.50	0.00	0.003	28.91	0.01

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Hydrograph for Pond DET: Underground Detention System (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
30.60	0.00	0.003	28.91	0.01
30.70	0.00	0.003	28.91	0.01
30.80	0.00	0.003	28.91	0.01
30.90	0.00	0.003	28.91	0.01
31.00	0.00	0.003	28.91	0.01
31.10	0.00	0.003	28.90	0.01
31.20	0.00	0.003	28.90	0.01
31.30	0.00	0.003	28.90	0.01
31.40	0.00	0.003	28.90	0.01
31.50	0.00	0.003	28.90	0.01
31.60	0.00	0.003	28.90	0.01
31.70	0.00	0.003	28.90	0.01
31.80	0.00	0.002	28.90	0.01
31.90	0.00	0.002	28.90	0.01
32.00	0.00	0.002	28.90	0.01
32.10	0.00	0.002	28.89	0.01
32.20	0.00	0.002	28.89	0.01
32.30	0.00	0.002	28.89	0.00
32.40	0.00	0.002	28.89	0.00
32.50	0.00	0.002	28.89	0.00
32.60	0.00	0.002	28.89	0.00
32.70	0.00	0.002	28.89	0.00
32.80	0.00	0.002	28.89	0.00
32.90	0.00	0.002	28.89	0.00
33.00	0.00	0.002	28.89	0.00
33.10	0.00	0.002	28.89	0.00
33.20	0.00	0.002	28.89	0.00
33.30	0.00	0.002	28.89	0.00
33.40	0.00	0.002	28.89	0.00
33.50	0.00	0.002	28.89	0.00
33.60	0.00	0.002	28.88	0.00
33.70	0.00	0.002	28.88	0.00
33.80	0.00	0.002	28.88	0.00
33.90	0.00	0.002	28.88	0.00
34.00	0.00	0.002	28.88	0.00
34.10	0.00	0.002	28.88	0.00
34.20	0.00	0.002	28.88	0.00
34.30	0.00	0.002	28.88	0.00
34.40	0.00	0.002	28.88	0.00
34.50	0.00	0.002	28.88	0.00
34.60	0.00	0.002	28.88	0.00
34.70	0.00	0.002	28.88	0.00
34.80	0.00	0.002	28.88	0.00
34.90	0.00	0.002	28.88	0.00
35.00	0.00	0.002	28.88	0.00
35.10	0.00	0.002	28.88	0.00
35.20	0.00	0.001	28.88	0.00
35.30	0.00	0.001	28.88	0.00
35.40	0.00	0.001	28.88	0.00
35.50	0.00	0.001	28.88	0.00
35.60	0.00	0.001	28.88	0.00

WQV Detention Time

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Hydrograph for Pond DET: Underground Detention System (continued)

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
35.70	0.00	0.001	28.88	0.00
35.80	0.00	0.001	28.88	0.00
35.90	0.00	0.001	28.88	0.00
36.00	0.00	0.001	28.88	0.00

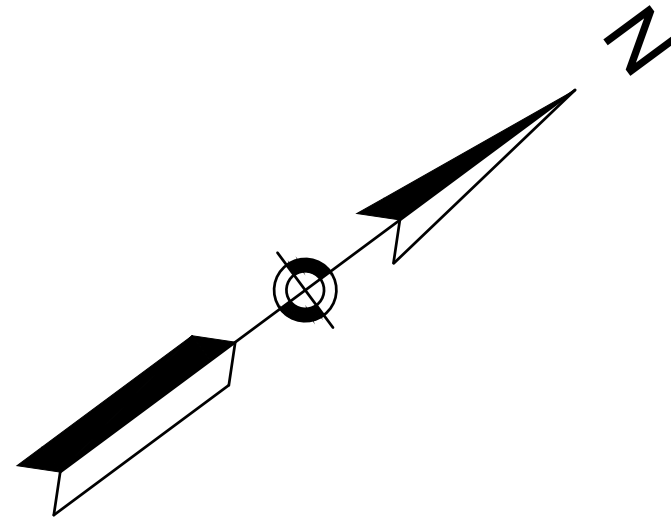
Stormwater Management Report

Kittery Circle, LLC, Kittery, Maine

August 17, 2023

APPENDIX G

Drainage Area Plans



WATERSHED LEGEND

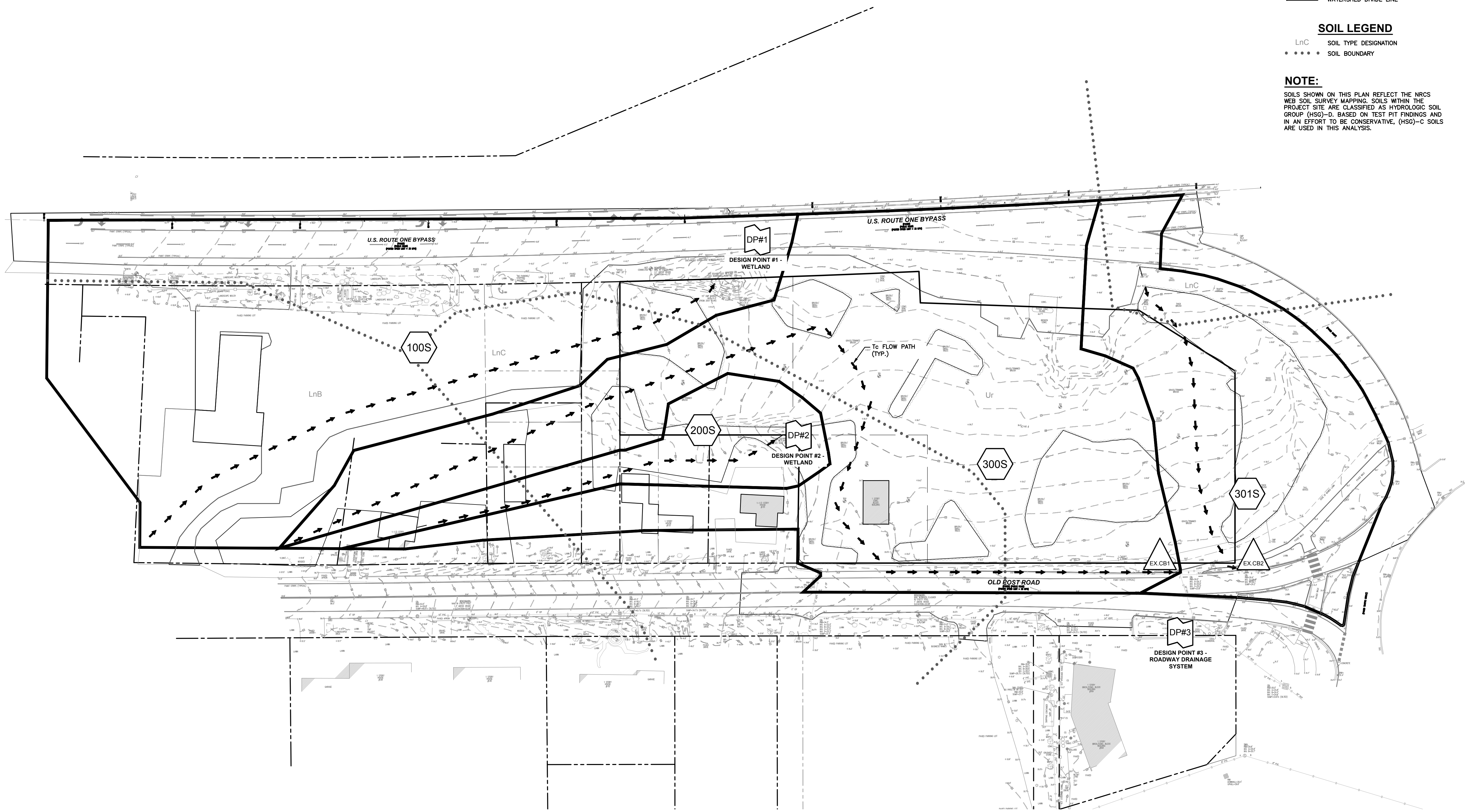
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- REACH: A UNIFORM STREAM, CHANNEL, OR PIPE THAT CONVEYS WATER FROM ONE POINT TO ANOTHER REACH OR POND. THE OUTFLOW OF EACH REACH IS DETERMINED BY A HYDROGRAPH ROUTING CALCULATION.
- POND: A POND, SWAMP, DAM, OR OTHER IMPOUNDMENT THAT FILLS WITH WATER FROM ONE OR MORE SOURCES AND EMPTIES IN A MANNER DETERMINED BY A WEIR, CULVERT, OR OTHER DEVICE(S) AT ITS OUTLET. THE OUTFLOW(S) OF EACH POND IS DETERMINED BY A HYDROGRAPH ROUTING CALCULATION. THE PRIMARY AND/OR SECONDARY OUTFLOW MAY DRAIN INTO A REACH OR INTO ANOTHER POND.
- DESIGN POINT
- TIME OF CONCENTRATION PATH (T_c)
- WATERSHED DIVIDE LINE

SOIL LEGEND

- LnC SOIL TYPE DESIGNATION
- SOIL BOUNDARY

NOTE:

SOILS SHOWN ON THIS PLAN REFLECT THE NRCS WEB SOIL SURVEY MAPPING. SOILS WITHIN THE PROJECT SITE ARE CLASSIFIED AS HYDROLOGIC SOIL GROUP (HSG)-D. BASED ON TEST PIT FINDINGS AND IN AN EFFORT TO BE CONSERVATIVE, (HSG)-C SOILS ARE USED IN THIS ANALYSIS.



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PREPARED FOR
KITTERY CIRCLE, LLC
321D LAFAYETTE ROAD
HAMPTON, NH 03842

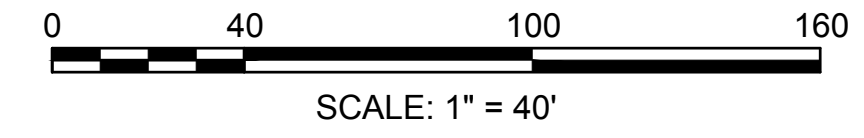
ASSESSORS MAP 14 LOTS 10, 12 & 12A
139 OLD POST ROAD,
112 & 120 US ROUTE 1 BYPASS
KITTERY, MAINE

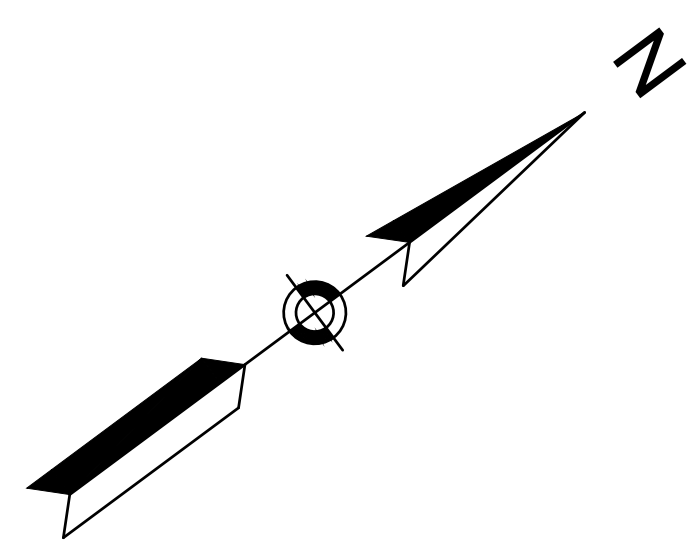
REVISIONS		
NO.	REVISION	DATE

**PRE -
DEVELOPMENT
DRAINAGE
AREA PLAN**

SCALE: 1"=40'
PROJECT NO. NEX-2200380

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WATERSHED LEGEND

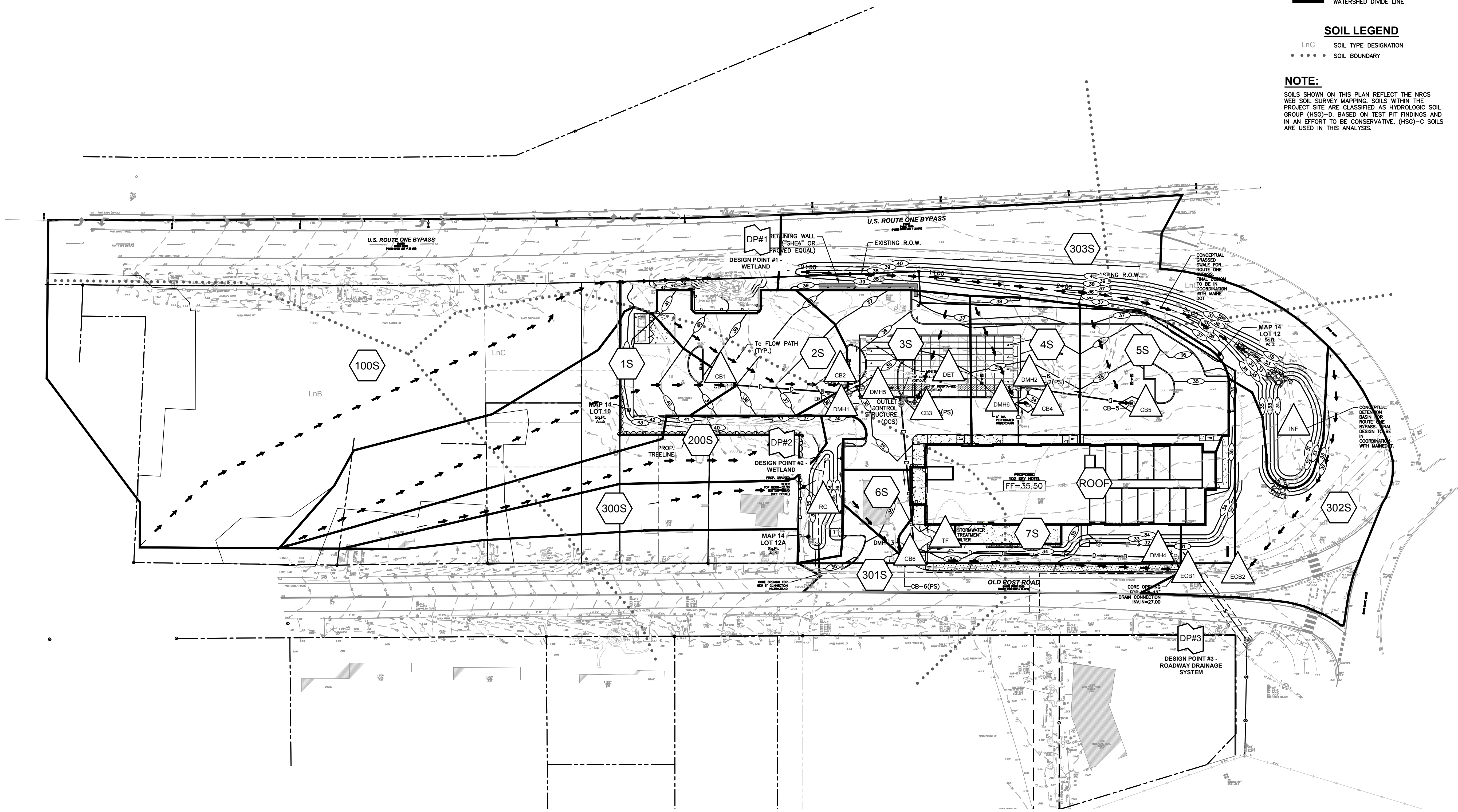
- SUB: A RELATIVELY HOMOGENEOUS AREA OF LAND THAT DRAINS INTO A SINGLE REACH OR POND. EACH SUBCATCHMENT GENERATES A RUNOFF HYDROGRAPH. (A SUBCATCHMENT MAY ALSO BE USED TO ACCOUNT FOR THE RAIN FALLING DIRECTLY ON THE SURFACE OF A POND.)
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- DP: DESIGN POINT
- TIME OF CONCENTRATION PATH (T_c)
- WATERSHED DIVIDE LINE

SOIL LEGEND

- LnC SOIL TYPE DESIGNATION
- SOIL BOUNDARY

NOTE:

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321D LAFAYETTE ROAD
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ASSESSORS MAP 14 LOTS 10, 12 & 12A
139 OLD POST ROAD,
112 & 120 US ROUTE 1 BYPASS
KITTERY, MAINE

REVISIONS		
NO.	REVISION	DATE

REVISIONS		
NO.	REVISION	DATE

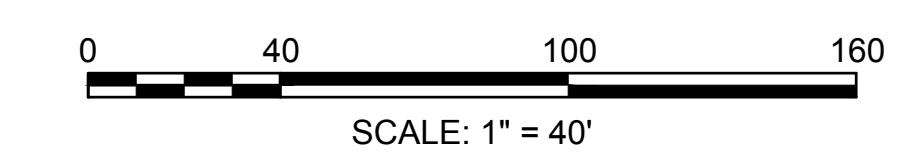
AUGUST 17, 2023
DRAWN/DESIGN BY: SMS/CNM CHECKED BY: DRJ

POST - DEVELOPMENT DRAINAGE AREA PLAN

SCALE: 1"=40'

PROJECT NO. NEX-2200380

2 OF 2



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United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for York County, Maine



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

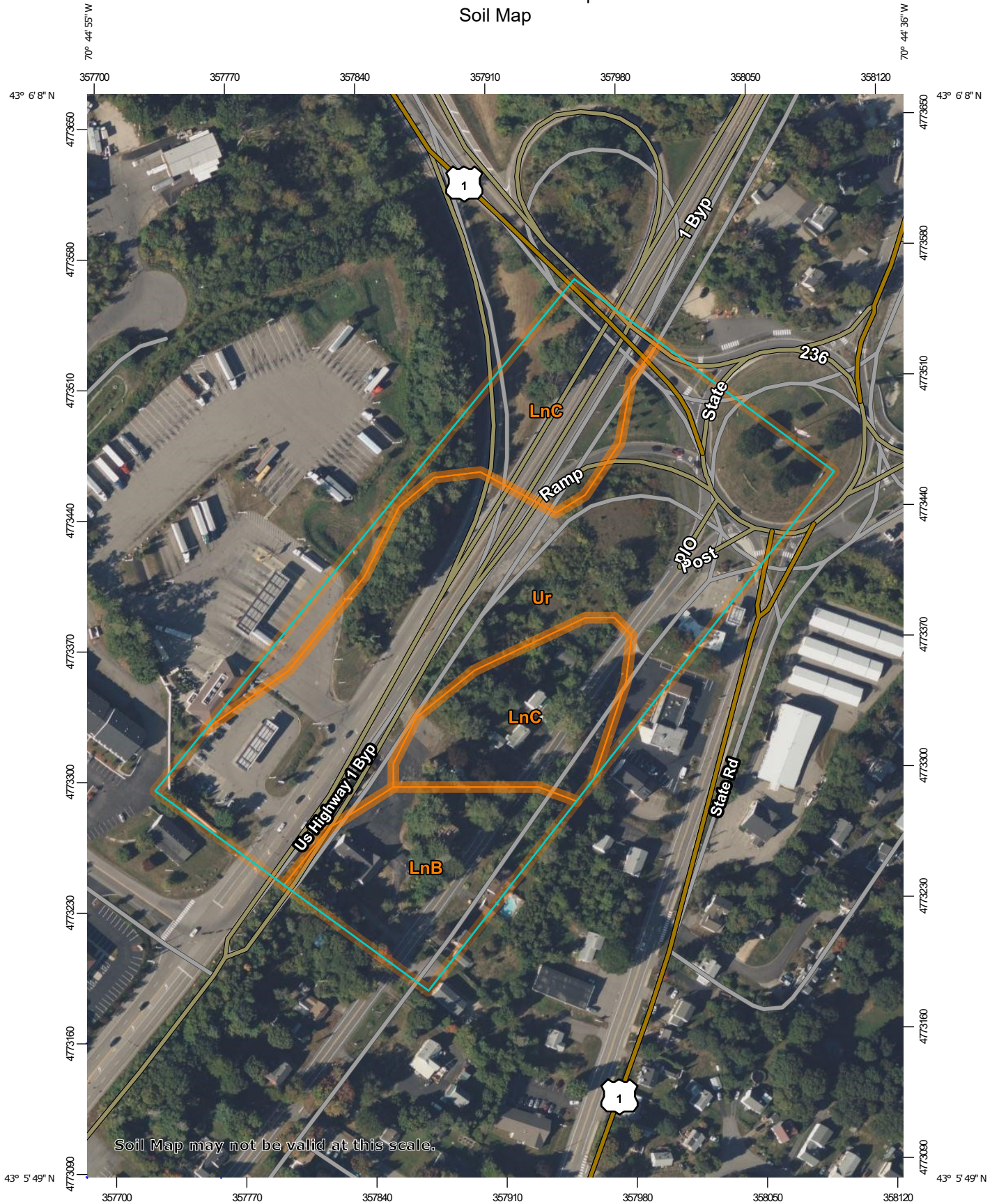
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

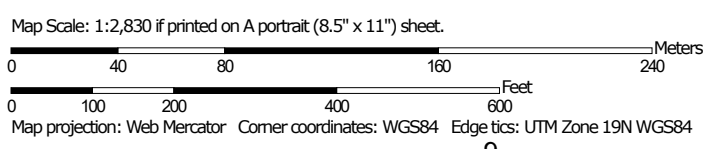
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.





































Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.



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 1:20,000.

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: York County, Maine
 Survey Area Data: Version 21, Aug 30, 2022

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
LnB	Lyman loam, 3 to 8 percent slopes, rocky	2.4	15.2%
LnC	Lyman loam, 8 to 15 percent slopes, rocky	4.4	28.3%
Ur	Urban land	8.8	56.5%
Totals for Area of Interest		15.6	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

Custom Soil Resource Report

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

York County, Maine

LnB—Lyman loam, 3 to 8 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2trq7

Elevation: 0 to 520 feet

Mean annual precipitation: 36 to 65 inches

Mean annual air temperature: 36 to 52 degrees F

Frost-free period: 60 to 160 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Lyman, rocky, and similar soils: 86 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman, Rocky

Setting

Landform: Hills, mountains

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or loamy supraglacial till derived from phyllite and/or loamy supraglacial till derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: loam

E - 3 to 5 inches: fine sandy loam

Bhs - 5 to 7 inches: loam

Bs1 - 7 to 11 inches: loam

Bs2 - 11 to 18 inches: channery loam

R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 11 to 24 inches to lithic bedrock

Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 14.03 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: D

Hydric soil rating: No

LnC—Lyman loam, 8 to 15 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2trq9

Elevation: 0 to 690 feet

Mean annual precipitation: 36 to 65 inches

Mean annual air temperature: 36 to 52 degrees F

Frost-free period: 60 to 160 days

Farmland classification: Not prime farmland

Map Unit Composition

Lyman, rocky, and similar soils: 86 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman, Rocky

Setting

Landform: Hills, mountains

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Mountaintop, mountainflank,
mountainbase, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy supraglacial till derived from granite and gneiss and/or
loamy supraglacial till derived from phyllite and/or loamy supraglacial till
derived from mica schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 3 inches: loam

E - 3 to 5 inches: fine sandy loam

Bhs - 5 to 7 inches: loam

Bs1 - 7 to 11 inches: loam

Bs2 - 11 to 18 inches: channery loam

R - 18 to 28 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: 11 to 24 inches to lithic bedrock

Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00
to 14.03 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: D

Custom Soil Resource Report

Hydric soil rating: No

Ur—Urban land

Map Unit Composition

Urban land: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Base slope, tread

Down-slope shape: Linear

Across-slope shape: Linear

Typical profile

H1 - 0 to 6 inches: variable

Properties and qualities

Slope: 0 to 8 percent

Drainage class: Moderately well drained

Depth to water table: About 24 to 72 inches

Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s

Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

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

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

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

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

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

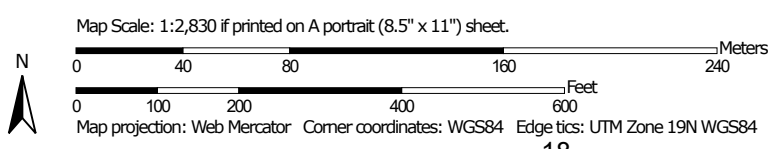
Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over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

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

































Custom Soil Resource Report Map—Hydrologic Soil Group



Soil Map may not be valid at this scale.



MAP LEGEND

- Area of Interest (AOI)**
 -  Area of Interest (AOI)
- Soils**
 - Soil Rating Polygons**
 -  A
 -  A/D
 -  B
 -  B/D
 -  C
 -  C/D
 -  D
 -  Not rated or not available
 - Soil Rating Lines**
 -  A
 -  A/D
 -  B
 -  B/D
 -  C
 -  C/D
 -  D
 -  Not rated or not available
 - Soil Rating Points**
 -  A
 -  A/D
 -  B
 -  B/D
- Water Features**
 -  Streams and Canals
- Transportation**
 -  Rails
 -  Interstate Highways
 -  US Routes
 -  Major Roads
 -  Local Roads
- Background**
 -  Aerial Photography
- Other**
 -  C
 -  C/D
 -  D
 -  Not rated or not available

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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: York County, Maine
 Survey Area Data: Version 21, Aug 30, 2022

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.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
LnB	Lyman loam, 3 to 8 percent slopes, rocky	D	2.4	15.2%
LnC	Lyman loam, 8 to 15 percent slopes, rocky	D	4.4	28.3%
Ur	Urban land		8.8	56.5%
Totals for Area of Interest			15.6	100.0%

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

References

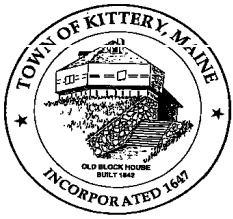
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TOWN OF KITTERY, MAINE

SEWER DEPARTMENT

200 Rogers Road, Kittery, ME 03904

Telephone: (207) 439-4646 Fax: (207) 439-2799

Tropic Star
120 US Route One By-Pass
Kittery, ME 03904

July 26, 2023

RE:Sewer Availability

This letter is to confirm that the sewer system (piping and pumping stations) and the treatment facility has the capacity and ability to handle the increased flow from the project located at 120 US Route One By-Pass.

This letter is only confirming the sewer department capacity, Impact and Entrance Fees will be calculated after project receives all required approvals.

If you have further questions or concerns, please contact me.

Sincerely Yours

Timothy Babkirk

Timothy Babkirk
Superintendent of Sewer Services
Town of Kittery
200 Rogers Rd
Kittery ME 03904
1-207-439-4646
tbabkirk@kitteryme.org

John C. Perry, President
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Carla J. Robinson, Trustee



Michael S. Rogers, Superintendent
Carl B. Palm, Assistant Superintendent
Melissa J. Locke, Office Manager

OFFICE OF

KITTERY WATER DISTRICT

17 State Road
Kittery, ME 03904-1565
TEL: 207-439-1128
FAX: 207-439-8549
Email: info@kitterywater.org

Kittery Planning Board
200 Rogers Road
Kittery, ME 03904

July 26, 2023

Re: Proposed 102 Room Extended Stay Hotel, Map 14 (Lots 10,12 and 12A)

Dear Planning Board Members,

Please accept this letter as verification that the Kittery Water District does have the capacity to supply the proposed 102 Room Extended Stay Hotel, Map 14 (Lots 10, 12 and 12A), on Old Post Road, Kittery with Municipal Water Service.

Sincerely,

A handwritten signature in blue ink that reads "Michael S. Rogers". The signature is written in a cursive, flowing style.

Michael S. Rogers
Superintendent

cc: Diane M. Pantermoller, Technician, Greenman – Pedersen Inc.



Kittery, ME



August 2, 2023

1 inch = 200 Feet

www.cai-tech.com



	Right of Way		Utility		Dashed Road		Property Line
	Cemetery		RoadNotPar		Condo		Public Road

DLN #1002240211702

DEED

SCOTT MITCHELL, an individual having an address of 321 D Lafayette Road, Hampton, NH 03842

does hereby grant and convey to **KITTERY CIRCLE LLC**, a Maine limited liability company, having a mailing address of 321 D Lafayette Road, Hampton, NH 03842,

PARCEL ONE (Lot 12):

That real estate located in Kittery, County of York, State of Maine and described in a deed from Doris H. Veilleux to Patrick L. J. Veilleux dated August 18, 1975 and recorded in Book 15265, Page 348, in York County Registry of Deeds.

Said parcel is known as 120 US Route 1 By-Pass and the Town of Kittery map has it listed as MAP 14, Lot 12.

PARCEL TWO (Lot 12A):

That real estate located in Kittery, County of York, State of Maine and described in a deed from J. IRENEE, INC. to PATRICK L. J. VEILLEUX dated August 26, 1983 and recorded in Book 15262, Page 863 on 9/24/2007, in York County Registry of Deeds.

See also Deed of James H. and Ruth E. Dineen to J. IRENEE, Inc. recorded in Book 3152, Page 322, dated and recorded on August 26, 1983. See also Deed in Book 3080, Page 06.

Said parcel is known as 139 Old Post Road, and the Town of Kittery map has it listed as MAP 14, Lot 12A.

PARCEL THREE (Lot 10):

That real estate located in Kittery, County of York, State of Maine and described in a deed from Clarisse Bouffard to Patrick L. J. Veilleux dated October 14, 1986 and recorded in Book 4127, Page 4127, Page 264, in the York County Registry of Deeds. Also see Deed in Book 4033, Page 116, also Book 4051, Page 201.

Said parcel is known as 112 US Route 1 By-Pass and the Town of Kittery map has it listed as Map 14, Lot 10.

For title reference, see deeds recorded simultaneously herewith.

Maine R.E. Transfer Tax Paid

Witness my hand and seal this 11th day of October, 2022.

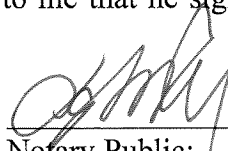


SCOTT MITCHELL

COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss

On this 11th day of October, 2022, before me, the undersigned notary public, personally appeared SCOTT MITCHELL, who proved to me through satisfactory evidence of identification, which was a valid Driver's License, to be the person whose name is signed on the preceding or attached document and acknowledged to me that he signed it voluntarily for its stated purpose.



Notary Public:

My Commission Expires:



DOUGLAS E. HAUSLER
Notary Public
Commonwealth of Massachusetts
My Commission Expires
December 13, 2024

DLN #1002240211617

Warranty Deed

Grantors being First Kittery Place, LLC, owner of Lot 12; Jerome Kittery Land Parcel, LLC, owner of Lot 12A; and Clarisse Kittery Land Parcel, LLC, owner of Lot 10. All Lots are in Kittery, County of York, State of Maine and are described herein.

The three corporations are State of Maine LLCs with a mailing address of 36940 Kiowa Ave., Zephyrhills, FL. 33542.

Grantee is Scott Mitchell of 285 Dockham Shore Road, Gilford, New Hampshire 03249, herein referred to as Buyer.

For consideration paid to Grantors by the Grantee:

First Kittery Place, LLC, Grants to Grantee with Warranty Covenants the following:

Lot 12 Described:

Conveying that real estate located in Kittery, Maine, described in a deed from Doris H. Veilleux to Patrick L.J. Veilleux dated August 18, 1975, and recorded in Book 15265, Page 348 in York County Registry of Deeds. See deed of Patrick L.J. Veilleux conveying said real estate to "FIRST KITTEERY PLACE, LLC" recorded in the Registry of Deeds in Book 18375, Page 828 recorded on 09/14/2020.

Jerome Kittery Land Parcel, LLC, Grants to Grantee with Warranty Covenants the following:

Lot 12A Described:

A certain parcel of land with a small building thereon in Kittery, Maine, conveyed to "JEROME KITTEERY LAND PARCEL, LLC" BY Patrick L.J.

1

Maine R.E. Transfer Tax Paid

Veilleux by deed dated 09/14/2020 as recorded in York County, Maine, Registry of Deeds in Book 18375, Page 829.

See deed recorded in Book 15262, Page 863 and see a Recorded Plan recorded in said Registry of Deeds in PLAN BOOK 97, PAGE 28.

Clarisse Kittery Land Parcel, LLC, Grants to Grantee with Warranty Covenants the following:

Lot 10 Described:

A certain parcel of land located on the southeasterly sideline of U.S. Route 1 By-Pass, also known in the past as the Maine-New Hampshire Interstate Highway in Kittery, County of York, State of Maine, and being the real estate known as Parcel 14-10 and Parcel "A" on Boundary Plan prepared for J.G. REALTY TRUST, Kittery, Maine, dated July 7, 1981 by Thomas F. Moran, Inc. and recorded in the York County Registry of Deeds in Plan Book 118 Page 34 on September 15, 1982.

There is no conveyance to the Grantee of rights to the private way, a/k/a right of way, situated on the southwesterly sideline of the above-described land; Grantee will have no right to pass, repass or use said way. By accepting this Deed, grantee and successors in title agree to place and maintain a metal guard rail along the entire length of said southwesterly sideline of the conveyed land abutting the private way and along the 70-foot boundary line of the land formerly owned by Eugene and Maude Clough; said guard rail shall be sufficient to prevent any vehicle from crossing or passing from land hereby conveyed to the reserved way.

See Deed in Book 4033, Page 116, and Deed from Clarisse Bouffard to Patrick L.J. Veilleux dated October 14, 1986, and recorded in Book 4127, Page 264. See Deed to "Clarisse Kittery Land Parcel, LLC" dated September 10, 2020, and recorded in Book 18375, Page 830.


Also, the State of Maine Department of Transportation recorded on June 25, 2002, in Plan Book 269, Page 21 in a plan showing a water ditch and grading rights.


The lands conveyed in these deeds may be subject to an existing underground water culvert system that traverses all lands conveyed to the Buyer in this deed.

The following shall apply to the above Lots 12, 12 A and 10:

The within conveyances are subject to covenants, easements and restrictions as may exist. All directions and distances stated in the above conveyances, deeds or plans incorporated by reference, are meant to be approximations.

Witness the hand of Patrick L. J. Veilleux as the Authorized Member of the three LLC's this 3rd day of OCTOBER, 2022


Richard F. HEON
Witness


Patrick L.J. Veilleux as
Authorized Member

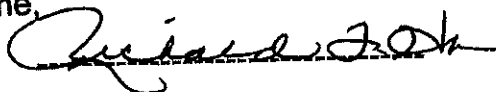
State of Florida

Pasco County

Date October 3, 2022

Then personally Appeared the above Patrick L. J. Veilleux as authorized member of the three LLC's Grantors and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said three LLC's Corporations.

Before me,



Notary Public



RICHARD F. HEON
Commission # GG 309977
Expires March 10, 2023
Bonded Thru Budget Notary Services

3



150 foot Abutters List Report

Kittery, ME
July 27, 2023

Subject Properties:

Parcel Number: 14-10 CAMA Number: 14-10 Property Address: 112 US ROUTE 1 BY-PASS	Mailing Address: KITTERY CIRCLE LLC KITTERY CIRCLE LLC 321 D LAFAYETTE ROAD HAMPTON, NH 03842
Parcel Number: 14-12 CAMA Number: 14-12 Property Address: 120 US ROUTE 1 BY-PASS	Mailing Address: KITTERY CIRCLE LLC KITTERY CIRCLE LLC 321 D LAFAYETTE ROAD HAMPTON, NH 03842
Parcel Number: 14-12A CAMA Number: 14-12A Property Address: 139 OLD POST ROAD	Mailing Address: KITTERY CIRCLE LLC KITTERY CIRCLE LLC 321 D LAFAYETTE ROAD HAMPTON, NH 03842

Abutters:

Parcel Number: 13-9 CAMA Number: 13-9 Property Address: 103 US ROUTE 1 BY-PASS	Mailing Address: COBALT PROPERTIES LLC COBALT PROPERTIES LLC PO BOX 868 CALAIS, ME 04619
Parcel Number: 14-1 CAMA Number: 14-1 Property Address: 106 US ROUTE 1 BY-PASS	Mailing Address: FONTAINE MEMORIAL LLC FONTAINE MEMORIAL LLC 84 BROAD STREET PORTSMOUTH, NH 03801
Parcel Number: 14-11 CAMA Number: 14-11 Property Address: 135 OLD POST ROAD	Mailing Address: EVANS, ELIZABETH M. EVANS, ELIZABETH M. 135 OLD POST ROAD KITTERY, ME 03904
Parcel Number: 14-33 CAMA Number: 14-33 Property Address: 157 STATE ROAD	Mailing Address: GOLTER REALTY LLC GOLTER REALTY LLC 16 COOK STREET KITTERY, ME 03904-1551
Parcel Number: 14-33B CAMA Number: 14-33B Property Address: 132 OLD POST ROAD	Mailing Address: NEAL, STUART W NEAL, STUART W 132 OLD POST ROAD KITTERY, ME 03904-1063
Parcel Number: 14-34 CAMA Number: 14-34 Property Address: 165 STATE ROAD	Mailing Address: VISTA REALTY TRUST VISTA REALTY TRUST PO BOX 390419 CAMBRIDGE, MA 02139
Parcel Number: 14-36 CAMA Number: 14-36 Property Address: 169 STATE ROAD	Mailing Address: CHRISTYS REALTY LIMITED PART CHRISTYS REALTY LIMITED PART ATTN CORP TAX DEPT LOC 125 PO BOX 711 DALLAS, TX 75221-0711



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7/27/2023

Page 1 of 2



150 foot Abutters List Report

Kittery, ME
July 27, 2023

Parcel Number: 14-7
CAMA Number: 14-7
Property Address: 127 OLD POST ROAD

Mailing Address: VEILLEUX, PATRICK L J VEILLEUX,
PATRICK L J
36940 KIOWA AVENUE
ZEPHYRHILLS, FL 33542

Parcel Number: 14-8
CAMA Number: 14-8
Property Address: 129 OLD POST ROAD

Mailing Address: WILLOW TREE 129 OLD POST ROAD,
LLC WILLOW TREE 129 OLD POST
ROAD, LLC
36940 KIOWA AVENUE
ZEPHYRHILLS, FL 33542

Parcel Number: 14-9
CAMA Number: 14-9
Property Address: 133 OLD POST ROAD

Mailing Address: PELKEY, JEFFREY S PELKEY, JEFFREY
S
PO BOX 1
ELIOT, ME 03903



www.cai-tech.com

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7/27/2023

Page 2 of 2


August 4, 2023

SUBJECT: Kittery Circle, LLC
139 Old Post Road
112 & 120 US Route 1 Bypass
Kittery, ME

On behalf of Kittery Circle, LLC hereby notifies you that an application for a Preliminary Site Plan Application has been filed with the Planning Board. A copy of the application can be reviewed at the Town of Kittery Planning and Development Department between the hours of Monday through Wednesday 8:30-4pm and Thursday 8:30-6pm.

Sincerely,

GREENMAN-PEDERSEN, INC.


Nicole Duquette, PE
Project Manager

cc: Kittery Circle, LLC

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City, S

PATRICK L. J. VEILLEUX
 36940 KIOWA AVENUE
 ZEPHYRHILLS, FL 33542

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Street

City,

KITTERY CIRCLE LLC
 321 D LAFAYETTE ROAD
 HAMPTON, NH 03842

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Adult Signature Restricted Delivery \$ _____



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City, S

CHRISTY'S REALTY LIMITED
 PARTNERSHIP
 ATTN. CORP TAX DEPT LOC
 125 P.O. BOX 711
 DALLAS, TX 75221

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Street

City,

JEFFREY S. PELKEY
 P.O. BOX 1
 ELIOT, ME 03909

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City, Stat

VISTA REALTY TRUST
 P.O. BOX 390419
 CAMBRIDGE, MA 02139

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Adult Signature Restricted Delivery \$ _____



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Street

City,

WILLOW TREET 129 OLD POST ROAD,
 LLC
 36940 KIOWA AVENUE
 ZEPHYRHILLS, FL 33542

7022 2410 0003 1445 0490

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Total	\$
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Street	
City, State	

GOLTER REALTY, LLC
16 COOK STREET
KITTERY, ME 03904

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<input type="checkbox"/> Adult Signature Restricted Delivery	\$



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Total	\$
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Street	
City, State	

NEAL W. STUART
132 OLD POST ROAD
KITTERY, ME 03904

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City, State	

FONTAINE MEMORIAL, LLC
84 BROAD STREET
PORTSMOUTH, NH 03801

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COBALT PROPERTIES, LLC
P.O. BOX 868
CALAIS, ME 04619

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<input type="checkbox"/> Adult Signature Restricted Delivery	\$



Postage	
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Total	\$
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Street	
City, State	

ELIZABETH M. EVANS
135 OLD POST ROAD
KITTERY, ME 03904