



**Civil
Site Planning
Environmental
Engineering**

133 Court Street
Portsmouth, NH
03801-4413

July 22, 2021

Kittery Planning Board
200 Rogers Road
Kittery, Maine 03904

**Re: Site Plan Review and Right of Way Applications
Good To-Go
524 U.S. Route 1
Kittery, Maine**

Dear Members of the Board,

On behalf of the applicant, C-Coast Properties and Good To-Go c/o Cape House Management, LLC, we respectfully submit Site Plan Review and Right of Way applications for property located at 524 U.S. Route 1. The property currently hosts a residential dwelling and is primarily wooded except for a few small sections of meadow around the existing house. The applications contemplate the construction of a public right of way to access a private site consisting of a 20,000 sf specialty food manufacturing facility. Good To-Go, a Kittery-based company currently located at 484 U.S. Route 1, makes dehydrated foods for hiking, camping and other outdoor activity. With this new facility, they anticipate being able to quadruple production to meet explosive demand for their award-winning creations.

If you have any questions or need additional information, please contact us. Thank you for your time and consideration.

Sincerely,

ALTUS ENGINEERING, INC.

A handwritten signature in red ink, appearing to read "EBS: [unclear]", is written over a dashed line.

Erik B. Saari
Vice President

ebs/5116-00-CoverLetter-072221

Enclosures



TOWN OF KITTERY, MAINE

TOWN PLANNING AND DEVELOPMENT DEPARTMENT

200 Rogers Road, Kittery, Maine 03904
 PHONE: (207) 475-1323 - FAX: (207) 439-6806
www.kittery.org

APPLICATION: SITE PLAN REVIEW

FEE FOR SITE PLAN REVIEW:	<input checked="" type="checkbox"/> \$300.00 PLUS THE GREATER OF:	<input type="checkbox"/> \$50/USE OF UNIT; OR	<input checked="" type="checkbox"/> \$5.00/100 SQ FT OF GROSS FLOOR AREA \$1,000	Application Fee Paid: \$ _____ Date: _____
		<input type="checkbox"/> \$.50/LINEAR FOOT OF DOCK, SLIP & FLOAT; OR	<input type="checkbox"/> \$20.00/ UNIT INTENDED TO PROVIDE OVERNIGHT SLEEPING ACCOMODATIONS	ASA Fee Paid: (TITLE 3.3 TOWN CODE) \$ _____ Date: _____

PROPERTY DESCRIPTION	Parcel ID	Map	67	Lot	1	Zone:	MU	Total Land Area (Square Feet)	1,040,714 sf (23.89 acres)
	Physical Address	524 U.S. Route 1							
						Base:	_____		
						Overlay:	_____		
						MS4:	___ YES <input checked="" type="checkbox"/> NO		

PROPERTY OWNER'S INFORMATION	Name	C-Coast Properties, LLC	Mailing Address	8 Banks Rock
	Phone	(207) 321-9569		York, Maine 03911
	Fax			
	Email	kevinwerikson@gmail.com		

APPLICANT'S AGENT INFORMATION	Name	Erik Saari	Name of Business	Altus Engineering, Inc.
	Phone	(603) 433-2335	Mailing Address	
	Fax			
	Email	esaari@altus-eng.com		

PROJECT DESCRIPTION	Existing Use:	The site currently hosts a single-family residence and some sections of field with the remainder of the site being wooded.
	Project Name:	Good To-Go
	Proposed Use:	Specialty Food Facility
		20,000 sf building with associated parking and infrastructure

WAIVER REQUEST

	Ordinance Section	Describe why this request is being made.
DESCRIPTION	***EXAMPLE*** 16.32.560 (B)- OFFSTREET PARKING.	***EXAMPLE*** Requesting a waiver of this ordinance since the proposed professional offices have a written agreement with the abutting Church owned property to share parking.
		See attached Waiver Request Letter

Related Kittery Land Use Code concerning waivers and modifications:

16.10.8.2.5 Conditions or Waivers.

Conditions required by the Planning Board at the final plan review phase must have been met before the final plan may be given final approval unless so specified in the condition or specifically waived, upon written request by the applicant, by formal Planning Board action wherein the character and extent of such waivers which may have been requested are such that they may be waived without jeopardy to the public health, safety and general welfare.

16.7.4.1 Objectives Met. In granting modifications or waivers, the Planning Board must require such conditions as will, in its judgment, substantially meet the objectives of the requirements so waived or modified.

I certify that, to the best of my knowledge, the information provided in this application is true and correct and will not deviate from the plans submitted without notifying the Kittery Planning Department of any changes.

Applicant's Signature:		Owner's Signature:	See attached LOA
Date:	<u>07/22/21</u>	Date:	<u>07/22/21</u>

COMPLETED BY OFFICE STAFF

ASA CHARGE	AMOUNT	ASA CHARGE	AMOUNT
REVIEW		SERVICES	
LEGAL FEES (TBD)		RECORDER	\$35
ENGINEERS REVIEW (TBD)		FACT FINDING (TBD)	
ABUTTER NOTICES		3 RD PARTY INSPECTIONS (TBD)	
POSTAGE	\$20	OTHER PROFESSIONAL SERVICES	\$50
LEGAL NOTICES		PERSONNEL	
ADVERTISING	\$300	SALARY CHARGES IN EXCESS OF 20 HOURS	
SUPPLIES			
OFFICE	\$5		
SUB TOTAL		SUB TOTAL	
		TOTAL ASA REVIEW FEES	



TOWN OF KITTELY MAINE

TOWN PLANNING DEPARTMENT

200 Rogers Road, Kittery, Maine 03904
 PHONE: (207) 475-1323
 Fax: (207) 439-6806
www.kittery.org

APPLICATION: RIGHT-OF WAY PLAN REVIEW (APPLICABLE FOR A SINGLE LOT)

FEE FOR REVIEW	<input type="checkbox"/> \$300.00		Amount Paid: \$ _____		Date: _____				
PROPERTY DESCRIPTION	Parcel ID	Map	67	Lot	1	Zone(S): Base Overlay MS4	MU _____ _____ YES <input checked="" type="checkbox"/> NO	Total Land Area	1,040,714 sf (23.86 acres)
	Physical Address	524 U.S. Route 1							
PROPERTY OWNER'S INFORMATION	Name	C-Coast Properties, LLC			Mailing Address	8 Banks Rock York, Maine 03911			
	Phone	(207) 321-9569							
	Fax								
	Email	kevinwerikson@gmail.com							
APPLICANT'S AGENT INFORMATION	Name	Erik Saari			Name of Business	Altus Engineering, Inc.			
	Phone	(603) 433-2335			Mailing Address	133 Court Street Portsmouth, NH 03801			
	Fax								
	Email	esaari@altus-eng.com							
DESCRIPTION	Existing Conditions: The site currently hosts a single-family residence and some sections of field with the remainder of the site being wooded.								
	Proposed legal and physical changes: (Documents for dedication of the ROW, maintenance agreements, riders to deeds, grading, drainage and pavement, etc.)								
	The proposal adds a 60'-wide public right of way to access two private sites. One site is currently for sale while the other is included in the accompanying site plan review application. Said site will include a new 20,000 sf building with associated parking and infrastructure.								
I certify that, to the best of my knowledge, the information provided in this application is true and correct and will not deviate from the Plan submitted without notifying the Kittery Town Planning Department of any changes.									
Applicant's Signature:	<u>ES: [Signature]</u>				Owner's Signature:	See attached LOA			
Date:	<u>07/22/21</u>				Date:	<u>07/22/21</u>			

Minimum Submission Requirements

15 COPIES OF THE RIGHT OF PLAN – 5 OF WHICH MUST BE 24" X 36"

PRIOR TO COMMENCEMENT OF THE REVIEW PROCESS, THE PLANNING BOARD WILL DECIDE WHETHER SUFFICIENT INFORMATION HAS BEEN PROVIDED AND WILL VOTE TO *DETERMINE COMPLETENESS/ACCEPTANCE*. See Section 16.10.5.2

THE APPLICATN IS RESPONSIBLE TO CLEARLY DESCRIBE THE PROJECT.

- A) Paper size:
 - No less than 11" X 17" (reduced) or greater than 24" X 36" (full).
- B) Scale size:
 - Under 10 acres: no greater than 1" = 30'
 - 10 + acres: 1" = 50'
- C) Title block:
 - Applicant's name and address
 - Name of preparer of plans with professional information and professional seal
 - Parcel's tax map identification (map – lot)
 - Date of plan preparation
- D) Survey performed and sealed by licensed surveyor:
 - Identify all existing property/R.O.W. markers
 - Show all proposed boundary monuments (per ordinance)
- E) Provide orientation:
 - Arrow showing true north and magnetic declination
 - Graphic scale Signature block
- F) The right of way plans must include:
 - Size of the parcel minus the area in the R.O.W.
 - Area of R.O.W. Length of lot frontage;
 - Zoning and zone boundaries Front yard setbacks
 - Deed docket and page numbers Intersecting lot lines
 - Existing topography Horizontal alignment
 - Vertical profile (existing ground and proposed grades)
 - Sidewalks Watercourses forest cover
 - Ledge outcroppings Proposed areas of blasting
 - Utilities (above and below ground)
 - Above ground utilities (poles) that may be relocated
 - Storm drainage systems and structures
 - Parks Open space Conservation easements
 - The location of all natural features or site elements to be preserved.
- G) Show and locate on the plans the names and addresses of all owners of record of contiguous property, including those across the street. WITH THE FIRST SUBMITTAL, PROVIDE 2 SETS OF MAILING LABLES.
- H) Provide sufficient information to identify and locate each interior lot line, right of way lines, and street alignments.
 - curve geometry bearings and distances widths

- I) Show the location and description of all structures, including:
 - existing and proposed signage
 - details of all structures and accesses located within one hundred (100) feet of the property line.
- J) The detail sheet must show:
 - Structural pavement sections Erosion control detail
 - Roadway cross sections Trenching details
 - Sufficient detail(s) to clarify construction
- K) The completed application requires the following legal documents:
 - Revised deeds for the parcel and the R.O.W.
 - A maintenance agreement for R.O.W. as a rider to the deed.
 - Letters of approval from utility companies and town staff
- L) The following supporting documentation:
 - Copy of documents showing owner's legal interest
 - Copy of any existing or proposed property encumbrances
 - Erosion control plan and sedimentation endorsed by York County Soil and Water District
 - A plan for stormwater management prepared by a registered professional engineer
 - A copy of the soil survey (specific to this project area) for York County Where the soil survey shows soils with severe restrictions for development, a high intensity Class A soil survey must be submitted
- M) An estimate of the amount and type of vehicular traffic on a daily basis and during peak hours. Where it is anticipated that four hundred (400) vehicle trips per day or more, a traffic impact analysis must be conducted in accordance with section 16.10.5.2.D.1.
- N) Additional Requirements. In its consideration of an application/plan, the Board may at any point in during the review, require the applicant to submit additional materials, studies, analyses, and agreement proposals as it may deem necessary for complete understanding of the application. Such materials may include those listed below.
 - Fiscal Impact Analysis. An analysis of the relationship of the revenues to the town from the development and the costs of additional publicly funded resources;
 - Traffic Impact Study (see Section 16.10.5.2.D.1)

NOTE TO APPLICANT: THE PLANNING BOARD MAY CHOOSE TO CONDUCT A SITE WALK. PRIOR TO THE SITE WALK, TEMPORARY MARKERS MUST BE ADEQUATELY PLACED THAT ENABLE THE PLANNING BOARD TO READILY LOCATE AND APPRAISE THE LAYOUT OF DEVELOPMENT.

SUBMITTALS THE TOWN PLANNER DEEMS SUFFICIENTLY LACKING IN CONTENT WILL NOT BE SCHEDULED FOR PLANNING BOARD REVIEW.



TOWN OF KITTERY ~ MAINE

PLANNING OFFICE

200 Rogers Road, Kittery, Maine 03904
 PHONE: (207) 475-1323
 Fax: (207) 439-6806
www.kittery.org

APPLICATION: REQUEST FOR WAIVER

THIS REVIEW PROCESS REQUIRES APPROVAL FROM BOTH THE TOWN PLANNER AND THE CODE ENFORCEMENT OFFICER

PROPERTY DESCRIPTION	Parcel ID	Map	67	Lot	1	Zone Base Overlay	MU	Total Land Area	1,040,714 sf (23.89 ac.)
	Physical Address	524 U.S. Route 1							

PROPERTY OWNER'S INFORMATION	Name	C-Coast Properties, LLC	Mailing Address	8 Banks Rock York, Maine 03911					
	Phone	(207) 321-9569							
	Fax								
	Email	kevinwerikson@gmail.com							

APPLICANT'S AGENT INFORMATION	Name	Erik Saari	Name of Business	Altus Engineering, Inc.					
	Phone	(603) 433-2335	Mailing Address	133 Court Street Portsmouth, NH 03801					
	Fax								
	Email	esaari@altus-eng.com							

DESCRIPTION	Ordinance Section	Describe why this request is being made.							
	EXAMPLE 16.32.560 (B)- OFFSTREET PARKING.	***EXAMPLE*** Requesting a waiver of this ordinance since the proposed professional offices have a written agreement with the abutting Church owned property to share parking.							
		See attached Waiver Request Letter							

I certify that, to the best of my knowledge, the information provided in this application is true and correct and will not deviate from the plans submitted without notifying the Kittery Planning Department of any changes.

Applicant's Signature:		Owner's Signature:	See attached Letter of Authorization
Date:	07/22/21	Date:	07/22/21



**Civil
Site Planning
Environmental
Engineering**

133 Court Street
Portsmouth, NH
03801-4413

July 22, 2021

Kittery Planning Board
200 Rogers Road
Kittery, Maine 03904

**Re: Waiver Request
Good To-Go
524 U.S. Route 1
Kittery, Maine**

Dear Members of the Board,

On behalf of the applicant, we respectfully request that the following five provisions of Section 16.8, Attachment 1, Table 1 (Design and Construction Standards for Streets and Pedestrian Ways) for Secondary Collector streets be waived:

- Sidewalk (not proposed where required)
- Longitudinal Street Gradient (7.5% proposed where 7% required)
- Side Slope (2:1 in deep cuts and 1:2 in ledge proposed where 3:1 required)
- Tangent Between Reverse Curves (0', 50' & 54.42' proposed where 100' required)
- Min. Centerline Curve Radius (150', 200' & 200' proposed where 300' required)

The property has a number of unique characteristics that make a strict application of the standards impractical. Due to the need for the proposed roadway to be placed away from the abutting Landmark Hill driveway, the location of the existing house, the presence of a cemetery and the existing topography, adequate space for a roadway fully compliant with the standards is lacking.

The existing slope of the site requires a slightly steeper roadway than permitted. Even with relief from the street gradient requirement, the roadway will still require substantial cutting in some areas. By maintaining a 2:1 slope in these deep cut areas, the overall area of disturbance and tree clearing will be minimized. In addition, initial subsurface investigations indicate the presence of shallow ledge over the majority of the site. We expect that the deepest cut sections will require ledge removal which will leave a stable, near-vertical rock face that will have little potential for erosion. Were the exact letter of the standards applied, the design would result in significantly deeper cuts and longer side slopes that would require more extensive grading activities and ledge removal.

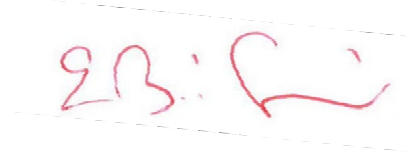
As for horizontal geometry, reduced tangents and centerline radii allow the road to navigate the existing obstacles while maintaining an adequate and safe public accessway. The knock-on effect of this is that the roadway design will promote slower vehicular speeds and will in essence become self-regulating in that respect. In addition, shorter tangents and radii will let the project maintain more of the existing buffer to the abutting property to the south by allowing the road to turn away from the property line more quickly once it passes below the cemetery.

Regarding the sidewalk, installing one at this location would not serve any purpose as the proposed use is not a retail establishment and will therefore not require pedestrian access. There is also no sidewalk network along this section of Route 1 for any new sidewalk to connect to. That said, we have designed the road to be able to easily accommodate a sidewalk in the future if additional development in the vicinity requires it.

We appreciate your time and consideration and hope that you will conclude that these waivers are justified given the nature of the project site. If you have any questions or need additional information, please contact us. We would be happy to address any concerns you may have.

Sincerely,

ALTUS ENGINEERING, INC.



Erik B. Saari
Vice President

ebs/5116-WaiverRequest-072221

Letter of Authorization

I, Kevin W. Erikson of C-Coast Properties, LLC ("LLC"), hereby authorize Altus Engineering, Inc. of Portsmouth, NH to represent the LLC as the Owner in all matters concerning the engineering and related permitting of a site plan on Kittery Tax Map 67, Lot 1 located at 524 U.S Route 1 in Kittery Maine. This authorization shall include any signatures required for Federal, State and Municipal permit applications.


Signature

Kevin Erikson
Kevin W. Erikson

5/6/21
Date


Witness

TRISTAN SWANSON
Print Name

5/6/2021
Date

Letter of Authorization

We, Jennifer Scism and David Koorits of Good To-Go c/o Cape House Management, LLC hereby authorize Altus Engineering, Inc. of Portsmouth, NH to represent us as the Applicant in all matters concerning the engineering and related permitting of a site plan on Kittery Tax Map 67, Lot 1 located at 524 U.S Route 1 in Kittery Maine. This authorization shall include any signatures required for Federal, State and Municipal permit applications.



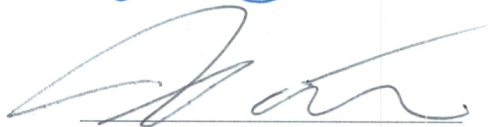
Signature

JENNIFER SCISM

Jennifer Scism

7/8/21

Date



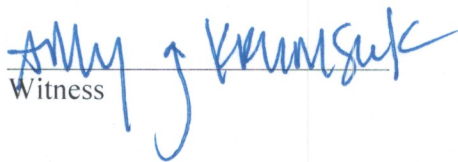
Signature

David Koorits

David Koorits

7/8/21

Date



Witness

Amy G. Kramsek

Print Name

7.8.21

Date

WARRANTY DEED

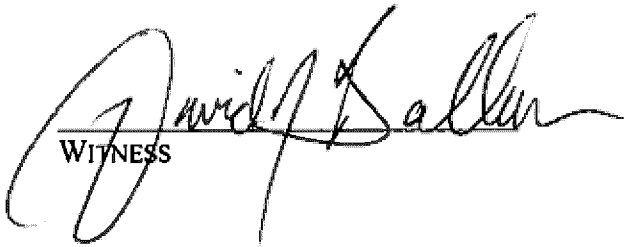
Know all by these presents that **TIDE RUN DEVELOPMENT, LLC**, a Maine limited liability company, with a business mailing address of 70 Cider Hill Road, York, Maine 03909, for consideration paid, grants to **C-COAST PROPERTIES LLC**, a Maine limited liability company, with a business mailing address of P.O. Box 603, York Harbor, Maine 03911, with Warranty Covenants, the real property, situated partially in the Town of York and partially in the Town of Kittery, County of York and State of Maine, described as follows:

SEE EXHIBIT A ATTACHED HERETO

No Transfer Tax

IN WITNESS WHEREOF, the said TIDE RUN DEVELOPMENT, LLC, has caused this instrument to be signed in its company name, under seal, by DEBORAH E. ERIKSON, its Manager, duly authorized, this 24th day of September 2018.

TIDE RUN DEVELOPMENT, LLC
By:


WITNESS


DEBORAH E. ERIKSON, MANAGER

STATE OF MAINE

York, ss. September 24, 2018

Then personally appeared the above named Deborah E. Erikson and acknowledged the foregoing instrument to be her free act and deed in her said capacity and the free act and deed of said limited liability company.

Before me,

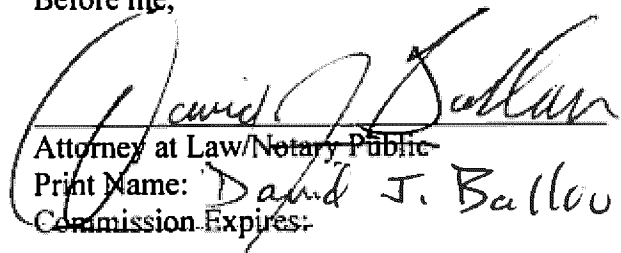

Attorney at Law/Notary Public
Print Name: David J. Ballou
Commission Expires:

EXHIBIT A

PARCEL 1

A certain lot or parcel of land together with the buildings thereon situate in said Kittery and in part in the Town of York. Both in the County of York and State of Maine bounded and described as follows:

BEGINNING on U.S. Highway No. 1 at land of Leo H. and Barbara L. Cain;

THENCE running South 27° East by land of said Cains to a marked tree in line of a stone wall;

THENCE continuing on a southeasterly course on the line of land formerly conveyed to said Leo and Barbara Cain to a stone wall on line of land now or formerly owned by Leon W. Main;

THENCE turning and running southwesterly as the wall runs by other land now or formerly of said Main to a corner in the wall;

THENCE turning and running southeasterly as the wall runs to land now or formerly of one Fuller, being the southeasterly boundary of the farm herein conveyed;

THENCE southwesterly by said Fuller land to land of William Crawford;

THENCE northwesterly land of said Crawford to land of Sheldon Doody;

THENCE northeasterly, four hundred (400) feet, by land of said Doody;

THENCE northwesterly, five hundred forty-four (544) feet, by land of said Doody to said U.S. Highway No. 1;

THENCE northeasterly by said Highway, seven hundred (700) feet, more or less, to the PLACE OF BEGINNING.

Containing forty acres, more or less.

Subject to a pole easement granted to New England Tel. & Tel. Co. by Wallace A. Main, by instrument dated September 3, 1925 and recorded at York County Registry of Deeds in Book 755, Page 21. Title reference is made to a deed recorded at York County Registry of Deeds in Book 1826, Page 490.

PARCEL 2

A certain lot or parcel of land situate in the Town of York, County of York and State of Maine, being a woodlot lying adjacent to and north of the Kittery-York town line; being a portion of the

"Emerson Field", and delineated on Plan of Land of Kyra M. Kaplan by Moulton Engineering Co., dated 10/18/72, recorded in York County Registry of Deeds in Plan Book 59. Page 18, bounded and described as follows:

BEGINNING at a pipe in the ground beside an old set of bars at the southeasterly corner of said parcel, and running North eighty-five degrees forty-one minutes thirty seconds East (N 85° 41' 30" E) two hundred eighty-nine and thirty hundredths (289.30) feet to a pipe in the ground beside an old elm tree with spike in it;

THENCE running North twenty-two degrees thirty-eight minutes forty-five seconds West (N 22° 38' 45" W) six hundred ninety-nine and forty-six hundredths (699.46) feet to a pipe driven in a pile of stones;

THENCE running southwesterly by and along a stone wall four hundred forty-eight and forty-nine hundredths (448.49) feet to a pipe in the corner of said stone wall;

THENCE running southeasterly by and along another stone wall four hundred sixty-seven and sixty-seven hundredths (467.67) feet to the POINT OF BEGINNING.

Together with the right of way, leading from said woodlot through land of heirs of Wallace A. Main to the highway known as U.S. Route 1.

Meaning and intending and hereby conveying the second parcel only described and conveyed in deed of Jack A. Drobish et ux. to Frank G. Leighton, Jr. et al., dated May 27, 1972, recorded at said Registry in Book 1950, Page 88. Title reference is made to a deed recorded at York County Registry of Deeds in Book 2010, Page 193.

PARCEL 3

A certain lot or parcel of land situated in said York containing fifteen (15) acres, more or less, bounded and described as follows:

BEGINNING at the southerly corner of the parcel of land herein conveyed adjoining land of the heirs of Edmund Moulton at the junction of the stonewall;

THENCE running from said corner northeasterly by said heirs land and stonewall fifty-seven rods and three links to land now or formerly of Ida May Trefethen to the junction of the wall;

THENCE northwesterly by said Trefethen land and wall fifty-six rods and sixteen links to corner of wall;

THENCE southwesterly by said Trefethen land and land formerly of Wallace A. Main, thirty rods to point and pile of stones by the wall near a maple tree;

THENCE South about 20° East forty-one and eight tenths rods to a large elm tree, marked;

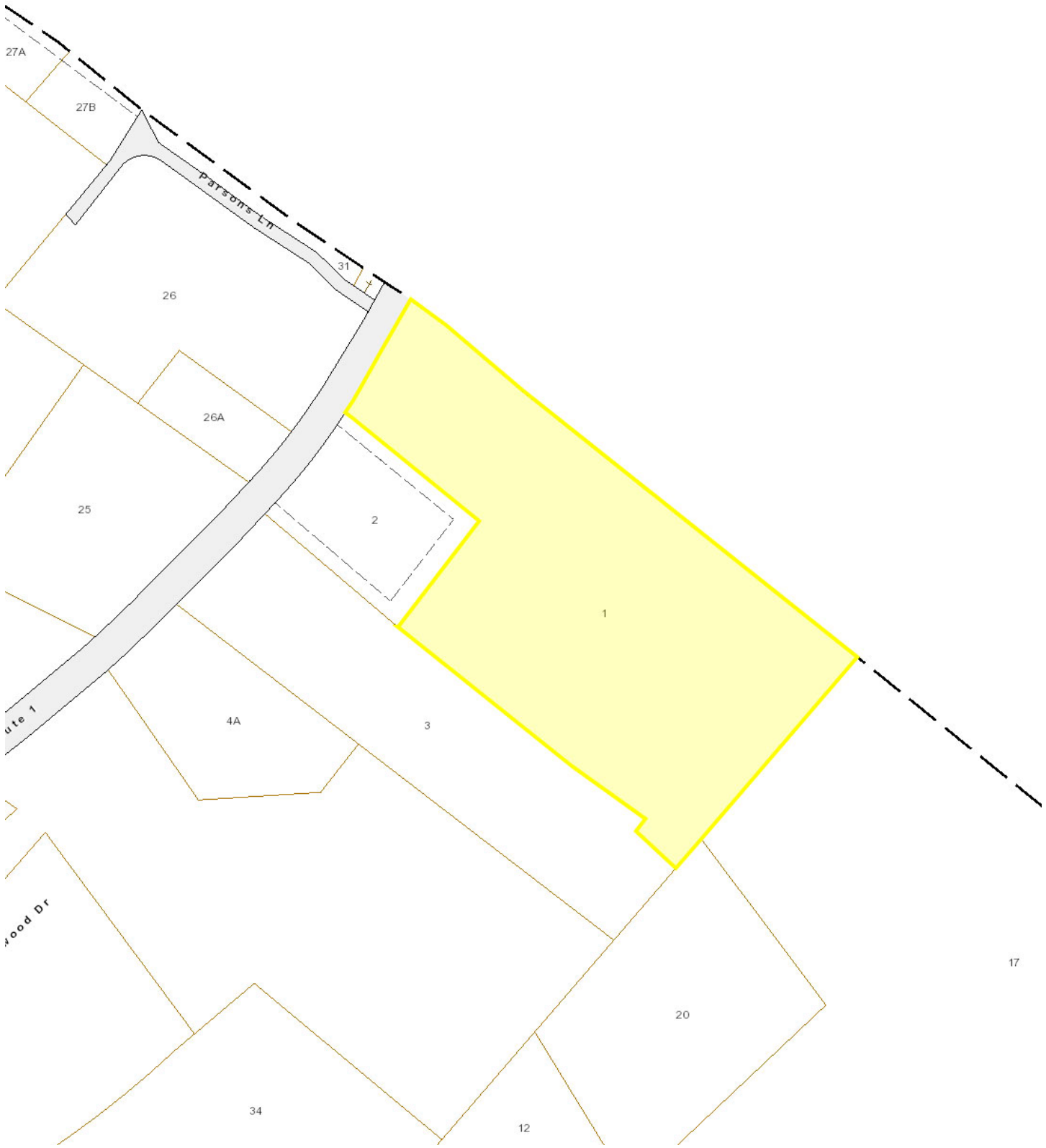
THENCE South about eighty-two degrees West about sixteen and three tenths rods to a point at the easterly end of a set of bars; thence southeasterly by land formerly of Alsbury J. Goodwin twenty-seven and eight tenths rods to the place of beginning. Being a portion of the Emerson Field so called.

Title reference is made to a deed recorded at York County Registry of Deeds in Book 1826, Page 492.

Excepting the land conveyed to Leo H. Cain, et ux. by deed dated June 20, 1955 and recorded in Book 1289, Page 77 at the York County Registry of Deeds.

Excepting the land conveyed to Leo H. Cain, et ux. by deed dated November 19, 1968 and recorded at Book 1969, Page 696 at the York County Registry of Deeds.

Being the same premises conveyed by Krya M. Berson and Eliot L. Berson, Co-Trustees of Heritage Realty Trust to Tide Run Development, LLC by deed dated October 18, 2016 and recorded at York County Registry of Deeds in Book 17345, Page 846.







North

SITE

Google

Burrito Betty's Mexican Grill
Takeout • Delivery

518 Noodle Bar
Takeout

Redrock Lobster Pound

Johnson Brook

U.S. Rte 1

Parsons Ln

Seidels

Calmcrest Rd

Calmcrest Rd

Calmcrest Rd

Crest Rd

Crest Rd

Crest Rd

Crest Rd

Crest Rd

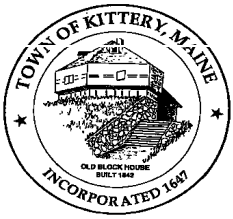
Crest Rd

Crest Rd

Crest Rd

Crest Rd

Crest Rd



TOWN OF KITTERY, MAINE

SEWER DEPARTMENT

200 Rogers Road, Kittery, ME 03904

Telephone: (207) 439-4646 Fax: (207) 439-2799

Good To – Go
Erik Saari
584 Route 1,
Kittery, ME 03904

July 12, 2021

RE:Sewer Availability

Erik,

This letter is to confirm that there is sanitary sewer service available for the Good To-Go project Located at 584 Route 1, The sewer system (piping and pumping stations) and the treatment facility has the capacity and ability to handle the projected flow increase of 2,400 GPD.

If you have further questions or concerns please contact me.

Sincerely Yours

 Recoverable Signature

X Timothy Babkirk

Timothy Babkirk

Superintendent

Signed by: 8d59976c-e219-4963-8b87-4c42e7e470e3

Timothy Babkirk
Superintendent of Sewer Services
Town of Kittery
200 Rogers Rd
Kittery ME 03904
1-207-439-4646
tbabkirk@kitteryme.org

Caroline D. Rose, President
James E. Golter, Treasurer

Julia H. O'Connell, Secretary
Michael S. Rogers, Superintendent

OFFICE OF

KITTERY WATER DISTRICT

17 State Road
Kittery, ME 03904-1565
TEL: 207-439-1128
FAX: 207-439-8549
E-Mail: kitterywater@comcast.net

Kittery Planning Board
200 Rogers Road
Kittery, ME 03904

July 12, 2021

Re: Good To-Go Specialty Food Facility

Dear Planning Board Members,

Please accept this letter as verification that the Kittery Water District does have the capacity to supply municipal water service both for domestic purposes and fire protection for the proposed Good To-Go Specialty Food Facility at 524 U.S. Route 1 in Kittery.

Sincerely,



Michael S. Rogers
Superintendent

cc: Erik Saari, Altus Engineering, Inc.

GOOD TO-GO SPECIALTY FOOD FACILITY

524 U.S. ROUTE 1
KITTERY, MAINE

Assessor's Parcel 67, Lot 1

Owner:

C-COAST PROPERTIES, LLC
8 Banks Rock
York Harbor, Maine 03911

Applicant:



GOOD TO-GO
c/o Cape House Management, LLC
484 U.S. Route 1
Kittery, Maine 03904
(207) 451-9060

Architect:



Bild Architecture
30 Danforth St., Suite 213
Portland, Maine 004101
(207) 408-0168

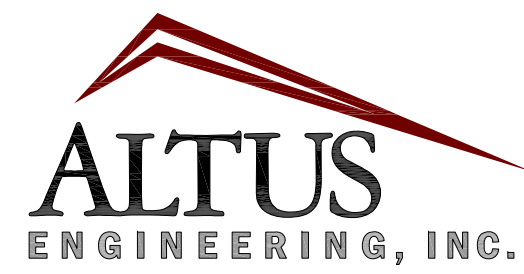
Plan Issue Date:

July 22, 2021
Planning Board Submission

Sheet Index

Title	Sheet No.:	Rev.	Date
Existing Conditions Plan	XC1	0	04/14/21
Right of Way and Easement Plan – A	C-1.A	0	07/22/21
Right of Way and Easement Plan – B	C-1.B	0	07/22/21
Soils Plan	C-2	0	07/22/21
Site Plan	C-3	0	07/22/21
Roadway Plan and Profile	C-4	0	07/22/21
Highway Access Plan	C-5	0	07/22/21
Stormwater Management Plan	C-6	0	07/22/21
Erosion and Sediment Control Plan	C-7	0	07/22/21
Utility Plan	C-8	0	07/22/21
Lighting Plan	C-9	0	07/22/21
Landscape Plan	L-1	0	07/22/21
Detail Sheet	D-1	0	07/22/21
Detail Sheet	D-2	0	07/22/21
Detail Sheet	D-3	0	07/22/21
Detail Sheet	D-4	0	07/22/21
Detail Sheet	D-5	0	07/22/21
Detail Sheet	D-6	0	07/22/21
Detail Sheet	D-7	0	07/22/21
Detail Sheet	D-8	0	07/22/21
Detail Sheet	D-9	0	07/22/21
Front Elevation	SK-2	0	07/12/21
Side Elevation	SK-3	0	07/12/21

Civil Engineer:



133 Court Street
(603) 433-2335
Portsmouth, NH 03801
www.altus-eng.com

General Contractor:



Sheridan Construction Corp.
33 Sheridan Drive
Fairfield, Maine 04937
(207) 453-9311

Soil and Wetland Scientist:

Michael Cuomo, M.S.S. #211
6 York Pond Road
York, ME 03909
(207) 363-4532

Landscape Architect:



103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949

Surveyor:

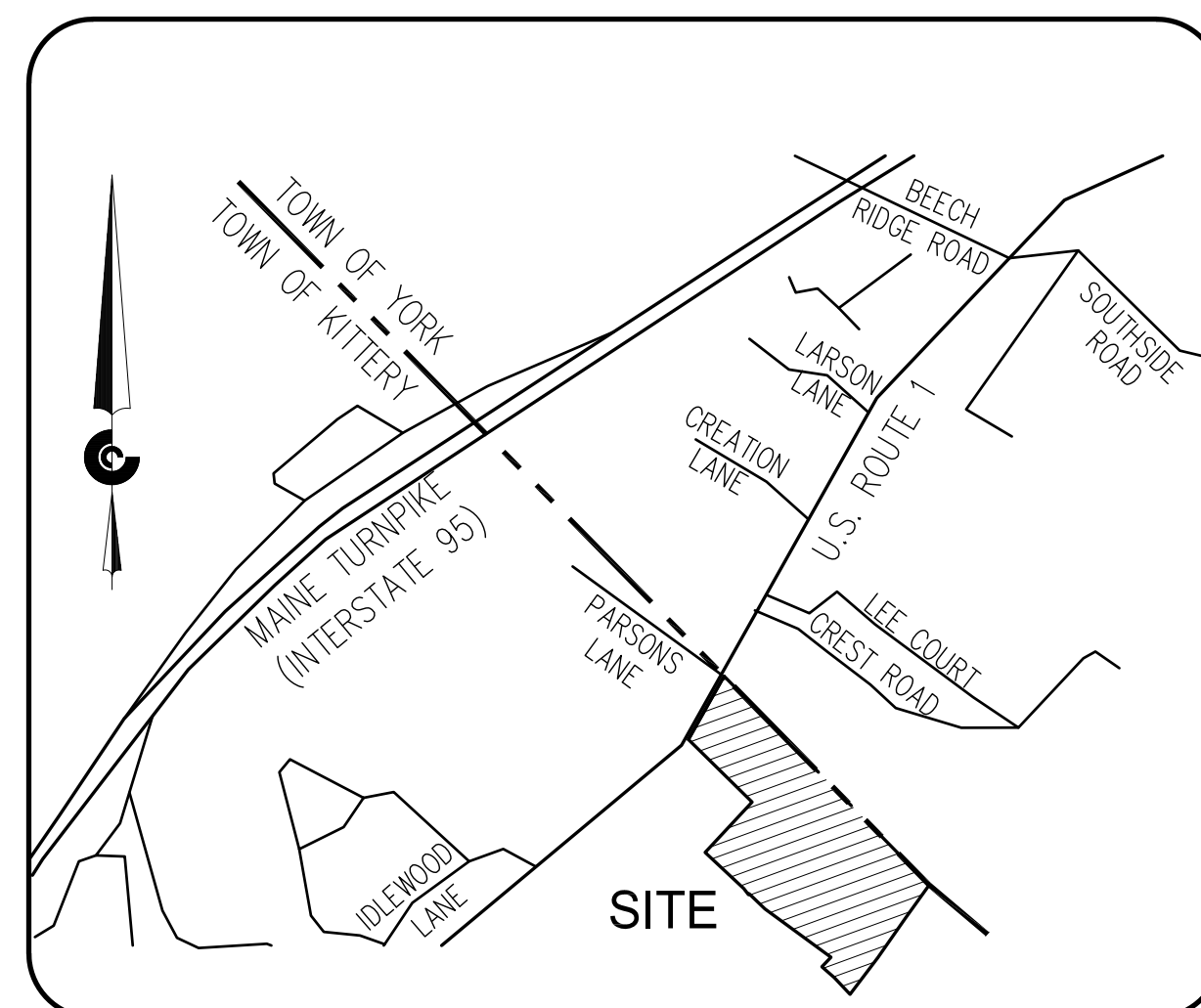


Engineers, Planners, Surveyors
P.O. Box 100, South Berwick, Maine 03908
Tel. 207-384-2550
www.civcon.com

Lighting Consultant:



24 STICKNEY TERRACE, SUITE 6
HAMPTON, NH 03842
(603) 926-6049

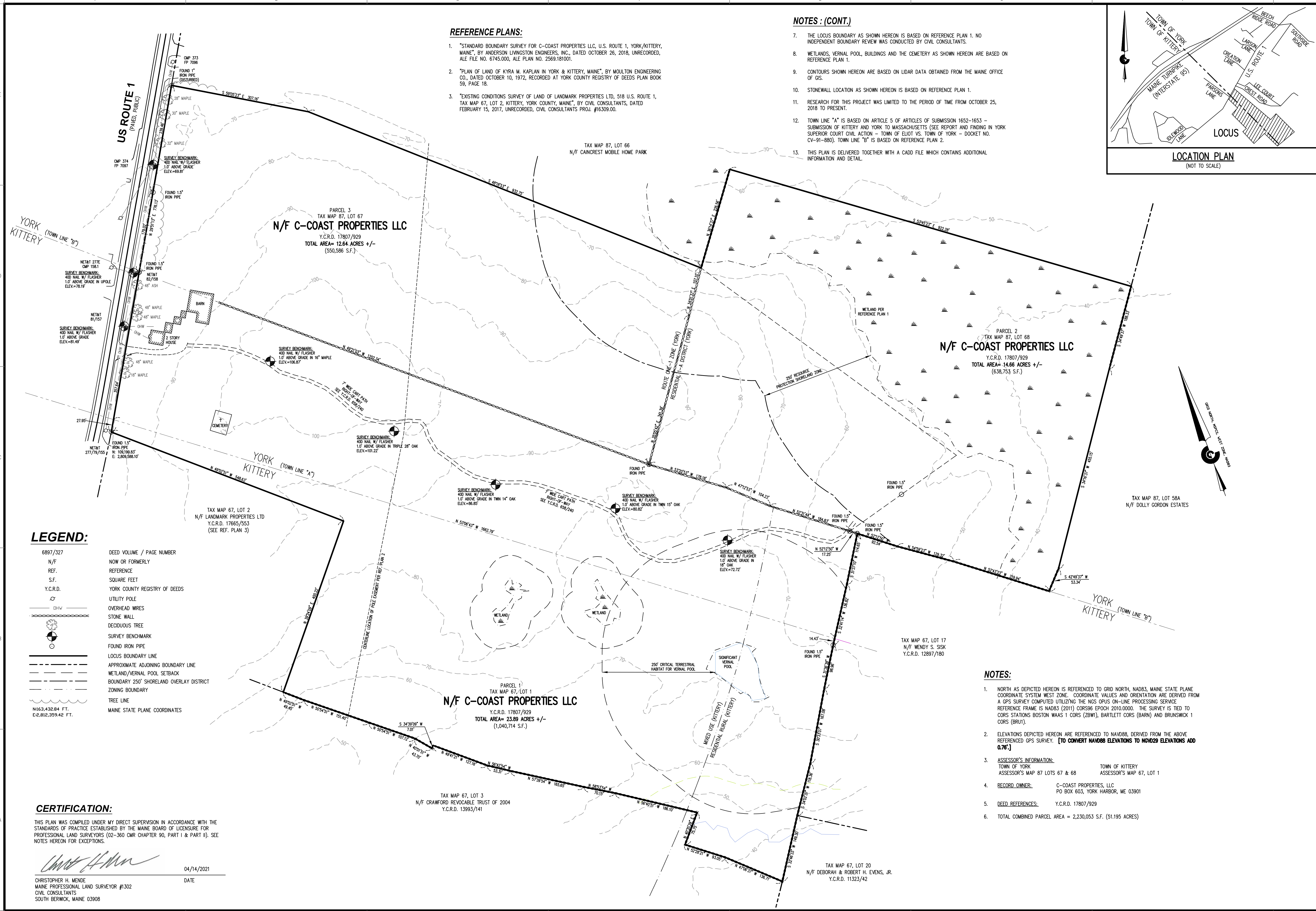


LOCUS

NOT TO SCALE

Permit Summary:

	Submitted	Received
Kittery Site Plan Approval	07/22/21	-/-/-
MDEP Stormwater Permit	-/-/-	-/-/-
MDOT Entrance Permit	-/-/-	-/-/-
Notice of Intent	By Contractor 14 days prior to construction	

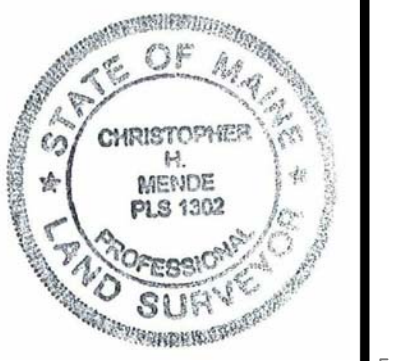
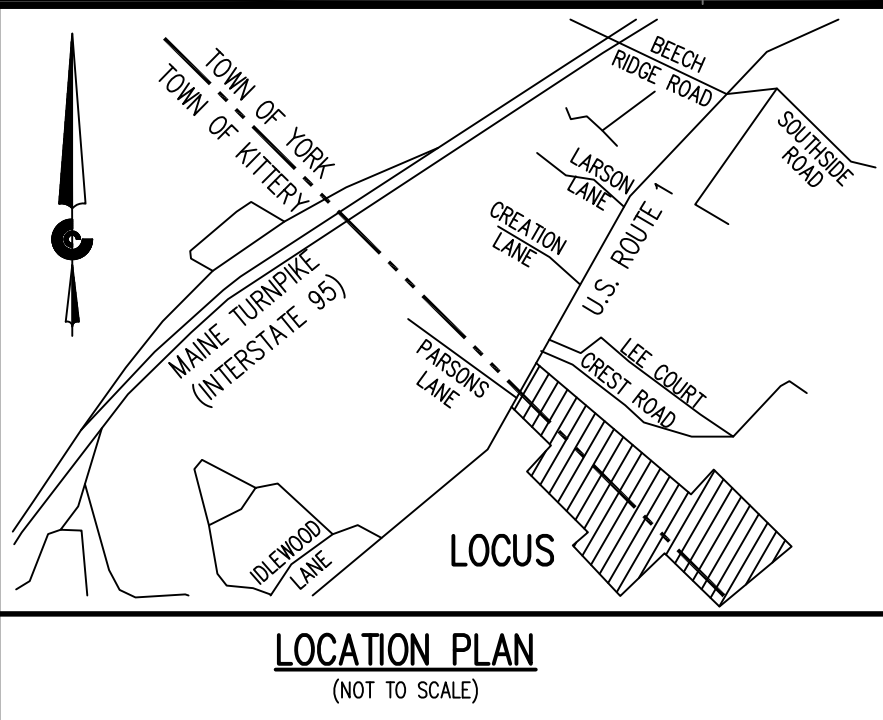


REFERENCE PLANS:

- "STANDARD BOUNDARY SURVEY FOR C-COAST PROPERTIES LLC, U.S. ROUTE 1, YORK/KITTERY, MAINE", BY ANDERSON LIVINGSTON ENGINEERS, INC., DATED OCTOBER 26, 2016, UNRECORDED, ALE FILE NO. 6745.000, ALE PLAN NO. 2569.181001.
- "PLAN OF LAND OF KYRA M. KAPLAN IN YORK & KITTERY, MAINE", BY MOULTON ENGINEERING CO., DATED OCTOBER 10, 1972, RECORDED AT YORK COUNTY REGISTRY OF DEEDS PLAN BOOK 59, PAGE 18.
- "EXISTING CONDITIONS SURVEY OF LAND OF LANDMARK PROPERTIES LTD, 518 U.S. ROUTE 1, TAX MAP 67, LOT 2, KITTERY, YORK COUNTY, MAINE", BY CIVIL CONSULTANTS, DATED FEBRUARY 15, 2017, UNRECORDED, CIVIL CONSULTANTS PROJ. #16309.00.

NOTES (CONT.):

- THE LOCUS BOUNDARY AS SHOWN HEREON IS BASED ON REFERENCE PLAN 1. NO INDEPENDENT BOUNDARY REVIEW WAS CONDUCTED BY CIVIL CONSULTANTS.
- WETLANDS, VERNAL POOL, BUILDINGS AND THE CEMETERY AS SHOWN HEREON ARE BASED ON REFERENCE PLAN 1.
- CONTOURS SHOWN HEREON ARE BASED ON LIDAR DATA OBTAINED FROM THE MAINE OFFICE OF GIS.
- STONEWALL LOCATION AS SHOWN HEREON IS BASED ON REFERENCE PLAN 1.
- RESEARCH FOR THIS PROJECT WAS LIMITED TO THE PERIOD OF TIME FROM OCTOBER 25, 2016 TO PRESENT.
- TOWN LINE "A" IS BASED ON ARTICLE 5 OF ARTICLES OF SUBMISSION 1652-1653 - SUBMISSION OF KITTERY AND YORK TO MASSACHUSETTS (SEE REPORT AND FINDING IN YORK SUPERIOR COURT CIVIL ACTION - TOWN OF ELIOT VS. TOWN OF YORK - DOCKET NO. CV-91-880). TOWN LINE "B" IS BASED ON REFERENCE PLAN 2.
- THIS PLAN IS DELIVERED TOGETHER WITH A CADD FILE WHICH CONTAINS ADDITIONAL INFORMATION AND DETAIL.



CIVIL CONSULTANTS
 Engineers
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 Surveyors
 P.O. Box 100
 South Berwick
 Maine
 03908
 207-384-2550
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NO.	REVISIONS	INT.	DATE
1			

RECORD OWNER:
 C-COAST PROPERTIES, LLC
 OWNER ADDRESS:
 PO BOX 603
 YORK HARBOR, ME 03911

PLAN OF LANDS OF C-COAST PROPERTIES, LLC
 KITTERY TAX MAP 67, LOT 1
 YORK TAX MAP 87, LOTS 67 & 68
 US ROUTE 1, KITTERY AND YORK, YORK COUNTY, MAINE

PREPARED FOR:
 ALTUS ENGINEERING, INC.
 133 COURT STREET, PORTSMOUTH, NH 03801

CLIENT ADDRESS:

LEGEND:

- | | |
|---------------------------------------|--|
| 6897/327 | DEED VOLUME / PAGE NUMBER |
| N/F | NOW OR FORMERLY |
| REF. | REFERENCE |
| S.F. | SQUARE FEET |
| Y.C.R.D. | YORK COUNTY REGISTRY OF DEEDS |
| U | UTILITY POLE |
| OH/W | OVERHEAD WIRES |
| — | STONE WALL |
| ○ | DECIDUOUS TREE |
| ● | SURVEY BENCHMARK |
| ○ | FOUND IRON PIPE |
| — | LOCUS BOUNDARY LINE |
| --- | APPROXIMATE ADJOINING BOUNDARY LINE |
| --- | WETLAND/VERNAL POOL SETBACK |
| --- | BOUNDARY 250' SHORELAND OVERLAY DISTRICT |
| --- | ZONING BOUNDARY |
| --- | TREE LINE |
| N163,432.84 FT.
E:2,812,359.42 FT. | MAINE STATE PLANE COORDINATES |

CERTIFICATION:

THIS PLAN WAS COMPILED 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.

Christopher H. Mende
 04/14/2021
 DATE

CHRISTOPHER H. MENDE
 MAINE PROFESSIONAL LAND SURVEYOR #1302
 CIVIL CONSULTANTS
 SOUTH BERWICK, MAINE 03908

NOTES:

- 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 INS GPS ON-LINE PROCESSING SERVICE. REFERENCE FRAME IS NAD83 (2011) CORS96 EPOCH 2010.0000. THE SURVEY IS TIED TO CORS STATIONS BOSTON WAAS 1 (CORS (ZEW)), BARTLETT CORS (BARN) AND BRUNSWICK 1 CORS (BRU1).
- ELEVATIONS DEPICTED HEREON ARE REFERENCED TO NAVD83, DERIVED FROM THE ABOVE REFERENCED GPS SURVEY. [TO CONVERT NAVD83 ELEVATIONS TO NAD83 ELEVATIONS ADD 0.76']
- ASSESSOR'S INFORMATION:
 TOWN OF YORK ASSESSOR'S MAP 87 LOTS 67 & 68
 TOWN OF KITTERY ASSESSOR'S MAP 67, LOT 1
- RECORD OWNER: C-COAST PROPERTIES, LLC
 PO BOX 603, YORK HARBOR, ME 03901
- DEED REFERENCES: Y.C.R.D. 17807/929
- TOTAL COMBINED PARCEL AREA = 2,230,053 S.F. (51.95 ACRES)

DATE: 04/14/2021
 DRAWN BY: CBS
 CHECKED BY: CHM
 APPROVED BY: CHM

EXISTING CONDITIONS PLAN

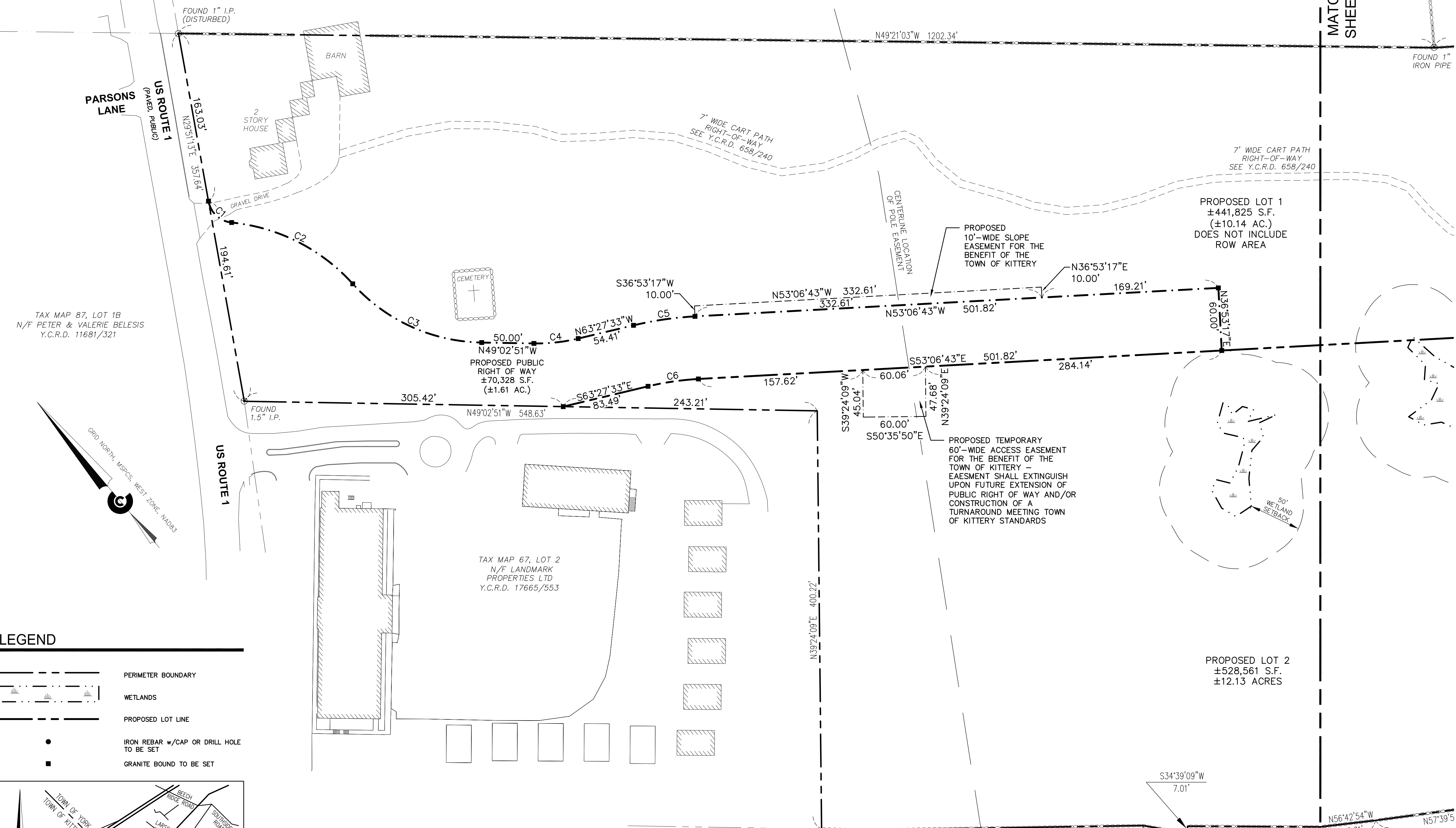
PROJECT NO: 20-320.00

XC1

SHEET: 1 OF 1

YORK TAX MAP 87
LOT 1B
N/F PETER &
VALERIE BELESIS
Y.C.R.D. 11681/321

YORK TAX MAP 87, LOT 67
N/F C-COAST PROPERTIES LLC
Y.C.R.D. 17807/929



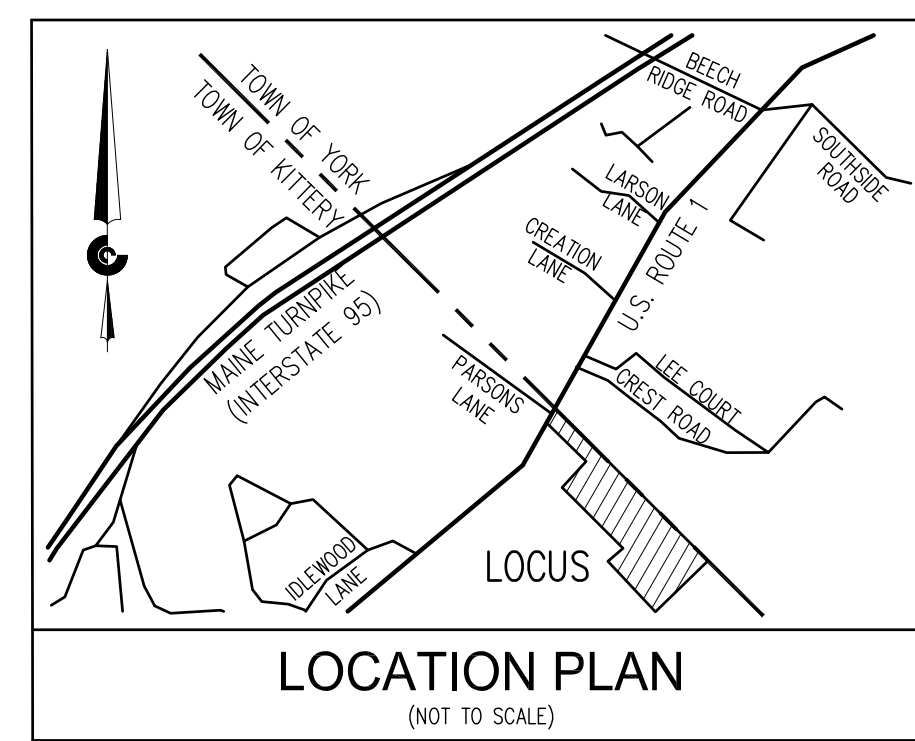
TAX MAP 87, LOT 1B
N/F PETER & VALERIE BELESIS
Y.C.R.D. 11681/321

TAX MAP 67, LOT 2
N/F LANDMARK
PROPERTIES LTD
Y.C.R.D. 17665/553

TAX MAP 67, LOT 3
N/F CRAWFORD REVOCABLE
TRUST OF 2004
Y.C.R.D. 13993/141

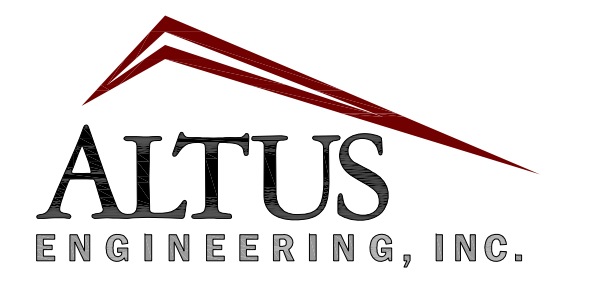
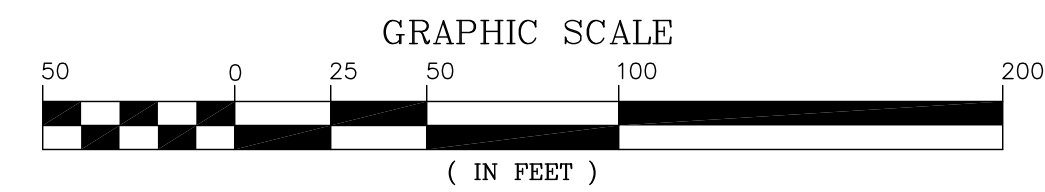
LEGEND

- PERIMETER BOUNDARY
- WETLANDS
- PROPOSED LOT LINE
- IRON REBAR w/CAP OR DRILL HOLE TO BE SET
- GRANITE BOUND TO BE SET



PROPOSED CURVE TABLE

Curve	Radius	Arc Length	Delta Angle
C1	25.00'	32.67'	74°10'57"
C2	180.00'	132.95'	42°19'14"
C3	170.00'	139.57'	47°02'21"
C4	170.00'	42.76'	14°24'43"
C5	330.00'	59.60'	10°20'51"
C6	270.00'	48.76'	10°20'51"



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Engineers
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South Berwick
Maine
03908
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NOT FOR CONSTRUCTION

ISSUED FOR: **PLANNING BOARD**

ISSUE DATE: **JULY 22, 2021**

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	PLANNING BOARD	EBS	07/22/21

DRAWN BY: _____ RMB
APPROVED BY: _____ EBS
DRAWING FILE: _____ 5116SITE.dwg

SCALE:
22" x 34" - 1" = 50'
11" x 17" - 1" = 100'

OWNER:
C-COAST PROPERTIES, LLC
8 BANKS ROCK
YORK HARBOR, MAINE 03911

APPLICANT:
GOOD TO-GO
c/o CAPE HOUSE
MANAGEMENT, LLC
484 US ROUTE 1
KITTERY, MAINE 03904

PROJECT:
**GOOD TO-GO
SPECIALTY FOOD
FACILITY**
TAX MAP 67, LOT 1
524 U.S. ROUTE 1
KITTERY, MAINE

TITLE:
**RIGHT OF WAY
AND
EASEMENT PLAN - A**

SHEET NUMBER:
C-1.A

P5116

NOTES

ZONING SUMMARY:
 AREA: 1,040,714 S.F. (23.89± ACRES)
 ZONE: MIXED USE (MU)
 SHORELAND OVERLAY ZONE

DIMENSIONAL STANDARDS (MU)

MINIMUM LOT AREA	40,000 S.F.
ROAD FRONTAGE	150 FT.
FRONT YARD	40 FT.
SIDE YARD	20 FT.
REAR YARD	20 FT.

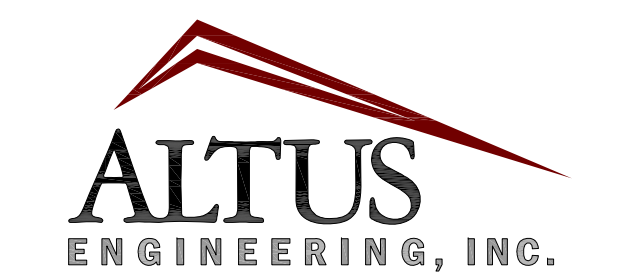
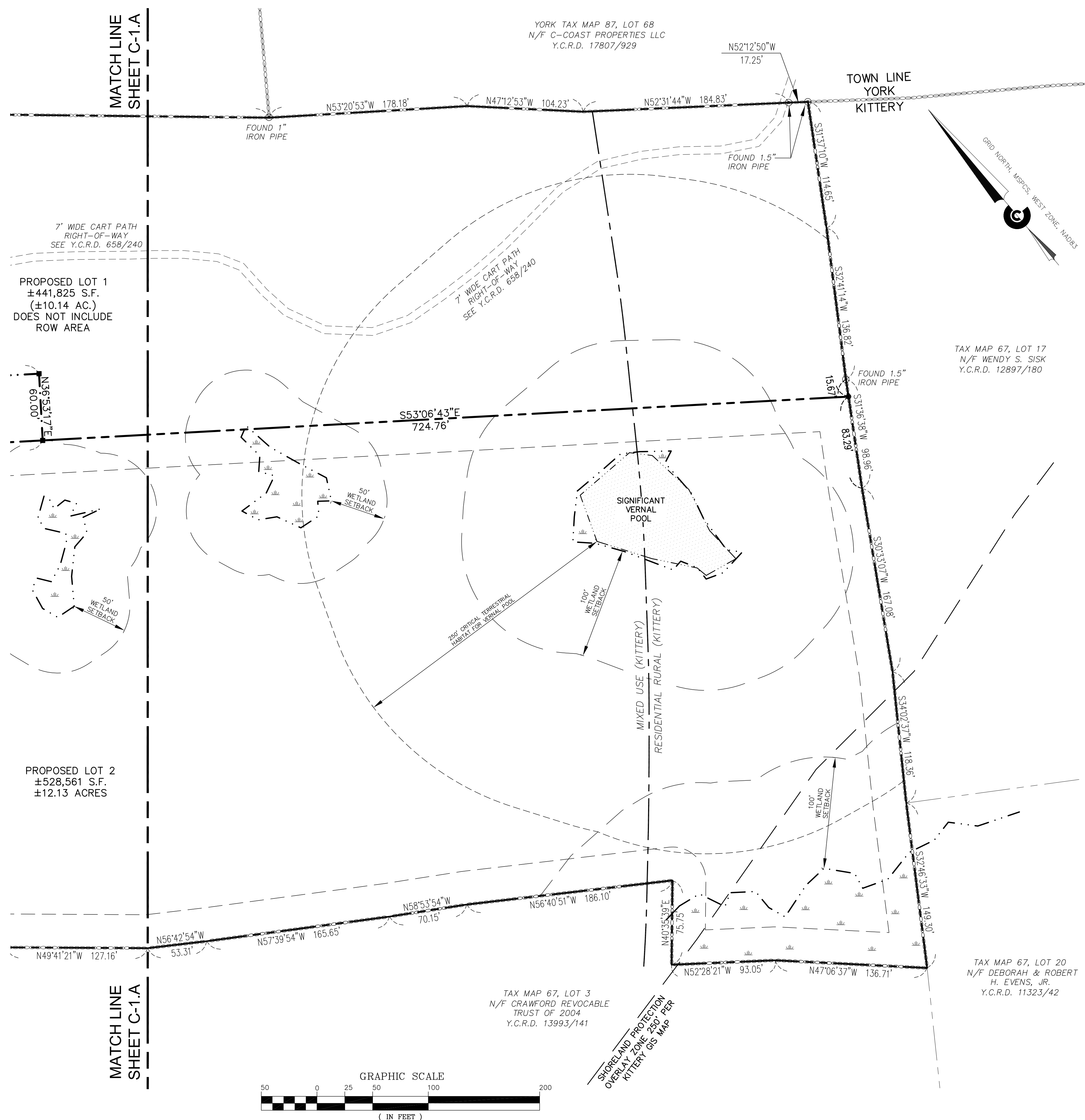
- NOTES:**
- THE PERIMETER BOUNDARY SHOWN HERON IS PER PLAN REFERENCE #1.
 - NORTH AS DEPICTED HERON IS REFERENCED TO GRID NORTH, NAD83, MAINE STATE PLAN COORDINATE SYSTEM WEST ZONE. ORIENTATION IS DERIVED FROM A GPS SURVEY COMPUTES UTILIZING THE NGS ON-LINE PROCESSING SERVICE REFERENCE FRAME IS NAD83 (2011) CORS96 EPOCH 2010.0000. THE SURVEY IS TIED TO CORS STATION BOSTON WAAS 1 CORS (ZBW1), BARLETT CORS (BARN) AND BRUNSWICK CORS (BRU1).
 - WETLANDS, VERNAL POOL, BUILDING, CEMETERY AND STONEWALL LOCATIONS AS SHOWN ARE BASED ON REFERENCE PLAN 2.

- PLAN REFERENCE:**
- "EXISTING CONDITIONS PLAN, PLAN OF LANDS OF C-COAST PROPERTIES, LLC, KITTERY TAX MAP 67, LOT 1, YORK TAX MAP 87, LOTS 67 & 68, US ROUTE 1, KITTERY AND YORK, MAINE" BY CIVIL CONSULTANTS, DATED APRIL 14, 2021, UNRECORDED.
 - "STANDARD BOUNDARY SURVEY FOR C-COAST PROPERTIES LLC, US ROUTE 1, YORK/KITTERY, MAINE" BY ANDERSON LIVINGSTON ENGINEERS, INC., DATED OCTOBER 26, 2018, UNRECORDED, ALE FILE NO. 6745.0000, ALE PLAN NO. 2569.181001.

MONUMENTATION:
 PRIOR TO CERTIFICATION OF OCCUPANCY OF ANY LOT SHOWN HEREON, MONUMENTS SHOWN AS "TO BE SET" MUST BE SET UNDER THE DIRECTION OF A MAINE LICENSED LAND SURVEYOR. ROADWAY MONUMENTATION SHALL BE A MINIMUM OF FOUR (4) INCHES SQUARE STONE MONUMENTS AND INSTALLED AS SHOWN ON SUBDIVISION PLAN AND PER TOWN STANDARDS.

- APPROVALS:**
- KITTERY PLANNING BOARD -
 PRELIMINARY SITE PLAN APPROVAL, DATED 05/27/21
 ROAD NAME APPROVAL, DATED _____
 FINAL APPROVAL, DATED _____
 WAIVERS GRANTED, DATED _____
- SECTION 16.8, ATTACHMENT 1, TABLE 1 (SECONDARY COLLECTOR ROAD):
 - SIDEWALK (NOT PROPOSED WHERE REQUIRED)
 - LONGITUDINAL STREET GRADIENT (7.5% WHERE 7% REQUIRED)
 - SIDE SLOPE (2:1 IN DEEP CUTS OR 1:2 IN LEDGE WHERE 3:1 REQUIRED)
 - TANGENT BETWEEN REVERSE CURVES (0', 50' & 54.42' WHERE 100' REQ.)
 - MIN. CENTERLINE CURVE RADIUS (150', 200' & 200' WHERE 300' REQ.)
- MAINE DEP STORMWATER PERMIT, DATED _____
 MAINE DOT ENTRANCE PERMIT, DATED _____

- TOWN OF KITTERY CONDITIONS OF APPROVAL:**
- NO CHANGES, ERASURES, MODIFICATIONS OR REVISIONS MAY BE MADE TO ANY PLANNING BOARD APPROVED FINAL PLAN (TITLE 16.10.9.1.2).
 - APPLICANT/CONTRACTOR WILL FOLLOW MAINE DEP BEST MANAGEMENT PRACTICES FOR ALL WORK ASSOCIATED WITH SITE AND BUILDING CONSTRUCTION TO ENSURE ADEQUATE EROSION CONTROL AND SLOPE STABILIZATION.
 - PRIOR TO THE COMMENCEMENT OF GRADING AND/OR CONSTRUCTION WITHIN A BUILDING ENVELOPE, AS SHOWN ON THE PLAN, THE OWNER AND/OR DEVELOPER MUST STAKE ALL CORNERS OF THE ENVELOPE. THESE MARKERS MUST REMAIN IN PLACE UNTIL THE CODE ENFORCEMENT OFFICER DETERMINES CONSTRUCTION IS COMPLETED AND THERE IS NO DANGER TO AREAS THAT ARE, PER PLANNING BOARD APPROVAL, TO REMAIN UNDISTURBED.
 - ALL NOTICES TO APPLICANT CONTAINED IN THE FINDINGS OF FACT (DATED ---/---/---).



133 Court Street
 (603) 433-2335
 Portsmouth, NH 03801
 www.altus-eng.com

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 207-384-2550
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NOT FOR CONSTRUCTION

ISSUED FOR: **PLANNING BOARD**

ISSUE DATE: **JULY 22, 2021**

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	PLANNING BOARD	EBS	07/22/21

DRAWN BY: _____ RMB
 APPROVED BY: _____ EBS
 DRAWING FILE: 5116SITE.dwg

SCALE:
 22" x 34" - 1" = 50'
 11" x 17" - 1" = 100'

OWNER:
 C-COAST PROPERTIES, LLC
 8 BANKS ROCK
 YORK HARBOR, MAINE 03911

APPLICANT:
 GOOD TO-GO
 c/o CAPE HOUSE
 MANAGEMENT, LLC
 484 US ROUTE 1
 KITTERY, MAINE 03904

PROJECT:
 GOOD TO-GO
 SPECIALTY FOOD
 FACILITY
 TAX MAP 67, LOT 1
 524 U.S. ROUTE 1
 KITTERY, MAINE

TITLE:
 RIGHT OF WAY
 AND
 EASEMENT PLAN - B

SHEET NUMBER:
C-1.B

P5116

NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: JULY 22, 2021

REVISIONS
NO. DESCRIPTION BY DATE
0 PLANNING BOARD EBS 07/22/21

DRAWN BY: RMB
APPROVED BY: EBS
DRAWING FILE: 5116SITE.dwg

SCALE:
22" x 34" - 1" = 80'
11" x 17" - 1" = 160'

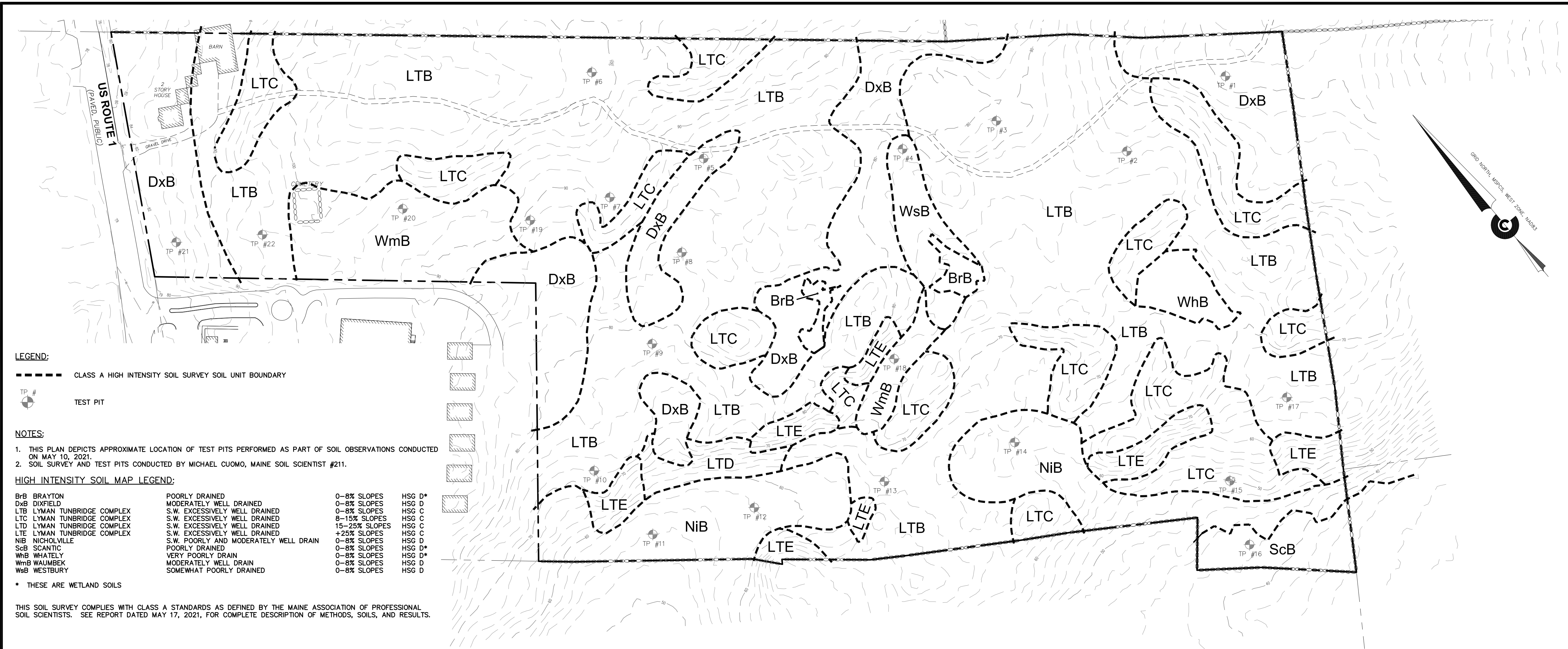
OWNER:
C-COAST PROPERTIES, LLC
8 BANKS ROCK
YORK HARBOR, MAINE 03911

APPLICANT:
GOOD TO-GO
c/o CAPE HOUSE
MANAGEMENT, LLC
484 US ROUTE 1
KITTERY, MAINE 03904

PROJECT:
GOOD TO-GO
SPECIALTY FOOD
FACILITY
TAX MAP 67, LOT 1
524 U.S. ROUTE 1
KITTERY, MAINE

TITLE:
SOILS
PLAN

SHEET NUMBER:
C-2



LEGEND:
--- CLASS A HIGH INTENSITY SOIL SURVEY SOIL UNIT BOUNDARY
TP # TEST PIT

NOTES:
1. THIS PLAN DEPICTS APPROXIMATE LOCATION OF TEST PITS PERFORMED AS PART OF SOIL OBSERVATIONS CONDUCTED ON MAY 10, 2021.
2. SOIL SURVEY AND TEST PITS CONDUCTED BY MICHAEL CUOMO, MAINE SOIL SCIENTIST #211.

HIGH INTENSITY SOIL MAP LEGEND:

BrB BRAYTON	POORLY DRAINED	0-8% SLOPES	HSG D*
DxB DIXFIELD	MODERATELY WELL DRAINED	0-8% SLOPES	HSG D
LTB LYMAN TUNBRIDGE COMPLEX	S.W. EXCESSIVELY WELL DRAINED	0-8% SLOPES	HSG C
LTC LYMAN TUNBRIDGE COMPLEX	S.W. EXCESSIVELY WELL DRAINED	8-15% SLOPES	HSG C
LTD LYMAN TUNBRIDGE COMPLEX	S.W. EXCESSIVELY WELL DRAINED	15-25% SLOPES	HSG C
LTE LYMAN TUNBRIDGE COMPLEX	S.W. EXCESSIVELY WELL DRAINED	+25% SLOPES	HSG C
NiB NICHOLVILLE	S.W. POORLY AND MODERATELY WELL DRAIN	0-8% SLOPES	HSG D
ScB SCANTIC	POORLY DRAINED	0-8% SLOPES	HSG D*
WmB WHATELY	VERY POORLY DRAIN	0-8% SLOPES	HSG D*
Wsb WAUMBEEK	MODERATELY WELL DRAIN	0-8% SLOPES	HSG D
Wwb WESTBURY	SOMEWHAT POORLY DRAINED	0-8% SLOPES	HSG D

* THESE ARE WETLAND SOILS

THIS SOIL SURVEY COMPLIES WITH CLASS A STANDARDS AS DEFINED BY THE MAINE ASSOCIATION OF PROFESSIONAL SOIL SCIENTISTS. SEE REPORT DATED MAY 17, 2021, FOR COMPLETE DESCRIPTION OF METHODS, SOILS, AND RESULTS.

MICHAEL CUOMO
MAINE SOIL SCIENTIST #211

TEXT PIT LOGS

Test Pit Number: 1
Depth Description
1" Leaf litter.
2" 0-9" Dark brown (10YR 3/3) fine sandy loam, granular, friable.
9-24" Dark yellowish brown (10YR 4/6) fine sandy loam, blocky, friable.
24-35" Light olive brown (2.5Y 5/4) fine sandy loam, blocky, friable, redox.
35-48" Dark olive brown (2.5Y 3/3) stony fine sandy loam, massive, firm, redox.
Soil Name: Dixfield
Depth to Seasonal High Water Table: 24"
Depth to Bedrock: 46"

Test Pit Number: 2
Depth Description
1" Leaf litter.
2" 0-8" Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
8-20" Dark yellowish brown (10YR 4/6) stony fine sandy loam, blocky, friable.
Soil Name: Tunbridge
Depth to Seasonal High Water Table: none
Depth to Bedrock: 20"

Test Pit Number: 3
Depth Description
1" Leaf litter.
2" 0-8" Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
8-18" Dark yellowish brown (10YR 4/6) stony fine sandy loam, blocky, friable.
Soil Name: Lyman
Depth to Seasonal High Water Table: none
Depth to Bedrock: 18"

Test Pit Number: 4
Depth Description
1" Leaf litter.
2" 0-8" Dark grayish brown (2.5Y 4/2) fine sandy loam, granular, friable.
8-16" Dark yellowish brown (10YR 4/6) fine sandy loam, blocky, friable, redox.
16-24" Light yellowish brown (2.5Y 6/4) fine sandy loam, blocky, firm, redox.
Soil Name: Westbury variant
Depth to Seasonal High Water Table: 8"
Depth to Bedrock: 24"

Test Pit Number: 5
Depth Description
1" Leaf litter.
2" 0-22" Yellowish brown (10YR 5/4) fine sandy loam, blocky, friable.
22-32" Dark yellowish brown (10YR 4/6) gravelly loamy sand, blocky, friable, redox.
32-44" Dark olive brown (2.5Y 3/3) gravelly sand, loose, massive, redox.
44-56" Light olive brown (2.5Y 5/4) stony fine sandy loam, massive, firm, redox.
Soil Name: Dixfield
Depth to Seasonal High Water Table: 22"
Depth to Bedrock: 56"

Test Pit Number: 6
Depth Description
1" Leaf litter.
2" 0-10" Dark brown (10YR 3/3) fine sandy loam, granular, friable.
10-24" Dark yellowish brown (10YR 4/6) fine sandy loam, blocky, friable.
24-38" Light yellowish brown (2.5Y 6/4) stony fine sandy loam, massive, firm, redox.
Soil Name: Tunbridge variant
Depth to Seasonal High Water Table: 24"
Depth to Bedrock: 38"

Test Pit Number: 7
Depth Description
1" Leaf litter.
2" 0-7" Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
7-18" Yellowish brown (10YR 5/6) stony fine sandy loam, blocky, friable.
Soil Name: Lyman
Depth to Seasonal High Water Table: none
Depth to Bedrock: 18"

Test Pit Number: 8
Depth Description
1" Leaf litter.
2" 0-3" Very dark gray (10YR 3/1) stony fine sandy loam, granular, friable.
Soil Name: Abram
Depth to Seasonal High Water Table: none
Depth to Bedrock: 3"

Test Pit Number: 9
Depth Description
1" Leaf litter.
2" 0-6" Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
6-27" Yellowish brown (10YR 5/6) stony fine sandy loam, blocky, friable.
Soil Name: Tunbridge
Depth to Seasonal High Water Table: none
Depth to Bedrock: 27"

Test Pit Number: 10
Depth Description
1" Leaf litter.
2" 0-6" Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
6-17" Yellowish brown (10YR 5/6) fine sandy loam, blocky, friable, redox.
17-24" Olive brown (2.5Y 4/4) sand, massive, loose, redox.
24-52" Light olive brown (2.5Y 5/4) stratified fine sand and silt, massive, firm, redox.
Soil Name: Nicholville
Depth to Seasonal High Water Table: none
Depth to Bedrock: 6"

Test Pit Number: 11
Depth Description
1" Leaf litter.
2" 0-7" Dark brown (10YR 3/3) silt loam, granular, friable.
7-10" Light yellowish brown (2.5Y 6/4) silt loam, blocky, friable, redox.
10-28" Pale olive (5Y 6/3) silt loam, massive, friable, redox.
29-44" Light yellowish brown (2.5Y 6/4) fine sandy loam, massive, firm, redox.
44-96" Olive brown (2.5Y 4/4) sand, massive, loose, w/ strata of firm silt, redox.
Soil Name: Westbury variant
Depth to Seasonal High Water Table: 7"
Depth to Bedrock: none

Test Pit Number: 12
Depth Description
1" Leaf litter.
2" 0-7" Dark brown (10YR 3/3) silt loam, granular, friable.
7-11" Yellowish brown (10YR 5/6) silt loam, blocky, friable.
11-28" Light yellowish brown (2.5Y 6/4) silt loam, blocky, friable, redox.
28-64" Olive brown (2.5Y 4/4) sand, massive, loose, redox.
64-96" Olive brown (2.5Y 4/4) silt loam, massive, firm, redox.
Soil Name: Nicholville variant
Depth to Seasonal High Water Table: 11"
Depth to Bedrock: none

Test Pit Number: 13
Depth Description
1" Leaf litter.
2" 0-10" Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
10-24" Strong brown (7.5YR 4/6) stony fine sandy loam, blocky, friable.
24-32" Light yellowish brown (2.5Y 6/4) stony fine sandy loam, blocky, firm, redox.
Soil Name: Tunbridge variant
Depth to Seasonal High Water Table: 24"
Depth to Bedrock: 32"

Test Pit Number: 14
Depth Description
1" Leaf litter.
2" 0-6" Brown (10YR 4/3) fine sandy loam, granular, friable.
6-17" Yellowish brown (10YR 5/6) fine sandy loam, blocky, friable, redox.
17-24" Olive brown (2.5Y 4/4) sand, massive, loose, redox.
24-52" Light olive brown (2.5Y 5/4) stratified fine sand and silt, massive, firm, redox.
Soil Name: Nicholville
Depth to Seasonal High Water Table: none
Depth to Bedrock: 17"

Test Pit Number: 15
Depth Description
1" Leaf litter.
2" 0-6" Brown (10YR 4/3) stony fine sandy loam, granular, friable.
6-12" Dark yellowish brown (10YR 5/6) stony fine sandy loam, blocky, friable.
12-18" Light yellowish brown (2.5Y 6/4) stony fine sandy loam, blocky, friable.
Soil Name: Lyman
Depth to Seasonal High Water Table: none
Depth to Bedrock: 18"

Test Pit Number: 16
Depth Description
1" Leaf litter.
2" 0-7" Very dark gray (2.5Y 3/1) silt loam, granular, friable, redox.
7-13" Light gray (2.5Y 7/1) silt loam, blocky, friable, redox.
13-22" Olive brown (2.5Y 4/4) silt loam, blocky, firm, redox.
22-50" Olive (5Y 5/4) silty clay loam, massive, firm, redox.
Soil Name: Scantic
Depth to Seasonal High Water Table: surface
Depth to Bedrock: none

Test Pit Number: 17
Depth Description
1" Leaf litter.
2" 0-5" Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
5-12" Strong brown (7.5YR 4/6) stony fine sandy loam, blocky, friable.
Soil Name: Lyman
Depth to Seasonal High Water Table: none
Depth to Bedrock: 12"

Test Pit Number: 18
Depth Description
1" Leaf litter.
2" 0-5" Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
5-17" Yellowish brown (10YR 5/4) fine sandy loam, blocky, friable.
17-24" Light olive brown (2.5Y 5/4) stony fine sandy loam, blocky, friable, redox.
24-54" Light yellowish brown (2.5Y 6/4) sand, massive, loose, redox.
Soil Name: Waumbek
Depth to Seasonal High Water Table: 17"
Depth to Bedrock: none

Test Pit Number: 19
Depth Description
1" Leaf litter.
2" 0-8" Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
8-28" Dark yellowish brown (10YR 4/4) stony fine sandy loam, blocky, friable.
Soil Name: Tunbridge
Depth to Seasonal High Water Table: none
Depth to Bedrock: 28"

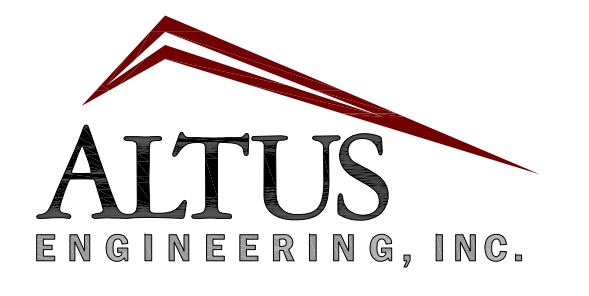
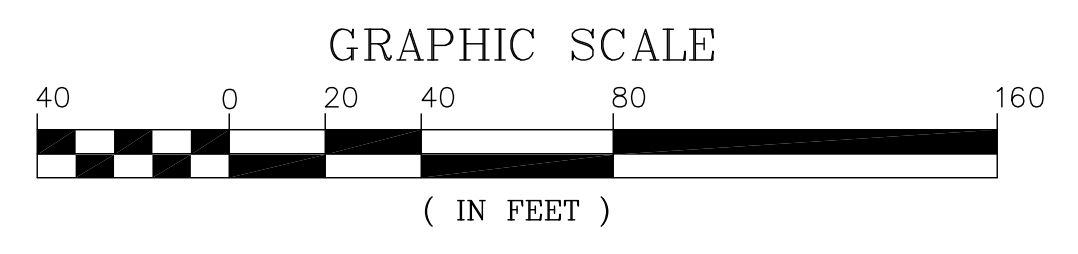
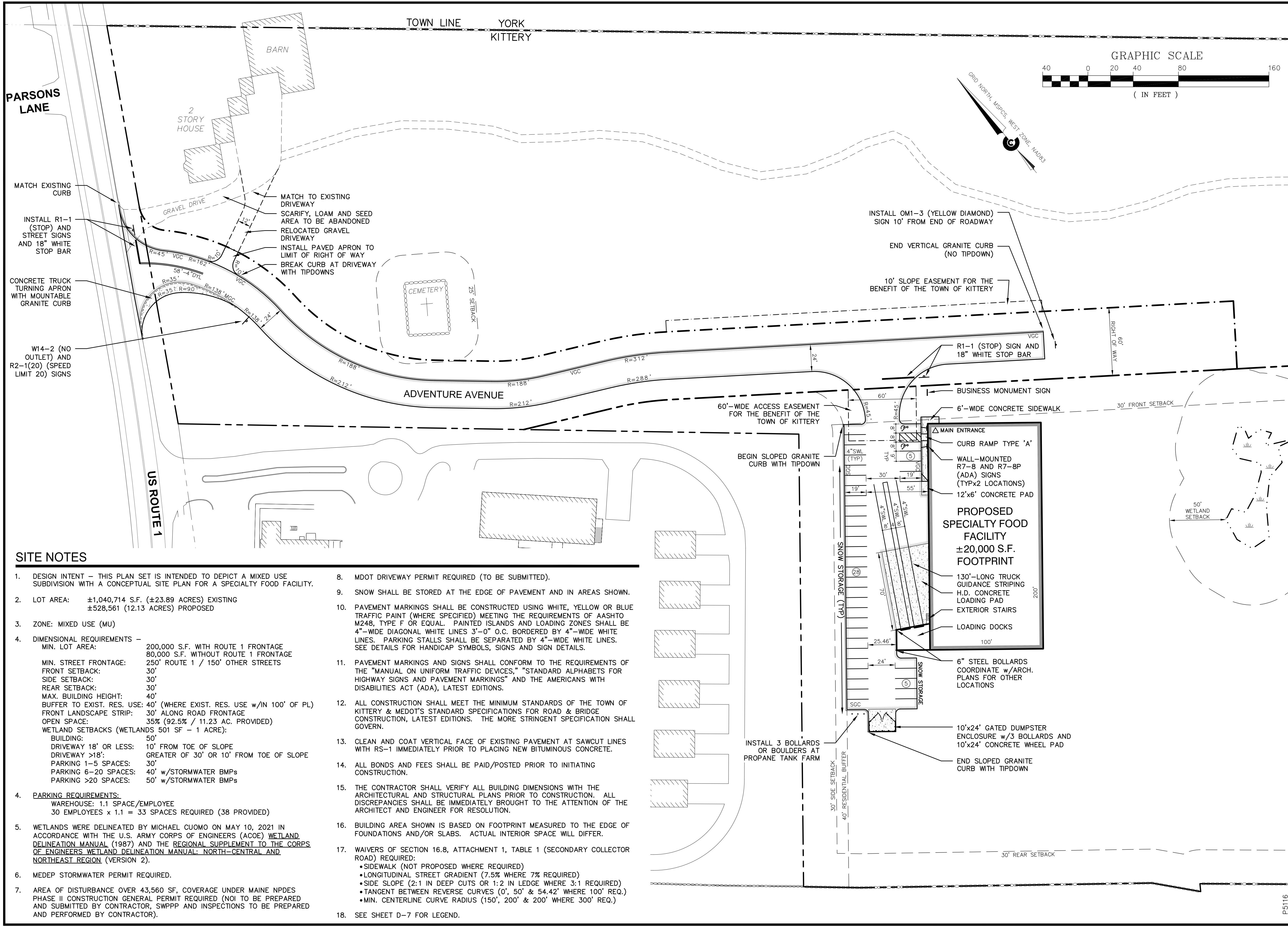
Test Pit Number: 20
Depth Description
0" Leaf litter.
1" 0-10" Dark brown (10YR 3/3) fine sandy loam, granular, friable.
10-28" Dark yellowish brown (10YR 4/4) fine sandy loam, blocky, friable.
28-46" Light yellowish brown (2.5Y 6/4) gravelly loamy sand, massive, friable, redox.
Soil Name: Waumbek
Depth to Seasonal High Water Table: 28"
Depth to Bedrock: 46"

Test Pit Number: 21
Depth Description
0" Leaf litter.
1" 0-10" Very dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
10-28" Dark yellowish brown (10YR 4/6) stony fine sandy loam, blocky, friable.
28-66" Light olive brown (2.5Y 5/4) stony fine sandy loam, massive, firm, redox.
Soil Name: Marlow
Depth to Seasonal High Water Table: 28"
Depth to Bedrock: 66"

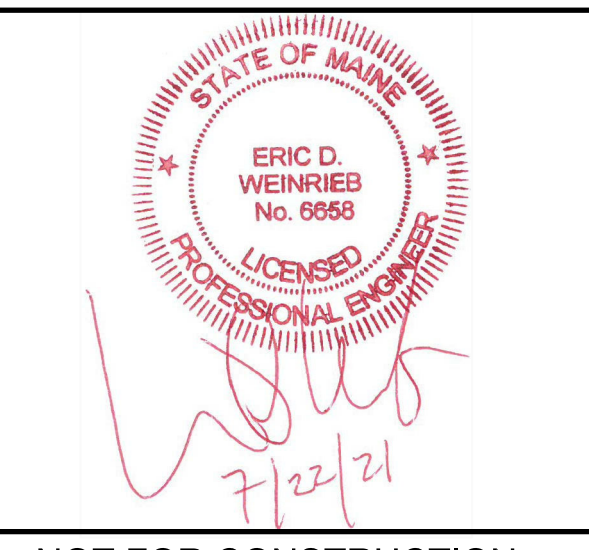
Test Pit Number: 22
Depth Description
0" Leaf litter.
1" 0-6" Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
6-12" Yellowish brown (10YR 5/6) stony fine sandy loam, blocky, friable.
Soil Name: Lyman
Depth to Seasonal High Water Table: none
Depth to Bedrock: 12"

Soil Observation: A
Depth Description
3" 0-10" Black (10YR2/1) mucky peat, massive, friable, redox.
10-20" Gray (2.5Y 5/1) loamy fine sand, massive, friable, redox.
20-28" Olive gray (5Y 5/2) very fine sandy loam, massive, friable, redox.
28-36" Gray (2.5Y 5/1) fine sand, massive, friable, redox.
36-42" Olive brown (2.5Y 4/4) very fine sandy loam, massive, firm, redox.
Soil Name: Whately
Depth to Seasonal High Water Table: surface
Depth to Bedrock: none

Soil Observation: B
Depth Description
4" 0-8" Very dark gray (2.5Y 3/1) stony fine sandy loam, massive, friable, redox.
8-14" Dark gray (2.5Y 4/1) stony fine sandy loam, massive, friable, redox.
14-28" Light yellowish brown (2.5Y 6/3) stony fine sandy loam, massive, friable, redox.
Soil Name: Brayton variant
Depth to Seasonal High Water Table: surface
Depth to Bedrock: 28"



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APPROVED BY: _____ EBS
DRAWING FILE: 5116-SITE.dwg

SCALE:
22" x 34" - 1" = 40'
11" x 17" - 1" = 80'

OWNER:
C-COAST PROPERTIES, LLC
8 BANKS ROCK
YORK HARBOR, MAINE 03911

APPLICANT:
GOOD TO-GO
c/o CAPE HOUSE
MANAGEMENT, LLC
484 US ROUTE 1
KITTERY, MAINE 03904

PROJECT:
**GOOD TO-GO
SPECIALTY FOOD
FACILITY**
TAX MAP 67, LOT 1
524 U.S. ROUTE 1
KITTERY, MAINE

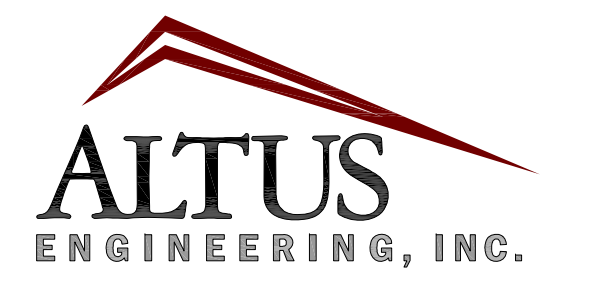
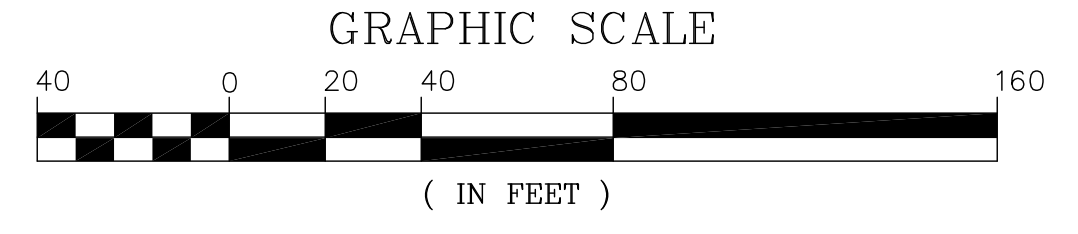
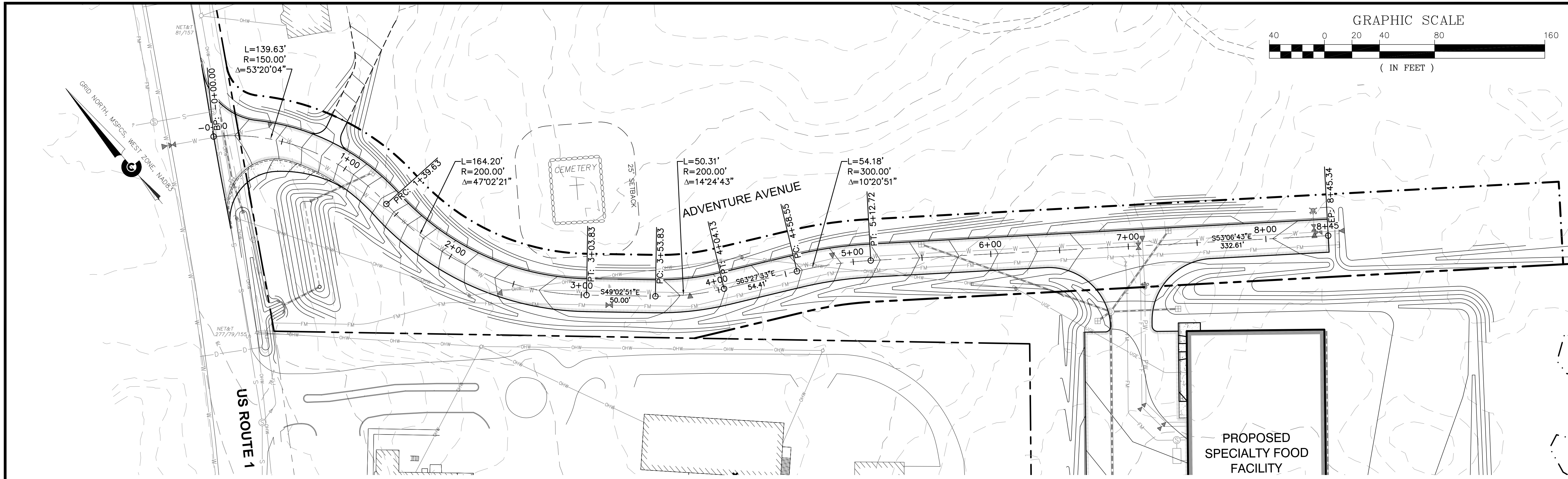
TITLE:
**SITE
PLAN**

SHEET NUMBER:
C-3

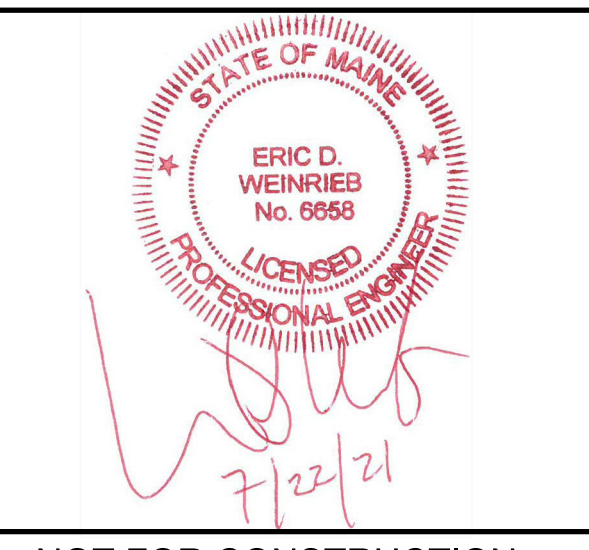
SITE NOTES

- DESIGN INTENT - THIS PLAN SET IS INTENDED TO DEPICT A MIXED USE SUBDIVISION WITH A CONCEPTUAL SITE PLAN FOR A SPECIALTY FOOD FACILITY.
- LOT AREA: ±1,040,714 S.F. (±23.89 ACRES) EXISTING
±528,561 (12.13 ACRES) PROPOSED
- ZONE: MIXED USE (MU)
- DIMENSIONAL REQUIREMENTS -
MIN. LOT AREA: 200,000 S.F. WITH ROUTE 1 FRONTAGE
80,000 S.F. WITHOUT ROUTE 1 FRONTAGE
MIN. STREET FRONTAGE: 250' ROUTE 1 / 150' OTHER STREETS
FRONT SETBACK: 30'
SIDE SETBACK: 30'
REAR SETBACK: 30'
MAX. BUILDING HEIGHT: 40'
BUFFER TO EXIST. RES. USE: 40' (WHERE EXIST. RES. USE w/IN 100' OF PL)
FRONT LANDSCAPE STRIP: 30' ALONG ROAD FRONTAGE
OPEN SPACE: 35% (92.5% / 11.23 AC. PROVIDED)
WETLAND SETBACKS (WETLANDS 501 SF - 1 ACRE):
BUILDING: 50'
DRIVEWAY 18' OR LESS: 10' FROM TOE OF SLOPE
DRIVEWAY >18': GREATER OF 30' OR 10' FROM TOE OF SLOPE
PARKING 1-5 SPACES: 30'
PARKING 6-20 SPACES: 40' w/STORMWATER BMPs
PARKING >20 SPACES: 50' w/STORMWATER BMPs
- PARKING REQUIREMENTS:
WAREHOUSE: 1.1 SPACE/EMPLOYEE
30 EMPLOYEES x 1.1 = 33 SPACES REQUIRED (38 PROVIDED)
- WETLANDS WERE DELINEATED BY MICHAEL CUOMO ON MAY 10, 2021 IN ACCORDANCE WITH THE U.S. ARMY CORPS OF ENGINEERS (ACOE) WETLAND DELINEATION MANUAL (1987) AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTH-CENTRAL AND NORTHEAST REGION (VERSION 2).
- MEDEP STORMWATER PERMIT REQUIRED.
- AREA OF DISTURBANCE OVER 43,560 SF, COVERAGE UNDER MAINE NPDES PHASE II CONSTRUCTION GENERAL PERMIT REQUIRED (NOI TO BE PREPARED AND SUBMITTED BY CONTRACTOR, SWPPP AND INSPECTIONS TO BE PREPARED AND PERFORMED BY CONTRACTOR).
- MDOT DRIVEWAY PERMIT REQUIRED (TO BE SUBMITTED).
- SNOW SHALL BE STORED AT THE EDGE OF PAVEMENT AND IN AREAS SHOWN.
- PAVEMENT MARKINGS SHALL BE CONSTRUCTED USING WHITE, YELLOW OR BLUE TRAFFIC PAINT (WHERE SPECIFIED) MEETING THE REQUIREMENTS OF AASHTO M248, TYPE F OR EQUAL. PAINTED ISLANDS AND LOADING ZONES SHALL BE 4"-WIDE DIAGONAL WHITE LINES 3'-0" O.C. BORDERED BY 4"-WIDE WHITE LINES. PARKING STALLS SHALL BE SEPARATED BY 4"-WIDE WHITE LINES. SEE DETAILS FOR HANDICAP SYMBOLS, SIGNS AND SIGN DETAILS.
- PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC DEVICES," "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AND THE AMERICANS WITH DISABILITIES ACT (ADA), LATEST EDITIONS.
- ALL CONSTRUCTION SHALL MEET THE MINIMUM STANDARDS OF THE TOWN OF KITTERY & MEDOT'S STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION, LATEST EDITIONS. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
- CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINES WITH RS-1 IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
- ALL BONDS AND FEES SHALL BE PAID/POSTED PRIOR TO INITIATING CONSTRUCTION.
- THE CONTRACTOR SHALL VERIFY ALL BUILDING DIMENSIONS WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PRIOR TO CONSTRUCTION. ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER FOR RESOLUTION.
- BUILDING AREA SHOWN IS BASED ON FOOTPRINT MEASURED TO THE EDGE OF FOUNDATIONS AND/OR SLABS. ACTUAL INTERIOR SPACE WILL DIFFER.
- WAIVERS OF SECTION 16.8, ATTACHMENT 1, TABLE 1 (SECONDARY COLLECTOR ROAD) REQUIRED:
•SIDEWALK (NOT PROPOSED WHERE REQUIRED)
•LONGITUDINAL STREET GRADIENT (7.5% WHERE 7% REQUIRED)
•SIDE SLOPE (2:1 IN DEEP CUTS OR 1:2 IN LEDGE WHERE 3:1 REQUIRED)
•TANGENT BETWEEN REVERSE CURVES (0', 50' & 54.42' WHERE 100' REQ.)
•MIN. CENTERLINE CURVE RADIUS (150', 200' & 200' WHERE 300' REQ.)
- SEE SHEET D-7 FOR LEGEND.

P5116



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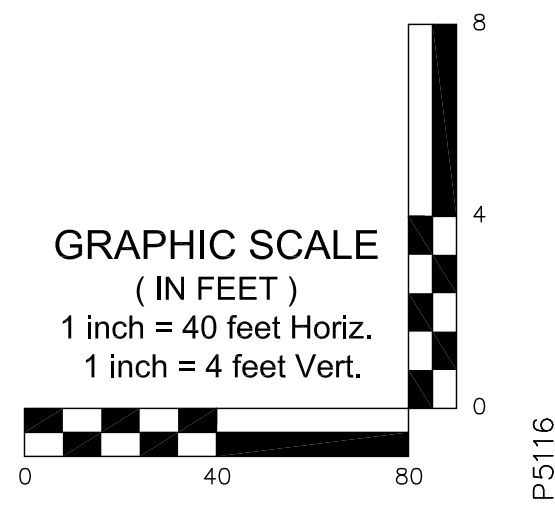
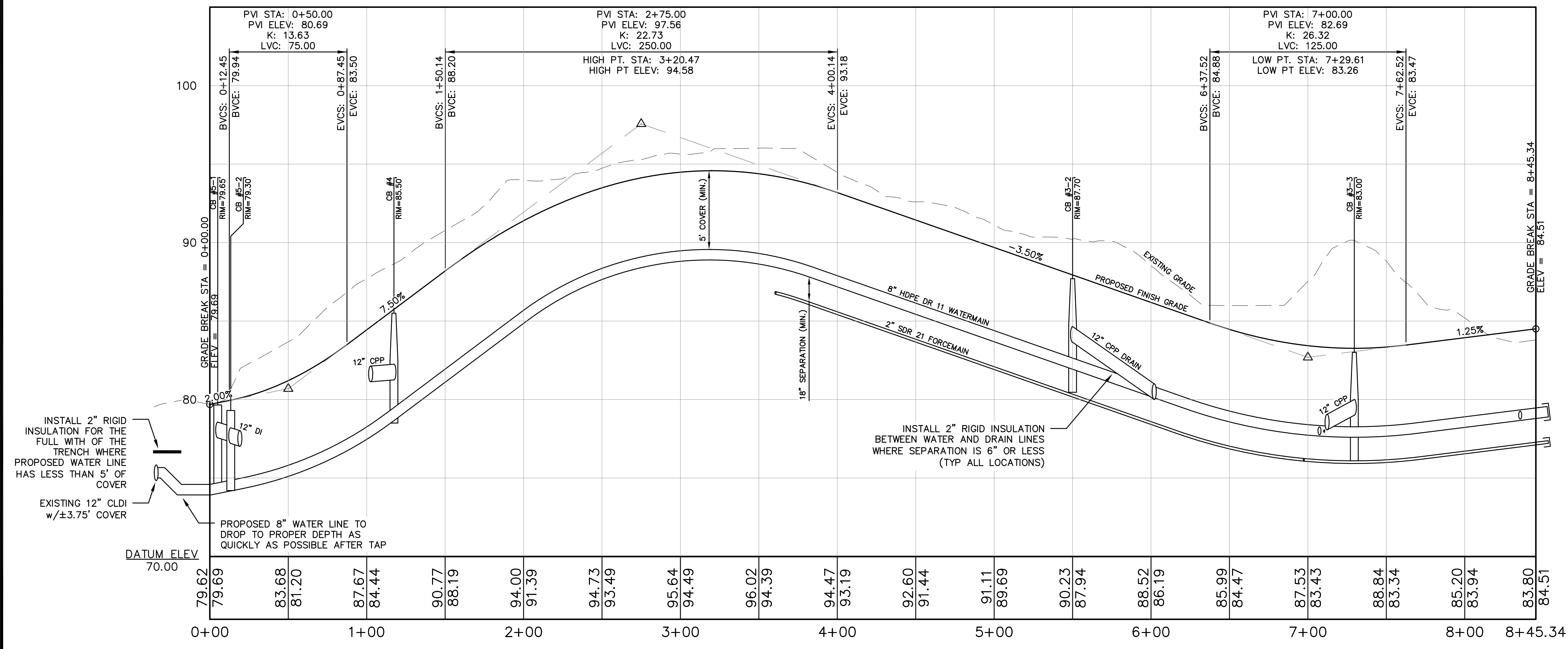
OWNER:
C-COAST PROPERTIES, LLC
8 BANKS ROCK
YORK HARBOR, MAINE 03911

APPLICANT:
GOOD TO-GO
c/o CAPE HOUSE
MANAGEMENT, LLC
484 US ROUTE 1
KITTERY, MAINE 03904

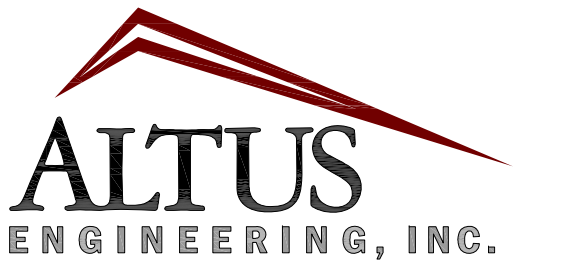
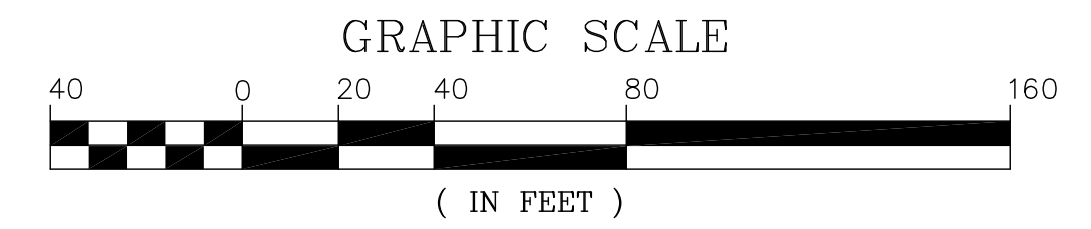
PROJECT:
**GOOD TO-GO
SPECIALTY FOOD
FACILITY**
TAX MAP 67, LOT 1
524 U.S. ROUTE 1
KITTERY, MAINE

TITLE:
**ROADWAY PLAN
AND PROFILE**

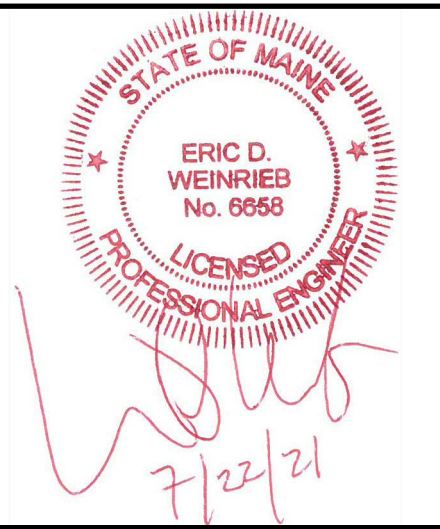
SHEET NUMBER:
C-4



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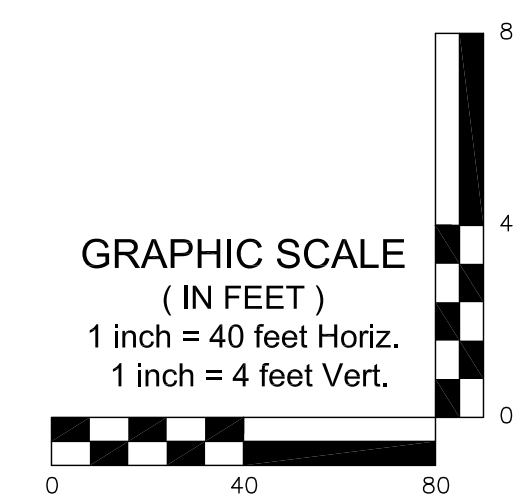
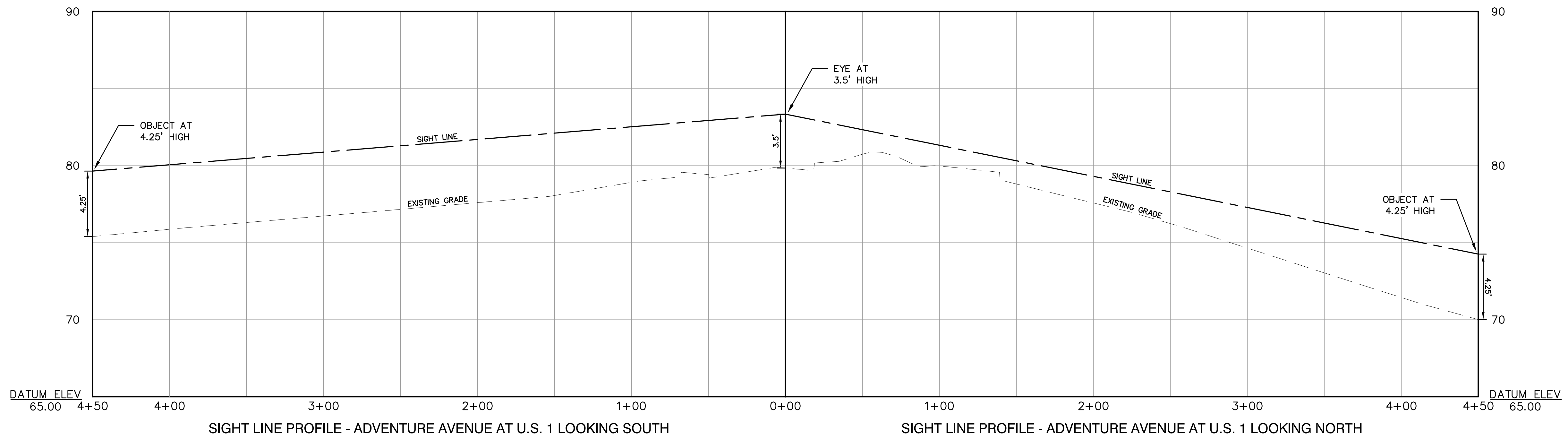
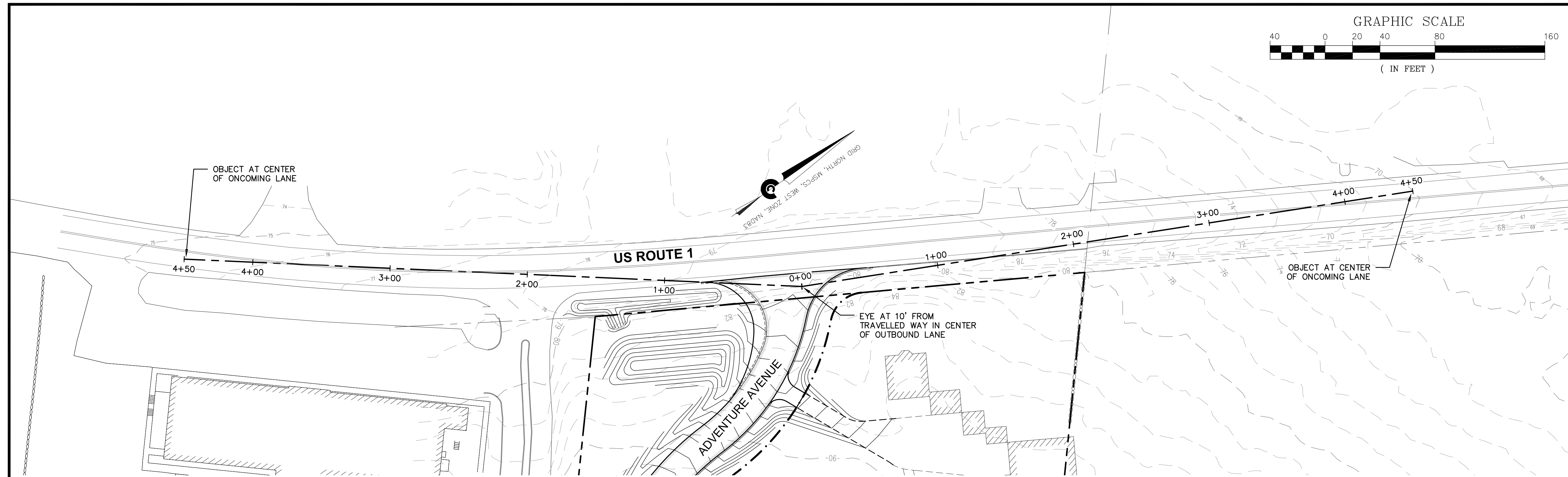
OWNER:
C-COAST PROPERTIES, LLC
8 BANKS ROCK
YORK HARBOR, MAINE 03911

APPLICANT:
GOOD TO-GO
c/o CAPE HOUSE
MANAGEMENT, LLC
484 US ROUTE 1
KITTERY, MAINE 03904

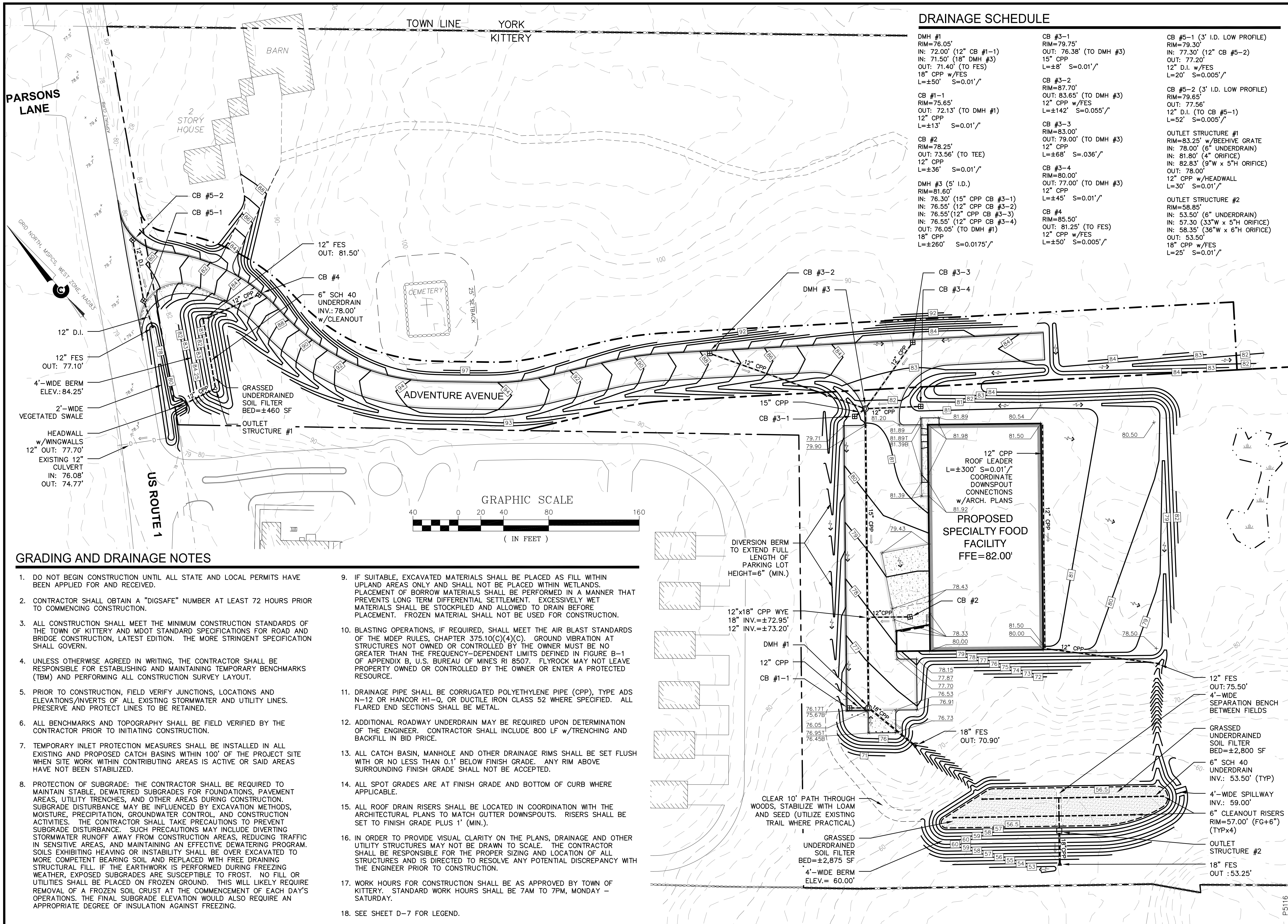
PROJECT:
**GOOD TO-GO
SPECIALTY FOOD
FACILITY**
TAX MAP 67, LOT 1
524 U.S. ROUTE 1
KITTERY, MAINE

TITLE:
**HIGHWAY ACCESS
PLAN**

SHEET NUMBER:
C-5



P5116

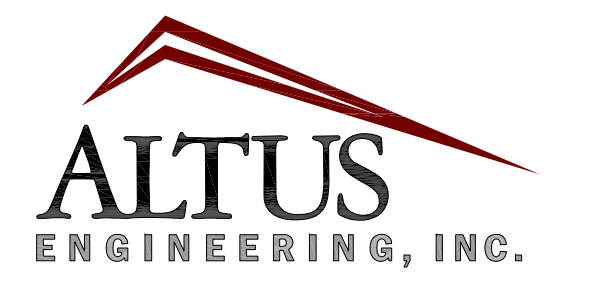


DRAINAGE SCHEDULE

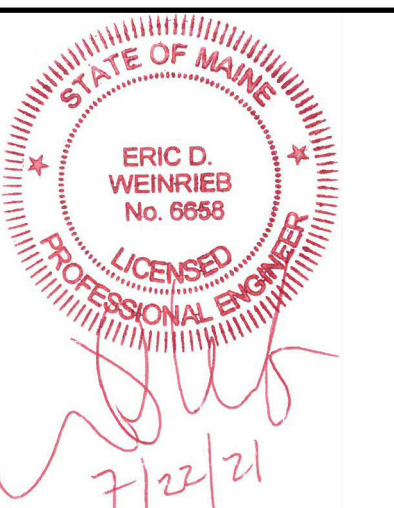
DMH #1 RIM=76.05' IN: 72.00' (12" CB #1-1) IN: 71.50' (18" DMH #3) OUT: 71.40' (TO FES) 18" CPP w/FES L=±50' S=0.01'/	CB #3-1 RIM=79.75' OUT: 76.38' (TO DMH #3) 15" CPP L=±8' S=0.01'/	CB #5-1 (3' I.D. LOW PROFILE) RIM=79.30' IN: 77.30' (12" CB #5-2) OUT: 77.20' 12" D.I. w/FES L=20' S=0.005'/
CB #1-1 RIM=75.65' OUT: 72.13' (TO DMH #1) 12" CPP L=±13' S=0.01'/	CB #3-2 RIM=87.70' OUT: 83.65' (TO DMH #3) 12" CPP w/FES L=±142' S=0.055'/	CB #5-2 (3' I.D. LOW PROFILE) RIM=79.65' OUT: 77.56' 12" D.I. (TO CB #5-1) L=52' S=0.005'/
CB #2 RIM=78.25' OUT: 73.56' (TO TEE) 12" CPP L=±36' S=0.01'/	CB #3-3 RIM=83.00' OUT: 79.00' (TO DMH #3) 12" CPP L=±68' S=0.036'/	OUTLET STRUCTURE #1 RIM=83.25' w/BEEHIVE GRATE IN: 78.00' (6" UNDERDRAIN) IN: 81.80' (4" ORIFICE) IN: 82.83' (9"W x 5"H ORIFICE) OUT: 78.00' 12" CPP w/HEADWALL L=30' S=0.01'/
DMH #3 (5' I.D.) RIM=81.60' IN: 76.30' (15" CPP CB #3-1) IN: 76.55' (12" CPP CB #3-2) IN: 76.55' (12" CPP CB #3-3) IN: 76.55' (12" CPP CB #3-4) OUT: 76.05' (TO DMH #1) 18" CPP L=±260' S=0.0175'/	CB #3-4 RIM=80.00' OUT: 77.00' (TO DMH #3) 12" CPP L=±45' S=0.01'/	OUTLET STRUCTURE #2 RIM=58.85' IN: 53.50' (6" UNDERDRAIN) IN: 57.30' (33"W x 5"H ORIFICE) IN: 58.35' (36"W x 6"H ORIFICE) OUT: 53.50' 18" CPP w/FES L=25' S=0.01'/

GRADING AND DRAINAGE NOTES

- DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE AND LOCAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
- CONTRACTOR SHALL OBTAIN A "DIGSAFE" NUMBER AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION.
- ALL CONSTRUCTION SHALL MEET THE MINIMUM CONSTRUCTION STANDARDS OF THE TOWN OF KITTERY AND MDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
- UNLESS OTHERWISE AGREED IN WRITING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING TEMPORARY BENCHMARKS (TBM) AND PERFORMING ALL CONSTRUCTION SURVEY LAYOUT.
- PRIOR TO CONSTRUCTION, FIELD VERIFY JUNCTIONS, LOCATIONS AND ELEVATIONS/INVERTS OF ALL EXISTING STORMWATER AND UTILITY LINES. PRESERVE AND PROTECT LINES TO BE RETAINED.
- ALL BENCHMARKS AND TOPOGRAPHY SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO INITIATING CONSTRUCTION.
- TEMPORARY INLET PROTECTION MEASURES SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASINS WITHIN 100' OF THE PROJECT SITE WHEN SITE WORK WITHIN CONTRIBUTING AREAS IS ACTIVE OR SAID AREAS HAVE NOT BEEN STABILIZED.
- PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES FOR FOUNDATIONS, PAVEMENT AREAS, UTILITY TRENCHES, AND OTHER AREAS DURING CONSTRUCTION. SUBGRADE DISTURBANCE MAY BE INFLUENCED BY EXCAVATION METHODS, MOISTURE, PRECIPITATION, GROUNDWATER CONTROL, AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SUBGRADE DISTURBANCE. SUCH PRECAUTIONS MAY INCLUDE DIVERTING STORMWATER RUNOFF AWAY FROM CONSTRUCTION AREAS, REDUCING TRAFFIC IN SENSITIVE AREAS, AND MAINTAINING AN EFFECTIVE DEWATERING PROGRAM. SOILS EXHIBITING HEAVING OR INSTABILITY SHALL BE OVER EXCAVATED TO MORE COMPETENT BEARING SOIL AND REPLACED WITH FREE DRAINING STRUCTURAL FILL. IF THE EARTHWORK IS PERFORMED DURING FREEZING WEATHER, EXPOSED SUBGRADES ARE SUSCEPTIBLE TO FROST. NO FILL OR UTILITIES SHALL BE PLACED ON FROZEN GROUND. THIS WILL LIKELY REQUIRE REMOVAL OF A FROZEN SOIL CRUST AT THE COMMENCEMENT OF EACH DAY'S OPERATIONS. THE FINAL SUBGRADE ELEVATION WOULD ALSO REQUIRE AN APPROPRIATE DEGREE OF INSULATION AGAINST FREEZING.
- IF SUITABLE, EXCAVATED MATERIALS SHALL BE PLACED AS FILL WITHIN UPLAND AREAS ONLY AND SHALL NOT BE PLACED WITHIN WETLANDS. PLACEMENT OF BORROW MATERIALS SHALL BE PERFORMED IN A MANNER THAT PREVENTS LONG TERM DIFFERENTIAL SETTLEMENT. EXCESSIVELY WET MATERIALS SHALL BE STOCKPILED AND ALLOWED TO DRAIN BEFORE PLACEMENT. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION.
- BLASTING OPERATIONS, IF REQUIRED, SHALL MEET THE AIR BLAST STANDARDS OF THE MDEP RULES, CHAPTER 375.10(C)(4)(C). GROUND VIBRATION AT STRUCTURES NOT OWNED OR CONTROLLED BY THE OWNER MUST BE NO GREATER THAN THE FREQUENCY-DEPENDENT LIMITS DEFINED IN FIGURE B-1 OF APPENDIX B, U.S. BUREAU OF MINES RI 8507. FLYROCK MAY NOT LEAVE PROPERTY OWNED OR CONTROLLED BY THE OWNER OR ENTER A PROTECTED RESOURCE.
- DRAINAGE PIPE SHALL BE CORRUGATED POLYETHYLENE PIPE (CPP), TYPE ADS N-12 OR HANCOR H1-Q, OR DUCTILE IRON CLASS 52 WHERE SPECIFIED. ALL FLARED END SECTIONS SHALL BE METAL.
- ADDITIONAL ROADWAY UNDERDRAIN MAY BE REQUIRED UPON DETERMINATION OF THE ENGINEER. CONTRACTOR SHALL INCLUDE 800 LF w/TRENCHING AND BACKFILL IN BID PRICE.
- ALL CATCH BASIN, MANHOLE AND OTHER DRAINAGE RIMS SHALL BE SET FLUSH WITH OR NO LESS THAN 0.1' BELOW FINISH GRADE. ANY RIM ABOVE SURROUNDING FINISH GRADE SHALL NOT BE ACCEPTED.
- ALL SPOT GRADES ARE AT FINISH GRADE AND BOTTOM OF CURB WHERE APPLICABLE.
- ALL ROOF DRAIN RISERS SHALL BE LOCATED IN COORDINATION WITH THE ARCHITECTURAL PLANS TO MATCH GUTTER DOWNSPOUTS. RISERS SHALL BE SET TO FINISH GRADE PLUS 1' (MIN.).
- IN ORDER TO PROVIDE VISUAL CLARITY ON THE PLANS, DRAINAGE AND OTHER UTILITY STRUCTURES MAY NOT BE DRAWN TO SCALE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER SIZING AND LOCATION OF ALL STRUCTURES AND IS DIRECTED TO RESOLVE ANY POTENTIAL DISCREPANCY WITH THE ENGINEER PRIOR TO CONSTRUCTION.
- WORK HOURS FOR CONSTRUCTION SHALL BE AS APPROVED BY TOWN OF KITTERY. STANDARD WORK HOURS SHALL BE 7AM TO 7PM, MONDAY - SATURDAY.
- SEE SHEET D-7 FOR LEGEND.



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DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5116-SITE.dwg

SCALE:
22" x 34" - 1" = 40'
11" x 17" - 1" = 80'

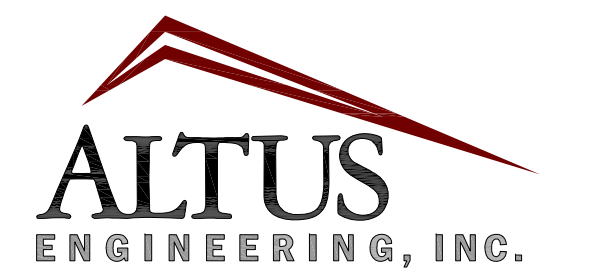
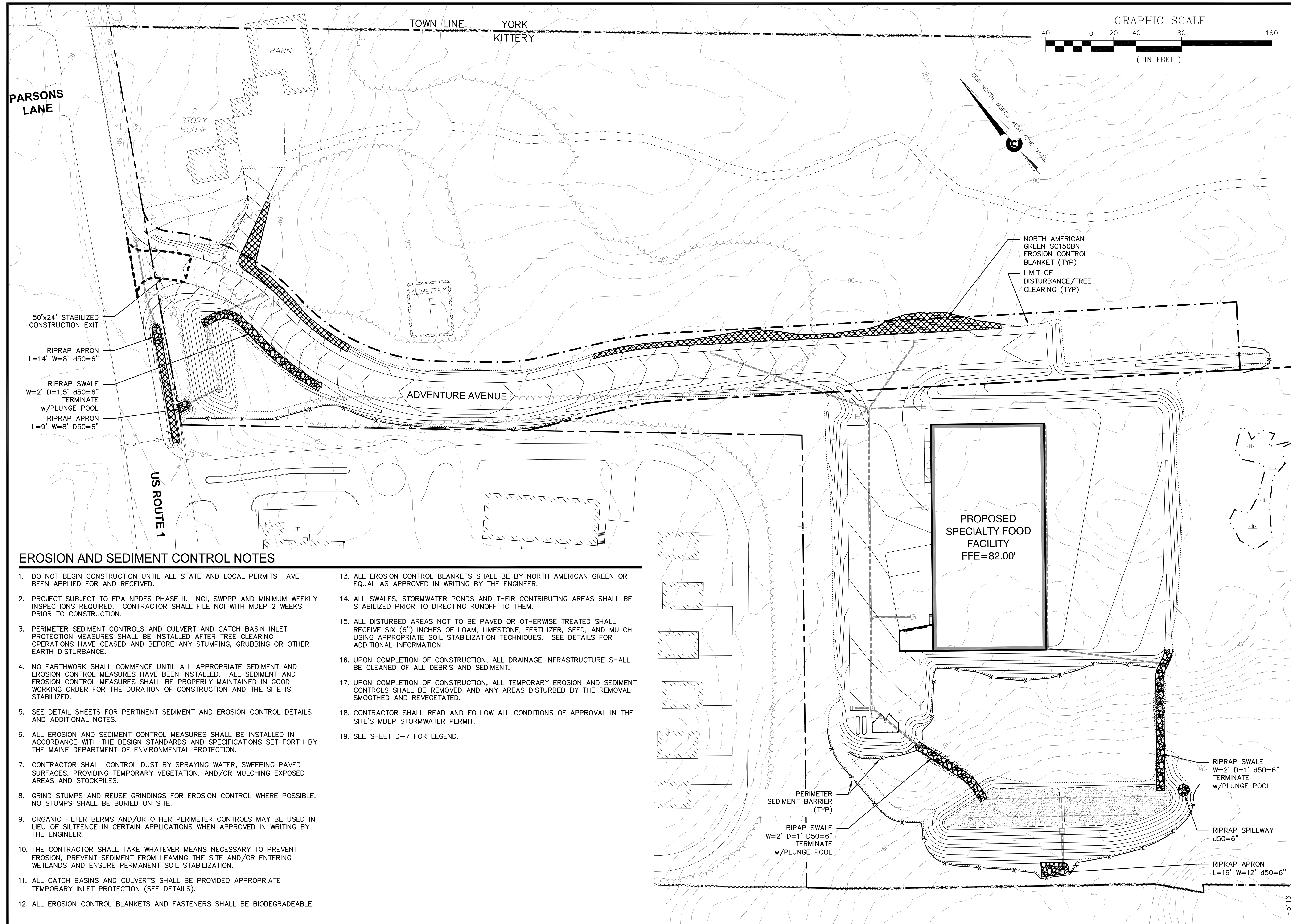
OWNER:
C-COAST PROPERTIES, LLC
8 BANKS ROCK
YORK HARBOR, MAINE 03911

APPLICANT:
GOOD TO-GO
c/o CAPE HOUSE
MANAGEMENT, LLC
484 US ROUTE 1
KITTERY, MAINE 03904

PROJECT:
GOOD TO-GO
SPECIALTY FOOD
FACILITY
TAX MAP 67, LOT 1
524 U.S. ROUTE 1
KITTERY, MAINE

TITLE:
STORMWATER
MANAGEMENT PLAN

SHEET NUMBER:
C-6



133 Court Street
(603) 433-2335

Portsmouth, NH 03801
www.altus-eng.com



NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: JULY 22, 2021

REVISIONS	NO.	DESCRIPTION	BY	DATE
0	PLANNING BOARD		EBS	07/22/21

DRAWN BY: EBS

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DRAWING FILE: 5116-SITE.dwg

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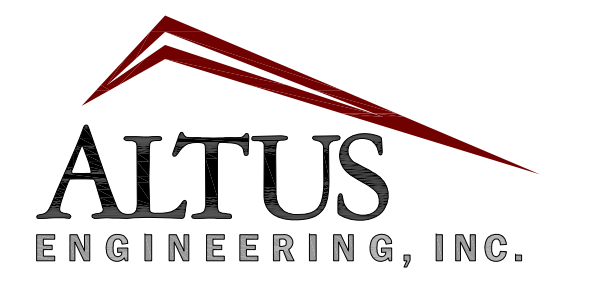
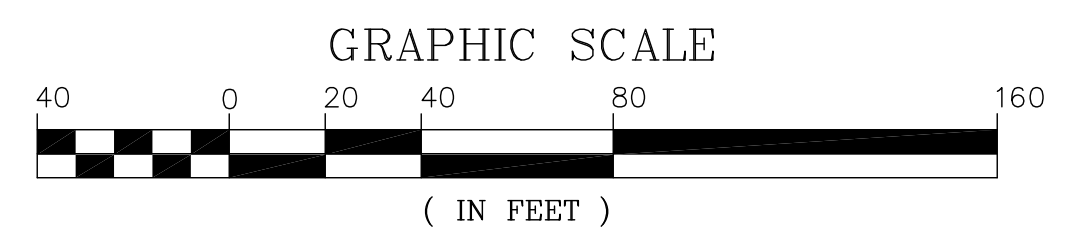
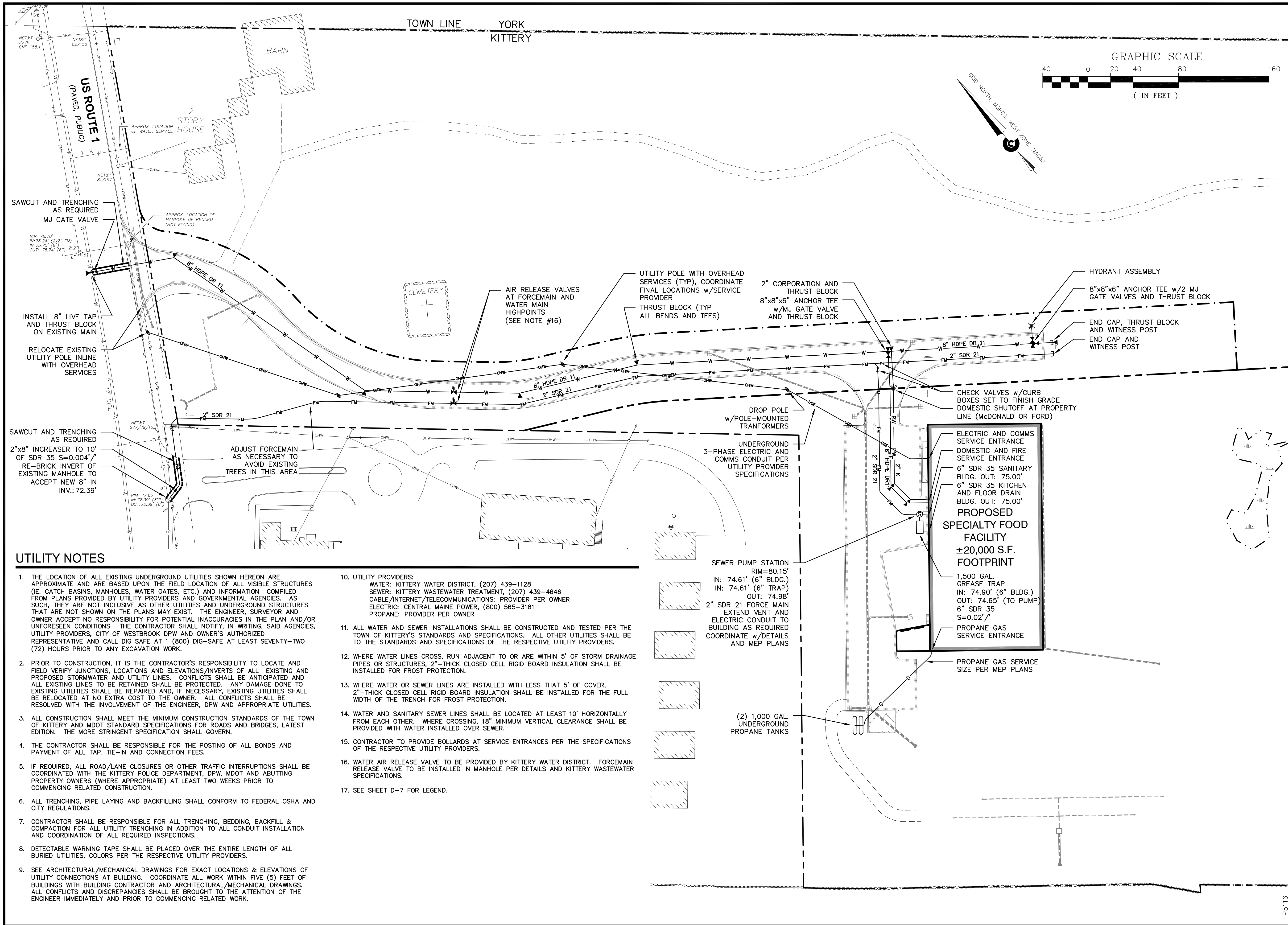
TITLE:
EROSION AND
SEDIMENT CONTROL
PLAN

SHEET NUMBER:
C-7

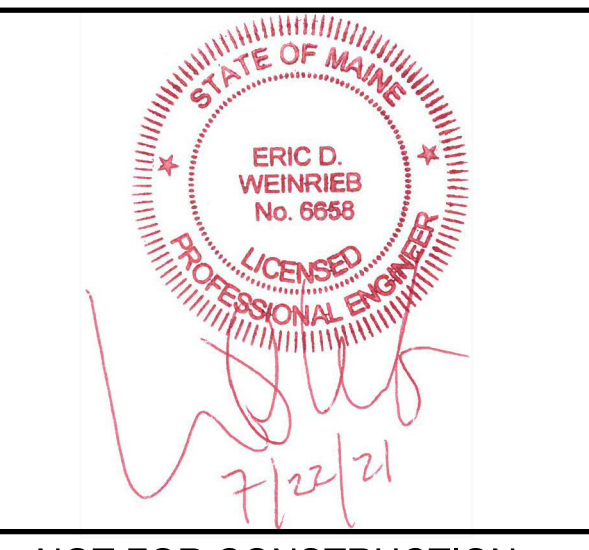
EROSION AND SEDIMENT CONTROL NOTES

- DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE AND LOCAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
- PROJECT SUBJECT TO EPA NPDES PHASE II, NOI, SWPPP AND MINIMUM WEEKLY INSPECTIONS REQUIRED. CONTRACTOR SHALL FILE NOI WITH MDEP 2 WEEKS PRIOR TO CONSTRUCTION.
- PERIMETER SEDIMENT CONTROLS AND CULVERT AND CATCH BASIN INLET PROTECTION MEASURES SHALL BE INSTALLED AFTER TREE CLEARING OPERATIONS HAVE CEASED AND BEFORE ANY STUMPING, GRUBBING OR OTHER EARTH DISTURBANCE.
- NO EARTHWORK SHALL COMMENCE UNTIL ALL APPROPRIATE SEDIMENT AND EROSION CONTROL MEASURES HAVE BEEN INSTALLED. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE PROPERLY MAINTAINED IN GOOD WORKING ORDER FOR THE DURATION OF CONSTRUCTION AND THE SITE IS STABILIZED.
- SEE DETAIL SHEETS FOR PERTINENT SEDIMENT AND EROSION CONTROL DETAILS AND ADDITIONAL NOTES.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DESIGN STANDARDS AND SPECIFICATIONS SET FORTH BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- CONTRACTOR SHALL CONTROL DUST BY SPRAYING WATER, SWEEPING PAVED SURFACES, PROVIDING TEMPORARY VEGETATION, AND/OR MULCHING EXPOSED AREAS AND STOCKPILES.
- GRIND STUMPS AND REUSE GRINDINGS FOR EROSION CONTROL WHERE POSSIBLE. NO STUMPS SHALL BE BURIED ON SITE.
- ORGANIC FILTER BERMS AND/OR OTHER PERIMETER CONTROLS MAY BE USED IN LIEU OF SILTFENCE IN CERTAIN APPLICATIONS WHEN APPROVED IN WRITING BY THE ENGINEER.
- THE CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY TO PREVENT EROSION, PREVENT SEDIMENT FROM LEAVING THE SITE AND/OR ENTERING WETLANDS AND ENSURE PERMANENT SOIL STABILIZATION.
- ALL CATCH BASINS AND CULVERTS SHALL BE PROVIDED APPROPRIATE TEMPORARY INLET PROTECTION (SEE DETAILS).
- ALL EROSION CONTROL BLANKETS AND FASTENERS SHALL BE BIODEGRADABLE.
- ALL EROSION CONTROL BLANKETS SHALL BE BY NORTH AMERICAN GREEN OR EQUAL AS APPROVED IN WRITING BY THE ENGINEER.
- ALL SWALES, STORMWATER PONDS AND THEIR CONTRIBUTING AREAS SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE SIX (6") INCHES OF LOAM, LIMESTONE, FERTILIZER, SEED, AND MULCH USING APPROPRIATE SOIL STABILIZATION TECHNIQUES. SEE DETAILS FOR ADDITIONAL INFORMATION.
- UPON COMPLETION OF CONSTRUCTION, ALL DRAINAGE INFRASTRUCTURE SHALL BE CLEANED OF ALL DEBRIS AND SEDIMENT.
- UPON COMPLETION OF CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED AND ANY AREAS DISTURBED BY THE REMOVAL SMOOTHED AND REVEGETATED.
- CONTRACTOR SHALL READ AND FOLLOW ALL CONDITIONS OF APPROVAL IN THE SITE'S MDEP STORMWATER PERMIT.
- SEE SHEET D-7 FOR LEGEND.

P5116



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YORK HARBOR, MAINE 03911

APPLICANT:
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484 US ROUTE 1
KITTERY, MAINE 03904

PROJECT:
**GOOD TO-GO
SPECIALTY FOOD
FACILITY**
TAX MAP 67, LOT 1
524 U.S. ROUTE 1
KITTERY, MAINE

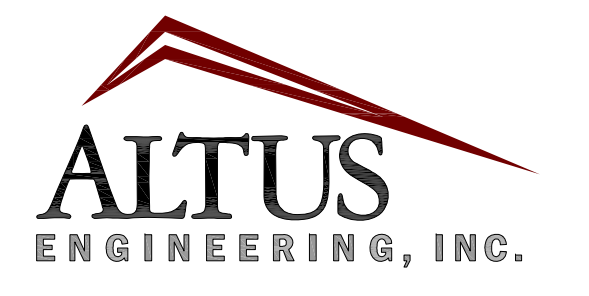
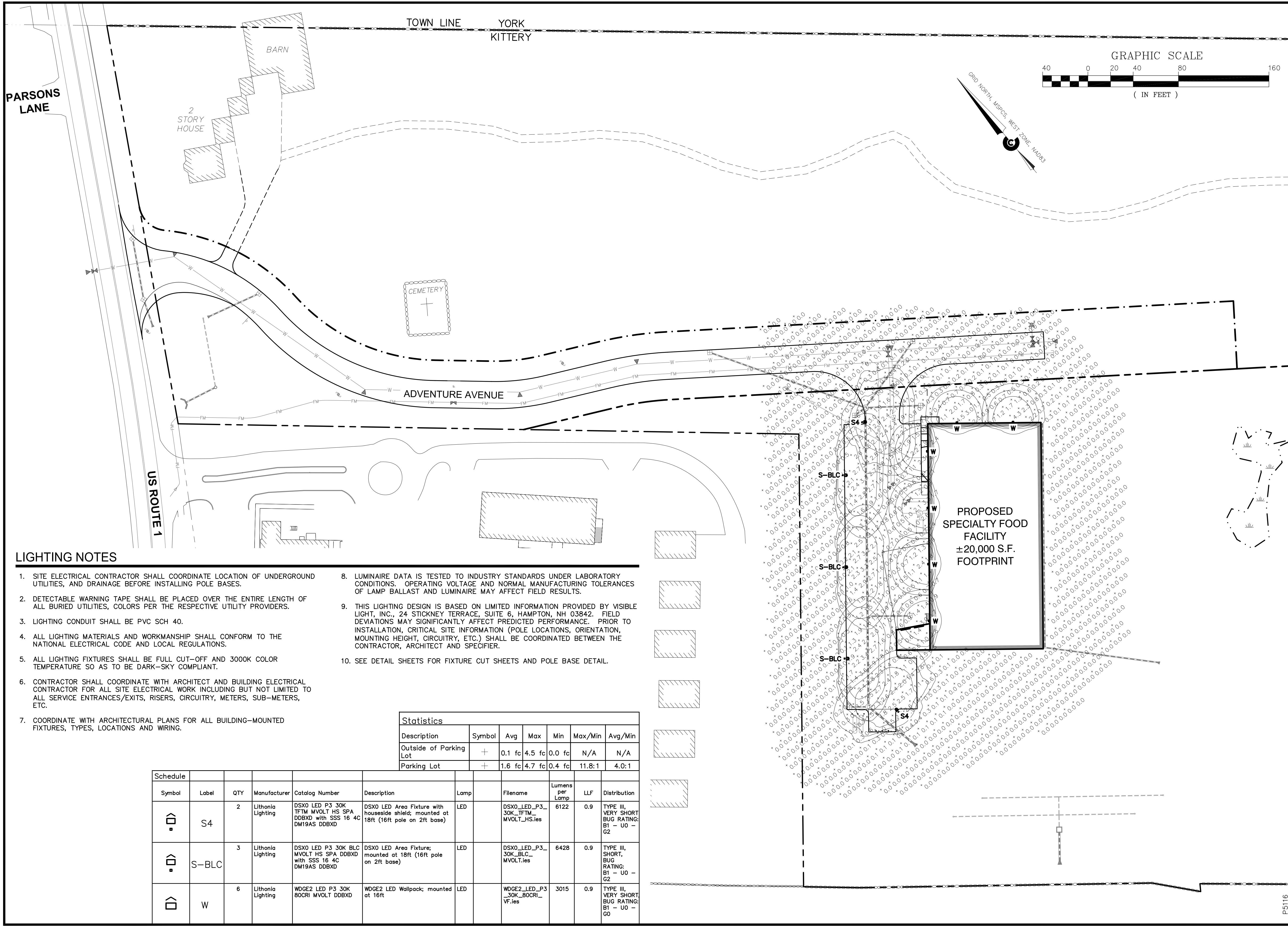
TITLE:
UTILITIES PLAN

SHEET NUMBER:
C-8

UTILITY NOTES

- THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED UPON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES (IE. CATCH BASINS, MANHOLES, WATER GATES, ETC.) AND INFORMATION COMPILED FROM PLANS PROVIDED BY UTILITY PROVIDERS AND GOVERNMENTAL AGENCIES. AS SUCH, THEY ARE NOT INCLUSIVE AS OTHER UTILITIES AND UNDERGROUND STRUCTURES THAT ARE NOT SHOWN ON THE PLANS MAY EXIST. THE ENGINEER, SURVEYOR AND OWNER ACCEPT NO RESPONSIBILITY FOR POTENTIAL INACCURACIES IN THE PLAN AND/OR UNFORESEEN CONDITIONS. THE CONTRACTOR SHALL NOTIFY, IN WRITING, SAID AGENCIES, UTILITY PROVIDERS, CITY OF WESTBROOK DPW AND OWNER'S AUTHORIZED REPRESENTATIVE AND CALL DIG SAFE AT 1 (800) DIG-SAFE AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION WORK.
- PRIOR TO CONSTRUCTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND FIELD VERIFY JUNCTIONS, LOCATIONS AND ELEVATIONS/INVERTS OF ALL EXISTING AND PROPOSED STORMWATER AND UTILITY LINES. CONFLICTS SHALL BE ANTICIPATED AND ALL EXISTING LINES TO BE RETAINED SHALL BE PROTECTED. ANY DAMAGE DONE TO EXISTING UTILITIES SHALL BE REPAIRED AND, IF NECESSARY, EXISTING UTILITIES SHALL BE RELOCATED AT NO EXTRA COST TO THE OWNER. ALL CONFLICTS SHALL BE RESOLVED WITH THE INVOLVEMENT OF THE ENGINEER, DPW AND APPROPRIATE UTILITIES.
- ALL CONSTRUCTION SHALL MEET THE MINIMUM CONSTRUCTION STANDARDS OF THE TOWN OF KITTERY AND MDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE POSTING OF ALL BONDS AND PAYMENT OF ALL TAP, TIE-IN AND CONNECTION FEES.
- IF REQUIRED, ALL ROAD/LANE CLOSURES OR OTHER TRAFFIC INTERRUPTIONS SHALL BE COORDINATED WITH THE KITTERY POLICE DEPARTMENT, DPW, MDOT AND ABUTTING PROPERTY OWNERS (WHERE APPROPRIATE) AT LEAST TWO WEEKS PRIOR TO COMMENCING RELATED CONSTRUCTION.
- ALL TRENCHING, PIPE LAYING AND BACKFILLING SHALL CONFORM TO FEDERAL OSHA AND CITY REGULATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRENCHING, BEDDING, BACKFILL & COMPACTION FOR ALL UTILITY TRENCHING IN ADDITION TO ALL CONDUIT INSTALLATION AND COORDINATION OF ALL REQUIRED INSPECTIONS.
- DETECTABLE WARNING TAPE SHALL BE PLACED OVER THE ENTIRE LENGTH OF ALL BURIED UTILITIES, COLORS PER THE RESPECTIVE UTILITY PROVIDERS.
- SEE ARCHITECTURAL/MECHANICAL DRAWINGS FOR EXACT LOCATIONS & ELEVATIONS OF UTILITY CONNECTIONS AT BUILDING. COORDINATE ALL WORK WITHIN FIVE (5) FEET OF BUILDINGS WITH BUILDING CONTRACTOR AND ARCHITECTURAL/MECHANICAL DRAWINGS. ALL CONFLICTS AND DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY AND PRIOR TO COMMENCING RELATED WORK.
- UTILITY PROVIDERS:
WATER: KITTERY WATER DISTRICT, (207) 439-1128
SEWER: KITTERY WASTEWATER TREATMENT, (207) 439-4646
CABLE/INTERNET/TELECOMMUNICATIONS: PROVIDER PER OWNER
ELECTRIC: CENTRAL MAINE POWER, (800) 565-3181
PROPANE: PROVIDER PER OWNER
- ALL WATER AND SEWER INSTALLATIONS SHALL BE CONSTRUCTED AND TESTED PER THE TOWN OF KITTERY'S STANDARDS AND SPECIFICATIONS. ALL OTHER UTILITIES SHALL BE TO THE STANDARDS AND SPECIFICATIONS OF THE RESPECTIVE UTILITY PROVIDERS.
- WHERE WATER LINES CROSS, RUN ADJACENT TO OR ARE WITHIN 5' OF STORM DRAINAGE PIPES OR STRUCTURES, 2"-THICK CLOSED CELL RIGID BOARD INSULATION SHALL BE INSTALLED FOR FROST PROTECTION.
- WHERE WATER OR SEWER LINES ARE INSTALLED WITH LESS THAT 5' OF COVER, 2"-THICK CLOSED CELL RIGID BOARD INSULATION SHALL BE INSTALLED FOR THE FULL WIDTH OF THE TRENCH FOR FROST PROTECTION.
- WATER AND SANITARY SEWER LINES SHALL BE LOCATED AT LEAST 10' HORIZONTALLY FROM EACH OTHER. WHERE CROSSING, 18" MINIMUM VERTICAL CLEARANCE SHALL BE PROVIDED WITH WATER INSTALLED OVER SEWER.
- CONTRACTOR TO PROVIDE BOLLARDS AT SERVICE ENTRANCES PER THE SPECIFICATIONS OF THE RESPECTIVE UTILITY PROVIDERS.
- WATER AIR RELEASE VALVE TO BE PROVIDED BY KITTERY WATER DISTRICT. FORCEMAIN RELEASE VALVE TO BE INSTALLED IN MANHOLE PER DETAILS AND KITTERY WASTEWATER SPECIFICATIONS.
- SEE SHEET D-7 FOR LEGEND.

P5116



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DRAWING FILE: 5116-SITE.dwg

SCALE:
22" x 34" - 1" = 40'
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8 BANKS ROCK
YORK HARBOR, MAINE 03911

APPLICANT:
GOOD TO-GO
c/o CAPE HOUSE
MANAGEMENT, LLC
484 US ROUTE 1
KITTERY, MAINE 03904

PROJECT:
GOOD TO-GO
SPECIALTY FOOD
FACILITY
TAX MAP 67, LOT 1
524 U.S. ROUTE 1
KITTERY, MAINE

TITLE:
LIGHTING PLAN

SHEET NUMBER:
C-9

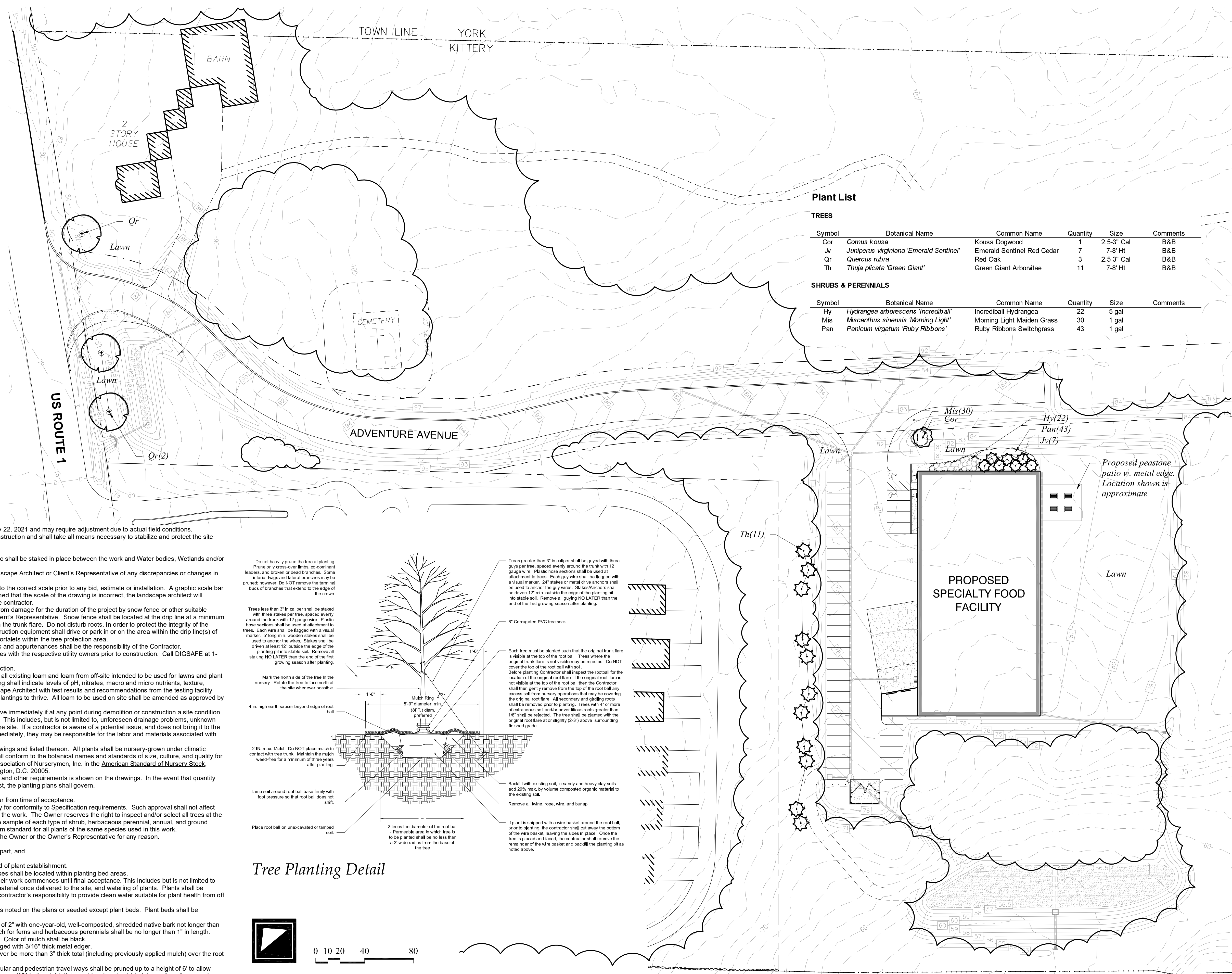
LIGHTING NOTES

- SITE ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF UNDERGROUND UTILITIES, AND DRAINAGE BEFORE INSTALLING POLE BASES.
- DETECTABLE WARNING TAPE SHALL BE PLACED OVER THE ENTIRE LENGTH OF ALL BURIED UTILITIES, COLORS PER THE RESPECTIVE UTILITY PROVIDERS.
- LIGHTING CONDUIT SHALL BE PVC SCH 40.
- ALL LIGHTING MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE AND LOCAL REGULATIONS.
- ALL LIGHTING FIXTURES SHALL BE FULL CUT-OFF AND 3000K COLOR TEMPERATURE SO AS TO BE DARK-SKY COMPLIANT.
- CONTRACTOR SHALL COORDINATE WITH ARCHITECT AND BUILDING ELECTRICAL CONTRACTOR FOR ALL SITE ELECTRICAL WORK INCLUDING BUT NOT LIMITED TO ALL SERVICE ENTRANCES/EXITS, RISERS, CIRCUITRY, METERS, SUB-METERS, ETC.
- COORDINATE WITH ARCHITECTURAL PLANS FOR ALL BUILDING-MOUNTED FIXTURES, TYPES, LOCATIONS AND WIRING.
- LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP BALLAST AND LUMINAIRE MAY AFFECT FIELD RESULTS.
- THIS LIGHTING DESIGN IS BASED ON LIMITED INFORMATION PROVIDED BY VISIBLE LIGHT, INC., 24 STICKNEY TERRACE, SUITE 6, HAMPTON, NH 03842. FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, MOUNTING HEIGHT, CIRCUITRY, ETC.) SHALL BE COORDINATED BETWEEN THE CONTRACTOR, ARCHITECT AND SPECIFIER.
- SEE DETAIL SHEETS FOR FIXTURE CUT SHEETS AND POLE BASE DETAIL.

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Outside of Parking Lot	+	0.1 fc	4.5 fc	0.0 fc	N/A	N/A
Parking Lot	+	1.6 fc	4.7 fc	0.4 fc	11.8:1	4.0:1

Schedule	Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Filename	Lumens per Lamp	LLF	Distribution
		S4	2	Lithonia Lighting	DSXO LED P3 30K TFTM MVOLT HS SPA DDBXD with SSS 16 4C DM19AS DDBXD	DSXO LED Area Fixture with houseside shield; mounted at 18ft (16ft pole on 2ft base)	LED	DSXO_LED_P3_30K_TFTM_MVOLT_HS.ies	6122	0.9	TYPE III, VERY SHORT BUG RATING: B1 - U0 - G2
		S-BLC	3	Lithonia Lighting	DSXO LED P3 30K BLC MVOLT HS SPA DDBXD with SSS 16 4C DM19AS DDBXD	DSXO LED Area Fixture; mounted at 18ft (16ft pole on 2ft base)	LED	DSXO_LED_P3_30K_BLC_MVOLT.ies	6428	0.9	TYPE III, SHORT, BUG RATING: B1 - U0 - G2
		W	6	Lithonia Lighting	WDGE2 LED P3 30K 80CRI MVOLT DDBXD	WDGE2 LED Wallpack; mounted at 16ft	LED	WDGE2_LED_P3_30K_80CRI_VF.ies	3015	0.9	TYPE III, VERY SHORT BUG RATING: B1 - U0 - G0

P5116



Plant List

TREES

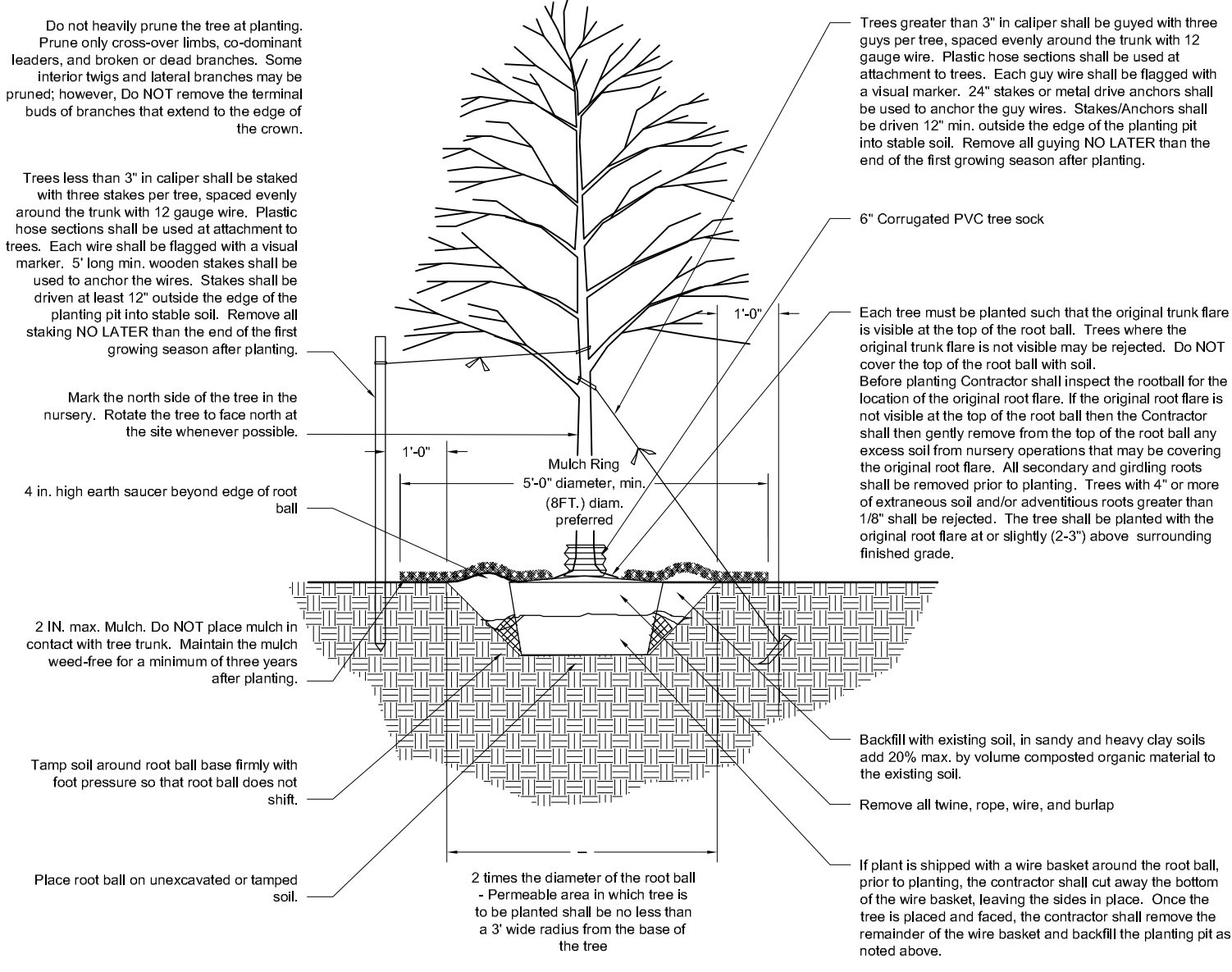
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Cor	<i>Comus kousa</i>	Kousa Dogwood	1	2.5-3" Cal	B&B
Jv	<i>Juniperus virginiana 'Emerald Sentinel'</i>	Emerald Sentinel Red Cedar	7	7-8' HT	B&B
Or	<i>Quercus rubra</i>	Red Oak	3	2.5-3" Cal	B&B
Th	<i>Thuja plicata 'Green Giant'</i>	Green Giant Arborvitae	11	7-8' HT	B&B

SHRUBS & PERENNIALS

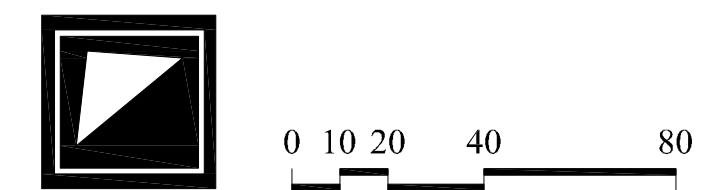
Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Hy	<i>Hydrangea arborescens 'Incrediball'</i>	Incrediball Hydrangea	22	5 gal	
Mis	<i>Miscanthus sinensis 'Morning Light'</i>	Morning Light Maiden Grass	30	1 gal	
Pan	<i>Panicum virgatum 'Ruby Ribbons'</i>	Ruby Ribbons Switchgrass	43	1 gal	

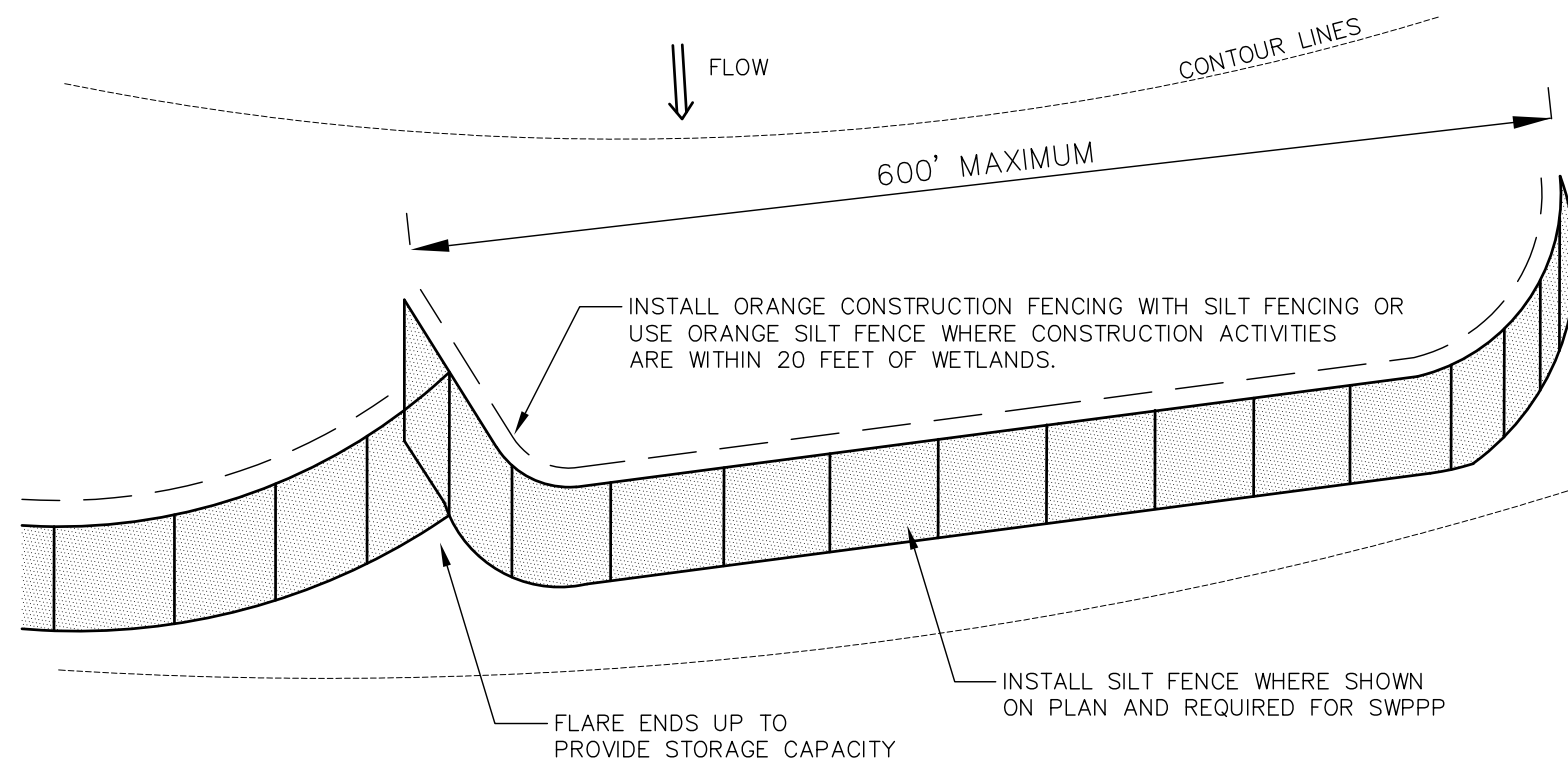
Landscape Notes

- Design is based on drawings by Altus Engineering, Inc. dated July 22, 2021 and may require adjustment due to actual field conditions.
- The contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
- Erosion Control shall be in place prior to construction.
- Erosion Control to consist of Hay Bales and Erosion Control Fabric shall be staked in place between the work and Water bodies, Wetlands and/or drainage ways prior to any construction.
- The Contractor shall verify layout and grades and inform the Landscape Architect or Client's Representative of any discrepancies or changes in layout and/or grade relationships prior to construction.
- It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawing is incorrect, the landscape architect will provide a set of drawings at the correct scale, at the request of the contractor.
- Trees to Remain within the construction zone shall be protected from damage for the duration of the project by snow fence or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Snow fences shall be located at the drip line at a minimum and shall include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots. In order to protect the integrity of the roots, branches, trunk and bark of the tree(s) no vehicles or construction equipment shall drive or park in or on the area within the drip line(s) of the tree(s). Do not store any refuse or construction materials or portalets within the tree protection area.
- Location, support, protection, and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor.
- The Contractor shall verify exact location and elevation of all utilities with the respective utility owners prior to construction. Call DIGSAFE at 1-888-344-7233.
- The Contractor shall procure any required permits prior to construction.
- Prior to any landscape construction activities Contractor shall test all existing loam and loam from off-site intended to be used for lawns and plant beds using a thorough sampling throughout the supply. Soil testing shall indicate levels of pH, nitrates, macro and micro nutrients, texture, soluble salts, and organic matter. Contractor shall provide Landscape Architect with test results and recommendations from the testing facility along with soil amendment plans as necessary for the proposed plantings to thrive. All loam to be used on site shall be amended as approved by the Landscape Architect prior to placement.
- Contractor shall notify landscape architect or owner's representative immediately if at any point during demolition or construction a site condition is discovered which may negatively impact the completed project. This includes, but is not limited to, unforeseen drainage problems, unknown subsurface conditions, and discrepancies between the plan and the site. If a contractor is aware of a potential issue, and does not bring it to the attention of the landscape architect or owner's representative immediately, they may be responsible for the labor and materials associated with correcting the problem.
- The Contractor shall furnish and plant all plants shown on the drawings and listed thereon. All plants shall be nursery-grown under climatic conditions similar to those in the locality of the project. Plants shall conform to the botanical names and standards of size, culture, and quality for the highest grades and standards as adopted by the American Association of Nurserymen, Inc. in the American Standard of Nursery Stock, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
- A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
- All plants shall be legibly tagged with proper botanical name.
- The Contractor shall guarantee all plants for not less than one year from time of acceptance.
- Owner or Owner's Representative will inspect plants upon delivery for conformity to Specification requirements. Such approval shall not affect the right of inspection and rejection during or after the progress of the work. The Owner reserves the right to inspect and/or select all trees at the place of growth and reserves the right to approve a representative sample of each type of shrub, herbaceous perennial, annual, and ground cover at the place of growth. Such sample will serve as a minimum standard for all plants of the same species used in this work.
- No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any reason.
- All landscaping shall be provided with the following:
 - Outside hose attachments spaced a maximum of 150 feet apart, and
 - An underground irrigation system, or
 - A temporary irrigation system designed for a two-year period of plant establishment.
- If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas.
- The contractor is responsible for all plant material from the time their work commences until final acceptance. This includes but is not limited to maintaining all plants in good condition, the security of the plant material once delivered to the site, and watering of plants. Plants shall be appropriately watered prior to, during and after planting. It is the contractor's responsibility to provide clean water suitable for plant health from off site, should it not be available on site.
- All disturbed areas will be dressed with 6" of topsoil and planted as noted on the plans or seeded except plant beds. Plant beds shall be prepared to a depth of 12" with 75% loam and 25% compost.
- Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded native bark not longer than 4" in length and 1/2" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 5' diameter min. saucer. Color of mulch shall be black.
- Drip strip shall extend to 6" beyond root overhang and shall be edged with 3/16" thick metal edger.
- In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously applied mulch) over the root ball of any plant.
- Secondary lateral branches of deciduous trees overhanging vehicular and pedestrian travel ways shall be pruned up to a height of 6' to allow clear and safe passage of vehicles and pedestrians under tree canopy. Within the sight distance triangles at vehicle intersections the canopies shall be raised to 8' min.
- Snow shall be stored a minimum of 5' from shrubs and trunks of trees.
- Landscape Architect is not responsible for the means and methods of the contractor.

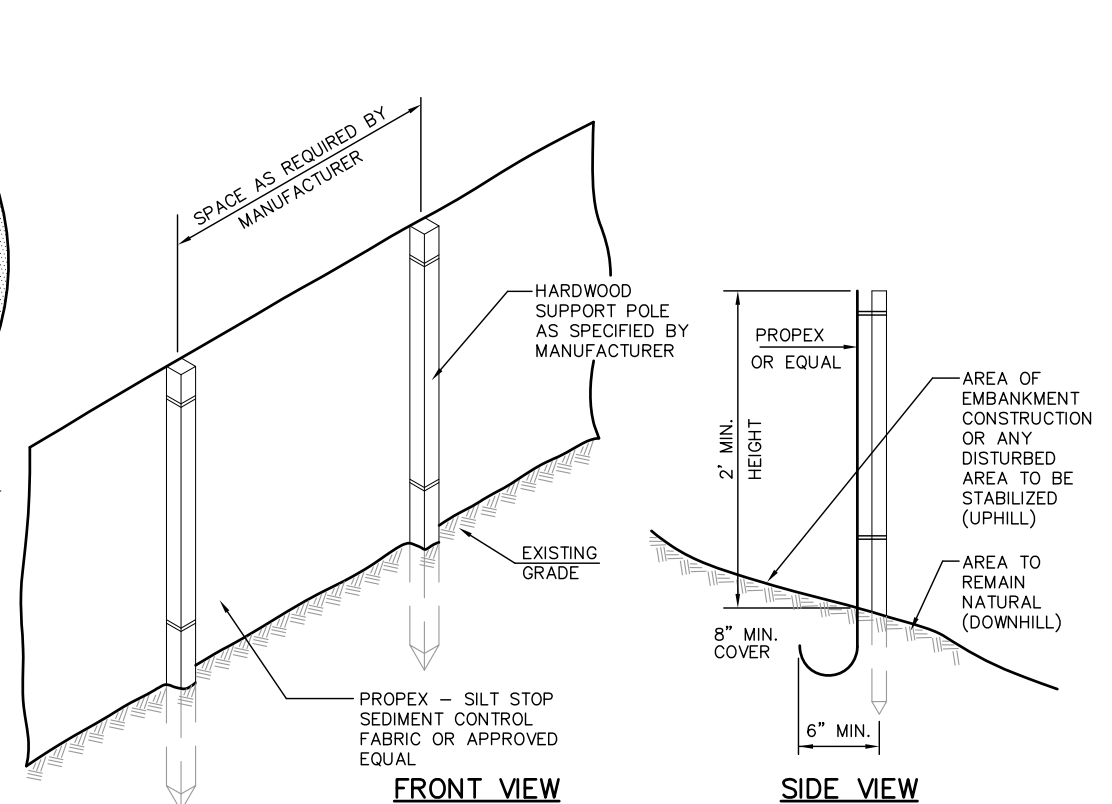


Tree Planting Detail

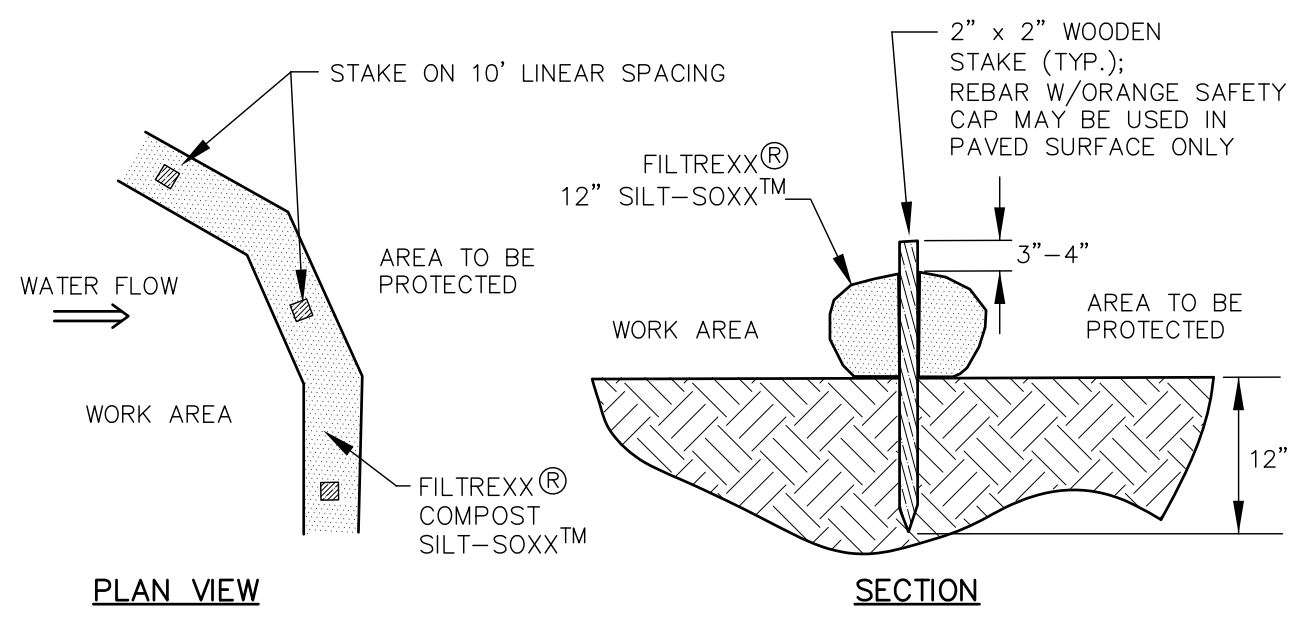
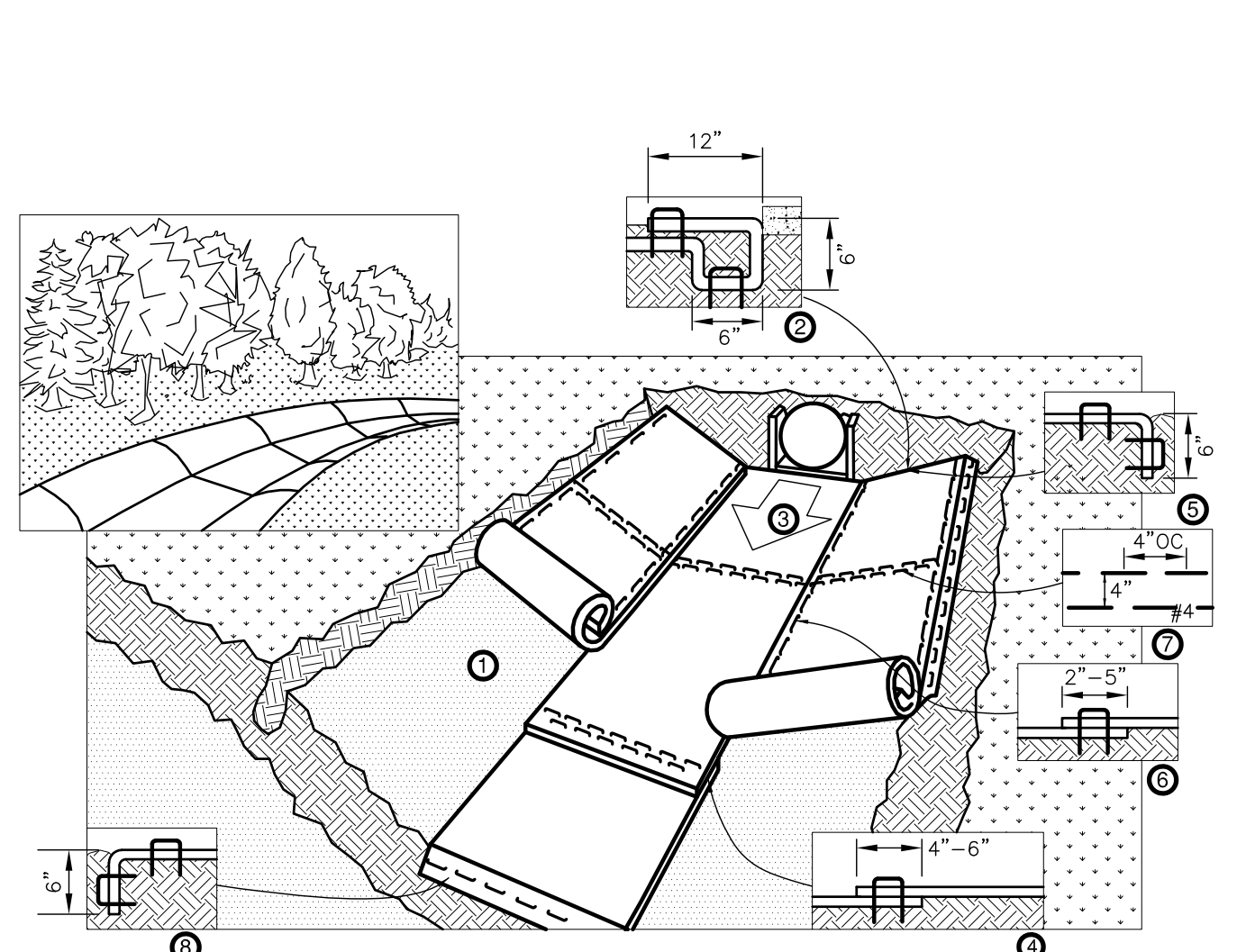




SILT AND ORANGE CONSTRUCTION FENCE LAYOUT DETAIL

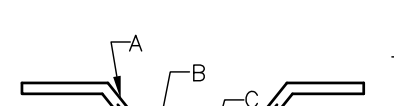


NOT TO SCALE



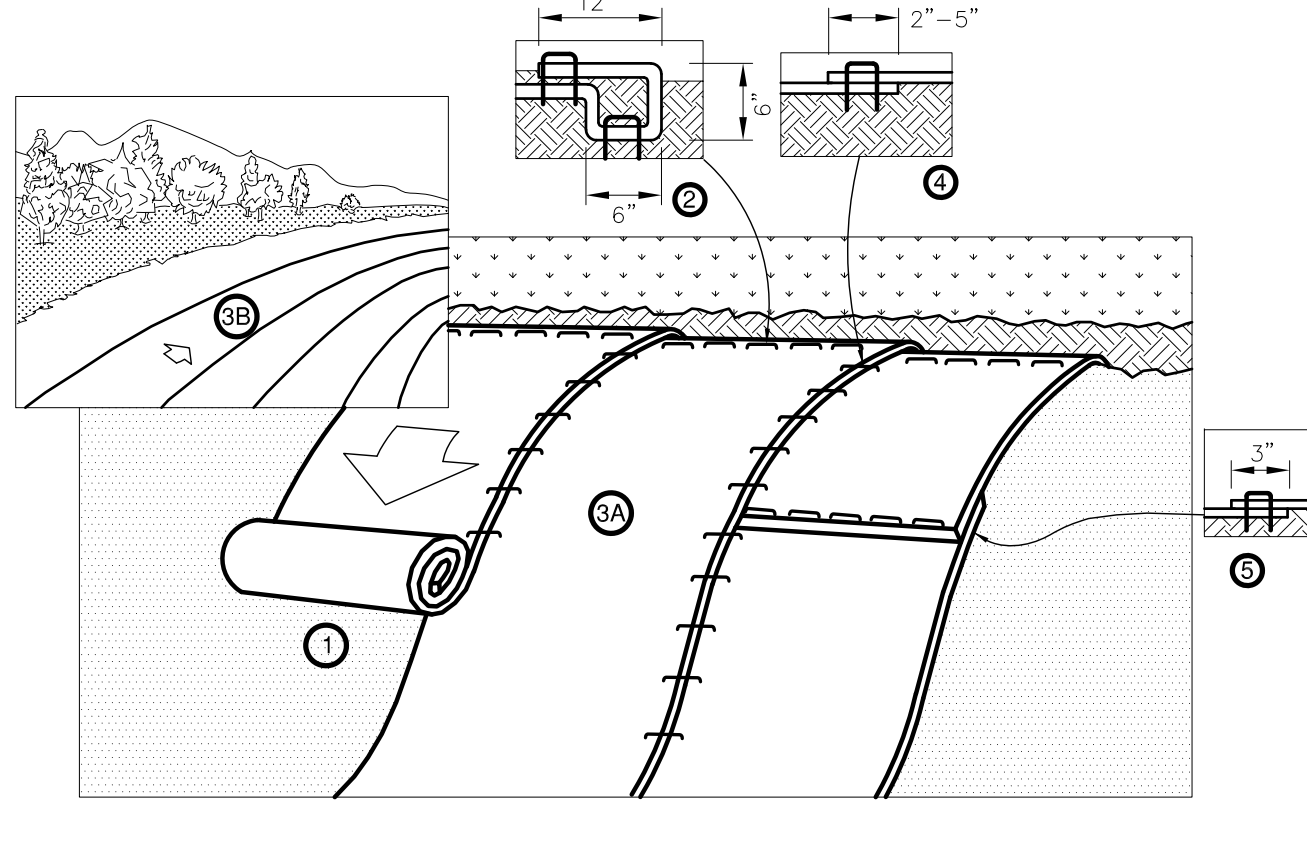
NOT TO SCALE

- NOTES:**
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
 2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
 3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
 4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS.
 5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP BY 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
 6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 2"-5" (DEPENDING ON BLANKET TYPE) AND STAPLED. TO INSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE BLANKET BEING OVERLAPPED.
 7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
 8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP BY 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.



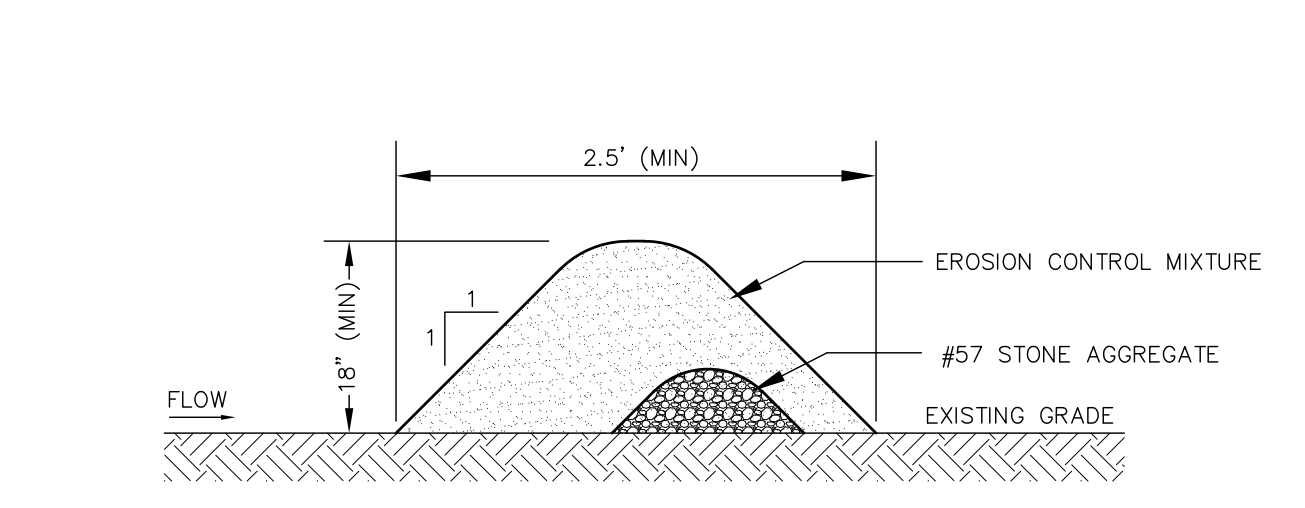
- CRITICAL POINTS:**
- A. OVERLAPS AND SEAMS
 - B. PROJECTED WATER LINE
 - C. CHANNEL BOTTOM/SIDE SLOPE VERTICES
- NOTES:**
- * HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.
 - ** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.

EROSION CONTROL BLANKET - SWALE NOT TO SCALE



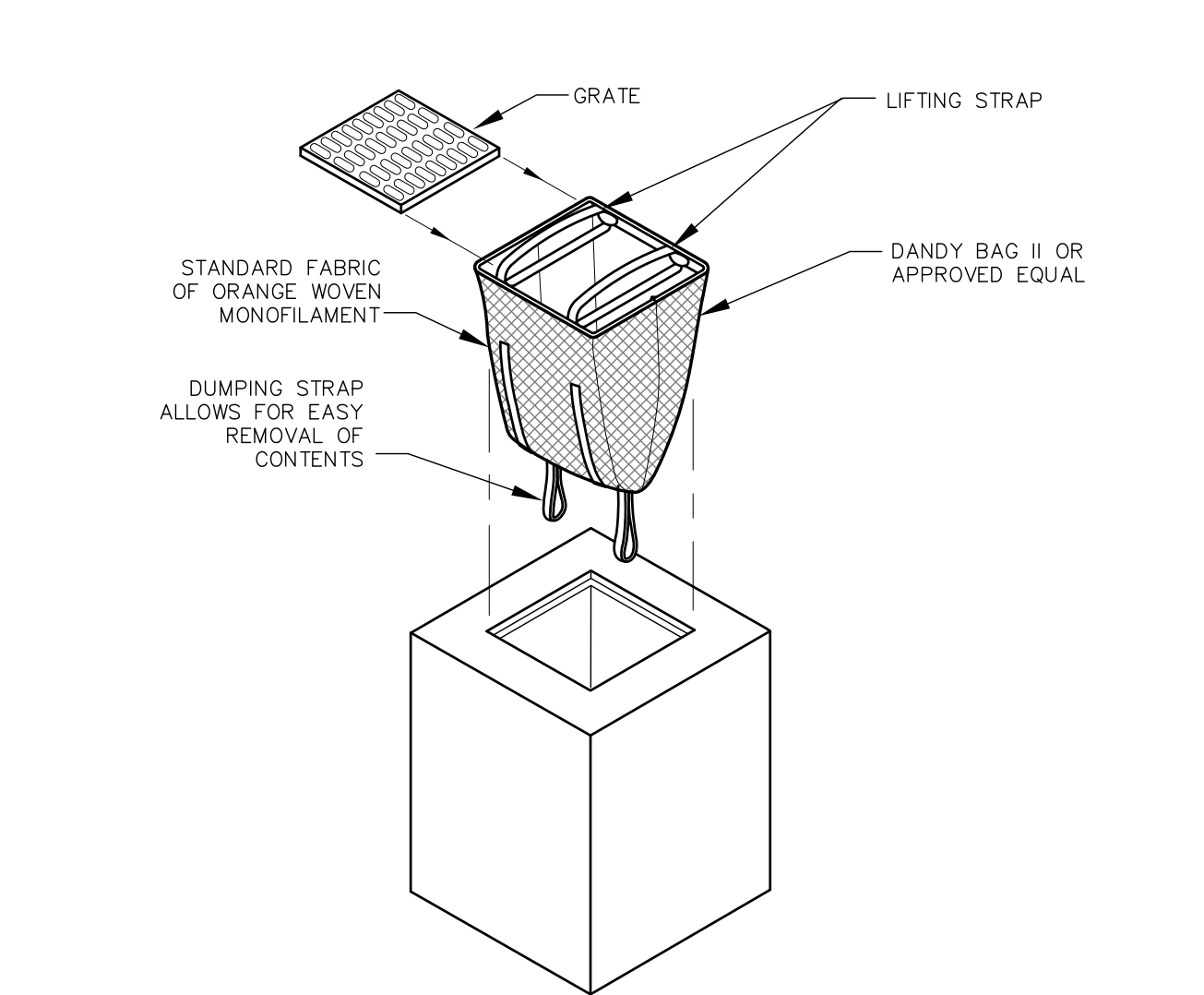
- NOTES:**
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
 3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
 5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

EROSION CONTROL BLANKET - SLOPE NOT TO SCALE



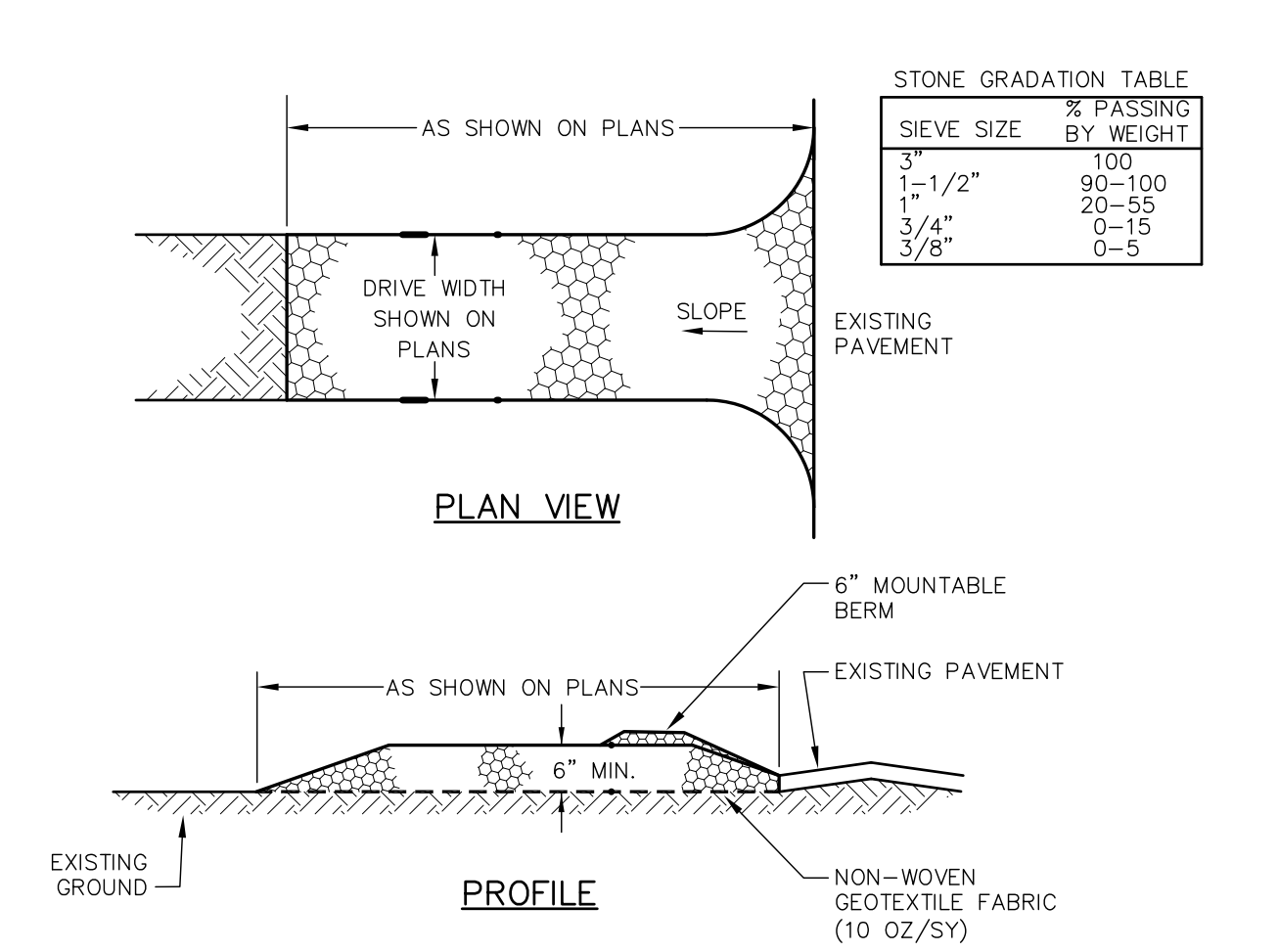
- NOTES:**
1. ORGANIC FILTER BERMS MAY BE UTILIZED IN LIEU OF SILT FENCE OR OTHER SEDIMENT BARRIERS.
 2. THE EROSION CONTROL MIXTURE USED IN FILTER BERMS SHALL BE A WELL-GRADED MIX OF PARTICLE SIZES THAT MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER, STUMP GRINDINGS, SHREDDED OR COMPOSTED BARK, AND/OR ACCEPTABLE MANUFACTURED PRODUCTS AND SHALL BE FREE OF REFUSE, PHYSICAL CONTAMINANTS AND MATERIAL TOXIC TO PLANT GROWTH. EROSION CONTROL MIXTURE SHALL MEET THE FOLLOWING STANDARDS:
 - a) THE ORGANIC CONTENT SHALL BE 80-100% OF DRY WEIGHT.
 - b) PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6" SCREEN, AND 70-85% PASSING A 0.75" SCREEN.
 - c) THE ORGANIC PORTION SHALL BE FIBROUS AND ELONGATED.
 - d) LARGE PORTIONS OF SILTS, CLAYS, OR FINE SANDS SHALL NOT BE INCLUDED IN THE MIXTURE.
 - e) SOLUBLE SALTS CONTENT SHALL BE >4.0mmhos/cm.
 - f) THE pH SHALL BE BETWEEN 5.0 AND 8.0.
 3. ORGANIC FILTER BERMS SHALL BE INSTALLED ALONG A RELATIVELY LEVEL CONTOUR. IT MAY BE NECESSARY TO CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BERM.
 4. ON SLOPES LESS THAN 5% OR AT THE BOTTOM OF SLOPES NO STEEPER THAN 3:1 AND UP TO 20' LONG, THE BERM SHALL BE A MINIMUM OF 12" HIGH (AS MEASURED ON THE UPHILL SIDE) AND A MINIMUM OF 36" WIDE. ON LONGER AND/OR STEEPER SLOPES, THE BERM SHALL BE TALLER AND WIDER TO ACCOMMODATE THE POTENTIAL FOR ADDITIONAL RUNOFF (MAXIMUM HEIGHT SHALL NOT EXCEED 2').
 5. FROZEN GROUND, OUTCROPS OF BEDROCK, AND VERY ROOTED FORESTED AREAS PRESENT THE MOST PRACTICAL AND EFFECTIVE LOCATIONS FOR ORGANIC FILTER BERMS. OTHER BMP'S SHOULD BE USED AT LOW POINTS OF CONCENTRATED RUNOFF, BELOW CULVERT OUTLET APRONS, AROUND CATCH BASINS, AND AT THE BOTTOM OF STEEP PERIMETER SLOPES THAT HAVE A LARGE CONTRIBUTING AREA.
 6. SEDIMENT SHALL BE REMOVED FROM BEHIND THE FILTER BERMS WHEN IT HAS ACCUMULATED TO ONE HALF THE ORIGINAL HEIGHT OF THE BERM.
 7. ORGANIC FILTER BERMS MAY BE LEFT IN PLACE ONCE THE SITE IS STABILIZED PROVIDED ANY SEDIMENT DEPOSITS TRAPPED BY THEM ARE REMOVED AND DISPOSED OF PROPERLY.
 8. FILTER BERMS ARE PROHIBITED AT THE BASE OF SLOPES STEEPER THAN 8% OR WHERE THERE IS FLOWING WATER WITHOUT THE SUPPORT OF ADDITIONAL MEASURES SUCH AS SILTENCE.

ORGANIC FILTER BERM NOT TO SCALE



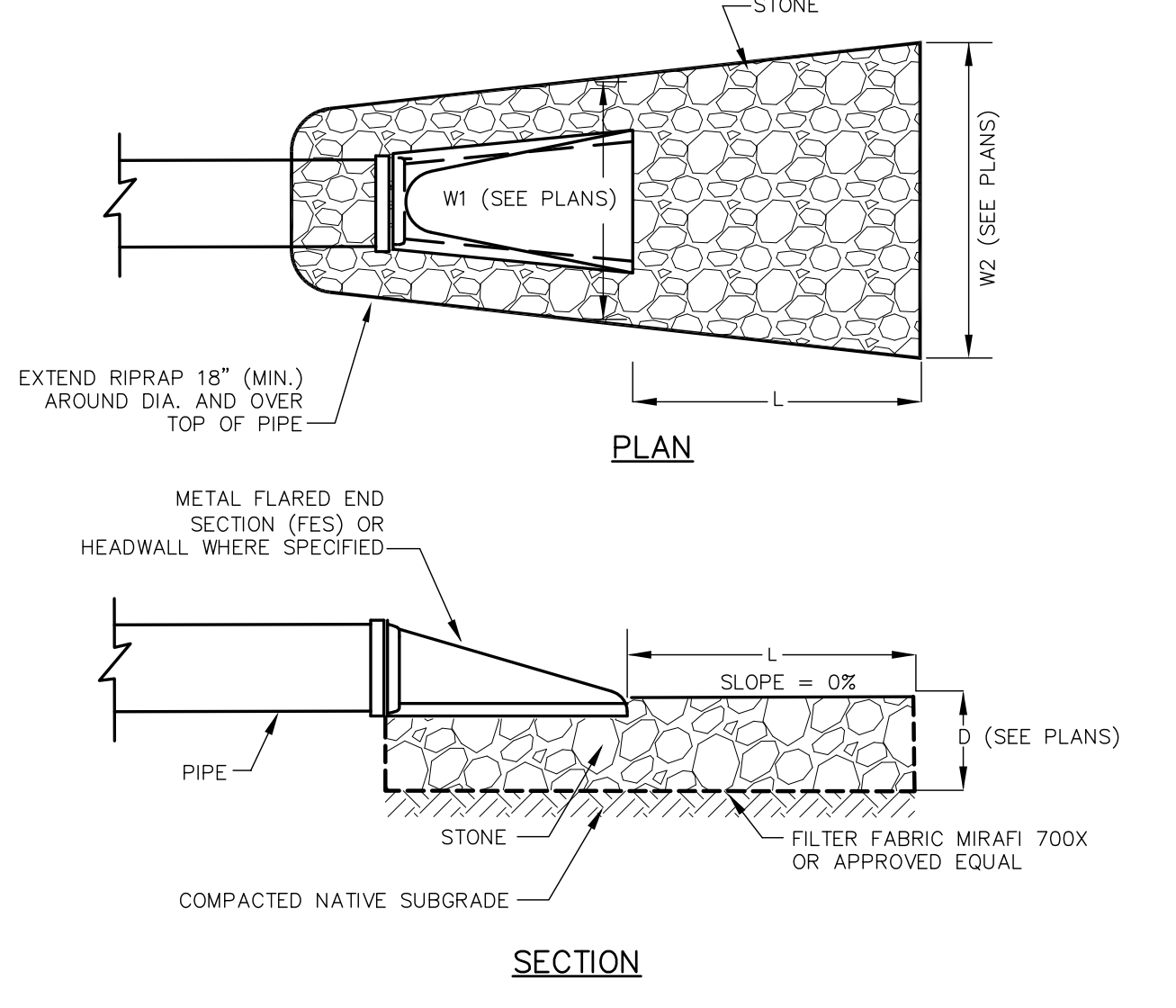
- INSTALLATION AND MAINTENANCE:**
- INSTALLATION:** REMOVE THE GRATE FROM CATCH BASIN. IF USING OPTIONAL OIL ABSORBENTS; PLACE ABSORBENT PILLOW IN UNIT. STAND GRATE ON END. MOVE THE TOP LIFTING STRAPS OUT OF THE WAY AND PLACE THE GRATE INTO CATCH BASIN INSERT SO THE GRATE IS BELOW THE TOP STRAPS AND ABOVE THE LOWER STRAPS. HOLDING THE LIFTING DEVICES, INSERT THE GRATE INTO THE INLET.
- MAINTENANCE:** REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM VICINITY OF THE UNIT AFTER EACH STORM EVENT. AFTER EACH STORM EVENT AND AT REGULAR INTERVALS, LOOK INTO THE CATCH BASIN INSERT. IF THE CONTAINMENT AREA IS MORE THAN 1/3 FULL OF SEDIMENT, THE UNIT MUST BE EMPTIED. TO EMPTY THE UNIT, LIFT THE UNIT OUT OF THE INLET USING THE LIFTING STRAPS AND REMOVE THE GRATE. IF USING OPTIONAL ABSORBENTS; REPLACE ABSORBENT WHEN NEAR SATURATION.
- UNACCEPTABLE INLET PROTECTION METHOD:**
- A SIMPLE SHEET OF GEOTEXTILE UNDER THE GRATE IS NOT ACCEPTABLE.

STORM DRAIN INLET PROTECTION NOT TO SCALE



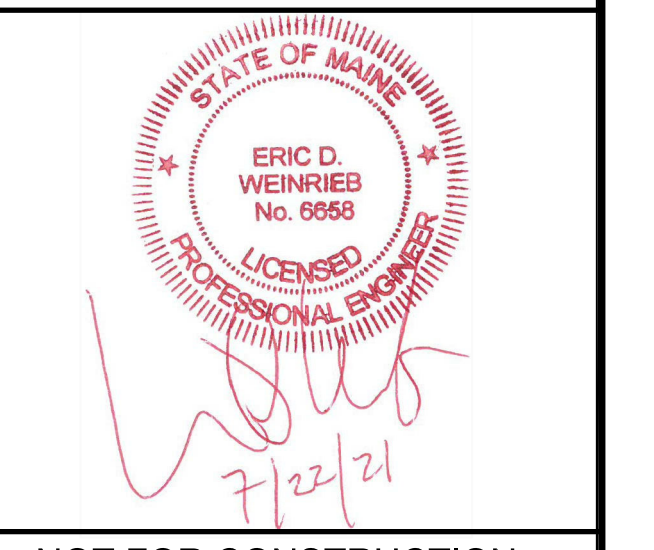
- CONSTRUCTION SPECIFICATIONS**
1. **STONE SIZE** - NHDOT STANDARD STONE SIZE #4 - SECTION 703 OF NHDOT STANDARD.
 2. **LENGTH** - DETAILED ON PLANS (50 FOOT MINIMUM).
 3. **THICKNESS** - SIX (6) INCHES (MINIMUM).
 4. **WIDTH** - FULL DRIVE WIDTH UNLESS OTHERWISE SPECIFIED.
 5. **FILTER FABRIC** - MIRAFI 600X OR EQUAL APPROVED BY ENGINEER.
 6. **SURFACE WATER CONTROL** - ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
 7. **MAINTENANCE** - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
 8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
 9. STABILIZED CONSTRUCTION EXITS SHALL BE INSTALLED AT ALL ENTRANCES TO PUBLIC RIGHTS-OF-WAY, AT LOCATIONS SHOWN ON THE PLANS, AND/OR WHERE AS DIRECTED BY THE ENGINEER.

STABILIZED CONSTRUCTION EXIT NOT TO SCALE



- MAINTENANCE:**
- THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIPRAP HAS BEEN DISPLACED, UNDERMINED OR DAMAGED, IT SHOULD BE REPAIRED IMMEDIATELY. THE CHANNEL IMMEDIATELY BELOW THE OUTLET SHOULD BE CHECKED TO SEE THAT EROSION IS NOT OCCURRING. THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.
- CONSTRUCTION SPECIFICATIONS**
1. THE SUBGRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIPRAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
 2. THE ROCK OR GRAVEL USED FOR FILTER OR RIPRAP SHALL CONFORM TO THE SPECIFIED GRADATION.
 3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIPRAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
 4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

RIPRAP OUTLET PROTECTION NOT TO SCALE



NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: JULY 22, 2021

NO.	REVISIONS DESCRIPTION	BY	DATE
0	PLANNING BOARD	EBS	07/22/21

DRAWN BY: _____ EBS
APPROVED BY: _____ EBS
DRAWING FILE: 5116-SITE.dwg

SCALE: NOT TO SCALE

OWNER: C-COAST PROPERTIES, LLC
8 BANKS ROCK
YORK HARBOR, MAINE 03911

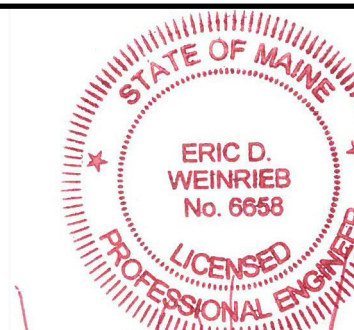
APPLICANT: GOOD TO-GO
c/o CAPE HOUSE MANAGEMENT, LLC
484 US ROUTE 1
KITTEERY, MAINE 03904

PROJECT: GOOD TO-GO SPECIALTY FOOD FACILITY
TAX MAP 67, LOT 1
524 U.S. ROUTE 1
KITTEERY, MAINE

TITLE:

DETAILS

SHEET NUMBER: D-2



NOT FOR CONSTRUCTION

ISSUED FOR: **PLANNING BOARD**

ISSUE DATE: **JULY 22, 2021**

REVISIONS
NO. DESCRIPTION BY DATE
0 PLANNING BOARD EBS 07/22/21

DRAWN BY: _____ EBS
APPROVED BY: _____ EBS
DRAWING FILE: 5116-SITE.dwg

SCALE: **NOT TO SCALE**

OWNER:
C-COAST PROPERTIES, LLC
8 BANKS ROCK
YORK HARBOR, MAINE 03911

APPLICANT:
GOOD TO-GO
c/o CAPE HOUSE
MANAGEMENT, LLC
484 US ROUTE 1
KITTERY, MAINE 03904

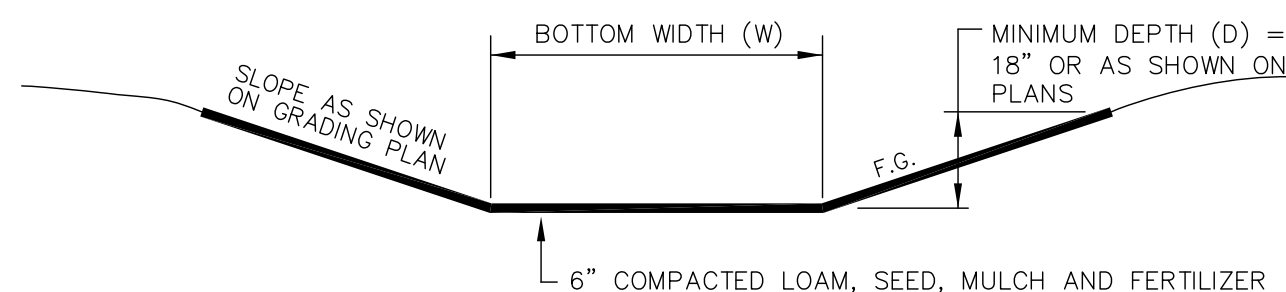
PROJECT:
GOOD TO-GO
SPECIALTY FOOD
FACILITY
TAX MAP 67, LOT 1
524 U.S. ROUTE 1
KITTERY, MAINE

TITLE:

DETAILS

SHEET NUMBER:

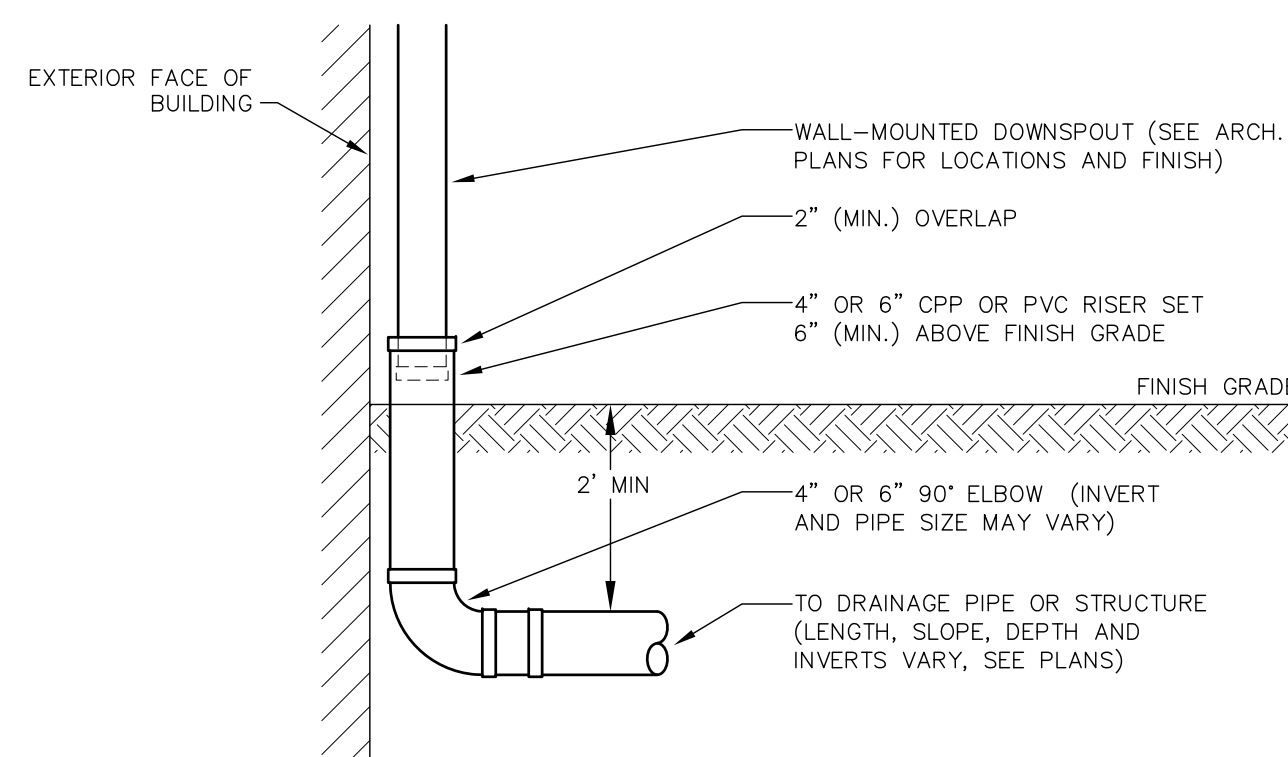
D-3



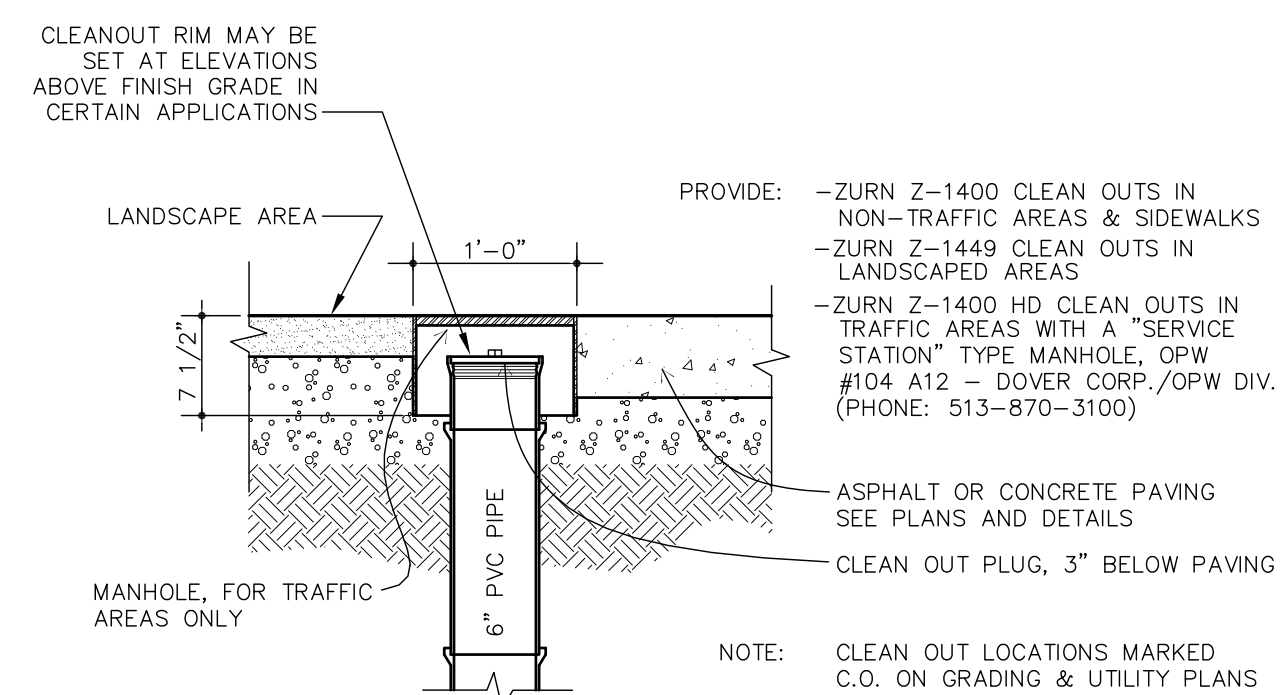
NOTES

1. THE FOUNDATION AREA OF THE SWALE SHALL BE CLEARED AND GRUBBED OF ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTIONABLE MATERIAL.
2. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE AND CROSS SECTION AS REQUIRED TO MEET THE DESIGN CRITERIA AND BE FREE OF IRREGULARITIES.
3. EARTH FILLS REQUIRED TO MEET SUBGRADE REQUIREMENTS BECAUSE OF OVER EXCAVATION OR TOPOGRAPHY SHALL BE COMPACTED TO THE SAME DENSITY AS THE SURROUNDING SOIL TO PREVENT UNEQUAL SETTLEMENT THAT COULD CAUSE DAMAGE TO THE COMPLETED SWALE.
4. VEGETATION SHALL BE ESTABLISHED IN THE SWALE OR AN EROSION CONTROL MATTING INSTALLED PRIOR TO DIRECTING STORMWATER TO IT.
5. MAINTENANCE OF THE VEGETATION IS EXTREMELY IMPORTANT IN ORDER TO PREVENT RILLING, EROSION, AND FAILURE OF THE SWALE. MOWING SHALL BE DONE FREQUENTLY ENOUGH TO CONTROL ENCROACHMENT OF WEEDS AND WOODY VEGETATION AND TO KEEP GRASSES IN A VIGOROUS CONDITION. THE VEGETATION SHALL NOT BE MOWED TOO CLOSELY SO AS TO REDUCE THE EROSION RESISTANCE IN THE SWALE.
6. THE SWALE SHOULD BE INSPECTED PERIODICALLY AND AFTER ANY STORM GREATER THAN 0.5" OF RAINFALL IN 24 HOURS TO DETERMINE ITS CONDITION. RILLS AND DAMAGED AREAS SHOULD BE PROMPTLY REPAIRED AND REVEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.

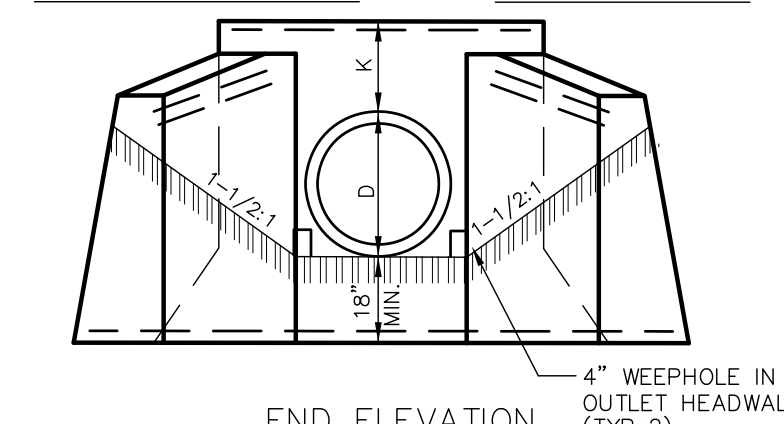
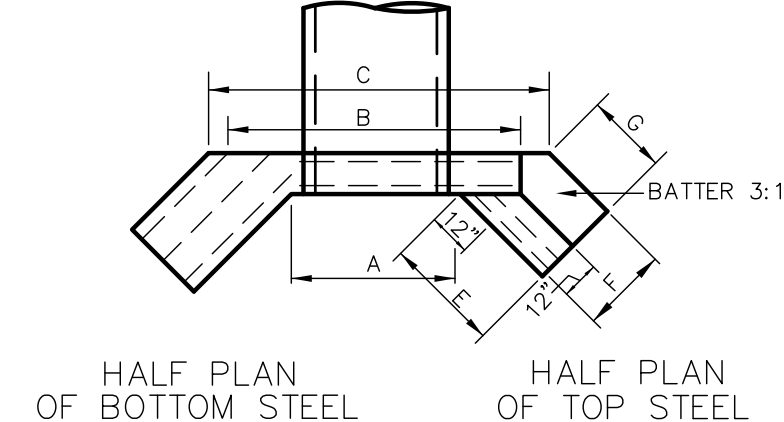
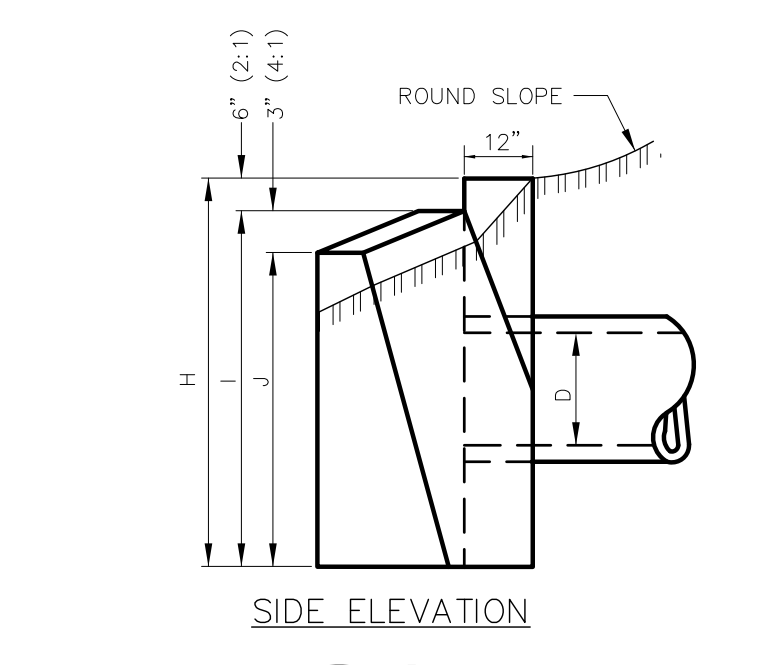
VEGETATED SWALE NOT TO SCALE



EXTERIOR ROOF DRAIN CONNECTION NOT TO SCALE



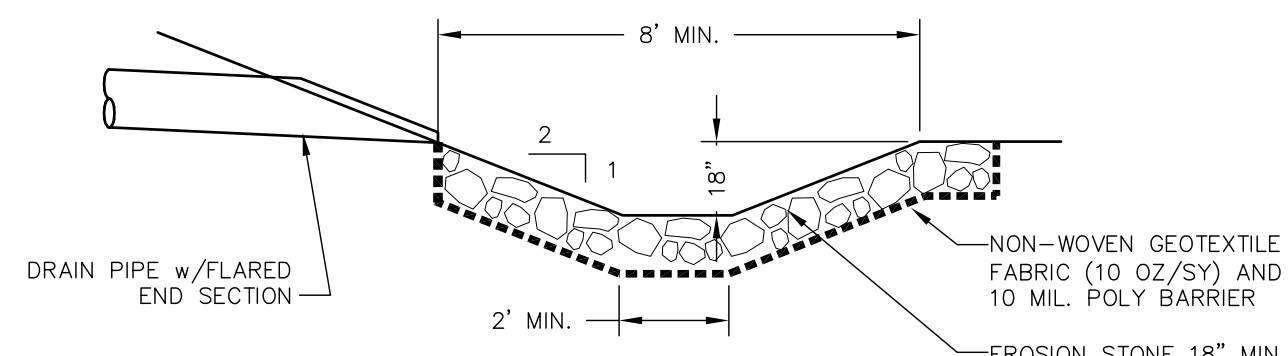
STORMWATER CLEANOUT DETAIL NOT TO SCALE



DIMENSIONS (2:1 SLOPE)

DIA. D (=PIPE DIA.+5")	A	B	C	E	F	G	H	I	J	K
17"	2'-0"	4'-1"	5'-4"	3'-0"	1'-9"	2'-0"	4'-3"	3'-9"	3'-4"	1'-6"

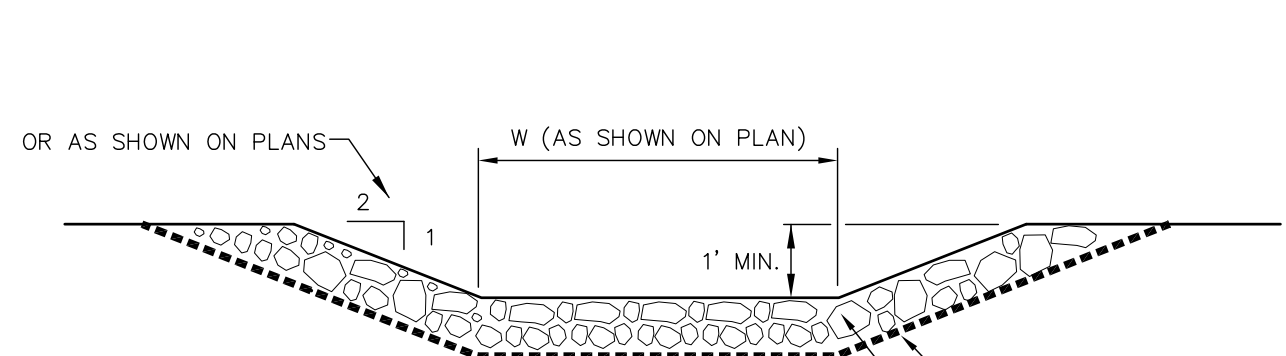
CONCRETE HEADWALL w/WINGWALLS NOT TO SCALE



- NOTES**
1. CONSTRUCT PLUNGE POOL TO THE WIDTHS AND LENGTHS SHOWN ON THE PLAN.
 2. THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIPRAP SHALL BE PREPARED TO ACCOUNT FOR THE DEPTH OF RIPRAP.
 3. EROSION STONE USED FOR THE PLUNGE POOL SHALL MEET THE FOLLOWING GRADATION:

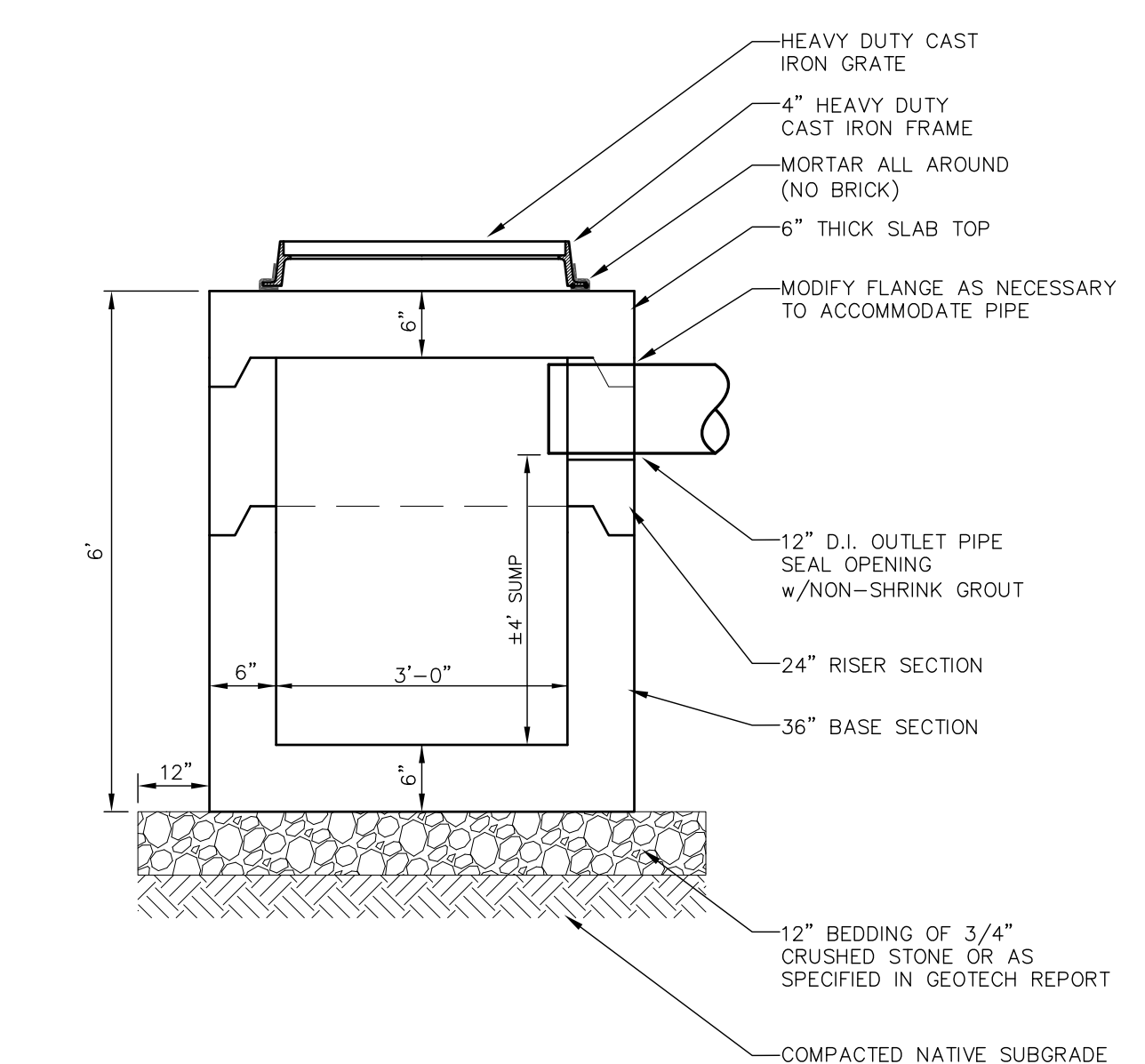
SIZE	PERCENT PASSING BY WEIGHT
18"	100
12"	90-100
4"	0-15
 4. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE EROSION STONE. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 18 INCHES.
 5. THE EROSION STONE MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

PLUNGE POOL NOT TO SCALE



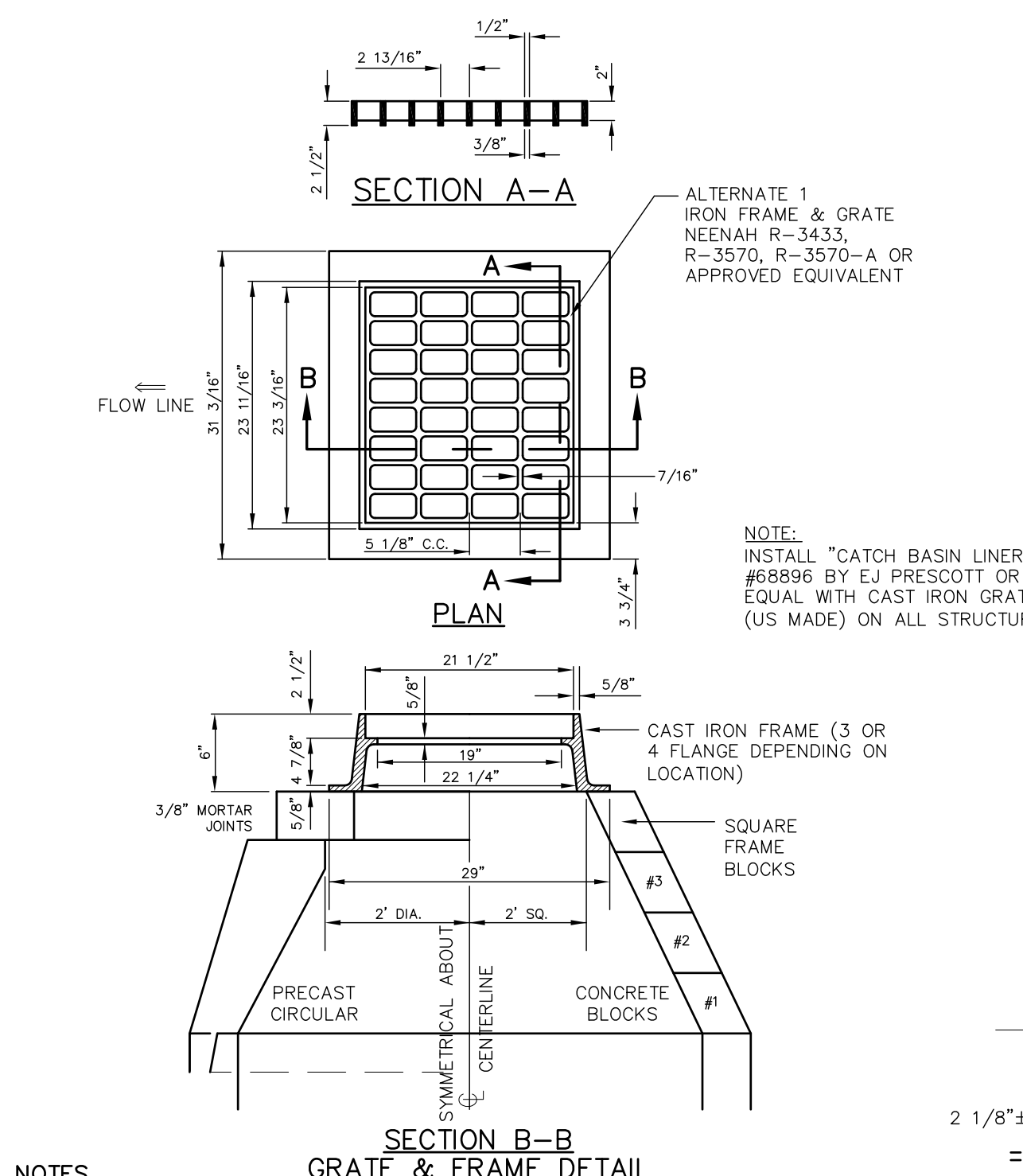
- NOTES**
1. CONSTRUCT RIP RAP LINED SWALE TO THE WIDTHS AND LENGTHS SHOWN ON THE PLAN.
 2. THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIPRAP SHALL BE PREPARED TO LINES AND GRADES SHOWN ON THE PLANS.
 3. EROSION STONE USED FOR THE RIP RAP LINED SWALE SHALL MEET THE GRADATION SHOWN ON THE PLANS.
 4. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE EROSION STONE. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 18 INCHES.
 5. THE EROSION STONE MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

RIPRAP LINED SWALE NOT TO SCALE



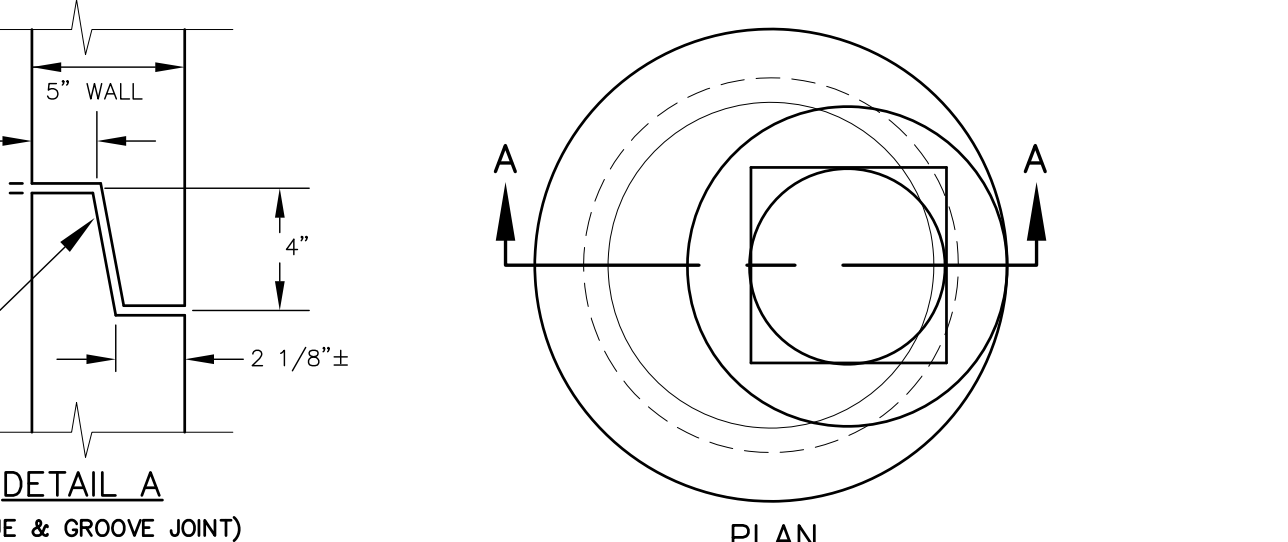
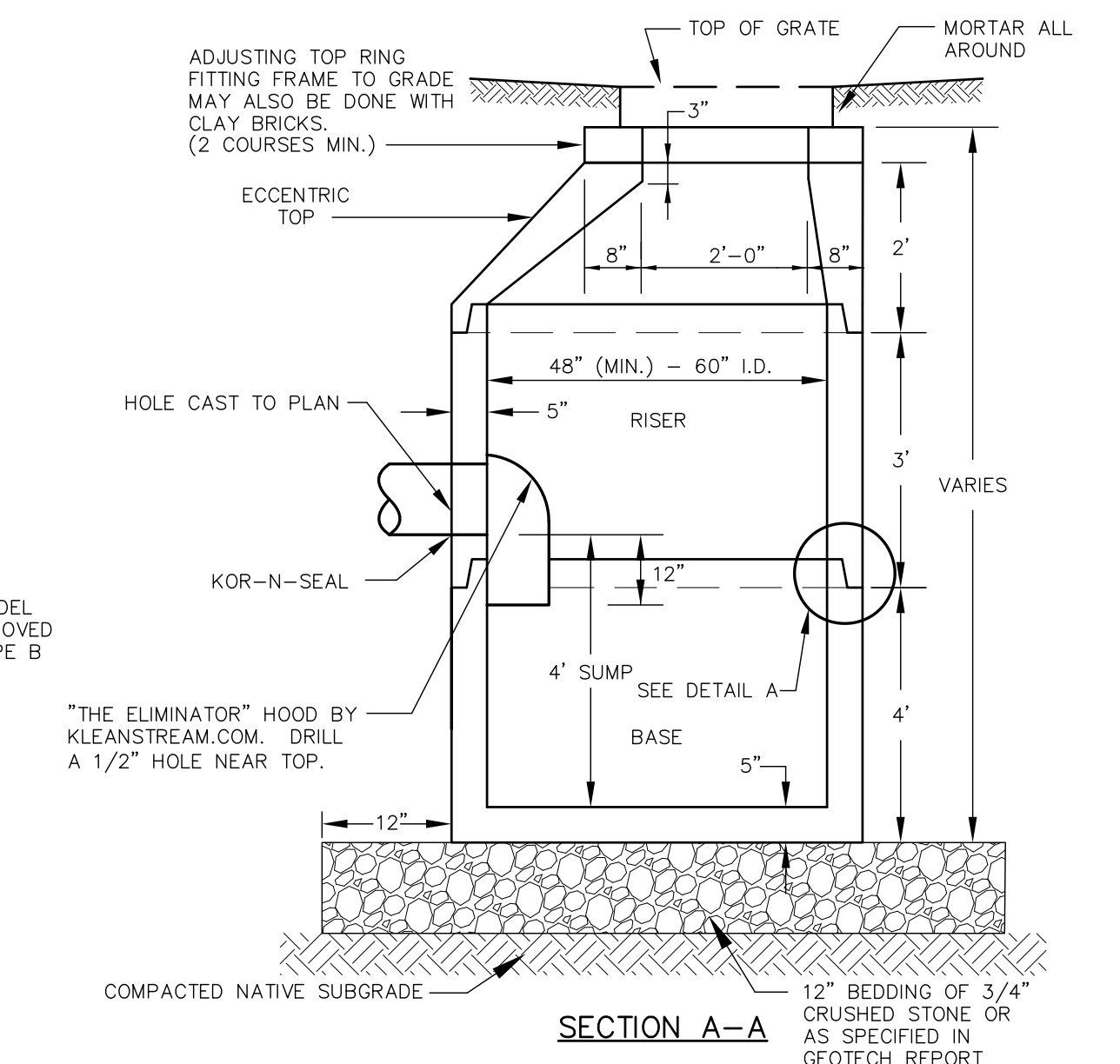
- NOTES**
1. STRUCTURE SHALL TO ACCOMMODATE HEAVY DUTY 24" SQ. C.I. FRAME AND GRATE.
 2. "3" DIAMETER AREA DRAIN" AVAILABLE FROM PHOENIX PRECAST PRODUCTS (800-639-2199) OR APPROVED EQUAL.
 3. CONCRETE: 4,000 PSI AFTER 28 DAYS
 4. STRUCTURE SHALL BE STEEL REINFORCED MEET OR EXCEED H-20 LOADING.
 5. SEAL ALL TONGUE AND GROOVE JOINTS w/BUTYL RUBBER JOINT COMPOUND.

3' I.D. LOW PROFILE CATCH BASIN NOT TO SCALE

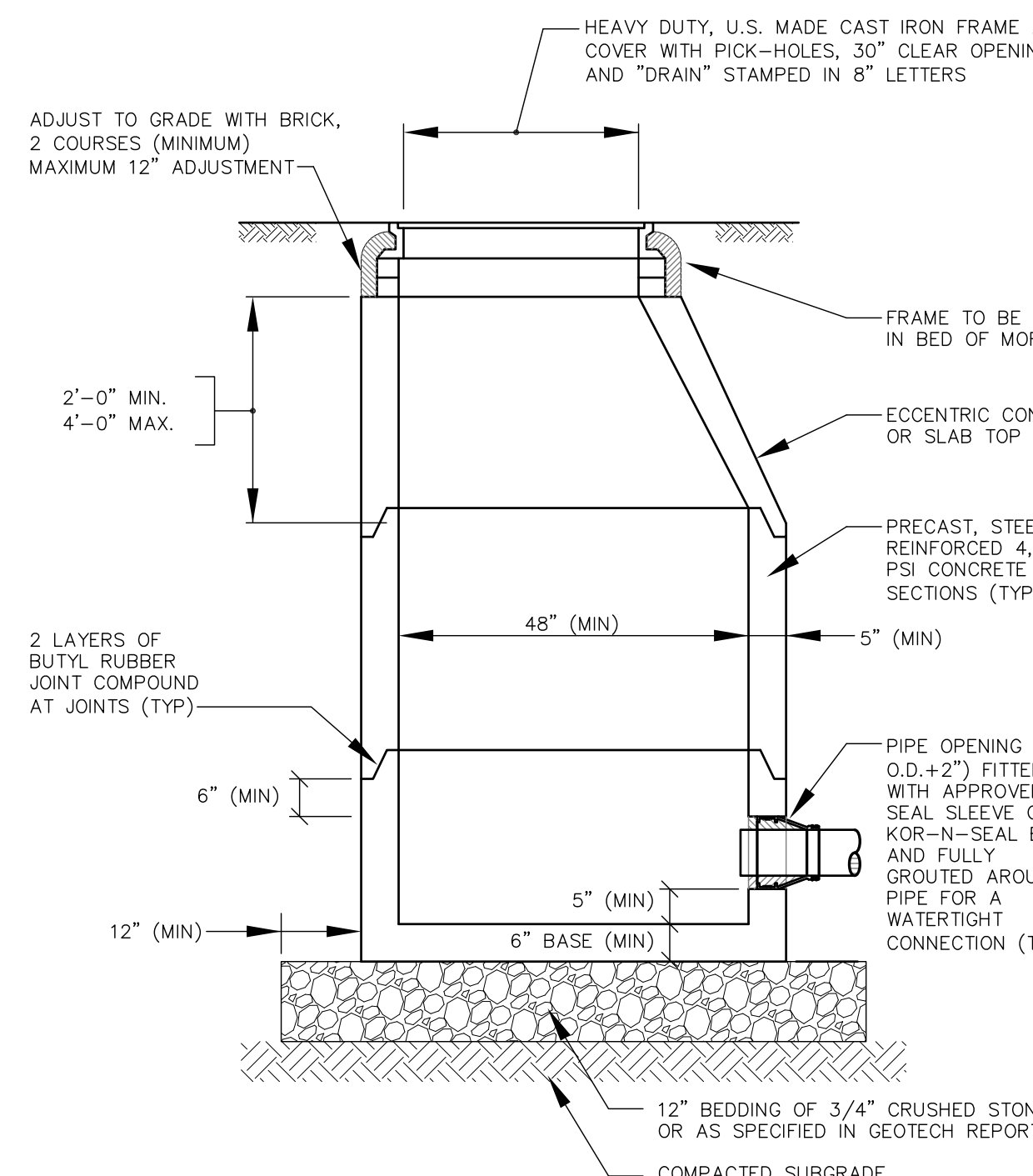


- NOTES**
1. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4000 PSI).
 2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
 3. THE TONGUE OR GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
 4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
 5. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
 6. USE H20 LOADING SLAB TOP SECTION IN LIEU OF ECCENTRIC TOP WHERE PIPE INVERT IS WITHIN 4' OF FINISH GRADE.
 7. FRAME AND GRATE DIMENSIONS ARE TYPICAL BUT MAY VARY BASED ON PRODUCT SELECTED OR EQUIVALENT APPROVED BY THE ENGINEER.

DEEP SUMP CATCH BASIN (CB) NOT TO SCALE

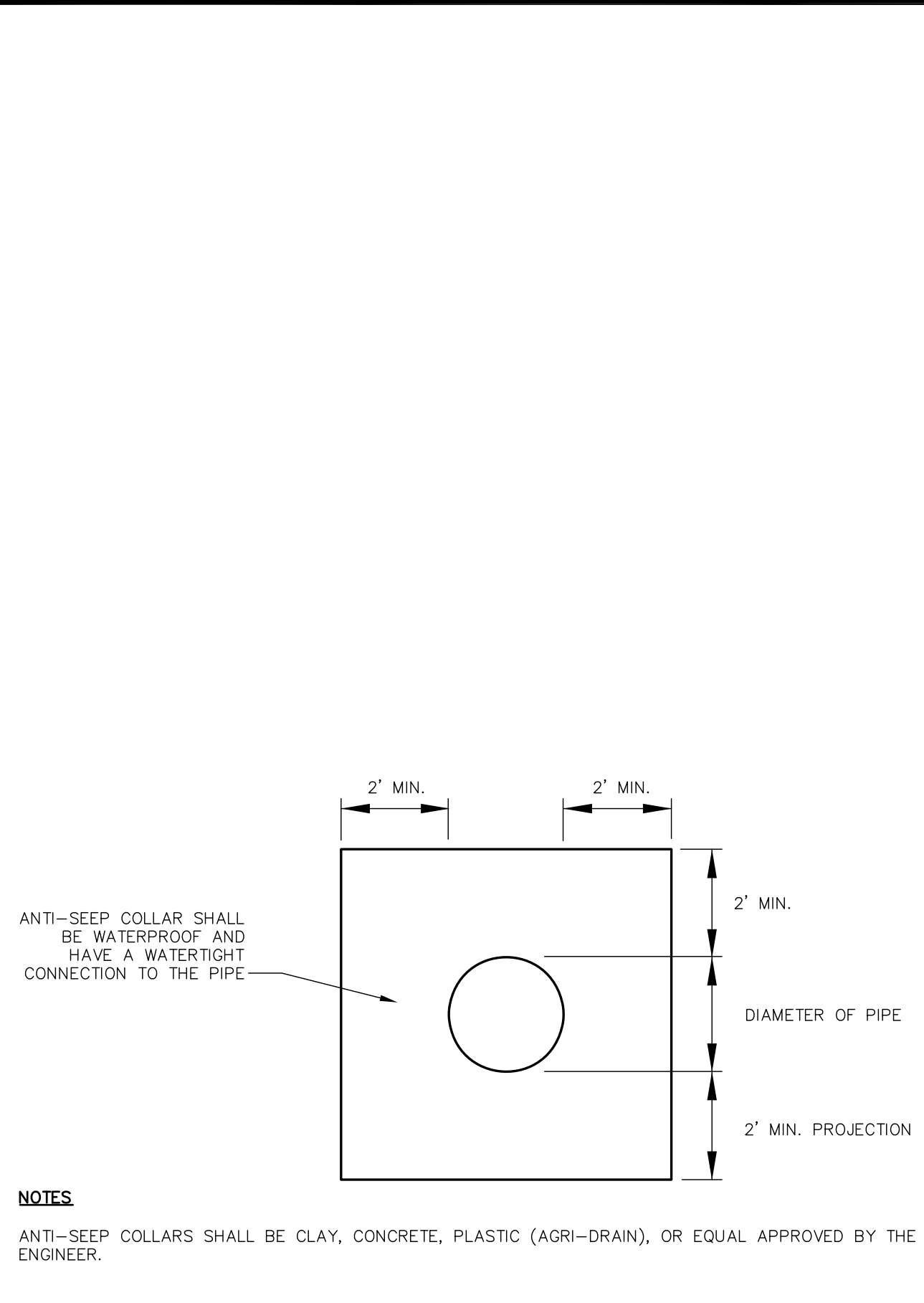


STORMWATER CLEANOUT DETAIL NOT TO SCALE



- NOTES**
1. ALL SECTIONS SHALL BE CONCRETE CLASS AA (4000 PSI).
 2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
 3. THE TONGUE OR GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
 4. RISERS OF 1', 2', 3' & 4' CAN BE USED TO REACH DESIRED DEPTH.
 5. ALL MANHOLE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
 6. USE H-20 LOADING SLAB TOP SECTION IN LIEU OF ECCENTRIC TOP WHERE PIPE INVERT IS WITHIN 4 FT. OF GRADE.
 7. MANHOLE STEPS ARE NOT PERMITTED.

DRAIN MANHOLE DETAIL (DMH) NOT TO SCALE



ANTI-SEEP COLLAR NOT TO SCALE

SOIL FILTER MEDIA			
FILTER MEDIA	MIXTURE BY VOLUME	SPECIFICATION	
SAND	50-55%	MEDOT SPECIFICATION #703.01 FINE AGGREGATE FOR CONCRETE MODIFIED TO HAVE 8-10% PASSING THE #200 SIEVE	
TOPSOIL	20-30%	SANDY LOAM TOPSOIL WITH MINIMAL CLAY CONTENT AND BETWEEN 20-70% PASSING THE #200 SIEVE	
MULCH	20-30%	MODERATELY FINE, SHREDDED BARK OR WOOD FIBER MULCH WITH LESS THAN 5% PASSING #200 SIEVE	

MDOT 703.22 TYPE B		MDOT 703.22 TYPE C	
SIEVE SIZE	% BY WEIGHT	SIEVE SIZE	% BY WEIGHT
1"	95-100	1"	100
1/2"	75-100	3/4"	90-100
#4	50-100	0-75	0-75
#20	15-80	3/8"	0-25
#40	0-15	#4	0-5
#200	0-5	#10	0-5

GRASSED UNDERDRAIN SOIL FILTER (GUSF) NOTES

The contractor will retain the services of a qualified professional to inspect the construction and stabilization of all stormwater management structures. If necessary, the qualified professional shall interpret the pond's construction plan for the contractor. Once all stormwater management structures are constructed and stabilized, the qualified professional will notify the department in writing within 30 days to state that the pond has been completed. Accompanying the notification must be a log of the inspections giving the date of each inspection, the time of each inspection, and the items inspected on each visit, and include any testing data or sieve analysis data of every mineral soil and soil media specified in the plans and used on site.

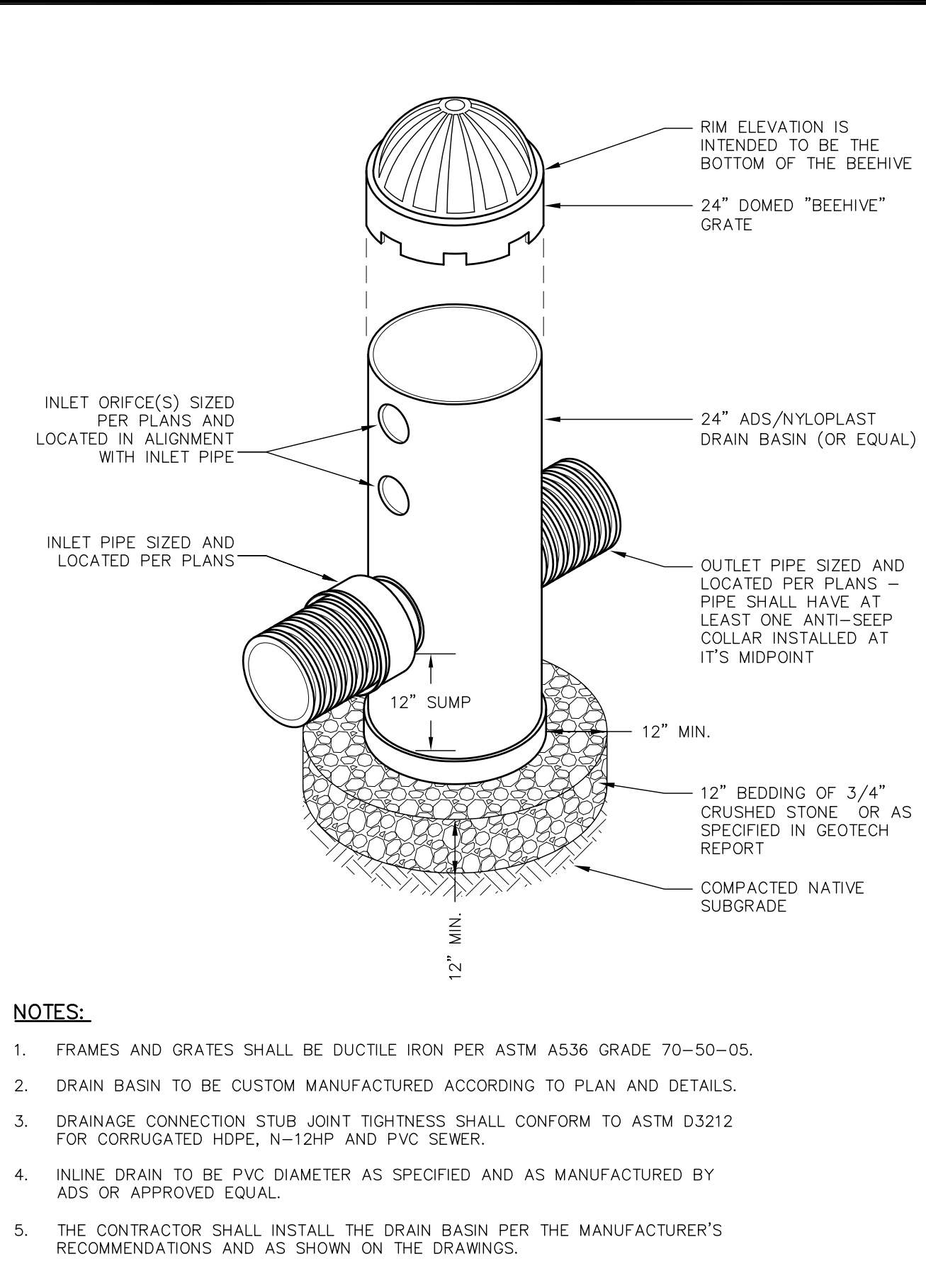
Construction Sequence: The soil filter media and vegetation must not be installed until the area that drains to the filter has been permanently stabilized with pavement or other structure, 90% vegetation cover, or other permanent stabilization unless the runoff from the contributing drainage area is diverted around the filter until stabilization is completed.

Compaction of Soil Filter: Filter soil media and underdrain bedding material must be compacted to between 90% and 92% standard proctor. The bed should be installed in at least 2 lifts of 9 inches to prevent pockets of loose media.

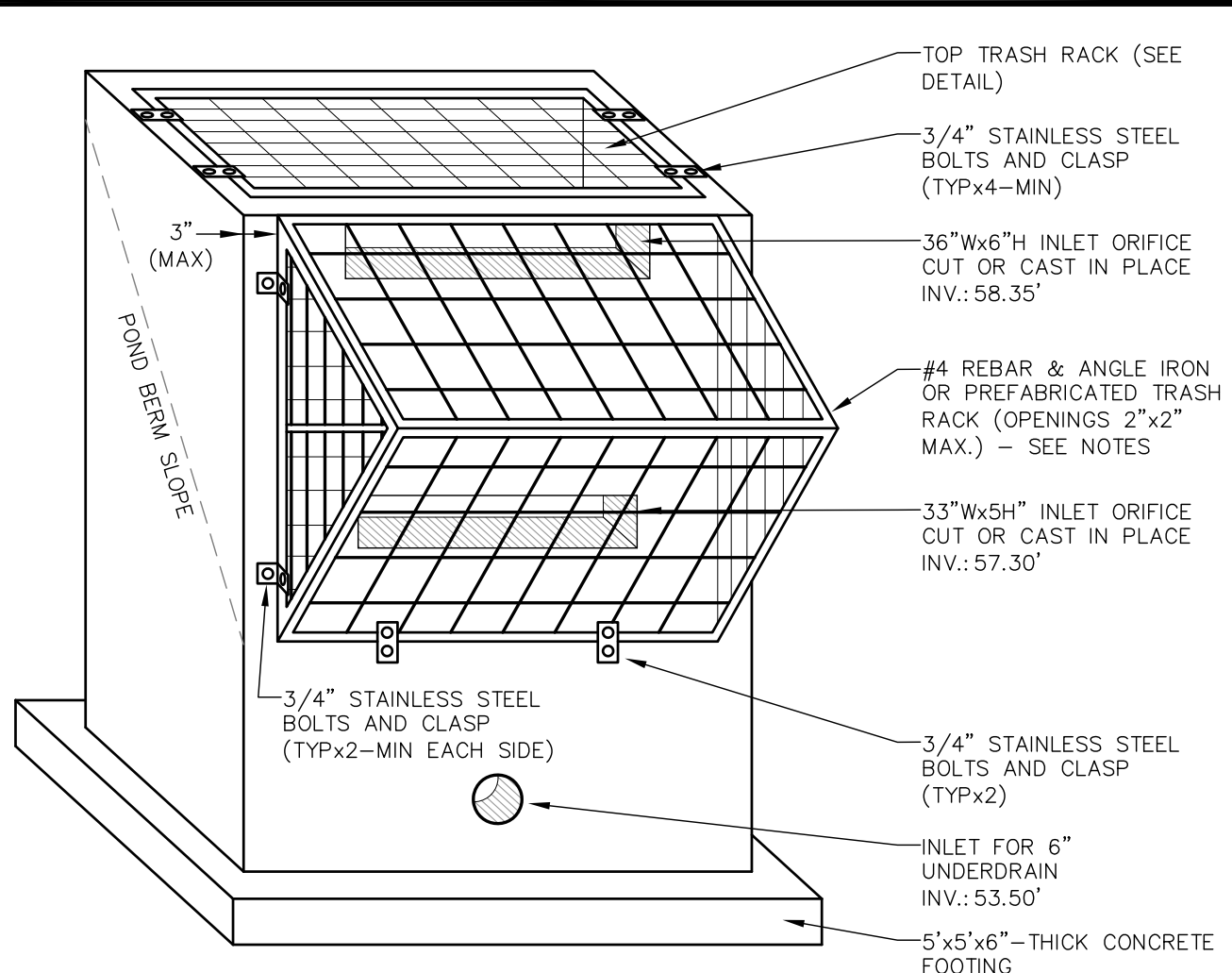
Construction Oversight: Inspection by a professional engineer will occur at a minimum:

- After the preliminary construction of the filter grades and once the underdrain pipes are installed but not backfilled,
- After the drainage layer is constructed and prior to the installation of the filter media,
- After the filter media has been installed and seeded. Bio-retention cells must be stabilized per the provided planting scheme and density for the canopy coverage of 30 and 50%.
- After one year to inspect health of the vegetation and make corrections, and

TYPICAL GRASSED UNDERDRAINED SOIL FILTER (GUSF)



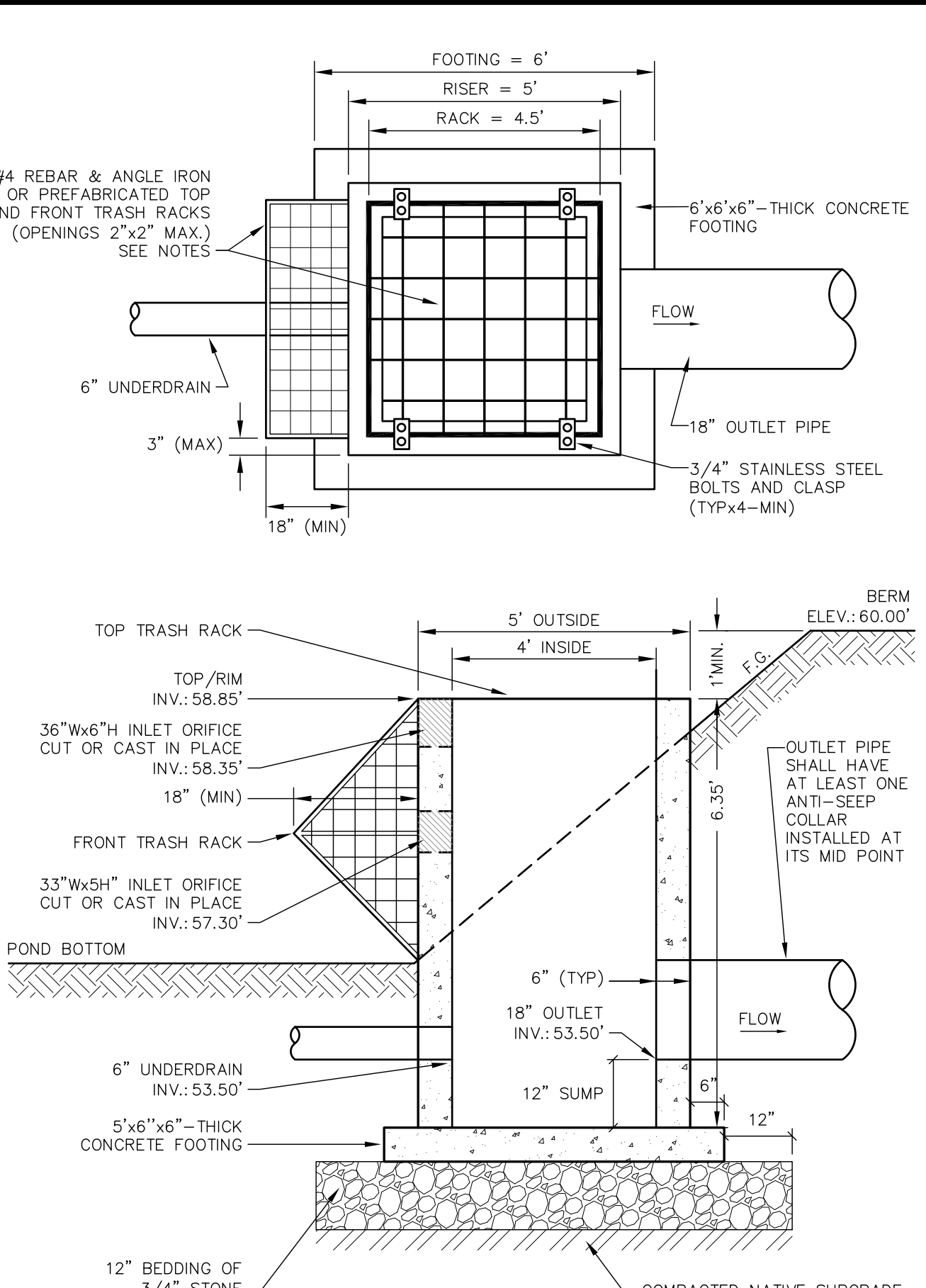
OUTLET STRUCTURE #1 NOT TO SCALE



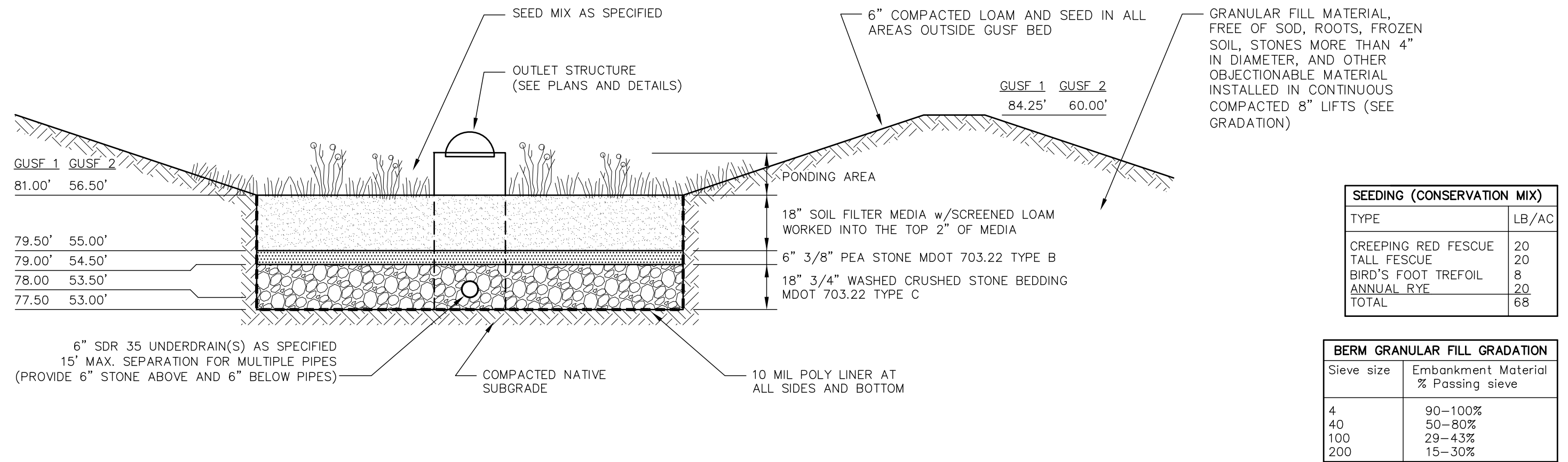
CONSTRUCTION SPECIFICATIONS

- OUTLET STRUCTURE SHALL BE CONSTRUCTED OF STEEL REINFORCED CONCRETE FABRICATED ON SITE OR PRECAST TO EQUAL DIMENSIONS AND REINFORCING.
- CONCRETE FOOTING TO BE CONSTRUCTED INTEGRAL WITH BASE. IF CONSTRUCTED SEPARATELY, FOOTING SHALL HAVE A CONTINUOUS KEYWAY INSTALLED AND REBAR CAST INTO IT THAT SHALL EXTEND ABOVE THE SLAB A MINIMUM OF 8" FOR CONNECTION TO THE BOX AND ANY REINFORCING.
- ALL JOINTS AND PIPE OPENINGS SHALL BE SEALED WATERTIGHT WITH MORTAR.
- ALL EXPOSED REBAR TO BE PAINTED WITH RUST-RESISTANT PAINT OR HOT-DIPPED GALVANIZED.
- PRE-FABRICATED TRASH RACKS ARE ACCEPTABLE UPON WRITTEN ACCEPTANCE BY THE ENGINEER.
- STRUCTURE IS TO BE BUILT TO WITHSTAND H2O LOADING.
- NATIVE IN SITU SOILS UNDERLYING THE STRUCTURE'S STONE BASE PAD AND THE PAD ITSELF ARE TO BE COMPACTED PRIOR TO INSTALLING STRUCTURE..
- ALL CONCRETE SHALL BE 4,000 PSI MINIMUM.
- STAINLESS STEEL BOLTS FOR TRASH RACK TO BE INSTALLED WITH HILTI AND EPOXY OR CAST IN.
- EXTERIOR TRASH RACK DIMENSIONS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TRASH RACKS THAT ALLOW FULL SCREENING PROTECTION TO EVERY INLET ORIFICE AND THE TOP OF THE STRUCTURE. THIS MAY REQUIRE CUSTOM FABRICATION AND/OR ALTERNATE METHODS TO CONNECT THE RACKS TO THE OUTLET STRUCTURE.

OUTLET STRUCTURE #2 NOT TO SCALE



OUTLET STRUCTURE #3 NOT TO SCALE



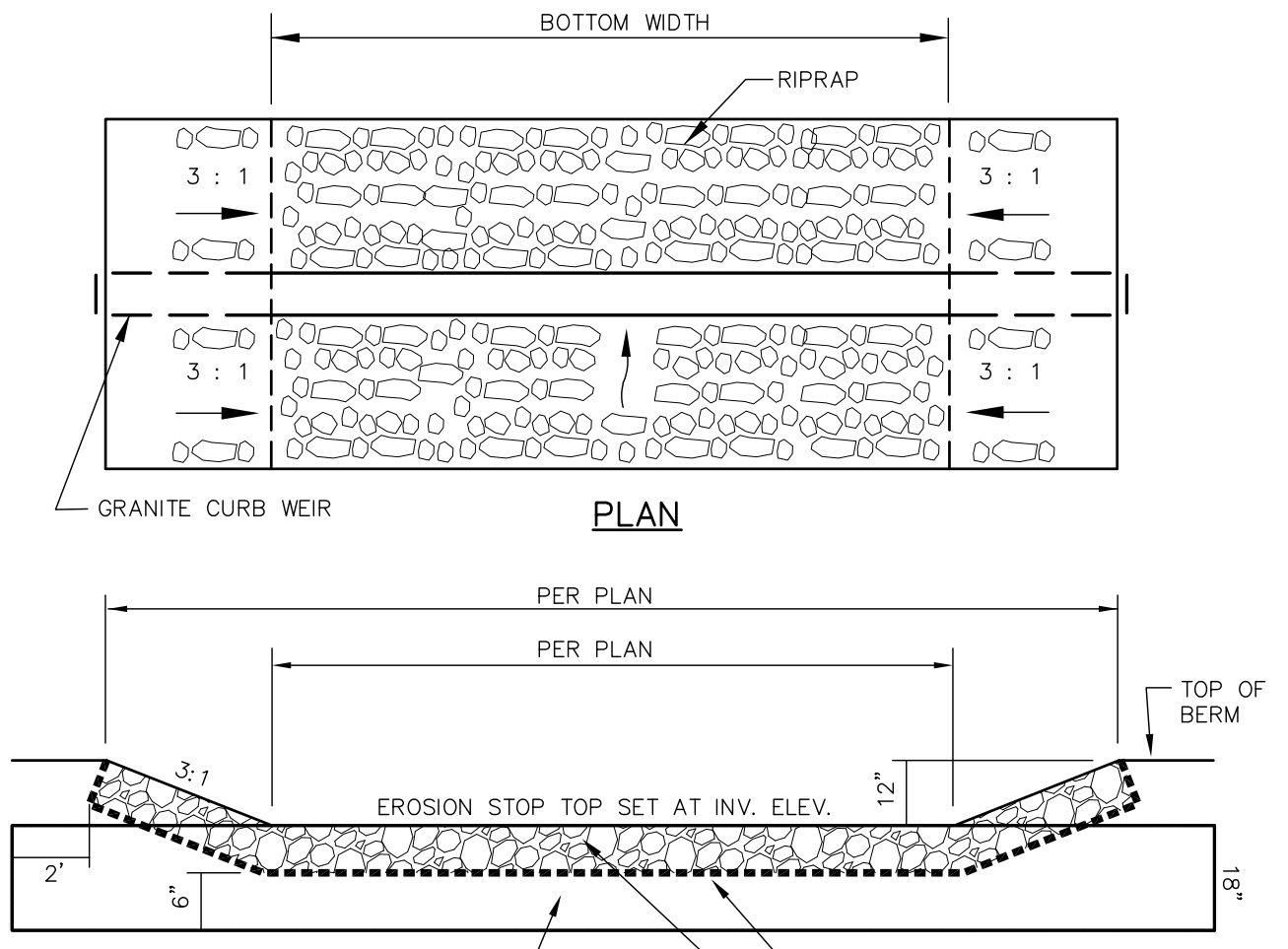
Maintenance: The basin shall be inspected semi-annually and following major storm events, debris and sediment buildup shall be removed from the forebay and basin as needed, any bare area or erosion rills shall be repaired with new filter media, seeded and mulched.

Testing and Submittals: The contractor shall identify the location of the source of each component of the soil filter media. All results of field and laboratory testing shall be submitted to the project engineer for confirmation. The contractor shall:

- Select samples for sampling of each type of material to be blended for the mixed filter media and samples of the underdrain bedding material. Samples must be a composite of three different locations (grabs) from the stockpile or pit face. Sample size required will be determined by the testing laboratory.
- Perform a sieve analysis conforming to ASTM C136 (Standard Test Method for Sieve Analysis of fine and Course Aggregates 1996A) on each type of the sample material. The resulting soil filter media mixture must have 8% to 12% by weight passing the #200 sieve, a clay content of less than 2% (determined hydrometer grain size analysis) and have 10% dry weight of organic matter.
- Perform a permeability test on the soil filter media mixture conforming to ASTM D2434 with the mixture compacted to 90-92% of maximum dry density based on ASTM D698. Alternative soil filter media source: MDEP approved filter mix is available from Shaw Brothers, Gorham, Maine at <http://shawbrothers.com/>

Outlet Discharge: Outflow of the filter basin underdrain is controlled with a ball valve within a three-piece valve box. Upon completion of the installation of the soil filter media and the establishment of 90% of grass cover over the filter media, the contractor shall flood the vegetated basin with 8" of clean water and adjust the outflow to obtain between 24 to 48 hour release time.

TYPICAL GRASSED UNDERDRAINED SOIL FILTER (GUSF) NOT TO SCALE



1. CONSTRUCT EMERGENCY OVERFLOW WEIR TO THE WIDTHS AND LENGTHS SHOWN ON THE PLAN.

2. THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIPRAP SHALL BE PREPARED TO LINES AND GRADES SHOWN ON THE PLANS.

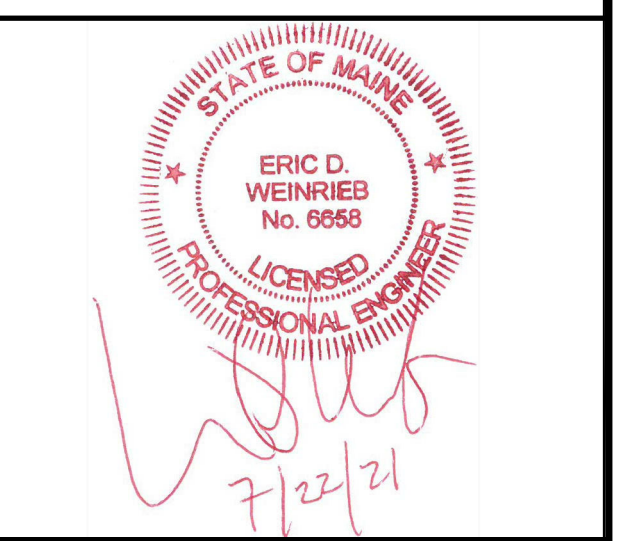
3. UNLESS OTHERWISE SPECIFIED OR DIRECTED, RIPRAP USED FOR THE EMERGENCY OVERFLOW WEIR SHALL MEET THE FOLLOWING GRADATION:

SIZE	PERCENT PASSING BY WEIGHT
4"	90-100
2"	0-15

4. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE EROSION STONE. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 18 INCHES.

5. THE EROSION STOP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.

RIPRAP SPILLWAY / OVERFLOW WEIR NOT TO SCALE



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 APPROVED BY: EBS
 DRAWING FILE: 5116-SITE.dwg

SCALE: **NOT TO SCALE**

OWNER:
C-COAST PROPERTIES, LLC
8 BANKS ROCK
YORK HARBOR, MAINE 03911

APPLICANT:
GOOD TO-GO
c/o CAPE HOUSE
MANAGEMENT, LLC
484 US ROUTE 1
KITTERY, MAINE 03904

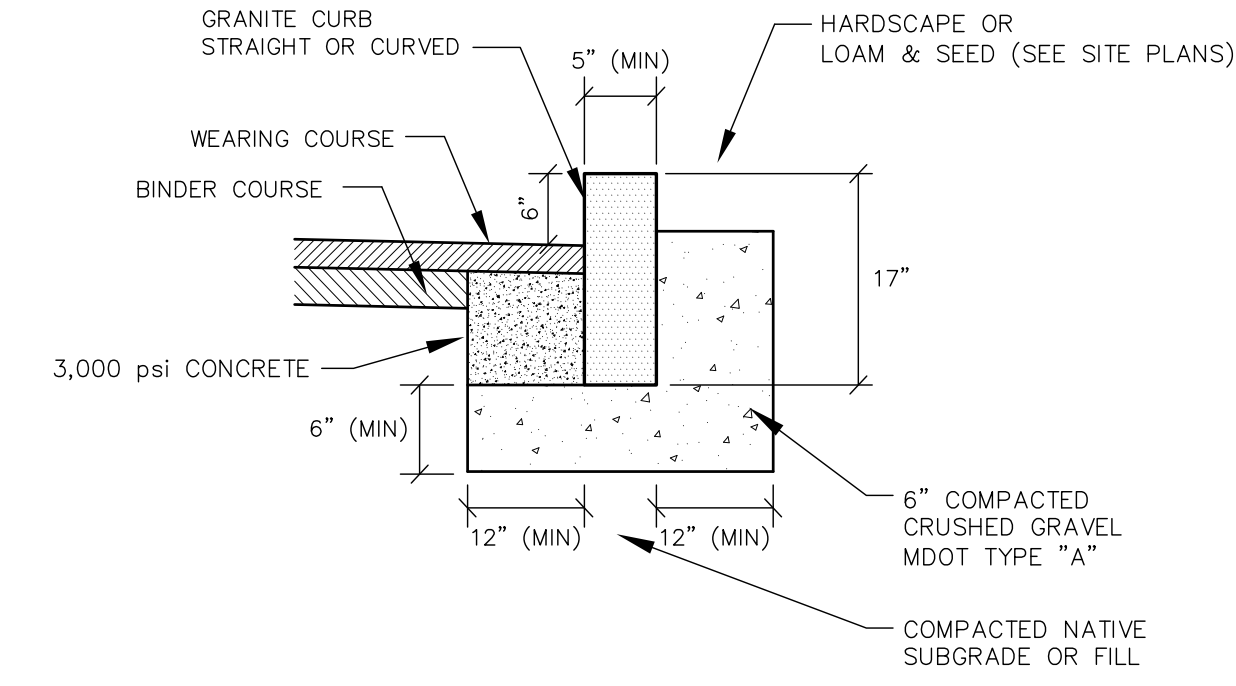
PROJECT: **GOOD TO-GO SPECIALTY FOOD FACILITY**

TAX MAP 67, LOT 1

524 U.S. ROUTE 1
KITTERY, MAINE

TITLE:
D-4

DETAILS
 SHEET NUMBER:



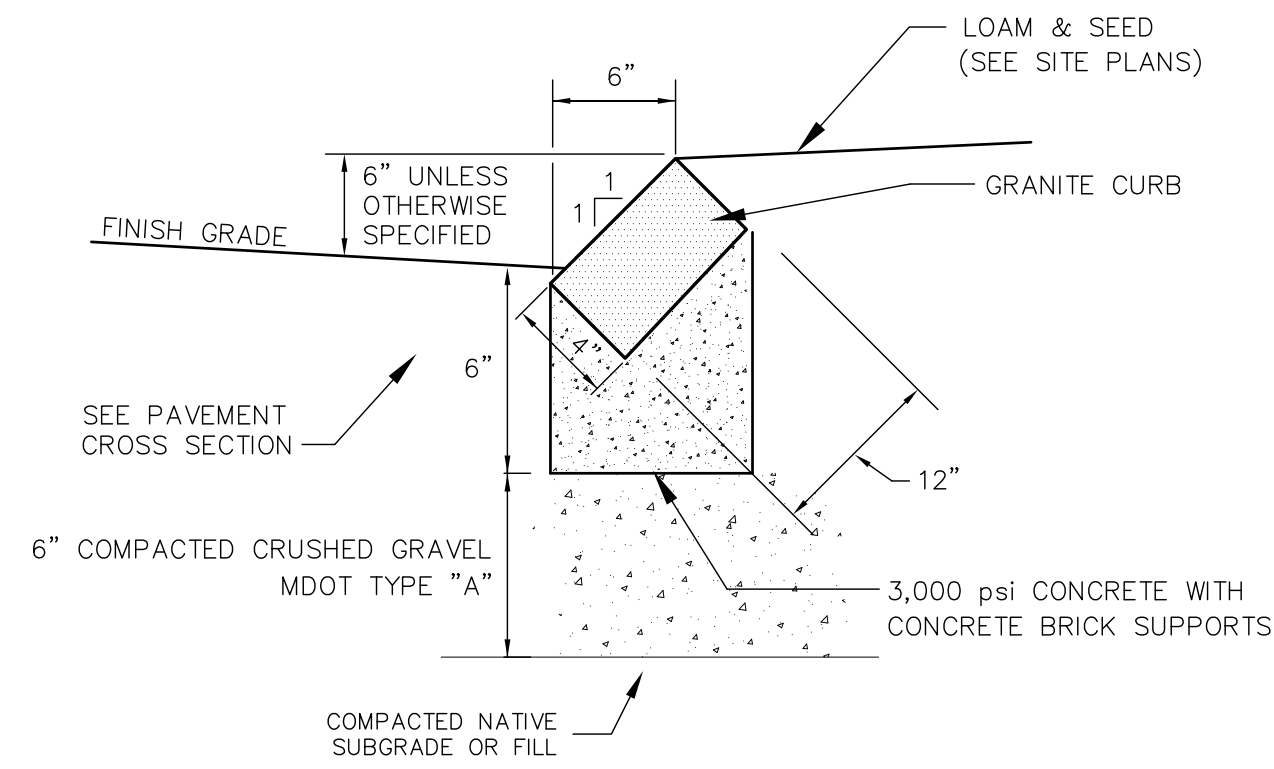
NOTES:

- SEE PLANS FOR CURB LOCATION.
- ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
- MINIMUM LENGTH OF CURB STONES = 3'
- MAXIMUM LENGTH OF CURB STONES = 10'
- MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES - SEE CHART.
- CURB ENDS TO ROUNDED AND BATTERED FACES TO BE CUT WHEN CALLED FOR ON THE PLANS.

RADIUS	MAX. LENGTH
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
OVER 60'	10'

VERTICAL GRANITE CURB

NOT TO SCALE



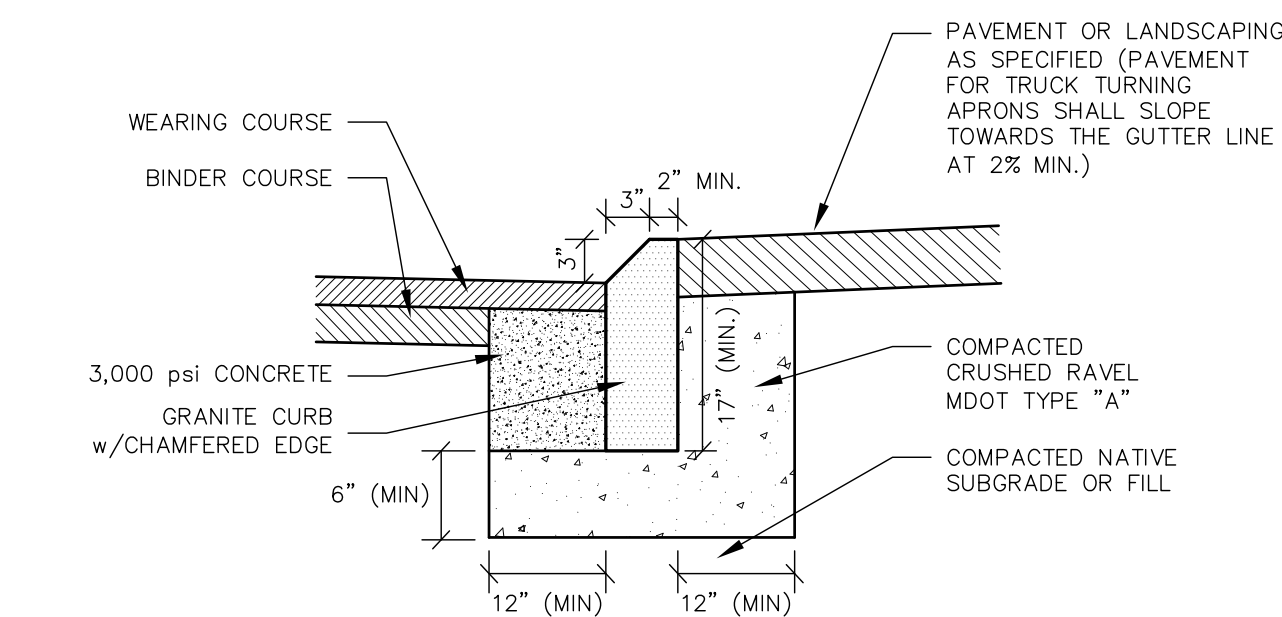
NOTES

- SEE SITE PLAN FOR LIMITS OF CURBING
- ADJOINING STONES OF STRAIGHT CURB LAID ON CURVES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH
- MINIMUM LENGTH OF STRAIGHT CURB STONES = 18"
- MAXIMUM LENGTH OF STRAIGHT CURB STONES = 8'
- MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES - SEE CHART

RADIUS FOR STONES WITH SQUARE JOINTS	MAXIMUM LENGTH
16'-28'	1'-6"
29'-41'	2'
42'-55'	3'
56'-68'	4'
69'-82'	5'
83'-96'	6'
97'-110'	7'
OVER 110'	8'

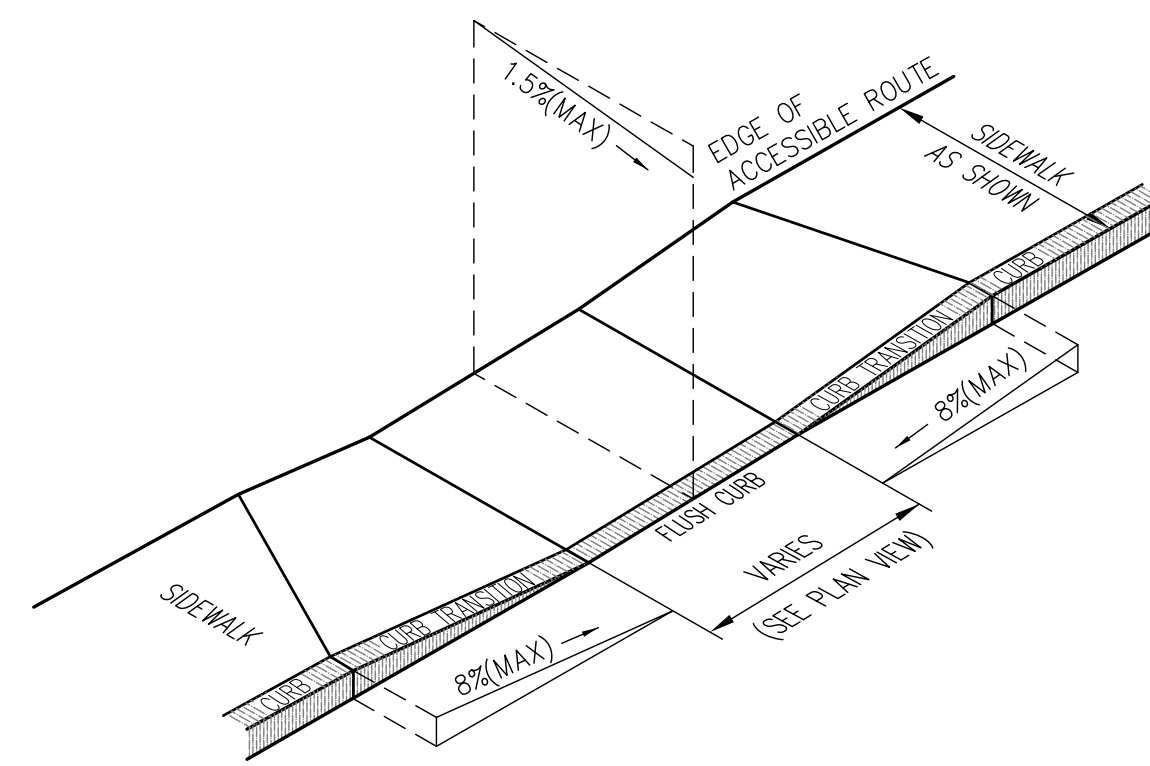
SLOPED GRANITE CURB

NOT TO SCALE



MOUNTABLE CURB

NOT TO SCALE



CURB RAMP (TYPE 'A')

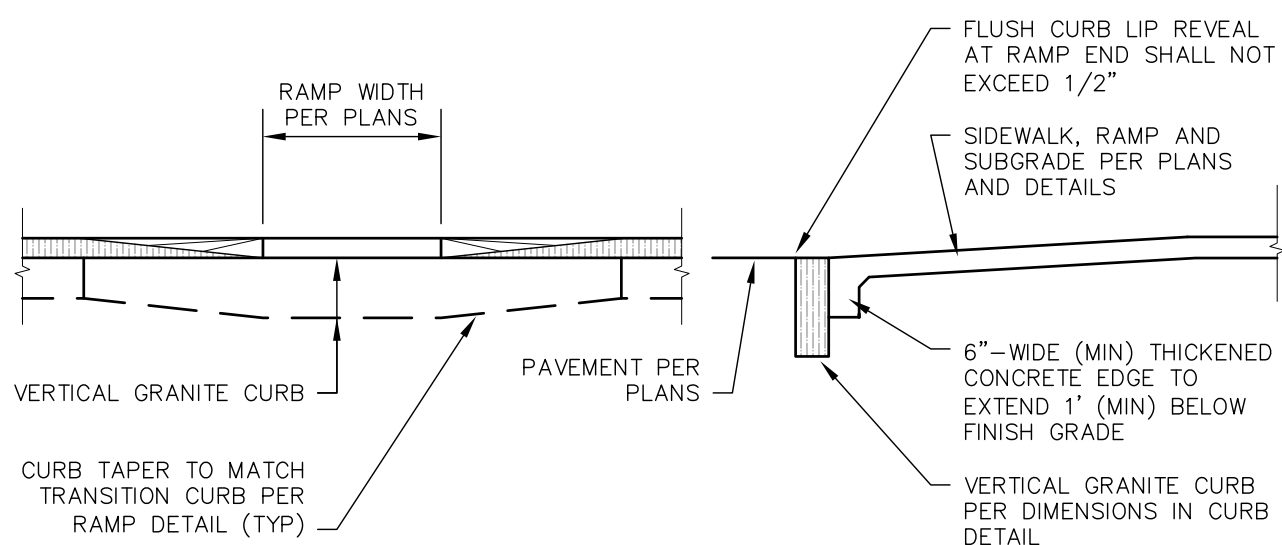
NOT TO SCALE

NOTES APPLICABLE TO ALL CURB RAMPS:

- THE MAXIMUM ALLOWABLE CROSS SLOPE OF AN ACCESSIBLE ROUTE (SIDEWALK) AND CURB SHALL BE 1.5%.
- THE MAXIMUM ALLOWABLE RUNNING SLOPE OF AN ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
- THE MAXIMUM ALLOWABLE RUNNING SLOPE OF AN ACCESSIBLE ROUTE (SIDEWALK) CURB RAMP SHALL BE 8.3% FOR A MAXIMUM ELEVATION CHANGE OF 6".
- CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
- BASE OF RAMP SHALL BE GRADED TO PREVENT THE PONDING OF WATER.
- SEE CONCRETE SIDEWALK SECTION FOR RAMP CONSTRUCTION.
- ALL CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AMERICANS WITH DISABILITIES ACT (ADA) AND ALL APPLICABLE CODES.
- FLUSH CURB SECTIONS SHALL HAVE A MAXIMUM LIP REVEAL OF 1/4" WITH A BEVEL AT THE EDGE OF PAVEMENT.
- EDGES OF SIDEWALK FOOTINGS ALONG FLUSH CURBS SHALL BE HAUNCHED SO AS TO EXTEND TO A MINIMUM DEPTH OF 1' BELOW FINISH GRADE.
- NO RAMP SHALL BE LESS THAN 4' IN WIDTH.
- CURB RAMPS SHALL HAVE A FLAT 2% MAX LANDING AT THE TOP AND BOTTOM OF THE RAMPS WHEN THERE IS A CHANGE IN DIRECTION.

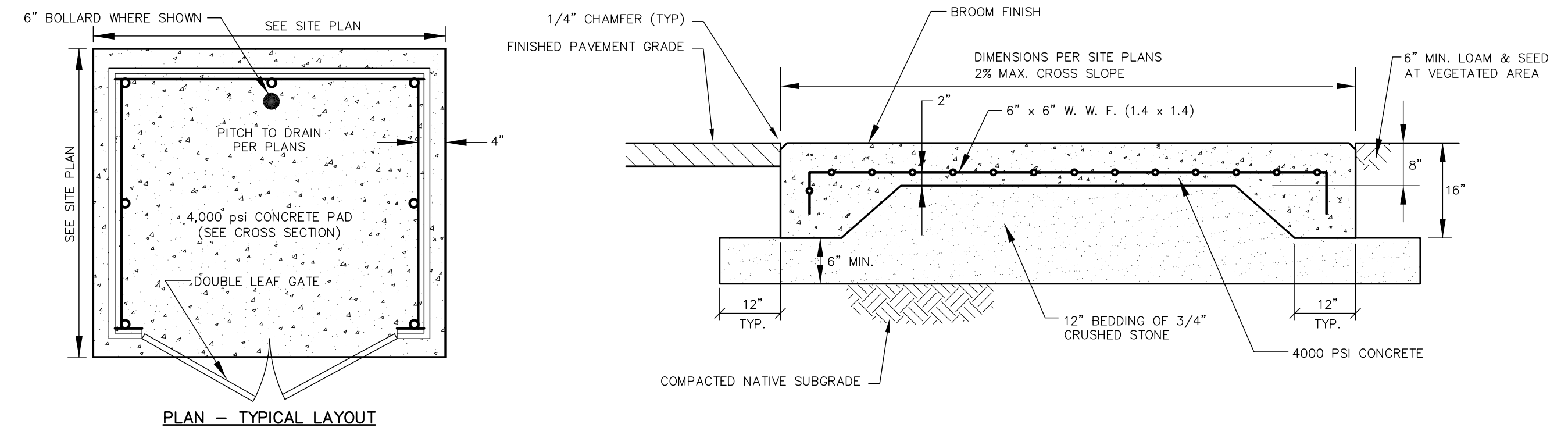
CURB RAMP NOTES

NOT TO SCALE

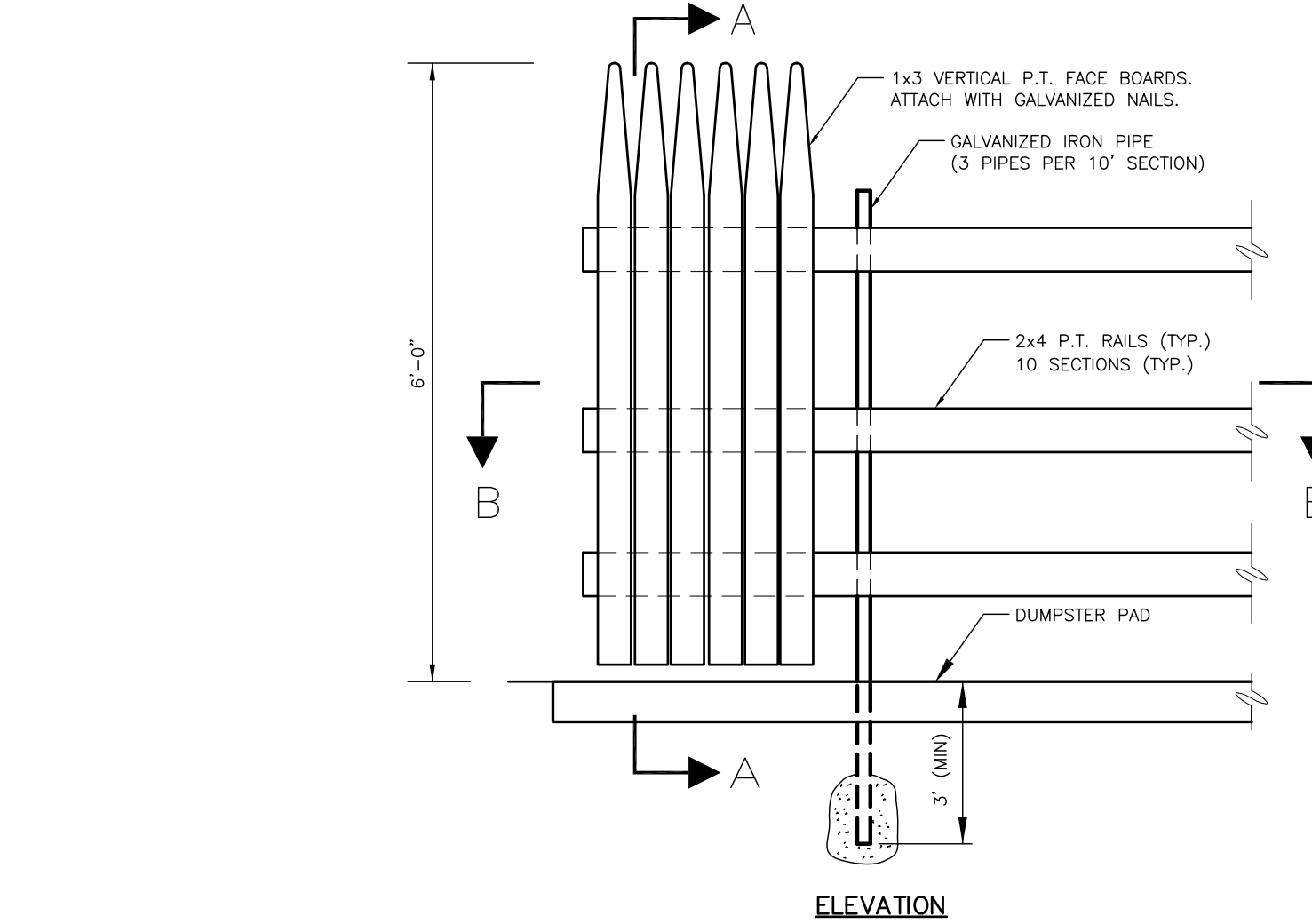


FLUSH CURB AT RAMP DETAIL

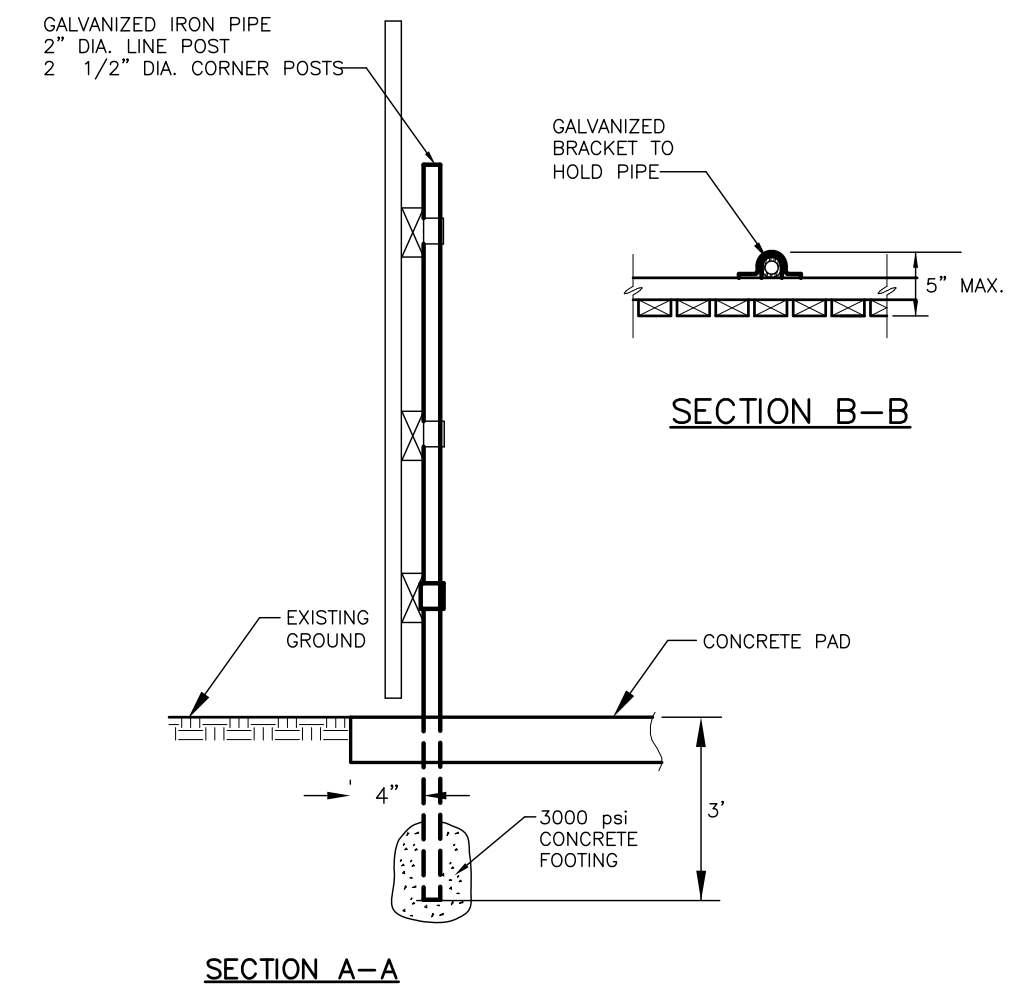
NOT TO SCALE



PLAN - TYPICAL LAYOUT



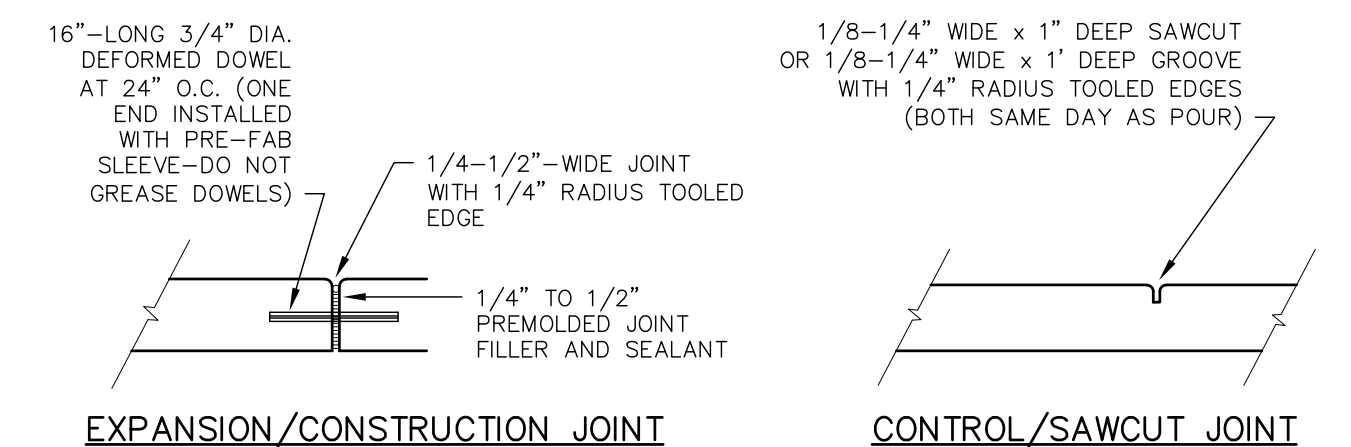
ELEVATION



SECTION A-A

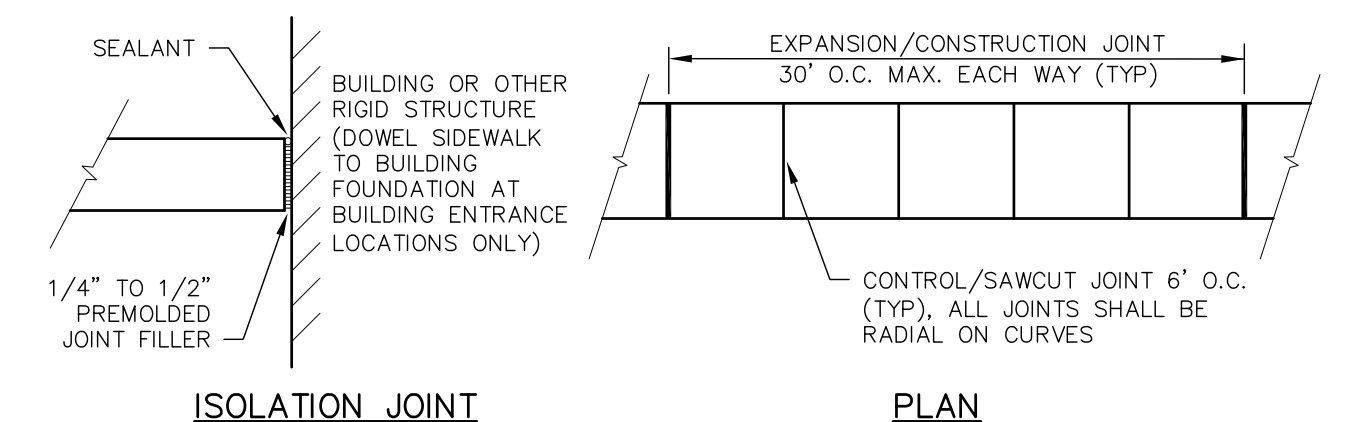
DUMPSTER ENCLOSURE AND PAD

NOT TO SCALE



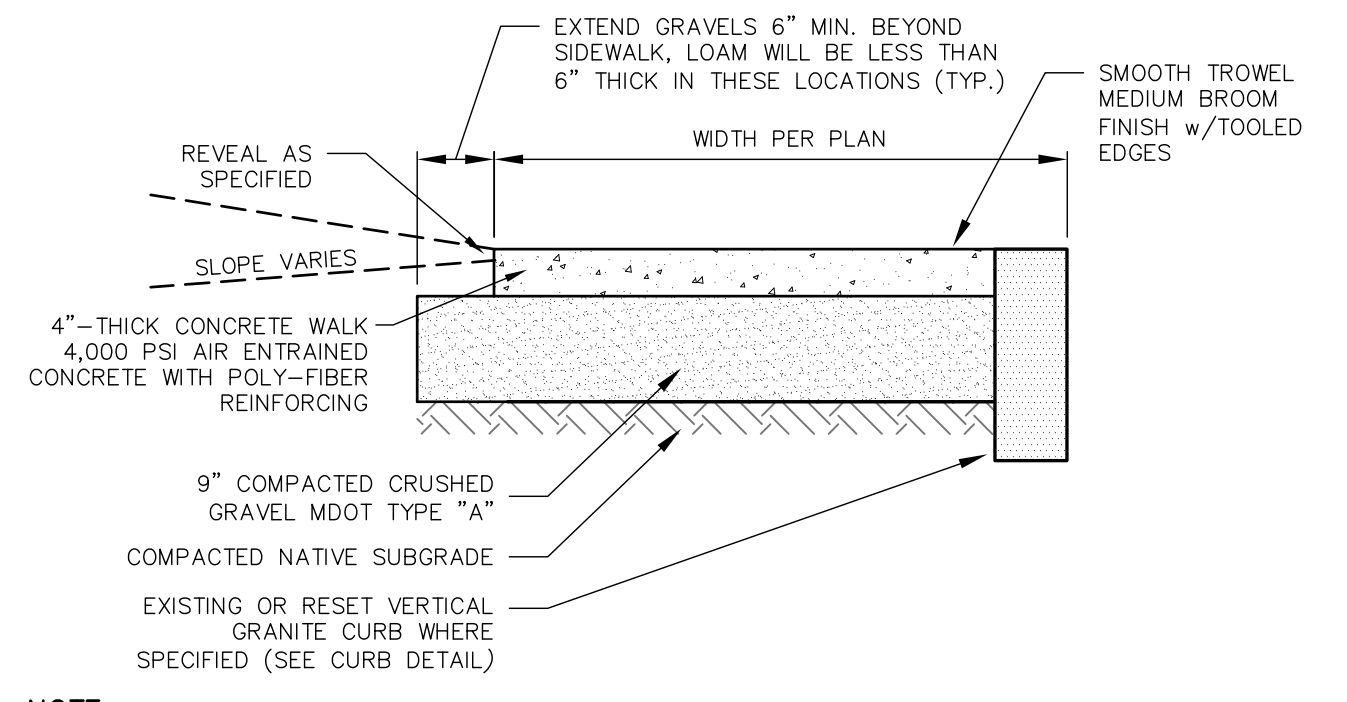
EXPANSION/CONSTRUCTION JOINT

CONTROL/SAWCUT JOINT



ISOLATION JOINT

PLAN

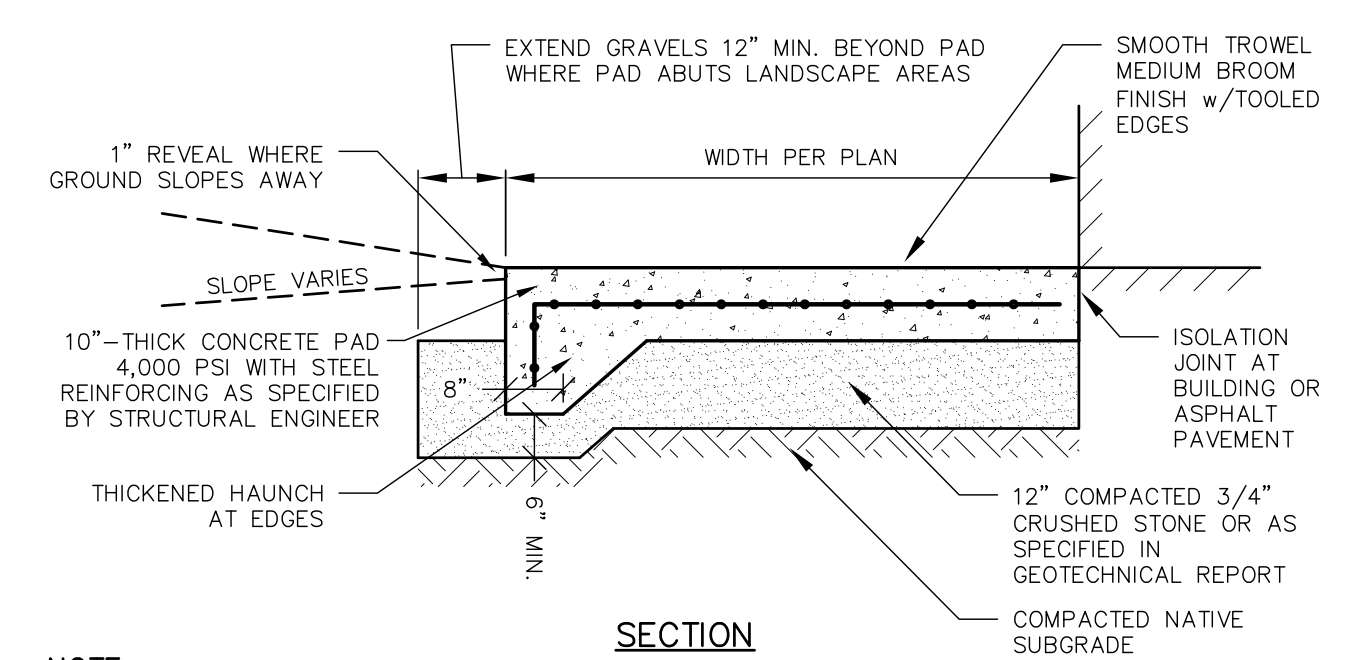


NOTE

- JOINTS IN CONCRETE SIDEWALKS SHALL CONFORM TO THE TYPES AND LOCATIONS SHOWN IN THE HEAVY-DUTY CONCRETE PAVEMENT DETAIL.

CONCRETE SIDEWALK

NOT TO SCALE

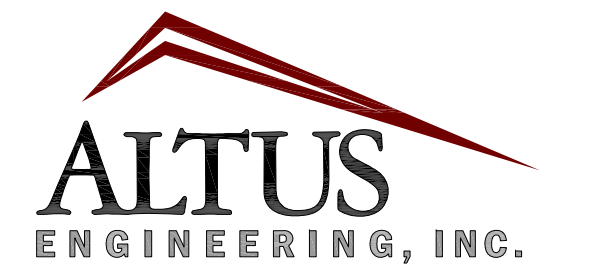


NOTE

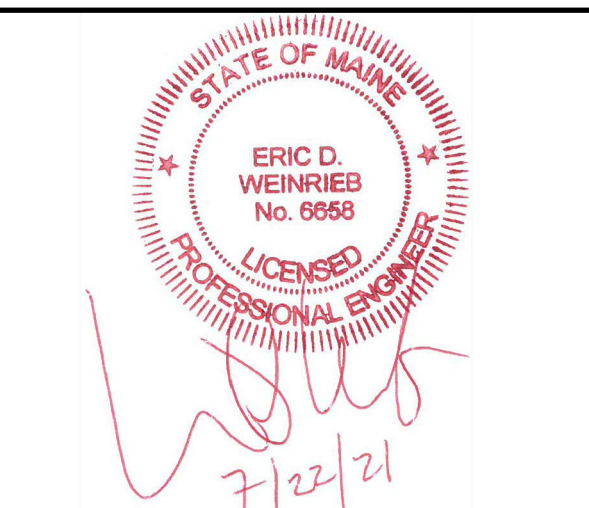
- PROJECT GEOTECHNICAL REPORT MAY REQUIRE A DIFFERENT PAVEMENT CROSS SECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR READING AND FOLLOWING ALL RECOMMENDATIONS IN THE GEOTECHNICAL REPORT. IN THE EVENT THAT THE REPORT AND CIVIL PLANS DIFFER, THE MORE STRINGENT SPECIFICATION SHALL APPLY.

HEAVY-DUTY CONCRETE PAVEMENT

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APPROVED BY: EBS

DRAWING FILE: 5116-SITE.dwg

SCALE: **NOT TO SCALE**

OWNER:
C-COAST PROPERTIES, LLC
8 BANKS ROCK
YORK HARBOR, MAINE 03911

APPLICANT:
GOOD TO-GO
c/o CAPE HOUSE
MANAGEMENT, LLC
484 US ROUTE 1
KITTERY, MAINE 03904

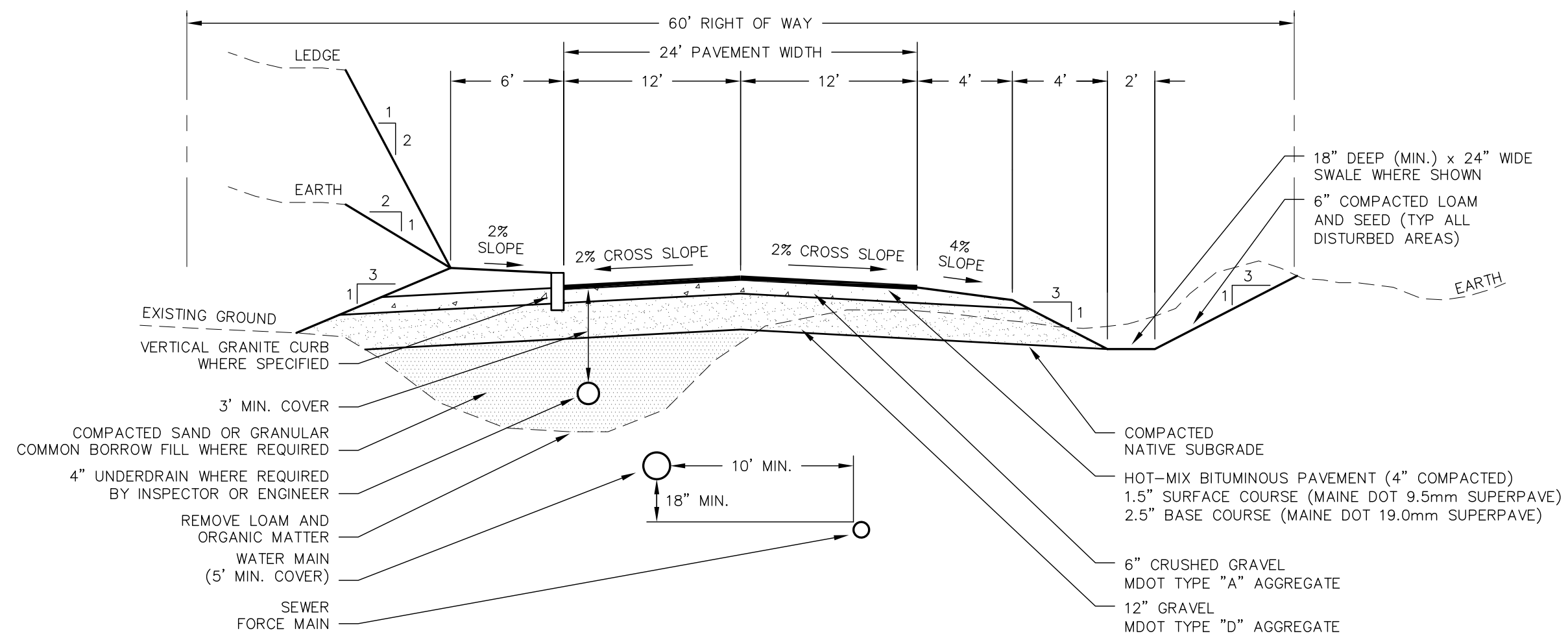
PROJECT:
**GOOD TO-GO
SPECIALTY FOOD
FACILITY**
TAX MAP 67, LOT 1
524 U.S. ROUTE 1
KITTERY, MAINE

DETAILS

SHEET NUMBER:

D-5

D-5/116

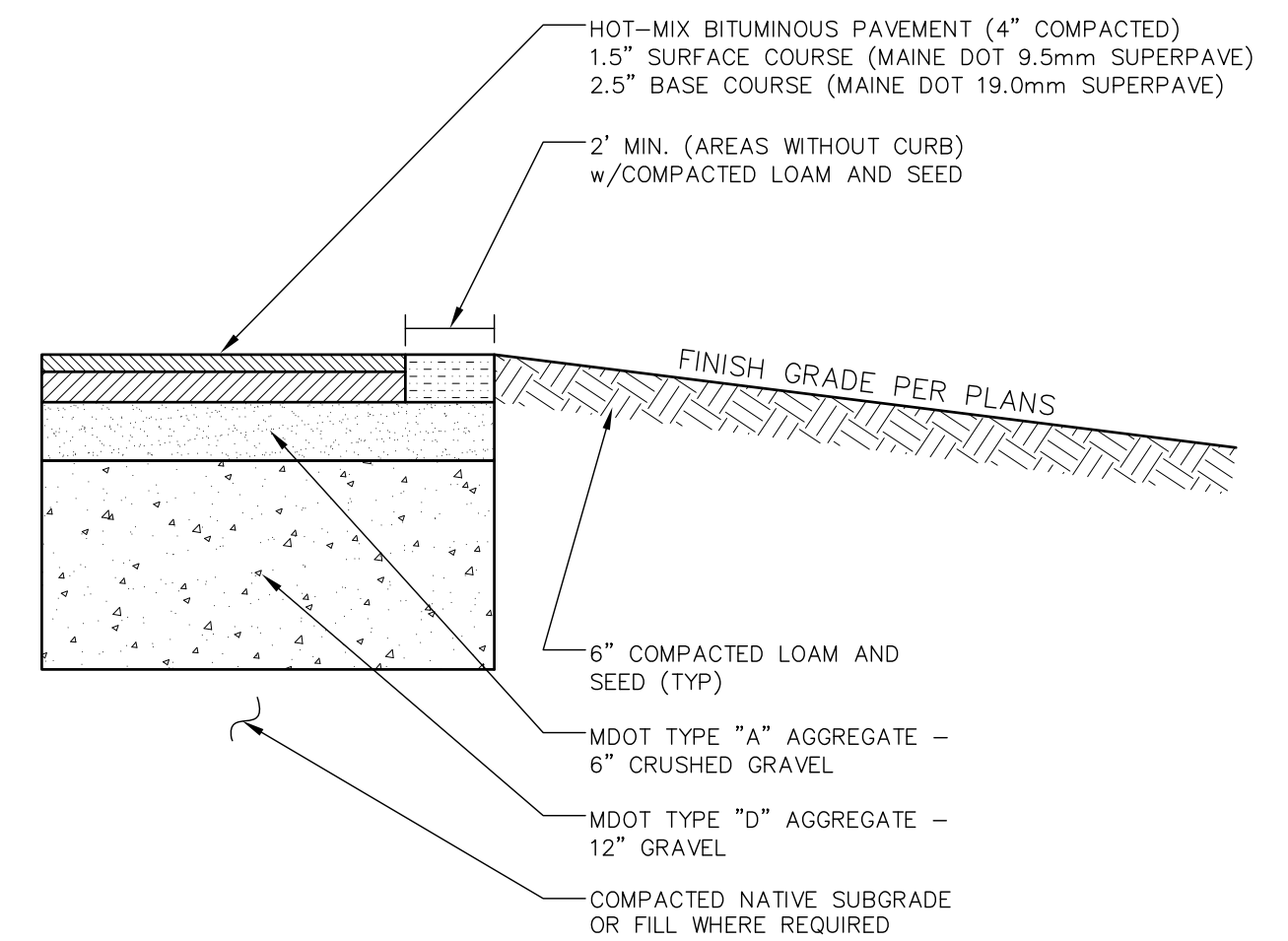


NOTES

- EACH GRAVEL BASE COURSE TO BE CONSTRUCTED AT THE PAVEMENT CROSS SLOPE.
- REMOVE LEDGE 18" BELOW LOWEST WORK BEING INSTALLED.
- REMOVE ALL LOAM, CLAY, MUCK, ORGANIC, YIELDING OR OTHERWISE UNSTABLE MATERIAL TO A MINIMUM OF 18" BELOW FINISHED GRADE. ADDITIONAL DEPTH MAY BE REQUIRED BY THE GEOTECHNICAL REPORT.
- THE OVER-EXCAVATION OF UNSUITABLE MATERIAL BEYOND THAT SPECIFIED ABOVE, THE INSTALLATION OF UNDERDRAINAGE, AND/OR THE INSTALLATION OF GEOTEXTILE FABRIC SHALL BE PROVIDED UPON DETERMINATION OF THE INSPECTOR OR THE ENGINEER.
- FILL BELOW PAVEMENT SUBGRADE SHALL BE SAND OR GRANULAR COMMON BORROW COMPACTED PER MDOT REQUIREMENTS.
- SITWORK CONTRACTOR SHALL COORDINATE GEOTECHNICAL ENGINEERING INSPECTIONS PRIOR TO PLACING GRAVELS.
- SUBGRADE SHALL BE FREE OF VOIDS THAT ALLOW MOVEMENT AND/OR SETTLEMENT OF MATERIALS.
- SUBGRADE SHALL BE ROLLED WITH A MINIMUM OF SIX PASSES OF A 10-TON VIBRATORY COMPACTOR OPERATING AT PEAK RATED FREQUENCY OR BY OTHER MEANS APPROVED BY THE ENGINEER.
- BASE AND SUBBASE MATERIALS SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF THEIR MAXIMUM DRY DENSITIES AS DETERMINED BY ASTM D-1557.
- SUBGRADE SHALL BE PROOF-ROLLED WITH A FULLY LOADED DUMP TRUCK PRIOR TO PLACEMENT OF SELECT GRAVELS. PROOF-ROLLING SHALL BE WITNESSED AND APPROVED BY THE ENGINEER.
- BITUMINOUS PAVEMENT SHALL BE COMPACTED TO 90 TO 97 PERCENT OF ITS THEORETICAL MAXIMUM DENSITY AS DETERMINED BY ASTM D-2041.
- TACK COAT SHALL BE APPLIED BETWEEN SUCCESSIVE LIFTS OF ASPHALT PAVEMENT.

TYPICAL ROADWAY CROSS SECTION

NOT TO SCALE



NOTES

- PROJECT GEOTECHNICAL REPORT MAY REQUIRE A DIFFERENT PAVEMENT CROSS SECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR READING AND FOLLOWING ALL RECOMMENDATIONS IN THE GEOTECHNICAL REPORT. IN THE EVENT THAT THE REPORT AND CIVIL PLANS DIFFER, THE MORE STRINGENT SPECIFICATION SHALL APPLY.
- ALL EXISTING FILL, BURIED ORGANIC MATTER, CLAY, LOAM, MUCK, AND/OR OTHER QUESTIONABLE MATERIAL SHALL BE REMOVED FROM BELOW ALL PAVEMENT, SHOULDERS AND UNDERGROUND PIPING/UTILITIES TO DEPTHS RECOMMENDED IN GEOTECHNICAL REPORT.
- SUBGRADE SHALL BE PROOFROLLED A MINIMUM OF 6 PASSES WITH A 10-TON VIBRATORY COMPACTOR OPERATING AT PEAK RATED FREQUENCY OR BY MEANS APPROVED BY THE ENGINEER.
- FILL BELOW PAVEMENT GRADES SHALL BE GRANULAR BORROW COMPACTED PER MDOT REQUIREMENTS.
- SITWORK CONTRACTOR SHALL COORDINATE GEOTECHNICAL ENGINEERING INSPECTIONS WITH THE CONSTRUCTION MANAGER PRIOR TO PLACING GRAVELS.
- TACK COAT SHALL BE APPLIED BETWEEN SUCCESSIVE LIFTS OF ASPHALT.
- THE BITUMINOUS PAVEMENT SHALL BE COMPACTED TO 92 TO 97 PERCENT OF ITS THEORETICAL MAXIMUM DENSITY AS DETERMINED BY ASTM D-2041. THE BASE AND SUBBASE MATERIALS SHOULD BE COMPACTED TO AT LEAST 95 PERCENT OF THEIR MAXIMUM DRY DENSITIES AS DETERMINED BY ASTM D-1557.

SITE PAVEMENT CROSS SECTION

NOT TO SCALE

D-Series Size 0 LED Area Luminaire

Specifications

EPA: 0.95 ft (29.3m)

Length: 26" (660mm)

Width: 13" (330mm)

Height: 3" (76mm)

Height: 7" (178mm)

Weight: 16 lbs (7.3kg)

Introduction

The modern styling of the D-Series is striking yet unobtrusive - making a bold, progressive statement even as it blends seamlessly with its environment. The D-Series distills the benefits of the latest in LED technology into a high performance, high efficiency, long-life luminaire. The outstanding photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. It is ideal for replacing up to 400W metalhalide with typical energy savings of 70% and expected service life of over 100,000 hours.

WDGE2 LED Architectural Wall Sconce

Specifications

Depth (D1): 7"

Depth (D2): 1.5"

Height: 9"

Width: 11.5"

Weight: 13.5 lbs (without options)

Introduction

The WDGE2 LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean, rectangular design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true site-wide solution. Embedded with nLight® AIR wireless controls, the WDGE2 family provides additional energy savings and code compliance. WDGE2 delivers up to 6,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. When combined with multiple integrated emergency battery backup options, including an 18W cold temperature option, the WDGE2 becomes the ideal wall-mounted lighting solution for pedestrian scale applications in any environment.

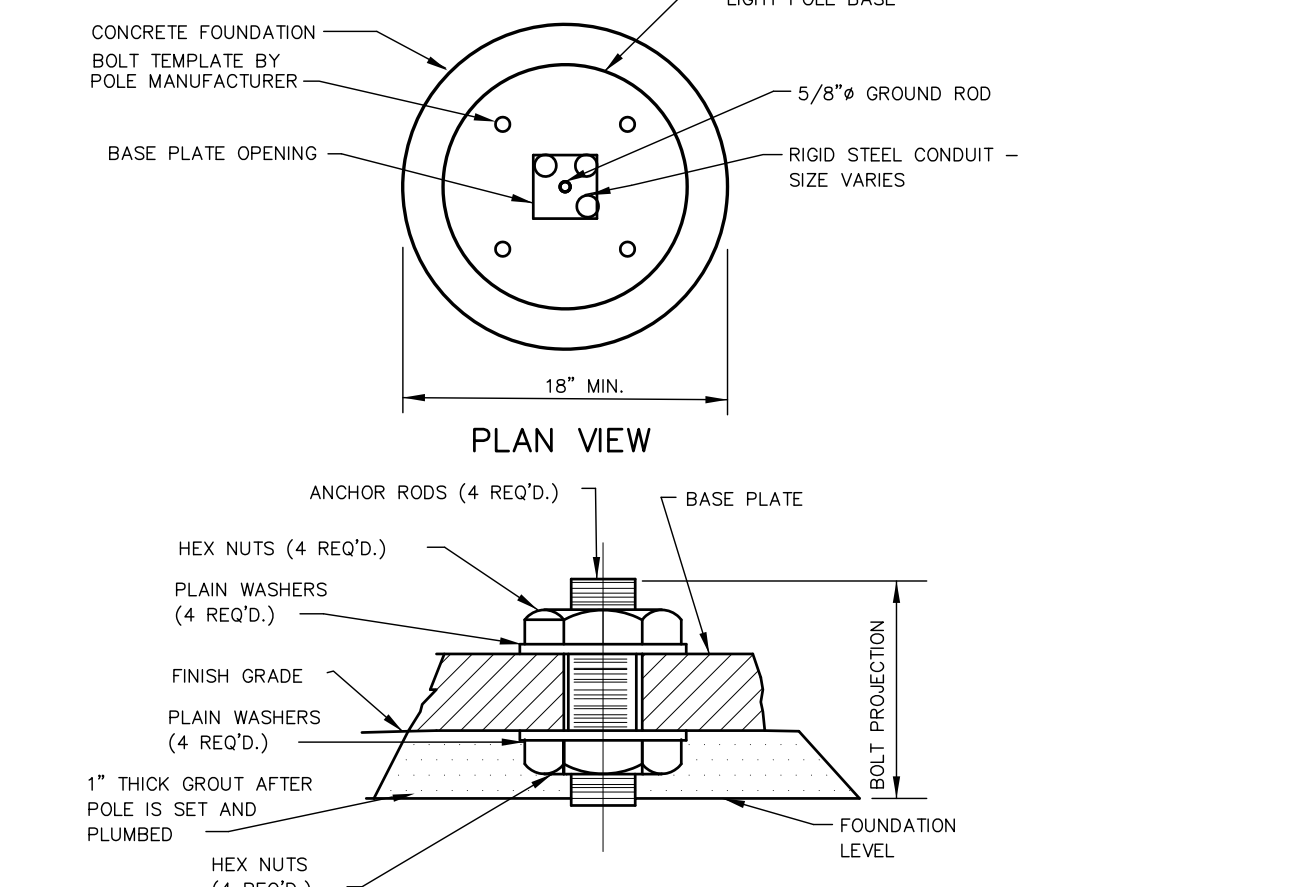
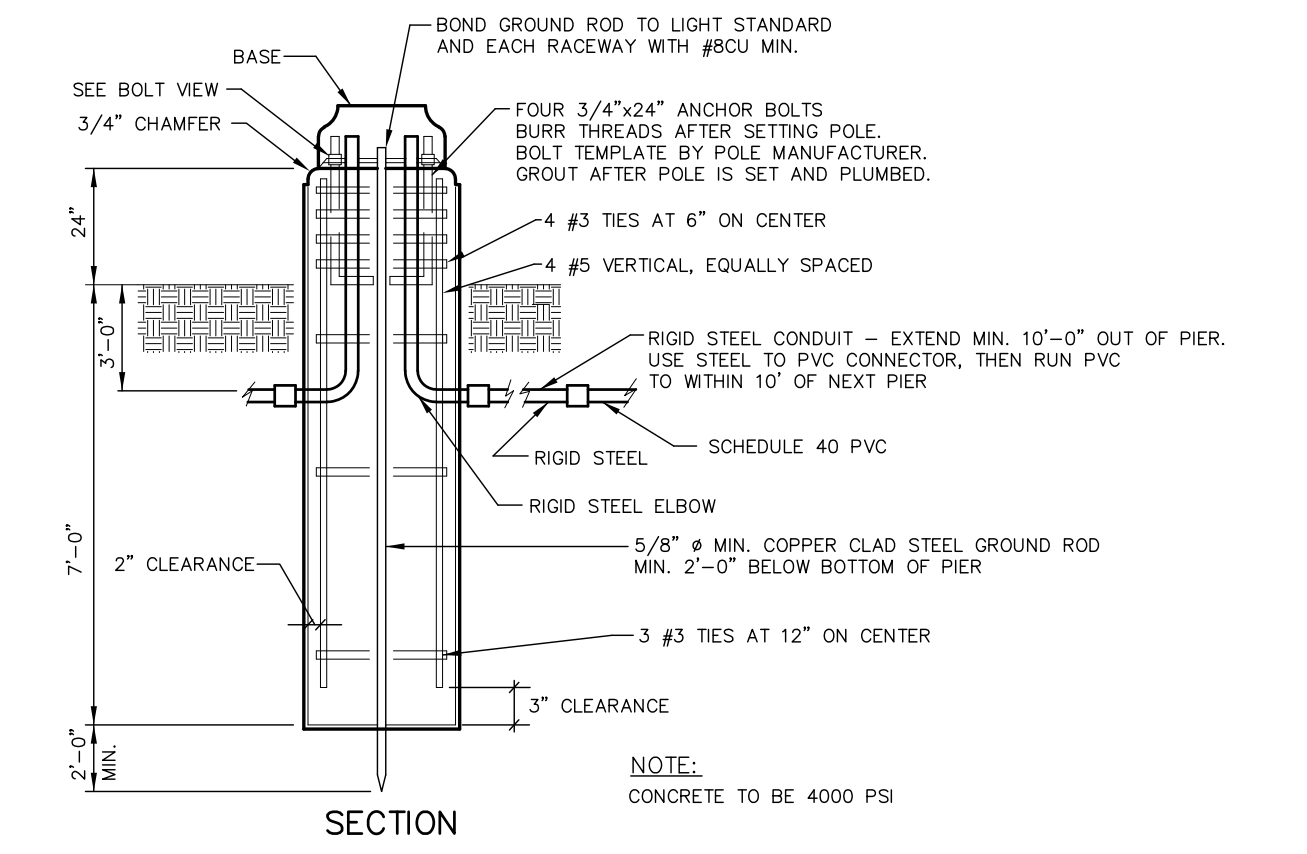
WDGE LED Family Overview

Luminaire	Standard EM, 0°C	Cold EM, -20°C	Sensor	Lumens (lm/ft²)					
				P1	P2	P3	P4	P5	P6
WDGE2 LED	4W	--	--	1,200	2,000	--	--	--	--
WDGE3 LED	10W	16W	Standalone / edge	1,200	2,000	3,000	4,500	6,000	--
WDGE3 LED	10W	16W	Standalone / edge	7,500	8,500	10,000	12,000	--	--
WDGE4 LED	--	--	Standalone / edge	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information

EXAMPLE: WDGE2 LED P3 40K 80CRI VF MVOLT SRM DDBXD

Series	Package	Color Temperature	CRI	Distribution	EMT	Mounting	Shipped included	Shipped separately
WDGE2 LED	P1	27K	2700K	80CRI	VF	Vertical constant forward driver	480	18W (100/5000) motion sensor for 40' mounting heights. Intended for use on walls that comply with external code & dimming.
	P2	30K	3000K	90CRI	VF	Vertical constant forward driver	347	18W (100/5000) motion sensor for 40' mounting heights. Intended for use on walls that comply with external code & dimming.
	P3	35K	3500K	90CRI	VF	Vertical constant with	480	18W (100/5000) motion sensor for 40' mounting heights. Intended for use on walls that comply with external code & dimming.
	P4	40K	4000K	90CRI	VF	Vertical constant with	480	18W (100/5000) motion sensor for 40' mounting heights. Intended for use on walls that comply with external code & dimming.



LIGHT POLE BASE DETAIL

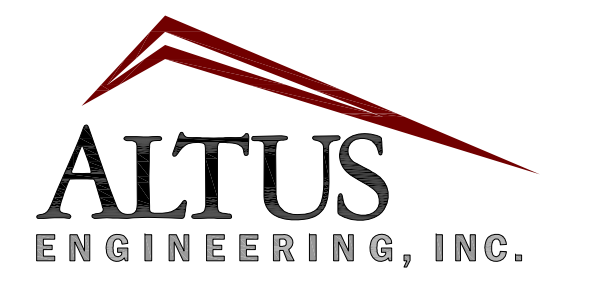
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Ordering Information

EXAMPLE: DSX0 LED P6 40K T3M MVOLT SPA NLTAIF2 PIRHN DDBXD

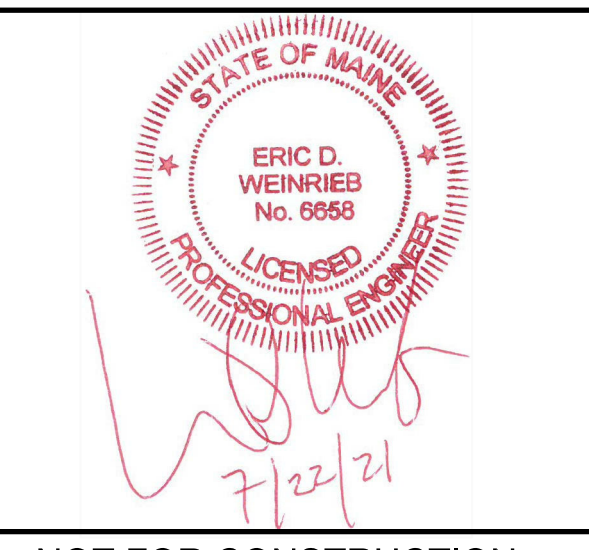
DSX0 LED	Series	LEDs	Color Temperature	Distribution	Voltage	Mounting	Shipped included
DSX0 LED	P1	P1	3000K	T5	Type I short	120V	120V (277/277) 120V
		P2	4000K	T5	Type I short	120V	120V (277/277) 120V
		P3	5000K	T5	Type I short	120V	120V (277/277) 120V
		P4	5000K	T5	Type I short	120V	120V (277/277) 120V

LIGHT FIXTURE CUT SHEETS



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NO.	DESCRIPTION	BY	DATE
0	PLANNING BOARD	EBS	07/22/21

DRAWN BY: _____ EBS

APPROVED BY: _____ EBS

DRAWING FILE: _____ 5116-SITE.dwg

SCALE: **NOT TO SCALE**

OWNER:

C-COAST PROPERTIES, LLC
8 BANKS ROCK
YORK HARBOR, MAINE 03911

APPLICANT:

GOOD TO-GO
c/o CAPE HOUSE
MANAGEMENT, LLC
484 US ROUTE 1
KITTERY, MAINE 03904

PROJECT:

GOOD TO-GO
SPECIALTY FOOD
FACILITY
TAX MAP 67, LOT 1

524 U.S. ROUTE 1
KITTERY, MAINE

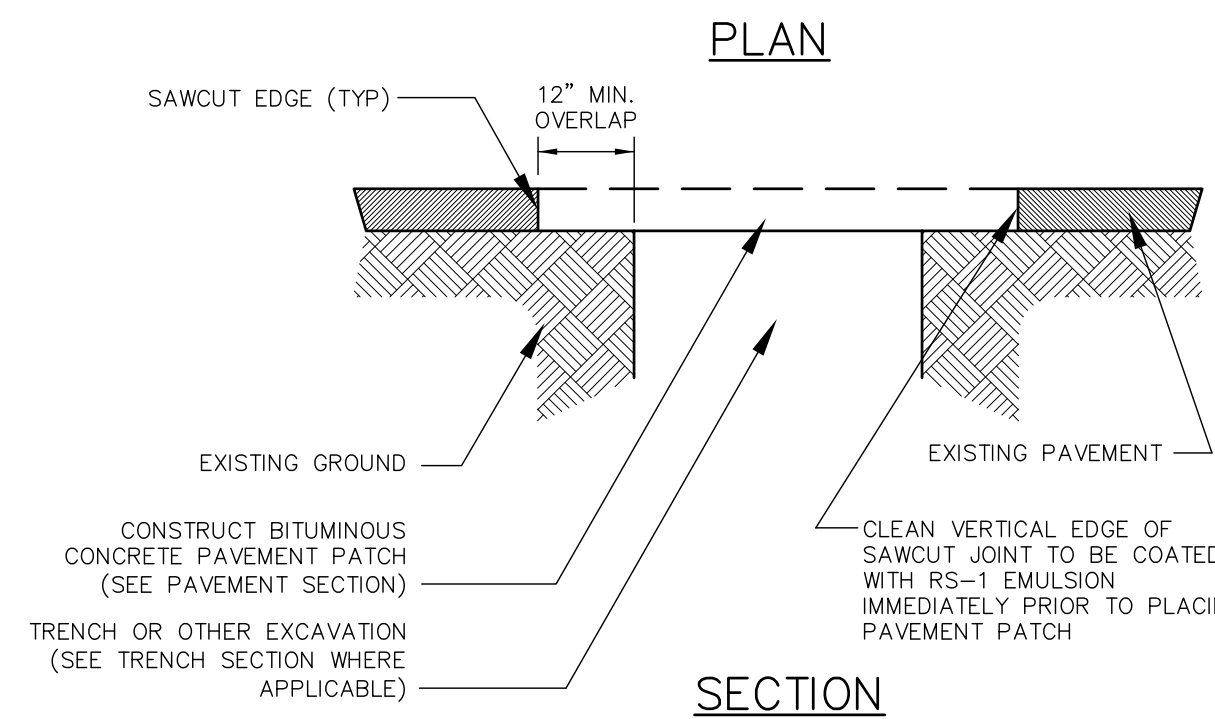
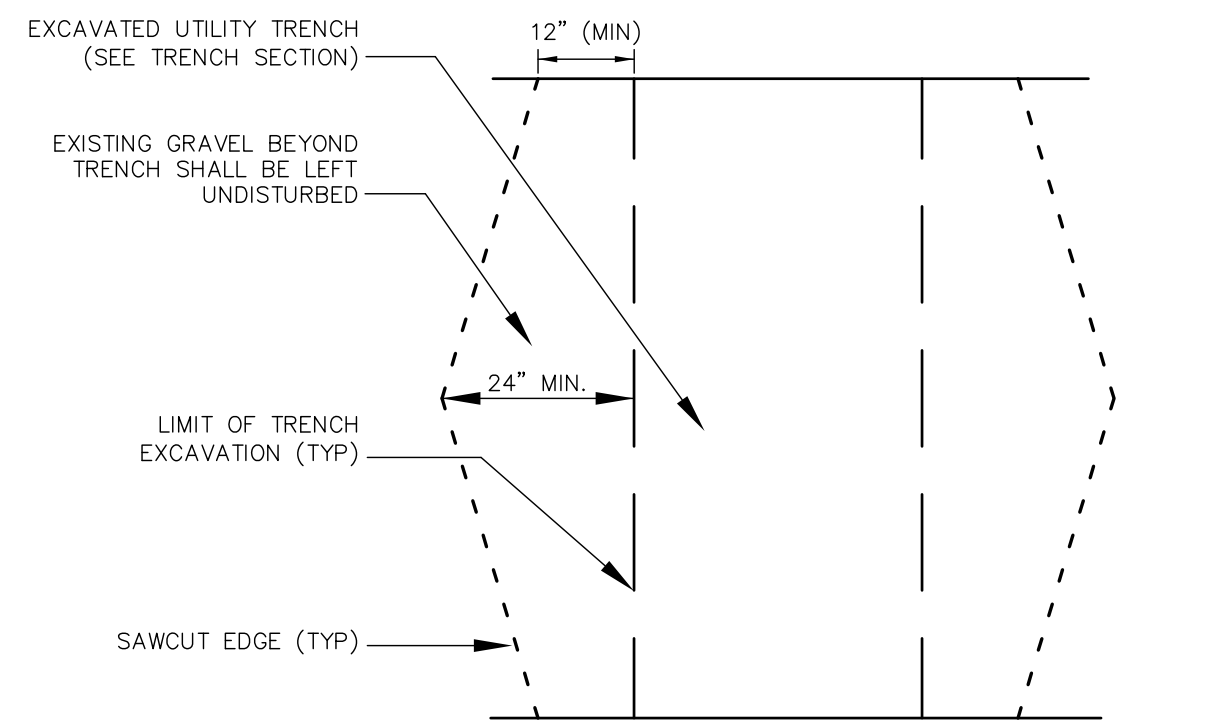
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DETAILS

SHEET NUMBER:

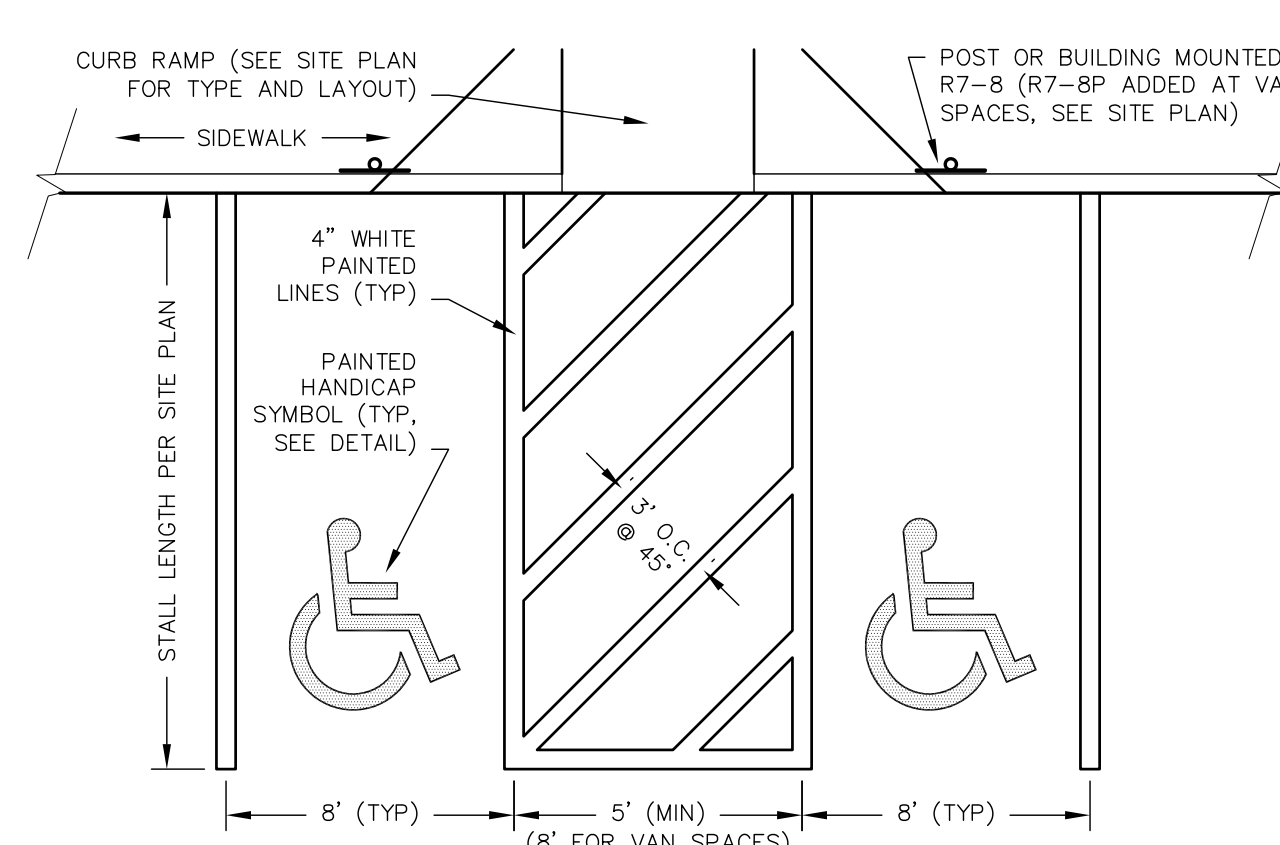
D-6

P-5116

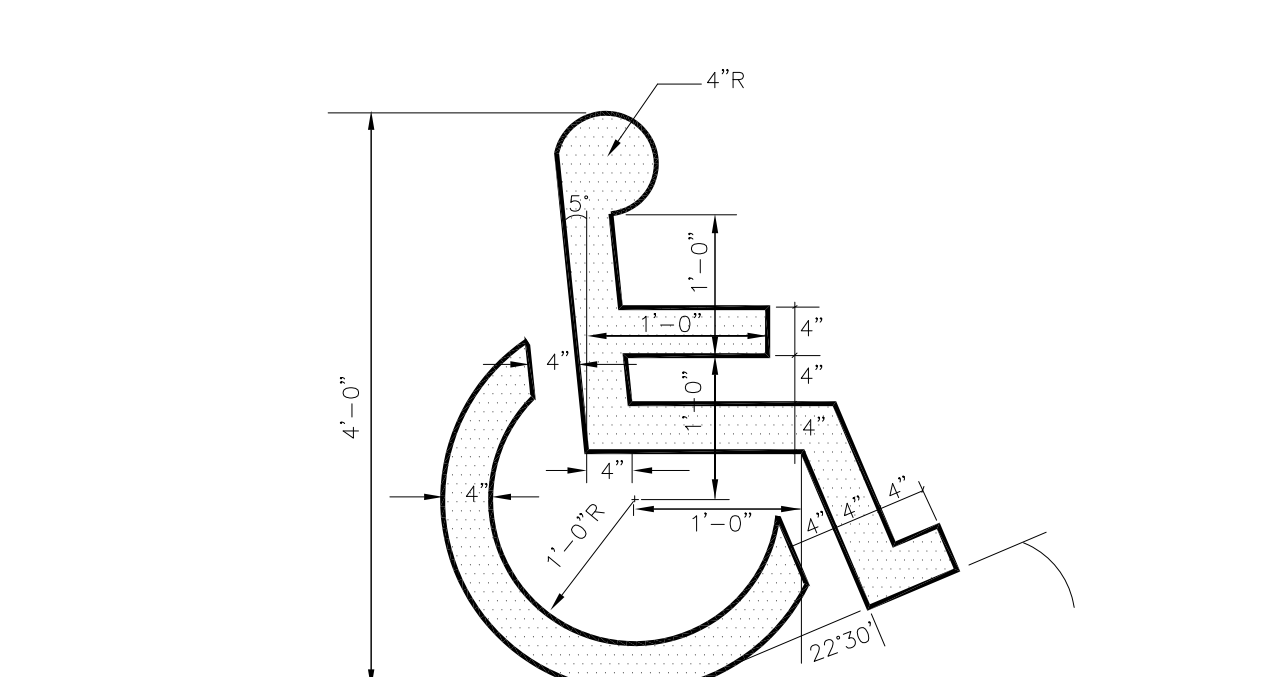


- NOTES**
1. MACHINE CUT EXISTING PAVEMENT.
 2. ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.
 3. DIAMOND PATCHES, SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY. DIAMOND PATCHES SHALL MEET NHDOT REQUIREMENTS.

TYPICAL TRENCH PATCH NOT TO SCALE

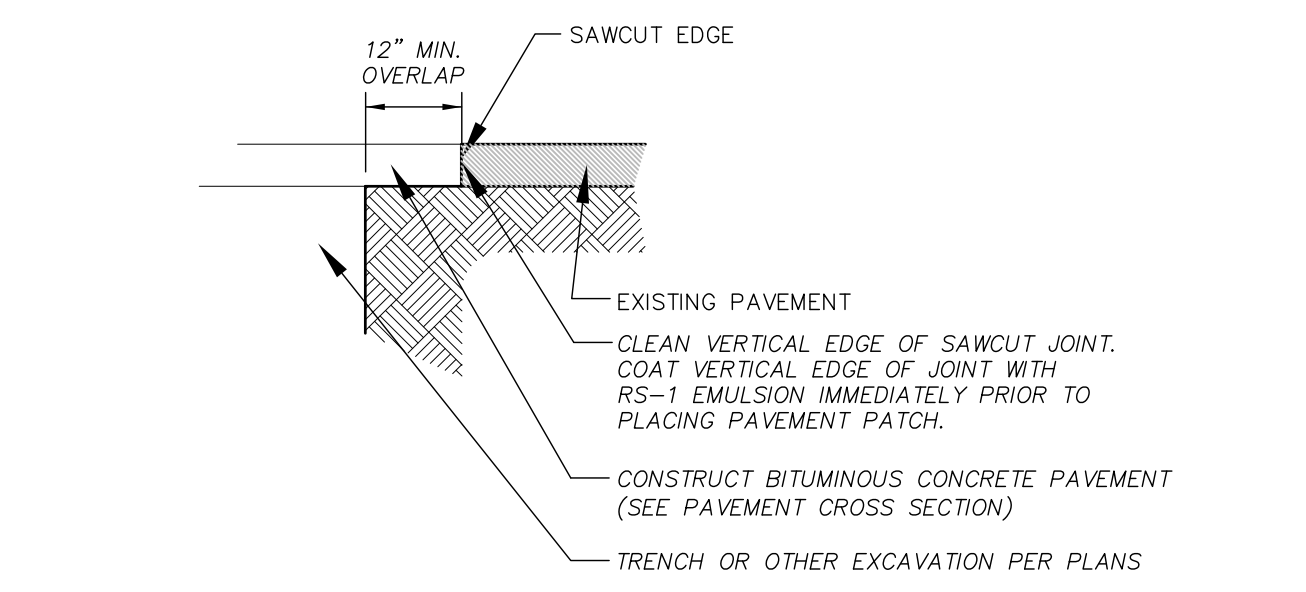


HANDICAP PARKING STALL LAYOUT NOT TO SCALE

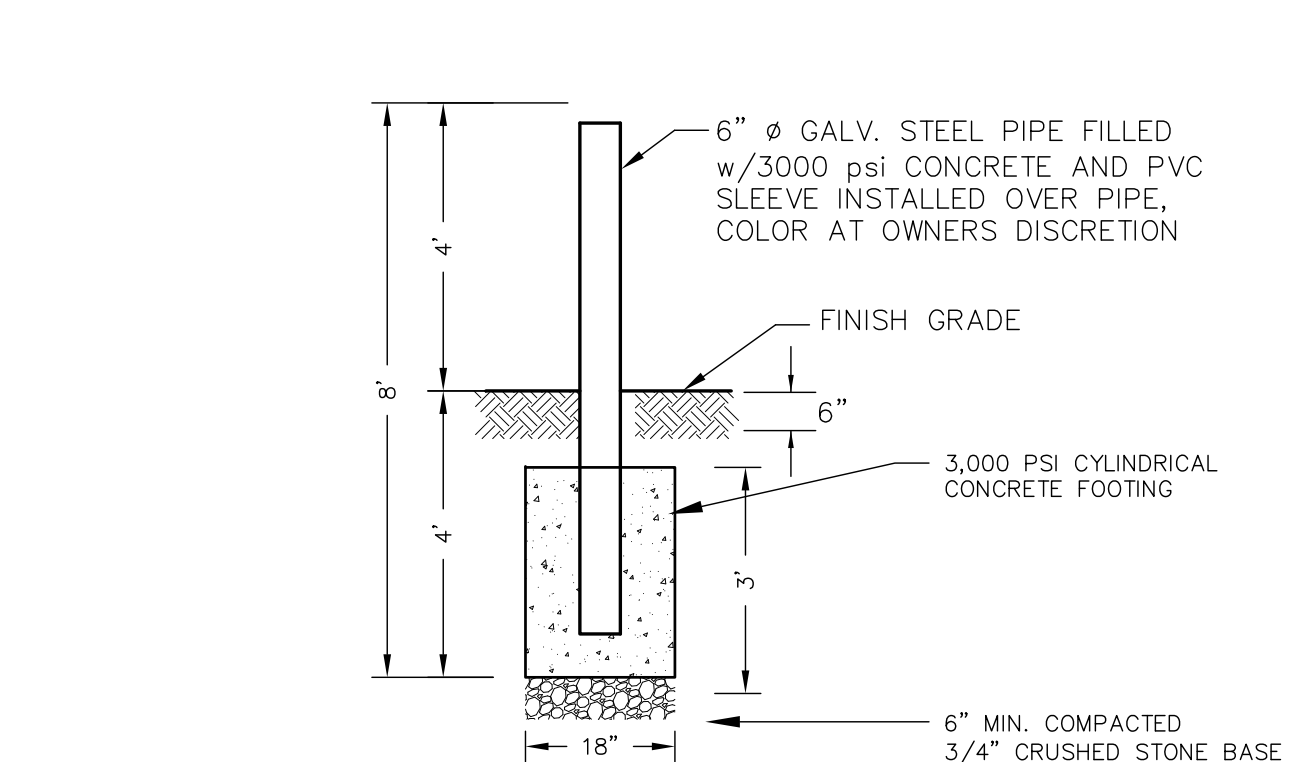


- NOTES**
1. SYMBOL TO BE PAINTED IN ALL HANDICAPPED ACCESSIBLE SPACES IN WHITE PAINT (BLUE-PAINTED SQUARE BACKGROUND OPTIONAL).

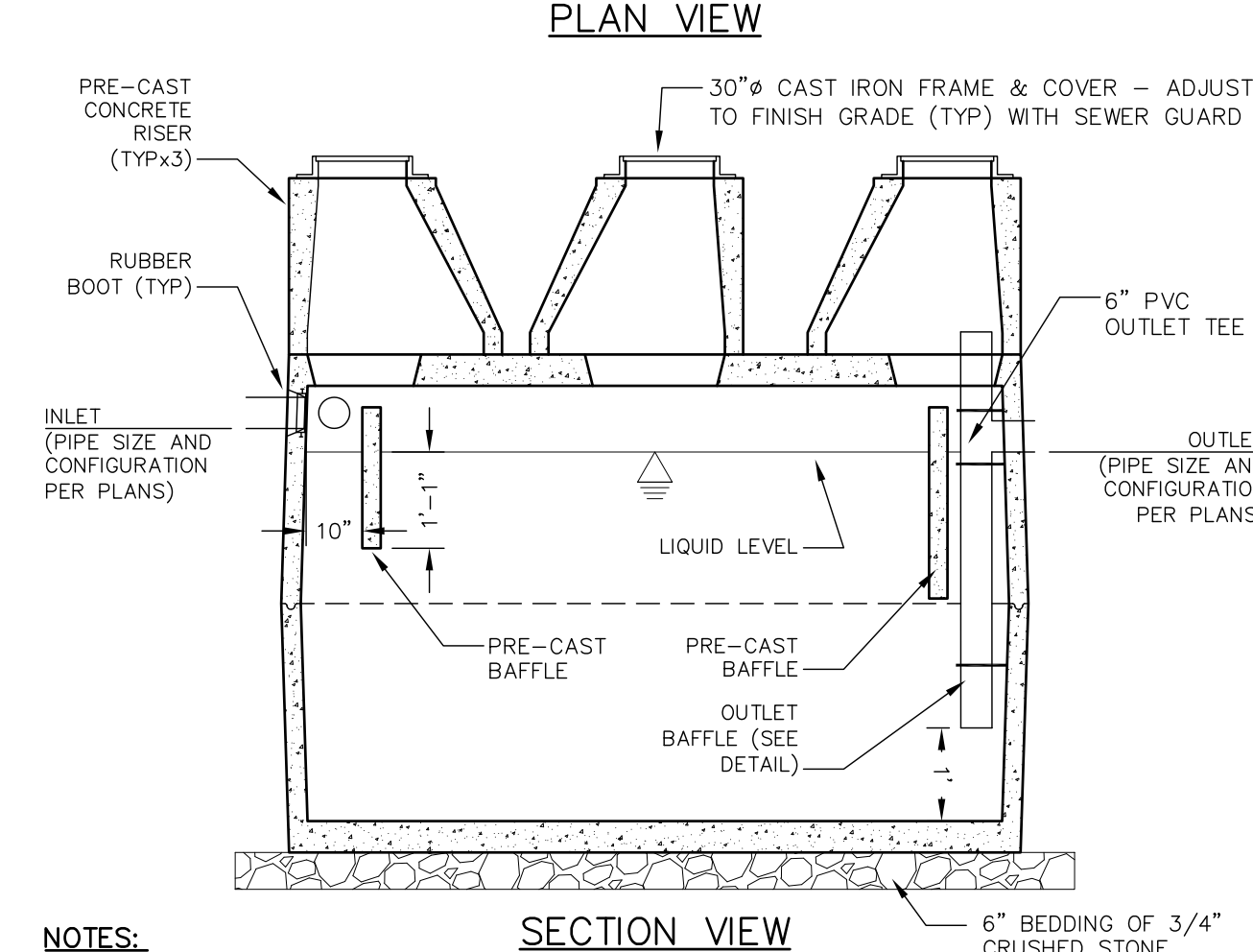
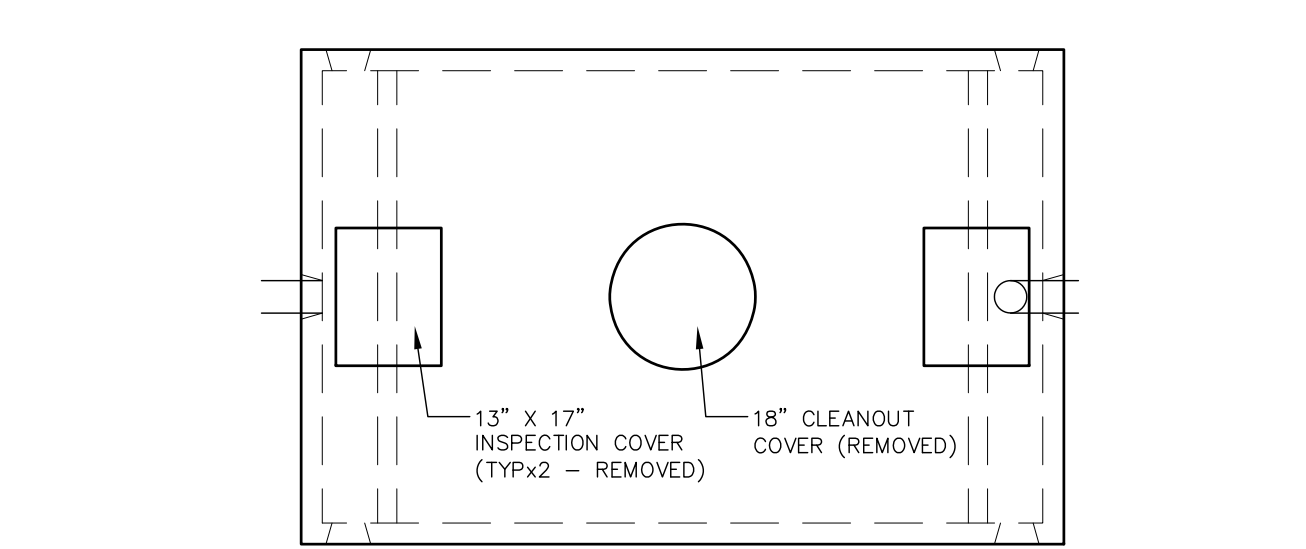
PAINTED HANDICAP SYMBOL NOT TO SCALE



TYPICAL PAVEMENT SAWCUT NOT TO SCALE

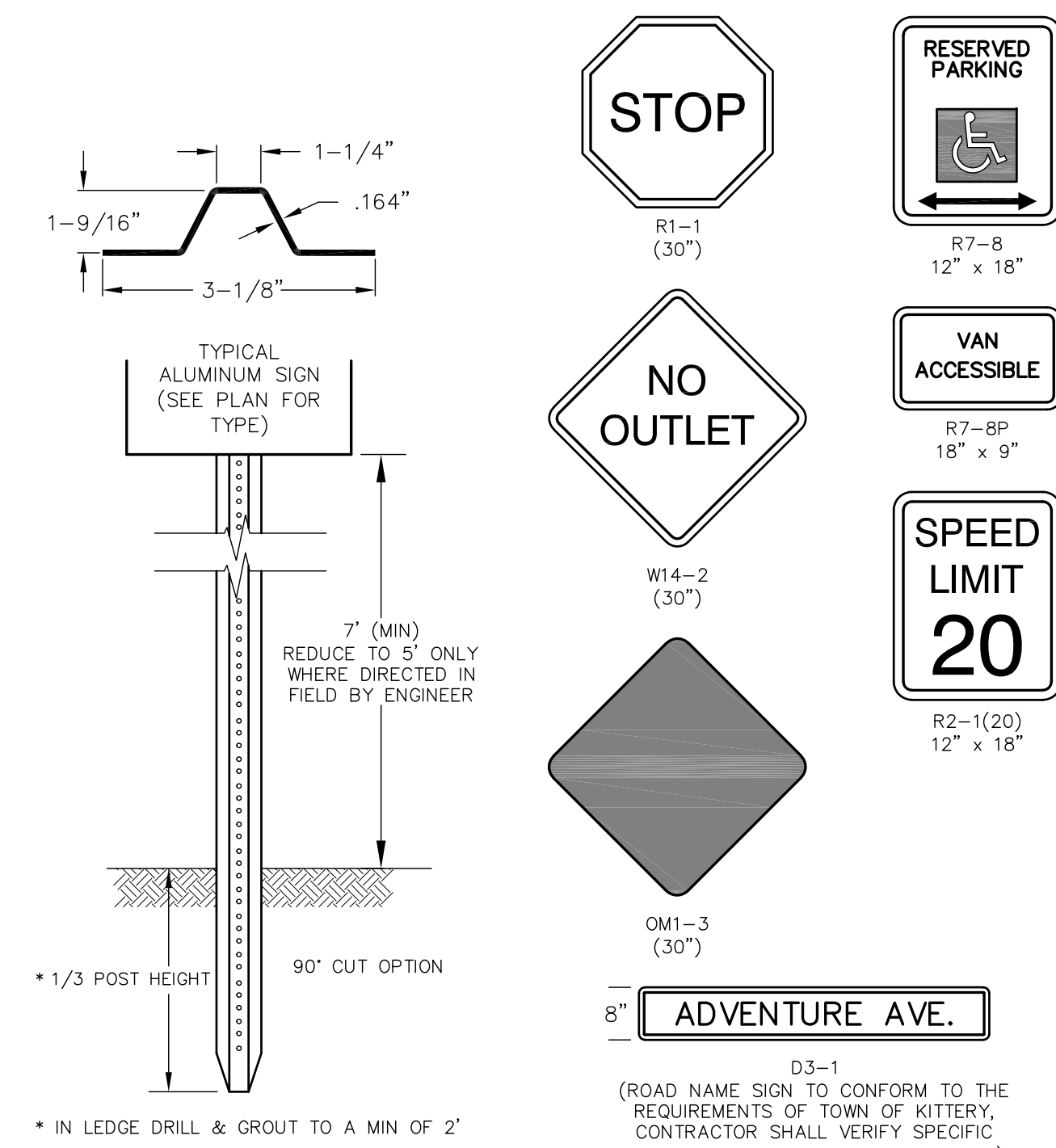


BOLLARD NOT TO SCALE



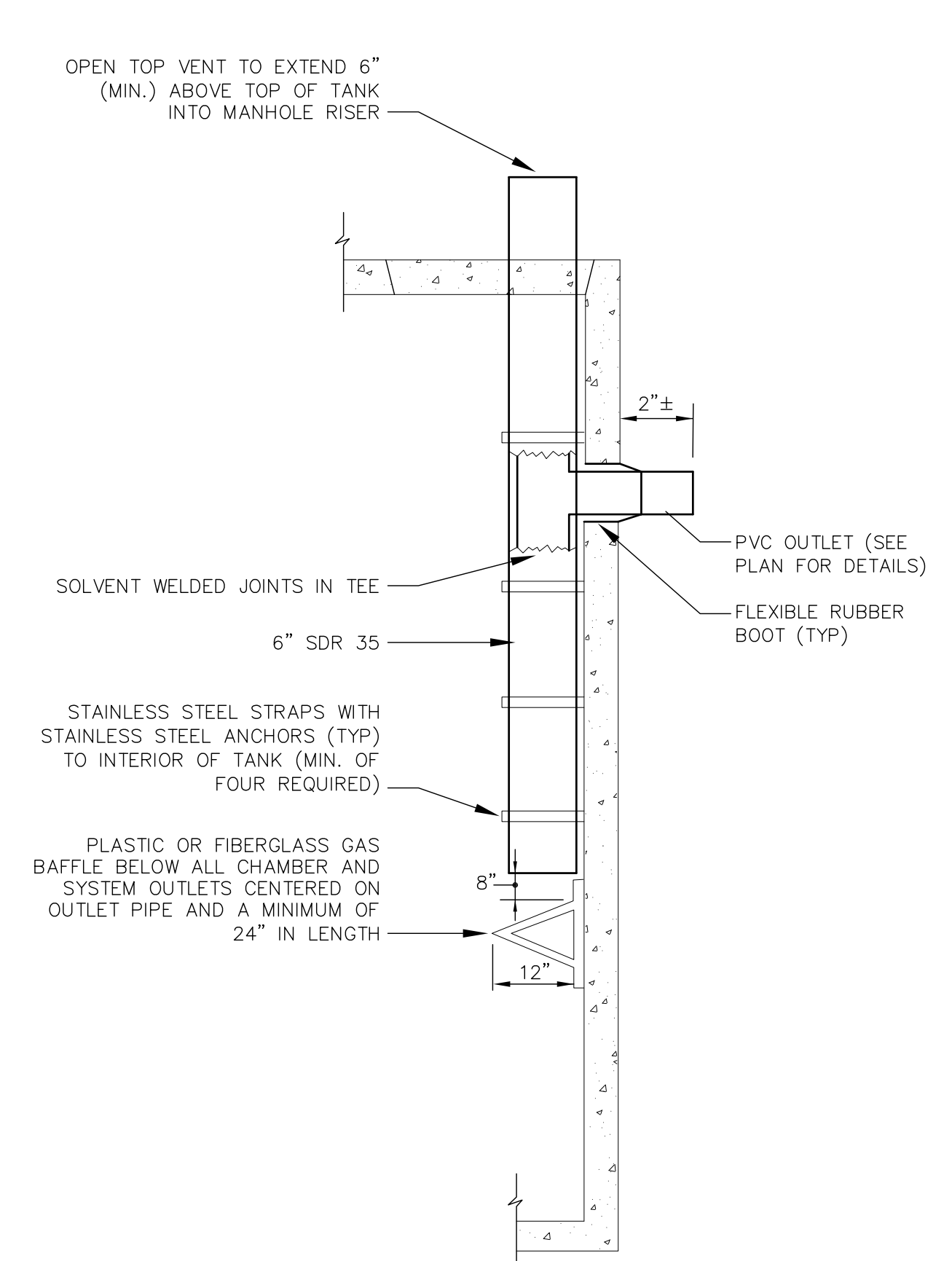
- NOTES:**
1. TANK SHALL BE 4,000 PSI (MIN.) STEEL REINFORCED CONCRETE.
 2. KEYPED TANK JOINTS SHALL BE SEALED WITH BUTYL RUBBER.
 3. TANK SHALL BE MANUFACTURED BY SHEA CONCRETE PRODUCTS OR APPROVED EQUAL. TANK DIMENSIONS MAY VARY DEPENDING ON THE MANUFACTURER.
 4. INLET AND OUTLET PIPE SIZES AND CONFIGURATION SHALL BE CONSTRUCTED PER THE PLANS.

1,500 GALLON GREASE TRAP NOT TO SCALE



- NOTES**
1. ALL SIGNS SHALL MEET THE REQUIREMENTS OF AND BE INSTALLED AS INDICATED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

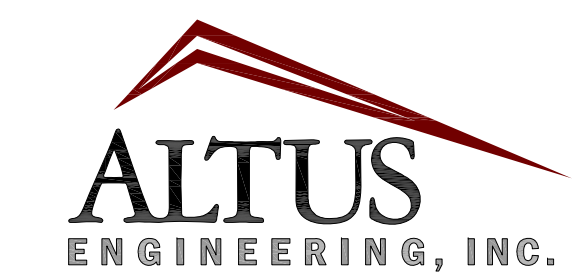
SIGN DETAILS NOT TO SCALE



GREASE TRAP OUTLET Baffle DETAIL NOT TO SCALE

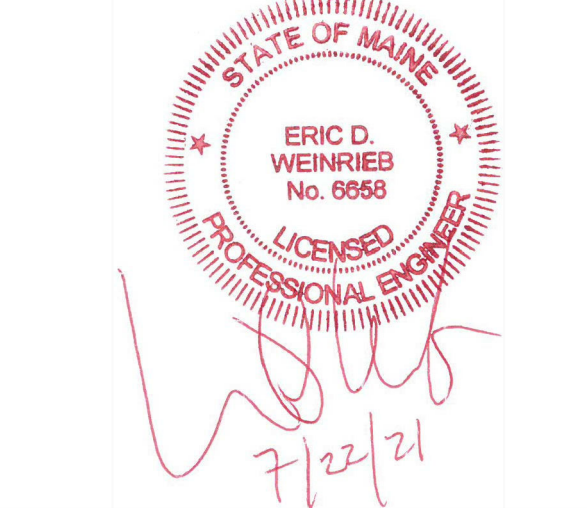
LEGEND

---	PROPERTY LINE
- . - . - .	RIGHT OF WAY
- - - - -	EASEMENT
- - - - -	BUILDING SETBACK
- - - - -	WETLAND SETBACK
- - - - -	250' VERNAL POOL SETBACK
- - - - -	250' SHORELAND PROTECTION OVERLAY ZONE
o o o o o	STONEWALL
- - - - -	WETLAND BOUNDARY
- - - - -	HISS SOIL BOUNDARY
- - - - -	HISS SOIL DESIGNATION
TP #11	TESTPIT OR BORING LOCATION
VGC SGC	EXISTING/PROPOSED GRAVEL
VGC SGC	EXISTING PAVEMENT/CURB
SWL SYL DYL	PROPOSED PAVEMENT/VERTICAL OR SLOPED GRANITE CURB
---	SINGLE WHITE LINE/SINGLE YELLOW LINE/DOUBLE YELLOW LINE
---	EXISTING/PROPOSED GUARDRAIL
---	EXISTING/PROPOSED STOCKADE FENCE
---	EXISTING/PROPOSED CHAINLINK FENCE
---	EXISTING CONTOUR
---	PROPOSED CONTOUR/INTERMEDIATE CONTOUR
x100.00 x104.00/100.00B	PROPOSED SPOT GRADE/TOP & BOTTOM OF WALL OR CURB
---	PROPOSED RETAINING WALL
W	EXISTING WATER/CURB STOP/VALVE/HYDRANT
S	EXISTING SEWER/MANHOLE
G	EXISTING GAS/VALVE
OHW	EXIST. OVERHEAD/UNDERGROUND UTILITIES/POLE
D	EXISTING DRAINAGE/CB/DMH
W	PROPOSED THRUST BLOCK/CURB STOP/VALVE/HYDRANT
PW	PROPOSED DOMESTIC/FIRE WATER SERVICE LINE
S	PROPOSED SEWER/MANHOLE/CLEANOUT
FM	PROPOSED SEWER FORCEMAIN/AIR RELIEF VALVE
G	PROPOSED GAS OR PROPANE
OHW	PROPOSED OVERHEAD UTILITIES/UTILITY POLE
UGE	PROPOSED UNDERGROUND ELECTRIC/PHONE/TV
---	PROPOSED DRAINAGE (HARD PIPE)/CB/DCB/DMH/FES
---	PROPOSED DRAINAGE (PERFORATED PIPE)/CLEANOUT
CPP FES HDWL	CORRUGATED PLASTIC PIPE/FLARED END SECTION/HEADWALL
4%	PROPOSED GROUND SLOPE/APPROX. GRADE/STONE CHECK DAM
X	SILTFENCE/SEDIMENT BARRIER/CONST. FENCE
---	STABILIZED CONSTRUCTION EXIT
---	PROPOSED LIMIT OF DISTURBANCE/TREE CLEARING
---	PROPOSED SAWCUT
---	EXISTING TREE/DRIP LINE
---	PROPOSED TREELINE
44 226	PARKING COUNT PER ROW/FOR TOTAL SITE
---	PROPOSED EROSION CONTROL BLANKET
---	PROPOSED RIPRAP
---	PROPOSED GRASSED UNDERDRAINED SOIL FILTER (GUSF)



133 Court Street
(603) 433-2335

Portsmouth, NH 03801
www.altus-eng.com



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REVISIONS

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PROJECT:

**GOOD TO-GO
SPECIALTY FOOD
FACILITY**

TAX MAP 67, LOT 1

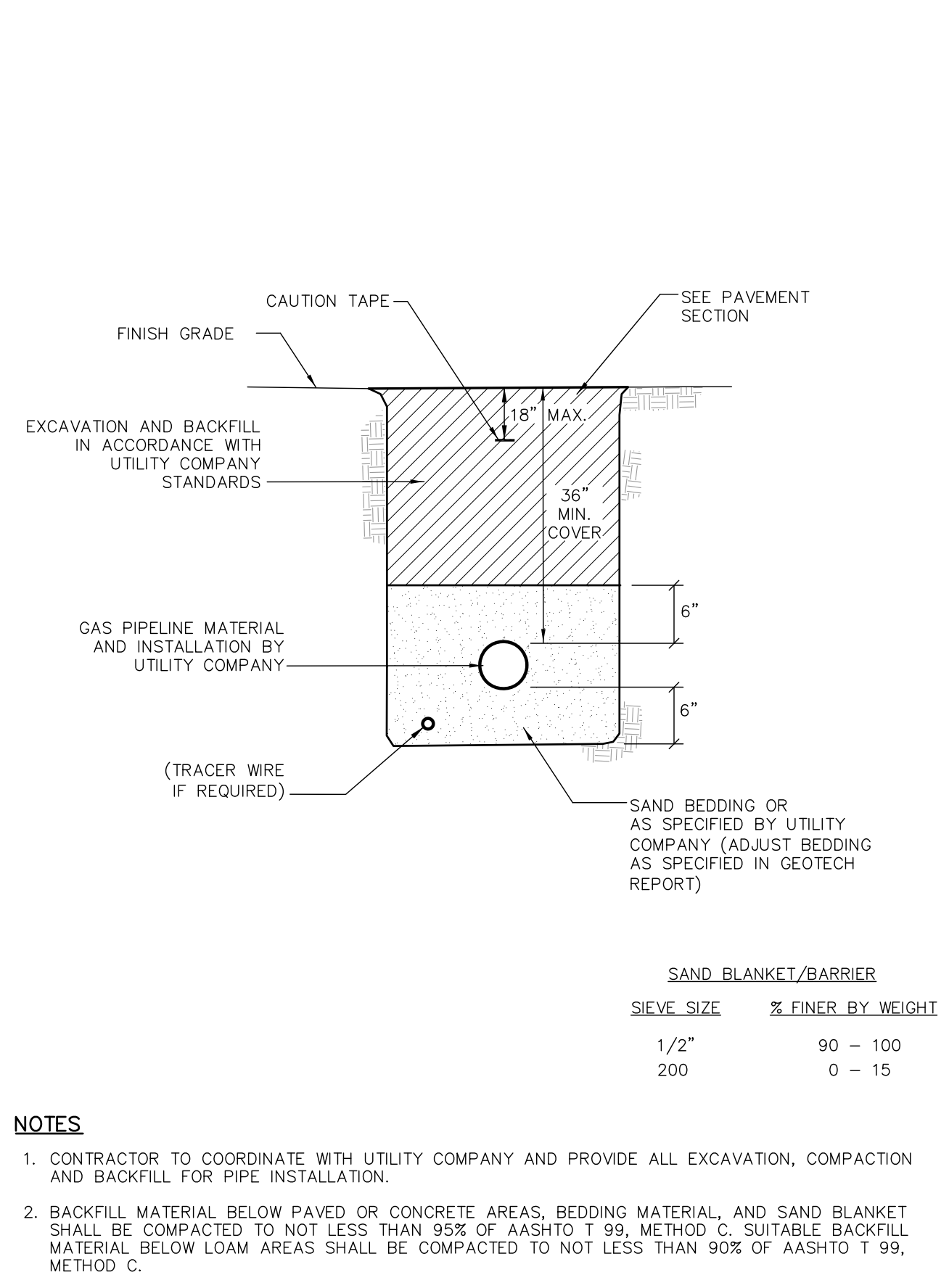
524 U.S. ROUTE 1
KITTERY, MAINE

TITLE:

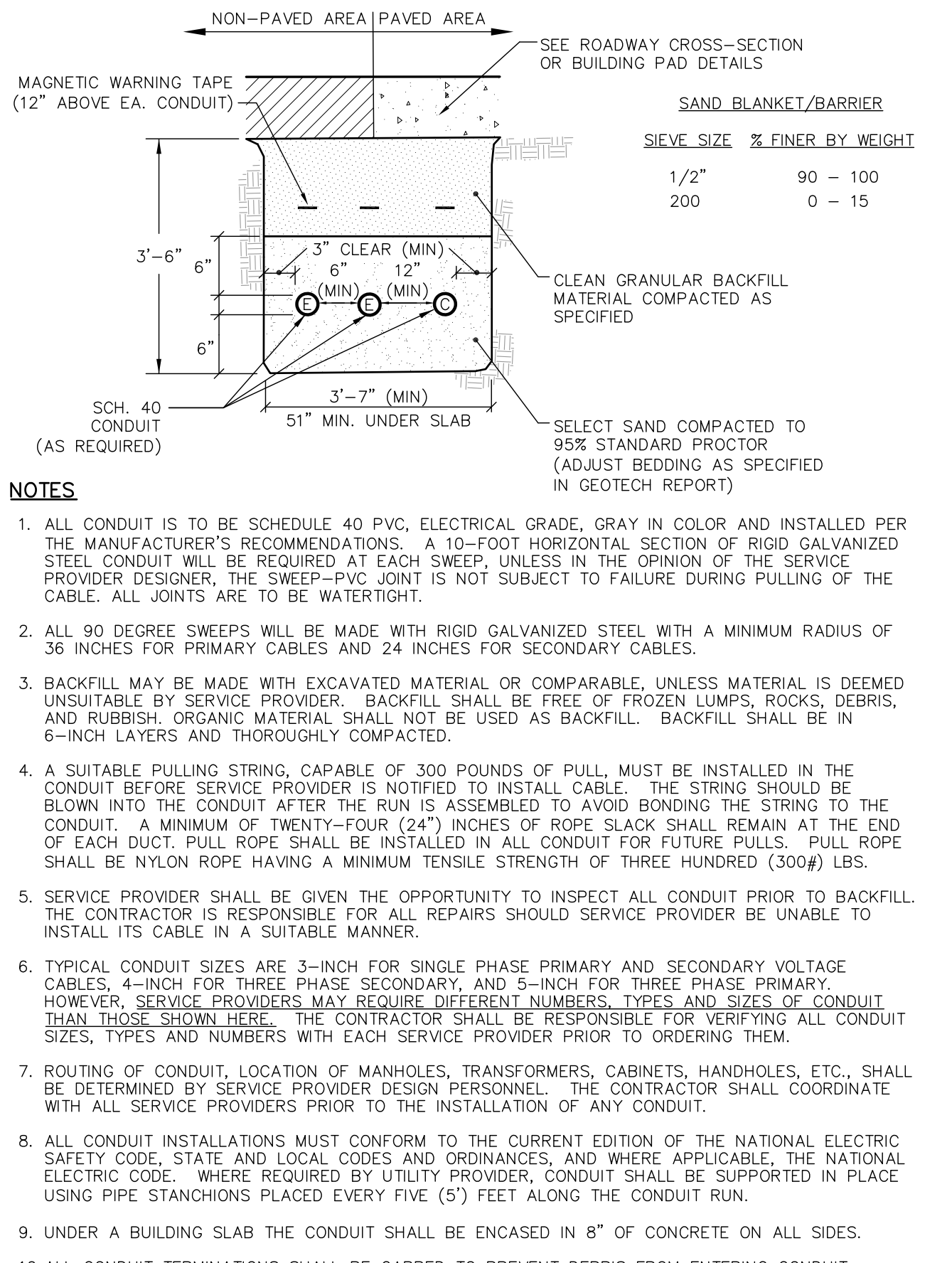
DETAILS

SHEET NUMBER:

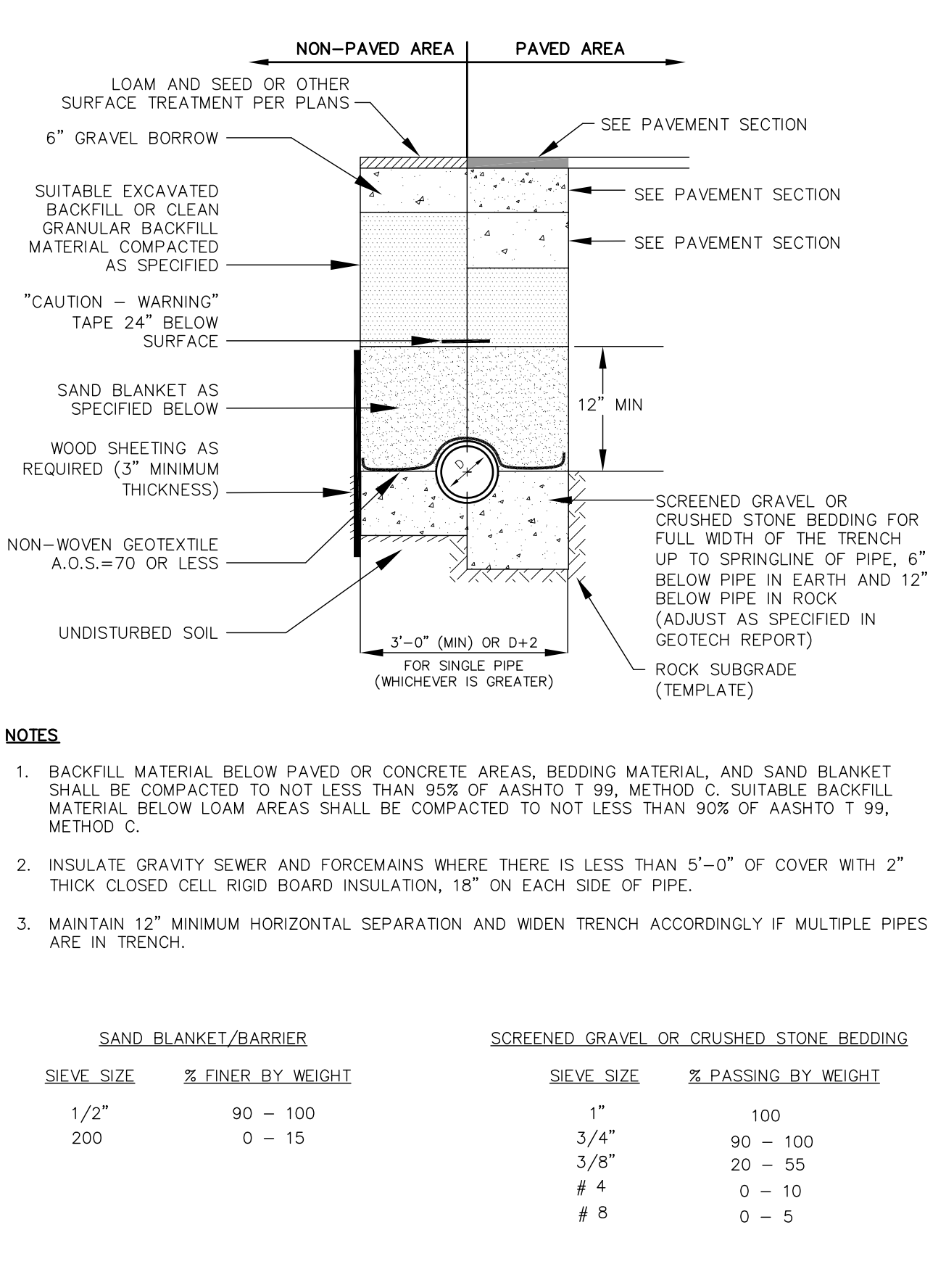
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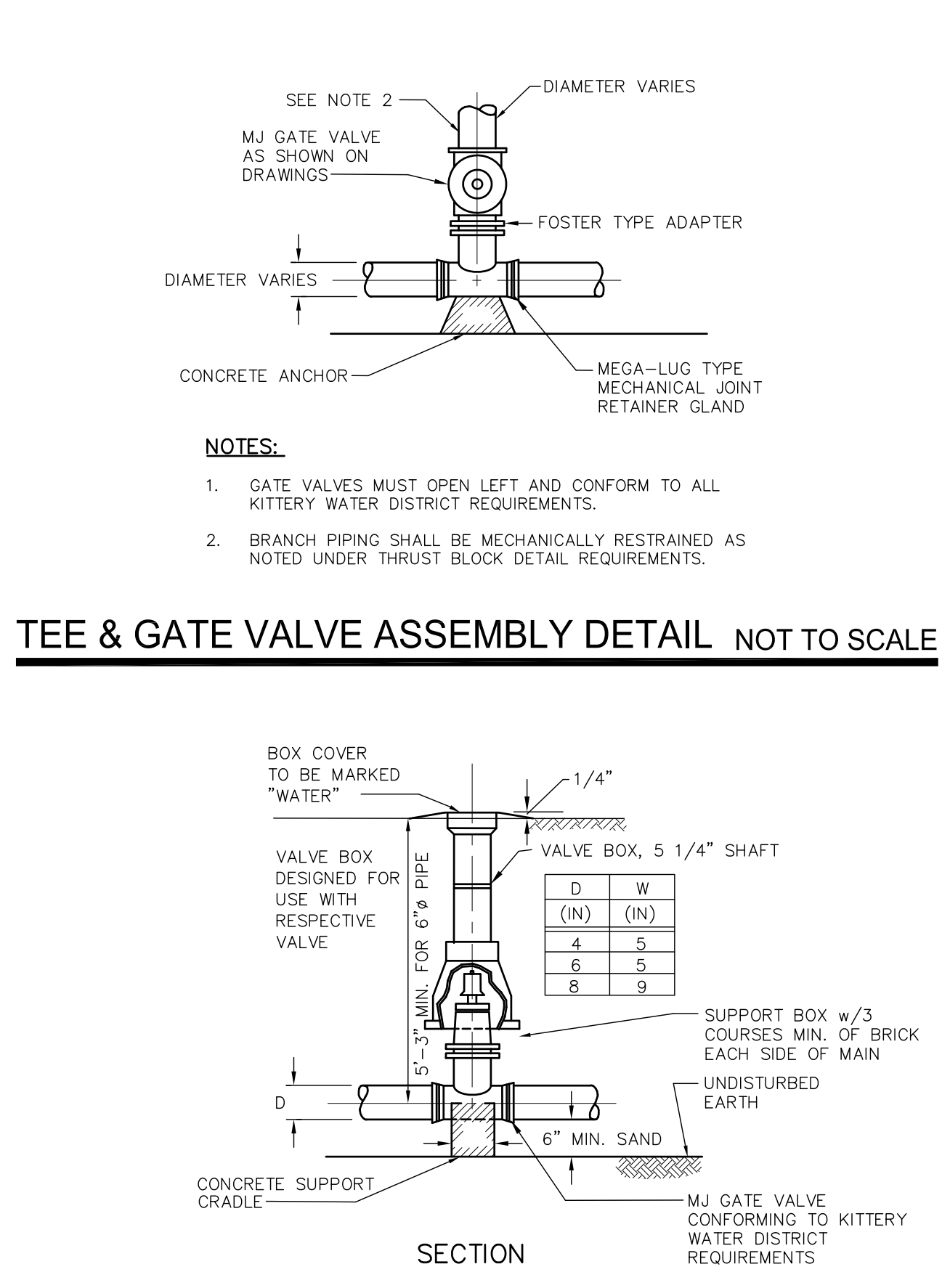
GAS TRENCH NOT TO SCALE



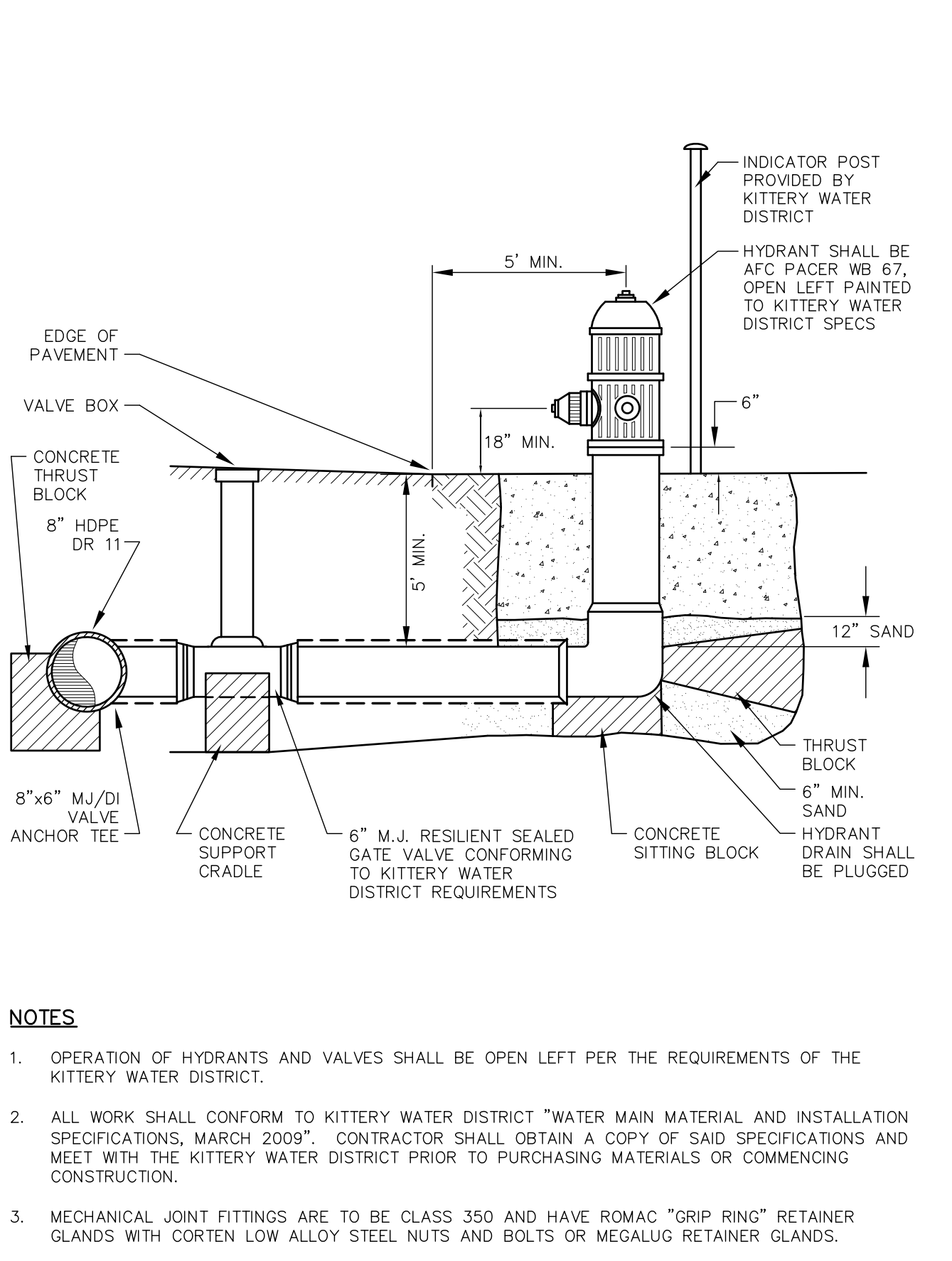
ELECTRIC / COMMUNICATION TRENCH NOT TO SCALE



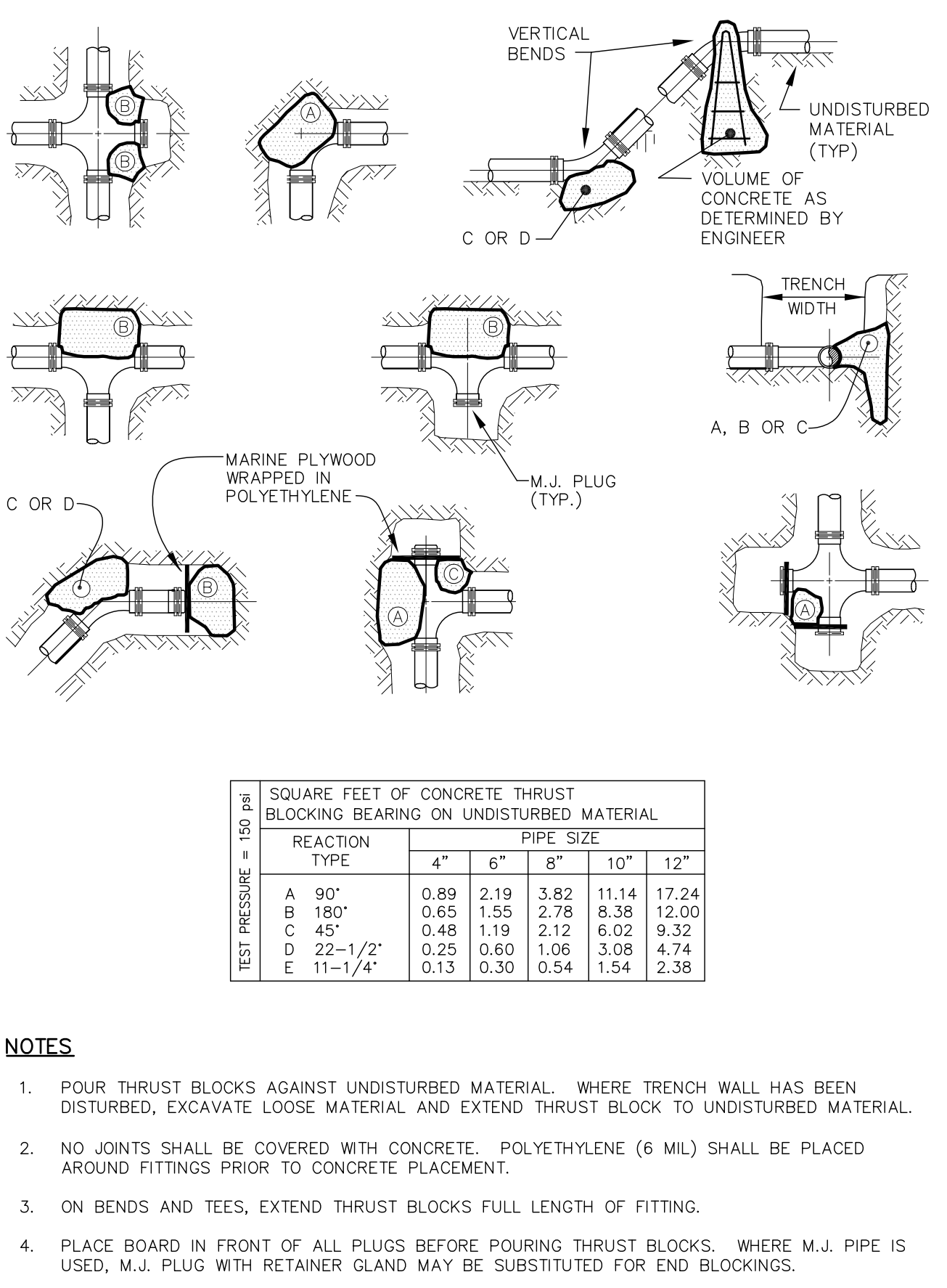
DRAINAGE AND SEWER TRENCH NOT TO SCALE



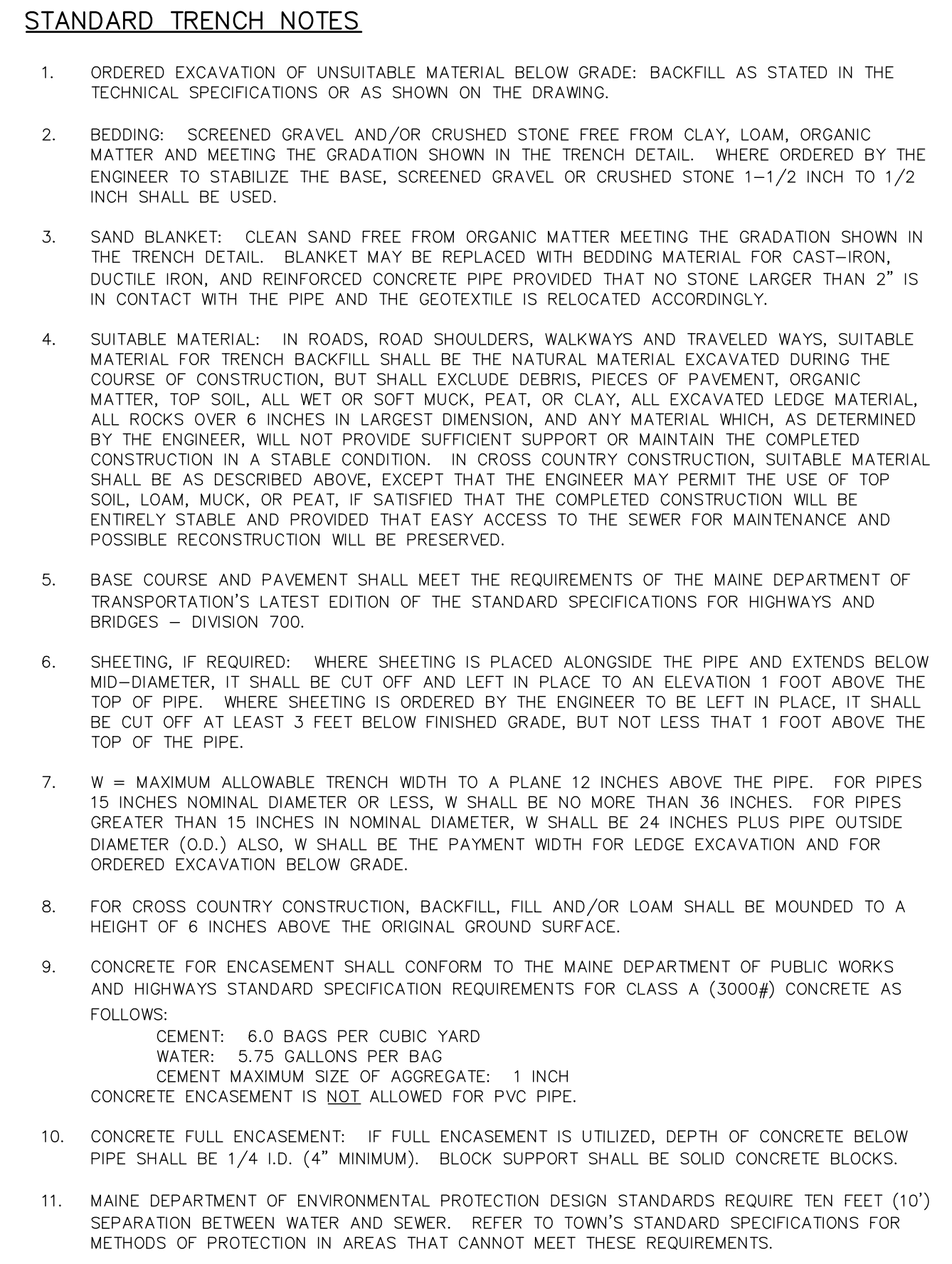
WATER VALVE DETAIL NOT TO SCALE



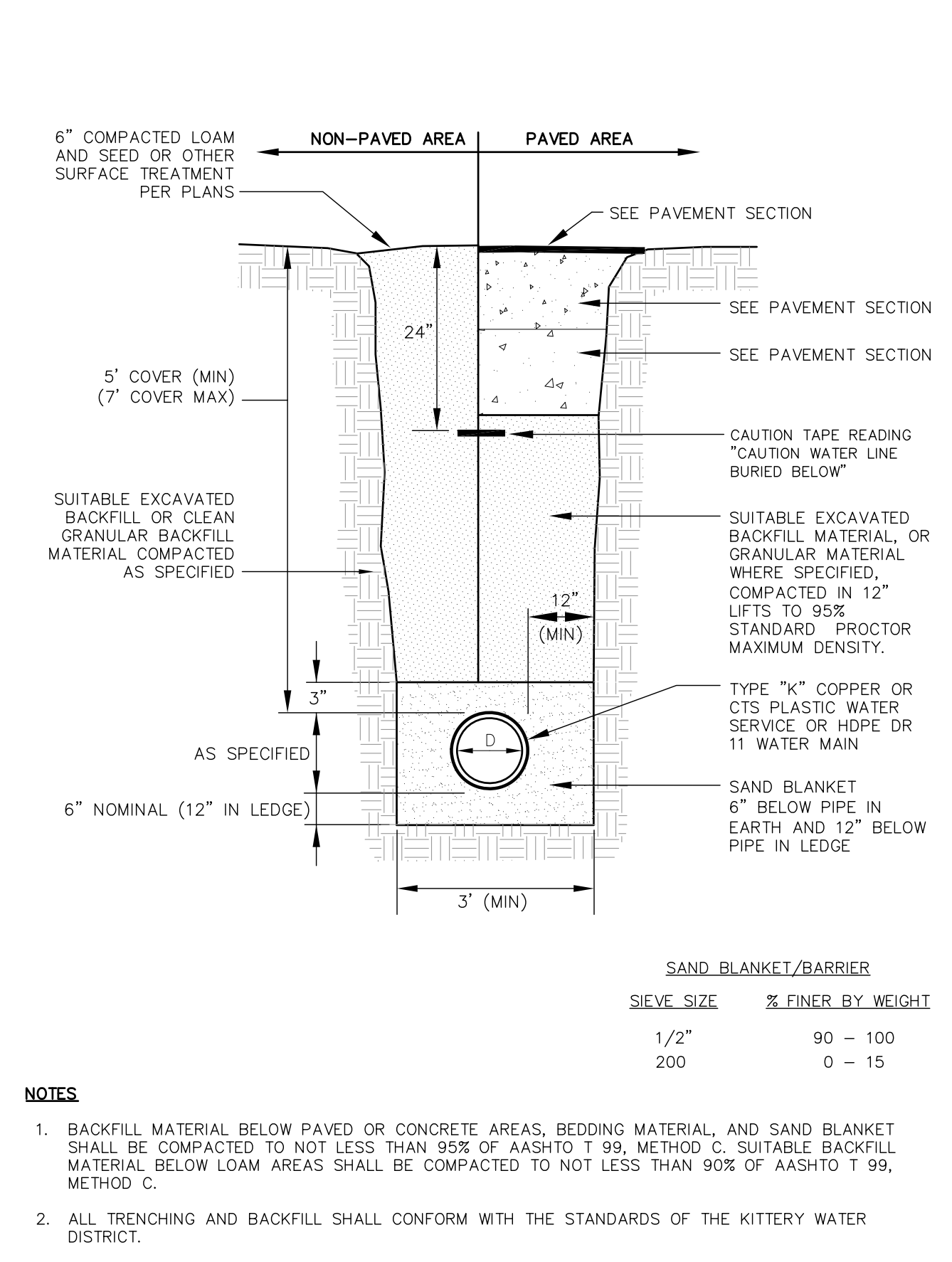
FIRE HYDRANT NOT TO SCALE



THRUST BLOCKING NOT TO SCALE



WATER MAIN TRENCH NOT TO SCALE



WATER MAIN TRENCH NOT TO SCALE

TEE & GATE VALVE ASSEMBLY DETAIL NOT TO SCALE

STANDARD TRENCH NOTES

- ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE: BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN ON THE DRAWING.
- BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING THE GRADATION SHOWN IN THE TRENCH DETAIL. WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1-1/2 INCH TO 1/2 INCH SHALL BE USED.
- SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER MEETING THE GRADATION SHOWN IN THE TRENCH DETAIL. BLANKET MAY BE REPLACED WITH BEDDING MATERIAL FOR CAST-IRON, DUCTILE IRON, AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE AND THE GEOTEXTILE IS RELOCATED ACCORDINGLY.
- SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT, OR CLAY, ALL EXCAVATED LEDGE MATERIAL, ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION, AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. IN CROSS COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK, OR PEAT, IF SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE AND POSSIBLE RECONSTRUCTION WILL BE PRESERVED.
- BASE COURSE AND PAVEMENT SHALL MEET THE REQUIREMENTS OF THE MAINE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES - DIVISION 700.
- SHEETING, IF REQUIRED: WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION 1 FOOT ABOVE THE TOP OF PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.
- W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.) ALSO, W SHALL BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
- FOR CROSS COUNTRY CONSTRUCTION, BACKFILL, FILL AND/OR LOAM SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE MAINE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATION REQUIREMENTS FOR CLASS A (3000#) CONCRETE AS FOLLOWS:
CEMENT: 6.0 BAGS PER CUBIC YARD
WATER: 5.75 GALLONS PER BAG
CEMENT MAXIMUM SIZE OF AGGREGATE: 1 INCH
CONCRETE ENCASEMENT IS NOT ALLOWED FOR PVC PIPE.
- CONCRETE FULL ENCASEMENT: IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MINIMUM). BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.
- MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION DESIGN STANDARDS REQUIRE TEN FEET (10') SEPARATION BETWEEN WATER AND SEWER. REFER TO TOWN'S STANDARD SPECIFICATIONS FOR METHODS OF PROTECTION IN AREAS THAT CANNOT MEET THESE REQUIREMENTS.

ALTUS ENGINEERING, INC.
133 Court Street (603) 433-2335
Portsmouth, NH 03801 www.altus-eng.com

ERIC D. WEINRIEB
No. 6858
LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

ISSUED FOR: **PLANNING BOARD**

ISSUE DATE: **JULY 22, 2021**

REVISIONS:
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DRAWN BY: EBS
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DRAWING FILE: 5116-SITE.dwg

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OWNER: **C-COAST PROPERTIES, LLC**
8 BANKS ROCK
YORK HARBOR, MAINE 03911

APPLICANT: **GOOD TO-GO c/o CAPE HOUSE MANAGEMENT, LLC**
484 US ROUTE 1
KITTERY, MAINE 03904

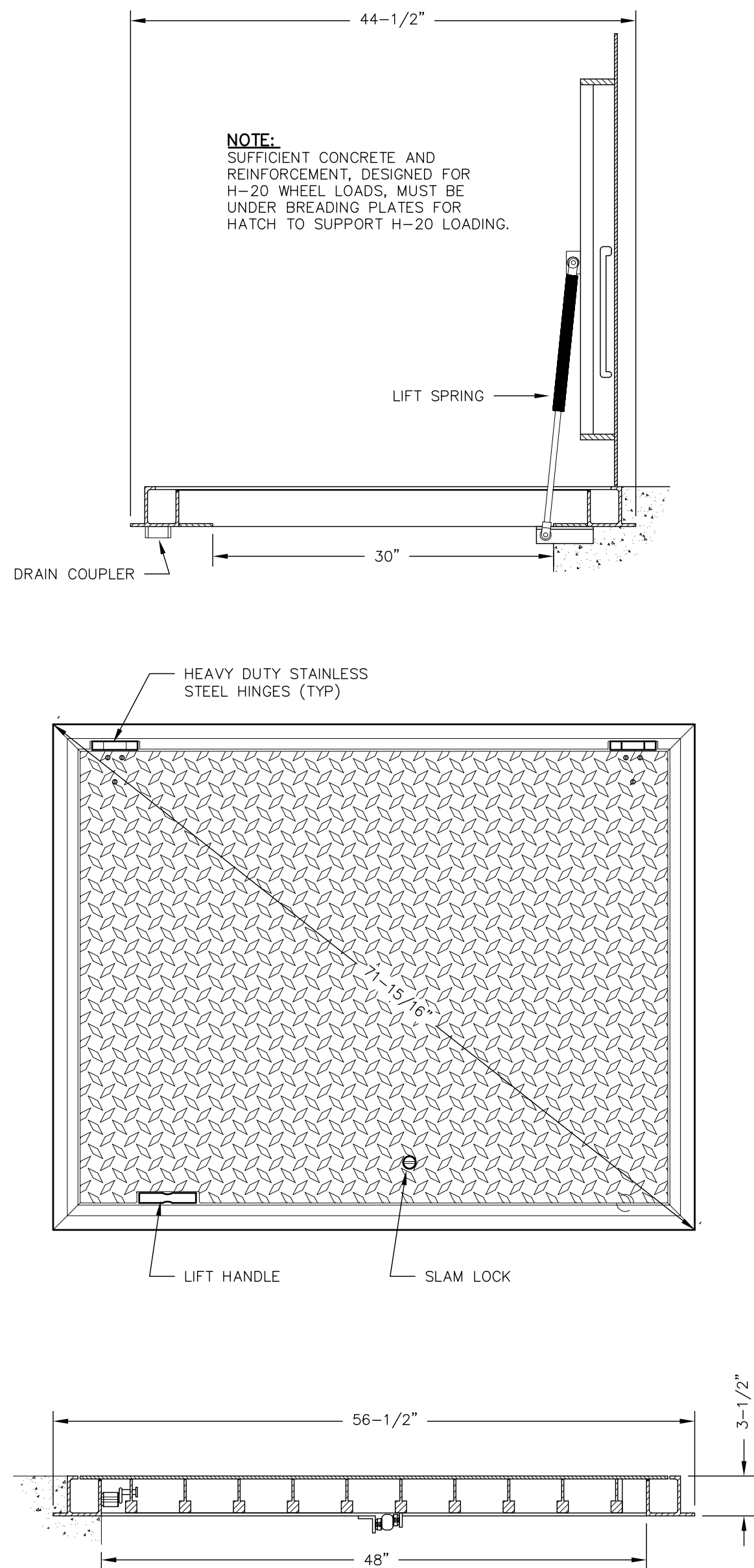
PROJECT: **GOOD TO-GO SPECIALTY FOOD FACILITY**
TAX MAP 67, LOT 1
524 U.S. ROUTE 1
KITTERY, MAINE

TITLE: **DETAILS**

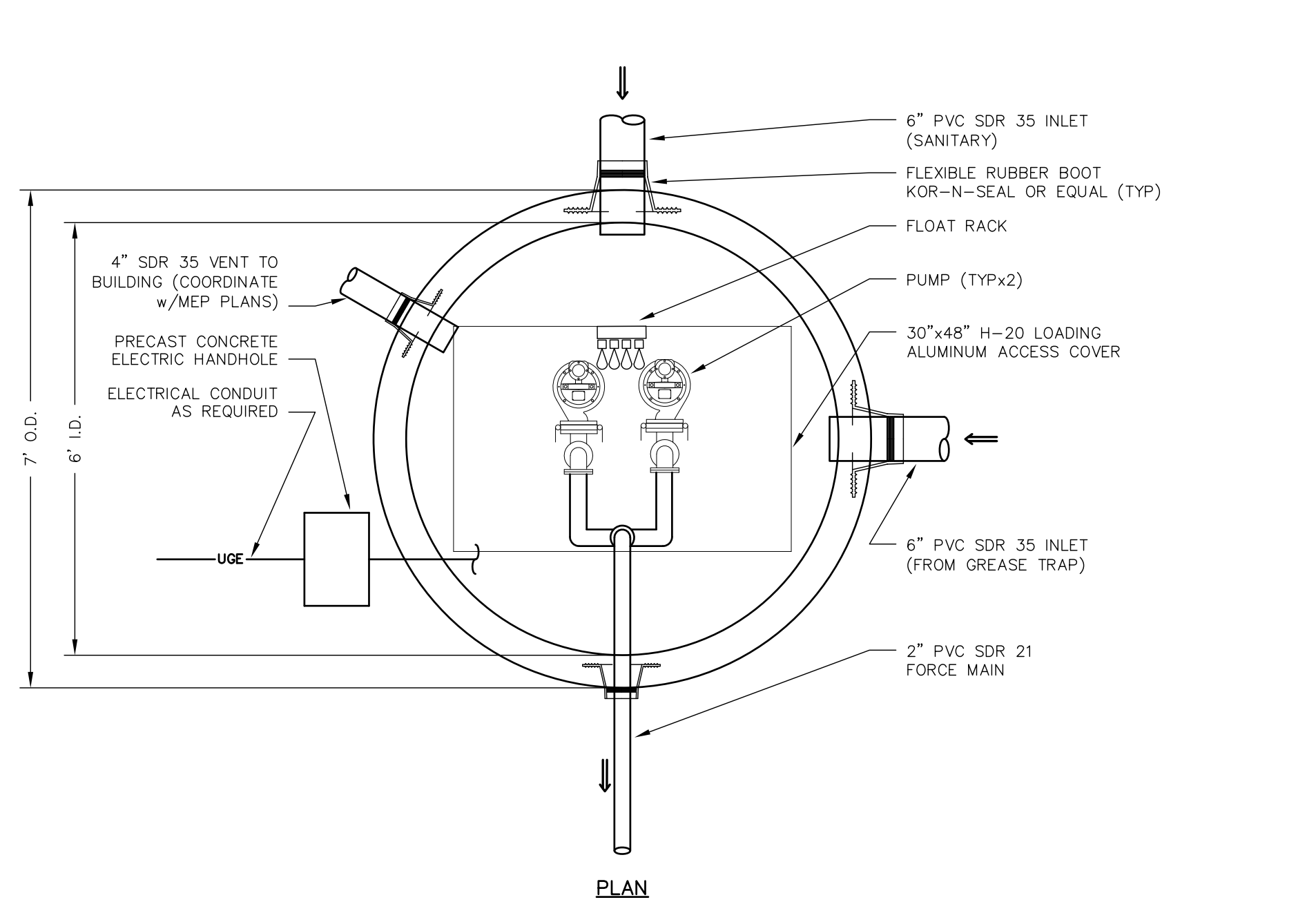
SHEET NUMBER: **D-8**

NOTES

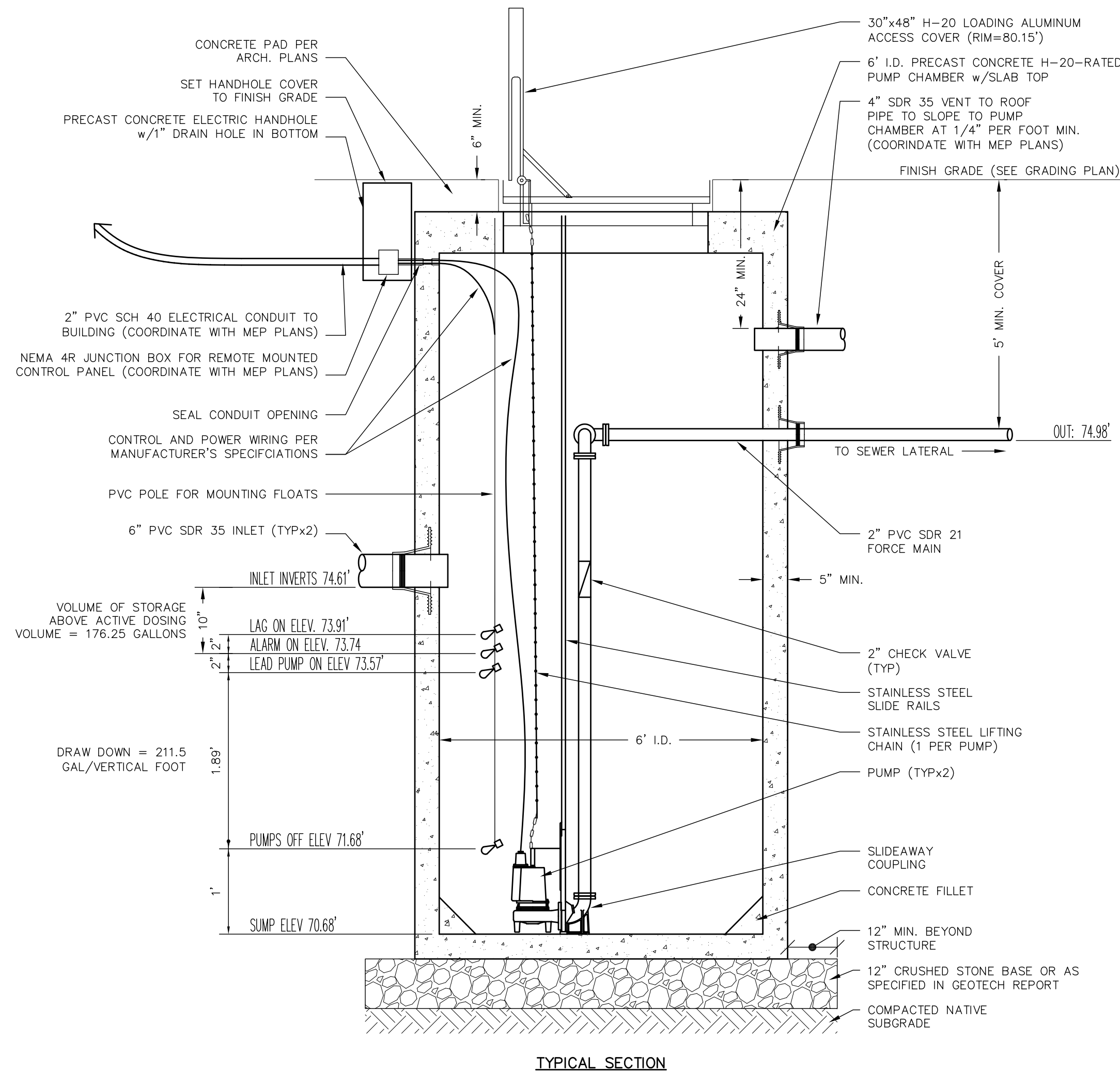
1. STYLE "DT-HD" ACCESS HATCH, AS MANUFACTURED BY SYRACUSE CASTINGS, CICERO, NEW YORK (315-699-2601) OR APPROVED EQUAL.
2. MATERIAL SHALL BE 6061-T6 ALUMINUM FOR BARS, ANGLES, AND EXTRUSIONS. 1/4" DIAMOND PLATE SHALL BE 5086 ALUMINUM.
3. UNIT DESIGNED HEAVY DUTY, FOR H-20 WHEEL LOADS, WHERE NOT SUBJECT TO HIGH DENSITY TRAFFIC. FRAME AND BEARING PLATE MUST BE CAST INTO AND SUPPORTED BY CONCRETE DESIGNED FOR H-20 WHEEL LOADS.
4. UNIT SUPPLIED WITH A HEAVY DUTY PNEU-SPRING, FOR EASE OF OPERATION WHEN OPENING COVER. COVER SHALL BE COUNTERBALANCED, SO ONE PERSON CAN EASILY OPEN THE HATCH DOOR.
5. FRAME SHALL BE OF EXTRUDED ALUMINUM WITH A CONTINUOUS 1-1/4" ANCHOR FLANGE. A DOVETAIL GROOVE SHALL BE EXTRUDED INTO THE SEAT OF THE FRAME FOR A 1/8" SILICONE GASKET.
6. EACH HATCH SHALL BE EQUIPPED WITH A STAINLESS STEEL HOLD OPEN ARM. DOOR SHALL LOCK OPEN IN THE 90 DEGREE POSITION. HOLD OPEN ARM SHALL BE FASTENED TO THE FRAME WITH A 1/2" GRADE 316 STAINLESS STEEL BOLT.
7. HINGES SHALL BE OF HEAVY DUTY DESIGN. MATERIAL SHALL BE GRADE 316 STAINLESS STEEL. EACH HINGE SHALL HAVE A GRADE 316 STAINLESS STEEL, 3/8" DIAMETER HINGE PIN. HINGE SHALL BE FASTENED TO THE CHANNEL FRAME AND DIAMOND PLATE WITH GRADE 316 STAINLESS STEEL BOLTS AND NY-LOCK NUTS.
8. ALUMINUM SHALL BE SUPPLIED WITH MILL FINISH. EXTERIOR OF FRAME WHICH COMES IN CONTACT WITH CONCRETE SHALL HAVE ONE COAT BLACK PRIMER.
9. EACH HATCH SHALL BE SUPPLIED WITH A STAINLESS STEEL SLAM LOCK, WITH THE KEY WAY PROTECTED BY A THREADED ALUMINUM PLUG. THE PLUG SHALL BE FLUSH WITH THE TOP OF THE 1/4" DIAMOND PLATE. THE SLAM LOCK SHALL BE FASTENED WITH GRADE 316 STAINLESS STEEL BOLTS AND WASHERS.
10. EACH HATCH SHALL BE EQUIPPED WITH A STAINLESS STEEL LIFT HANDLE. LIFT HANDLE SHALL BE FLUSH WITH TOP OF 1/4" DIAMOND PLATE.
11. EACH "DT-HD" STYLE HATCH IS SUPPLIED WITH A 1-1/2" THREADED DRAIN COUPLER ON THE UNDERSIDE OF CHANNEL FRAME, FOR PIPE CONNECTION.



SINGLE LEAF H-20 ALUMINUM HATCH NOT TO SCALE

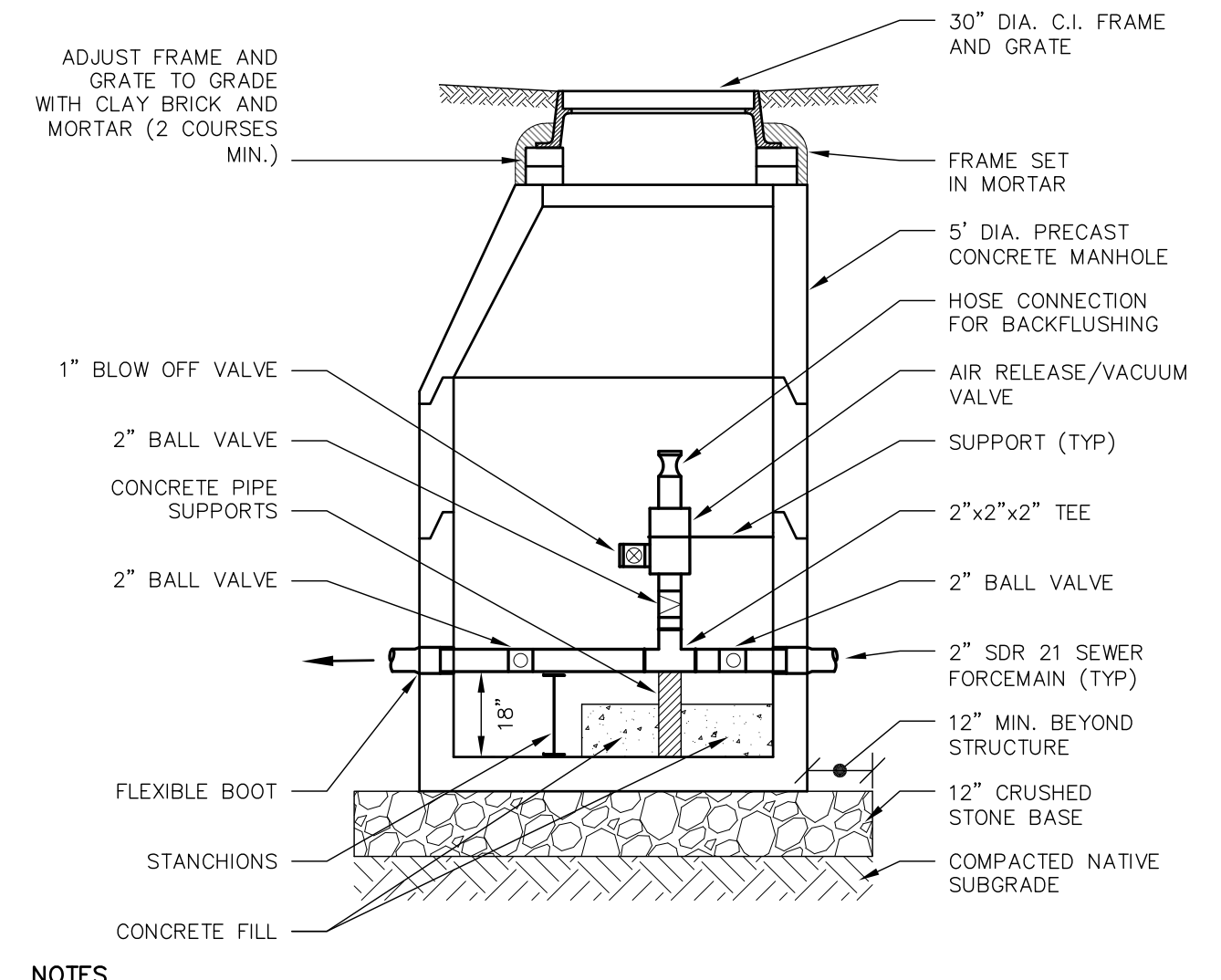


PLAN



TYPICAL SECTION

DUPLEX PUMP STATION



NOTES

1. CONTRACTOR SHALL SUPPORT PIPING PER MANUFACTURER'S REQUIREMENTS.
2. ALL MANHOLE STRUCTURES, FRAMES AND GRATES SHALL BE DESIGNED FOR H20 LOADING.
3. MANHOLE STEPS ARE NOT PERMITTED.

SEWER AIR RELEASE MANHOLE NOT TO SCALE

SEWER FLOW CALCULATIONS

SPECIALTY FOOD FACILITY:
 AVERAGE DAILY FLOW CALCULATED FROM THE AVERAGE METERED WATER USE OVER A SIX MONTH PERIOD AT THE EXISTING 5,500 S.F. GOOD TO-GO FACILITY AT 484 U.S. ROUTE 1, KITTERY, MAINE:
 $13,978 \text{ CF} / 154 \text{ DAYS} = 90.77 \text{ CF/DAY}$ (SUNDAYS EXCLUDED)
 $90.77 \text{ CF/DAY} \times 7.48 \text{ GAL/CF} = 679 \text{ GPD}$
 $679 \text{ GPD} / 5,500 \text{ SF} = 0.12 \text{ GPD/SF}$
 $0.12 \text{ GPD/SF} \times 20,000 \text{ SF} = 2,400 \text{ GPD DESIGN FLOW}$

PUMP STATION SPECIFICATIONS

PUMP STATION:
 Furnish and install pump station as shown on the plans. Station shall include, but not be limited to, a concrete pump chamber, pumps, slide rail assemblies, duplex controller, access covers discharge piping, fittings, valves, junction box, level sensors, alarms, electric service and level controls. All wiring shall be in compliance with local codes.

PUMP CHAMBER:
 Pump chamber shall be an 6-foot inside diameter precast concrete pump chamber to the depth shown on the Drawings. Chamber shall be rated for H-20 loading.

ACCESS COVER:
 The access covers shall be rigidly constructed to provide an H-20 rating with a 2'-6" X 4'-0" clear opening, manufactured by Syracuse Castings or approved equal. Cover shall be sealed with neoprene seal at openings and have hinges constructed of 316 stainless steel.

PUMPS:
 Pumps shall be supplied to operate at the following range of flow vs. TDH: Flow of 40 gpm with a total dynamic head of 34.2'. Provide pump motors with adequate horsepower to deliver flows at the TDH required to reach the receiving point, taking into account the manufacturer's rated efficiency. Motors shall be 200-240 volt, 3-phase, 60 Hz, 3,450 rpm. Pumps shall be submersible non-clog sewage pumps with 2" discharges as specified by the manufacturer and approved by the Engineer. Impellers shall have a diameter of 6.75" (172mm). Pumps shall be Barnes 2SEV1092L (1 hp) or approved equal. Provide discharge piping assembly for installation and removal of pump without entering wetwell with stainless steel lift-out rail system.

CONTROLLER:
 Duplex control to perform equal alternation of both pumps. Control to consist of two circuit breakers with through-door operating handle, two magnetic starters with ambient compensated quick-trip overloads in each line, discharge piping by manufacturer, duplex unit, running lights, lightening arrestor, door-mounted resets, hour meters, and door-mounted hand-off-automatic selector switches for each pump. Enclosure to include continuous hinge, neoprene gasket in cover and continuous seam weld. Controller shall be Barnes Three Phase Duplex Alternating Versatrol Control Panel or approved equal. The controls shall be NEMA 4x weatherright construction and mounted on the adjacent building. All conduit and wiring between the station junction boxes and control panel shall be included.

SLIDE RAIL ASSEMBLY:
 The slide rail assembly, mounting hardware, and lifting chain shall be AISI Type 316 stainless steel. Slide rails to be provided with AISI Type 316 stainless guide supports. Discharge coupling to be machined cast iron and support the pump four (4) inches above the floor.

PIPING:
 The discharge pipe shall be two inch (2") diameter SDR 21 PVC pipe. All fittings shall be cemented or threaded. PVC ball check valves shall be provided with teflon seats. The working pressure of the check valves shall be 150 psi.

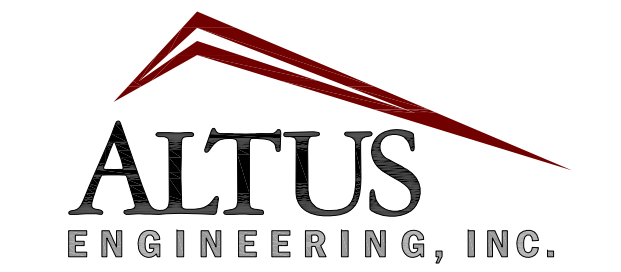
LEVEL CONTROL:
 Four (4) liquid level control sensors shall be provided to control operation of the pumps and provide a high water alarm. The level control sensors shall be mounted on a PVC pipe. The controls shall be set at elevations shown on the plans and for a dosage rate of 400 gallons.

ALARM:
 Alarm shall be exterior mounted audio and visual in a location as determined by the Owner. Contractor shall provide a sign for identification.

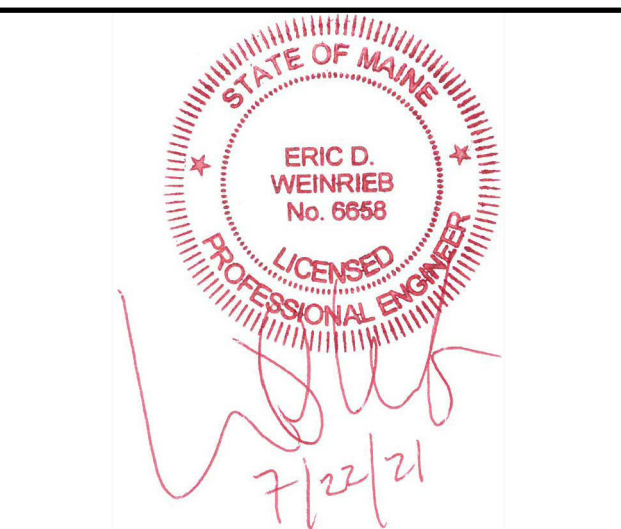
DOSAGE:
 Design flow 2,400 GPD / 6 doses per day = 400 gallons per dose
 $400 \text{ gal} / 40 \text{ gal/min} = 10 \text{ minute run time}$

OWNER'S MAINTENANCE NOTES

1. PUMP CHAMBER TO BE PUMPED ANNUALLY BY A LICENSED SANITARY DISPOSAL CONTRACTOR.



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524 U.S. ROUTE 1
KITTERY, MAINE

TITLE:

DETAILS

SHEET NUMBER:

D-9

NOT TO SCALE

P-5116

General Notes:



Sheridan
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FAIRFIELD
PORTLAND
MAINE

Drawing Status:

Engineering Designs For:

Good To Go
Kittery, Maine

Revision	DATE

Sheet Title:

Butler Building
Front Elevation

Scale:
As Noted

Drawn by:

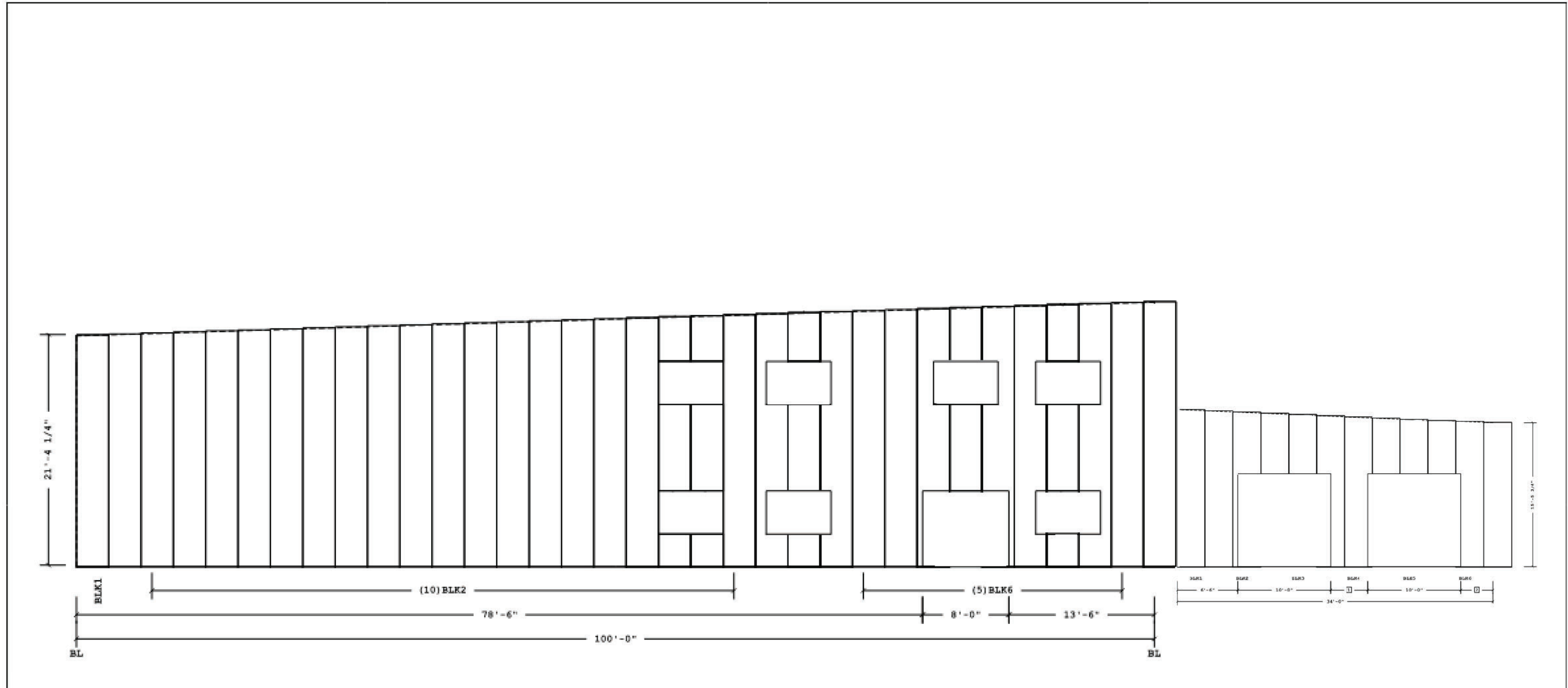
Checked by:

Project No:

Date:
07/12/2021

Sheet No:

SK-2



COVERING ELEVATION AT 1

Shape Name = Single Slope Phase 1, Wall = 1

1. PRE-DRILLING 1/8" DIAMETER HOLES FOR STRUCTURAL FASTENERS MAY BE REQUIRED FOR HEAVY GAGE NESTED ZEE'S AND/OR FASTENERS TO STRUCTURAL BEAMS
2. STEEL PANELS ARE AN INTEGRAL PART OF THE STRUCTURAL SYSTEM. REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED.
3. DUE TO MANUFACTURING LIMITATIONS SHORT PANELS MAY REQUIRE FIELD CUTTING. SEE THE COVERING SCHEDULE FOR CUT LENGTHS.
4. SEE JOB DETAILS FOR COVERING AND TRIM FASTENER SPECIFICATION.

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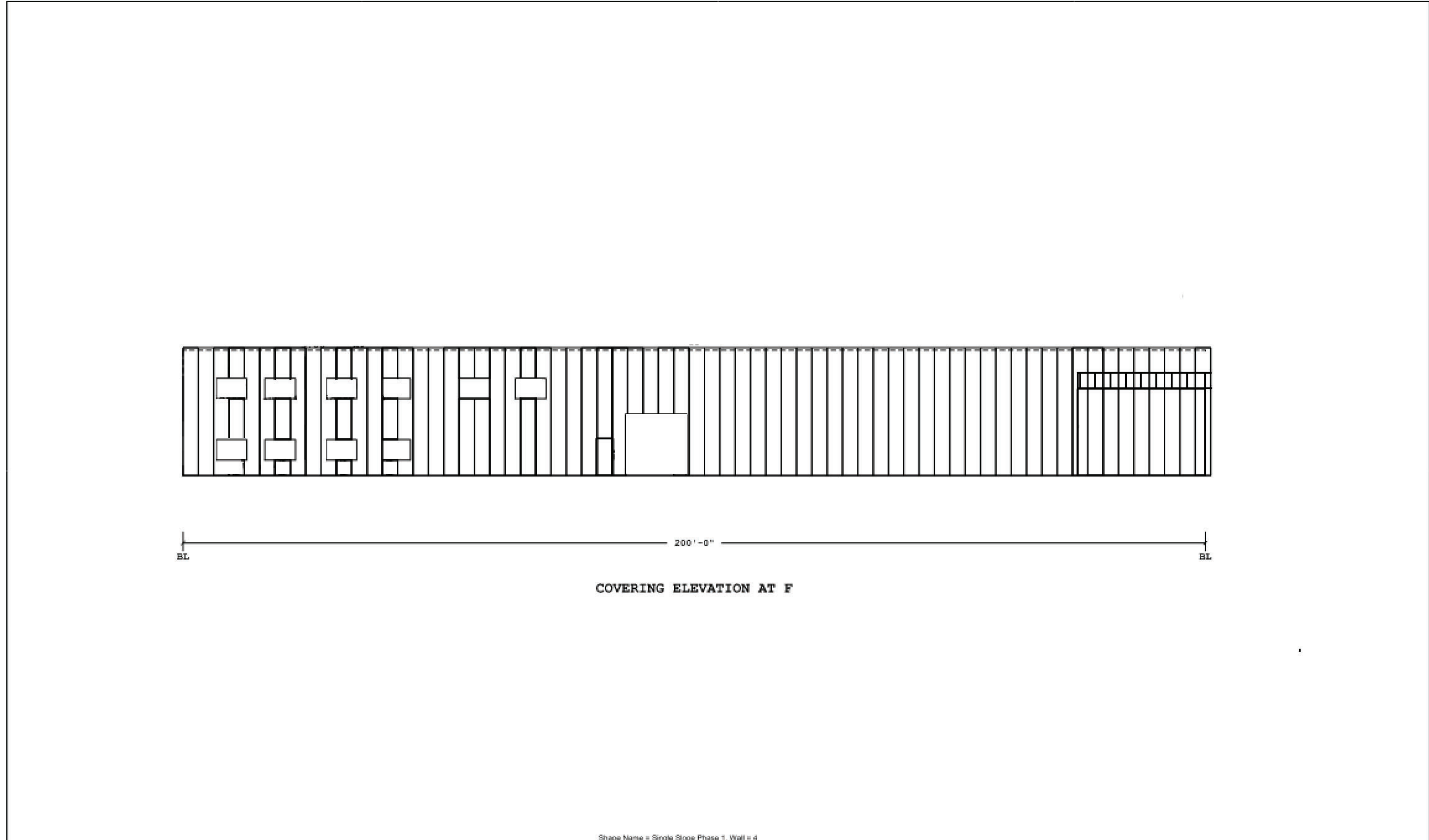
THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN ACCORDANCE WITH THIS DRAWING. DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE BUTLER MFG. ERECTION GUIDES, AND INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF TEMPORARY BRACING.

B	BUTLER MANUFACTURING 1540 GENESSEE ST. KANSAS CITY, MO 64102		Single Slope Phase 1-Covering at 1	
	REV.	DATE	BY	DESCRIPTION
DRAWING SCALE: NTS		BUILDER: The Sheridan Corporation		 Butler Manufacturing VDC VERSION: ADVNXT 4.0
PROJECT: Good To Go Prelim 042021		LOCATION: Kittery, Maine		
PROJECT NO: 042021		DATE: 7/15/2021		
PROJECT NO: 042021		DRAWN BY: /		

VDC VERSION: ADVNXT 4.0 PRELIMINARY DRAWING

10/2021 10/2021 PRELIMINARY DRAWING

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<p>1. PRE-DRILLING 1/8" DIAMETER HOLES FOR STRUCTURAL FASTENERS MAY BE REQUIRED FOR HEAVY GAGE NESTED ZEE'S AND/OR FASTENERS TO STRUCTURAL BEAMS</p> <p>2. STEEL PANELS ARE AN INTEGRAL PART OF THE STRUCTURAL SYSTEM. REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED.</p> <p>3. DUE TO MANUFACTURING LIMITATIONS SHORT PANELS MAY REQUIRE FIELD CUTTING. SEE THE COVERING SCHEDULE FOR CUT LENGTHS.</p> <p>4. SEE JOB DETAILS FOR COVERING AND TRIM FASTENER SPECIFICATION.</p>	<p>THE BUTLER MFG. ENGINEER'S SEAL APPLIES ONLY TO THE WORK PRODUCT OF BUTLER MFG. AND DESIGN AND PERFORMANCE REQUIREMENTS SPECIFIED BY BUTLER. THE BUTLER MFG. ENGINEER'S SEAL DOES NOT APPLY TO THE PERFORMANCE OR DESIGN OF ANY OTHER PRODUCT OR COMPONENT FURNISHED BY BUTLER EXCEPT TO ANY DESIGN OR PERFORMANCE REQUIREMENTS SPECIFIED BY BUTLER.</p>	<p>THIS DRAWING, INCLUDING THE INFORMATION HEREIN, REMAINS THE PROPERTY OF BUTLER MFG. IT IS PROVIDED SOLELY FOR ERECTING THE BUILDING DESCRIBED IN THE APPLICABLE PURCHASE ORDER AND MAY BE REPRODUCED ONLY FOR THAT PURPOSE. IT SHALL NOT BE MODIFIED, REPRODUCED OR USED FOR ANY OTHER PURPOSE WITHOUT PRIOR WRITTEN APPROVAL OF BUTLER MFG.</p> <p>THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE GOOD QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN ACCORDANCE WITH THIS DRAWING, DETAILS REFERENCED IN THIS DRAWING, ALL APPLICABLE BUTLER MFG. ERECTION GUIDES, AND INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION, INCLUDING THE CORRECT USE OF TEMPORARY BRACING.</p>	<p>B</p> <p>BUTLER MANUFACTURING 1540 GENESSEE ST. KANSAS CITY, MO 64102</p>	<p>Single Slope Phase 1-Covering at F</p>		<p>Customer: The Sheridan Corporation</p> <p>Location: Kittery, Maine</p> <p>Project: Good To Go Phas 042921</p> <p>Butler Manufacturing V10 VERSION: ADVNXT 4.0</p>	<p>DATE: 7/15/2021</p> <p>DRAWN BY: [blank]</p> <p>PAGE: 7</p>
				<p>REV</p>	<p>DATE</p>		

V10 FILENAME: 181118R005 PRELIMINARY DRAWING 11/2021 10:23:54 PRELIMINARY DRAWING 8/27/2021 © BlueScope Building North America, LLC

General Notes:

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Drawing Status:

Engineering Designs For:

Good To Go
Kittery, Maine

Revision	DATE

Sheet Title:

Butler Building
Side Elevation

Scale: As Noted

Drawn by:

Checked by:

Project No:

Date: 07/12/2021

Sheet No: SK-3

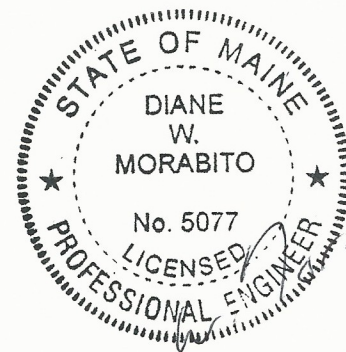
TRAFFIC IMPACT STUDY
PROPOSED FOOD MANUFACTURING FACILITY
KITTERY, MAINE

July 22, 2021

Prepared For:

Altus Engineering, Inc.
133 Court Street
Portsmouth, NH 03801

Prepared by:



ATFIC Company

INTRODUCTION

The purpose of this report is to summarize a traffic impact study performed by James W. Sewall Company (Sewall) for a proposed specialty food manufacturing facility, Good to Go, to be located off Route 1 in Kittery, Maine. The site location, on the easterly side of Route 1 is located is between Landmark Hill Lane and Parson’s Lane, as shown on the map in Figure 1. The facility will be 20,000 square feet (S.F.) in size and will employ 30 persons. Access to the site will be provided by a single full-movement access drive to Route 1.

This report details the traffic analysis which determines the expected number of trips to be generated by the manufacturing facility and any off-site impacts on level of service or safety for the local Town of Kittery approval process.

It is understood that construction is expected to begin in fall of 2021 with completion and occupancy planned for summer 2022. Hence, 2022 was selected as the study year for traffic analysis puposes.

TRIP GENERATION ANALYSIS

The number of trips to be generated by the proposed manufacturing facility was estimated utilizing the latest Institute of Transportation Engineers (ITE) “Trip Generation, 10th edition”. Land use code (LUC) 140 – Manufacturing was utilized on the basis of both 20,000 S.F. and 30 employees. The results are summarized below:

<u>Time Period</u>	ITE TRIP GENERATION		
	<u>S.F.</u>	<u>Employees</u>	<u>Average</u>
Weekday	80	74	78
AM Peak Hour – Adjacent Street	13	11	12
Entering	10	8	9
Exiting	3	3	3
AM Peak Hour – Generator	16	13	15
Entering	12	11	12
Exiting	4	2	3
PM Peak Hour – Adjacent Street	14	10	12
Entering	4	4	4
Exiting	10	6	8
PM Peak Hour – Generator	16	14	15
Entering	7	6	6
Exiting	9	8	9

The results were similar on both the square footage and employee bases so they were averaged together to best estimate trips. These results show that the proposed manufacturing facility is expected to generate 78 one-way trips (39 round-trips) on a daily basis. Twelve one-way trips are projected for the AM and PM peak hours of the adjacent street system. Fifteen one-way trips will be generated during the peak hours of the facility. This level of traffic would not be expected to have a significant impact off-site on traffic operations beyond the site drives.

However, to assess level of service to meet the requirements of the Kittery ordinances, traffic analysis was conducted for the site drive intersection to demonstrate level of service.

TRAFFIC VOLUMES

Turning movement/classification counts were conducted by Sewall during the weekday AM (7:00 – 9:00) and PM peak hour periods (3:00- 6:00) on June 3, 2021 at the intersection of Route 1 and Landmark Hill Lane to determine existing volumes and traffic patterns. The AM peak hour occurred from 8:00 to 9:00 while the PM peak hour occurred from 3:45 – 4:45. The counts were factored to 30th highest hour conditions using MaineDOT group mean factors. These volumes typically occur under peak summer conditions in July and August in Maine. The results are shown in Figure 2. The PM peak hour volumes are 40 % higher than the AM peak hour volumes. Given this and the similar site trip generation during both peak hours, the PM peak hour was selected as the analysis period, when the additional trips are expected to have the greatest impact.

Existing average annual daily traffic (AADT) data for the area was obtained from "Traffic Volume Counts, 2019 and 2014 Annual Reports", published by MaineDOT. This data is summarized in the following table:

<u>Location Description</u>	Average Annual Daily Traffic			
	<u>2010</u>	<u>2013</u>	<u>2016</u>	<u>2019</u>
Route 1, northeast of Cutts Road	11,340	---	---	10,550
Route 1, northeast of Haley Road	12,330	10,940	10,260	10,780
Route 1, southwest of Beechridge Road in York	11,450	9,370	9,490	9,440

As seen above, traffic volumes have generally been declining along this section of Route 1 over the period 2010 to 2019. As a result, a conservative ½ % annual traffic growth rate was utilized to project the 2021 volumes to base 2022 conditions.

The Town of Kittery Planner was contacted to determine if there are any other approved (but unbuilt) developments, expected to significantly impact future Route 1 volumes in the area, which should be considered in the traffic analysis. The only other development project identified is the Homestead Subdivision project, which is located on Route 1 opposite Lewis Road. The trips to be generated by this development were obtained from the Traffic Impact study prepared by Maine Traffic Resources (now Sewall) and dated 9/7/2018. Those other development volumes expected to be passing by the site during the PM peak hour are shown in Figure 3. The resulting 2022 No Build volumes, allowing for 1/2 % annual traffic growth and the Homestead Subdivision to be fully occupied, are shown in Figure 4.

The trip assignments for the manufacturing facility were assigned based upon the travel patterns recorded during the counts. The resulting trip assignments are shown in Figure 5. Based upon the trip assignments the facility is expected to have a minimal impact on off-site traffic operations. Generally, a project won't have an impact on traffic operations unless it generates in excess of twenty-five (25) lane hour trips. Based upon the trip assignments, the manufacturing facility will generate just four (4) lane hour trips during the PM peak hour analysis period. Given these trip assignments the study area would be limited to the site drive intersection but it was extended southerly through the intersection of Landmark Hill Lane to evaluate impact on nearby intersections. Lastly, the projected Build 2022 volumes are shown in Figure 6.

CAPACITY ANALYSIS

Traffic operations are evaluated in terms of level of service (LOS). Level of service is a qualitative measure that describes operations by letter designation. The levels range from A - very little delay to F - extreme delays. Level of service "D" is generally considered acceptable in urban locations while LOS "E" is generally considered the capacity of a facility and the minimum tolerable level. The level of service for unsignalized intersections is based upon average control delay per vehicle for each minor, opposed movement, as defined in the following table excerpted from the 2010 "Highway Capacity Manual":

Unsignalized Intersection Level of Service

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

UNSIGNALIZED INTERSECTION ANALYSIS

The level of service (LOS) was determined for the unsignalized study area intersection for existing 2021 and projected 2022 conditions using Synchro 10 and SimTraffic. The results are provided in the appendix and are summarized in the following tables:

<u>Approach/Movement</u>	Route 1 & Landmark Hill Lane PM Peak Hour Level of Service		
	Existing	No Build	Build
	<u>2021</u>	<u>2022</u>	<u>2022</u>
Westbound Landmark Hill Lane	A (6.5)	A (8.1)	A (9.3)
Northbound Route 1	A (1.2)	A (1.2)	A (1.3)
Southbound Route 1	A (0.3)	A (0.3)	A (0.4)
Overall Intersection	A (0.8)	A (0.9)	A (1.0)

As seen above, Landmark Hill Lane currently operates at a good LOS “A” during the PM peak hour with no significant delay. The same LOS is expected in 2022 allowing for ½ % annual traffic growth and the Homestead Subdivision project. Lastly under projected build volumes, with the Good to Go facility fully occupied, it will continue to operate at LOS “A” with no capacity concerns. The increase in delay from No Build to Build conditions is negligible at 0.10 second demonstrating the minimal impact of the project on traffic operations off-site.

<u>Approach/Movement</u>	Route 1 & Site Drive PM Peak Hour Level of Service
	Build <u>2022</u>
Westbound Site Drive	A (6.5)
Northbound Route 1	A (0.3)
Southbound Route 1	A (0.8)
Overall Intersection	A (0.6)

As seen above, there are also no capacity concerns at the unsignalized site drive intersection, which will also function at a very good LOS “A” in 2022 under full Build volumes.

SAFETY ANALYSIS

ACCIDENT REVIEW

The Maine Department of Transportation uses two criteria to determine high crash locations (HCLs). The first is the critical rate factor (CRF), which is a measure of the accident rate. A CRF greater than one indicates a location which has a higher than expected crash rate. The expected rate is calculated as a statewide average of similar facilities.

The second criterion, which must also be met, is based upon the number of accidents that occur at a particular location. Eight or more accidents must occur over the three-year study period for the location to be considered a high crash location.

The MaineDOT Map Viewer was reviewed for high crash locations in the vicinity of the site for the most recent 3-year period (2018 – 2020). There are no high crash locations along Route 1 from Cutts Road in Kittery northerly to the intersection of Beech Ridge Road and Southside Road in York. As a result, no additional accident review or evaluation is necessary.

DRIVEWAY SIGHT DISTANCE

One of the most important safety factors to consider for a project is sight distance from the access drives. This sight distance is measured ten feet back from the edge of travel way at a driver's eye height of 3.5 feet to an object height of 4.25 feet. Sewall recommends a minimum sight distance of 450 feet for the posted 45 mile per hour speed limit on this segment of Route 1. The Kittery ordinance also requires 450' of sight distance while MaineDOT Entrance Rules require a lesser 425'.

Sewall field checked the sight distances from the proposed drive location and found it exceeds 500' to the left (south) and was approximately 450' to the right (north). Altus Engineering prepared a sight distance analysis, shown on their Highway Access Plan provided in this study, which confirms that the sight distance to the right exceeds 450'. Hence, sight distance will be adequate to provide for safe access. It is important that no signage or landscaping be located in the driveway sight triangle which could obscure or limit the driveway sight distances in the future.

SUMMARY AND RECOMMENDATIONS

The proposed specialty food manufacturing facility is expected to generate between 12 and 15 one-way trips during peak hours. Based upon both trip generation results and the peak hour volumes, the weekday PM peak hour of the adjacent street was selected as the analysis period. Also based upon the trip assignments, the study area for capacity purposes was defined as extending from the site drive through the intersection of Landmark Hill Lane to evaluate off-site impact.

In terms of capacity, the unsignalized intersection of Landmark Hill Lane currently operates at a good level of service "A" during the weekday PM peak hour. Under projected Build volumes the LOS will remain at this level with no capacity concerns. The site drive is also expected to operate at LOS "A", again showing no capacity concerns.

In terms of safety, there are no high crash locations within an extended study area so no further accident review or evaluation is necessary. Sight distances from the proposed site drive exceed the recommended standard providing for safe access. It is important that no signage or landscaping be located in the sight triangle which could obstruct driveway sight distance in the future.



Figure 1

Site Location Map

Kittery Food Manufacturing

Kittery, Maine





-- AM Peak Hour
(--) PM Peak Hour

AM Peak Hour: 8:00 - 9:00
PM Peak Hour: 3:45 - 4:45

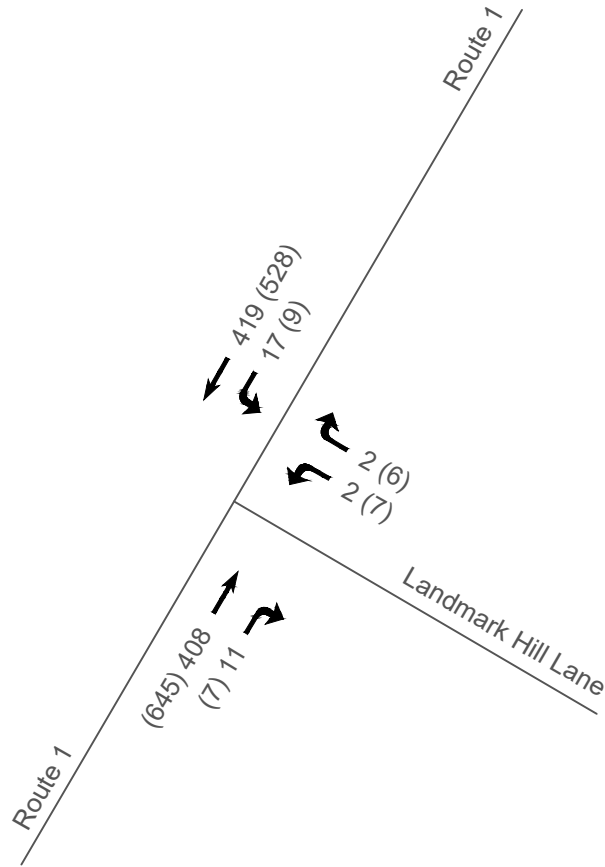


Figure 2

Existing 2021 Volumes
Kittery Food Manufacturing
Kittery, Maine



PM Peak Hour: 3:45 - 4:45

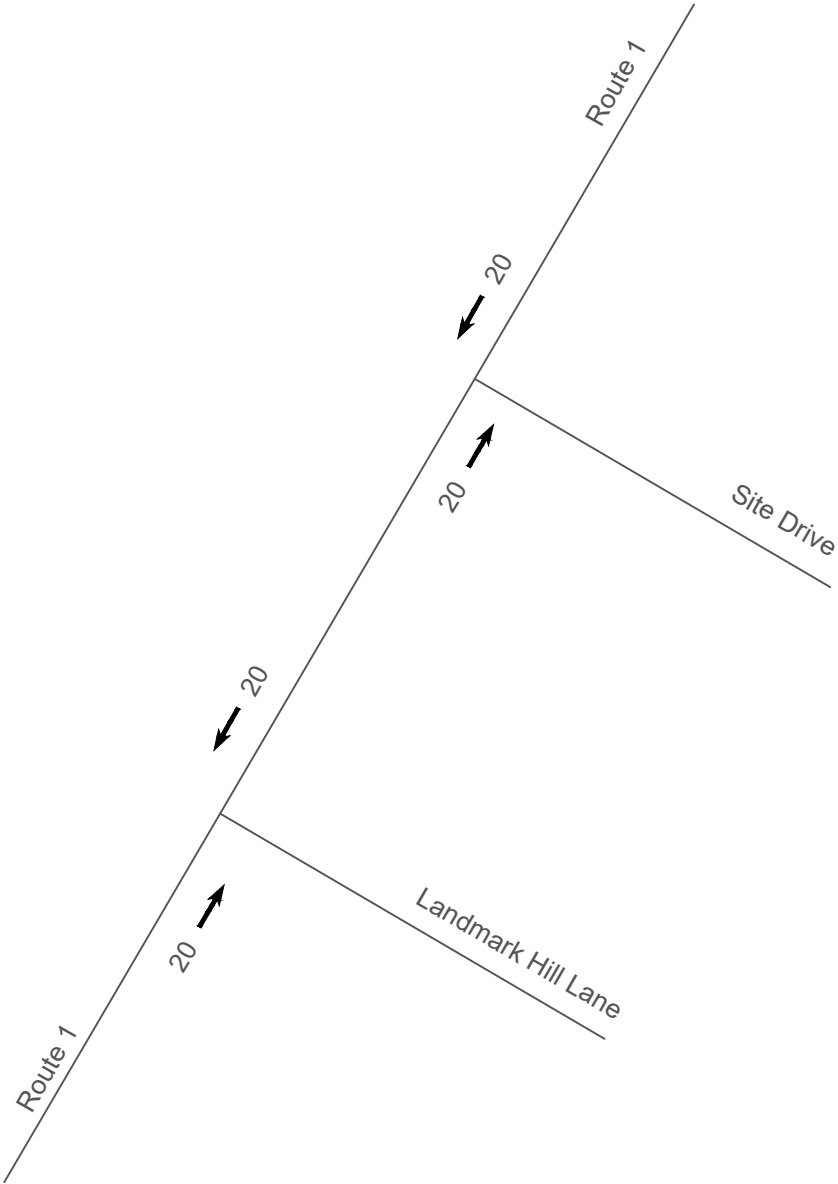


Figure 3

Other Developments PM Peak Hour
Kittery Food Manufacturing
Kittery, Maine





PM Peak Hour: 3:45 - 4:45

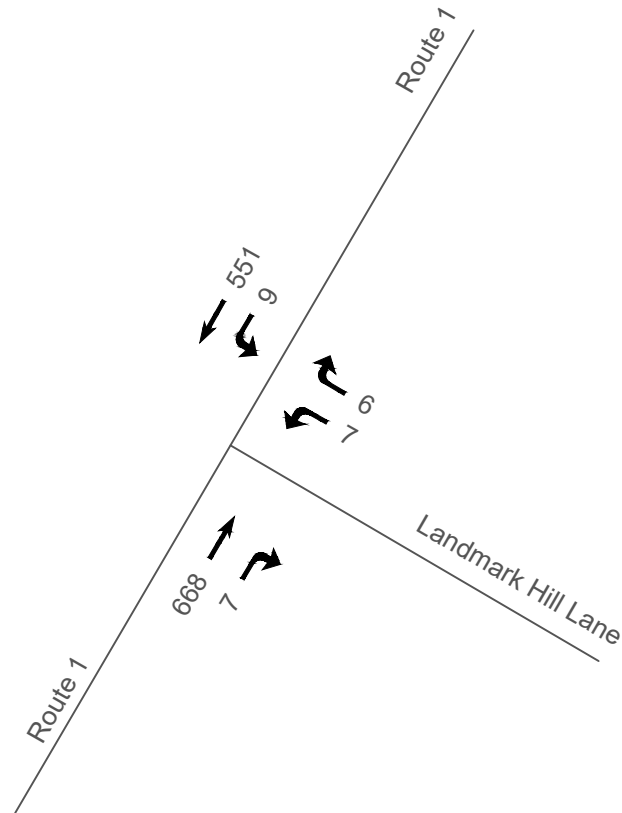


Figure 4

PM No Build 2022 Volumes
Kittery Food Manufacturing
Kittery, Maine





PM Peak Hour: 3:45 - 4:45

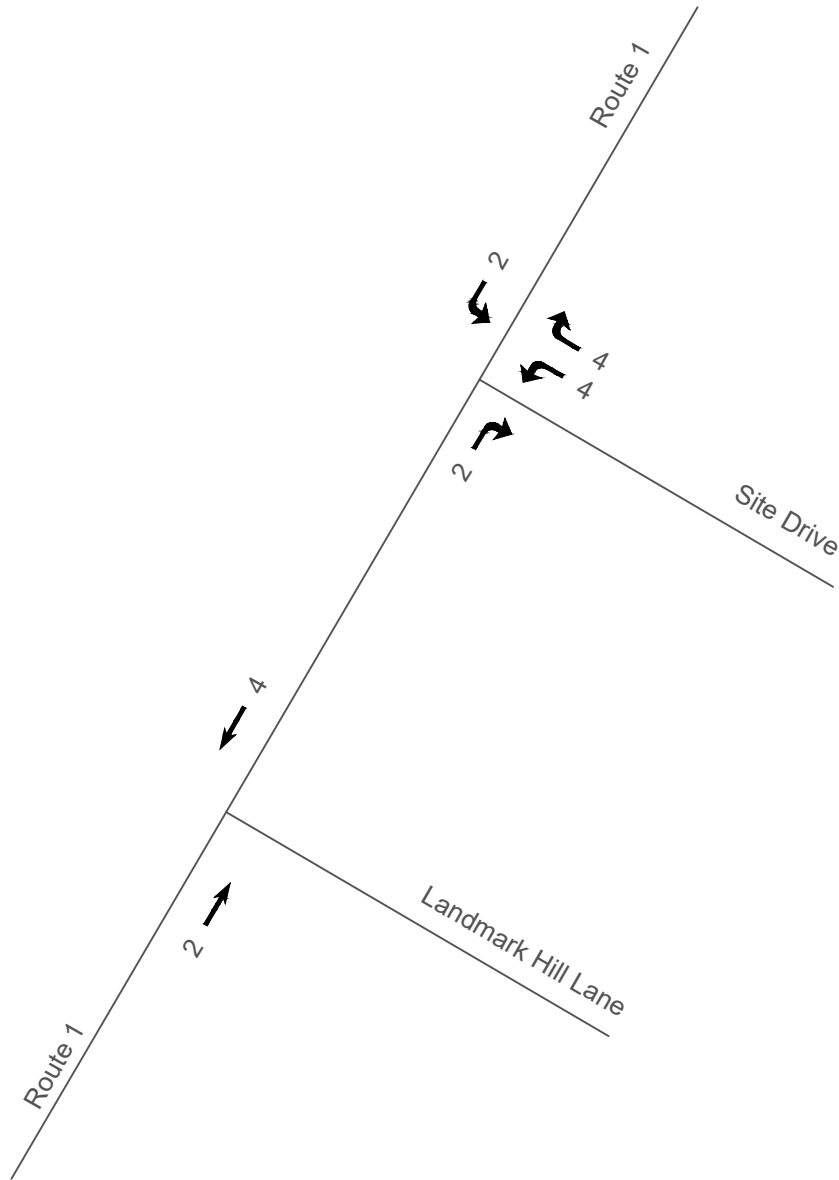


Figure 5

Trip Assignments PM Peak Hour
Kittery Food Manufacturing
Kittery, Maine



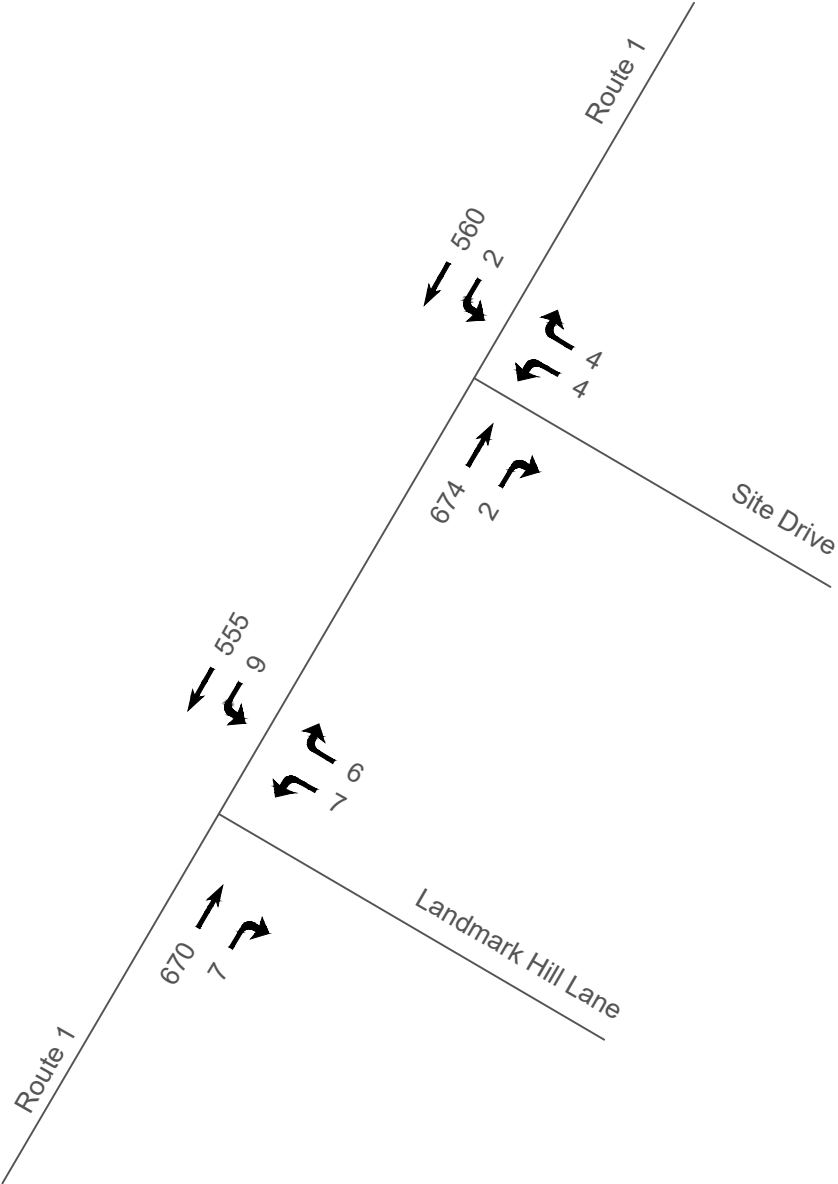


Figure 6

PM Build 2022 Volumes
 Kittery Food Manufacturing
 Kittery, Maine



APPENDIX

Turning Movement Counts

Capacity Analysis

Highway Access Plan

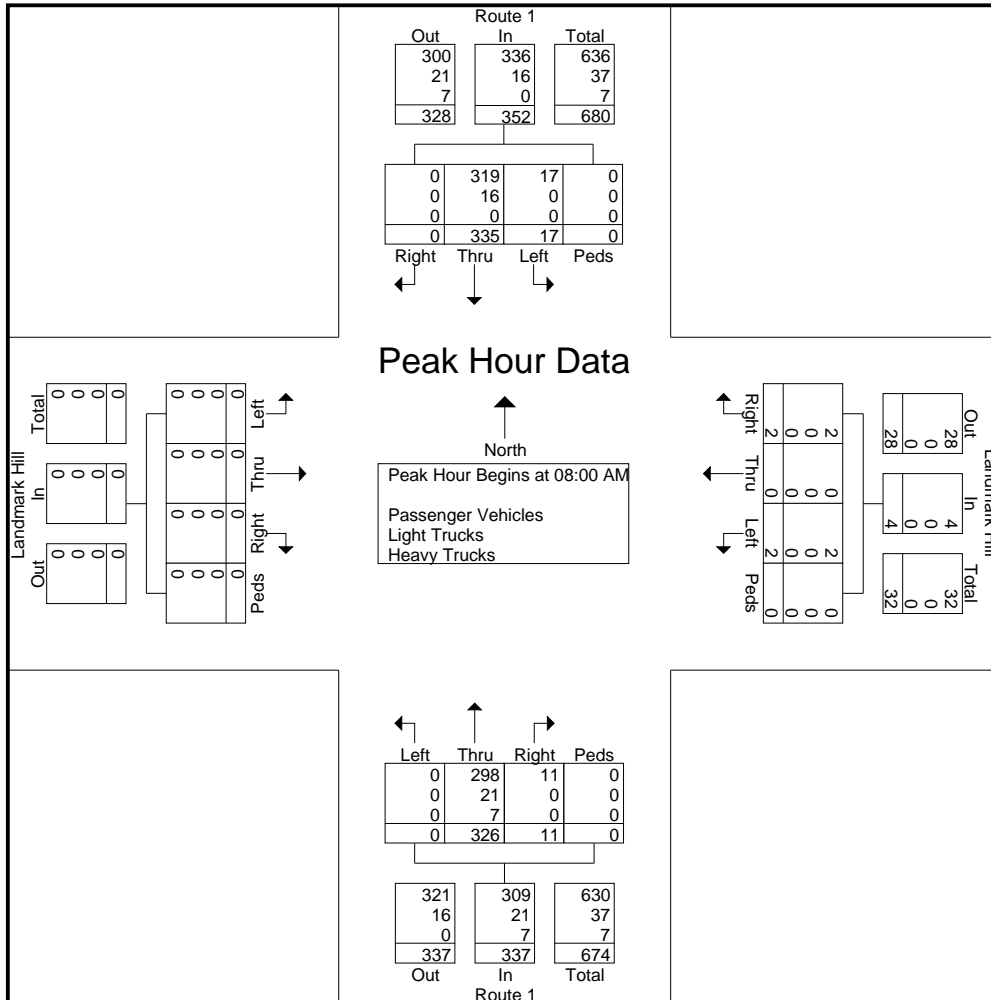
Sewall

40 Forest Falls Drive
Yarmouth, ME 04096

TITLE: Route 1 and Landmark Hill Road
TOWN: Kittery, ME
COUNTER: WD
WEATHER: Sun/clouds

File Name : KitteryLandmarkHill1AM2021
Site Code : 00000000
Start Date : 6/3/2021
Page No : 2

Start Time	Route 1 Southbound					Landmark Hill Westbound					Route 1 Northbound					Landmark Hill Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	70	4	0	74	1	0	0	0	1	5	82	0	0	87	0	0	0	0	0	162
08:15 AM	0	76	4	0	80	0	0	0	0	0	1	78	0	0	79	0	0	0	0	0	159
08:30 AM	0	96	3	0	99	1	0	1	0	2	2	85	0	0	87	0	0	0	0	0	188
08:45 AM	0	93	6	0	99	0	0	1	0	1	3	81	0	0	84	0	0	0	0	0	184
Total Volume	0	335	17	0	352	2	0	2	0	4	11	326	0	0	337	0	0	0	0	0	693
% App. Total	0	95.2	4.8	0		50	0	50	0		3.3	96.7	0	0		0	0	0	0		
PHF	.000	.872	.708	.000	.889	.500	.000	.500	.000	.500	.550	.959	.000	.000	.968	.000	.000	.000	.000	.000	.922
Passenger Vehicles																					
% Passenger Vehicles	0	95.2	100	0	95.5	100	0	100	0	100	100	91.4	0	0	91.7	0	0	0	0	0	93.7
Light Trucks																					
% Light Trucks	0	4.8	0	0	4.5	0	0	0	0	0	0	6.4	0	0	6.2	0	0	0	0	0	5.3
Heavy Trucks																					
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	7



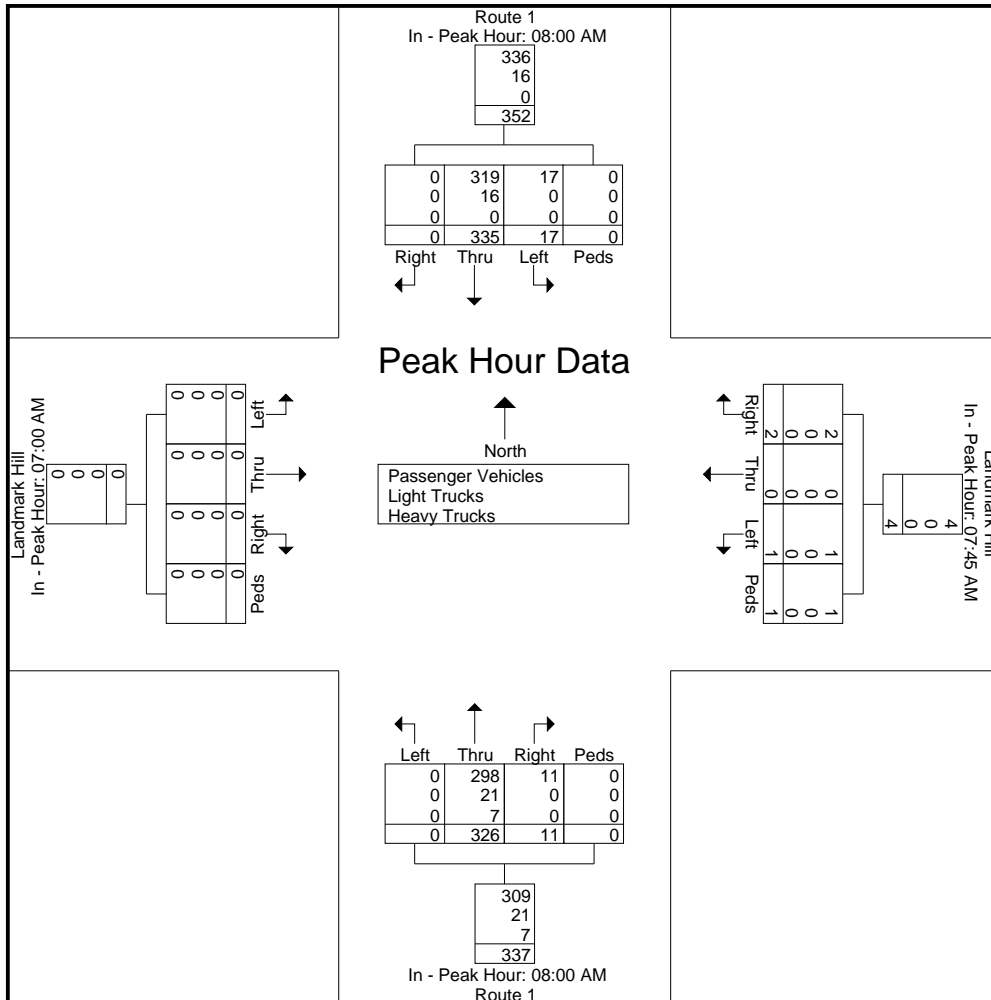
Sewall

40 Forest Falls Drive
Yarmouth, ME 04096

TITLE: Route 1 and Landmark Hill Road
TOWN: Kittery, ME
COUNTER: WD
WEATHER: Sun/clouds

File Name : KitteryLandmarkHill1AM2021
Site Code : 00000000
Start Date : 6/3/2021
Page No : 3

Start Time	Route 1 Southbound					Landmark Hill Westbound					Route 1 Northbound					Landmark Hill Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	08:00 AM					07:45 AM					08:00 AM					07:00 AM					
+0 mins.	0	70	4	0	74	0	0	0	1	1	5	82	0	0	87	0	0	0	0	0	0
+15 mins.	0	76	4	0	80	1	0	0	0	1	1	78	0	0	79	0	0	0	0	0	0
+30 mins.	0	96	3	0	99	0	0	0	0	0	2	85	0	0	87	0	0	0	0	0	0
+45 mins.	0	93	6	0	99	1	0	1	0	2	3	81	0	0	84	0	0	0	0	0	0
Total Volume	0	335	17	0	352	2	0	1	1	4	11	326	0	0	337	0	0	0	0	0	0
% App. Total	0	95.2	4.8	0		50	0	25	25		3.3	96.7	0	0		0	0	0	0		0
PHF	.000	.872	.708	.000	.889	.500	.000	.250	.250	.500	.550	.959	.000	.000	.968	.000	.000	.000	.000	.000	
Passenger Vehicles																					
% Passenger Vehicles	0	95.2	100	0	95.5	100	0	100	100	100	100	91.4	0	0	91.7	0	0	0	0	0	0
Light Trucks	0	16	0	0	16	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	0
% Light Trucks	0	4.8	0	0	4.5	0	0	0	0	0	0	6.4	0	0	6.2	0	0	0	0	0	0
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	2.1	0	0	2.1	0	0	0	0	0	0



Sewall

40 Forest Falls Drive
Yarmouth, ME 04096

TITLE: Route 1 and Landmark Hill
TOWN: Kittery, ME
COUNTER: WD
WEATHER: Sun/clouds

File Name : KitteryLandmarkHill1PM2021
Site Code : 00000000
Start Date : 6/3/2021
Page No : 1

Groups Printed- Passenger Vehicles - Light Trucks - Heavy Trucks

Start Time	Route 1 Southbound					Landmark Hill Westbound					Route 1 Northbound					Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
03:00 PM	0	103	0	0	103	0	0	0	0	0	7	126	0	0	133	0	0	0	0	0	0
03:15 PM	0	95	4	0	99	2	0	1	0	3	3	115	0	0	118	0	0	0	0	0	0
03:30 PM	0	94	4	0	98	3	0	2	0	5	5	134	0	0	139	0	0	0	0	0	0
03:45 PM	0	87	2	0	89	1	0	2	0	3	3	120	0	0	123	0	0	0	0	0	0
Total	0	379	10	0	389	6	0	5	0	11	18	495	0	0	513	0	0	0	0	0	0
04:00 PM	0	103	0	0	103	4	0	2	0	6	2	116	0	0	118	0	0	0	0	0	0
04:15 PM	0	102	3	0	105	0	0	2	1	3	0	145	0	0	145	0	0	0	0	0	0
04:30 PM	0	130	4	0	134	1	0	1	0	2	2	135	0	0	137	0	0	0	0	0	0
04:45 PM	0	96	1	0	97	3	0	0	0	3	0	110	0	0	110	0	0	0	0	0	0
Total	0	431	8	0	439	8	0	5	1	14	4	506	0	0	510	0	0	0	0	0	0
05:00 PM	0	85	3	0	88	3	0	0	0	3	1	101	0	0	102	0	0	0	0	0	0
05:15 PM	0	106	0	0	106	1	0	0	0	1	3	105	0	0	108	0	0	0	0	0	0
05:30 PM	0	70	2	0	72	0	0	0	0	0	3	102	0	0	105	0	0	0	0	0	0
05:45 PM	0	81	0	0	81	2	0	0	0	2	3	121	0	0	124	0	0	0	0	0	0
Total	0	342	5	0	347	6	0	0	0	6	10	429	0	0	439	0	0	0	0	0	0
Grand Total	0	1152	23	0	1175	20	0	10	1	31	32	1430	0	0	1462	0	0	0	0	0	2668
Apprch %	0	98	2	0		64.5	0	32.3	3.2		2.2	97.8	0	0		0	0	0	0		
Total %	0	43.2	0.9	0	44	0.7	0	0.4	0	1.2	1.2	53.6	0	0	54.8	0	0	0	0	0	
Passenger Vehicles	1135										1397										
% Passenger Vehicles	0	98.5	100	0	98.6	100	0	100	100	100	93.8	97.7	0	0	97.6	0	0	0	0	0	98.1
Light Trucks																					
% Light Trucks	0	1	0	0	1	0	0	0	0	0	6.2	2	0	0	2.1	0	0	0	0	0	1.6
Heavy Trucks																					
% Heavy Trucks	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	9

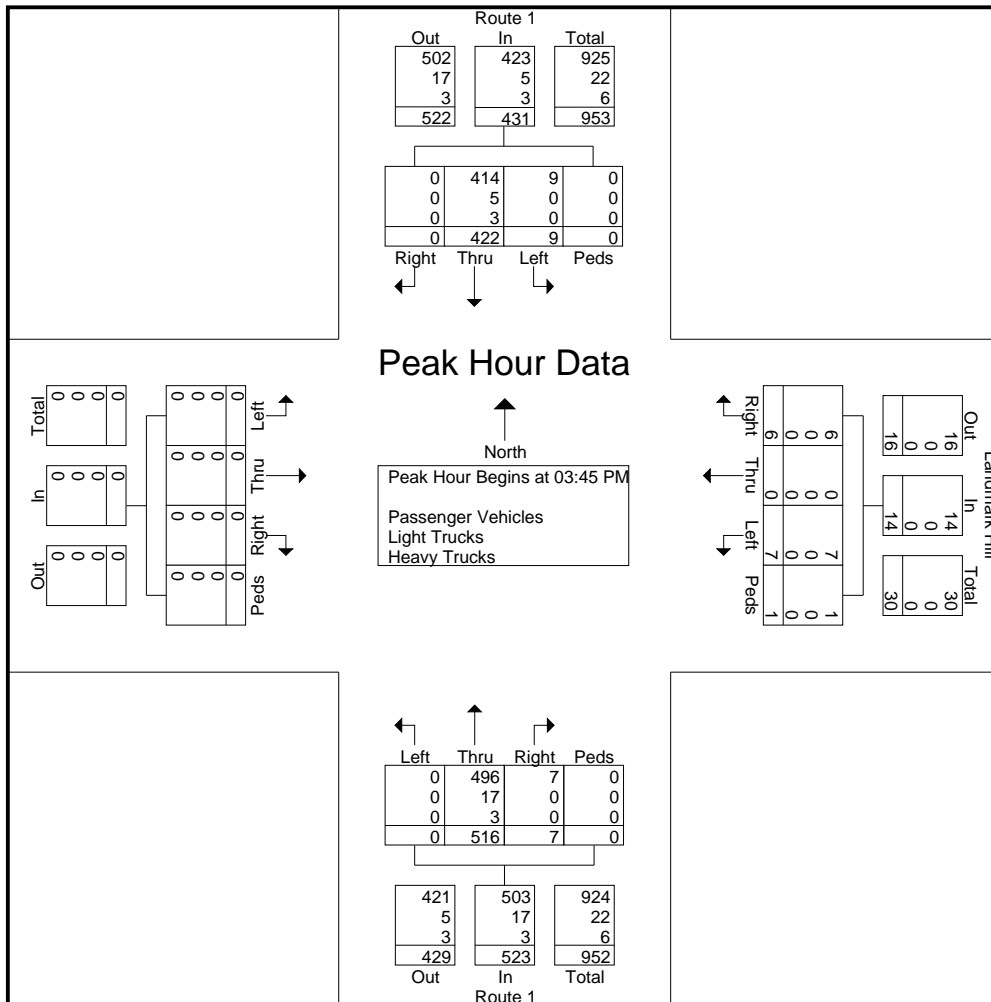
Sewall

40 Forest Falls Drive
Yarmouth, ME 04096

TITLE: Route 1 and Landmark Hill
TOWN: Kittery, ME
COUNTER: WD
WEATHER: Sun/clouds

File Name : KitteryLandmarkHill1PM2021
Site Code : 00000000
Start Date : 6/3/2021
Page No : 2

Start Time	Route 1 Southbound					Landmark Hill Westbound					Route 1 Northbound					Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	0	87	2	0	89	1	0	2	0	3	3	120	0	0	123	0	0	0	0	0	215
04:00 PM	0	103	0	0	103	4	0	2	0	6	2	116	0	0	118	0	0	0	0	0	227
04:15 PM	0	102	3	0	105	0	0	2	1	3	0	145	0	0	145	0	0	0	0	0	253
04:30 PM	0	130	4	0	134	1	0	1	0	2	2	135	0	0	137	0	0	0	0	0	273
Total Volume	0	422	9	0	431	6	0	7	1	14	7	516	0	0	523	0	0	0	0	0	968
% App. Total	0	97.9	2.1	0		42.9	0	50	7.1		1.3	98.7	0	0		0	0	0	0		
PHF	.000	.812	.563	.000	.804	.375	.000	.875	.250	.583	.583	.890	.000	.000	.902	.000	.000	.000	.000	.000	.886
Passenger Vehicles	0	98.1	100	0	98.1	100	0	100	100	100	100	96.1	0	0	96.2	0	0	0	0	0	97.1
% Passenger Vehicles	0	1.2	0	0	1.2	0	0	0	0	0	0	3.3	0	0	3.3	0	0	0	0	0	2.3
Light Trucks	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	6
% Light Trucks	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	6
Heavy Trucks	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	6
% Heavy Trucks	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	6



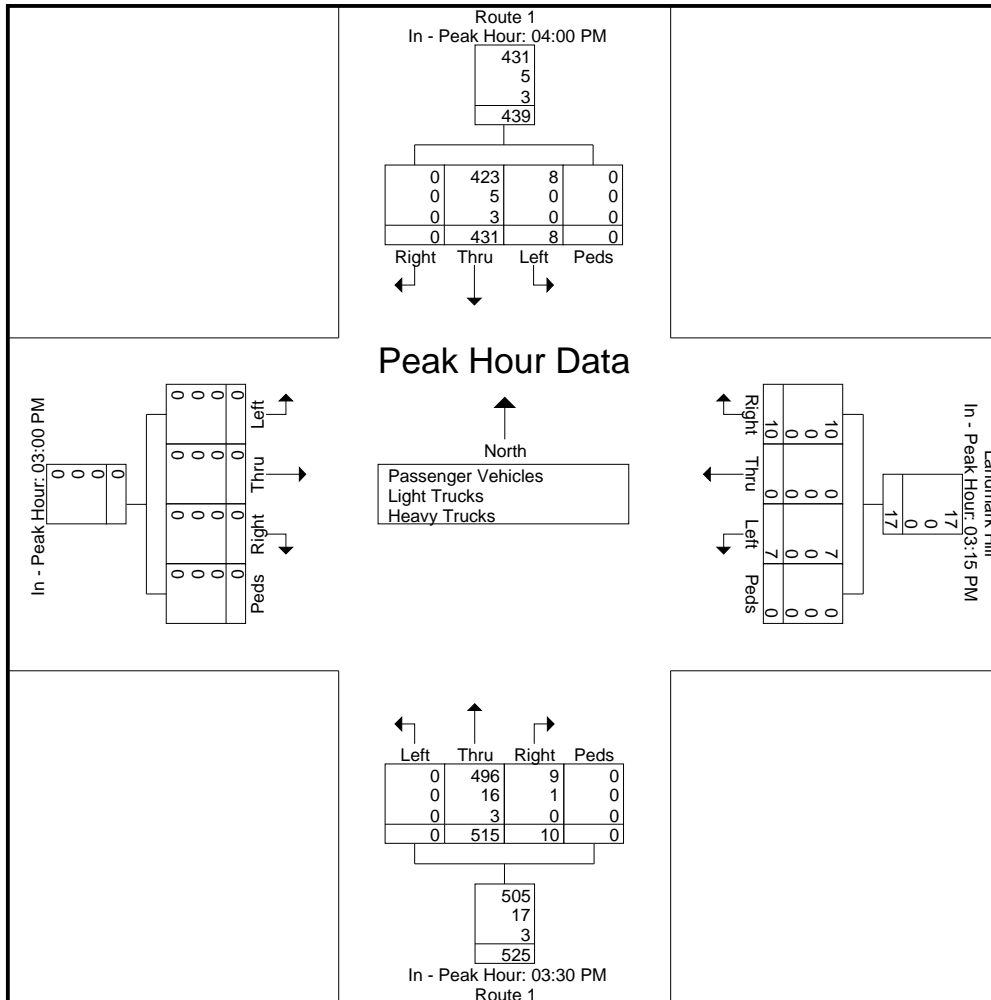
Sewall

40 Forest Falls Drive
Yarmouth, ME 04096

TITLE: Route 1 and Landmark Hill
TOWN: Kittery, ME
COUNTER: WD
WEATHER: Sun/clouds

File Name : KitteryLandmarkHill1PM2021
Site Code : 00000000
Start Date : 6/3/2021
Page No : 3

Start Time	Route 1 Southbound					Landmark Hill Westbound					Route 1 Northbound					Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:00 PM					03:15 PM					03:30 PM					03:00 PM					
+0 mins.	0	103	0	0	103	2	0	1	0	3	5	134	0	0	139	0	0	0	0	0	
+15 mins.	0	102	3	0	105	3	0	2	0	5	3	120	0	0	123	0	0	0	0	0	
+30 mins.	0	130	4	0	134	1	0	2	0	3	2	116	0	0	118	0	0	0	0	0	
+45 mins.	0	96	1	0	97	4	0	2	0	6	0	145	0	0	145	0	0	0	0	0	
Total Volume	0	431	8	0	439	10	0	7	0	17	10	515	0	0	525	0	0	0	0	0	
% App. Total	0	98.2	1.8	0		58.8	0	41.2	0		1.9	98.1	0	0		0	0	0	0		
PHF	.000	.829	.500	.000	.819	.625	.000	.875	.000	.708	.500	.888	.000	.000	.905	.000	.000	.000	.000	.000	
Passenger Vehicles																					
% Passenger Vehicles	0	98.1	100	0	98.2	100	0	100	0	100	90	96.3	0	0	96.2	0	0	0	0	0	
Light Trucks	0	5	0	0	5	0	0	0	0	0	1	16	0	0	17	0	0	0	0	0	
% Light Trucks	0	1.2	0	0	1.1	0	0	0	0	0	10	3.1	0	0	3.2	0	0	0	0	0	
Heavy Trucks	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	
% Heavy Trucks																					



Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1198	1172	1164	1155	1258	1190
Vehs Exited	1193	1166	1157	1145	1259	1185
Starting Vehs	14	9	11	11	14	12
Ending Vehs	19	15	18	21	13	17
Travel Distance (mi)	637	623	619	609	673	632
Travel Time (hr)	15.3	15.0	14.8	14.7	16.3	15.2
Total Delay (hr)	1.0	0.9	0.9	0.9	1.0	0.9
Total Stops	19	11	17	16	22	17
Fuel Used (gal)	17.0	16.4	16.5	16.2	17.8	16.8

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1198	1172	1164	1155	1258	1190
Vehs Exited	1193	1166	1157	1145	1259	1185
Starting Vehs	14	9	11	11	14	12
Ending Vehs	19	15	18	21	13	17
Travel Distance (mi)	637	623	619	609	673	632
Travel Time (hr)	15.3	15.0	14.8	14.7	16.3	15.2
Total Delay (hr)	1.0	0.9	0.9	0.9	1.0	0.9
Total Stops	19	11	17	16	22	17
Fuel Used (gal)	17.0	16.4	16.5	16.2	17.8	16.8

3: Route 1 & Landmark Hill Lane Performance by lane

Lane	WB	NB	SB	All
Movements Served	LR	TR	LT	
Denied Del/Veh (s)				0.3
Total Del/Veh (s)	6.5	1.2	0.3	0.8

Intersection: 3: Route 1 & Landmark Hill Lane

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	35	6	44
Average Queue (ft)	9	0	5
95th Queue (ft)	33	4	24
Link Distance (ft)	546	1435	172
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1341	1317	1240	1209	1203	1263
Vehs Exited	1347	1302	1242	1197	1197	1257
Starting Vehs	22	8	20	9	11	14
Ending Vehs	16	23	18	21	17	19
Travel Distance (mi)	708	688	651	630	631	662
Travel Time (hr)	17.1	16.8	15.6	15.2	15.1	16.0
Total Delay (hr)	1.1	1.2	1.0	1.0	0.9	1.0
Total Stops	18	16	20	18	18	18
Fuel Used (gal)	18.7	18.4	17.5	16.7	16.8	17.6

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1341	1317	1240	1209	1203	1263
Vehs Exited	1347	1302	1242	1197	1197	1257
Starting Vehs	22	8	20	9	11	14
Ending Vehs	16	23	18	21	17	19
Travel Distance (mi)	708	688	651	630	631	662
Travel Time (hr)	17.1	16.8	15.6	15.2	15.1	16.0
Total Delay (hr)	1.1	1.2	1.0	1.0	0.9	1.0
Total Stops	18	16	20	18	18	18
Fuel Used (gal)	18.7	18.4	17.5	16.7	16.8	17.6

3: Route 1 & Landmark Hill Lane Performance by lane

Lane	WB	NB	SB	All
Movements Served	LR	TR	LT	
Denied Del/Veh (s)				0.3
Total Del/Veh (s)	8.1	1.2	0.3	0.9

Intersection: 3: Route 1 & Landmark Hill Lane

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	40	11	59
Average Queue (ft)	10	0	5
95th Queue (ft)	34	8	28
Link Distance (ft)	546	1435	171
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1185	1273	1232	1245	1291	1246
Vehs Exited	1186	1276	1229	1240	1283	1242
Starting Vehs	15	17	14	12	10	13
Ending Vehs	14	14	17	17	18	15
Travel Distance (mi)	632	680	659	664	689	665
Travel Time (hr)	15.2	16.6	15.9	16.1	16.7	16.1
Total Delay (hr)	1.0	1.2	1.0	1.1	1.2	1.1
Total Stops	30	36	25	27	28	29
Fuel Used (gal)	17.0	18.3	17.5	17.8	18.4	17.8

Interval #0 Information Seeding

Start Time	6:50
End Time	7:00
Total Time (min)	10
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	1185	1273	1232	1245	1291	1246
Vehs Exited	1186	1276	1229	1240	1283	1242
Starting Vehs	15	17	14	12	10	13
Ending Vehs	14	14	17	17	18	15
Travel Distance (mi)	632	680	659	664	689	665
Travel Time (hr)	15.2	16.6	15.9	16.1	16.7	16.1
Total Delay (hr)	1.0	1.2	1.0	1.1	1.2	1.1
Total Stops	30	36	25	27	28	29
Fuel Used (gal)	17.0	18.3	17.5	17.8	18.4	17.8

3: Route 1 & Landmark Hill Lane Performance by lane

Lane	WB	NB	SB	All
Movements Served	LR	TR	LT	
Denied Del/Veh (s)				0.3
Total Del/Veh (s)	9.3	1.3	0.4	1.0

4: Route 1 & Site Drive Performance by lane

Lane	WB	NB	SB	All
Movements Served	LR	TR	LT	
Denied Del/Veh (s)				0.2
Total Del/Veh (s)	6.5	0.3	0.8	0.6

Total Network Performance

Denied Del/Veh (s)			0.5	
Total Del/Veh (s)			2.7	

Intersection: 3: Route 1 & Landmark Hill Lane

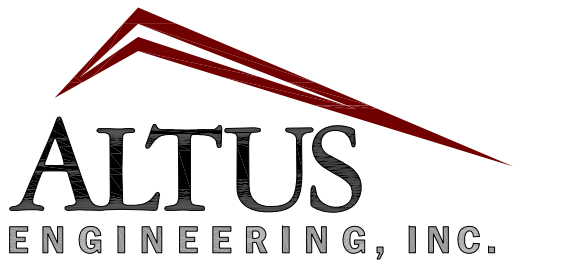
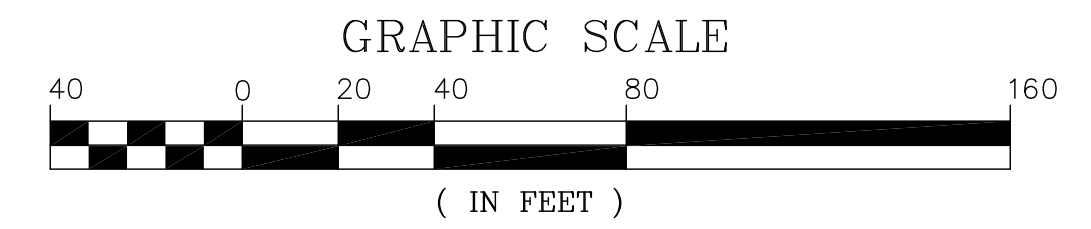
Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	35	74
Average Queue (ft)	13	6
95th Queue (ft)	37	34
Link Distance (ft)	546	171
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Route 1 & Site Drive

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	31	25
Average Queue (ft)	8	1
95th Queue (ft)	29	11
Link Distance (ft)	416	1133
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

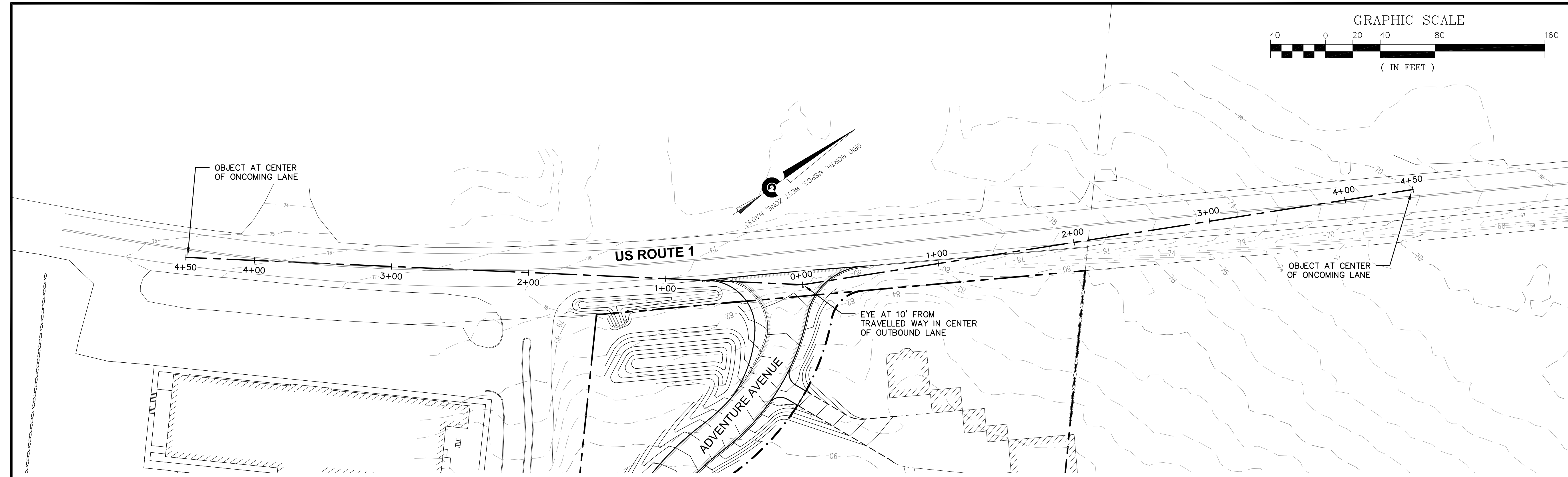
Network Summary

Network wide Queuing Penalty: 0



133 Court Street
(603) 433-2335

Portsmouth, NH 03801
www.altus-eng.com



NOT FOR CONSTRUCTION

ISSUED FOR:
PLANNING BOARD

ISSUE DATE:
JULY 22, 2021

REVISIONS	NO.	DESCRIPTION	BY	DATE
0	PLANNING BOARD		EBS	07/22/21

DRAWN BY: _____ EBS
APPROVED BY: _____ EBS
DRAWING FILE: 5116-SITE.dwg

SCALE:
22" x 34" - 1" = 40'
11" x 17" - 1" = 80'

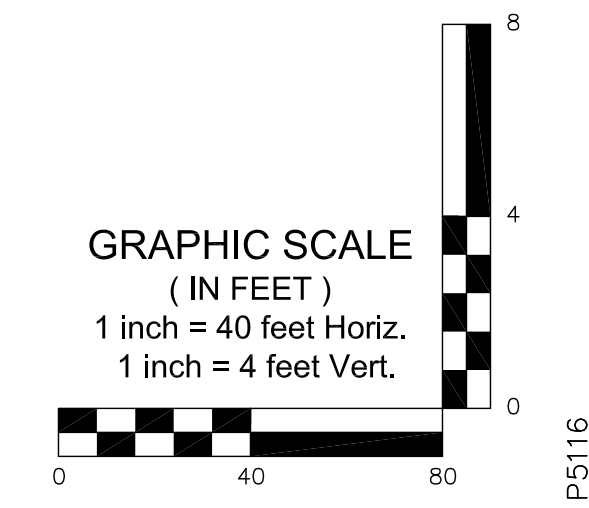
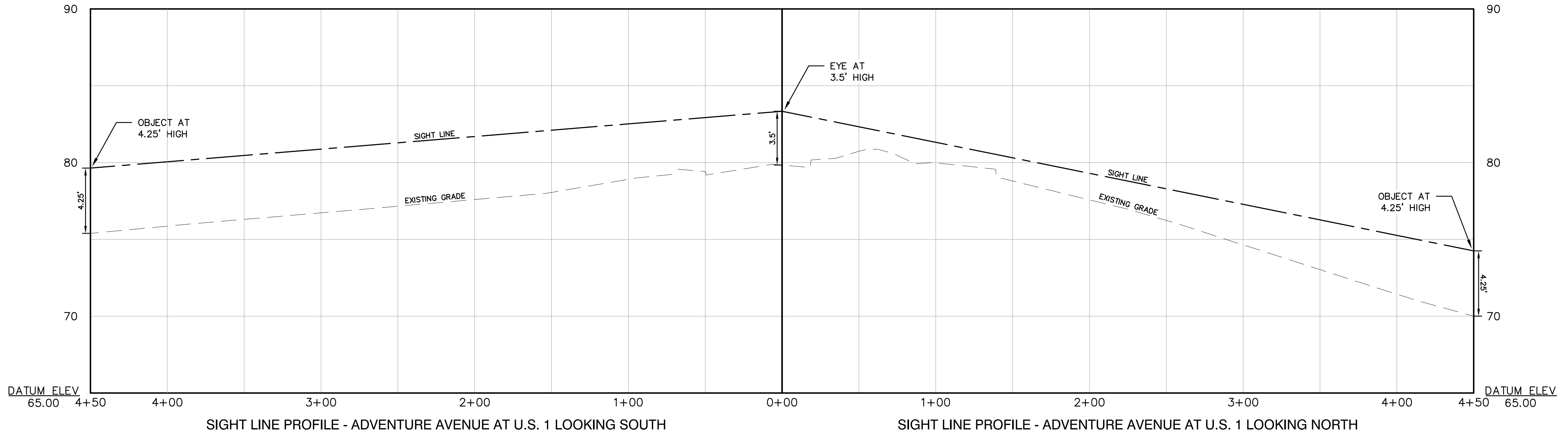
OWNER:
C-COAST PROPERTIES, LLC
8 BANKS ROCK
YORK HARBOR, MAINE 03911

APPLICANT:
GOOD TO-GO
c/o CAPE HOUSE
MANAGEMENT, LLC
484 US ROUTE 1
KITTERY, MAINE 03904

PROJECT:
GOOD TO-GO
SPECIALTY FOOD
FACILITY
TAX MAP 67, LOT 1
524 U.S. ROUTE 1
KITTERY, MAINE

TITLE:
HIGHWAY ACCESS
PLAN

SHEET NUMBER:
C-5



P5116

DRAINAGE ANALYSIS

FOR

Site Development for Good To-Go

524 U.S. Route 1
Kittery, Maine

Tax Map 67, Lot 1

July 22, 2021

Prepared For:

Good To-Go c/o Cape House Management, LLC
484 U.S. Route 1
Kittery, Maine 03904

Prepared By:

ALTUS ENGINEERING, INC.
133 Court Street
Portsmouth, NH 03801
Phone: (603) 433-2335



Eric D. Weinrieb
7/22/21



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	Conclusions
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Section 1

Narrative

PROJECT DESCRIPTION

Good To-Go, a Kittery-based specialty food company focused on outdoor activities, is proposing to develop a commercial lot located at 524 U.S. Route 1 in Kittery, Maine. The 23.89 acre property is identified as Assessor's Map 47, Lot 201 and is located in the Mixed Use (MU) district. The site is primarily wooded and undeveloped save for an existing residence with several outbuildings, a woods road and several side trails.

The proposed project will construct a new public road to access a commercial specialty food facility with a 20,000 sf building serviced by municipal water and sewer, a paved parking area and new stormwater treatment measures. These measures will include two grassed underdrained soil filters. Pretreatment will be provided by catch basins with deep sumps and grease hoods.

The stormwater management system proposed for the site will reduce peak flows and treat runoff from 100% of the site's impervious areas and 75.2% of the linear access roadway prior to leaving the site.

Site Soils

A Class A High Intensity Soils Survey (HISS) was conducted on the site which indicated that the soils are generally poor with low rates of infiltration, relatively high water tables and numerous areas of shallow ledge. These soils fall into the following primary classifications:

- BrB – Brayton, Hydrologic Soil Group (HSG) D
- DxB – Dixfield, HSG D
- LTB – Lyman Tunbridge Complex, HSG C
- LTC – Lyman Tunbridge Complex, HSG C
- LTD – Lyman Tunbridge Complex, HSG C
- LTE – Lyman Tunbridge Complex, HSG C
- NiB – Nicholville, HSG D
- ScB – Scantic, HSG D
- WhB – Whately, HSG D
- WmB – Waumbek, HSG D
- WsB – Westbury, HSG D

For the purposes of this analysis, offsite watershed areas beyond the limit of the HISS were classified using the USDA's NRCS Web Soil Survey.

Pre-Development (Existing Conditions)

The Pre-Development Watershed Plan (Sheet WS-1) reflects the current conditions of the site which include the existing building and parking areas. The current site can be divided into two (2) subcatchments which discharge to the west to a culvert under Route 1 at Point of Analysis (POA) #1 (HydroCAD Link 100L) and south to the property boundary at Point of Analysis #2 (HydroCAD Link 200L).

Post-Development (Proposed Conditions)

The proposed project will construct a new building, drainage system and associated site improvements.

As shown on the attached Post-Development Watershed Plan (Sheet WS-2), the site was divided into fifteen (15) subcatchment areas in the post-development conditions. The same points of analysis that were used in the Pre-Development model (POA #'s 1 and 2) were used for comparison of the Pre- and Post-development conditions.

CALCULATION METHODS

The drainage study was completed using the USDA SCS TR-20 Method within the HydroCAD Stormwater Modeling System. Reservoir routing was performed with the Dynamic Storage Indication method with automated calculation of tailwater conditions. A Type III 24-hour rainfall distribution was utilized in analyzing the data for the 2, 10 and 25 year - 24-hour storm events using rainfall data provided by Maine DEP. Infiltration rates through biofilter media were set at 2.41 in/hr with a phase-in depth of 0.01’.

Disclaimer

Altus Engineering, Inc. notes that stormwater modeling is limited in its capacity to precisely predict peak rates of runoff and flood elevations. Results should not be considered to represent actual storm events due to the number of variables and assumptions involved in the modeling effort. Surface roughness coefficients (n), entrance loss coefficients (ke), velocity factors (kv) and times of concentration (Tc) are based on subjective field observations and engineering judgment using available data. For design purposes, curve numbers (Cn) describe the average conditions. However, curve numbers will vary from storm to storm depending on the antecedent runoff conditions (ARC) including saturation and frozen ground. Also, higher water elevations than predicted by modeling could occur if drainage channels, closed drain systems or culverts are not maintained and/or become blocked by debris before and/or during a storm event as this will impact flow capacity of the structures. Structures should be re-evaluated if future changes occur within relevant drainage areas in order to assess any required design modifications.

Drainage Analysis

A complete summary of the drainage model is included in the appendix of this report. The following table compares pre- and post-development peak rates at the Point of Analysis identified on the plans for the 2, 10 and 25-year storm events:

Stormwater Modeling Summary
Peak Q (cfs) for Type III 24-Hour Storm Events

	2-Yr Storm (3.30 inch)	10-Yr Storm (4.90 inch)	25-Yr Storm (6.20 inch)
POA #1 (US 1 Culvert)			
Pre	2.74	5.55	6.75
Post	2.26	4.59	6.61
Change	-0.48	-0.96	-0.14
POA #2 (South Property Line)			
Pre	9.33	20.19	29.85
Post	9.24	19.31	29.79
Change	-0.09	-0.88	-0.06

As the above table demonstrates, the proposed peak rates of runoff will be decreased from the existing conditions for all analyzed storm events.

CONCLUSION

This proposed roadway and site development off U.S Route 1 in Kittery, ME will have minimal adverse effect on abutting properties and infrastructure as a result of stormwater runoff or siltation. Post-construction peak rates of runoff from the site will be lower than the existing conditions for all analyzed storm events. The new stormwater management system will also provide appropriate treatment to runoff from 100% of the proposed impervious surfaces from the site and 75.2% of the access road. Appropriate steps will be taken to properly mitigate erosion and sedimentation through the use of temporary and permanent Best Management Practices for sediment and erosion control, including deep sump catch basins with grease hoods and two grassed underdrained soil filters designed in accordance with the MDEP Stormwater Best Practices Manual.

Section 2

Aerial Photo and USGS Map



North

SITE

Google

Burrito Betty's
Mexican Grill
Takeout • Delivery

518 Noodle Bar
Takeout

U.S. Rte 1
Parsons Ln

Bedrock Lobster Pound

Johnson Brook

Calmcrest Rd

Calmcrest Rd

Calmcrest Rd

Crest Rd

Crest Rd

Seidels

Crest Rd

Crest Rd

Crest Rd

Crest Rd

Crest Rd

Crest Rd

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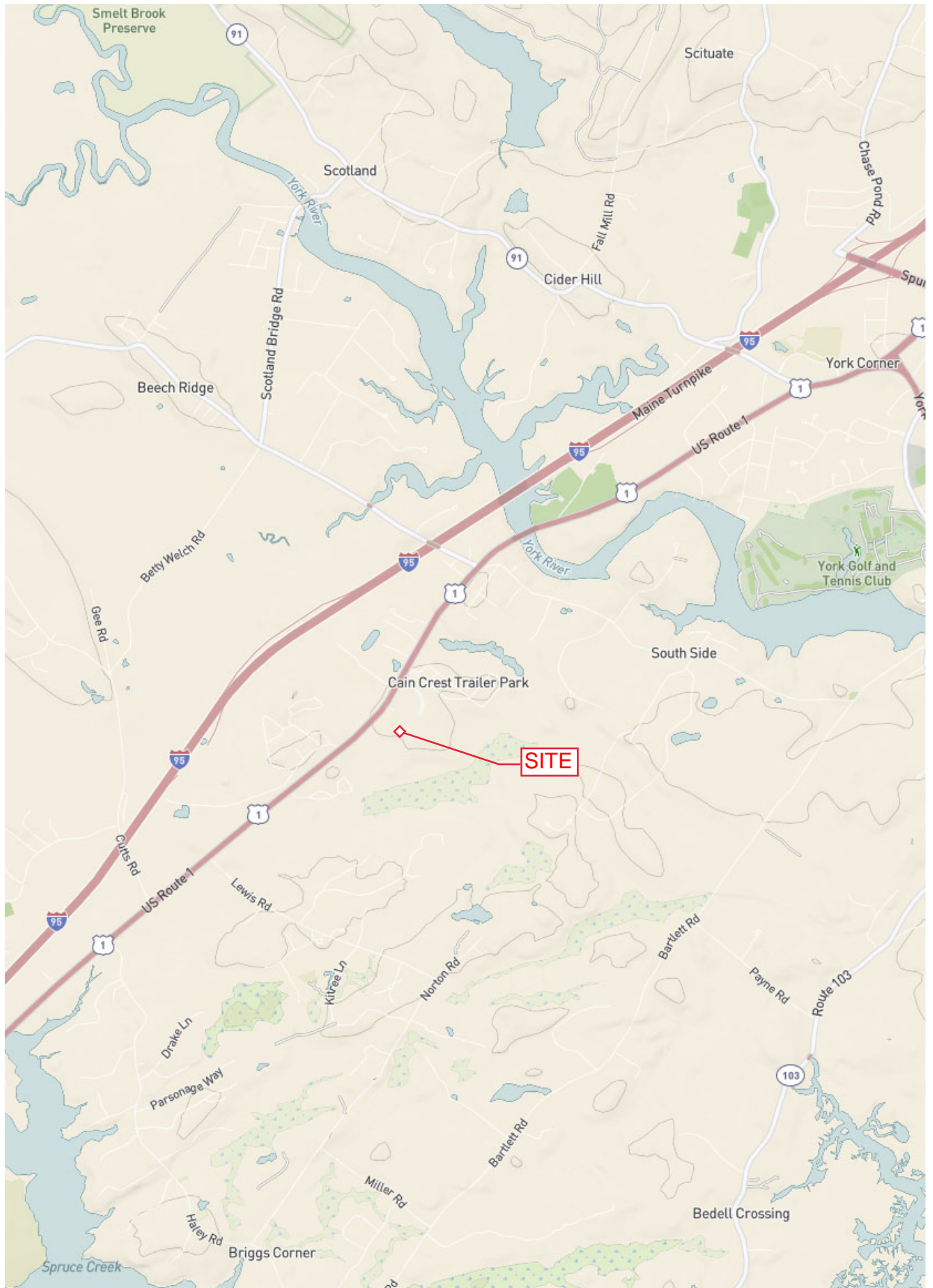
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Section 3

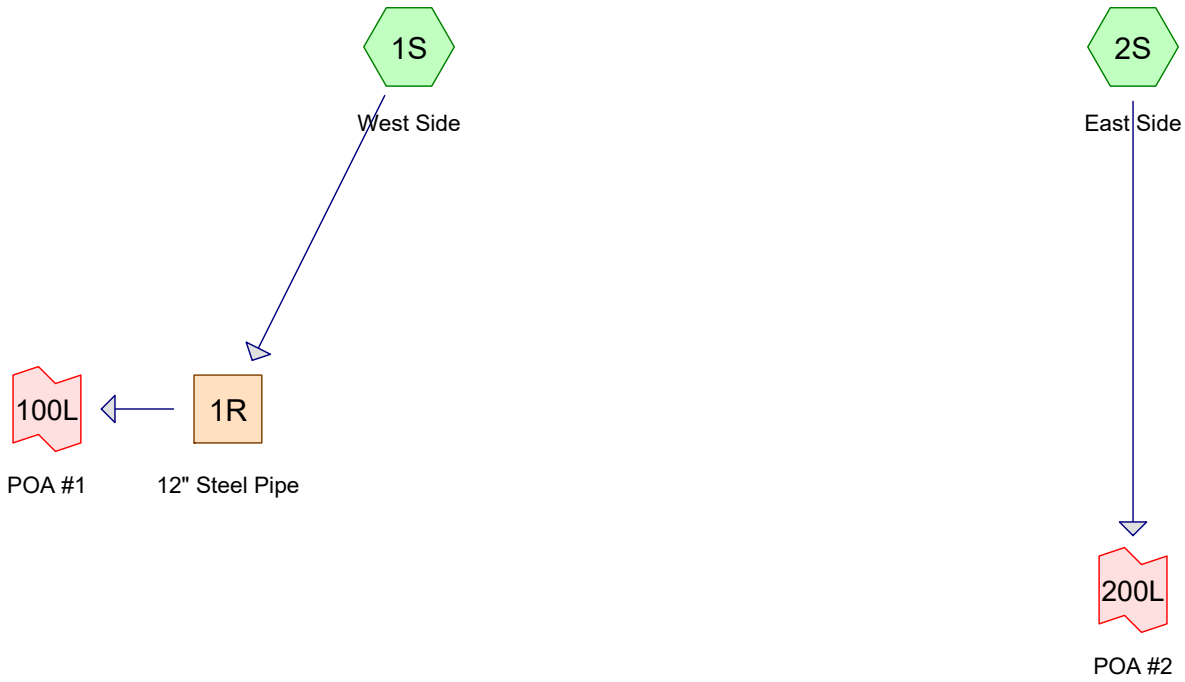
Drainage Calculations

Pre-Development

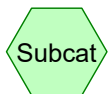
2-Year, 24-Hour Summary

10-Year, 24-Hour Complete

25-Year, 24-Hour Summary



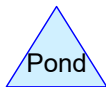
PRE-DEVELOPMENT



Subcat



Reach



Pond



Link

5116-Pre-061721

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

Prepared by Altus Engineering, Inc.

Printed 7/1/2021

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: West Side

Runoff Area=86,228 sf 2.71% Impervious Runoff Depth>1.28"
Flow Length=611' Tc=7.7 min CN=77 Runoff=2.74 cfs 0.211 af

Subcatchment 2S: East Side

Runoff Area=609,713 sf 2.66% Impervious Runoff Depth>1.09"
Flow Length=1,208' Tc=32.9 min CN=74 Runoff=9.33 cfs 1.276 af

Reach 1R: 12" Steel Pipe

Avg. Flow Depth=0.45' Max Vel=8.00 fps Inflow=2.74 cfs 0.211 af
12.0" Round Pipe n=0.012 L=45.0' S=0.0291 '/ Capacity=6.59 cfs Outflow=2.74 cfs 0.211 af

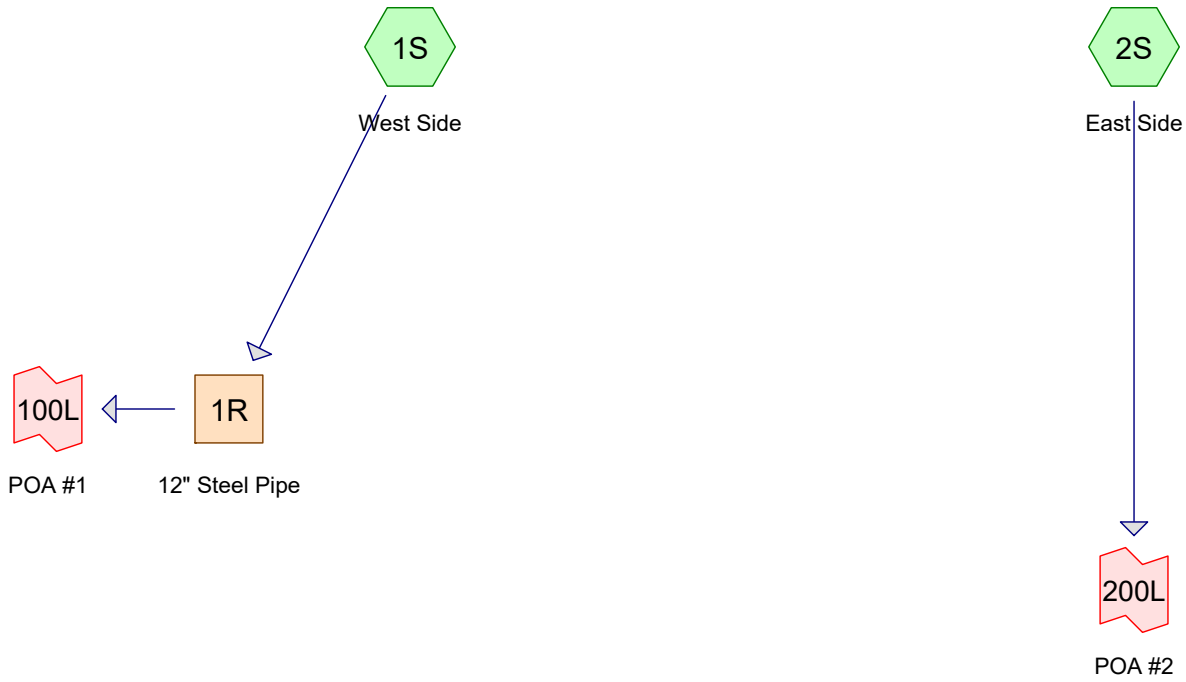
Link 100L: POA #1

Inflow=2.74 cfs 0.211 af
Primary=2.74 cfs 0.211 af

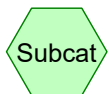
Link 200L: POA #2

Inflow=9.33 cfs 1.276 af
Primary=9.33 cfs 1.276 af

Total Runoff Area = 15.977 ac Runoff Volume = 1.488 af Average Runoff Depth = 1.12"
97.34% Pervious = 15.551 ac 2.66% Impervious = 0.426 ac



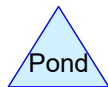
PRE-DEVELOPMENT



Subcat



Reach



Pond



Link

5116-Pre-061721

Type III 24-hr 10-Year Rainfall=4.90"

Prepared by Altus Engineering, Inc.

Printed 7/1/2021

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: West Side

Runoff Area=86,228 sf 2.71% Impervious Runoff Depth>2.54"
Flow Length=611' Tc=7.7 min CN=77 Runoff=5.55 cfs 0.418 af

Subcatchment 2S: East Side

Runoff Area=609,713 sf 2.66% Impervious Runoff Depth>2.27"
Flow Length=1,208' Tc=32.9 min CN=74 Runoff=20.19 cfs 2.645 af

Reach 1R: 12" Steel Pipe

Avg. Flow Depth=0.70' Max Vel=9.40 fps Inflow=5.55 cfs 0.418 af
12.0" Round Pipe n=0.012 L=45.0' S=0.0291 '/ Capacity=6.59 cfs Outflow=5.55 cfs 0.418 af

Link 100L: POA #1

Inflow=5.55 cfs 0.418 af
Primary=5.55 cfs 0.418 af

Link 200L: POA #2

Inflow=20.19 cfs 2.645 af
Primary=20.19 cfs 2.645 af

Total Runoff Area = 15.977 ac Runoff Volume = 3.063 af Average Runoff Depth = 2.30"
97.34% Pervious = 15.551 ac 2.66% Impervious = 0.426 ac

Summary for Subcatchment 1S: West Side

Runoff = 5.55 cfs @ 12.11 hrs, Volume= 0.418 af, Depth> 2.54"

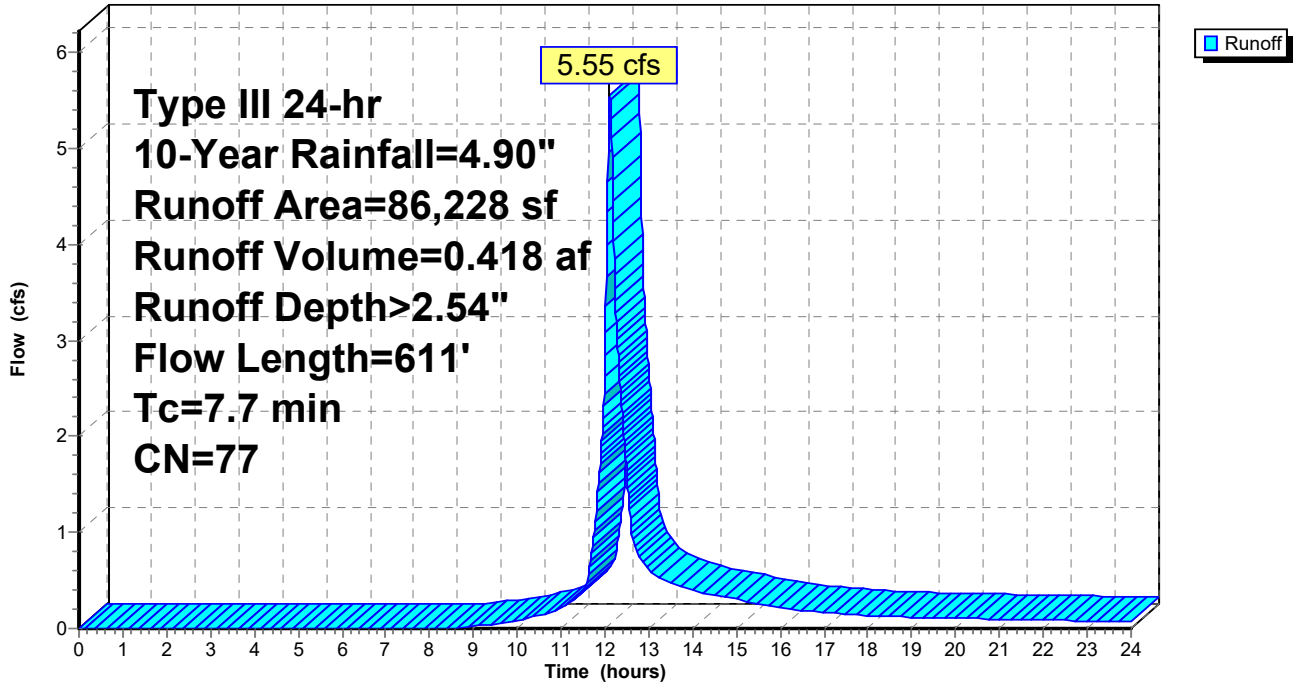
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
* 1,015	98	Impervious Existing Pavement
* 1,318	98	Impervious Existing Building
1,648	96	Gravel surface, HSG D
3,325	96	Gravel surface, HSG C
1,629	87	Dirt roads, HSG C
27,302	80	>75% Grass cover, Good, HSG D
2,700	77	Woods, Good, HSG D
22,240	74	>75% Grass cover, Good, HSG C
25,051	70	Woods, Good, HSG C
86,228	77	Weighted Average
83,895		97.29% Pervious Area
2,333		2.71% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	54	0.0579	0.23		Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
1.5	192	0.0941	2.15		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.5	97	0.0336	2.95		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.3	80	0.0750	4.41		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.2	16	0.0060	1.57		Shallow Concentrated Flow, Paved Kv= 20.3 fps
1.3	172	0.0214	2.19		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
7.7	611	Total			

Subcatchment 1S: West Side

Hydrograph



Summary for Subcatchment 2S: East Side

Runoff = 20.19 cfs @ 12.47 hrs, Volume= 2.645 af, Depth> 2.27"

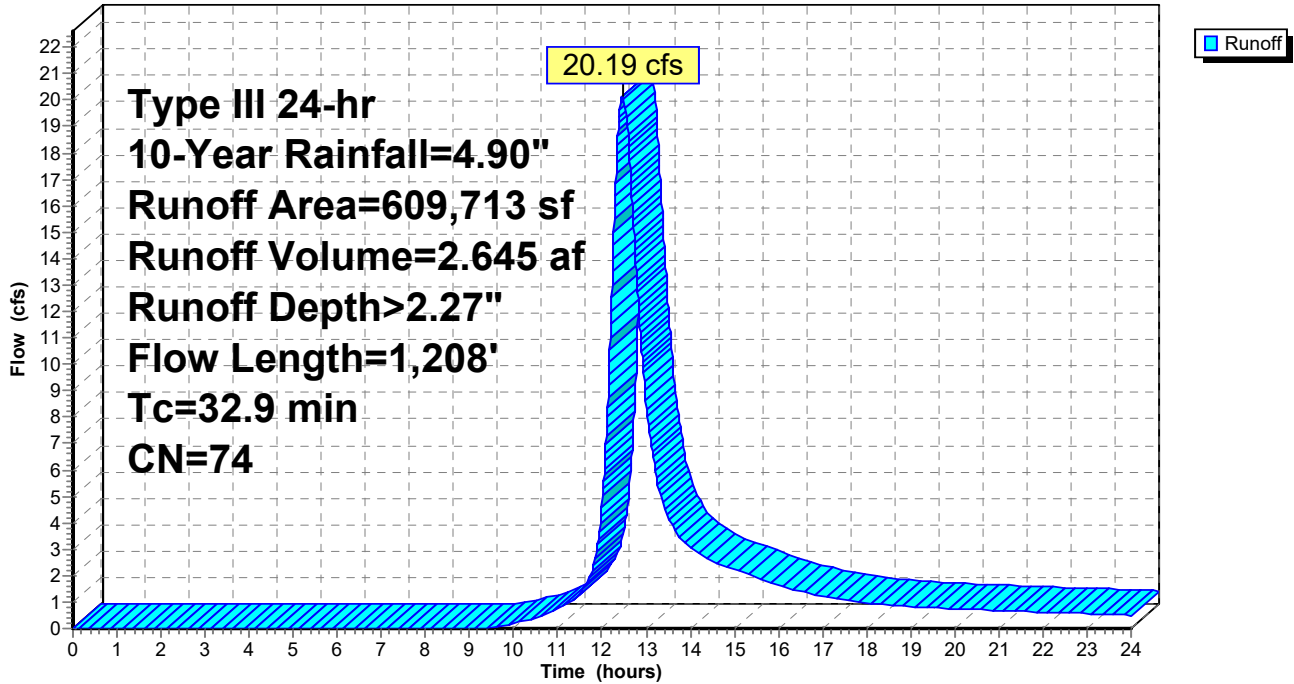
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
* 11,834	98	Impervious Existing Pavement
* 4,369	98	Impervious Existing Building
1,161	89	Dirt roads, HSG D
4,839	87	Dirt roads, HSG C
51,144	80	>75% Grass cover, Good, HSG D
193,586	77	Woods, Good, HSG D
22,432	74	>75% Grass cover, Good, HSG C
320,348	70	Woods, Good, HSG C
609,713	74	Weighted Average
593,510		97.34% Pervious Area
16,203		2.66% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	83	0.1231	0.16		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
1.4	121	0.0826	1.44		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.1	301	0.0199	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	223	0.0090	0.47		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.6	77	0.0250	0.79		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.1	98	0.0816	1.43		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
5.1	305	0.0393	0.99		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
32.9	1,208	Total			

Subcatchment 2S: East Side

Hydrograph



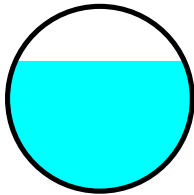
Summary for Reach 1R: 12" Steel Pipe

Inflow Area = 1.980 ac, 2.71% Impervious, Inflow Depth > 2.54" for 10-Year event
 Inflow = 5.55 cfs @ 12.11 hrs, Volume= 0.418 af
 Outflow = 5.55 cfs @ 12.11 hrs, Volume= 0.418 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
 Max. Velocity= 9.40 fps, Min. Travel Time= 0.1 min
 Avg. Velocity= 3.68 fps, Avg. Travel Time= 0.2 min

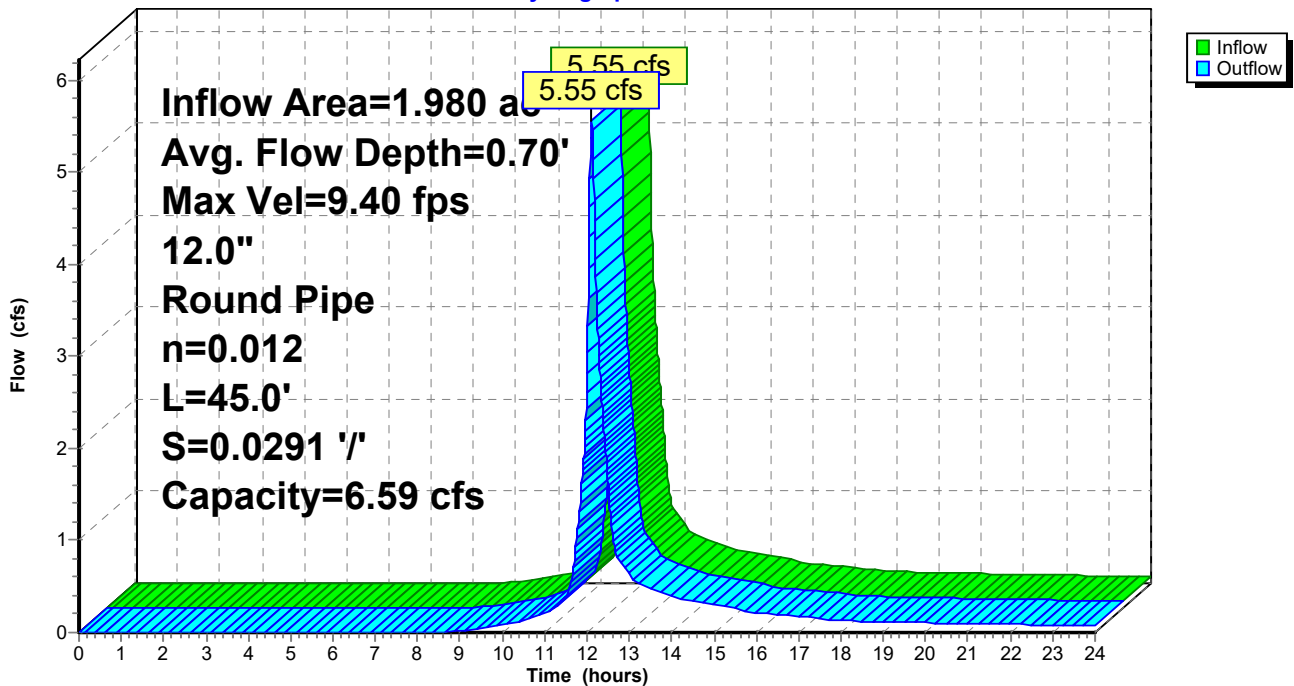
Peak Storage= 27 cf @ 12.11 hrs
 Average Depth at Peak Storage= 0.70'
 Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.59 cfs

12.0" Round Pipe
 n= 0.012
 Length= 45.0' Slope= 0.0291 '/
 Inlet Invert= 76.08', Outlet Invert= 74.77'



Reach 1R: 12" Steel Pipe

Hydrograph



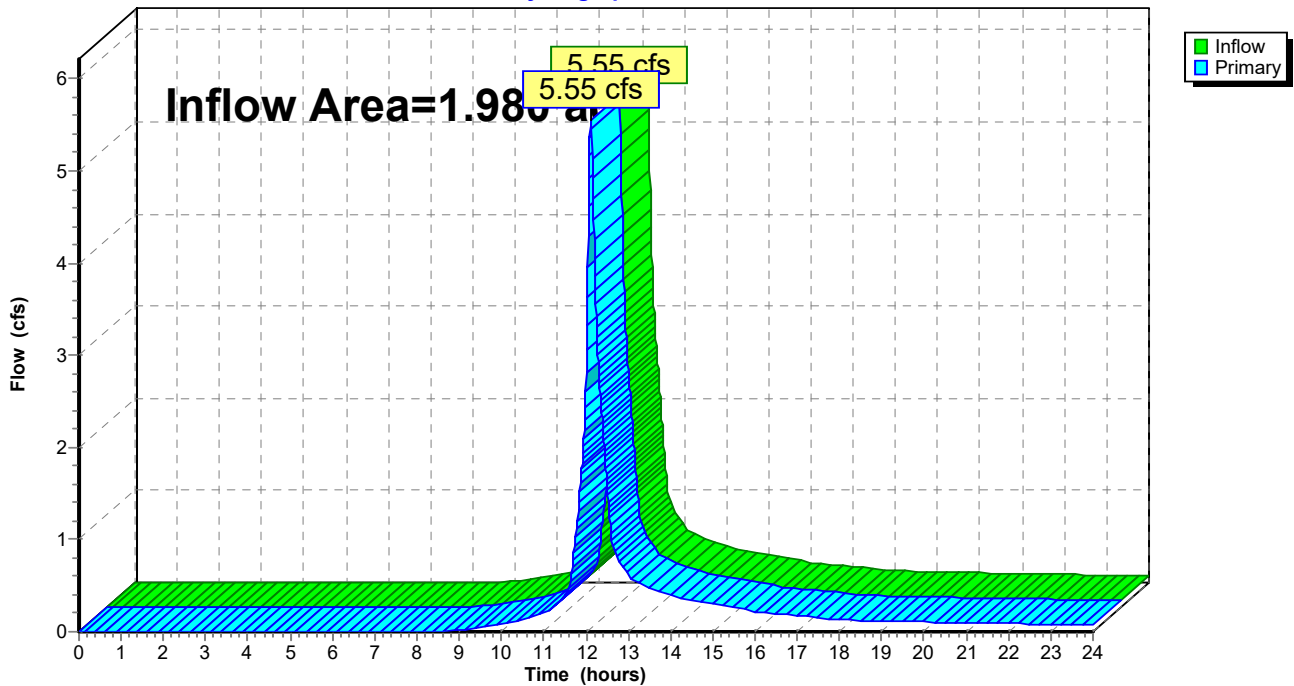
Summary for Link 100L: POA #1

Inflow Area = 1.980 ac, 2.71% Impervious, Inflow Depth > 2.54" for 10-Year event
Inflow = 5.55 cfs @ 12.11 hrs, Volume= 0.418 af
Primary = 5.55 cfs @ 12.11 hrs, Volume= 0.418 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Link 100L: POA #1

Hydrograph



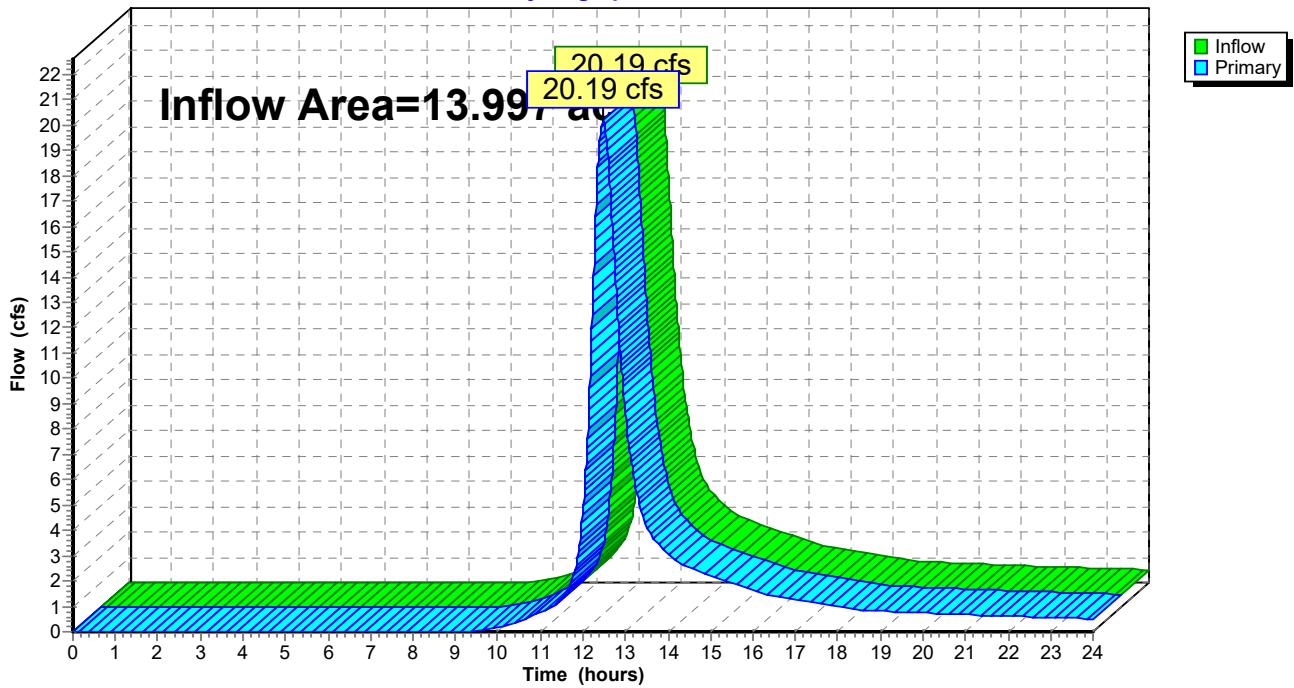
Summary for Link 200L: POA #2

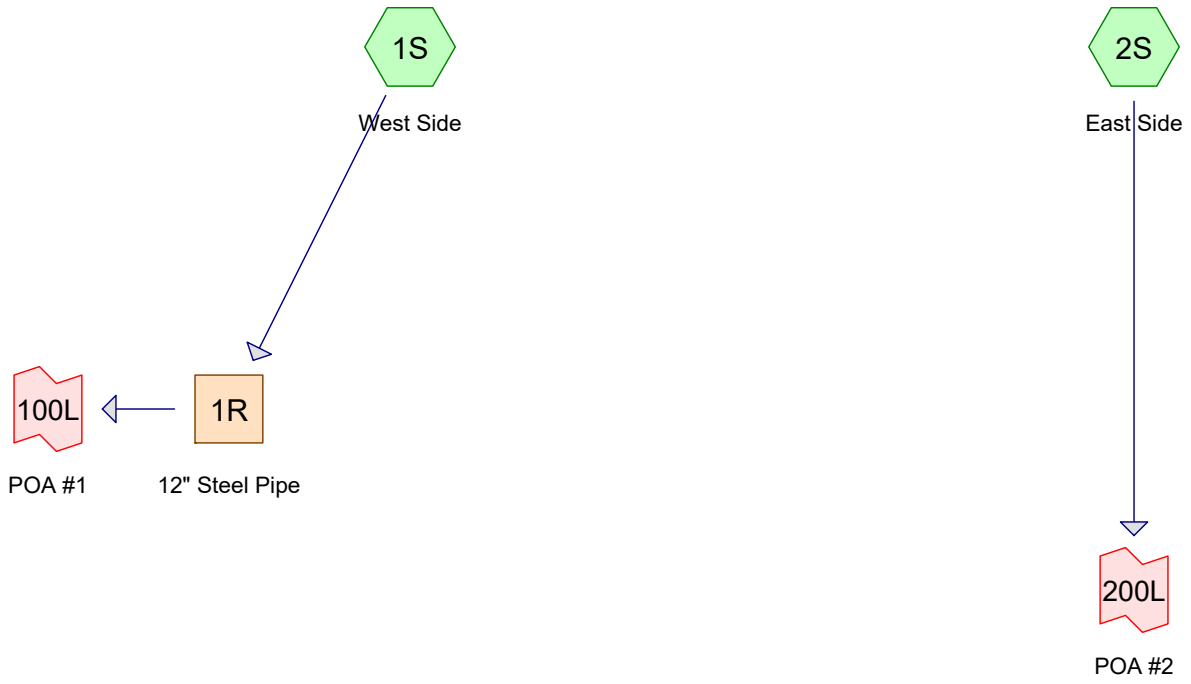
Inflow Area = 13.997 ac, 2.66% Impervious, Inflow Depth > 2.27" for 10-Year event
Inflow = 20.19 cfs @ 12.47 hrs, Volume= 2.645 af
Primary = 20.19 cfs @ 12.47 hrs, Volume= 2.645 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

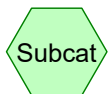
Link 200L: POA #2

Hydrograph





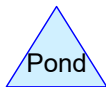
PRE-DEVELOPMENT



Subcat



Reach



Pond



Link

5116-Pre-061721

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

Prepared by Altus Engineering, Inc.

Printed 7/1/2021

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: West Side

Runoff Area=86,228 sf 2.71% Impervious Runoff Depth>3.65"
Flow Length=611' Tc=7.7 min CN=77 Runoff=7.99 cfs 0.602 af

Subcatchment 2S: East Side

Runoff Area=609,713 sf 2.66% Impervious Runoff Depth>3.33"
Flow Length=1,208' Tc=32.9 min CN=74 Runoff=29.85 cfs 3.885 af

Reach 1R: 12" Steel Pipe

Avg. Flow Depth=1.00' Max Vel=9.55 fps Inflow=7.99 cfs 0.602 af
12.0" Round Pipe n=0.012 L=45.0' S=0.0291 '/ Capacity=6.59 cfs Outflow=6.75 cfs 0.602 af

Link 100L: POA #1

Inflow=6.75 cfs 0.602 af
Primary=6.75 cfs 0.602 af

Link 200L: POA #2

Inflow=29.85 cfs 3.885 af
Primary=29.85 cfs 3.885 af

Total Runoff Area = 15.977 ac Runoff Volume = 4.487 af Average Runoff Depth = 3.37"
97.34% Pervious = 15.551 ac 2.66% Impervious = 0.426 ac

Section 4

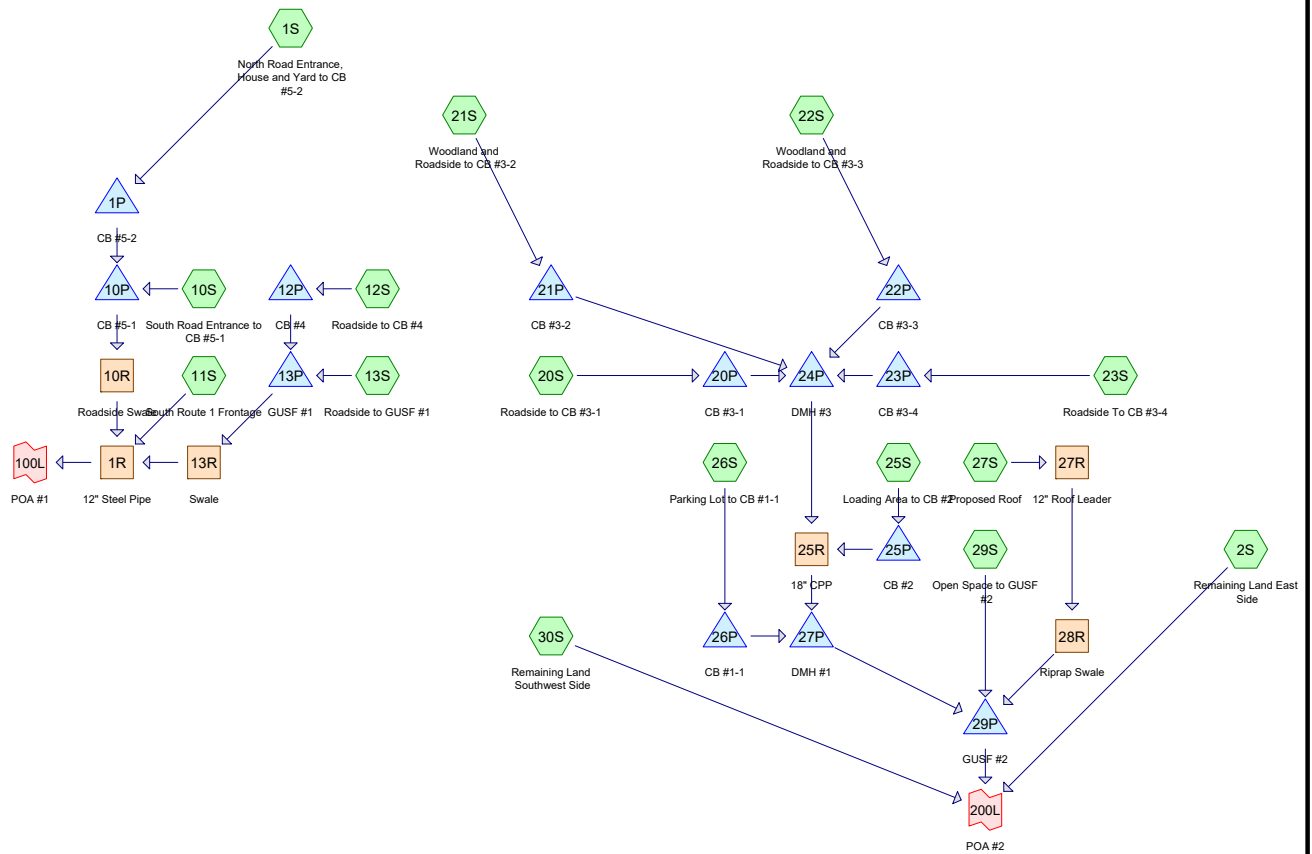
Drainage Calculations

Post-Development

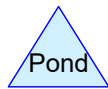
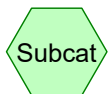
2-Year, 24-Hour Summary

10-Year, 24-Hour Complete

25-Year, 24-Hour Summary



POST-DEVELOPMENT



Routing Diagram for 5116-Post-061721
 Prepared by Altus Engineering, Inc., Printed 7/1/2021
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5116-Post-061721

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

Prepared by Altus Engineering, Inc.

Printed 7/1/2021

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: North Road Entrance, Runoff Area=51,236 sf 8.13% Impervious Runoff Depth=1.28"
 Flow Length=432' Tc=6.3 min CN=77 Runoff=1.71 cfs 0.126 af

Subcatchment 2S: Remaining Land East Runoff Area=279,061 sf 0.00% Impervious Runoff Depth=1.05"
 Flow Length=1,208' Tc=32.9 min CN=73 Runoff=4.01 cfs 0.559 af

Subcatchment 10S: South Road Entrance to Runoff Area=3,377 sf 82.44% Impervious Runoff Depth=2.74"
 Flow Length=139' Tc=6.0 min CN=95 Runoff=0.24 cfs 0.018 af

Subcatchment 11S: South Route 1 Frontage Runoff Area=6,211 sf 0.00% Impervious Runoff Depth=1.48"
 Flow Length=166' Tc=6.0 min CN=80 Runoff=0.25 cfs 0.018 af

Subcatchment 12S: Roadside to CB #4 Runoff Area=9,746 sf 23.27% Impervious Runoff Depth=1.55"
 Flow Length=282' Tc=9.6 min CN=81 Runoff=0.36 cfs 0.029 af

Subcatchment 13S: Roadside to GUSF #1 Runoff Area=13,602 sf 16.81% Impervious Runoff Depth=1.55"
 Flow Length=264' Tc=6.0 min CN=81 Runoff=0.56 cfs 0.040 af

Subcatchment 20S: Roadside to CB #3-1 Runoff Area=11,105 sf 40.77% Impervious Runoff Depth=2.00"
 Flow Length=390' Tc=6.0 min CN=87 Runoff=0.60 cfs 0.043 af

Subcatchment 21S: Woodland and Runoff Area=40,322 sf 6.67% Impervious Runoff Depth=1.28"
 Flow Length=338' Tc=6.5 min CN=77 Runoff=1.34 cfs 0.099 af

Subcatchment 22S: Woodland and Runoff Area=53,034 sf 6.79% Impervious Runoff Depth=1.10"
 Flow Length=408' Tc=16.0 min CN=74 Runoff=1.10 cfs 0.112 af

Subcatchment 23S: Roadside To CB #3-4 Runoff Area=8,495 sf 25.20% Impervious Runoff Depth=1.48"
 Flow Length=150' Tc=6.0 min CN=80 Runoff=0.34 cfs 0.024 af

Subcatchment 25S: Loading Area to CB #2 Runoff Area=4,411 sf 100.00% Impervious Runoff Depth=3.07"
 Flow Length=137' Tc=6.0 min CN=98 Runoff=0.32 cfs 0.026 af

Subcatchment 26S: Parking Lot to CB #1-1 Runoff Area=18,776 sf 85.85% Impervious Runoff Depth=2.74"
 Flow Length=332' Tc=6.0 min CN=95 Runoff=1.31 cfs 0.099 af

Subcatchment 27S: Proposed Roof Runoff Area=20,000 sf 100.00% Impervious Runoff Depth=3.07"
 Tc=6.0 min CN=98 Runoff=1.47 cfs 0.117 af

Subcatchment 29S: Open Space to GUSF #2 Runoff Area=90,054 sf 0.00% Impervious Runoff Depth=1.10"
 Flow Length=457' Tc=6.0 min CN=74 Runoff=2.55 cfs 0.190 af

Subcatchment 30S: Remaining Land Runoff Area=86,511 sf 18.73% Impervious Runoff Depth=1.55"
 Flow Length=760' Tc=12.0 min CN=81 Runoff=2.94 cfs 0.256 af

Reach 1R: 12" Steel Pipe Avg. Flow Depth=0.40' Max Vel=7.60 fps Inflow=2.26 cfs 0.230 af
 12.0" Round Pipe n=0.012 L=45.0' S=0.0291 1/1 Capacity=6.59 cfs Outflow=2.26 cfs 0.230 af

5116-Post-061721

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

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Reach 10R: Roadside Swale	Avg. Flow Depth=0.33' Max Vel=1.96 fps Inflow=1.94 cfs 0.144 af n=0.030 L=98.0' S=0.0104 '/ Capacity=17.99 cfs Outflow=1.93 cfs 0.144 af
Reach 13R: Swale	Avg. Flow Depth=0.08' Max Vel=1.72 fps Inflow=0.29 cfs 0.069 af n=0.030 L=41.0' S=0.0395 '/ Capacity=28.58 cfs Outflow=0.29 cfs 0.069 af
Reach 25R: 18" CPP 18.0" Round Pipe	Avg. Flow Depth=0.47' Max Vel=6.80 fps Inflow=3.27 cfs 0.304 af n=0.012 L=83.0' S=0.0175 '/ Capacity=15.04 cfs Outflow=3.27 cfs 0.304 af
Reach 27R: 12" Roof Leader 12.0" Round Pipe	Avg. Flow Depth=0.43' Max Vel=4.57 fps Inflow=1.47 cfs 0.117 af n=0.012 L=300.0' S=0.0100 '/ Capacity=3.86 cfs Outflow=1.45 cfs 0.117 af
Reach 28R: Riprap Swale	Avg. Flow Depth=0.21' Max Vel=2.82 fps Inflow=1.45 cfs 0.117 af n=0.069 L=108.0' S=0.1759 '/ Capacity=26.22 cfs Outflow=1.45 cfs 0.117 af
Pond 1P: CB #5-2 12.0" Round Culvert	Peak Elev=78.48' Storage=12 cf Inflow=1.71 cfs 0.126 af n=0.012 L=52.0' S=0.0050 '/ Outflow=1.71 cfs 0.126 af
Pond 10P: CB #5-1 12.0" Round Culvert	Peak Elev=78.13' Storage=12 cf Inflow=1.94 cfs 0.144 af n=0.012 L=20.0' S=0.0050 '/ Outflow=1.94 cfs 0.144 af
Pond 12P: CB #4 12.0" Round Culvert	Peak Elev=82.47' Storage=16 cf Inflow=0.36 cfs 0.029 af n=0.120 L=50.0' S=0.0050 '/ Outflow=0.35 cfs 0.029 af
Pond 13P: GUSF #1	Peak Elev=82.34' Storage=1,664 cf Inflow=0.88 cfs 0.069 af Outflow=0.29 cfs 0.069 af
Pond 20P: CB #3-1 15.0" Round Culvert	Peak Elev=76.93' Storage=7 cf Inflow=0.60 cfs 0.043 af n=0.012 L=8.0' S=0.0100 '/ Outflow=0.59 cfs 0.043 af
Pond 21P: CB #3-2 12.0" Round Culvert	Peak Elev=84.26' Storage=8 cf Inflow=1.34 cfs 0.099 af n=0.012 L=142.0' S=0.0500 '/ Outflow=1.34 cfs 0.099 af
Pond 22P: CB #3-3 12.0" Round Culvert	Peak Elev=79.54' Storage=7 cf Inflow=1.10 cfs 0.112 af n=0.012 L=68.0' S=0.0360 '/ Outflow=1.10 cfs 0.112 af
Pond 23P: CB #3-4 12.0" Round Culvert	Peak Elev=77.29' Storage=4 cf Inflow=0.34 cfs 0.024 af n=0.012 L=45.0' S=0.0100 '/ Outflow=0.33 cfs 0.024 af
Pond 24P: DMH #3 18.0" Round Culvert	Peak Elev=76.86' Storage=16 cf Inflow=2.96 cfs 0.278 af n=0.012 L=177.0' S=0.0175 '/ Outflow=2.96 cfs 0.278 af
Pond 25P: CB #2 12.0" Round Culvert	Peak Elev=73.84' Storage=4 cf Inflow=0.32 cfs 0.026 af n=0.012 L=36.0' S=0.0100 '/ Outflow=0.32 cfs 0.026 af
Pond 26P: CB #1-1 12.0" Round Culvert	Peak Elev=72.81' Storage=9 cf Inflow=1.31 cfs 0.099 af n=0.012 L=13.0' S=0.0100 '/ Outflow=1.31 cfs 0.099 af
Pond 27P: DMH #1 18.0" Round Culvert	Peak Elev=72.47' Storage=14 cf Inflow=4.53 cfs 0.402 af n=0.012 L=50.0' S=0.0100 '/ Outflow=4.53 cfs 0.402 af
Pond 29P: GUSF #2	Peak Elev=57.96' Storage=17,547 cf Inflow=8.52 cfs 0.710 af Outflow=3.81 cfs 0.667 af

5116-Post-061721

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

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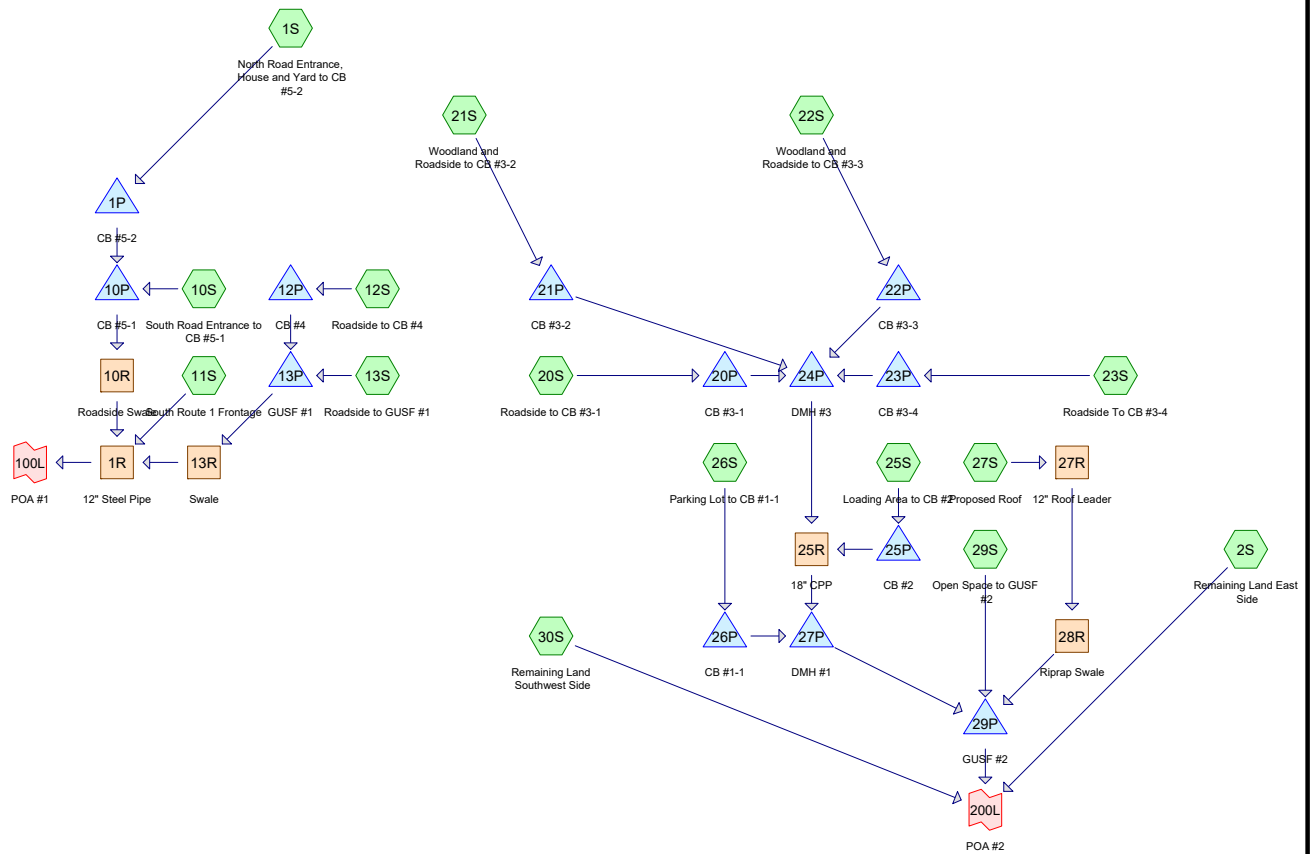
Link 100L: POA #1

Inflow=2.26 cfs 0.230 af
Primary=2.26 cfs 0.230 af

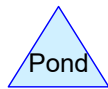
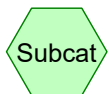
Link 200L: POA #2

Inflow=9.24 cfs 1.482 af
Primary=9.24 cfs 1.482 af

Total Runoff Area = 15.977 ac Runoff Volume = 1.755 af Average Runoff Depth = 1.32"
88.33% Pervious = 14.113 ac 11.67% Impervious = 1.864 ac



POST-DEVELOPMENT



Routing Diagram for 5116-Post-061721
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5116-Post-061721

Type III 24-hr 10-Year Rainfall=4.90"

Prepared by Altus Engineering, Inc.

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: North Road Entrance, Runoff Area=51,236 sf 8.13% Impervious Runoff Depth=2.54"
 Flow Length=432' Tc=6.3 min CN=77 Runoff=3.47 cfs 0.249 af

Subcatchment 2S: Remaining Land East Runoff Area=279,061 sf 0.00% Impervious Runoff Depth=2.20"
 Flow Length=1,208' Tc=32.9 min CN=73 Runoff=8.88 cfs 1.176 af

Subcatchment 10S: South Road Entrance to Runoff Area=3,377 sf 82.44% Impervious Runoff Depth=4.32"
 Flow Length=139' Tc=6.0 min CN=95 Runoff=0.36 cfs 0.028 af

Subcatchment 11S: South Route 1 Frontage Runoff Area=6,211 sf 0.00% Impervious Runoff Depth=2.81"
 Flow Length=166' Tc=6.0 min CN=80 Runoff=0.47 cfs 0.033 af

Subcatchment 12S: Roadside to CB #4 Runoff Area=9,746 sf 23.27% Impervious Runoff Depth=2.90"
 Flow Length=282' Tc=9.6 min CN=81 Runoff=0.67 cfs 0.054 af

Subcatchment 13S: Roadside to GUSF #1 Runoff Area=13,602 sf 16.81% Impervious Runoff Depth=2.90"
 Flow Length=264' Tc=6.0 min CN=81 Runoff=1.06 cfs 0.075 af

Subcatchment 20S: Roadside to CB #3-1 Runoff Area=11,105 sf 40.77% Impervious Runoff Depth=3.47"
 Flow Length=390' Tc=6.0 min CN=87 Runoff=1.02 cfs 0.074 af

Subcatchment 21S: Woodland and Runoff Area=40,322 sf 6.67% Impervious Runoff Depth=2.54"
 Flow Length=338' Tc=6.5 min CN=77 Runoff=2.71 cfs 0.196 af

Subcatchment 22S: Woodland and Runoff Area=53,034 sf 6.79% Impervious Runoff Depth=2.28"
 Flow Length=408' Tc=16.0 min CN=74 Runoff=2.39 cfs 0.232 af

Subcatchment 23S: Roadside To CB #3-4 Runoff Area=8,495 sf 25.20% Impervious Runoff Depth=2.81"
 Flow Length=150' Tc=6.0 min CN=80 Runoff=0.64 cfs 0.046 af

Subcatchment 25S: Loading Area to CB #2 Runoff Area=4,411 sf 100.00% Impervious Runoff Depth=4.66"
 Flow Length=137' Tc=6.0 min CN=98 Runoff=0.49 cfs 0.039 af

Subcatchment 26S: Parking Lot to CB #1-1 Runoff Area=18,776 sf 85.85% Impervious Runoff Depth=4.32"
 Flow Length=332' Tc=6.0 min CN=95 Runoff=2.01 cfs 0.155 af

Subcatchment 27S: Proposed Roof Runoff Area=20,000 sf 100.00% Impervious Runoff Depth=4.66"
 Tc=6.0 min CN=98 Runoff=2.20 cfs 0.178 af

Subcatchment 29S: Open Space to GUSF #2 Runoff Area=90,054 sf 0.00% Impervious Runoff Depth=2.28"
 Flow Length=457' Tc=6.0 min CN=74 Runoff=5.51 cfs 0.394 af

Subcatchment 30S: Remaining Land Runoff Area=86,511 sf 18.73% Impervious Runoff Depth=2.90"
 Flow Length=760' Tc=12.0 min CN=81 Runoff=5.54 cfs 0.479 af

Reach 1R: 12" Steel Pipe Avg. Flow Depth=0.62' Max Vel=9.07 fps Inflow=4.59 cfs 0.439 af
 12.0" Round Pipe n=0.012 L=45.0' S=0.0291 1/1 Capacity=6.59 cfs Outflow=4.59 cfs 0.439 af

5116-Post-061721

Type III 24-hr 10-Year Rainfall=4.90"

Prepared by Altus Engineering, Inc.

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Reach 10R: Roadside Swale	Avg. Flow Depth=0.47' Max Vel=2.37 fps Inflow=3.78 cfs 0.277 af n=0.030 L=98.0' S=0.0104 '/ Capacity=17.99 cfs Outflow=3.76 cfs 0.277 af
Reach 13R: Swale	Avg. Flow Depth=0.12' Max Vel=2.26 fps Inflow=0.63 cfs 0.129 af n=0.030 L=41.0' S=0.0395 '/ Capacity=28.58 cfs Outflow=0.63 cfs 0.129 af
Reach 25R: 18" CPP 18.0" Round Pipe	Avg. Flow Depth=0.69' Max Vel=8.18 fps Inflow=6.43 cfs 0.586 af n=0.012 L=83.0' S=0.0175 '/ Capacity=15.04 cfs Outflow=6.43 cfs 0.586 af
Reach 27R: 12" Roof Leader 12.0" Round Pipe	Avg. Flow Depth=0.54' Max Vel=5.06 fps Inflow=2.20 cfs 0.178 af n=0.012 L=300.0' S=0.0100 '/ Capacity=3.86 cfs Outflow=2.17 cfs 0.178 af
Reach 28R: Riprap Swale	Avg. Flow Depth=0.27' Max Vel=3.21 fps Inflow=2.17 cfs 0.178 af n=0.069 L=108.0' S=0.1759 '/ Capacity=26.22 cfs Outflow=2.17 cfs 0.178 af
Pond 1P: CB #5-2 12.0" Round Culvert	Peak Elev=79.68' Storage=26 cf Inflow=3.47 cfs 0.249 af n=0.012 L=52.0' S=0.0050 '/ Outflow=3.43 cfs 0.249 af
Pond 10P: CB #5-1 12.0" Round Culvert	Peak Elev=78.83' Storage=20 cf Inflow=3.77 cfs 0.277 af n=0.012 L=20.0' S=0.0050 '/ Outflow=3.78 cfs 0.277 af
Pond 12P: CB #4 12.0" Round Culvert	Peak Elev=84.16' Storage=38 cf Inflow=0.67 cfs 0.054 af n=0.120 L=50.0' S=0.0050 '/ Outflow=0.65 cfs 0.054 af
Pond 13P: GUSF #1	Peak Elev=82.99' Storage=2,543 cf Inflow=1.63 cfs 0.129 af Outflow=0.63 cfs 0.129 af
Pond 20P: CB #3-1 15.0" Round Culvert	Peak Elev=77.34' Storage=12 cf Inflow=1.02 cfs 0.074 af n=0.012 L=8.0' S=0.0100 '/ Outflow=1.01 cfs 0.074 af
Pond 21P: CB #3-2 12.0" Round Culvert	Peak Elev=84.66' Storage=13 cf Inflow=2.71 cfs 0.196 af n=0.012 L=142.0' S=0.0500 '/ Outflow=2.71 cfs 0.196 af
Pond 22P: CB #3-3 12.0" Round Culvert	Peak Elev=79.89' Storage=12 cf Inflow=2.39 cfs 0.232 af n=0.012 L=68.0' S=0.0360 '/ Outflow=2.39 cfs 0.232 af
Pond 23P: CB #3-4 12.0" Round Culvert	Peak Elev=77.52' Storage=7 cf Inflow=0.64 cfs 0.046 af n=0.012 L=45.0' S=0.0100 '/ Outflow=0.64 cfs 0.046 af
Pond 24P: DMH #3 18.0" Round Culvert	Peak Elev=77.30' Storage=25 cf Inflow=5.97 cfs 0.547 af n=0.012 L=177.0' S=0.0175 '/ Outflow=5.97 cfs 0.547 af
Pond 25P: CB #2 12.0" Round Culvert	Peak Elev=73.94' Storage=5 cf Inflow=0.49 cfs 0.039 af n=0.012 L=36.0' S=0.0100 '/ Outflow=0.48 cfs 0.039 af
Pond 26P: CB #1-1 12.0" Round Culvert	Peak Elev=73.37' Storage=16 cf Inflow=2.01 cfs 0.155 af n=0.012 L=13.0' S=0.0100 '/ Outflow=1.98 cfs 0.155 af
Pond 27P: DMH #1 18.0" Round Culvert	Peak Elev=73.12' Storage=22 cf Inflow=8.36 cfs 0.742 af n=0.012 L=50.0' S=0.0100 '/ Outflow=8.36 cfs 0.742 af
Pond 29P: GUSF #2	Peak Elev=58.66' Storage=24,031 cf Inflow=16.00 cfs 1.314 af Outflow=7.85 cfs 1.270 af

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Type III 24-hr 10-Year Rainfall=4.90"

Printed 7/1/2021

Link 100L: POA #1

Inflow=4.59 cfs 0.439 af
Primary=4.59 cfs 0.439 af

Link 200L: POA #2

Inflow=19.31 cfs 2.926 af
Primary=19.31 cfs 2.926 af

Total Runoff Area = 15.977 ac Runoff Volume = 3.408 af Average Runoff Depth = 2.56"
88.33% Pervious = 14.113 ac 11.67% Impervious = 1.864 ac

5116-Post-061721

Type III 24-hr 10-Year Rainfall=4.90"

Prepared by Altus Engineering, Inc.

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Summary for Subcatchment 1S: North Road Entrance, House and Yard to CB #5-2

Runoff = 3.47 cfs @ 12.09 hrs, Volume= 0.249 af, Depth= 2.54"

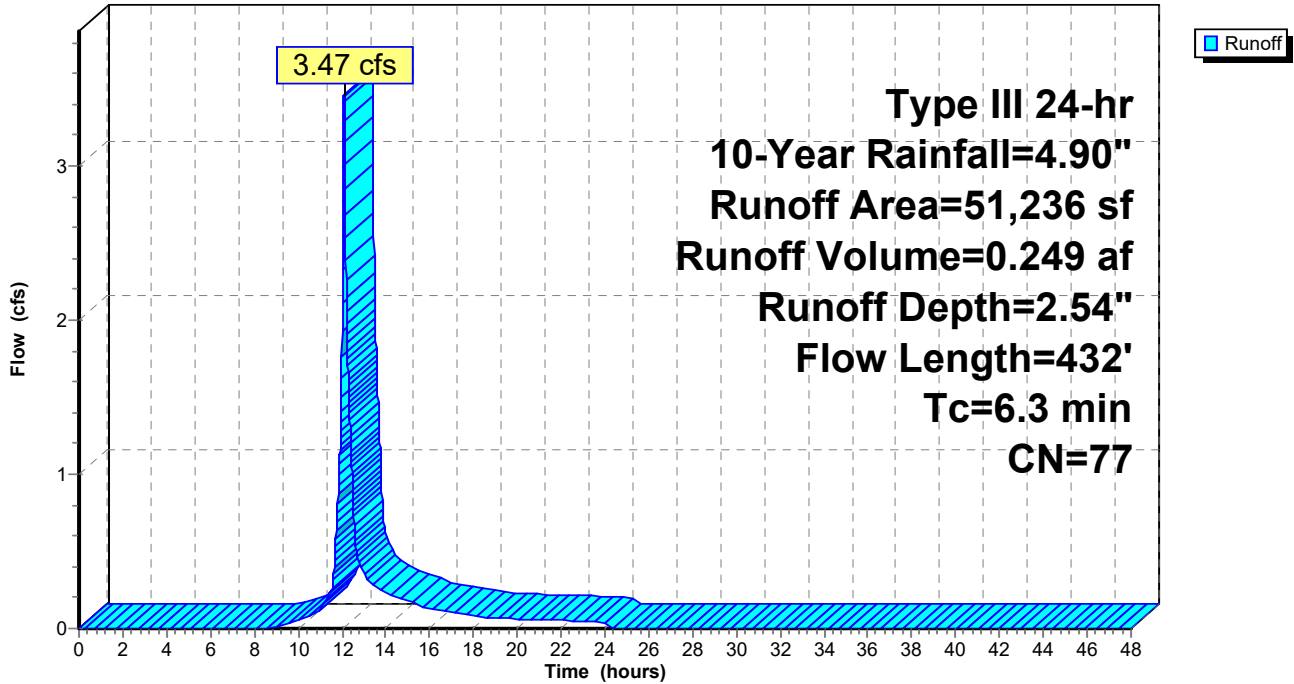
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
* 741	98	Impervious Existing Pavement
* 1,318	98	Impervious Existing Building
* 2,105	98	Impervious Proposed Pavement
333	96	Gravel surface, HSG D
3,755	96	Gravel surface, HSG C
1,629	87	Dirt roads, HSG C
7,139	80	>75% Grass cover, Good, HSG D
818	77	Woods, Good, HSG D
14,145	74	>75% Grass cover, Good, HSG C
19,253	70	Woods, Good, HSG C
51,236	77	Weighted Average
47,072		91.87% Pervious Area
4,164		8.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	54	0.0579	0.23		Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
1.5	192	0.0941	2.15		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.5	97	0.0336	2.95		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.3	80	0.0750	4.41		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.1	9	0.0075	1.76		Shallow Concentrated Flow, Paved Kv= 20.3 fps
6.3	432	Total			

Subcatchment 1S: North Road Entrance, House and Yard to CB #5-2

Hydrograph



5116-Post-061721

Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Subcatchment 2S: Remaining Land East Side

Runoff = 8.88 cfs @ 12.47 hrs, Volume= 1.176 af, Depth= 2.20"

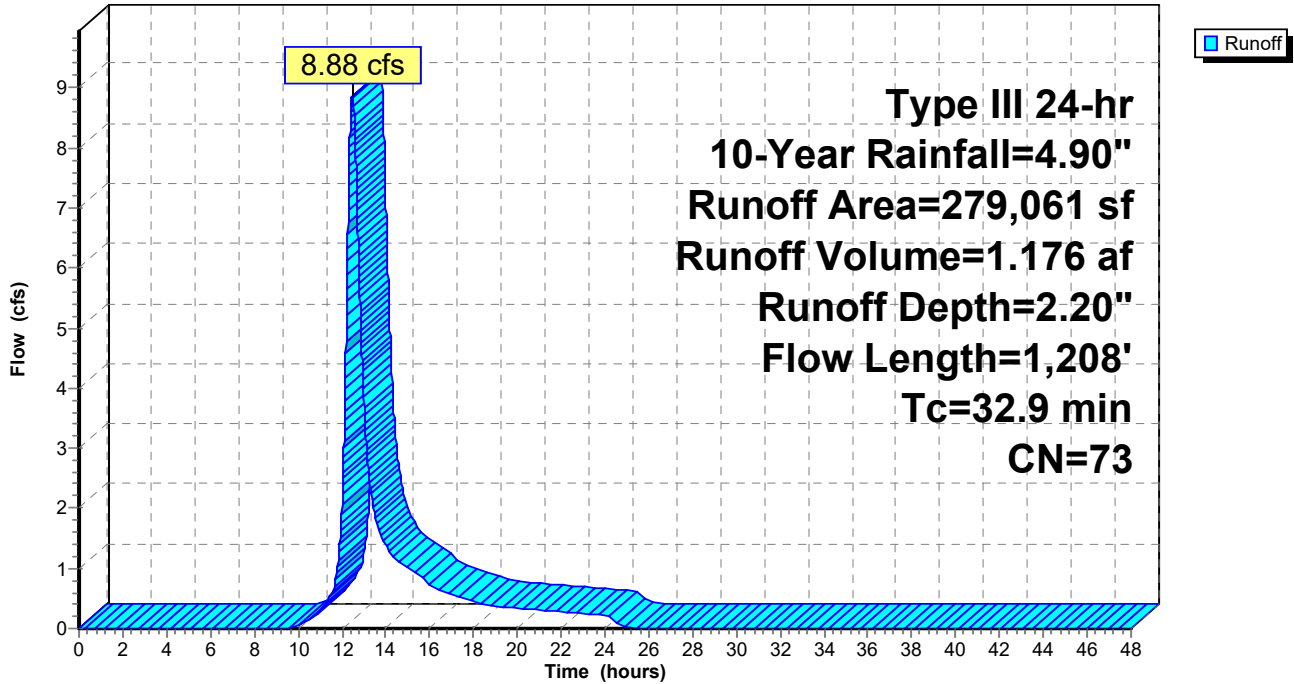
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
1,161	89	Dirt roads, HSG D
2,559	87	Dirt roads, HSG C
2,459	80	>75% Grass cover, Good, HSG D
93,993	77	Woods, Good, HSG D
3,899	74	>75% Grass cover, Good, HSG C
174,990	70	Woods, Good, HSG C
279,061	73	Weighted Average
279,061		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	83	0.1231	0.16		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
1.4	121	0.0826	1.44		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.1	301	0.0199	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
7.8	223	0.0090	0.47		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.6	77	0.0250	0.79		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.1	98	0.0816	1.43		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
5.1	305	0.0393	0.99		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
32.9	1,208	Total			

Subcatchment 2S: Remaining Land East Side

Hydrograph



Summary for Subcatchment 10S: South Road Entrance to CB #5-1

Runoff = 0.36 cfs @ 12.08 hrs, Volume= 0.028 af, Depth= 4.32"

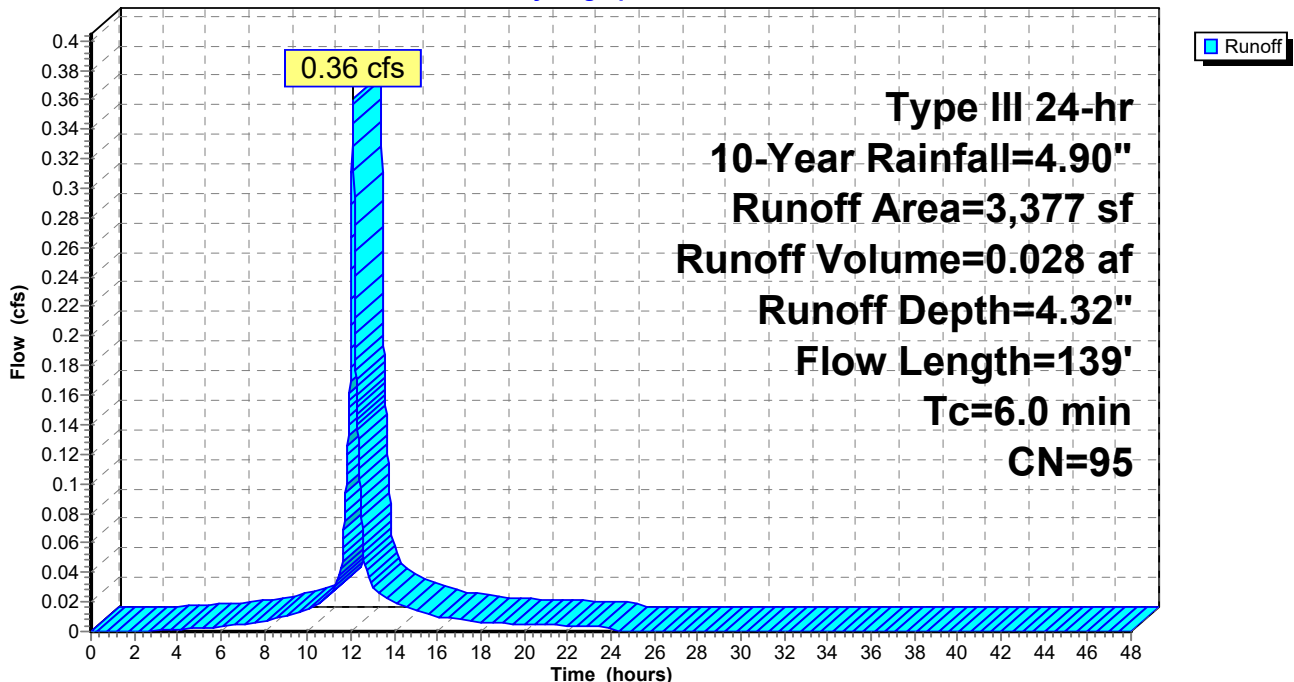
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

	Area (sf)	CN	Description
*	129	98	Impervious Existing Pavement
*	2,655	98	Impervious Proposed Pavement
	593	80	>75% Grass cover, Good, HSG D
	3,377	95	Weighted Average
	593		17.56% Pervious Area
	2,784		82.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0801	2.12		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.30"
0.1	34	0.0783	5.68		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.1	37	0.0543	4.73		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.1	18	0.0444	4.28		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.7	139	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 10S: South Road Entrance to CB #5-1

Hydrograph



Summary for Subcatchment 11S: South Route 1 Frontage

Runoff = 0.47 cfs @ 12.09 hrs, Volume= 0.033 af, Depth= 2.81"

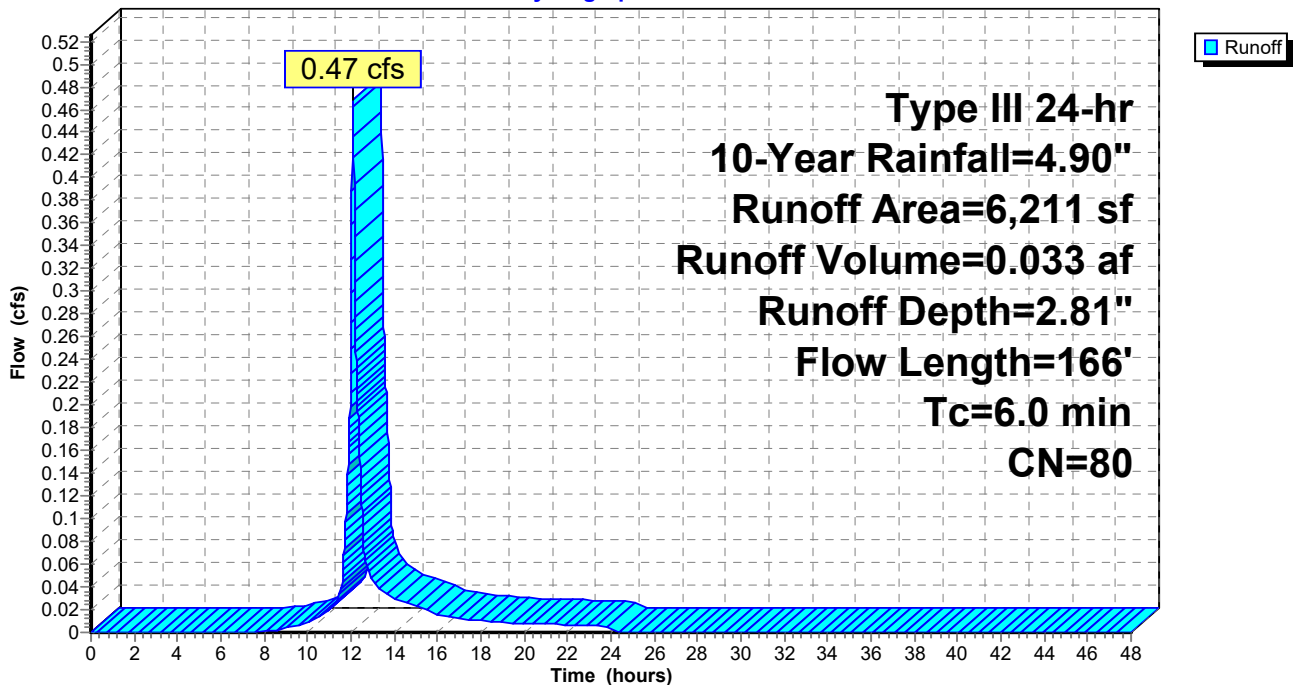
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
5,206	80	>75% Grass cover, Good, HSG D
1,005	77	Woods, Good, HSG D
6,211	80	Weighted Average
6,211		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	50	0.0660	0.24		Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
0.6	98	0.1326	2.55		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.2	18	0.0142	1.79		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
4.2	166	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 11S: South Route 1 Frontage

Hydrograph



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Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Subcatchment 12S: Roadside to CB #4

Runoff = 0.67 cfs @ 12.13 hrs, Volume= 0.054 af, Depth= 2.90"

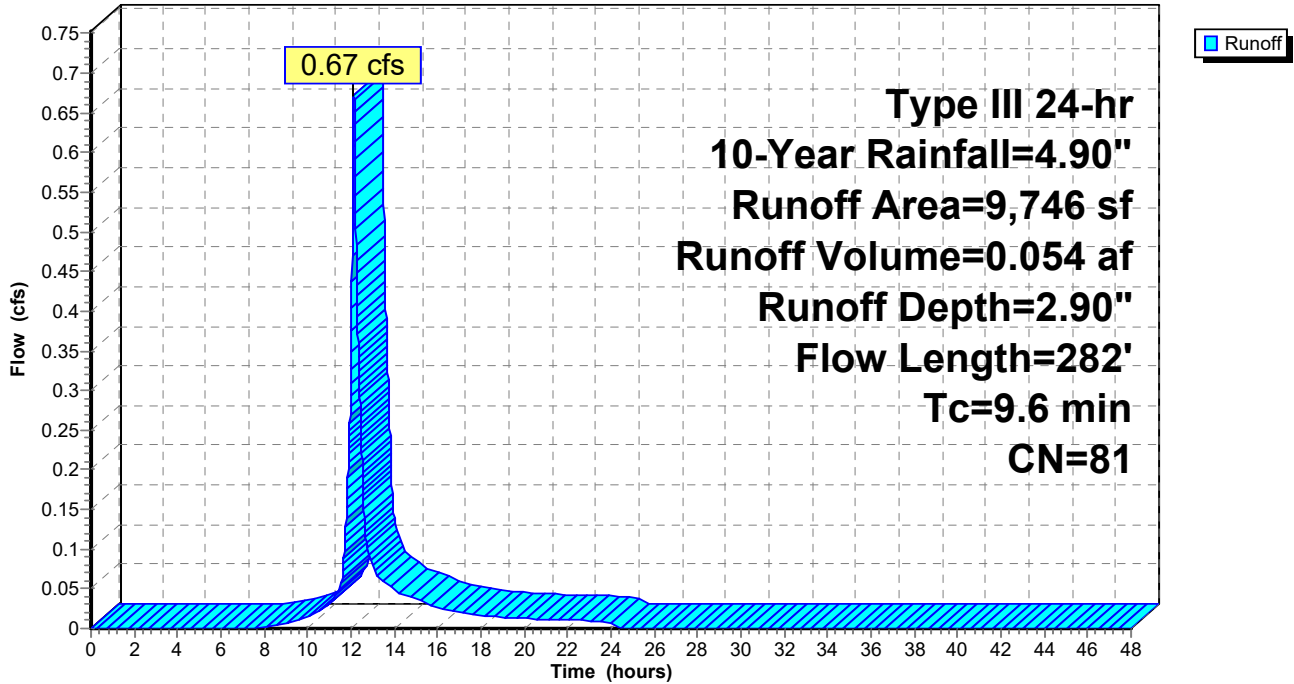
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
* 2,268	98	Impervious Proposed Pavement
1,740	80	>75% Grass cover, Good, HSG D
1,668	77	Woods, Good, HSG D
3,711	74	>75% Grass cover, Good, HSG C
359	70	Woods, Good, HSG C
9,746	81	Weighted Average
7,478		76.73% Pervious Area
2,268		23.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9	41	0.0399	0.09		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
0.9	61	0.0492	1.11		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.3	37	0.0849	2.04		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.1	11	0.0400	1.40		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.4	132	0.0614	5.03		Shallow Concentrated Flow, Paved Kv= 20.3 fps
9.6	282	Total			

Subcatchment 12S: Roadside to CB #4

Hydrograph



5116-Post-061721

Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Subcatchment 13S: Roadside to GUSF #1

Runoff = 1.06 cfs @ 12.09 hrs, Volume= 0.075 af, Depth= 2.90"

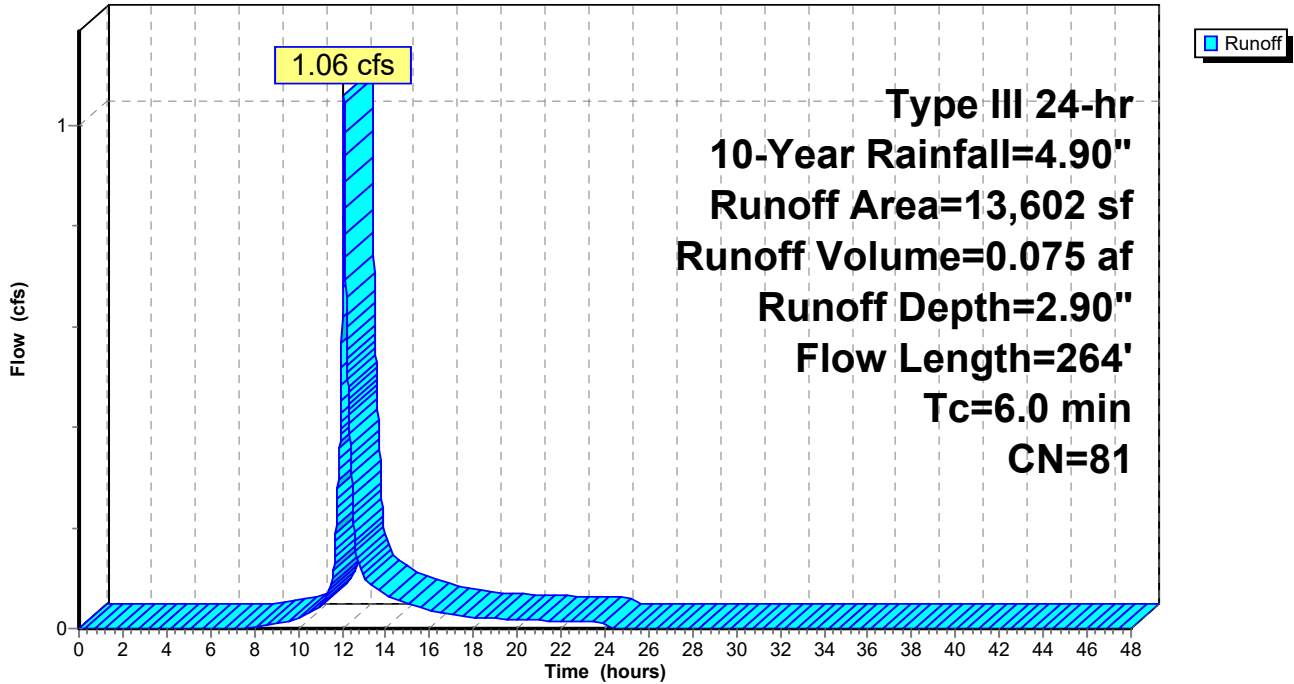
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
* 2,286	98	Impervious Proposed Pavement
7,996	80	>75% Grass cover, Good, HSG D
33	77	Woods, Good, HSG D
2,443	74	>75% Grass cover, Good, HSG C
844	70	Woods, Good, HSG C
13,602	81	Weighted Average
11,316		83.19% Pervious Area
2,286		16.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	12	0.0200	0.91		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.30"
0.0	8	0.3333	4.04		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.6	63	0.0159	1.89		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
0.3	57	0.0351	2.81		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
0.4	82	0.0610	3.70		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
0.2	42	0.0952	4.63		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.7	264	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 13S: Roadside to GUSF #1

Hydrograph



5116-Post-061721

Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Subcatchment 20S: Roadside to CB #3-1

Runoff = 1.02 cfs @ 12.09 hrs, Volume= 0.074 af, Depth= 3.47"

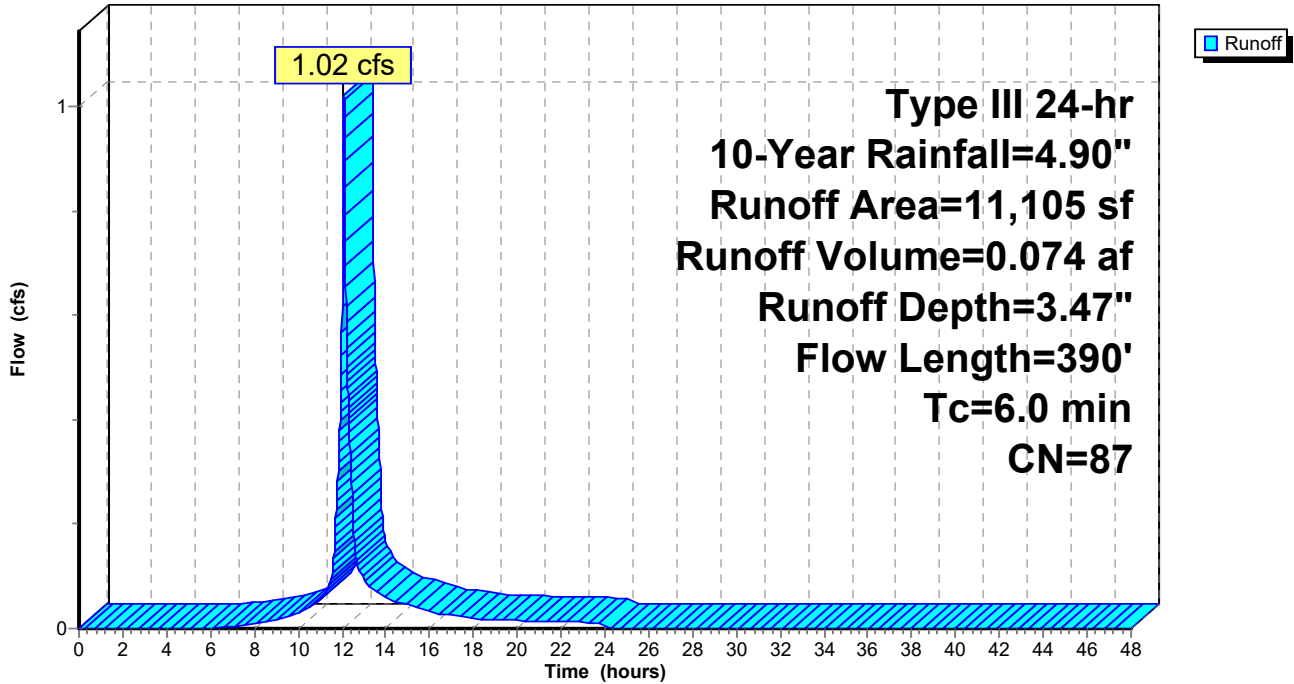
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
* 4,527	98	Impervious Proposed Pavement
6,371	80	>75% Grass cover, Good, HSG D
207	74	>75% Grass cover, Good, HSG C
11,105	87	Weighted Average
6,578		59.23% Pervious Area
4,527		40.77% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	12	0.0200	0.91		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.30"
0.0	8	0.3333	4.04		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.6	63	0.0159	1.89		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.5	257	0.0350	2.81		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
0.2	50	0.0650	3.82		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
2.5	390	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 20S: Roadside to CB #3-1

Hydrograph



5116-Post-061721

Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Subcatchment 21S: Woodland and Roadside to CB #3-2

Runoff = 2.71 cfs @ 12.10 hrs, Volume= 0.196 af, Depth= 2.54"

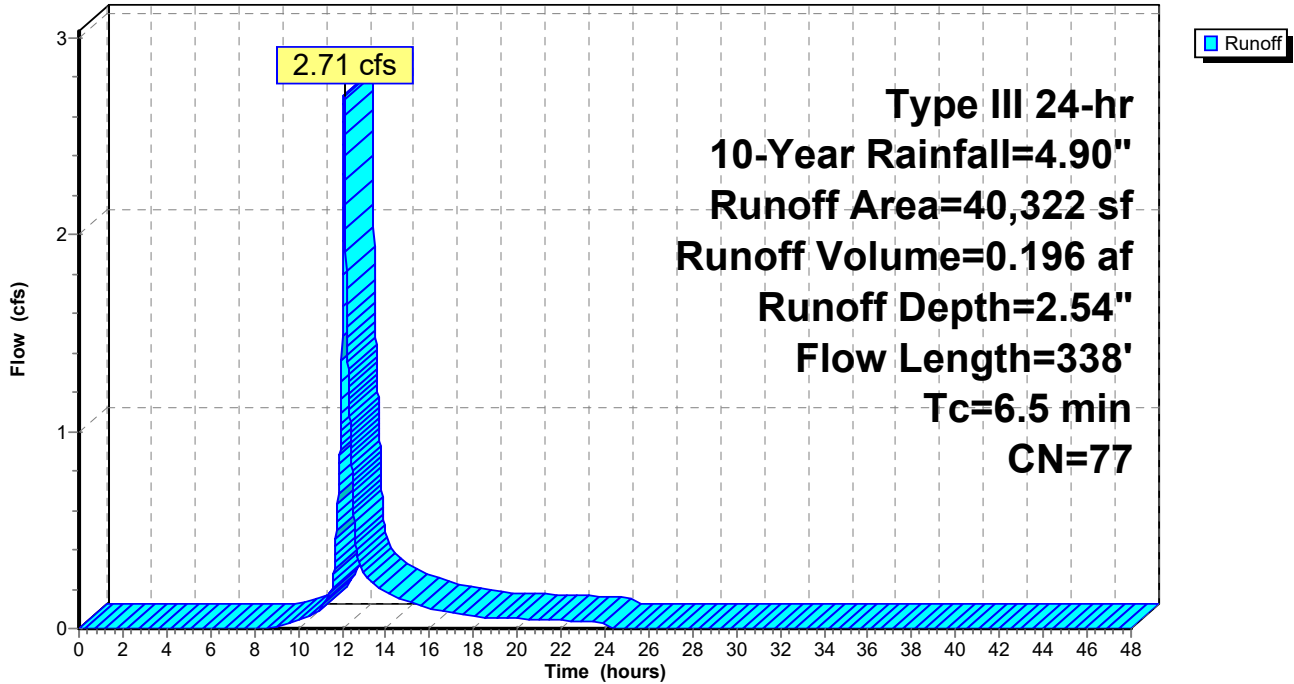
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
* 2,690	98	Impervious Proposed Pavement
304	87	Dirt roads, HSG C
14,485	80	>75% Grass cover, Good, HSG D
873	77	Woods, Good, HSG D
15,967	74	>75% Grass cover, Good, HSG C
6,003	70	Woods, Good, HSG C
40,322	77	Weighted Average
37,632		93.33% Pervious Area
2,690		6.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.9	50	0.0493	0.22		Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
2.1	180	0.0402	1.40		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.1	11	0.0402	1.40		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.4	97	0.0341	3.75		Shallow Concentrated Flow, Paved Kv= 20.3 fps
6.5	338	Total			

Subcatchment 21S: Woodland and Roadside to CB #3-2

Hydrograph



5116-Post-061721

Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Subcatchment 22S: Woodland and Roadside to CB #3-3

Runoff = 2.39 cfs @ 12.22 hrs, Volume= 0.232 af, Depth= 2.28"

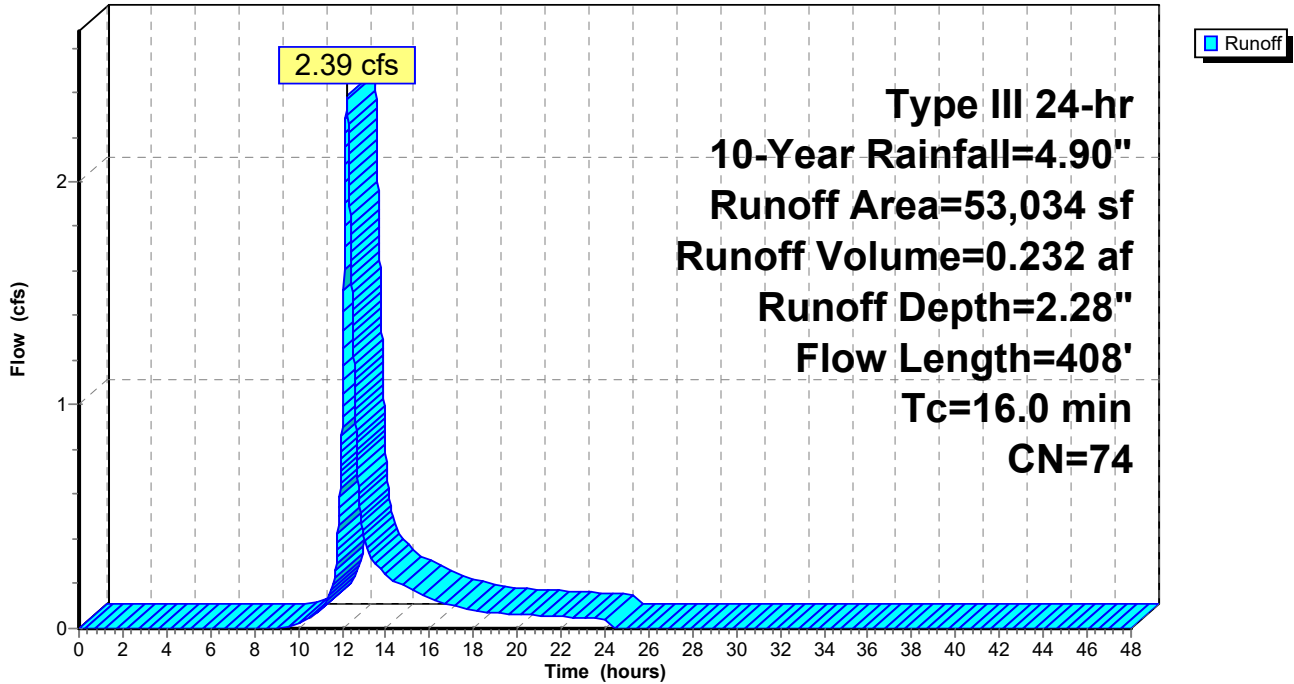
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
* 3,603	98	Impervious Proposed Pavement
1,976	87	Dirt roads, HSG C
3,978	80	>75% Grass cover, Good, HSG D
442	77	Woods, Good, HSG D
8,850	74	>75% Grass cover, Good, HSG C
34,185	70	Woods, Good, HSG C
53,034	74	Weighted Average
49,431		93.21% Pervious Area
3,603		6.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.4	50	0.0191	0.07		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.30"
1.9	185	0.1017	1.59		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.4	52	0.0769	1.94		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.7	44	0.0471	1.09		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
0.1	8	0.0350	1.31		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.5	69	0.0140	2.40		Shallow Concentrated Flow, Paved Kv= 20.3 fps
16.0	408	Total			

Subcatchment 22S: Woodland and Roadside to CB #3-3

Hydrograph



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Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Subcatchment 23S: Roadside To CB #3-4

Runoff = 0.64 cfs @ 12.09 hrs, Volume= 0.046 af, Depth= 2.81"

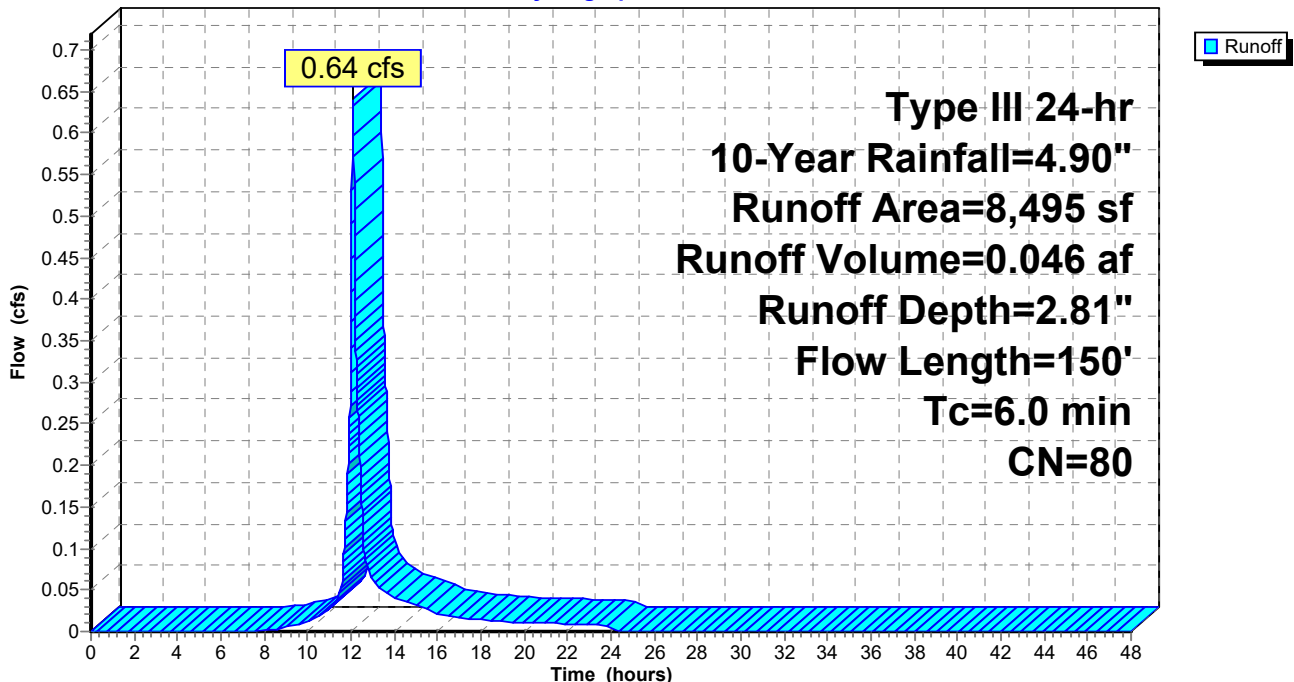
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
* 2,141	98	Impervious Proposed Pavement
224	80	>75% Grass cover, Good, HSG D
6,130	74	>75% Grass cover, Good, HSG C
8,495	80	Weighted Average
6,354		74.80% Pervious Area
2,141		25.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	14	0.0200	0.94		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.30"
0.0	4	0.0400	1.40		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.0	5	0.3333	4.04		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.9	127	0.0222	2.23		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.1	150	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 23S: Roadside To CB #3-4

Hydrograph



Summary for Subcatchment 25S: Loading Area to CB #2

Runoff = 0.49 cfs @ 12.08 hrs, Volume= 0.039 af, Depth= 4.66"

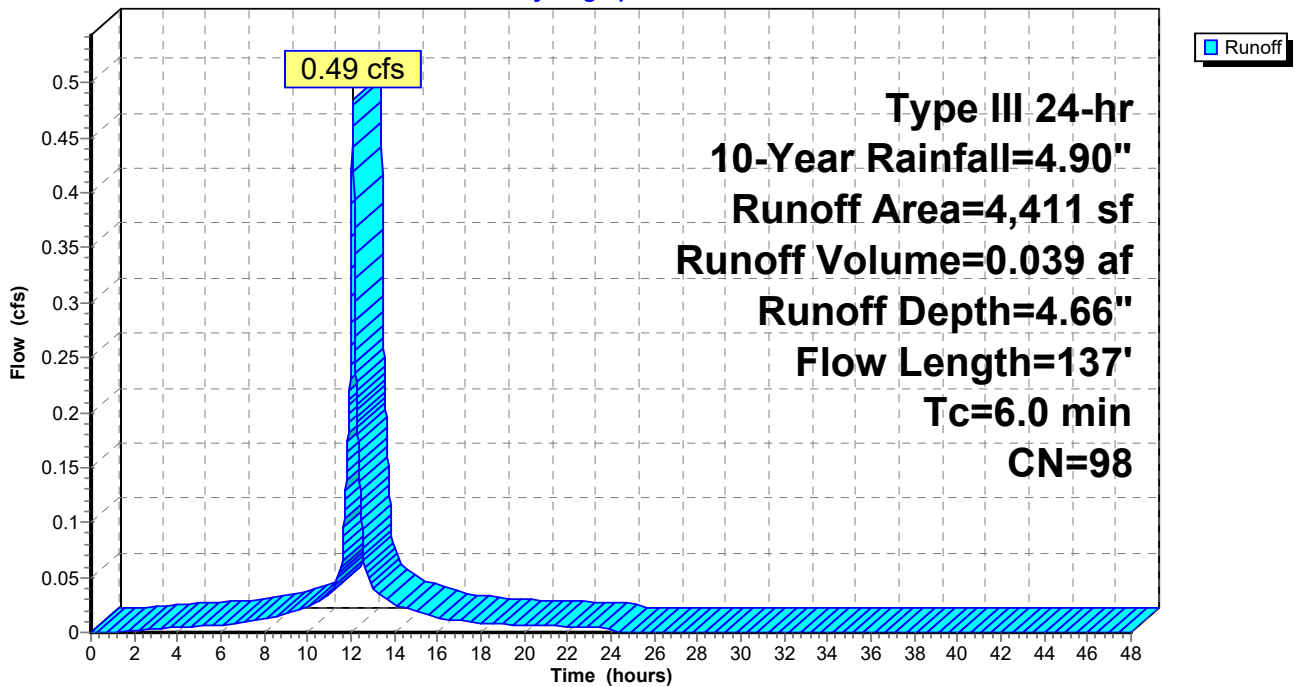
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
* 4,411	98	Impervious Proposed Pavement
4,411		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	44	0.0316	1.42		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.30"
0.1	24	0.0238	3.13		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.3	60	0.0200	2.87		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.1	9	0.0040	1.28		Shallow Concentrated Flow, Paved Kv= 20.3 fps
1.0	137	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 25S: Loading Area to CB #2

Hydrograph



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Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Subcatchment 26S: Parking Lot to CB #1-1

Runoff = 2.01 cfs @ 12.08 hrs, Volume= 0.155 af, Depth= 4.32"

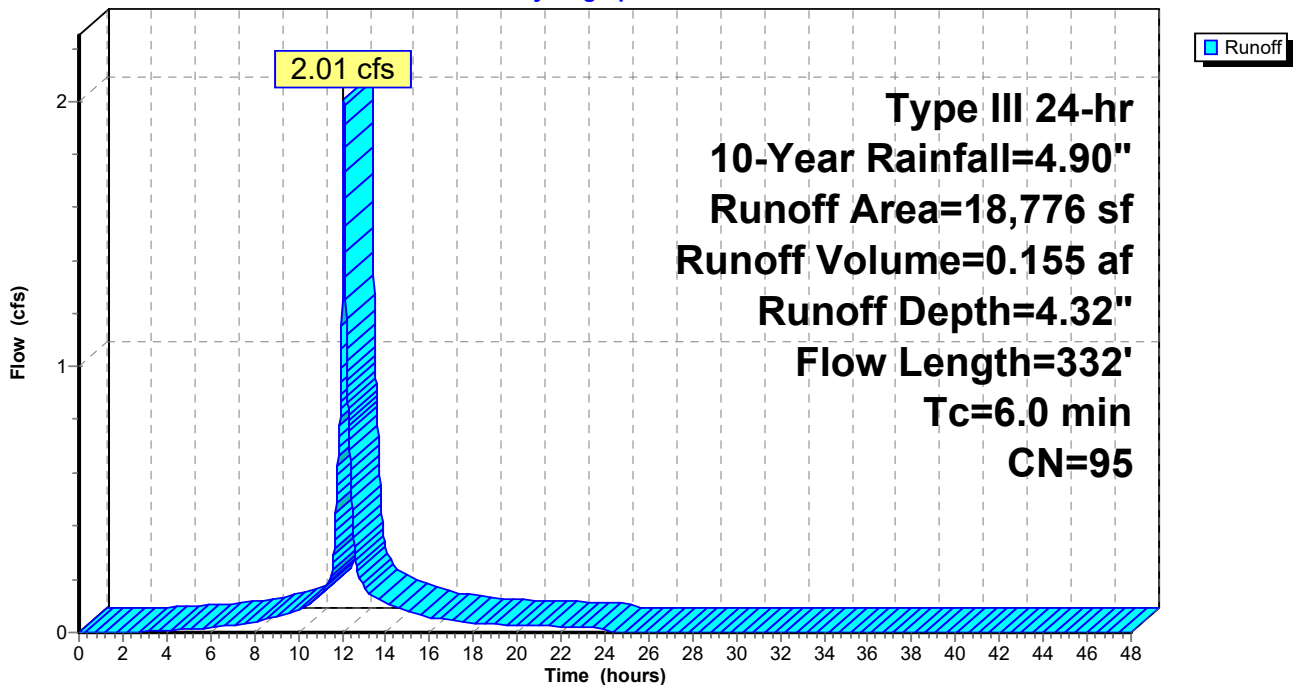
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
* 16,120	98	Impervious Proposed Pavement
2,295	80	>75% Grass cover, Good, HSG D
361	74	>75% Grass cover, Good, HSG C
18,776	95	Weighted Average
2,656		14.15% Pervious Area
16,120		85.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0444	1.67		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.30"
0.2	48	0.0334	3.71		Shallow Concentrated Flow, Paved Kv= 20.3 fps
1.4	234	0.0200	2.87		Shallow Concentrated Flow, Paved Kv= 20.3 fps
2.1	332	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 26S: Parking Lot to CB #1-1

Hydrograph



Summary for Subcatchment 27S: Proposed Roof

Runoff = 2.20 cfs @ 12.08 hrs, Volume= 0.178 af, Depth= 4.66"

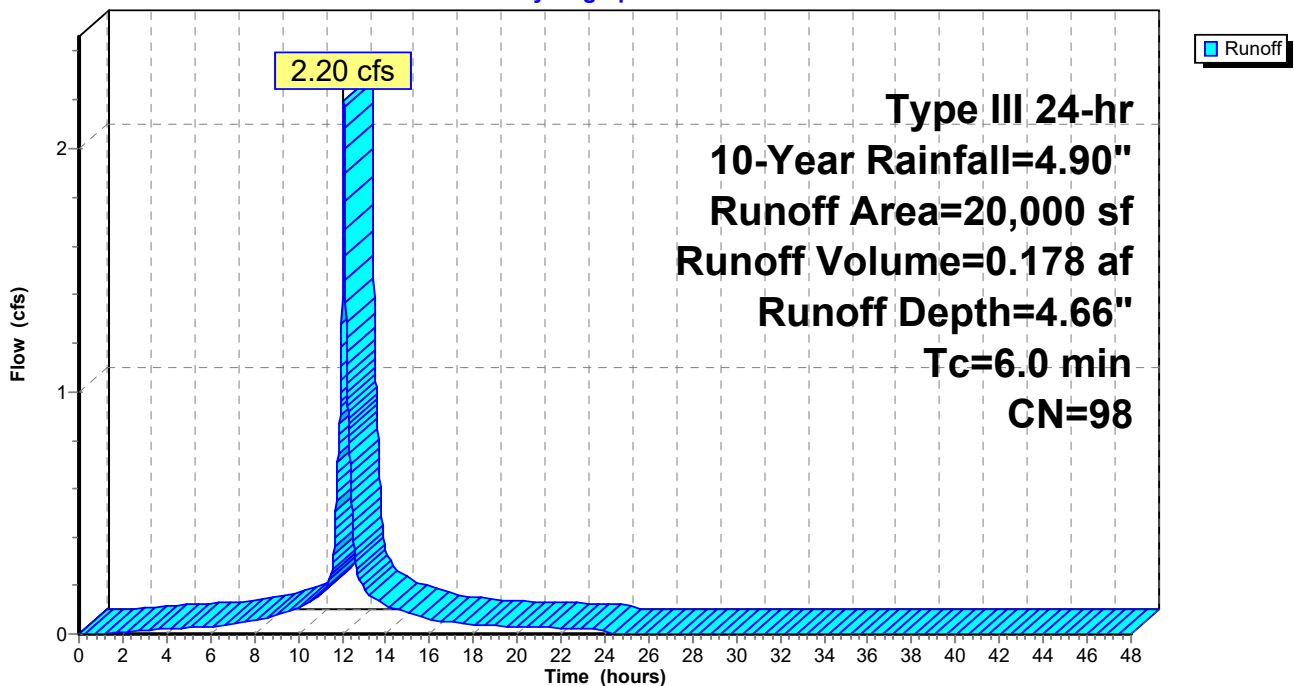
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
* 20,000	98	Impervious Proposed Roof
20,000		100.00% Impervious Area

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

Subcatchment 27S: Proposed Roof

Hydrograph



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Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Subcatchment 29S: Open Space to GUSF #2

Runoff = 5.51 cfs @ 12.09 hrs, Volume= 0.394 af, Depth= 2.28"

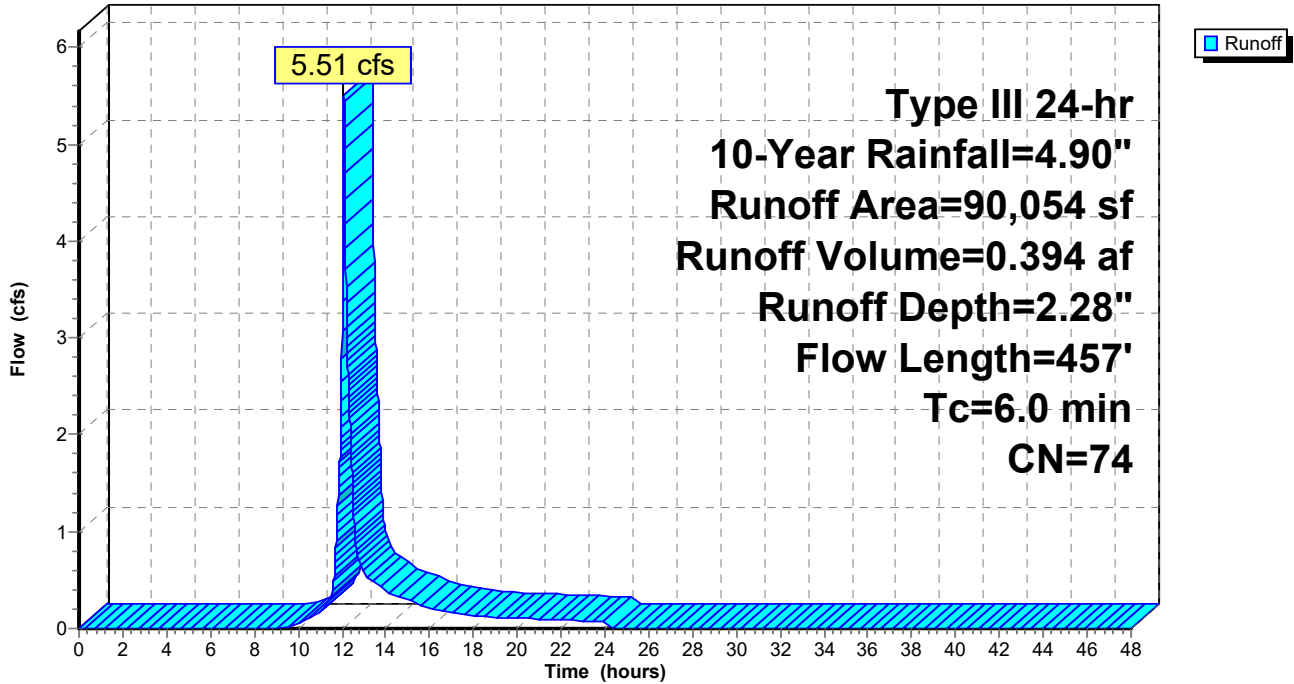
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
13,841	80	>75% Grass cover, Good, HSG D
18,593	77	Woods, Good, HSG D
31,340	74	>75% Grass cover, Good, HSG C
26,280	70	Woods, Good, HSG C
90,054	74	Weighted Average
90,054		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	16	0.0582	0.18		Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
3.5	319	0.0100	1.50		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
0.1	27	0.1290	5.44	13.61	Trap/Vee/Rect Channel Flow, Bot.W=2.00' D=1.00' Z= 0.5 '/' Top.W=3.00' n= 0.069 Riprap, 6-inch
0.1	48	0.2800	8.02	20.05	Trap/Vee/Rect Channel Flow, Bot.W=2.00' D=1.00' Z= 0.5 '/' Top.W=3.00' n= 0.069 Riprap, 6-inch
0.2	47	0.0950	4.67	11.68	Trap/Vee/Rect Channel Flow, Bot.W=2.00' D=1.00' Z= 0.5 '/' Top.W=3.00' n= 0.069 Riprap, 6-inch
5.4	457	Total, Increased to minimum Tc = 6.0 min			

Subcatchment 29S: Open Space to GUSF #2

Hydrograph



Summary for Subcatchment 30S: Remaining Land Southwest Side

Runoff = 5.54 cfs @ 12.17 hrs, Volume= 0.479 af, Depth= 2.90"

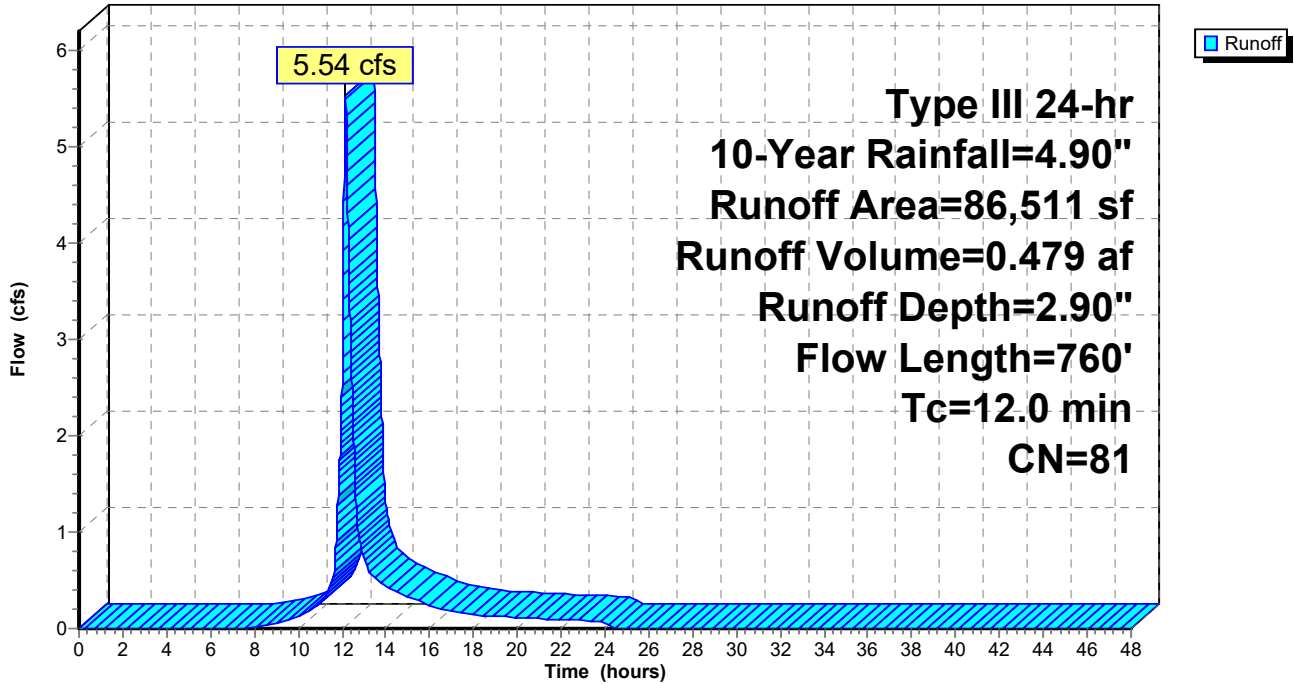
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Type III 24-hr 10-Year Rainfall=4.90"

Area (sf)	CN	Description
* 11,834	98	Impervious Existing Pavement
* 4,369	98	Impervious Existing Roof
27,369	80	>75% Grass cover, Good, HSG D
35,628	77	Woods, Good, HSG D
1,815	74	>75% Grass cover, Good, HSG C
5,496	70	Woods, Good, HSG C
86,511	81	Weighted Average
70,308		81.27% Pervious Area
16,203		18.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	31	0.0200	0.14		Sheet Flow, Grass: Short n= 0.150 P2= 3.30"
0.1	15	0.0200	2.87		Shallow Concentrated Flow, Paved Kv= 20.3 fps
1.2	74	0.0203	1.00		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.8	209	0.0335	0.92		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
1.4	207	0.0290	2.55		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
0.3	75	0.0933	4.58		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
1.4	149	0.1208	1.74		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
12.0	760	Total			

Subcatchment 30S: Remaining Land Southwest Side

Hydrograph



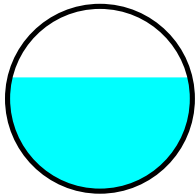
Summary for Reach 1R: 12" Steel Pipe

Inflow Area = 1.932 ac, 13.66% Impervious, Inflow Depth = 2.73" for 10-Year event
 Inflow = 4.59 cfs @ 12.11 hrs, Volume= 0.439 af
 Outflow = 4.59 cfs @ 12.11 hrs, Volume= 0.439 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Max. Velocity= 9.07 fps, Min. Travel Time= 0.1 min
 Avg. Velocity = 2.07 fps, Avg. Travel Time= 0.4 min

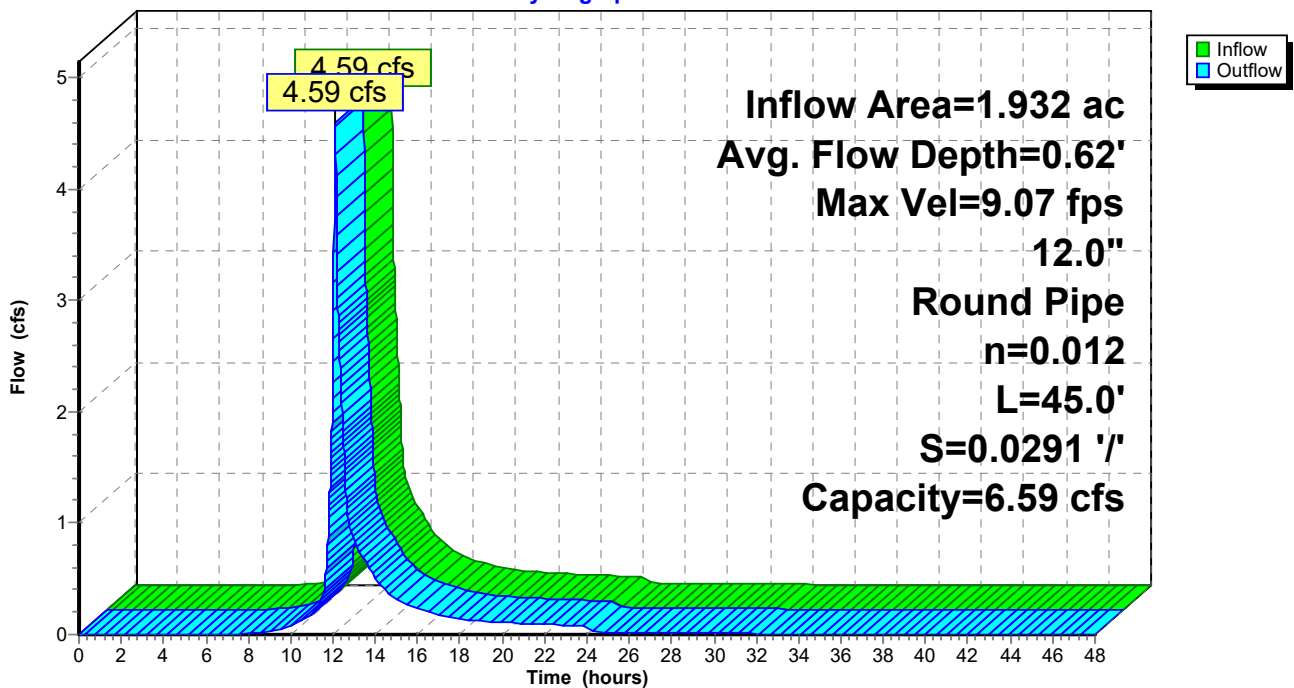
Peak Storage= 23 cf @ 12.11 hrs
 Average Depth at Peak Storage= 0.62'
 Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 6.59 cfs

12.0" Round Pipe
 n= 0.012
 Length= 45.0' Slope= 0.0291 '/
 Inlet Invert= 76.08', Outlet Invert= 74.77'



Reach 1R: 12" Steel Pipe

Hydrograph



Summary for Reach 10R: Roadside Swale

Inflow Area = 1.254 ac, 12.72% Impervious, Inflow Depth = 2.65" for 10-Year event
 Inflow = 3.78 cfs @ 12.09 hrs, Volume= 0.277 af
 Outflow = 3.76 cfs @ 12.11 hrs, Volume= 0.277 af, Atten= 0%, Lag= 1.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Max. Velocity= 2.37 fps, Min. Travel Time= 0.7 min
 Avg. Velocity = 0.63 fps, Avg. Travel Time= 2.6 min

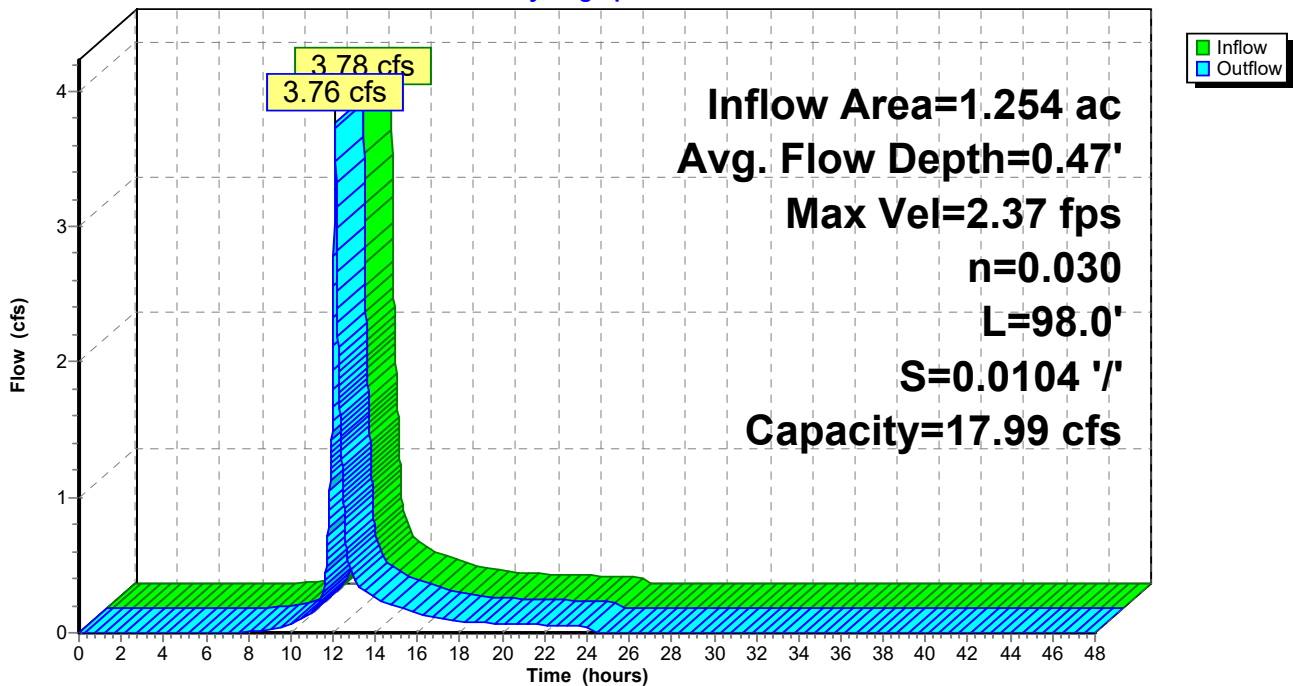
Peak Storage= 156 cf @ 12.11 hrs
 Average Depth at Peak Storage= 0.47'
 Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 17.99 cfs

2.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
 Side Slope Z-value= 3.0 ' / ' Top Width= 8.00'
 Length= 98.0' Slope= 0.0104 ' / '
 Inlet Invert= 77.10', Outlet Invert= 76.08'



Reach 10R: Roadside Swale

Hydrograph



Summary for Reach 13R: Swale

Inflow Area = 0.536 ac, 19.50% Impervious, Inflow Depth > 2.89" for 10-Year event
 Inflow = 0.63 cfs @ 12.41 hrs, Volume= 0.129 af
 Outflow = 0.63 cfs @ 12.42 hrs, Volume= 0.129 af, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Max. Velocity= 2.26 fps, Min. Travel Time= 0.3 min
 Avg. Velocity = 0.66 fps, Avg. Travel Time= 1.0 min

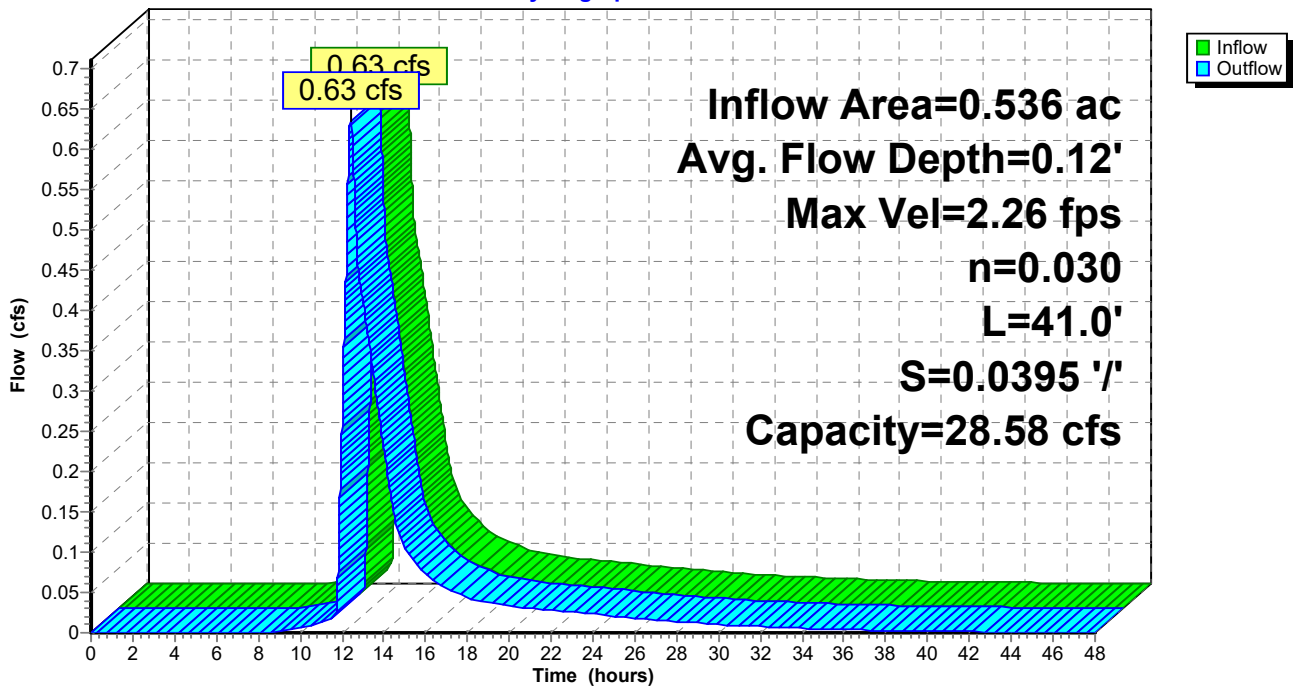
Peak Storage= 12 cf @ 12.42 hrs
 Average Depth at Peak Storage= 0.12'
 Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 28.58 cfs

2.00' x 1.00' deep channel, n= 0.030 Earth, grassed & winding
 Side Slope Z-value= 2.0 '/' Top Width= 6.00'
 Length= 41.0' Slope= 0.0395 '/'
 Inlet Invert= 77.70', Outlet Invert= 76.08'



Reach 13R: Swale

Hydrograph



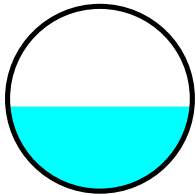
Summary for Reach 25R: 18" CPP

Inflow Area = 2.694 ac, 14.80% Impervious, Inflow Depth = 2.61" for 10-Year event
 Inflow = 6.43 cfs @ 12.11 hrs, Volume= 0.586 af
 Outflow = 6.43 cfs @ 12.11 hrs, Volume= 0.586 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Max. Velocity= 8.18 fps, Min. Travel Time= 0.2 min
 Avg. Velocity = 2.49 fps, Avg. Travel Time= 0.6 min

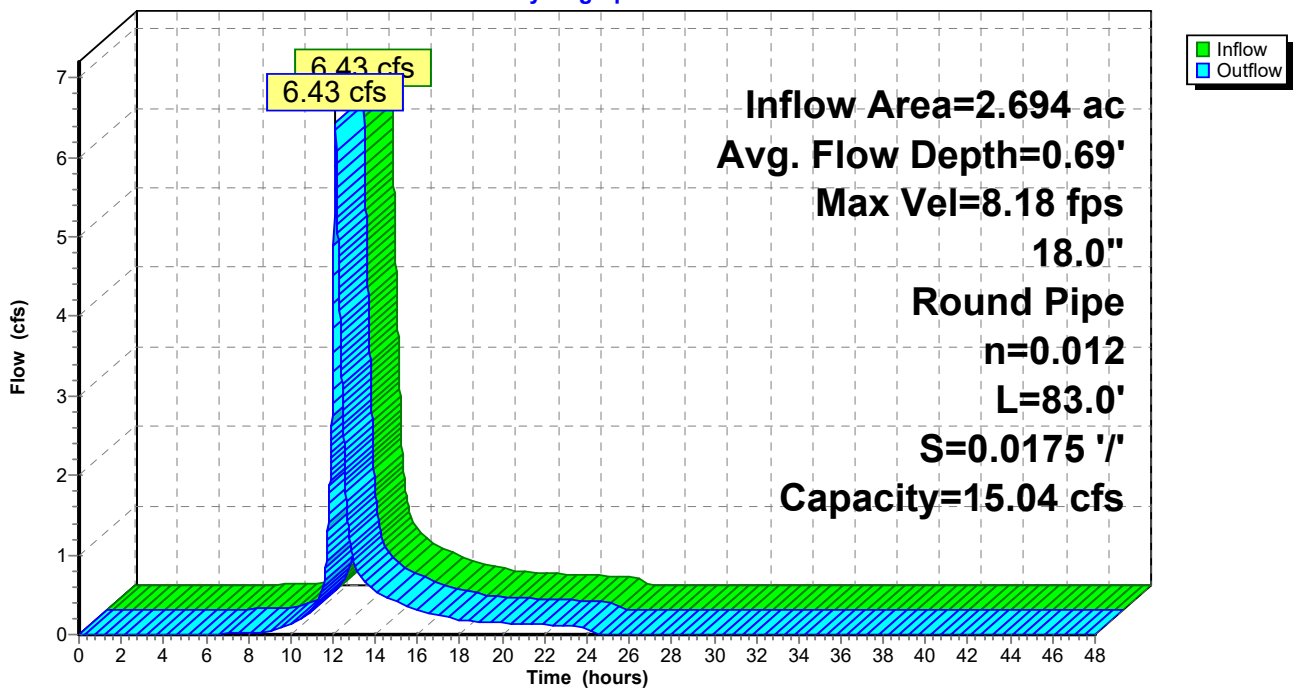
Peak Storage= 65 cf @ 12.11 hrs
 Average Depth at Peak Storage= 0.69'
 Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 15.04 cfs

18.0" Round Pipe
 n= 0.012
 Length= 83.0' Slope= 0.0175 '/'
 Inlet Invert= 72.95', Outlet Invert= 71.50'



Reach 25R: 18" CPP

Hydrograph



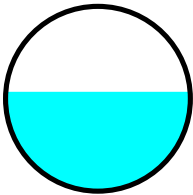
Summary for Reach 27R: 12" Roof Leader

Inflow Area = 0.459 ac, 100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
 Inflow = 2.20 cfs @ 12.08 hrs, Volume= 0.178 af
 Outflow = 2.17 cfs @ 12.10 hrs, Volume= 0.178 af, Atten= 1%, Lag= 0.8 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Max. Velocity= 5.06 fps, Min. Travel Time= 1.0 min
 Avg. Velocity = 1.70 fps, Avg. Travel Time= 2.9 min

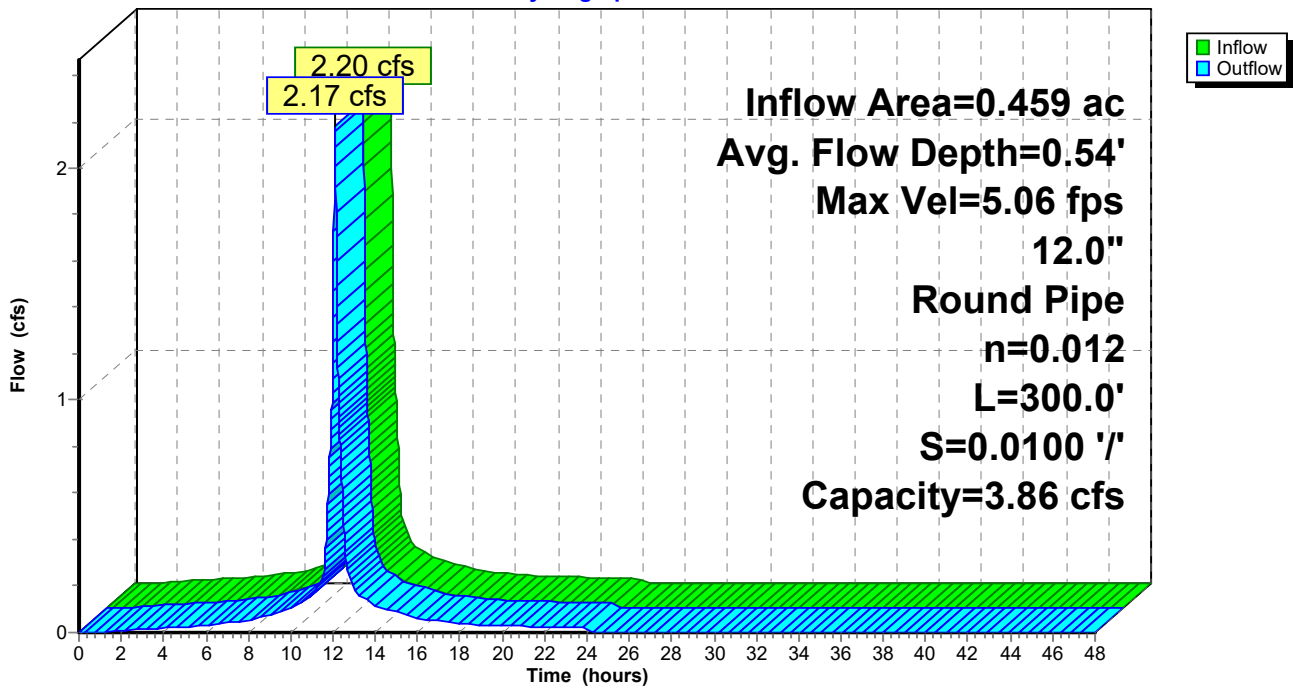
Peak Storage= 129 cf @ 12.10 hrs
 Average Depth at Peak Storage= 0.54'
 Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 3.86 cfs

12.0" Round Pipe
 n= 0.012
 Length= 300.0' Slope= 0.0100 '/'
 Inlet Invert= 78.50', Outlet Invert= 75.50'



Reach 27R: 12" Roof Leader

Hydrograph



Summary for Reach 28R: Riprap Swale

Inflow Area = 0.459 ac, 100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
 Inflow = 2.17 cfs @ 12.10 hrs, Volume= 0.178 af
 Outflow = 2.17 cfs @ 12.10 hrs, Volume= 0.178 af, Atten= 0%, Lag= 0.4 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Max. Velocity= 3.21 fps, Min. Travel Time= 0.6 min
 Avg. Velocity = 0.86 fps, Avg. Travel Time= 2.1 min

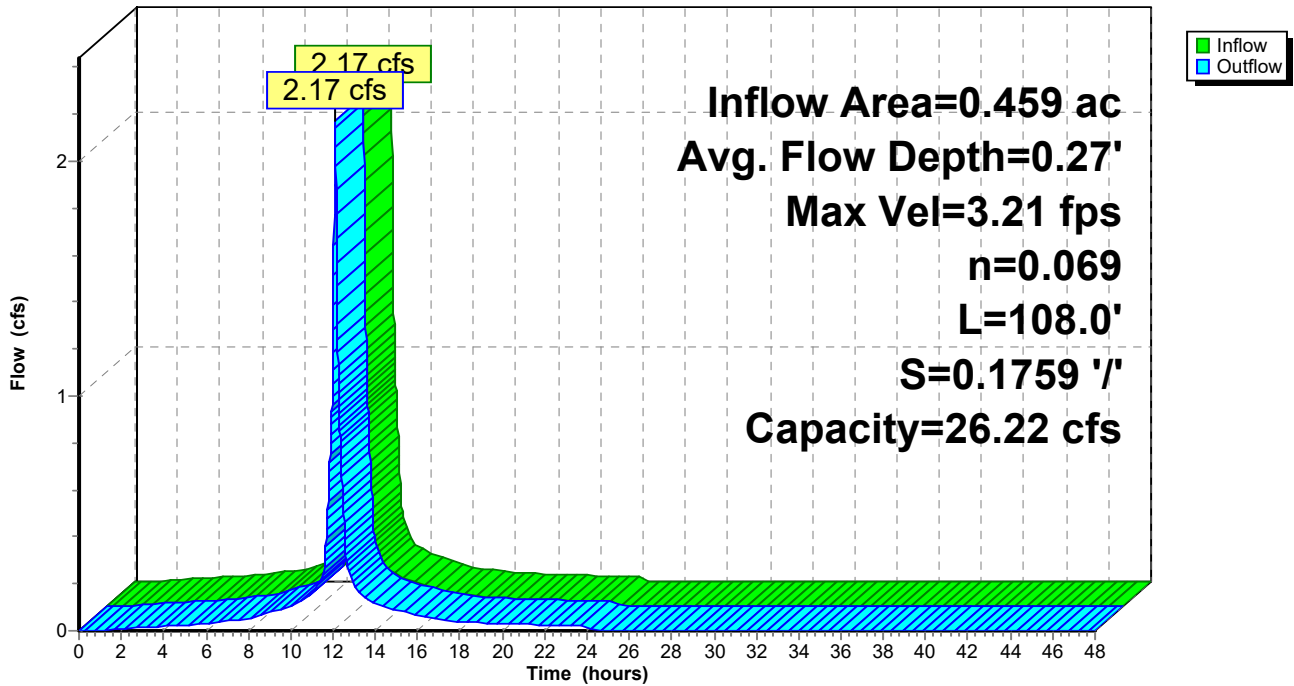
Peak Storage= 73 cf @ 12.10 hrs
 Average Depth at Peak Storage= 0.27'
 Bank-Full Depth= 1.00' Flow Area= 4.0 sf, Capacity= 26.22 cfs

2.00' x 1.00' deep channel, n= 0.069 Riprap, 6-inch
 Side Slope Z-value= 2.0 '/ Top Width= 6.00'
 Length= 108.0' Slope= 0.1759 '/
 Inlet Invert= 75.50', Outlet Invert= 56.50'



Reach 28R: Riprap Swale

Hydrograph



5116-Post-061721

Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Pond 1P: CB #5-2

Inflow Area = 1.176 ac, 8.13% Impervious, Inflow Depth = 2.54" for 10-Year event
 Inflow = 3.47 cfs @ 12.09 hrs, Volume= 0.249 af
 Outflow = 3.43 cfs @ 12.11 hrs, Volume= 0.249 af, Atten= 1%, Lag= 0.9 min
 Primary = 3.43 cfs @ 12.11 hrs, Volume= 0.249 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 79.68' @ 12.11 hrs Surf.Area= 228 sf Storage= 26 cf

Plug-Flow detention time= 0.2 min calculated for 0.249 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (831.2 - 830.9)

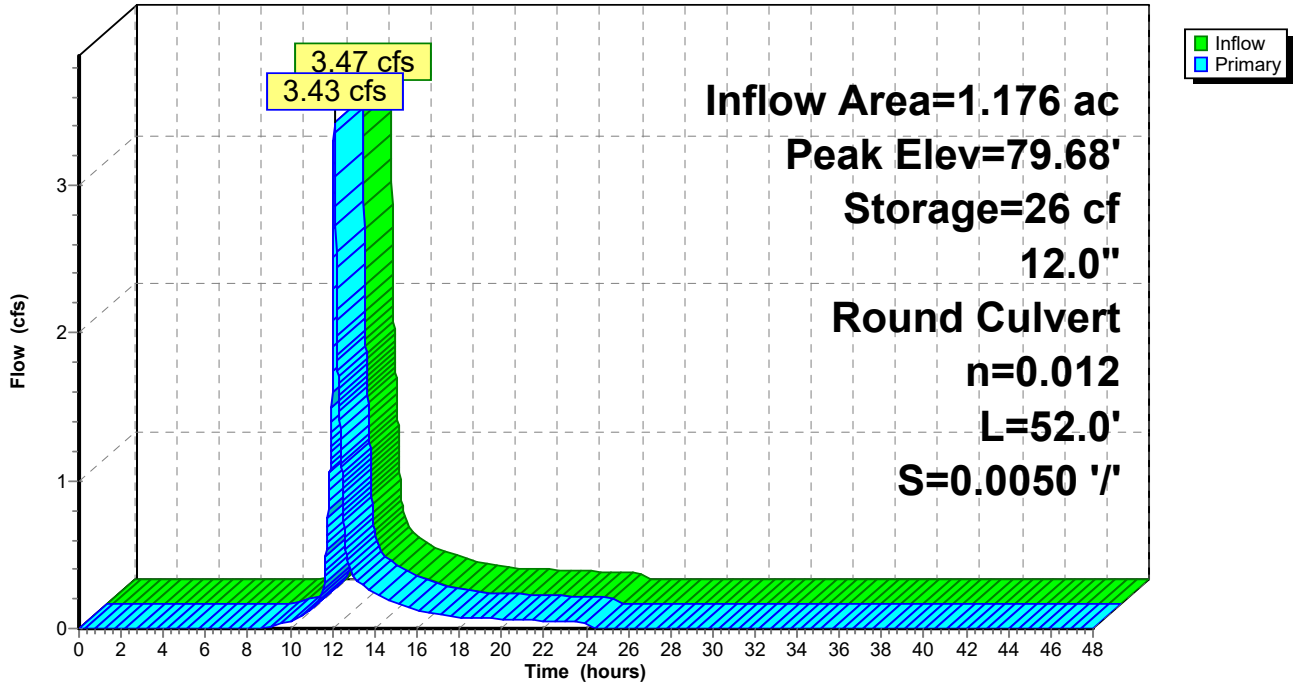
Volume	Invert	Avail.Storage	Storage Description
#1	77.56'	110 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
77.56	13	0	0
78.65	13	14	14
79.65	4	9	23
79.80	1,155	87	110

Device	Routing	Invert	Outlet Devices
#1	Primary	77.56'	12.0" Round Culvert L= 52.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 77.56' / 77.30' S= 0.0050 ' S= 0.0050 ' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=3.42 cfs @ 12.11 hrs HW=79.68' TW=78.83' (Dynamic Tailwater)
 ↑1=Culvert (Outlet Controls 3.42 cfs @ 4.35 fps)

Pond 1P: CB #5-2

Hydrograph



Summary for Pond 10P: CB #5-1

Inflow Area = 1.254 ac, 12.72% Impervious, Inflow Depth = 2.65" for 10-Year event
 Inflow = 3.77 cfs @ 12.11 hrs, Volume= 0.277 af
 Outflow = 3.78 cfs @ 12.09 hrs, Volume= 0.277 af, Atten= 0%, Lag= 0.0 min
 Primary = 3.78 cfs @ 12.09 hrs, Volume= 0.277 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 78.83' @ 12.09 hrs Surf.Area= 8 sf Storage= 20 cf

Plug-Flow detention time= 0.2 min calculated for 0.277 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (825.1 - 824.9)

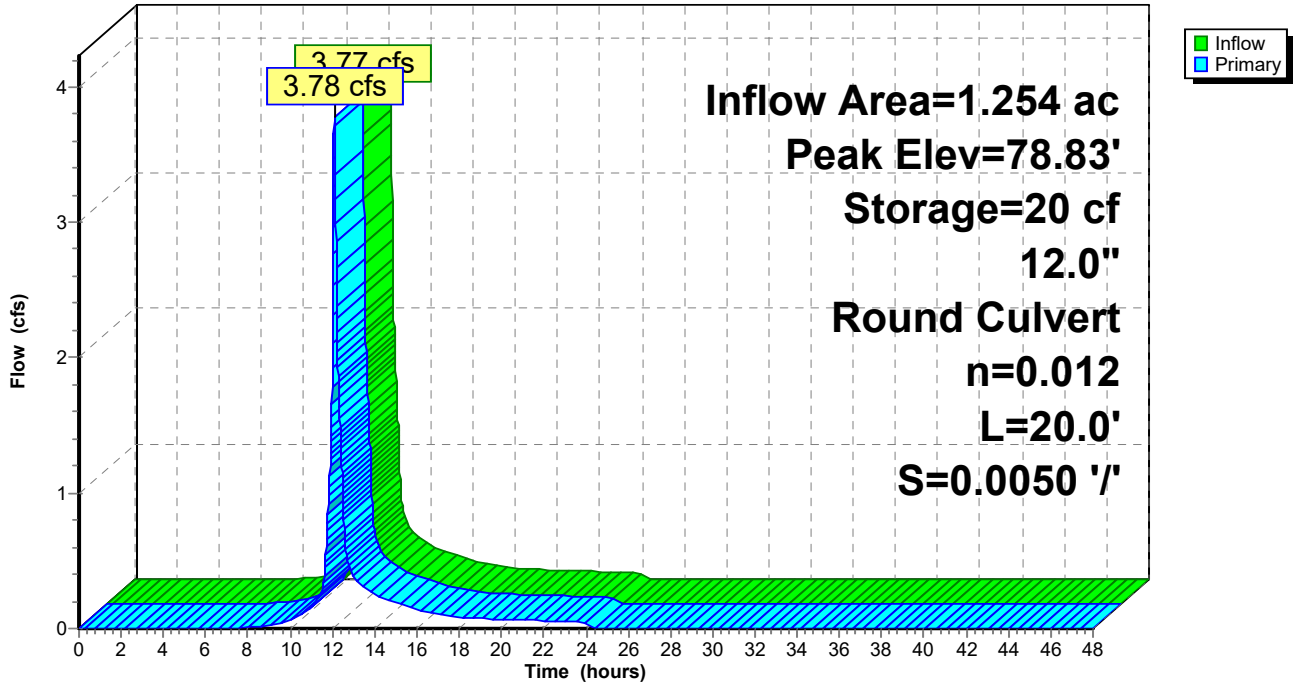
Volume	Invert	Avail.Storage	Storage Description
#1	77.20'	65 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
77.20	13	0	0
78.30	13	14	14
79.30	4	9	23
79.50	416	42	65

Device	Routing	Invert	Outlet Devices
#1	Primary	77.20'	12.0" Round Culvert L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 77.20' / 77.10' S= 0.0050 ' S= 0.0050 ' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=3.78 cfs @ 12.09 hrs HW=78.83' TW=77.57' (Dynamic Tailwater)
 ↑1=Culvert (Barrel Controls 3.78 cfs @ 4.81 fps)

Pond 10P: CB #5-1

Hydrograph



5116-Post-061721

Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Pond 12P: CB #4

Inflow Area = 0.224 ac, 23.27% Impervious, Inflow Depth = 2.90" for 10-Year event
 Inflow = 0.67 cfs @ 12.13 hrs, Volume= 0.054 af
 Outflow = 0.65 cfs @ 12.15 hrs, Volume= 0.054 af, Atten= 3%, Lag= 1.0 min
 Primary = 0.65 cfs @ 12.15 hrs, Volume= 0.054 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 84.16' @ 12.16 hrs Surf.Area= 13 sf Storage= 38 cf

Plug-Flow detention time= 4.4 min calculated for 0.054 af (100% of inflow)
 Center-of-Mass det. time= 4.3 min (827.6 - 823.3)

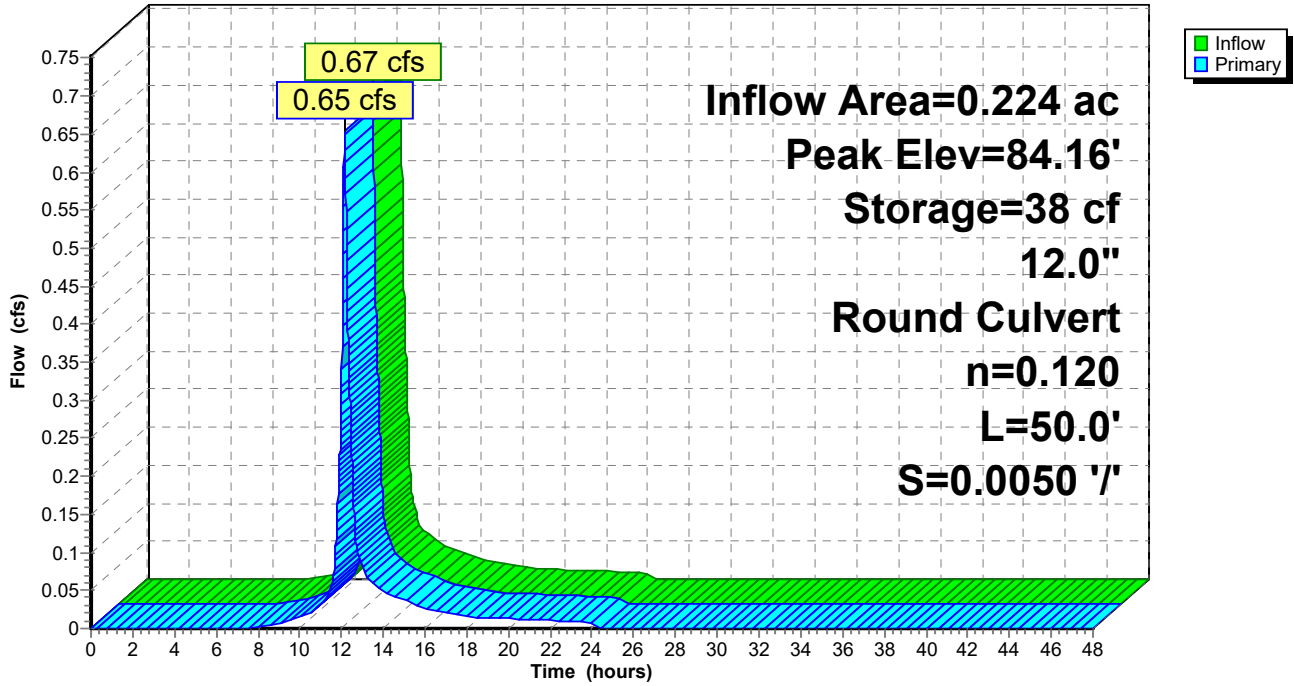
Volume	Invert	Avail.Storage	Storage Description
#1	81.25'	51 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
81.25	13	0	0
84.50	13	42	42
85.50	4	9	51

Device	Routing	Invert	Outlet Devices
#1	Primary	81.25'	12.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 81.25' / 81.00' S= 0.0050 ' S= 0.0050 ' Cc= 0.900 n= 0.120, Flow Area= 0.79 sf

Primary OutFlow Max=0.65 cfs @ 12.15 hrs HW=84.14' TW=82.72' (Dynamic Tailwater)
 ↑1=Culvert (Outlet Controls 0.65 cfs @ 0.82 fps)

Pond 12P: CB #4

Hydrograph



5116-Post-061721

Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Pond 13P: GUSF #1

Inflow Area = 0.536 ac, 19.50% Impervious, Inflow Depth = 2.90" for 10-Year event
 Inflow = 1.63 cfs @ 12.10 hrs, Volume= 0.129 af
 Outflow = 0.63 cfs @ 12.41 hrs, Volume= 0.129 af, Atten= 61%, Lag= 18.5 min
 Primary = 0.63 cfs @ 12.41 hrs, Volume= 0.129 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Starting Elev= 81.00' Surf.Area= 464 sf Storage= 601 cf
 Peak Elev= 82.99' @ 12.41 hrs Surf.Area= 1,551 sf Storage= 2,543 cf (1,942 cf above start)
 Flood Elev= 84.25' Surf.Area= 2,475 sf Storage= 5,079 cf (4,478 cf above start)

Plug-Flow detention time= 218.1 min calculated for 0.115 af (89% of inflow)
 Center-of-Mass det. time= 136.5 min (959.6 - 823.1)

Volume	Invert	Avail.Storage	Storage Description	
#1	77.50'	5,079 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
77.50	464	0.0	0	0
79.00	464	40.0	278	278
79.50	464	40.0	93	371
81.00	464	33.0	230	601
81.80	850	100.0	526	1,126
82.00	955	100.0	181	1,307
83.00	1,559	100.0	1,257	2,564
84.00	2,282	100.0	1,921	4,484
84.25	2,475	100.0	595	5,079

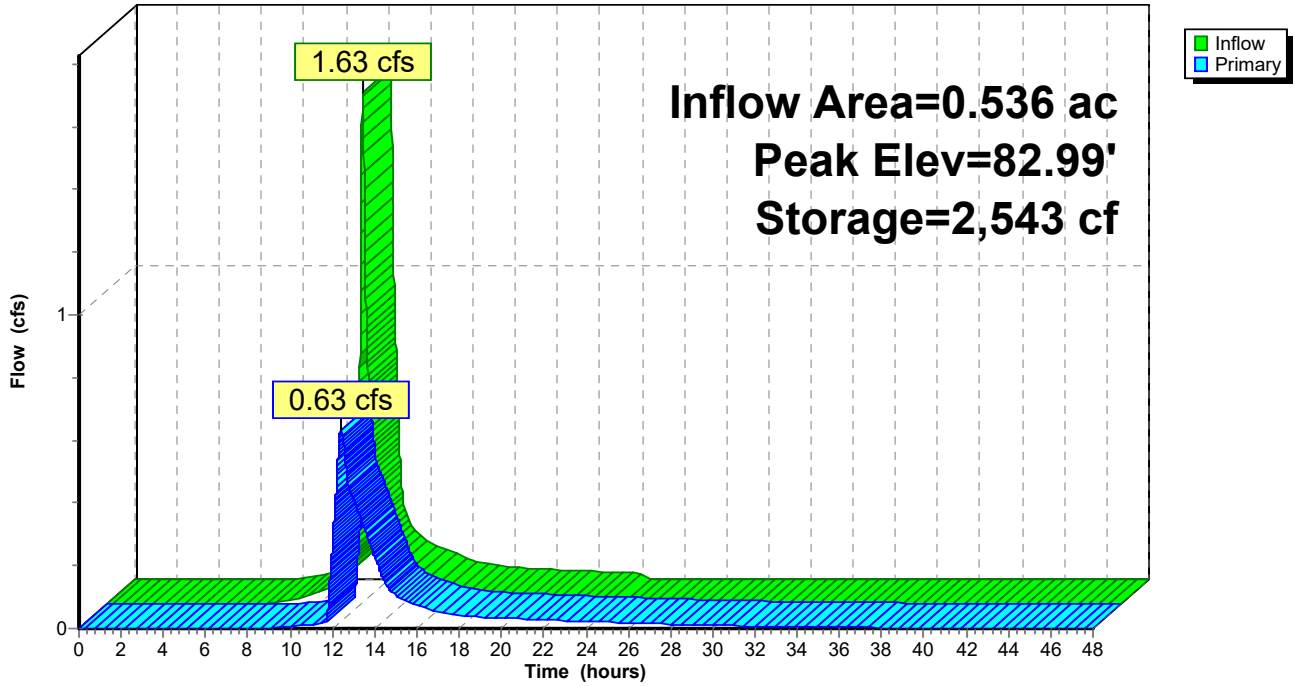
Device	Routing	Invert	Outlet Devices
#1	Primary	78.00'	12.0" Round Culvert L= 30.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 78.00' / 77.70' S= 0.0100 '/ Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	78.00'	6.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	81.80'	4.0" Vert. Orifice/Grate C= 0.600
#4	Device 1	82.83'	9.0" W x 5.0" H Vert. Orifice/Grate C= 0.600
#5	Device 1	83.25'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#6	Device 2	81.00'	2.410 in/hr Exfiltration over Surface area above 81.00' Excluded Surface area = 464 sf Phase-In= 0.01'

Primary OutFlow Max=0.63 cfs @ 12.41 hrs HW=82.99' TW=77.82' (Dynamic Tailwater)

- 1=Culvert (Passes 0.63 cfs of 8.01 cfs potential flow)
- 2=Orifice/Grate (Passes 0.06 cfs of 2.06 cfs potential flow)
- 6=Exfiltration (Exfiltration Controls 0.06 cfs)
- 3=Orifice/Grate (Orifice Controls 0.42 cfs @ 4.86 fps)
- 4=Orifice/Grate (Orifice Controls 0.15 cfs @ 1.27 fps)
- 5=Orifice/Grate (Controls 0.00 cfs)

Pond 13P: GUSF #1

Hydrograph



Summary for Pond 20P: CB #3-1

Inflow Area = 0.255 ac, 40.77% Impervious, Inflow Depth = 3.47" for 10-Year event
 Inflow = 1.02 cfs @ 12.09 hrs, Volume= 0.074 af
 Outflow = 1.01 cfs @ 12.09 hrs, Volume= 0.074 af, Atten= 1%, Lag= 0.1 min
 Primary = 1.01 cfs @ 12.09 hrs, Volume= 0.074 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 77.34' @ 12.12 hrs Surf.Area= 13 sf Storage= 12 cf

Plug-Flow detention time= 0.6 min calculated for 0.074 af (100% of inflow)
 Center-of-Mass det. time= 0.4 min (802.4 - 802.0)

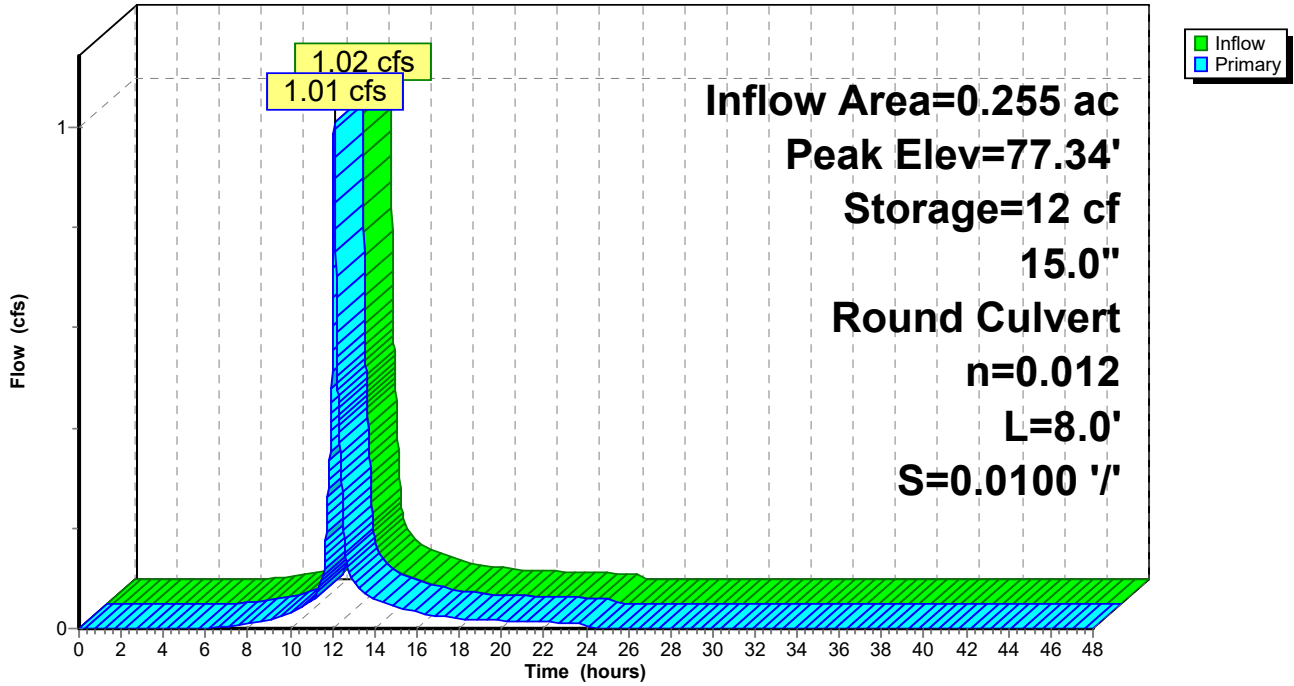
Volume	Invert	Avail.Storage	Storage Description
#1	76.38'	106 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
76.38	13	0	0
78.75	13	31	31
79.75	4	9	39
80.00	40	6	45
80.71	131	61	106

Device	Routing	Invert	Outlet Devices
#1	Primary	76.38'	15.0" Round Culvert L= 8.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.38' / 76.30' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=0.75 cfs @ 12.09 hrs HW=77.30' TW=77.27' (Dynamic Tailwater)
 ↑1=Culvert (Outlet Controls 0.75 cfs @ 1.07 fps)

Pond 20P: CB #3-1

Hydrograph



Summary for Pond 21P: CB #3-2

Inflow Area = 0.926 ac, 6.67% Impervious, Inflow Depth = 2.54" for 10-Year event
 Inflow = 2.71 cfs @ 12.10 hrs, Volume= 0.196 af
 Outflow = 2.71 cfs @ 12.10 hrs, Volume= 0.196 af, Atten= 0%, Lag= 0.1 min
 Primary = 2.71 cfs @ 12.10 hrs, Volume= 0.196 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 84.66' @ 12.10 hrs Surf.Area= 13 sf Storage= 13 cf

Plug-Flow detention time= 0.4 min calculated for 0.196 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (831.3 - 831.1)

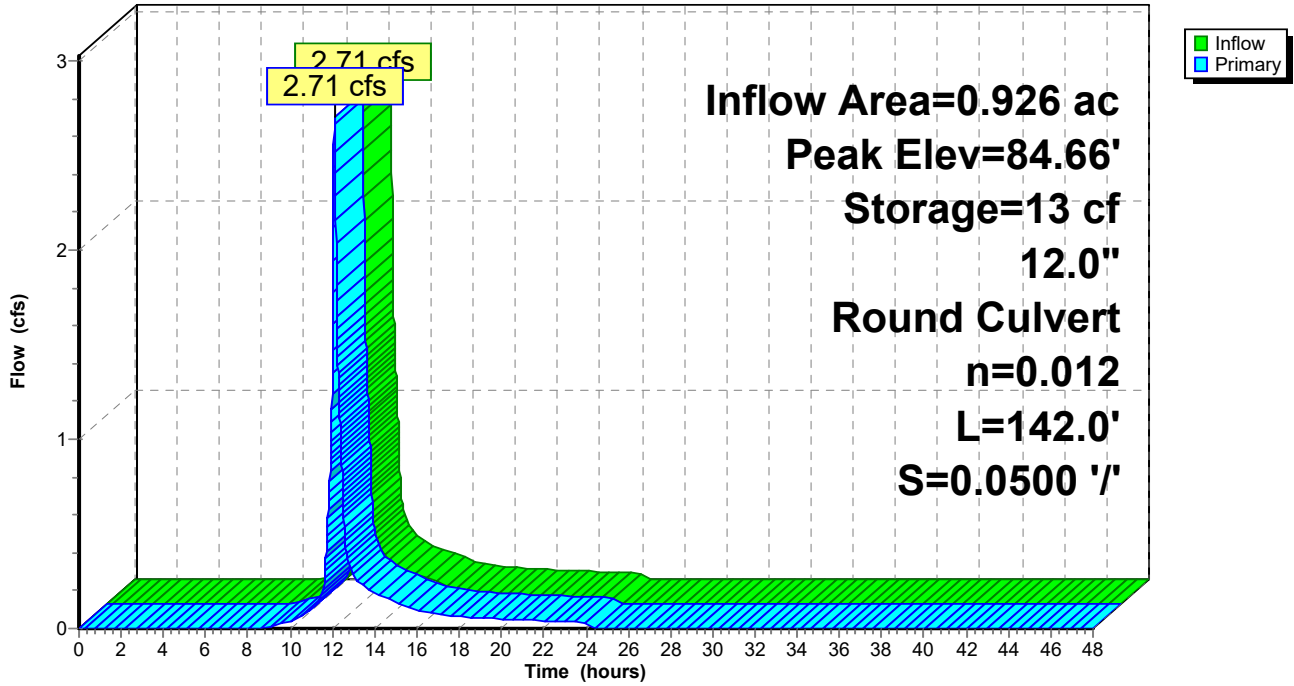
Volume	Invert	Avail.Storage	Storage Description
#1	83.65'	48 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
83.65	13	0	0
86.70	13	40	40
87.70	4	9	48

Device	Routing	Invert	Outlet Devices
#1	Primary	83.65'	12.0" Round Culvert L= 142.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 83.65' / 76.55' S= 0.0500 ' /' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=2.70 cfs @ 12.10 hrs HW=84.66' TW=77.29' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 2.70 cfs @ 3.44 fps)

Pond 21P: CB #3-2

Hydrograph



5116-Post-061721

Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Pond 22P: CB #3-3

Inflow Area = 1.217 ac, 6.79% Impervious, Inflow Depth = 2.28" for 10-Year event
 Inflow = 2.39 cfs @ 12.22 hrs, Volume= 0.232 af
 Outflow = 2.39 cfs @ 12.22 hrs, Volume= 0.232 af, Atten= 0%, Lag= 0.0 min
 Primary = 2.39 cfs @ 12.22 hrs, Volume= 0.232 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 79.89' @ 12.22 hrs Surf.Area= 13 sf Storage= 12 cf

Plug-Flow detention time= 0.4 min calculated for 0.232 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (847.9 - 847.7)

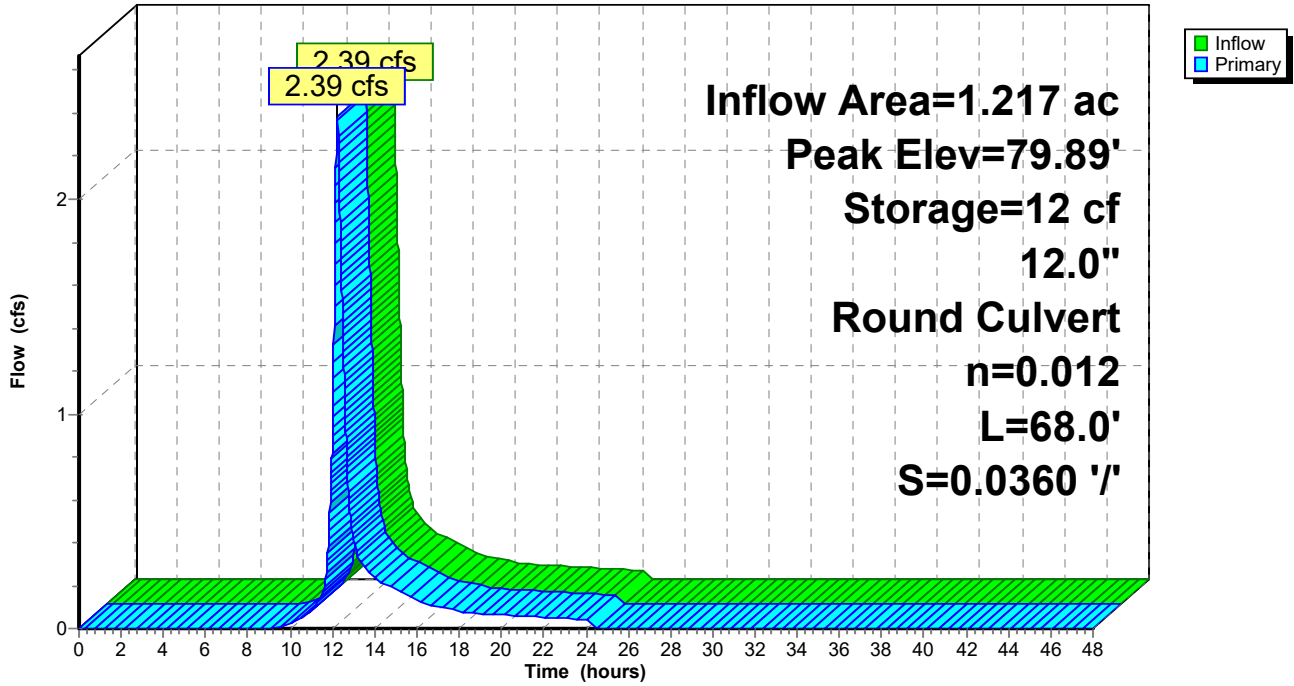
Volume	Invert	Avail.Storage	Storage Description
#1	79.00'	48 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
79.00	13	0	0
82.00	13	39	39
83.00	4	9	48

Device	Routing	Invert	Outlet Devices
#1	Primary	79.00'	12.0" Round Culvert L= 68.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 79.00' / 76.55' S= 0.0360 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=2.38 cfs @ 12.22 hrs HW=79.89' TW=77.13' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 2.38 cfs @ 3.22 fps)

Pond 22P: CB #3-3

Hydrograph



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Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Pond 23P: CB #3-4

Inflow Area = 0.195 ac, 25.20% Impervious, Inflow Depth = 2.81" for 10-Year event
 Inflow = 0.64 cfs @ 12.09 hrs, Volume= 0.046 af
 Outflow = 0.64 cfs @ 12.09 hrs, Volume= 0.046 af, Atten= 1%, Lag= 0.1 min
 Primary = 0.64 cfs @ 12.09 hrs, Volume= 0.046 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 77.52' @ 12.11 hrs Surf.Area= 13 sf Storage= 7 cf

Plug-Flow detention time= 0.5 min calculated for 0.046 af (100% of inflow)
 Center-of-Mass det. time= 0.5 min (823.2 - 822.7)

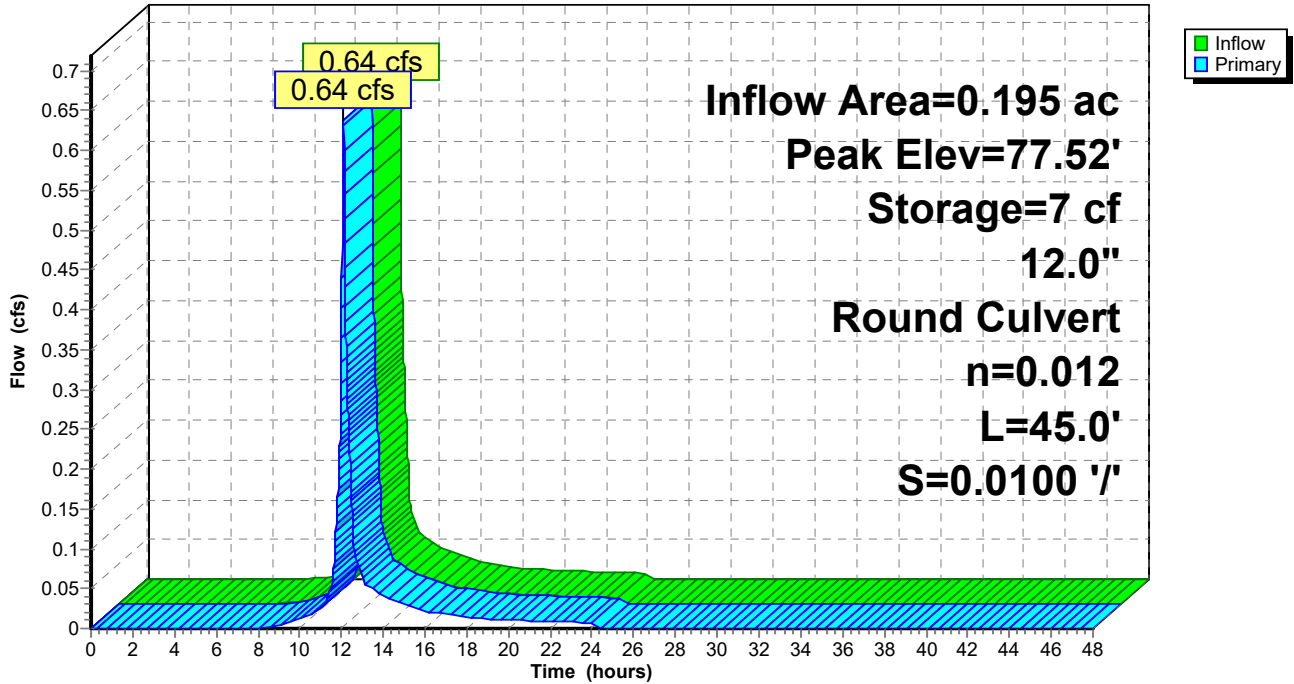
Volume	Invert	Avail.Storage	Storage Description
#1	77.00'	133 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
77.00	13	0	0
79.00	13	26	26
80.00	4	9	35
80.50	388	98	133

Device	Routing	Invert	Outlet Devices
#1	Primary	77.00'	12.0" Round Culvert L= 45.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 77.00' / 76.55' S= 0.0100 ' /' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.61 cfs @ 12.09 hrs HW=77.51' TW=77.28' (Dynamic Tailwater)
 ↑1=Culvert (Outlet Controls 0.61 cfs @ 2.21 fps)

Pond 23P: CB #3-4

Hydrograph



Summary for Pond 24P: DMH #3

Inflow Area = 2.593 ac, 11.47% Impervious, Inflow Depth = 2.53" for 10-Year event
 Inflow = 5.97 cfs @ 12.11 hrs, Volume= 0.547 af
 Outflow = 5.97 cfs @ 12.11 hrs, Volume= 0.547 af, Atten= 0%, Lag= 0.0 min
 Primary = 5.97 cfs @ 12.11 hrs, Volume= 0.547 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 77.30' @ 12.11 hrs Surf.Area= 20 sf Storage= 25 cf

Plug-Flow detention time= 0.2 min calculated for 0.547 af (100% of inflow)
 Center-of-Mass det. time= 0.2 min (834.0 - 833.8)

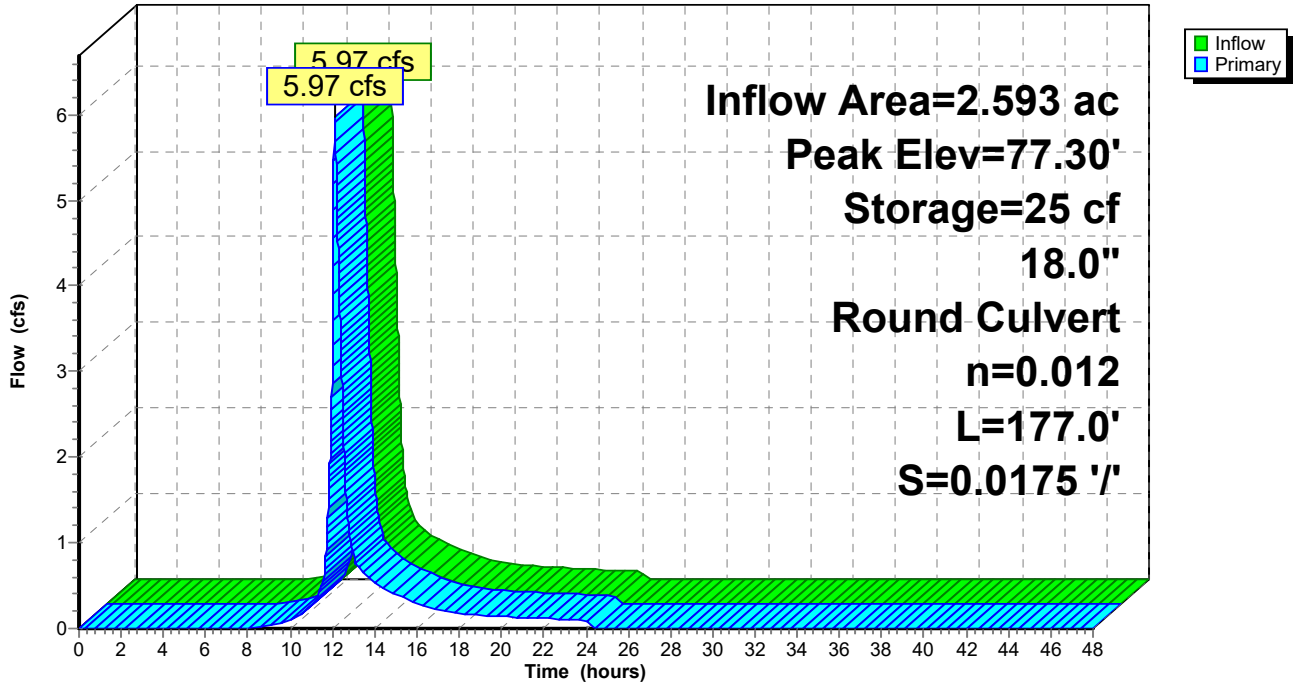
Volume	Invert	Avail.Storage	Storage Description
#1	76.05'	103 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
76.05	20	0	0
80.60	20	91	91
81.60	4	12	103

Device	Routing	Invert	Outlet Devices
#1	Primary	76.05'	18.0" Round Culvert L= 177.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 76.05' / 72.95' S= 0.0175 ' / ' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=5.97 cfs @ 12.11 hrs HW=77.30' TW=73.63' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 5.97 cfs @ 3.80 fps)

Pond 24P: DMH #3

Hydrograph



Summary for Pond 25P: CB #2

Inflow Area = 0.101 ac, 100.00% Impervious, Inflow Depth = 4.66" for 10-Year event
 Inflow = 0.49 cfs @ 12.08 hrs, Volume= 0.039 af
 Outflow = 0.48 cfs @ 12.08 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.1 min
 Primary = 0.48 cfs @ 12.08 hrs, Volume= 0.039 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 73.94' @ 12.10 hrs Surf.Area= 13 sf Storage= 5 cf

Plug-Flow detention time= 0.8 min calculated for 0.039 af (100% of inflow)
 Center-of-Mass det. time= 0.6 min (749.0 - 748.4)

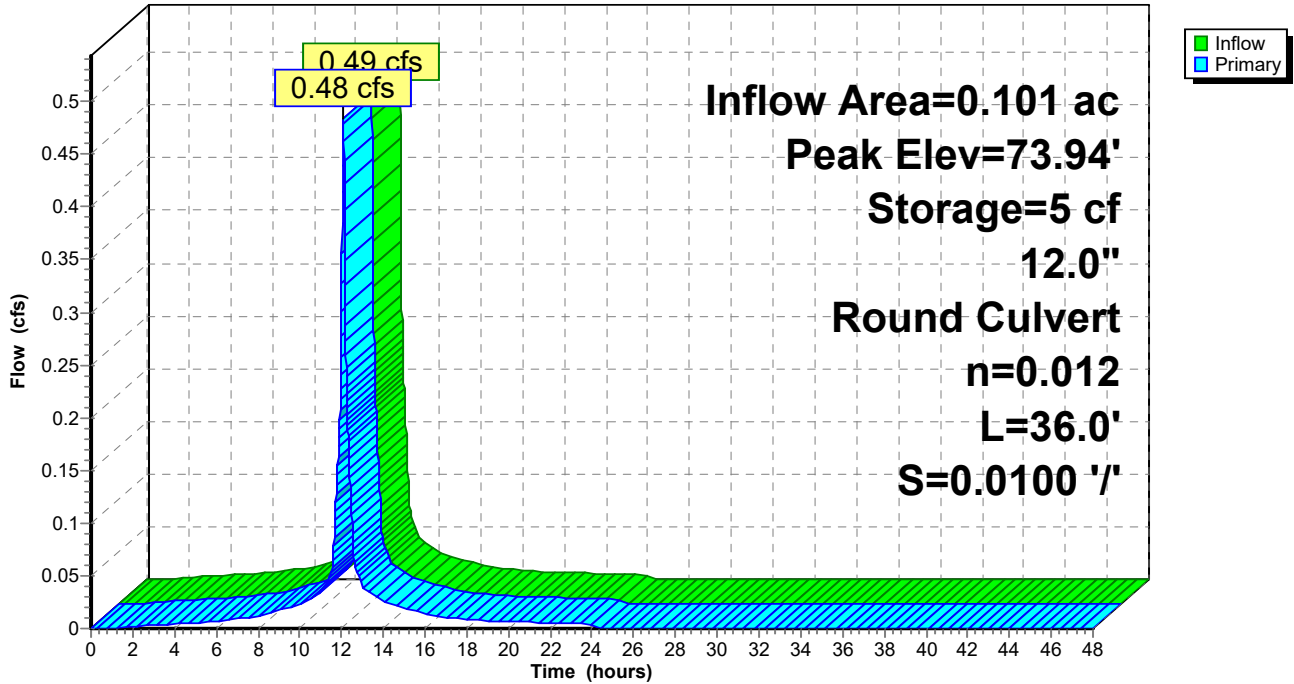
Volume	Invert	Avail.Storage	Storage Description
#1	73.56'	56 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
73.56	13	0	0
77.25	13	48	48
78.25	4	9	56

Device	Routing	Invert	Outlet Devices
#1	Primary	73.56'	12.0" Round Culvert L= 36.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 73.56' / 73.20' S= 0.0100 ' / ' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.47 cfs @ 12.08 hrs HW=73.94' TW=73.62' (Dynamic Tailwater)
 ↑1=Culvert (Outlet Controls 0.47 cfs @ 2.55 fps)

Pond 25P: CB #2

Hydrograph



5116-Post-061721

Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Pond 26P: CB #1-1

Inflow Area = 0.431 ac, 85.85% Impervious, Inflow Depth = 4.32" for 10-Year event
 Inflow = 2.01 cfs @ 12.08 hrs, Volume= 0.155 af
 Outflow = 1.98 cfs @ 12.09 hrs, Volume= 0.155 af, Atten= 1%, Lag= 0.1 min
 Primary = 1.98 cfs @ 12.09 hrs, Volume= 0.155 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 73.37' @ 12.11 hrs Surf.Area= 13 sf Storage= 16 cf

Plug-Flow detention time= 0.5 min calculated for 0.155 af (100% of inflow)
 Center-of-Mass det. time= 0.3 min (769.1 - 768.8)

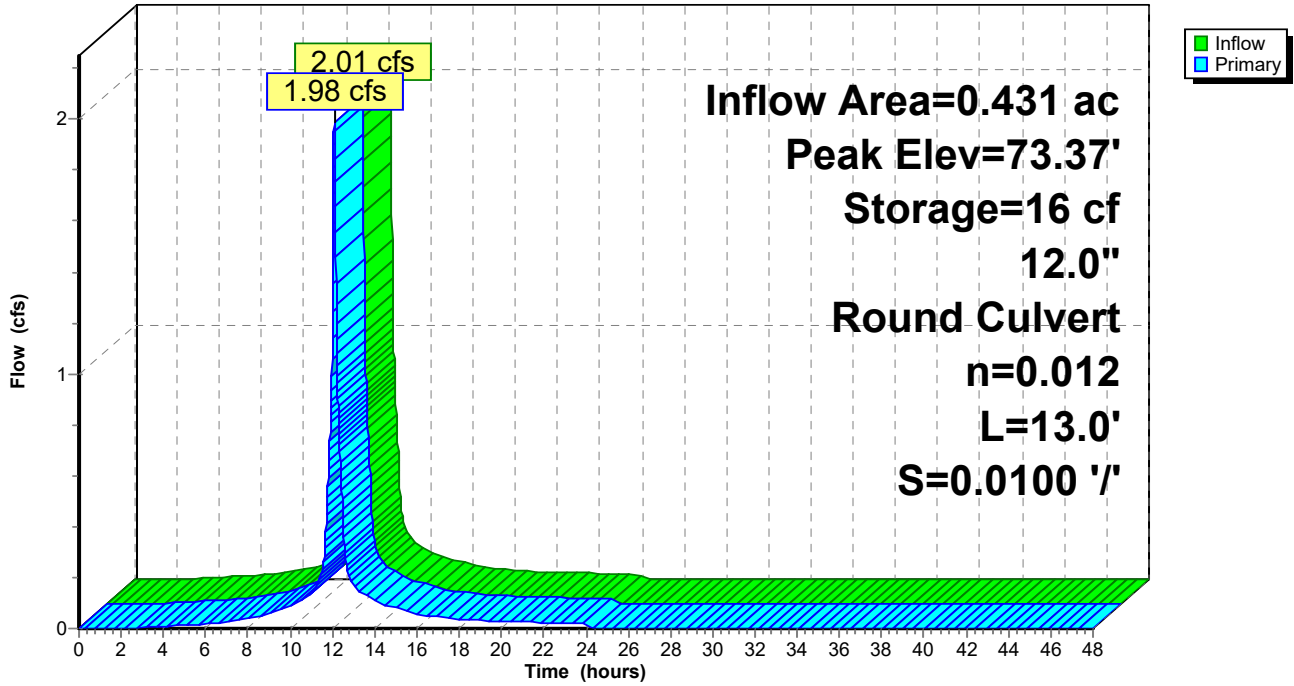
Volume	Invert	Avail.Storage	Storage Description
#1	72.13'	66 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
72.13	13	0	0
74.65	13	33	33
75.65	4	9	41
76.00	136	24	66

Device	Routing	Invert	Outlet Devices
#1	Primary	72.13'	12.0" Round Culvert L= 13.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 72.13' / 72.00' S= 0.0100 ' S= 0.0100 ' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=1.80 cfs @ 12.09 hrs HW=73.30' TW=73.08' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 1.80 cfs @ 2.29 fps)

Pond 26P: CB #1-1

Hydrograph



5116-Post-061721

Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Pond 27P: DMH #1

Inflow Area = 3.125 ac, 24.60% Impervious, Inflow Depth = 2.85" for 10-Year event
 Inflow = 8.36 cfs @ 12.10 hrs, Volume= 0.742 af
 Outflow = 8.36 cfs @ 12.10 hrs, Volume= 0.742 af, Atten= 0%, Lag= 0.1 min
 Primary = 8.36 cfs @ 12.10 hrs, Volume= 0.742 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Peak Elev= 73.12' @ 12.10 hrs Surf.Area= 13 sf Storage= 22 cf

Plug-Flow detention time= 0.1 min calculated for 0.741 af (100% of inflow)
 Center-of-Mass det. time= 0.1 min (816.3 - 816.1)

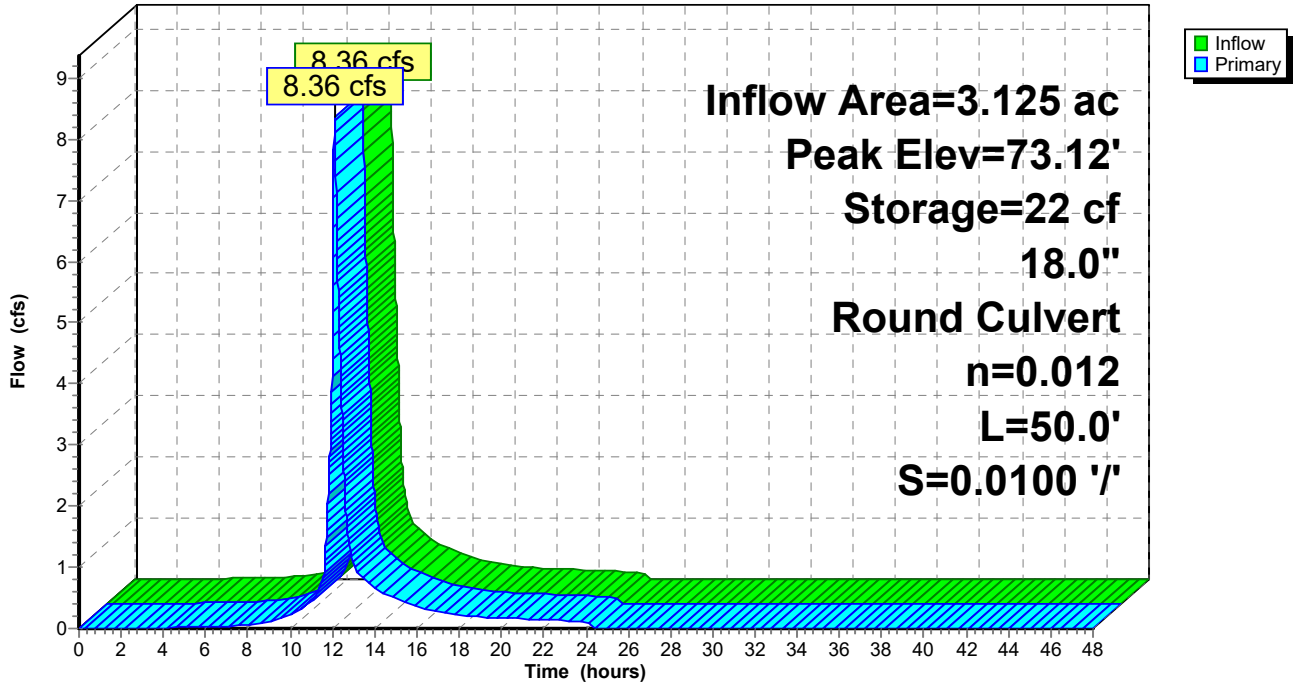
Volume	Invert	Avail.Storage	Storage Description
#1	71.40'	56 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
71.40	13	0	0
75.05	13	47	47
76.05	4	9	56

Device	Routing	Invert	Outlet Devices
#1	Primary	71.40'	18.0" Round Culvert L= 50.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 71.40' / 70.90' S= 0.0100 ' S= 0.0100 ' Cc= 0.900 n= 0.012, Flow Area= 1.77 sf

Primary OutFlow Max=8.35 cfs @ 12.10 hrs HW=73.11' TW=58.29' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 8.35 cfs @ 4.73 fps)

Pond 27P: DMH #1

Hydrograph



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Type III 24-hr 10-Year Rainfall=4.90"

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Summary for Pond 29P: GUSF #2

Inflow Area = 5.652 ac, 21.73% Impervious, Inflow Depth = 2.79" for 10-Year event
 Inflow = 16.00 cfs @ 12.10 hrs, Volume= 1.314 af
 Outflow = 7.85 cfs @ 12.34 hrs, Volume= 1.270 af, Atten= 51%, Lag= 14.4 min
 Primary = 7.85 cfs @ 12.34 hrs, Volume= 1.270 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
 Starting Elev= 56.50' Surf.Area= 5,832 sf Storage= 7,395 cf
 Peak Elev= 58.66' @ 12.34 hrs Surf.Area= 9,986 sf Storage= 24,031 cf (16,636 cf above start)
 Flood Elev= 60.00' Surf.Area= 13,062 sf Storage= 39,412 cf (32,017 cf above start)

Plug-Flow detention time= 225.4 min calculated for 1.100 af (84% of inflow)
 Center-of-Mass det. time= 121.5 min (935.6 - 814.1)

Volume	Invert	Avail.Storage	Storage Description	
#1	53.00'	39,412 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
53.00	5,682	0.0	0	0
54.50	5,682	40.0	3,409	3,409
55.00	5,682	40.0	1,136	4,546
56.50	5,832	33.0	2,850	7,395
57.00	6,496	100.0	3,082	10,477
57.25	6,886	100.0	1,673	12,150
57.30	6,974	100.0	346	12,497
57.35	7,061	100.0	351	12,847
57.50	7,354	100.0	1,081	13,929
58.00	8,503	100.0	3,964	17,893
59.00	10,737	100.0	9,620	27,513
60.00	13,062	100.0	11,900	39,412

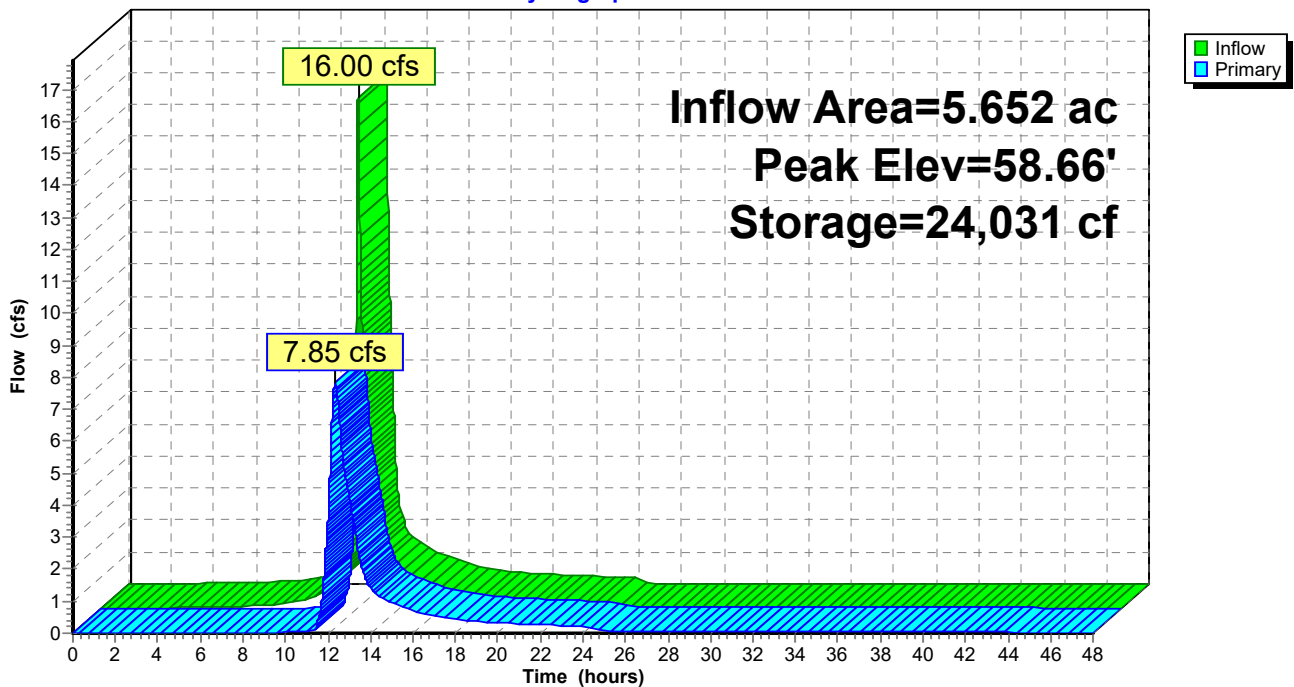
Device	Routing	Invert	Outlet Devices
#1	Primary	53.50'	18.0" Round Culvert L= 25.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 53.50' / 53.25' S= 0.0100 1/ S= 0.0100 1/ Cc= 0.900 n= 0.012, Flow Area= 1.77 sf
#2	Device 1	53.50'	6.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	57.30'	33.0" W x 5.0" H Vert. Orifice/Grate C= 0.600
#4	Device 1	58.35'	36.0" W x 6.0" H Vert. Orifice/Grate C= 0.600
#5	Device 1	58.85'	48.0" x 48.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#6	Device 2	56.50'	2.410 in/hr Exfiltration over Surface area above 56.50' Excluded Surface area = 5,832 sf Phase-In= 0.01'
#7	Primary	59.00'	4.0' long 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

Primary OutFlow Max=7.85 cfs @ 12.34 hrs HW=58.66' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 7.85 cfs of 17.88 cfs potential flow)
- 2=Orifice/Grate (Passes 0.23 cfs of 2.10 cfs potential flow)
- 6=Exfiltration (Exfiltration Controls 0.23 cfs)
- 3=Orifice/Grate (Orifice Controls 5.92 cfs @ 5.17 fps)
- 4=Orifice/Grate (Orifice Controls 1.69 cfs @ 1.80 fps)
- 5=Orifice/Grate (Controls 0.00 cfs)
- 7=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 29P: GUSF #2

Hydrograph



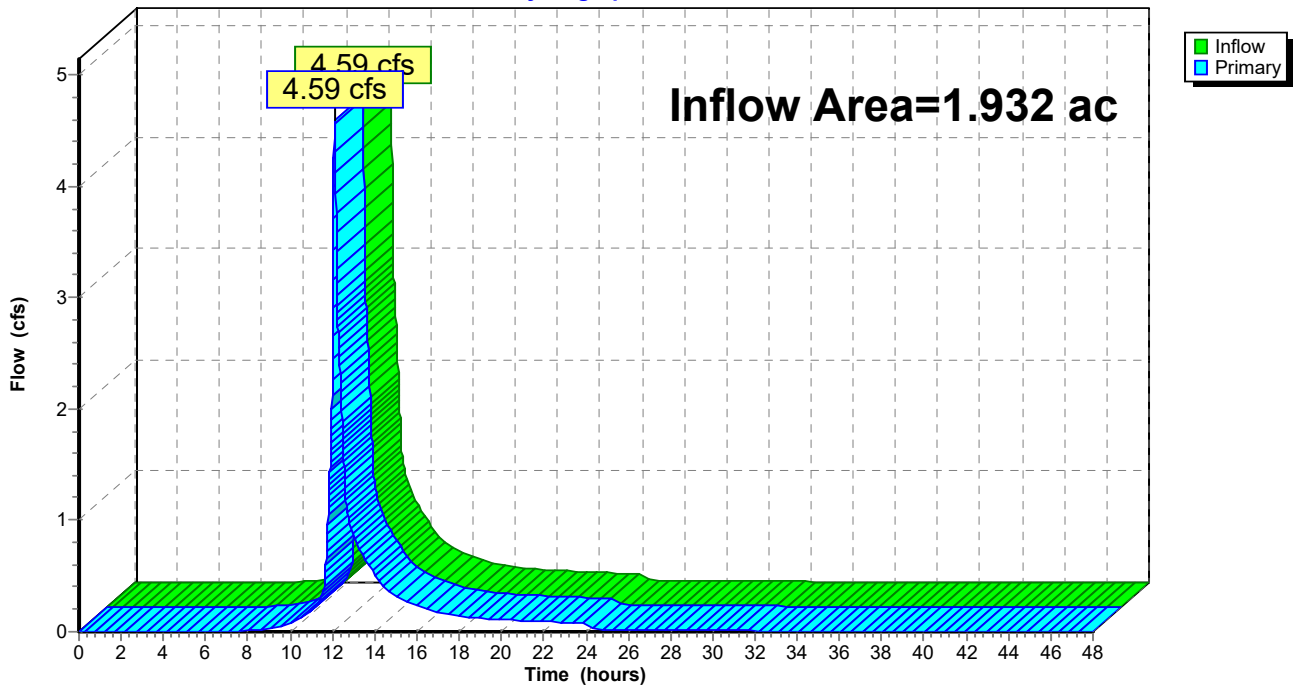
Summary for Link 100L: POA #1

Inflow Area = 1.932 ac, 13.66% Impervious, Inflow Depth = 2.73" for 10-Year event
Inflow = 4.59 cfs @ 12.11 hrs, Volume= 0.439 af
Primary = 4.59 cfs @ 12.11 hrs, Volume= 0.439 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

Link 100L: POA #1

Hydrograph



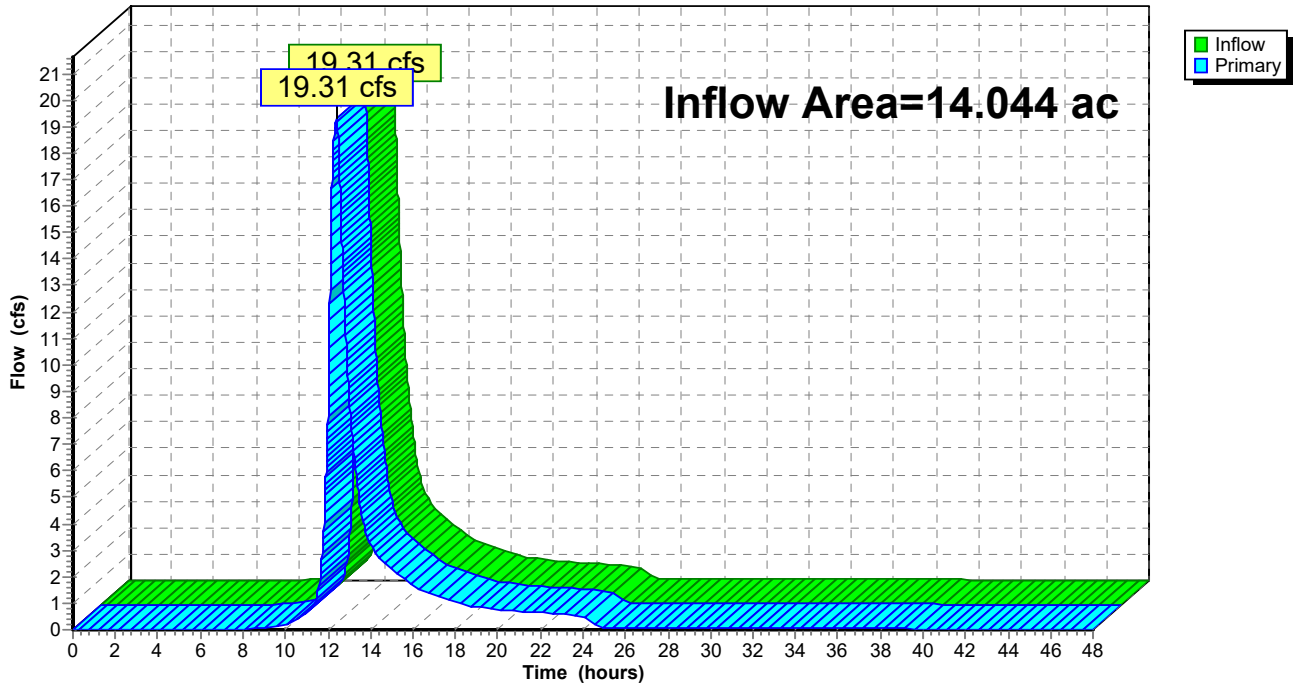
Summary for Link 200L: POA #2

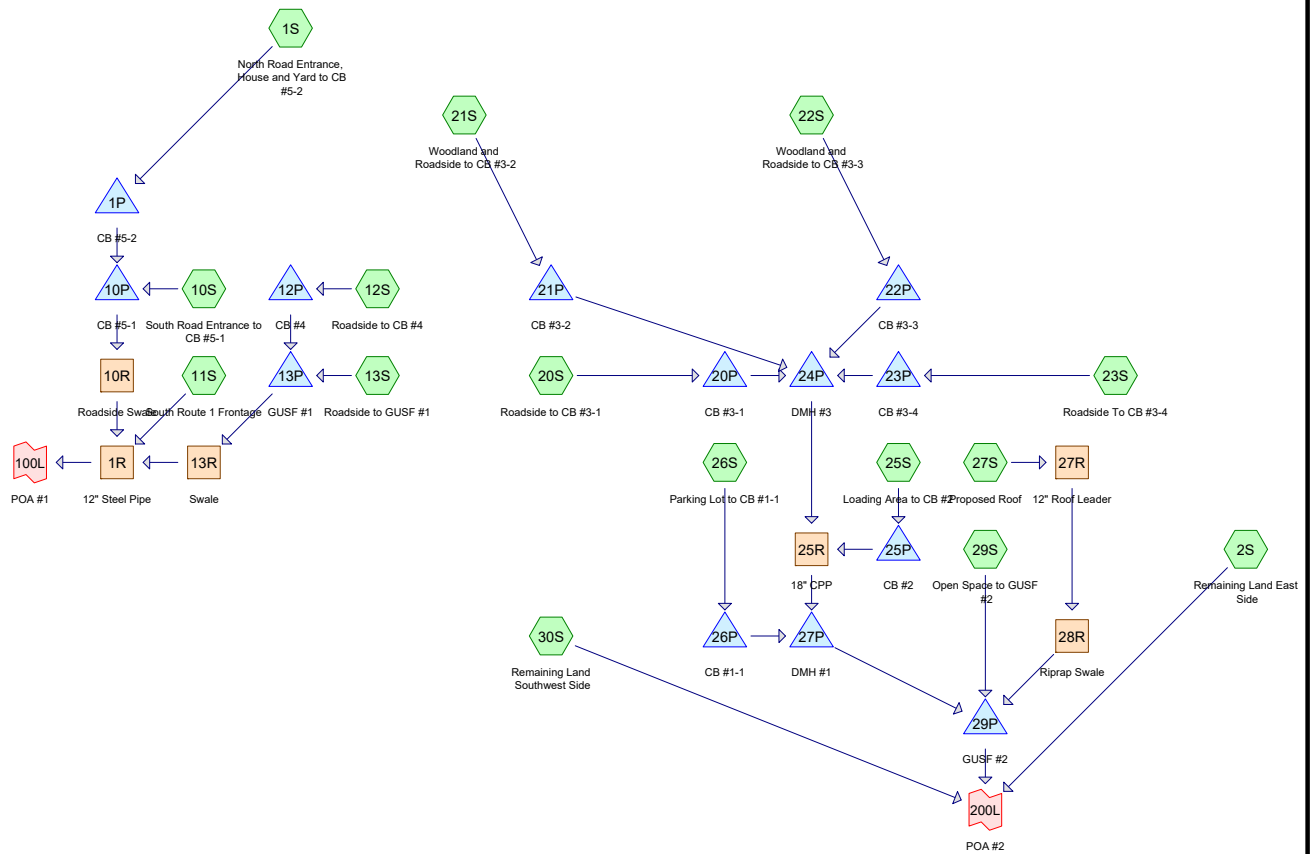
Inflow Area = 14.044 ac, 11.39% Impervious, Inflow Depth > 2.50" for 10-Year event
Inflow = 19.31 cfs @ 12.39 hrs, Volume= 2.926 af
Primary = 19.31 cfs @ 12.39 hrs, Volume= 2.926 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

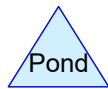
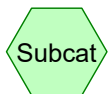
Link 200L: POA #2

Hydrograph





POST-DEVELOPMENT



Routing Diagram for 5116-Post-061721
 Prepared by Altus Engineering, Inc., Printed 7/1/2021
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5116-Post-061721

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

Prepared by Altus Engineering, Inc.

Printed 7/1/2021

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Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: North Road Entrance, Runoff Area=51,236 sf 8.13% Impervious Runoff Depth=3.65"
 Flow Length=432' Tc=6.3 min CN=77 Runoff=4.99 cfs 0.358 af

Subcatchment 2S: Remaining Land East Runoff Area=279,061 sf 0.00% Impervious Runoff Depth=3.26"
 Flow Length=1,208' Tc=32.9 min CN=73 Runoff=13.25 cfs 1.738 af

Subcatchment 10S: South Road Entrance to Runoff Area=3,377 sf 82.44% Impervious Runoff Depth=5.61"
 Flow Length=139' Tc=6.0 min CN=95 Runoff=0.46 cfs 0.036 af

Subcatchment 11S: South Route 1 Frontage Runoff Area=6,211 sf 0.00% Impervious Runoff Depth=3.96"
 Flow Length=166' Tc=6.0 min CN=80 Runoff=0.66 cfs 0.047 af

Subcatchment 12S: Roadside to CB #4 Runoff Area=9,746 sf 23.27% Impervious Runoff Depth=4.07"
 Flow Length=282' Tc=9.6 min CN=81 Runoff=0.94 cfs 0.076 af

Subcatchment 13S: Roadside to GUSF #1 Runoff Area=13,602 sf 16.81% Impervious Runoff Depth=4.07"
 Flow Length=264' Tc=6.0 min CN=81 Runoff=1.48 cfs 0.106 af

Subcatchment 20S: Roadside to CB #3-1 Runoff Area=11,105 sf 40.77% Impervious Runoff Depth=4.71"
 Flow Length=390' Tc=6.0 min CN=87 Runoff=1.36 cfs 0.100 af

Subcatchment 21S: Woodland and Runoff Area=40,322 sf 6.67% Impervious Runoff Depth=3.65"
 Flow Length=338' Tc=6.5 min CN=77 Runoff=3.89 cfs 0.282 af

Subcatchment 22S: Woodland and Runoff Area=53,034 sf 6.79% Impervious Runoff Depth=3.35"
 Flow Length=408' Tc=16.0 min CN=74 Runoff=3.53 cfs 0.340 af

Subcatchment 23S: Roadside To CB #3-4 Runoff Area=8,495 sf 25.20% Impervious Runoff Depth=3.96"
 Flow Length=150' Tc=6.0 min CN=80 Runoff=0.90 cfs 0.064 af

Subcatchment 25S: Loading Area to CB #2 Runoff Area=4,411 sf 100.00% Impervious Runoff Depth=5.96"
 Flow Length=137' Tc=6.0 min CN=98 Runoff=0.62 cfs 0.050 af

Subcatchment 26S: Parking Lot to CB #1-1 Runoff Area=18,776 sf 85.85% Impervious Runoff Depth=5.61"
 Flow Length=332' Tc=6.0 min CN=95 Runoff=2.57 cfs 0.202 af

Subcatchment 27S: Proposed Roof Runoff Area=20,000 sf 100.00% Impervious Runoff Depth=5.96"
 Tc=6.0 min CN=98 Runoff=2.79 cfs 0.228 af

Subcatchment 29S: Open Space to GUSF #2 Runoff Area=90,054 sf 0.00% Impervious Runoff Depth=3.35"
 Flow Length=457' Tc=6.0 min CN=74 Runoff=8.13 cfs 0.578 af

Subcatchment 30S: Remaining Land Runoff Area=86,511 sf 18.73% Impervious Runoff Depth=4.07"
 Flow Length=760' Tc=12.0 min CN=81 Runoff=7.73 cfs 0.673 af

Reach 1R: 12" Steel Pipe Avg. Flow Depth=0.82' Max Vel=9.56 fps Inflow=6.59 cfs 0.623 af
 12.0" Round Pipe n=0.012 L=45.0' S=0.0291 1' Capacity=6.59 cfs Outflow=6.61 cfs 0.623 af

5116-Post-061721

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

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Reach 10R: Roadside Swale	Avg. Flow Depth=0.56' Max Vel=2.61 fps Inflow=5.74 cfs 0.394 af n=0.030 L=98.0' S=0.0104 '/ Capacity=17.99 cfs Outflow=5.39 cfs 0.394 af
Reach 13R: Swale	Avg. Flow Depth=0.18' Max Vel=2.80 fps Inflow=1.19 cfs 0.181 af n=0.030 L=41.0' S=0.0395 '/ Capacity=28.58 cfs Outflow=1.19 cfs 0.181 af
Reach 25R: 18" CPP 18.0" Round Pipe	Avg. Flow Depth=0.85' Max Vel=8.93 fps Inflow=9.17 cfs 0.837 af n=0.012 L=83.0' S=0.0175 '/ Capacity=15.04 cfs Outflow=9.16 cfs 0.837 af
Reach 27R: 12" Roof Leader 12.0" Round Pipe	Avg. Flow Depth=0.63' Max Vel=5.34 fps Inflow=2.79 cfs 0.228 af n=0.012 L=300.0' S=0.0100 '/ Capacity=3.86 cfs Outflow=2.76 cfs 0.228 af
Reach 28R: Riprap Swale	Avg. Flow Depth=0.31' Max Vel=3.46 fps Inflow=2.76 cfs 0.228 af n=0.069 L=108.0' S=0.1759 '/ Capacity=26.22 cfs Outflow=2.75 cfs 0.228 af
Pond 1P: CB #5-2 12.0" Round Culvert	Peak Elev=82.27' Storage=110 cf Inflow=4.99 cfs 0.358 af n=0.012 L=52.0' S=0.0050 '/ Outflow=5.69 cfs 0.358 af
Pond 10P: CB #5-1 12.0" Round Culvert	Peak Elev=80.00' Storage=65 cf Inflow=6.15 cfs 0.394 af n=0.012 L=20.0' S=0.0050 '/ Outflow=5.74 cfs 0.394 af
Pond 12P: CB #4 12.0" Round Culvert	Peak Elev=86.23' Storage=51 cf Inflow=0.94 cfs 0.076 af n=0.120 L=50.0' S=0.0050 '/ Outflow=0.97 cfs 0.076 af
Pond 13P: GUSF #1	Peak Elev=83.25' Storage=2,968 cf Inflow=2.34 cfs 0.182 af Outflow=1.19 cfs 0.181 af
Pond 20P: CB #3-1 15.0" Round Culvert	Peak Elev=77.86' Storage=19 cf Inflow=1.36 cfs 0.100 af n=0.012 L=8.0' S=0.0100 '/ Outflow=1.34 cfs 0.100 af
Pond 21P: CB #3-2 12.0" Round Culvert	Peak Elev=85.21' Storage=20 cf Inflow=3.89 cfs 0.282 af n=0.012 L=142.0' S=0.0500 '/ Outflow=3.89 cfs 0.282 af
Pond 22P: CB #3-3 12.0" Round Culvert	Peak Elev=80.37' Storage=18 cf Inflow=3.53 cfs 0.340 af n=0.012 L=68.0' S=0.0360 '/ Outflow=3.53 cfs 0.340 af
Pond 23P: CB #3-4 12.0" Round Culvert	Peak Elev=77.90' Storage=12 cf Inflow=0.90 cfs 0.064 af n=0.012 L=45.0' S=0.0100 '/ Outflow=0.88 cfs 0.064 af
Pond 24P: DMH #3 18.0" Round Culvert	Peak Elev=77.82' Storage=35 cf Inflow=8.58 cfs 0.787 af n=0.012 L=177.0' S=0.0175 '/ Outflow=8.58 cfs 0.787 af
Pond 25P: CB #2 12.0" Round Culvert	Peak Elev=74.04' Storage=6 cf Inflow=0.62 cfs 0.050 af n=0.012 L=36.0' S=0.0100 '/ Outflow=0.61 cfs 0.050 af
Pond 26P: CB #1-1 12.0" Round Culvert	Peak Elev=74.43' Storage=30 cf Inflow=2.57 cfs 0.202 af n=0.012 L=13.0' S=0.0100 '/ Outflow=2.53 cfs 0.202 af
Pond 27P: DMH #1 18.0" Round Culvert	Peak Elev=74.01' Storage=34 cf Inflow=11.62 cfs 1.038 af n=0.012 L=50.0' S=0.0100 '/ Outflow=11.62 cfs 1.038 af
Pond 29P: GUSF #2	Peak Elev=58.98' Storage=27,340 cf Inflow=22.42 cfs 1.844 af Outflow=13.92 cfs 1.801 af

5116-Post-061721

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

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Link 100L: POA #1

Inflow=6.61 cfs 0.623 af
Primary=6.61 cfs 0.623 af

Link 200L: POA #2

Inflow=29.79 cfs 4.212 af
Primary=29.79 cfs 4.212 af

Total Runoff Area = 15.977 ac Runoff Volume = 4.878 af Average Runoff Depth = 3.66"
88.33% Pervious = 14.113 ac 11.67% Impervious = 1.864 ac

Section 5

Precipitation Table

APPENDIX H. 24-hour duration rainfalls for various return periods

COUNTY	Storm Type	1-YR	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR
ANDROSCOGGIN	III	2.5	3.0	3.7	4.3	5.4	6.4	7.6	11.1
AROOSTOOK C (Presque Isle Area)	II	1.9	2.3	2.8	3.2	3.9	4.6	5.3	7.6
AROOSTOOK N (Fort Kent Area)	II	1.9	2.2	2.7	3.1	3.7	4.3	5.0	7.0
AROOSTOOK S (Houlton Area)	II	2.1	2.5	3.0	3.4	4.1	4.7	5.4	7.5
CUMBERLAND NW (Bridgton Area)	III	2.5	3.0	3.7	4.3	5.4	6.3	7.5	10.9
CUMBERLAND SE (N Windham Area)	III	2.6	3.1	3.9	4.6	5.8	6.9	8.1	12.1
FRANKLIN	II	2.0	2.4	2.9	3.4	4.2	4.9	5.7	8.2
HANCOCK	III	2.5	2.9	3.6	4.2	5.2	6.1	7.2	10.5
KENNEBEC	III	2.4	2.8	3.5	4.2	5.2	6.1	7.2	10.6
KNOX	III	2.6	3.2	3.9	4.6	5.7	6.7	7.9	11.5
LINCOLN	III	2.5	3.1	3.8	4.5	5.5	6.5	7.6	11.1
OXFORD E (Rumford Area)	II ¹	2.3	2.7	3.3	3.9	4.8	5.7	6.7	9.7
OXFORD W (Gilead Area)	II	2.2	2.7	3.4	4.0	4.9	5.8	6.9	10.1
PENOBSCOT N (Millinocket Area)	II	2.2	2.6	3.2	3.8	4.7	5.6	6.5	9.5
PENOBSCOT S (Hudson Area)	II	2.3	2.7	3.4	3.9	4.9	5.7	6.7	9.7
PISCATAQUIS N (Chesuncook Area)	II	2.0	2.4	2.9	3.4	4.2	5.0	5.8	8.5
PISCATAQUIS S (Monson Area)	II	2.2	2.7	3.3	3.9	4.8	5.7	6.8	10.0
SAGADAHOC	III	2.6	3.2	3.9	4.6	5.7	6.7	7.8	11.4
SOMERSET N (Pittston Farm Area)	II	2.0	2.3	2.8	3.3	4.0	4.7	5.4	7.8
SOMERSET S (Solon Area)	II	2.3	2.7	3.4	3.9	4.9	5.7	6.7	9.8
WALDO	III	2.4	2.9	3.6	4.2	5.2	6.1	7.2	10.5
WASHINGTON	III	2.5	2.8	3.4	3.9	4.8	5.5	6.4	9.0
YORK	III	2.6	3.3	4.1	4.9	6.2	7.3	8.7	13.2

¹ Use Type III rainfall for the towns of Brownfield, Buckfield, Denmark, Hartford, Hebron, Hiram, Oxford, and Porter.

Source: Data extracted by the Maine Department of Environmental Protection from the Northeast Regional Climate Center website (<http://precip.eas.cornell.edu>), Extreme Precipitation Tables. Data from this website was obtained from the National Oceanic and Atmospheric Administration's Regional Climate Center Program.
June 2014

Section 6

Class A High Intensity Soil Survey Test Pit Logs

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Class A
High Intensity Soil Survey Report

Tax map 67, Lot 1

US Route One

Kittery, Maine

prepared for:

Altus Engineering
133 Court Street
Portsmouth, NH 03801



Michael Cuomo

17 May 2021

This report is in reference to this +/-32 acre property at 514 US Route One in Kittery, Maine. In May of 2021 a class 'A' High Intensity Soil Survey of this property was completed in compliance with the standards created by the Maine Association of Professional Soil Scientists. The purpose of this soil investigation is to assist in planning a commercial development served by municipal water and sewer service. This report will explain the methods, limitations, and results of this work.

A high intensity soil survey is comprised of two components: a soil map and this report. The soil map is made by traversing the property and observing the soil at locations thought to be representative of the landform. Because soil is highly variable, it is not possible to represent every soil variation on the map. The map is a simplified two-dimensional interpretation of the complex three dimensional soil-landscape relationship. Class A standards allow for inclusions of soils other than those named in the map unit label, so long as no inclusion limiting for the proposed land use is greater than one-eighth acre in size. Boundaries between different soils are shown as lines on the soil map, but may be diffuse transition zones.

Soil names were selected using best fit with soils already researched in detail and found to occur extensively in Maine by the United States Department of Agriculture's Natural Resource Conservation Service. The map unit design and the interpretations of soil properties in this report are specific to this site and were selected considering the proposed use. Therefore, the interpretations and limitations described in this report may be insufficient for other uses. For example, soil suitability for on-site wastewater disposal was ignored in map unit design.

This soil map is based on 22 test pits dug with an excavator and two hand dug soil observations. The data for these is attached at the rear of this report, and their locations are shown on the base map. Other shallow soil observations were previously made to determine the edge of the wetland soils, but the data and locations of these were not recorded.

Hydrologic soil groups were assigned using the "HSG Triangle" developed by the University of Rhode Island.

The soil map is presented on a base plan: a two foot contour interval topographic and boundary survey with wetland flag locations prepared by Altus Engineering.

Eight different soils were mapped on the property and are described below.

Brayton (BrB)

Drainage class: poorly drained.
Parent material: basal till or loose till.
Texture range: stony fine sandy loam.
Description: see soil observation B.
Landscape position: lowland.
Landform: ground moraine.
Slope range: 0 to 8%.
Permeability: moderate in the upper layers and slow in the lower layers.
Bedrock class: moderately deep to deep.
Hydrologic soil group: D.
Saturated hydraulic conductivity: 0.0 to 0.6 in/hr in the most restrictive horizons.
Flood hazard: water ponds at the surface seasonally.
Inclusions: on this site Brayton map units represents poorly drained basal till soils which have variable bedrock depth.
Use and management: Land uses are limited by wetness close to the surface for prolonged periods of time during an average year. These are wetland soils and may not be drained or filled without permits.

Dixfield (DxB)

Drainage class: moderately well drained.
Parent material: basal till.
Texture range: stony fine sandy loam.
Description: see test pit one.
Landscape position: upland.
Landform: gently rolling.
Slope range: 0 to 8%.
Permeability: moderate in the upper layers and slow in the lower layers.
Bedrock class: very deep.
Hydrologic group: D.
Flood hazard: none.
Inclusions: test pit 5 has some horizons which are more sandy; Test pit 21 is an inclusion of the similar Marlow soil.
Use and management: land uses are slightly limited by the presence of basal till, which causes the ground water to perch after rain events and snow melt. This limitation can be overcome by appropriate grading and drainage.

Lyman-Tunbridge (LT)

Drainage class: somewhat excessively well and well drained.
Parent material: loose glacial till.
Texture range: stony fine sandy loam.
Description: Lyman is described in test pit 3 and Tunbridge in test pit 9.

Landscape position: upland.
Landform: gently rolling to steep.
Slope range: 0 to greater than 25%.
Permeability: moderately rapid.
Bedrock class: shallow and moderately deep.
Hydrologic soil group: the predominant HSG is C.
Saturated hydraulic conductivity: 0.1 to 14 in/hr in the most restrictive horizon.
Flood hazard: none.

Inclusions: This soil map unit represents upland soils with variable bedrock depth. Inclusions are the very shallow Abram soils in test pit 8; test pit 6, which has basal till over moderately deep bedrock; and few bedrock outcroppings at the surface.

Use and management: land uses are limited by bedrock 0 to 40 inches from the soil surface, which can be overcome by blasting and filling.

Nicholville (NiB)

Drainage class: somewhat poorly and moderately well drained.
Parent material: lacustrine and shallow marine sediments.
Texture range: very fine sandy loam in the upper part over silt loam in the lower part.

Description: test pits 12 and 14.
Landscape position: lowland.
Landform: gently rolling to nearly level plains.
Slope range: 0 to 8%.
Permeability: moderate in the upper part and slow in the lower part.

Bedrock class: very deep.
Hydrologic group: D.
Flood hazard: none.

Inclusions: Nicholville is typically a moderately well drained soil, but on this site the name includes the extensive somewhat poorly drained variant.

Use and management: Land uses are limited by seasonal wetness close to the surface. These are not wetland soils and may be drained or filled to overcome this limitation. The Nicholville soils are highly erosive and have low bearing strength when wet.

Scantic (ScB)

Drainage class: poorly drained.
Parent material: marine.
Texture range: silt loam over silty clay loam.
Description: see test pit 16.
Landscape position: wetland.
Landform: glacial deltas, bays.
Slope range: 0 to 8%.
Permeability: slow in the upper layers and very slow in the lower layers.
Bedrock class: very deep.
Hydrologic group: D.
Flood hazard: water ponds at the surface seasonally.
Inclusions: none noted.
Use and management: Land uses are limited by frequent saturation to the surface and fine texture of the soil which makes it difficult to work in when wet. These are wetlands soils and may be not be drained or filled without permits.

Waumbek (WmB)

Drainage class: moderately well drained.
Parent material: loose glacial till.
Texture range: stony fine sandy loam over gravelly sand.
Description: see test pit 20.
Landscape position: upland.
Landform: sideslopes.
Slope range: 0 to 8%.
Permeability: moderately rapid in the upper layers and rapid in the lower layers.
Bedrock class: very deep.
Hydrologic group: D.
Flood hazard: none.
Inclusions: none noted.
Use and management: land uses are slightly limited by the presence of brief duration ground water within 2 feet of the surface. This limitation can be overcome by appropriate grading and drainage.

Westbury (WsB)

Drainage class: somewhat poorly drained.
Parent material: basal till and loose till.
Texture range: fine sandy loam to loamy sand.
Description: see test pit 4.
Landscape position: lowland.
Landform: nearly level.
Slope range: 0 to 8%.
Permeability: moderate in the upper layers and slow to rapid in

the lower layers.
Bedrock class: moderately deep to deep.
Hydrologic group: D.
Flood hazard: water will pond at the surface briefly after significant rainstorms or snow melt.
Inclusions: Though typically deep to bedrock, on this site the Westbury soils have significant area which is moderately deep to bedrock.
Use and management: land uses are limited by seasonal wetness close to the surface. These are not wetland soils and may be drained or filled to overcome this limitation.

Whately (WhB)

Drainage class: very poorly drained.
Parent material: glacial lacustrine or aeolian.
Texture range: very fine sandy loam to sand.
Description: see soil observation A.
Landscape position: wetland.
Landform: deltas, bays.
Slope range: 0 to 8%.
Permeability: moderately rapid in the upper layers and very slow in the lower layers.
Bedrock class: very deep.
Hydrologic soil group: D.
Saturated hydraulic conductivity: 0.6 to 20 in/hr.
Flood hazard: water ponds at the surface frequently.
Inclusions: none noted.
Use and management: Land uses are limited by near constant saturation to the surface and low bearing strength. These are regulated wetlands and may not be drained or filled without permits.

Conclusion

The soils on this site are similar to those encountered elsewhere in York County. The limitations that the non-wetland soils present can be overcome by:

- 1) identifying the soils and their limitations, as has been done in this report;
- 2) engineering and designing measures such as construction sequencing, material specifications, drainage structures, grading, blasting, and erosion/sediment control in response to the limitations identified; and
- 3) implementing the designed measures properly.

The Brayton, Scantic, and Whately soils are regulated wetlands. No filling is allowed without permits. Proper erosion and sediment techniques must be employed to protect the wetlands during construction.

THIS LEGEND MUST APPEAR ON THE PLAN WHICH CONTAINS THE SOIL MAP.

High Intensity Soil Map Legend

BrB Brayton, 0-8% slopes*
DxB Dixfield, 0-8% slopes
LTB Lyman Tunbridge complex, 0-8% slopes
LTC Lyman Tunbridge complex, 8-15% slopes
LTD Lyman Tunbridge complex, 15-25% slopes
LTE Lyman Tunbridge complex, +25% slopes
NiB Nicholville, 0-8% slopes
ScB Scantic, 0-8% slopes*
WmB Waumbek, 0-8% slopes
WhB Whately, 0-8% slopes*
Wsb Westbury, 0-8% slopes

* These are wetland soils.

This soil survey complies with Class A standards as defined by the Maine Association of Professional Soil Scientists. See report dated 17 May 2021, for complete description of methods, soils, and results.

Michael Cuomo
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TEST PIT DATA

Client: Altus Engineering
Location: 514 US Route One, Kittery
Date: 10 May 2021

Test Pit Number: 1

<u>Depth</u>	<u>Description</u>
2"	Leaf litter.
0-9"	Dark brown (10YR 3/3) fine sandy loam, granular, friable.
9-24"	Dark yellowish brown (10YR 4/6) fine sandy loam, blocky, friable.
24-35"	Light olive brown (2.5Y 5/4) fine sandy loam, blocky, friable, redox.
35-48"	Dark olive brown (2.5Y 3/3) stony fine sandy loam, massive, firm, redox.

Soil Name:	Dixfield
Depth to Seasonal High Water Table:	24"
Depth to Bedrock:	48"

Test Pit Number: 2

<u>Depth</u>	<u>Description</u>
1"	Leaf litter.
0-8"	Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
8-20"	Dark yellowish brown (10YR 4/6) stony fine sandy loam, blocky, friable.

Soil Name:	Tunbridge
Depth to Seasonal High Water Table:	none
Depth to Bedrock:	20"

Test Pit Number: 3

<u>Depth</u>	<u>Description</u>
2"	Leaf litter.
0-8"	Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
8-18"	Dark yellowish brown (10YR 4/6) stony fine sandy loam, blocky, friable.

Soil Name:	Lyman
Depth to Seasonal High Water Table:	none
Depth to Bedrock:	18"

Test Pit Number: 4

<u>Depth</u>	<u>Description</u>
2"	Leaf litter.
0-8"	Dark grayish brown (2.5Y 4/2) fine sandy loam, granular, friable.
8-16"	Dark yellowish brown (10YR 4/6) fine sandy loam, blocky, friable, redox.
16-24"	Light yellowish brown (2.5Y 6/4) fine sandy loam, blocky, firm, redox.

Soil Name:	Westbury variant
Depth to Seasonal High Water Table:	8"
Depth to Bedrock:	24"

Test Pit Number: 5

<u>Depth</u>	<u>Description</u>
1"	Leaf litter.
0-22"	Yellowish brown (10YR 5/4) fine sandy loam, blocky, friable.
22-32"	Dark yellowish brown (10YR 4/6) gravelly loamy sand, blocky, friable, redox.
32-44"	Dark olive brown (2.5Y 3/3) gravelly sand, loose, massive, redox.
44-56"	Light olive brown (2.5Y 5/4) stony fine sandy loam, massive, firm, redox.

Soil Name: Dixfield
Depth to Seasonal High Water Table: 22"
Depth to Bedrock: 56"

Test Pit Number: 6

<u>Depth</u>	<u>Description</u>
1"	Leaf litter.
0-10"	Dark brown (10YR 3/3) fine sandy loam, granular, friable.
10-24"	Dark yellowish brown (10YR 4/6) fine sandy loam, blocky, friable.
24-38"	Light yellowish brown (2.5Y 6/4) stony fine sandy loam, massive, firm, redox.

Soil Name: Tunbridge variant
Depth to Seasonal High Water Table: 24"
Depth to Bedrock: 38"

Test Pit Number: 7

<u>Depth</u>	<u>Description</u>
1"	Leaf litter.
0-7"	Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
7-18"	Yellowish brown (10YR 5/6) stony fine sandy loam, blocky, friable.

Soil Name: Lyman
Depth to Seasonal High Water Table: none
Depth to Bedrock: 18"

Test Pit Number: 8

<u>Depth</u>	<u>Description</u>
2"	Leaf litter.
0-3"	Very dark gray (10YR 3/1) stony fine sandy loam, granular, friable.

Soil Name: Abram
Depth to Seasonal High Water Table: none
Depth to Bedrock: 3"

Test Pit Number: 9

<u>Depth</u>	<u>Description</u>
2"	Leaf litter.
0-6"	Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
6-27"	Yellowish brown (10YR 5/6) stony fine sandy loam, blocky, friable.

Soil Name: Tunbridge
Depth to Seasonal High Water Table: none
Depth to Bedrock: 27"

Test Pit Number: 10

<u>Depth</u>	<u>Description</u>
2"	Leaf litter.
0-6"	Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.

Soil Name: Abram
Depth to Seasonal High Water Table: none
Depth to Bedrock: 6"

Test Pit Number: 11

<u>Depth</u>	<u>Description</u>
2"	Leaf litter.
0-7"	Dark brown (10YR 3/3) silt loam, granular, friable.
7-10"	Light yellowish brown (2.5Y 6/4) silt loam, blocky, friable, redox.
10-28"	Pale olive (5Y 6/3) silt loam, massive, friable, redox.
29-44"	Light yellowish brown (2.5Y 6/4) fine sandy loam, massive, firm, redox.
44-96"	Olive brown (2.5Y 4/4) sand, massive, loose, with strata of firm silt, redox.

Soil Name: Westbury variant
Depth to Seasonal High Water Table: 7"
Depth to Bedrock: none

Test Pit Number: 12

<u>Depth</u>	<u>Description</u>
1"	Leaf litter.
0-7"	Dark brown (10YR 3/3) silt loam, granular, friable.
7-11"	Yellowish brown (10YR 5/6) silt loam, blocky, friable.
11-28"	Light yellowish brown (2.5Y 6/4) silt loam, blocky, friable, redox.
28-64"	Olive brown (2.5Y 4/4) sand, massive, loose, redox.
64-96"	Olive brown (2.5Y 4/4) silt loam, massive, firm, redox.

Soil Name: Nicholville variant
Depth to Seasonal High Water Table: 11"
Depth to Bedrock: none

Test Pit Number: 13

<u>Depth</u>	<u>Description</u>
1"	Leaf litter.
0-10"	Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
10-24"	Strong brown (7.5YR 4/6) stony fine sandy loam, blocky, friable.
24-32"	Light yellowish brown (2.5Y 6/4) stony fine sandy loam, blocky, firm, redox.

Soil Name: Tunbridge variant
Depth to Seasonal High Water Table: 24"
Depth to Bedrock: 32"

Test Pit Number: 14

<u>Depth</u>	<u>Description</u>
2"	Leaf litter.
0-6"	Brown (10YR 4/3) fine sandy loam, granular, friable.
6-17"	Yellowish brown (10YR 5/6) fine sandy loam, blocky, friable, redox.
17-24"	Olive brown (2.5Y 4/4) sand, massive, loose, redox.
24-52"	Light olive brown (2.5Y 5/4) stratified fine sand and silt, massive, firm, redox.

Soil Name: Nicholville

Depth to Seasonal High Water Table: 17"
Depth to Bedrock: none

Test Pit Number: 15

<u>Depth</u>	<u>Description</u>
1"	Leaf litter.
0-6"	Brown (10YR 4/3) stony fine sandy loam, granular, friable.
6-12"	Dark yellowish brown (10YR 5/6) stony fine sandy loam, blocky, friable.
12-18"	Light yellowish brown (2.5Y 6/4) stony fine sandy loam, blocky, friable.

Soil Name: Lyman
Depth to Seasonal High Water Table: none
Depth to Bedrock: 18"

Test Pit Number: 16

<u>Depth</u>	<u>Description</u>
1"	Leaf litter.
0-7"	Very dark gray (2.5Y 3/1) silt loam, granular, friable, redox.
7-13"	Light gray (2.5Y 7/1) silt loam, blocky, friable, redox.
13-22"	Olive brown (2.5Y 4/4) silt loam, blocky, firm, redox.
22-50"	Olive (5Y 5/4) silty clay loam, massive, firm, redox.

Soil Name: Scantic
Depth to Seasonal High Water Table: surface
Depth to Bedrock: none

Test Pit Number: 17

<u>Depth</u>	<u>Description</u>
2"	Leaf litter.
0-5"	Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
5-12"	Strong brown (7.5YR 4/6) stony fine sandy loam, blocky, friable.

Soil Name: Lyman
Depth to Seasonal High Water Table: none
Depth to Bedrock: 12"

Test Pit Number: 18

<u>Depth</u>	<u>Description</u>
1"	Leaf litter.
0-5"	Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
5-17"	Yellowish brown (10YR 5/4) fine sandy loam, blocky, friable.
17-24"	Light olive brown (2.5Y 5/4) stony fine sandy loam, blocky, friable, redox.
24-54"	Light yellowish brown (2.5Y 6/4) sand, massive, loose, redox.

Soil Name: Waumbek
Depth to Seasonal High Water Table: 17"
Depth to Bedrock: none

Test Pit Number: 19

<u>Depth</u>	<u>Description</u>
0"	Leaf litter.
0-8"	Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
8-28"	Dark yellowish brown (10YR 4/4) stony fine sandy loam, blocky, friable.

Soil Name: Tunbridge
Depth to Seasonal High Water Table: none
Depth to Bedrock: 28"

Test Pit Number: 20

<u>Depth</u>	<u>Description</u>
0"	Leaf litter.
0-10	Dark brown (10YR 3/3) fine sandy loam, granular, friable.
10-28"	Dark yellowish brown (10YR 4/4) fine sandy loam, blocky, friable.
28-46"	Light yellowish brown (2.5Y 6/4) gravelly loamy sand, massive, friable, redox.

Soil Name: Waumbek
Depth to Seasonal High Water Table: 28"
Depth to Bedrock: 46"

Test Pit Number: 21

<u>Depth</u>	<u>Description</u>
0"	Leaf litter.
0-10"	Very dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
10-28"	Dark yellowish brown (10YR 4/6) stony fine sandy loam, blocky, friable.
28-66"	Light olive brown (2.5Y 5/4) stony fine sandy loam, massive, firm, redox.

Soil Name: Marlow
Depth to Seasonal High Water Table: 28"
Depth to Bedrock: 66"

Test Pit Number: 22

<u>Depth</u>	<u>Description</u>
0"	Leaf litter.
0-6"	Dark brown (10YR 3/3) stony fine sandy loam, granular, friable.
6-12"	Yellowish brown (10YR 5/6) stony fine sandy loam, blocky, friable.

Soil Name: Lyman
Depth to Seasonal High Water Table: none
Depth to Bedrock: 12"

Soil Observation: A

<u>Depth</u>	<u>Description</u>
3"	Leaf litter.
0-10"	Black (10YR2/1) mucky peat, massive, friable, redox.
10-20"	Gray (2.5Y 5/1) loamy fine sand, massive, friable, redox.
20-28"	Olive gray (5Y 5/2) very fine sandy loam, massive, friable, redox.
28-36"	Gray (2.5Y 5/1) fine sand, massive, friable, redox.
36-42"	Olive brown (2.5Y 4/4) very fine sandy loam, massive, firm, redox.

Soil Name: Whately
Depth to Seasonal High Water Table: surface
Depth to Bedrock: none

Soil Observation: B

<u>Depth</u>	<u>Description</u>
4"	Leaf litter.
0-8"	Very dark gray (2.5Y 3/1) stony fine sandy loam, massive, friable, redox.
8-14"	Dark gray (2.5Y 4/1) stony fine sandy loam, massive, friable, redox.
14-28"	Light yellowish brown (2.5Y 6/3) stony fine sandy loam, massive, friable, redox.

Soil Name: Brayton variant
Depth to Seasonal High Water Table: surface
Depth to Bedrock: 28"

Section 7

NRCS Soils Report



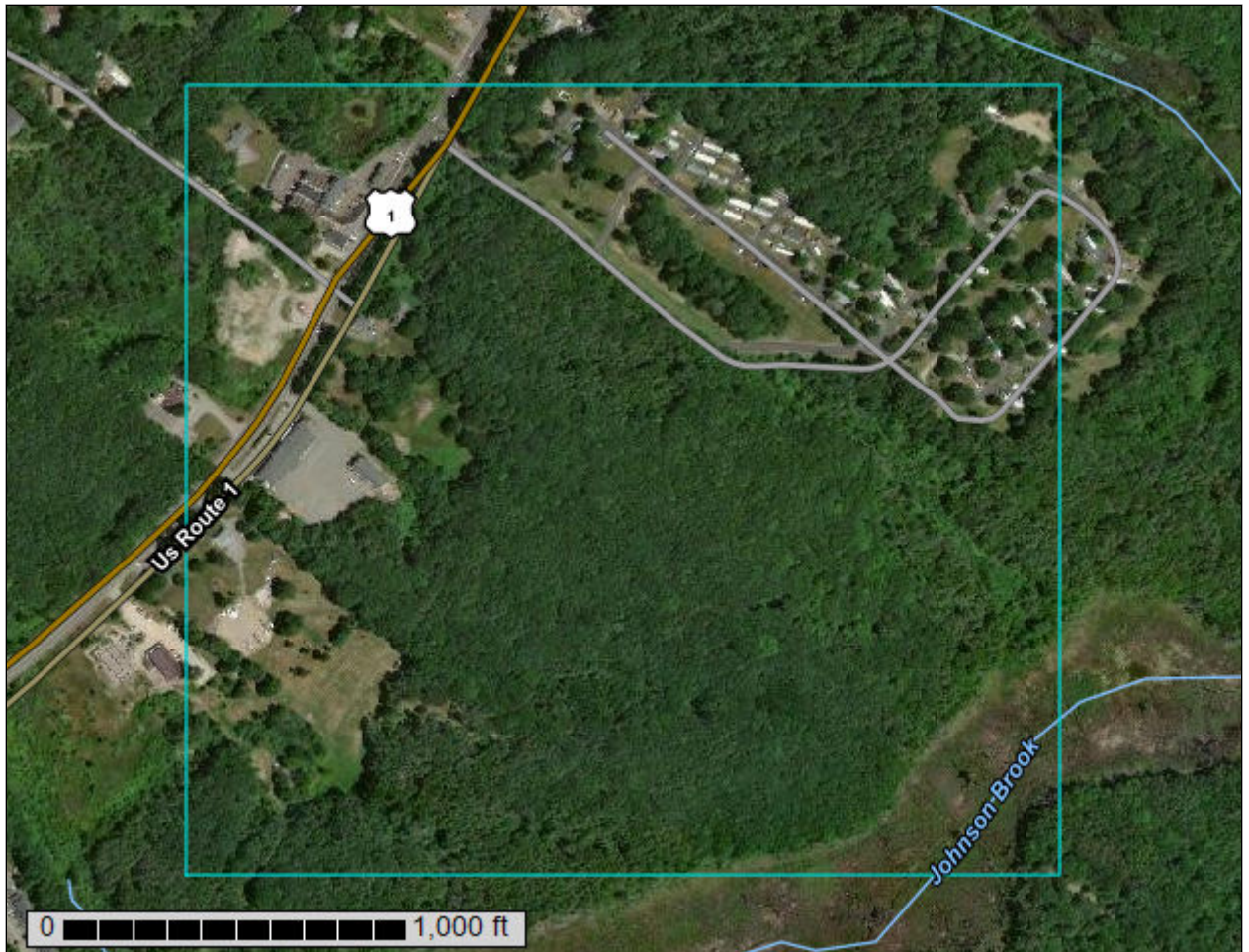
United States
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Agriculture

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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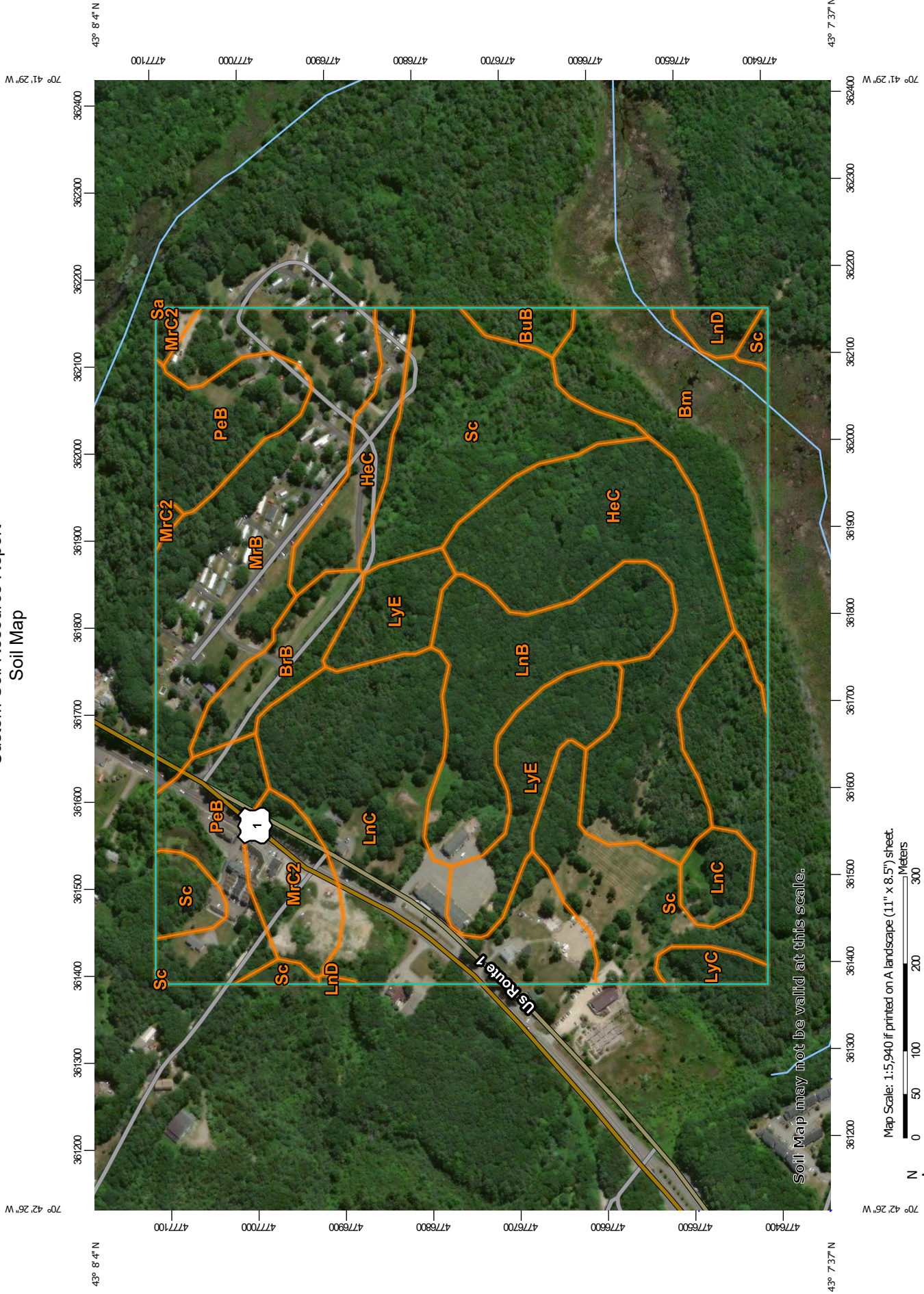
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MrB—Marlow fine sandy loam, 3 to 8 percent slopes.....	28
MrC2—Marlow fine sandy loam, 8 to 15 percent slopes.....	30
PeB—Peru fine sandy loam, 3 to 8 percent slopes.....	32
Sa—Saco mucky silt loam.....	34
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Soil 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



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
- Water Features**
 -  Streams and Canals
- Transportation**
 -  Rails
 -  Interstate Highways
 -  US Routes
 -  Major Roads
 -  Local Roads
- Background**
 -  Aerial Photography
- Other Features**
 -  Spoil Area
 -  Stony Spot
 -  Very Stony Spot
 -  Wet Spot
 -  Other
 -  Special Line Features

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 19, May 29, 2020

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 9, 2017

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
Bm	Biddeford mucky peat, 0 to 3 percent slopes	11.1	8.2%
BrB	Brayton and Westbury fine sandy loams, 0 to 8 percent slopes	3.6	2.7%
BuB	Buxton silt loam, 3 to 8 percent slopes	1.2	0.9%
HeC	Hermon sandy loam, 8 to 15 percent slopes	21.2	15.7%
LnB	Lyman loam, 3 to 8 percent slopes, rocky	10.5	7.8%
LnC	Lyman loam, 8 to 15 percent slopes, rocky	20.0	14.8%
LnD	Lyman loam, 15 to 25 percent slopes, rocky	1.1	0.8%
LyC	Lyman-Rock outcrop complex, 8 to 15 percent slopes	1.2	0.9%
LyE	Lyman-Rock outcrop complex, 15 to 80 percent slopes	8.3	6.2%
MrB	Marlow fine sandy loam, 3 to 8 percent slopes	16.4	12.1%
MrC2	Marlow fine sandy loam, 8 to 15 percent slopes	4.7	3.5%
PeB	Peru fine sandy loam, 3 to 8 percent slopes	11.0	8.2%
Sa	Saco mucky silt loam	0.0	0.0%
Sc	Scantic silt loam, 0 to 3 percent slopes	25.0	18.5%
Totals for Area of Interest		135.1	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.

Custom Soil Resource Report

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 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

Custom Soil Resource Report

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

Bm—Biddeford mucky peat, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2t0jn
Elevation: 10 to 1,200 feet
Mean annual precipitation: 33 to 60 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Biddeford and similar soils: 82 percent
Minor components: 18 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Biddeford

Setting

Landform: Marine terraces, river valleys
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave, linear
Parent material: Organic material over glaciomarine deposits

Typical profile

Oe - 0 to 12 inches: mucky peat
Eg - 12 to 16 inches: silt loam
Bg - 16 to 45 inches: silty clay
Cg - 45 to 65 inches: clay

Properties and qualities

Slope: 0 to 3 percent
Surface area covered with cobbles, stones or boulders: 0.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water capacity: High (about 11.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: D
Ecological site: F144BY002ME - Marine Terrace Depression
Hydric soil rating: Yes

Minor Components

Scantic

Percent of map unit: 9 percent

Custom Soil Resource Report

Landform: Marine terraces, river valleys
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F144BY001ME - Marine Terrace Flat
Hydric soil rating: Yes

Wonsqueak

Percent of map unit: 6 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Swanville

Percent of map unit: 2 percent
Landform: Lake plains, marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Lamoine

Percent of map unit: 1 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

BrB—Brayton and Westbury fine sandy loams, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9k52
Elevation: 10 to 2,500 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Brayton and similar soils: 70 percent
Westbury and similar soils: 25 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brayton

Setting

Landform: Till plains

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Talf

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Coarse-loamy lodgment till derived from mica schist and/or coarse-loamy lodgment till derived from gneiss

Typical profile

H1 - 0 to 8 inches: fine sandy loam

H2 - 8 to 14 inches: fine sandy loam

H3 - 14 to 65 inches: fine sandy loam

Properties and qualities

Slope: 0 to 8 percent

Depth to restrictive feature: 10 to 20 inches to densic material

Drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.60 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: None

Frequency of ponding: None

Available water capacity: Low (about 3.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: D

Hydric soil rating: Yes

Description of Westbury

Setting

Landform: Till plains

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Coarse-loamy lodgment till derived from granite and gneiss

Typical profile

H1 - 0 to 4 inches: fine sandy loam

H2 - 4 to 23 inches: fine sandy loam

H3 - 23 to 36 inches: fine sandy loam

H4 - 36 to 65 inches: sandy loam

Properties and qualities

Slope: 0 to 8 percent

Depth to restrictive feature: 13 to 24 inches to densic material

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)

Depth to water table: About 7 to 18 inches

Frequency of flooding: None

Custom Soil Resource Report

Frequency of ponding: None
Available water capacity: Very low (about 2.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Skerry

Percent of map unit: 3 percent
Landform: Till plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Peru

Percent of map unit: 1 percent
Landform: Till plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Westbury, slopes >8%

Percent of map unit: 1 percent
Landform: Till plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

BuB—Buxton silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9k54
Elevation: 10 to 900 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 43 to 46 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Buxton and similar soils: 85 percent

Custom Soil Resource Report

Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Buxton

Setting

Landform: Coastal plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Glaciolacustrine deposits derived from siltstone and/or fine-silty marine deposits

Typical profile

H1 - 0 to 7 inches: silt loam
H2 - 7 to 19 inches: silt loam
H3 - 19 to 37 inches: silty clay
H4 - 37 to 65 inches: silty clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 7 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Scantic

Percent of map unit: 5 percent
Landform: Coastal plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: Yes

Buxton mod well drained

Percent of map unit: 5 percent
Landform: Coastal plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Biddeford

Percent of map unit: 2 percent
Landform: Coastal plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Scio

Percent of map unit: 1 percent
Landform: Coastal plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Buxton, slopes >8%

Percent of map unit: 1 percent
Landform: Coastal plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Buxton, 0.1 to 3% stone cover

Percent of map unit: 1 percent
Landform: Coastal plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

HeC—Hermon sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w9r9
Elevation: 0 to 980 feet
Mean annual precipitation: 31 to 65 inches
Mean annual air temperature: 36 to 52 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Hermon and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hermon

Setting

Landform: Hills, mountains

Landform position (two-dimensional): Backslope, summit, shoulder

Landform position (three-dimensional): Mountainbase, mountainflank, side slope, nose slope, interfluve

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Sandy and gravelly supraglacial meltout till derived from granite and gneiss

Typical profile

Ap - 0 to 9 inches: sandy loam

Bs1 - 9 to 16 inches: very gravelly sandy loam

Bs2 - 16 to 32 inches: extremely gravelly loamy sand

C - 32 to 65 inches: very gravelly coarse sand

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water capacity: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: A

Hydric soil rating: No

Minor Components

Monadnock

Percent of map unit: 4 percent

Landform: Hills, mountains

Landform position (two-dimensional): Backslope, summit, shoulder

Landform position (three-dimensional): Mountainflank, mountainbase, side slope, nose slope, interfluve

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Peru

Percent of map unit: 4 percent

Landform: Mountains, hills

Landform position (two-dimensional): Footslope, backslope

Landform position (three-dimensional): Mountainflank, mountainbase, side slope, nose slope, interfluve

Microfeatures of landform position: Open depressions, closed depressions, closed depressions, open depressions

Custom Soil Resource Report

Down-slope shape: Convex, concave
Across-slope shape: Linear, concave
Hydric soil rating: No

Tunbridge

Percent of map unit: 1 percent
Landform: Mountains, hills
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Mountainbase, mountainflank, side slope, nose slope, interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Brayton

Percent of map unit: 1 percent
Landform: Mountains, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Mountainflank, mountainbase, side slope, nose slope, interfluve
Microfeatures of landform position: Closed depressions, open depressions, closed depressions, open depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

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
Minor components: 14 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman, Rocky

Setting

Landform: Mountains, hills
Landform position (two-dimensional): Shoulder, summit, backslope
Landform position (three-dimensional): Mountaintop, mountainbase, crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex

Custom Soil Resource Report

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 capacity: 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

Minor Components

Tunbridge, rocky

Percent of map unit: 6 percent
Landform: Hills, mountains
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Mountaintop, mountainbase, side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Skerry, rocky

Percent of map unit: 5 percent
Landform: Hills, mountains
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Mountaintop, mountainbase, crest, side slope
Microfeatures of landform position: Closed depressions, closed depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: No

Hermon, rocky

Percent of map unit: 2 percent
Landform: Hills, mountains
Landform position (two-dimensional): Backslope, summit, shoulder

Custom Soil Resource Report

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

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Brayton, rocky

Percent of map unit: 1 percent

Landform: Hills, mountains

Landform position (two-dimensional): Toeslope, footslope

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

Microfeatures of landform position: Closed depressions, closed depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

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

Minor components: 14 percent

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

Description of Lyman, Rocky

Setting

Landform: Hills, mountains

Landform position (two-dimensional): Shoulder, summit, backslope

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

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

Custom Soil Resource Report

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 capacity: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Tunbridge, rocky

Percent of map unit: 6 percent
Landform: Mountains, hills
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Mountaintop, mountainbase, mountainflank, side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Skerry, rocky

Percent of map unit: 5 percent
Landform: Hills, mountains
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Mountaintop, mountainbase, mountainflank, crest, side slope
Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: No

Hermon, rocky

Percent of map unit: 2 percent
Landform: Hills, mountains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountaintop, mountainbase, mountainflank, side slope, crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Brayton, rocky

Percent of map unit: 1 percent

Custom Soil Resource Report

Landform: Hills, mountains

Landform position (two-dimensional): Toeslope, footslope

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

Microfeatures of landform position: Open depressions, open depressions, closed depressions, closed depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

LnD—Lyman loam, 15 to 25 percent slopes, rocky

Map Unit Setting

National map unit symbol: 2trqd

Elevation: 0 to 850 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: 92 percent

Minor components: 8 percent

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

Description of Lyman, Rocky

Setting

Landform: Hills, mountains

Landform position (two-dimensional): Shoulder, summit, backslope

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

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: 15 to 25 percent

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

Custom Soil Resource Report

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 capacity: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: D

Hydric soil rating: No

Minor Components

Tunbridge, rocky

Percent of map unit: 3 percent

Landform: Hills, mountains

Landform position (two-dimensional): Backslope, summit, shoulder

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

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Hermon, rocky

Percent of map unit: 2 percent

Landform: Hills, mountains

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

Landform position (three-dimensional): Mountainflank, mountaintop, side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Skerry, rocky

Percent of map unit: 2 percent

Landform: Mountains, hills

Landform position (two-dimensional): Backslope, footslope

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

Microfeatures of landform position: Open depressions, open depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: No

Brayton, rocky

Percent of map unit: 1 percent

Landform: Hills, mountains

Landform position (two-dimensional): Toeslope, footslope

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

Microfeatures of landform position: Open depressions, open depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

LyC—Lyman-Rock outcrop complex, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2trqj
Elevation: 0 to 790 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, very stony, and similar soils: 62 percent
Rock outcrop: 25 percent
Minor components: 13 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lyman, Very Stony

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Shoulder, summit, backslope
Landform position (three-dimensional): Mountaintop, mountainbase, crest, side slope
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
Surface area covered with cobbles, stones or boulders: 1.5 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 capacity: Low (about 3.4 inches)

Custom Soil Resource Report

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6s

Hydrologic Soil Group: D

Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Hills, mountains

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

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

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Igneous and metamorphic rock

Typical profile

R - 0 to 10 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: 0 inches to lithic bedrock

Capacity of the most limiting layer to transmit water (Ksat): Very low to very high (0.00 to 14.17 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s

Hydric soil rating: Unranked

Minor Components

Skerry, very stony

Percent of map unit: 4 percent

Landform: Hills, mountains

Landform position (two-dimensional): Backslope, footslope

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

Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: No

Hermon, very stony

Percent of map unit: 4 percent

Landform: Mountains, hills

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

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

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Tunbridge, very stony

Percent of map unit: 3 percent

Custom Soil Resource Report

Landform: Mountains, hills

Landform position (two-dimensional): Backslope, summit, shoulder

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

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Brayton, very stony

Percent of map unit: 2 percent

Landform: Hills, mountains

Landform position (two-dimensional): Toeslope, footslope

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

Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

LyE—Lyman-Rock outcrop complex, 15 to 80 percent slopes

Map Unit Setting

National map unit symbol: 2trqp

Elevation: 0 to 980 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, very stony, and similar soils: 60 percent

Rock outcrop: 30 percent

Minor components: 10 percent

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

Description of Lyman, Very Stony

Setting

Landform: Mountains, hills

Landform position (two-dimensional): Shoulder, summit, backslope

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

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

Custom Soil Resource Report

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: 15 to 80 percent
Surface area covered with cobbles, stones or boulders: 1.5 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 capacity: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Hills, mountains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountaintop, mountainflank, crest, side slope, free face
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Igneous and metamorphic rock

Typical profile

R - 0 to 10 inches: bedrock

Properties and qualities

Slope: 15 to 80 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Capacity of the most limiting layer to transmit water (Ksat): Very low to very high (0.00 to 14.17 in/hr)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Minor Components

Tunbridge, very stony

Percent of map unit: 4 percent
Landform: Hills, mountains

Custom Soil Resource Report

Landform position (two-dimensional): Backslope, summit, shoulder

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

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Hermon, very stony

Percent of map unit: 3 percent

Landform: Mountains, hills

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

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

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Skerry, very stony

Percent of map unit: 2 percent

Landform: Mountains, hills

Landform position (two-dimensional): Backslope, footslope

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

Microfeatures of landform position: Open depressions, open depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: No

Brayton, very stony

Percent of map unit: 1 percent

Landform: Hills, mountains

Landform position (two-dimensional): Toeslope, footslope

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

Microfeatures of landform position: Open depressions, open depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

MrB—Marlow fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2ty5d

Elevation: 0 to 690 feet

Mean annual precipitation: 36 to 65 inches

Mean annual air temperature: 36 to 52 degrees F

Frost-free period: 90 to 160 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Marlow and similar soils: 87 percent

Minor components: 13 percent

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

Description of Marlow

Setting

Landform: Mountains, hills

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

Landform position (three-dimensional): Mountainbase, side slope, nose slope, interfluve

Down-slope shape: Convex

Across-slope shape: Convex

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

Typical profile

Ap - 0 to 4 inches: fine sandy loam

E - 4 to 6 inches: fine sandy loam

Bs1 - 6 to 10 inches: fine sandy loam

Bs2 - 10 to 15 inches: fine sandy loam

Bs3 - 15 to 20 inches: fine sandy loam

BC - 20 to 24 inches: fine sandy loam

Cd - 24 to 65 inches: fine sandy loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 20 to 39 inches to densic material

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water capacity: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Peru

Percent of map unit: 6 percent

Landform: Hills, mountains

Landform position (two-dimensional): Footslope, backslope

Landform position (three-dimensional): Mountainbase, side slope, nose slope, interfluve

Microfeatures of landform position: Closed depressions, closed depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: No

Custom Soil Resource Report

Tunbridge

Percent of map unit: 4 percent

Landform: Mountains, hills

Landform position (two-dimensional): Backslope, summit, shoulder

Landform position (three-dimensional): Mountainbase, side slope, nose slope, interfluvium

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Brayton

Percent of map unit: 2 percent

Landform: Hills, mountains

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Mountainbase, side slope, nose slope, interfluvium

Microfeatures of landform position: Closed depressions, closed depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Colonel

Percent of map unit: 1 percent

Landform: Hills, mountains

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Mountainbase, side slope, nose slope, interfluvium

Microfeatures of landform position: Closed depressions, closed depressions

Down-slope shape: Linear

Across-slope shape: Concave

Hydric soil rating: No

MrC2—Marlow fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2ty5g

Elevation: 0 to 820 feet

Mean annual precipitation: 36 to 65 inches

Mean annual air temperature: 36 to 52 degrees F

Frost-free period: 90 to 160 days

Farmland classification: Not prime farmland

Map Unit Composition

Marlow and similar soils: 88 percent

Minor components: 12 percent

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

Description of Marlow

Setting

Landform: Hills, mountains

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

Landform position (three-dimensional): Mountainbase, mountainflank, side slope, nose slope, interfluve

Down-slope shape: Convex

Across-slope shape: Convex

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

Typical profile

Ap - 0 to 4 inches: fine sandy loam

E - 4 to 6 inches: fine sandy loam

Bs1 - 6 to 10 inches: fine sandy loam

Bs2 - 10 to 15 inches: fine sandy loam

Bs3 - 15 to 20 inches: fine sandy loam

BC - 20 to 24 inches: fine sandy loam

Cd - 24 to 65 inches: fine sandy loam

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: 20 to 39 inches to densic material

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water capacity: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Tunbridge

Percent of map unit: 5 percent

Landform: Hills, mountains

Landform position (two-dimensional): Backslope, summit, shoulder

Landform position (three-dimensional): Mountainbase, mountainflank, side slope, nose slope, interfluve

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Peru

Percent of map unit: 5 percent

Landform: Hills, mountains

Landform position (two-dimensional): Footslope, backslope

Custom Soil Resource Report

Landform position (three-dimensional): Mountainbase, mountainflank, side slope, nose slope, interfluve

Microfeatures of landform position: Closed depressions, closed depressions, open depressions, open depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: No

Brayton

Percent of map unit: 2 percent

Landform: Mountains, hills

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Mountainbase, mountainflank, side slope, nose slope, interfluve

Microfeatures of landform position: Open depressions, open depressions, closed depressions, closed depressions

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

PeB—Peru fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2ty5x

Elevation: 0 to 720 feet

Mean annual precipitation: 36 to 65 inches

Mean annual air temperature: 36 to 52 degrees F

Frost-free period: 90 to 160 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Peru and similar soils: 88 percent

Minor components: 12 percent

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

Description of Peru

Setting

Landform: Hills, mountains

Landform position (two-dimensional): Backslope, footslope

Landform position (three-dimensional): Mountainbase, interfluve

Down-slope shape: Convex

Across-slope shape: Linear

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

Typical profile

Ap - 0 to 6 inches: fine sandy loam

Bhs - 6 to 8 inches: fine sandy loam

Bs1 - 8 to 12 inches: fine sandy loam

Custom Soil Resource Report

Bs2 - 12 to 18 inches: fine sandy loam
Bs3 - 18 to 21 inches: fine sandy loam
BC - 21 to 24 inches: fine sandy loam
Cd - 24 to 65 inches: sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.01 to 1.42 in/hr)
Depth to water table: About 16 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Hydric soil rating: No

Minor Components

Brayton

Percent of map unit: 5 percent
Landform: Hills, mountains
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Mountainbase, interfluve
Microfeatures of landform position: Closed depressions, closed depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sunapee

Percent of map unit: 3 percent
Landform: Hills, mountains
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Mountainbase, interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Marlow

Percent of map unit: 3 percent
Landform: Hills, mountains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Mountainbase, interfluve
Microfeatures of landform position: Rises, rises
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Colonel

Percent of map unit: 1 percent
Landform: Hills, mountains

Custom Soil Resource Report

Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Mountainbase, interfluvium
Microfeatures of landform position: Closed depressions, closed depressions
Down-slope shape: Linear, concave
Across-slope shape: Concave
Hydric soil rating: No

Sa—Saco mucky silt loam

Map Unit Setting

National map unit symbol: 9k6j
Elevation: 10 to 2,000 feet
Mean annual precipitation: 34 to 48 inches
Mean annual air temperature: 37 to 46 degrees F
Frost-free period: 80 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Saco and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Saco

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty alluvium

Typical profile

H1 - 0 to 13 inches: mucky silt loam
H2 - 13 to 24 inches: silt loam
H3 - 24 to 65 inches: very fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: FrequentNone
Frequency of ponding: None
Available water capacity: Very high (about 16.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w

Custom Soil Resource Report

Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Rumney

Percent of map unit: 8 percent
Landform: Flood plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Rise
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: Yes

Chocorua

Percent of map unit: 7 percent
Landform: Bogs
Hydric soil rating: Yes

Sc—Scantic silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2slv3
Elevation: 10 to 900 feet
Mean annual precipitation: 33 to 60 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 90 to 160 days
Farmland classification: Not prime farmland

Map Unit Composition

Scantic and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scantic

Setting

Landform: Marine terraces, river valleys
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Glaciomarine deposits

Typical profile

Ap - 0 to 9 inches: silt loam
Bg1 - 9 to 16 inches: silty clay loam
Bg2 - 16 to 29 inches: silty clay
Cg - 29 to 65 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent

Custom Soil Resource Report

Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Hydric soil rating: Yes

Minor Components

Lamoine

Percent of map unit: 8 percent
Landform: River valleys, marine terraces
Landform position (three-dimensional): Riser, rise
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Biddeford

Percent of map unit: 3 percent
Landform: Marine terraces, river valleys
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave, linear
Ecological site: F144BY002ME - Marine Terrace Depression
Hydric soil rating: Yes

Buxton

Percent of map unit: 2 percent
Landform: Marine terraces, river valleys
Landform position (three-dimensional): Riser, rise
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Roundabout

Percent of map unit: 2 percent
Landform: River valleys, marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Section 8

BMP Sizing Calculations Riprap Calculations

BMP Water Quality Volume (WQV) Calculations

BMP: Grassed Underdrained Soil Filter #1 (Pond 13P)

	Area (sf)	Ratio (in/sf)	WQV (cf)
Impervious	4554	1	380 cf
Landscape	8462	0.4	282 cf
25% Pretreatment Credit			-165 cf
Total WQV Required:			496 cf

Available Storage (cf):			
Surface to Lowest Outlet:			525 cf
Total Storage Provided:			525 cf
Surplus/Deficit:			29 cf

Filter Area:		% Area Req.	
Impervious	4554	5%	228 sf
Landscape	8462	2%	169 sf
Total Filter Area Required:			397 sf
Filter Area Provided:			464 sf
Surplus/Deficit:			67 sf

BMP Water Quality Volume (WQV) Calculations

BMP: Grassed Underdrained Soil Filter #1 (Pond 13P)

	Area (sf)	Ratio (in/sf)	WQV (cf)
Impervious	4554	1	380 cf
Landscape	8462	0.4	282 cf
25% Pretreatment Credit			-165 cf
Total WQV Required:			496 cf

Available Storage (cf):			
Surface to Lowest Outlet:			525 cf
Total Storage Provided:			525 cf
Surplus/Deficit:			29 cf

Filter Area:		% Area Req.	
Impervious	4554	5%	228 sf
Landscape	8462	2%	169 sf
Total Filter Area Required:			397 sf
Filter Area Provided:			464 sf
Surplus/Deficit:			67 sf

RIPRAP CALCULATIONS

Location: CB #5-1, 12" Culvert (HydroCAD Pond #10P)

Date: 6/29/2021 By: EBS

La	Apron Length, Ft.	Calculated
Tw	Tailwater, Ft.	0.5
Q	Flow, 10 Yr Storm, CFS	3.78
D50	Median Stone Dia., Ft.	Calculated
D	Depth of Stone, In	Calculated
Do	Pipe Diameter, Ft	1.00
W1	Width @ Start, Ft.	Calculated
W2	Width @ End, Ft	Calculated
W	Width of Channel	2

W1: $3(Do)=$ 3 Ft.

Width @ Start: 3 Ft.

D50: $0.02(Q)^{4/3}$ D50= 0.23 Ft.
Tw(Do) or 2.8 In.

Median Stone Size: 6 In.

D: $2.25 * D50$ **Depth of Riprap: 14 In.**

La: If $Tw \leq Do/2$: Do/2= 0.5 Ft.

and $La = 1.8Q/Do^{3/2} + 7Do$ Tw= 0.5 Ft.

W2=width of channel

or

$W2 = 3Do + La$

If $Tw > Do/2$:

and $La = 3Q/Do^{3/2} + 7Do$

W2=width of channel

or

$W2 = 3Do + 0.4La$

Length of Apron: 14 Ft.

Width @ End: 2 Ft.



RIPRAP CALCULATIONS

Location: CB #4, 12" Culvert (HydroCAD Pond #12P)

Date: 12/31/2020 By: EBS

La	Apron Length, Ft.	Calculated
Tw	Tailwater, Ft.	0.5
Q	Flow, 10 Yr Storm, CFS	0.65
D50	Median Stone Dia., Ft.	Calculated
D	Depth of Stone, In	Calculated
Do	Pipe Diameter, Ft	1.00
W1	Width @ Start, Ft.	Calculated
W2	Width @ End, Ft	Calculated
W	Width of Channel	2

W1: $3(Do)=$ 3 Ft.

Width @ Start: 3 Ft.

D50: $0.02(Q)^{4/3}$ D50= 0.02 Ft.
 $Tw(Do)$ or 0.3 In.

Median Stone Size: 6 In.

D: $2.25 * D50$ **Depth of Riprap: 14 In.**

La: If $Tw \leq Do/2$: $Do/2=$ 0.5 Ft.
 $Tw=$ 0.5 Ft.

and $La=1.8Q/Do^{3/2} + 7Do$
 $W2=$ width of channel
 or
 $W2=3Do+La$

If $Tw > Do/2$:

and $La=3Q/Do^{3/2} + 7Do$
 $W2=$ width of channel
 or
 $W2=3Do+0.4La$

Length of Apron: 9 Ft.

Width @ End: 2 Ft.



RIPRAP CALCULATIONS

Location: GUSF #1, 12" Culvert (HydroCAD Pond #13P)

Date: 12/31/2020 By: EBS

La	Apron Length, Ft.	Calculated
Tw	Tailwater, Ft.	0.5
Q	Flow, 10 Yr Storm, CFS	0.63
D50	Median Stone Dia., Ft.	Calculated
D	Depth of Stone, In	Calculated
Do	Pipe Diameter, Ft	1.00
W1	Width @ Start, Ft.	Calculated
W2	Width @ End, Ft	Calculated
W	Width of Channel	2

W1: $3(Do)=$ 3 Ft.

Width @ Start: 3 Ft.

D50: $0.02(Q)^{4/3}$ D50= 0.02 Ft.
Tw(Do) or 0.3 In.

Median Stone Size: 6 In.

D: $2.25 * D50$ **Depth of Riprap: 14 In.**

La: If $Tw \leq Do/2$: Do/2= 0.5 Ft.
Tw= 0.5 Ft.

and $La = 1.8Q/Do^{3/2} + 7Do$
W2=width of channel
or
W2=3Do+La

If $Tw > Do/2$:

and $La = 3Q/Do^{3/2} + 7Do$
W2=width of channel
or
W2=3Do+0.4La

Length of Apron: 9 Ft.

Width @ End: 2 Ft.



RIPRAP CALCULATIONS

Location: Roof Leader - 12" Culvert (HydroCAD Reach #27R)

Date: 12/31/2020 By: EBS

La	Apron Length, Ft.	Calculated
Tw	Tailwater, Ft.	0.5
Q	Flow, 10 Yr Storm, CFS	2.17
D50	Median Stone Dia., Ft.	Calculated
D	Depth of Stone, In	Calculated
Do	Pipe Diameter, Ft	1.00
W1	Width @ Start, Ft.	Calculated
W2	Width @ End, Ft	Calculated
W	Width of Channel	2

W1: $3(Do)=$ 3 Ft.

Width @ Start: 3 Ft.

D50: $0.02(Q)^{4/3}$ D50= 0.11 Ft.
Tw(Do) or 1.3 In.

Median Stone Size: 6 In.

D: $2.25 * D50$ **Depth of Riprap: 14 In.**

La: If $Tw \leq Do/2$: Do/2= 0.5 Ft.

and $La = 1.8Q/Do^{3/2} + 7Do$ Tw= 0.5 Ft.

W2=width of channel

or

$W2 = 3Do + La$

If $Tw > Do/2$:

and $La = 3Q/Do^{3/2} + 7Do$

W2=width of channel

or

$W2 = 3Do + 0.4La$

Length of Apron: 11 Ft.

Width @ End: 2 Ft.



RIPRAP CALCULATIONS

Location: GUSF #2, 18" Culvert (HydroCAD Pond #29P)

Date: 12/31/2020 By: EBS

La	Apron Length, Ft.	Calculated
Tw	Tailwater, Ft.	0.5
Q	Flow, 10 Yr Storm, CFS	7.85
D50	Median Stone Dia., Ft.	Calculated
D	Depth of Stone, In	Calculated
Do	Pipe Diameter, Ft	1.50
W1	Width @ Start, Ft.	Calculated
W2	Width @ End, Ft	Calculated
W	Width of Channel	2

W1: $3(Do)=$ 4.5 Ft.

Width @ Start: 5 Ft.

D50: $0.02(Q)^{4/3}$ D50= 0.41 Ft.
 $Tw(Do)$ or 5.0 In.

Median Stone Size: 6 In.

D: $2.25 * D50$ **Depth of Riprap: 14 In.**

La: If $Tw \leq Do/2$: $Do/2=$ 0.75 Ft.
 $Tw=$ 0.5 Ft.

and $La=1.8Q/Do^{3/2} + 7Do$
 $W2=$ width of channel
 or
 $W2=3Do+La$

If $Tw > Do/2$:

and $La=3Q/Do^{3/2} + 7Do$
 $W2=$ width of channel
 or
 $W2=3Do+0.4La$

Length of Apron: 19 Ft.

Width @ End: 2 Ft.



Section 9

Stormwater Operations & Maintenance Plan

STORMWATER INSPECTION AND MAINTENANCE MANUAL

Good To-Go Kittery Assessor's Map 67, Lot 1

OWNER AT TIME OF APPROVAL:
Good To-Go c/o Cape House Management, LLC
484 U.S. Route 1
Kittery, Maine 03904

Proper inspection, maintenance, and repair are key elements in maintaining a successful stormwater management program on a developed property. Routine inspections ensure permit compliance and reduce the potential for deterioration of infrastructure or reduced water quality. The following responsible parties shall be in charge of managing the stormwater facilities:

RESPONSIBLE PARTIES:

Owner: Good To-Go c/o Cape House Management (207) 451-9060
Name Company Phone

Inspection: Good To-Go c/o Cape House Management (207) 451-9060
Name Company Phone

Maintenance: Good To-Go c/o Cape House Management (207) 451-9060
Name Company Phone

NOTES:

Inspection and maintenance responsibilities shall transfer to any future property owner(s).

This manual shall be updated as needed to reflect any changes related to any transfer of ownership and/or any delegation of inspection and maintenance responsibilities to any entity other than those listed above.

GRASSED UNDERDRAINED SOIL FILTERS

Underdrain soil filters control stormwater quality by capturing and retaining runoff and passing it through a filter bed comprised of a specific media. The basin shall be inspected semi-annually and following major storm events for evidence of erosion, clogging or of bypass conditions.

Maintenance

- *Drainage:* The filter should within 24 to 48 hours following a one-inch storm or greater. If the system drains too fast, adjust the outlet release valve opening to regulate the outflow.
- *Sediment Removal:* Sediment and plant debris should be removed from the pretreatment structure at least annually.
- *Mowing:* If mowing is desired, only hand-held string trimmers or push-mowers are allowed on the filter (no tractor) and the grass bed should be mowed no more than 2 times per growing season to maintain grass heights of no less than 6 inches.
- *Fertilization:* Fertilization of the underdrained filter area should be avoided unless absolutely necessary to establish vegetation.
- *Weeding:* Weeding to control unwanted or invasive plants if necessary.
- *Grass cover:* Maintaining a healthy cover of grass will minimize clogging with fine sediments. If ponding exceeds 48 hours, the top of the filter bed should be rototilled to reestablish the soil's filtration capacity.
- *Soil Filter Replacement:* The top several inches of the filter can be replaced with fresh material if water is ponding for more than 72 hours, or the basin can be rototilled, seeded and mulched. Once the filter is mature, adding new material (a 1-inch to 2-inch cover of mature compost) can compensate for subsidence.

CULVERTS AND DRAINAGE PIPES

Function – Culverts and drainage pipes convey stormwater away from buildings, walkways, and parking areas and to surface waters or closed drainage systems.

Maintenance

- Culverts and drainage pipes shall be inspected semi-annually, or more often as needed, for accumulation of debris and structural integrity. Leaves and other debris shall be removed from the inlet and outlet to insure the functionality of drainage structures. Debris shall be disposed of on site where it will not concentrate back at the drainage structures or at a solid waste disposal facility.
- Riprap Areas - Culvert outlets and inlets shall be inspected during annual maintenance and operations for erosion and scour. If scour or erosion is identified, the owner shall take appropriate means to prevent further erosion.

DEEP SUMP CATCH BASINS

Function – Catch basins collect stormwater, primarily from paved surfaces and roofs. Stormwater from paved areas often contains sediment and contaminants. Catch basin sumps serve to trap sediment, trace metals, nutrients and debris. Hooded catch basins trap hydrocarbons and floating debris.

Maintenance

- Remove leaves and debris from structure grates on an as-needed basis.
- Sumps shall be inspected and cleaned annually and any removed sediment and debris shall be disposed of at a solid waste disposal facility.

LANDSCAPED AREAS - FERTILIZER MANAGEMENT

Function – Fertilizer management involves controlling the rate, timing and method of fertilizer application so that the nutrients are taken up by the plants thereby reducing the chance of polluting the surface and ground waters. Fertilizer management can be effective in reducing the amounts of phosphorus and nitrogen in runoff from landscaped areas, particularly lawns.

Maintenance

- Have the soil tested by your landscaper or local Soil Conservation Service for nutrient requirements and follow the recommendations.
- Do not apply fertilizer to frozen ground.
- Clean up any fertilizer spills.
- Do not allow fertilizer to be broadcast into water bodies.
- When fertilizing a lawn, water thoroughly, but do not create a situation where water runs off the surface of the lawn.

LANDSCAPED AREAS - LITTER CONTROL

Function – Landscaped areas tend to filter debris and contaminants that may block drainage systems and pollute the surface and ground waters.

Maintenance

- Litter Control and lawn maintenance involves removing litter such as trash, leaves, lawn clippings, pet wastes, oil and chemicals from streets, parking lots, and lawns before materials are transported into surface waters.
- Litter control shall be implemented as part of the grounds maintenance program.

VEGETATIVE SWALES

Function – Vegetative swales filter sediment from stormwater, promote infiltration, and the uptake of contaminants. They are designed to treat runoff and dispose of it safely into the natural drainage system.

Maintenance

- Timely maintenance is important to keep a swale in good working condition. Mowing of grassed swales shall be monthly to keep the vegetation in vigorous condition. The cut vegetation shall be removed to prevent the decaying organic litter from adding pollutants to the discharge from the swale.
- Fertilizing shall be bi-annual or as recommended from soil testing.
- Inspect swales following significant rainfall events.
- Woody vegetation shall not be allowed to become established in the swales or rock riprap outlet protection and if present shall be removed.
- Accumulated debris disrupts flow and leads to clogging and erosion. Remove debris and litter as necessary.
- Inspect for eroded areas. Determine cause of erosion and correct deficiency as required. Monitor repaired areas.

RIP RAP OUTLETS

Function – Rip rap outlets slow the velocity of runoff, minimizing erosion and maximizing the treatment capabilities of associated buffers. Vegetated buffers, either forested or meadow, slow runoff which promotes and reduces peak rates of runoff. The reduced velocities and the presence of vegetation encourage the filtration of sediment and the limited bio-uptake of nutrients.

Maintenance

- Inspect level spreaders and buffers at least annually for signs of erosion, sediment buildup, or vegetation loss.
- Inspect level for signs of condensed flows. Level spreader and rip rap shall be maintained to disperse flows evenly over level spreader.
- If a meadow buffer, provide periodic mowing as needed to maintain a healthy stand of herbaceous vegetation.
- If a forested buffer, then the buffer should be maintained in an undisturbed condition, unless erosion occurs.
- If erosion of the buffer (forested or meadow) occurs, eroded areas should be repaired and replanted with vegetation similar to the remaining buffer. Corrective action should include eliminating the source of the erosion problem and may require retrofit or reconstruction of the level spreader.
- Remove debris and accumulated sediment and dispose of properly.

GENERAL CLEAN UP

- Upon completion of the project, the contractor shall remove all temporary stormwater structures (i.e., temporary stone check dams, silt fence, temporary diversion swales, catch basin inlet filter, etc.). Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform to the existing grade, prepared, and seeded. Remove any sediment in catch basins and clean drain pipes that may have accumulated during construction.
- Once in operation, all paved areas of the site should be swept at least once annually at the end of winter/early spring prior to significant spring rains.

APPENDIX

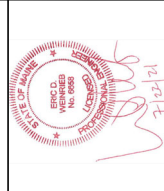
- A. Stormwater System Operations and Maintenance Report
- B. Site Grading and Drainage Plan

STORM WATER SYSTEM OPERATION AND MAINTENANCE REPORT

General Information		
Project Name		
Owner		
Inspector's Name(s)		
Inspector's Contact Information		
Date of Inspection	Start Time:	End Time:
Type of Inspection: <input type="checkbox"/> Annual Report <input type="checkbox"/> Post-storm event <input type="checkbox"/> Due to a discharge of significant amounts of sediment		
Notes:		

General Site Questions and Discharges of Significant Amounts of Sediment		
Subject	Status	Notes
<i>A discharge of significant amounts of sediment may be indicated by (but is not limited to) observations of the following. Note whether any are observed during this inspection:</i>		
<i>Notes/ Action taken:</i>		
1	Do the current site conditions reflect the attached site plan? <input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Is the site permanently stabilized, temporary erosion and sediment controls are removed, and stormwater discharges from construction activity are eliminated? <input type="checkbox"/> Yes <input type="checkbox"/> No	
3	Is there evidence of the discharge of significant amounts of sediment to surface waters, or conveyance systems leading to surface waters? <input type="checkbox"/> Yes <input type="checkbox"/> No	

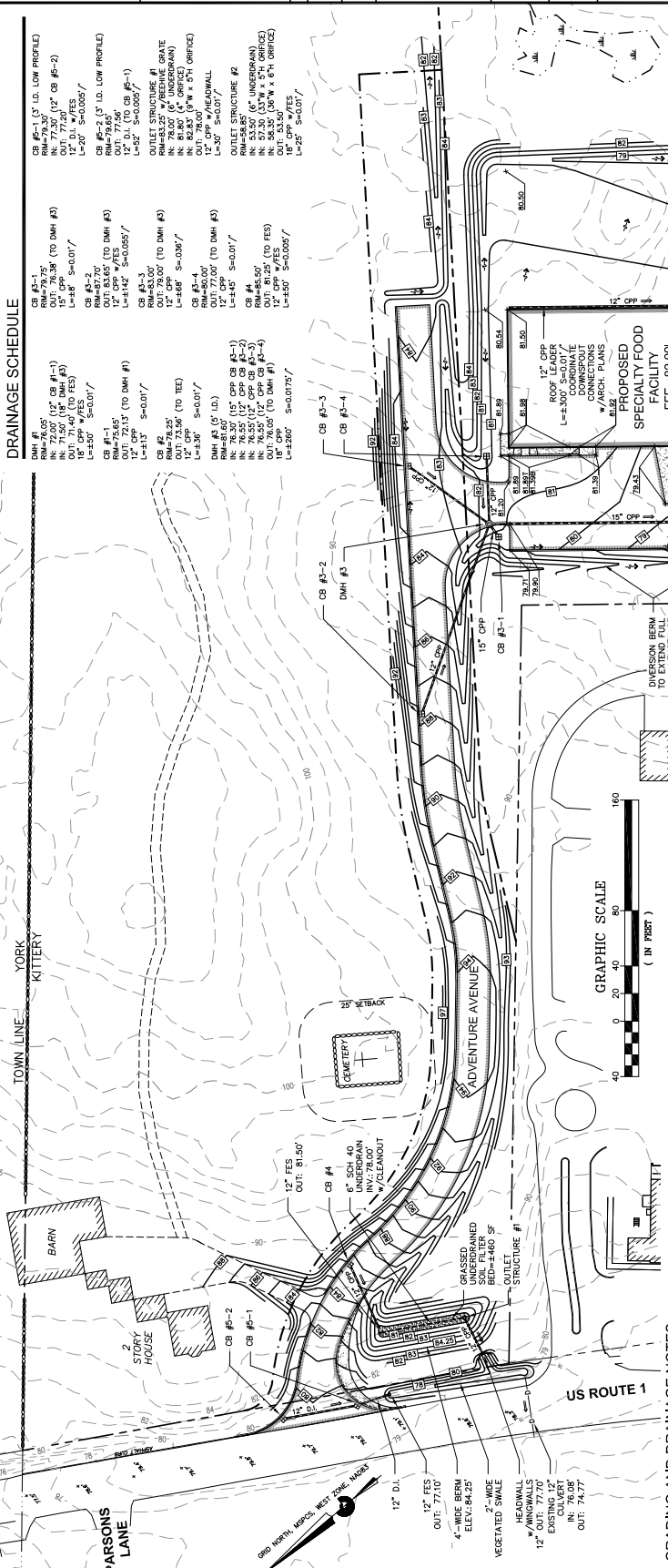
Permit Coverage and Plans				
#	BMP/Facility	Inspected	Corrective Action Needed and Notes	Date Corrected
	Grassed Underdrained Soil Filters	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Catch Basins	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Drainage Pipes	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Riprap Aprons	<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No		



NOT FOR CONSTRUCTION	
ISSUED FOR:	PLANNING BOARD
ISSUE DATE:	JULY 22, 2021
DESIGN NO. / DESCRIPTION:	0 PLANNING BOARD
BY DATE:	ERS 6/7/21/21

APPROVED BY:	ERS
DRAWING FILE:	516-SIT.dwg
SCALE:	22" x 34" - 1" = 40' 11" x 17" - 1" = 80'
OWNER:	C-COAST PROPERTIES, LLC 8 BANKS ROCK YORK HARBOR, MAINE 03911

PROJECT:	GOOD TO-GO SPECIALTY FOOD FACILITY
TAX MAP #:	LOT 1 524 U.S. ROUTE 1 KITTERY, MAINE
TITLE:	STORMWATER MANAGEMENT PLAN
SHEET NUMBER:	C-6

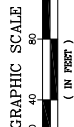


GRAVING AND DRAINAGE NOTES

- DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE AND LOCAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
- CONTRACTOR SHALL OBTAIN A "DISSAFE" NUMBER AT LEAST 72 HOURS PRIOR TO COMMENCING CONSTRUCTION.
- ALL CONSTRUCTION SHALL MEET THE MINIMUM CONSTRUCTION STANDARDS OF BROUÉ CONSTRUCTION, LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
- UNLESS OTHERWISE AGREED IN WRITING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSTRUCTION SURVEY BENCHMARKS (ITEM) AND PERFORMING ALL CONSTRUCTION SURVEY LAYOUT.
- BEFORE CONSTRUCTION, FIELD SURVEY MONITORING, RECORDS, AND ELEVATIONS/ANGLES OF ALL EXISTING STORMWATER AND UTILITY LINES, PRESERVE AND PROTECT LINES TO BE RETAINED.
- ALL BENCHMARKS AND TOPOGRAPHY SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO INITIATING CONSTRUCTION.
- TEMPORARY INLET PROTECTION MEASURES SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASINS WITHIN 100' OF THE PROJECT SITE BEFORE CONSTRUCTION. TRIBUTING AREAS IS ACTIVE OR SAID AREAS HAVE NOT BEEN STABILIZED.
- PROTECTION OF SUBGRADE, THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES FOR FOUNDATIONS, PAVEMENT, MOISTURE, PRECIPITATION, GROUNDWATER CONTROL, AND CONSTRUCTION SURFACE DISTURBANCE. SUCH PRECAUTIONS MAY INCLUDE DIVERTING STORMWATER RUNOFF AWAY FROM CONSTRUCTION AREAS, REDUCING TRAFFIC SOILS EXHIBING HEAVING OR INSTABILITY SHALL BE OVER EXCAVATED TO A MINIMUM OF 12" BELOW FINISH GRADE. ALL EXCAVATIONS SHALL BE PROTECTED BY STRUCTURAL WALLS IF THE EXCAVATION IS PERFORMED DURING FREEZING WEATHER. EXPOSED SUBGRADES ARE SUSCEPTIBLE TO FROST. NO FILL OR REMOVAL OF A FROZEN SOIL CRUST AT THE COMMENCEMENT OF EACH DAY'S OPERATIONS. THE FINAL SUBGRADE ELEVATION WOULD ALSO REQUIRE AN APPROPRIATE DEGREE OF INSULATION AGAINST FREEZING.
- IF SUITABLE, EXCAVATED MATERIALS SHALL BE PLACED AS FILL WITHIN THE PROJECT AREA. EXCESSIVE FILL SHALL BE PLACED IN A MANNER THAT PREVENTS LONG TERM DIFFERENTIAL SETTLEMENT. EXCESSIVELY WET PLACEMENT. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION.
- BLASTING OPERATIONS, IF REQUIRED, SHALL MEET THE AIR BLAST STANDARDS OF THE MSEP RULES, CHAPTER 275:100(C)(2). GROUND VIBRATION AT STRUCTURES NOT OWNED OR CONTROLLED BY THE OWNER MUST BE NO GREATER THAN 0.1 INCH PER SECOND (IPS). FLYROCK MAY NOT LEAVE THE PROJECT AREA UNLESS OTHERWISE APPROVED BY THE LOCAL LAW ENFORCEMENT RESOURCE.
- DRAINAGE PIPE SHALL BE APPROPRIATE FOR VERVELENE PIPE (VVP), TYPE 45S N-12 OR HANCOCK H-12 OR DUCTILE IRON CLASS 52, WHERE SPECIFIED. ALL FLARED END SECTIONS SHALL BE METAL.
- ADDITIONAL ROADWAY UNDERDRAIN MAY BE REQUIRED UPON DETERMINATION OF THE ENGINEER. CONTRACTOR SHALL INCLUDE 800 LF W/RENCHING AND BACKFILL IN BID PRICE.
- ALL CATCH BASIN, MANHOLE AND OTHER DRAINAGE ITEMS SHALL BE SET FLUSH WITH FINISH GRADE. ALL OTHER DRAINAGE ITEMS SHALL BE SET TO FINISH GRADE PLUS 1" (MIN).
- ALL ROOF DRAIN RISERS SHALL BE LOCATED IN COORDINATION WITH THE ARCHITECTURAL PLANS TO MATCH GUTTER DOWNSPOUTS. RISERS SHALL BE SET TO FINISH GRADE PLUS 1" (MIN).
- IN ORDER TO PROVIDE VISUAL CLARITY ON THE PLANS, DRAINAGE AND OTHER STRUCTURES SHALL BE RESPONSIBLE FOR THE PROPER SIZING AND LOCATION OF ALL STRUCTURES. THE ENGINEER HAS DISCRETION TO RESOLVE ANY POTENTIAL DISCREPANCY WITH THE ARCHITECTURAL PLANS.
- THE ENGINEER HAS DISCRETION TO BE AS APPROVED BY TOWN OF KITTERY. STANDARD WORK HOURS SHALL BE 7AM TO 3PM, MONDAY THROUGH SATURDAY.
- SEE SHEET D-7 FOR LEGEND.

DRAINAGE SCHEDULE

CB #1-1 RM=76.05' OUT: 76.38' (TO DMH #3) L=18' S=0.017'	CB #1-2 RM=87.70' OUT: 77.56' L=12' S=0.017'	CB #1-3 RM=75.65' OUT: 72.13' (TO DMH #1) L=14.13' S=0.017'	CB #1-4 RM=76.28' OUT: 76.00' (TO TE) L=12' S=0.017'	CB #1-5 RM=76.28' OUT: 76.00' (TO DMH #3) L=12' S=0.017'	CB #1-6 RM=76.28' OUT: 76.00' (TO DMH #3) L=12' S=0.017'	CB #1-7 RM=76.28' OUT: 76.00' (TO DMH #3) L=12' S=0.017'	CB #1-8 RM=76.28' OUT: 76.00' (TO DMH #3) L=12' S=0.017'	CB #1-9 RM=76.28' OUT: 76.00' (TO DMH #3) L=12' S=0.017'	CB #1-10 RM=76.28' OUT: 76.00' (TO DMH #3) L=12' S=0.017'
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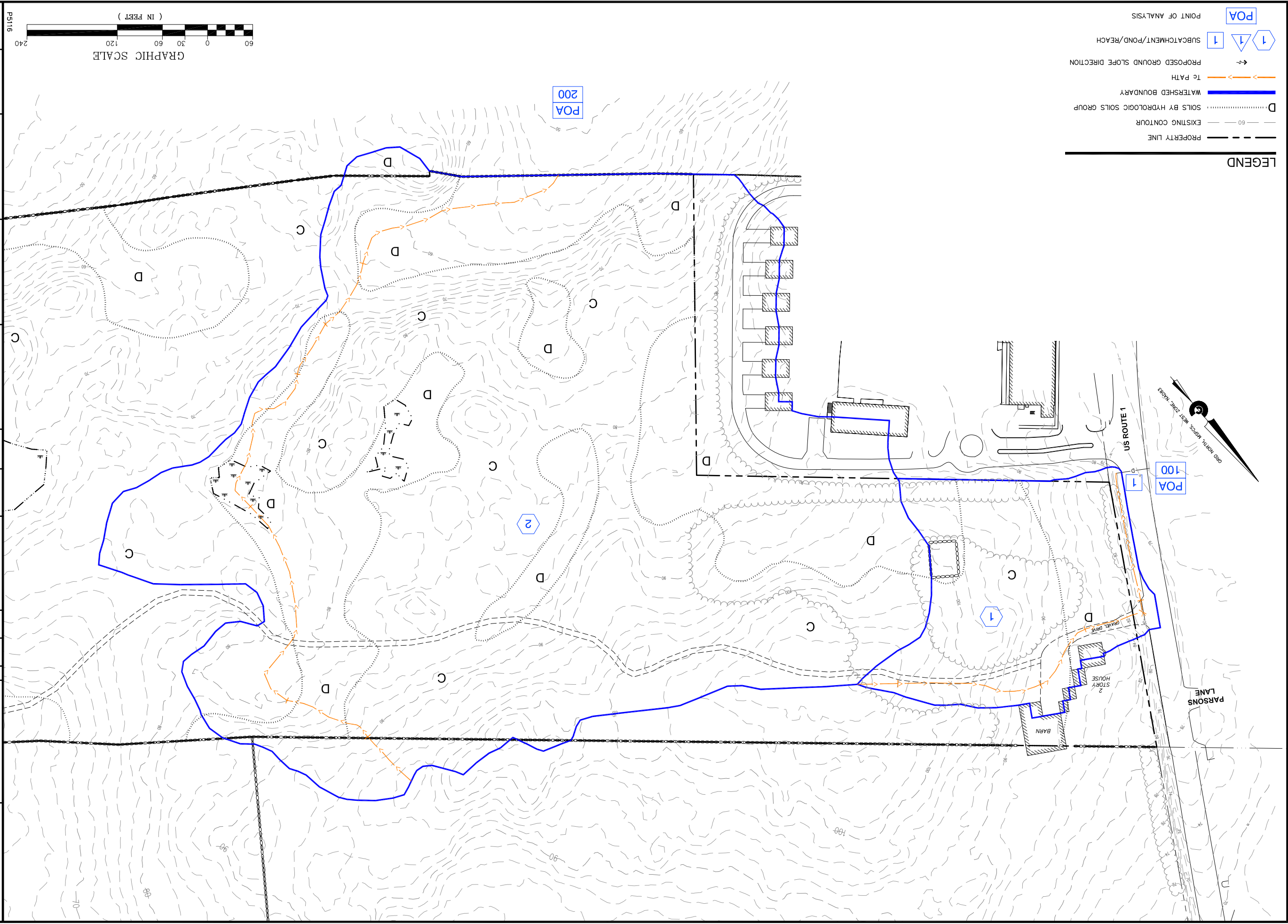


Section 10

Watershed Plans

Pre-Development Drainage Area Plan

Post-Development Drainage Area Plan





133 Court Street
Portsmouth, NH 03801
(603) 433-2335
www.altus-eng.com



NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: JULY 22, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	PLANNING BOARD	EBS	07/22/21

DRAWN BY: EBS
APPROVED BY: EBS
DRAWING FILE: 5116-SITE.dwg

SCALE: 22" x 34" - 1" = 60'
11" x 17" - 1" = 120'

OWNER: C-COAST PROPERTIES, LLC
8 BANKS ROCK
YORK HARBOR, MAINE 03911

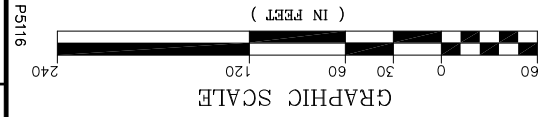
APPLICANT: GOOD TO-GO
c/o CAPE HOUSE
MANAGEMENT, LLC
484 US ROUTE 1
KITTERY, MAINE 03904

PROJECT: GOOD TO-GO
SPECIALTY FOOD
FACILITY
TAX MAP 67, LOT 1
524 U.S. ROUTE 1
KITTERY, MAINE

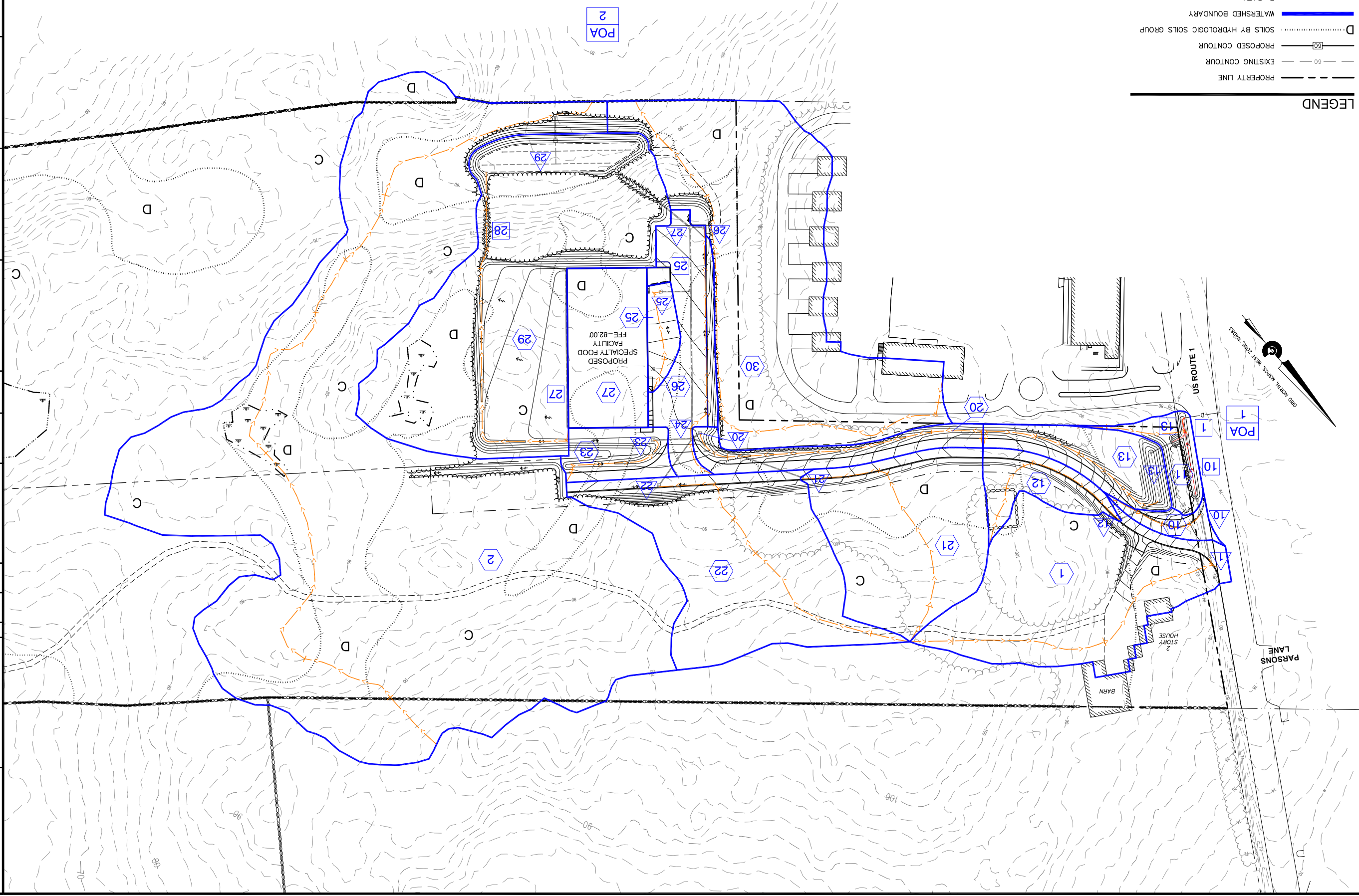
POST-DEVELOPMENT
WATERSHED PLAN

WS-2

SHEET NUMBER:



P5116



LEGEND

POA	POINT OF ANALYSIS
1	SUBCATCHMENT/POND/REACH
→	PROPOSED GROUND SLOPE DIRECTION
→	TO PATH
—	WATERSHED BOUNDARY
D	SOILS BY HYDROLOGIC SOILS GROUP
—	PROPOSED CONTOUR
—	EXISTING CONTOUR
---	PROPERTY LINE