

JONES & BEACH ENGINEERS INC.

85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

May 14, 2021

Portsmouth Planning Board
Attn: Dexter Legg
1 Junkins Avenue, Suite 3rd Floor
Portsmouth, NH 03801

**RE: Site Plan & Conditional Use Application
3400 Lafayette Road, Portsmouth, NH
Tax Map 297, Lot 11
JBE Project No. 20737**

Dear Mr. Legg,

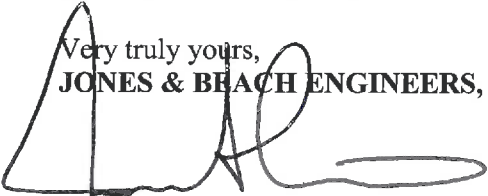
Jones & Beach Engineers, Inc., respectfully submits a Site Plan & Conditional Use Application on behalf of the applicant, Green & Company. The intent of this application is to construct a 50-unit multi-family residential development on Tax Map 297, Lot 11.

The following items are provided in support of this Application:

1. Completed Site Plan (submitted online).
2. Letter of Authorization.
3. Current Deed.
4. Test Pits.
5. Abutters List and Three (3) Mailing Labels each.
6. Tax Map.
7. Architectural Plans.
8. Two (2) Full Size Plan Sets Folded.
9. One (1) Half Size Plan Sets Folded.
10. Two (2) Drainage Analysis.

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

Very truly yours,
JONES & BEACH ENGINEERS, INC.


Joseph A. Coronati
Vice President

cc: Michael Green, Green & Company (via email)



City of Portsmouth, New Hampshire

Site Plan Application Checklist

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

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

Name of Owner/Applicant: Green & Company Date Submitted: 5/14/2021

Phone Number: 603-964-7572 E-mail: mgreen@greenandcompany.com

Site Address: Lafayette Road Map: 297 Lot: 11

Zoning District: Gateway Corridor (G1) Lot area: 1,931,721 sq. ft.

Application Requirements			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Fully executed and signed Application form. (2.5.2.3)		N/A
<input checked="" type="checkbox"/>	All application documents, plans, supporting documentation and other materials provided in digital Portable Document Format (PDF). (2.5.2.8)		N/A

Site Plan Review Application Required Information			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	Statement that lists and describes "green" building components and systems. (2.5.3.1A)		
<input checked="" type="checkbox"/>	Gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. (2.5.3.1B)	Architectural Plans	N/A
<input checked="" type="checkbox"/>	Tax map and lot number, and current zoning of all parcels under Site Plan Review. (2.5.3.1C)	Existing Conditions Plan	N/A
<input checked="" type="checkbox"/>	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. (2.5.3.1D)	Cover Sheet	N/A

Site Plan Review Application Required Information

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. (2.5.3.1E)	EX OVR	N/A
<input checked="" type="checkbox"/>	Names, addresses and telephone numbers of all professionals involved in the site plan design. (2.5.3.1F)	Cover Sheet	N/A
<input checked="" type="checkbox"/>	List of reference plans. (2.5.3.1G)	C1	N/A
<input checked="" type="checkbox"/>	List of names and contact information of all public or private utilities servicing the site. (2.5.3.1H)	Cover Sheet	N/A

Site Plan Specifications

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director. Submittals shall be a minimum of 11 inches by 17 inches as specified by Planning Dept. staff. (2.5.4.1A)	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. (2.5.4.1B)	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. (2.5.4.1C)	Note on C1	N/A
<input checked="" type="checkbox"/>	Plans shall be drawn to scale. (2.5.4.1D)	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Plans shall be prepared and stamped by a NH licensed civil engineer. (2.5.4.1D)	All Sheets	N/A
<input checked="" type="checkbox"/>	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. (2.5.4.1E)	C1 & EX OVR	N/A
<input checked="" type="checkbox"/>	Title (name of development project), north point, scale, legend. (2.5.4.2A)	All Sheets	N/A
<input checked="" type="checkbox"/>	Date plans first submitted, date and explanation of revisions. (2.5.4.2B)	All Sheets	N/A
<input checked="" type="checkbox"/>	Individual plan sheet title that clearly describes the information that is displayed. (2.5.4.2C)	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Source and date of data displayed on the plan. (2.5.4.2D)	C2	N/A

Site Plan Specifications

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." (2.5.4.2E)	C2	N/A
<input checked="" type="checkbox"/>	Plan sheets submitted for recording shall include the following notes: <ul style="list-style-type: none"> a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "All improvements shown on this Site Plan shall be constructed and maintained in accordance with the Plan by the property owner and all future property owners. No changes shall be made to this Site Plan without the express approval of the Portsmouth Planning Director." (2.13.3)	C2	N/A
<input checked="" type="checkbox"/>	Plan sheets showing landscaping and screening shall also include the following additional notes: <ul style="list-style-type: none"> a. "The property owner and all future property owners shall be responsible for the maintenance, repair and replacement of all required screening and landscape materials." b. "All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary, and kept free of refuse and debris. All required fences and walls shall be maintained in good repair." c. "The property owner shall be responsible to remove and replace dead or diseased plant materials immediately with the same type, size and quantity of plant materials as originally installed, unless alternative plantings are requested, justified and approved by the Planning Board or Planning Director." (2.13.4)	Landscaping Plans	N/A

Site Plan Specifications – Required Exhibits and Data

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
	1. Existing Conditions: (2.5.4.3A)		
<input checked="" type="checkbox"/>	a. Surveyed plan of site showing existing natural and built features;	C1	
<input checked="" type="checkbox"/>	b. Zoning boundaries;	C1	
<input checked="" type="checkbox"/>	c. Dimensional Regulations;	C2	
<input checked="" type="checkbox"/>	d. Wetland delineation, wetland function and value assessment;	C1	
<input type="checkbox"/>	e. SFHA, 100-year flood elevation line and BFE data.	N/A	
	2. Buildings and Structures: (2.5.4.3B)		
<input checked="" type="checkbox"/>	a. Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation;	Architectural Plans	
<input checked="" type="checkbox"/>	b. Elevations: Height, massing, placement, materials, lighting, façade treatments;	Architectural Plans	
<input checked="" type="checkbox"/>	c. Total Floor Area;	Architectural Plans	
<input checked="" type="checkbox"/>	d. Number of Usable Floors;	Architectural Plans	
<input checked="" type="checkbox"/>	e. Gross floor area by floor and use.	Architectural Plans	
	3. Access and Circulation: (2.5.4.3C)		
<input checked="" type="checkbox"/>	a. Location/width of access ways within site;	C2	
<input checked="" type="checkbox"/>	b. Location of curbing, right of ways, edge of pavement and sidewalks;	C2	
<input checked="" type="checkbox"/>	c. Location, type, size and design of traffic signing (pavement markings);	C2	
<input checked="" type="checkbox"/>	d. Names/layout of existing abutting streets;	OVR	
<input checked="" type="checkbox"/>	e. Driveway curb cuts for abutting prop. and public roads;	OVR	
<input type="checkbox"/>	f. If subdivision; Names of all roads, right of way lines and easements noted;	N/A	
<input checked="" type="checkbox"/>	g. AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	T1	
	4. Parking and Loading: (2.5.4.3D)		
<input checked="" type="checkbox"/>	a. Location of off street parking/loading areas, landscaped areas/buffers;	C2	
<input checked="" type="checkbox"/>	b. Parking Calculations (# required and the # provided).	C2	
	5. Water Infrastructure: (2.5.4.3E)		
<input checked="" type="checkbox"/>	a. Size, type and location of water mains, shut-offs, hydrants & Engineering data;	C4	
<input type="checkbox"/>	b. Location of wells and monitoring wells (include protective radii).	N/A	
	6. Sewer Infrastructure: (2.5.4.3F)		
<input checked="" type="checkbox"/>	a. Size, type and location of sanitary sewage facilities & Engineering data.	C4-C5	
	7. Utilities: (2.5.4.3G)		
<input checked="" type="checkbox"/>	a. The size, type and location of all above & below ground utilities;	C4	
<input checked="" type="checkbox"/>	b. Size type and location of generator pads, transformers and other fixtures.	C4	

Site Plan Specifications – Required Exhibits and Data

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	8. Solid Waste Facilities: (2.5.4.3H)	N/A	
<input type="checkbox"/>	a. The size, type and location of solid waste facilities.	N/A	
<input type="checkbox"/>	9. Storm water Management: (2.5.4.3I)		
<input checked="" type="checkbox"/>	a. The location, elevation and layout of all storm-water drainage.	C3	
<input type="checkbox"/>	10. Outdoor Lighting: (2.5.4.3J)		
<input checked="" type="checkbox"/>	a. Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and; b. photometric plan.	L1	
<input checked="" type="checkbox"/>	11. Indicate where dark sky friendly lighting measures have been implemented. (10.1)	L1	
<input type="checkbox"/>	12. Landscaping: (2.5.4.3K)		
<input checked="" type="checkbox"/>	a. Identify all undisturbed area, existing vegetation and that which is to be retained;	Landscaping Plan	
<input checked="" type="checkbox"/>	b. Location of any irrigation system and water source.	Landscaping Plan	
<input type="checkbox"/>	13. Contours and Elevation: (2.5.4.3L)		
<input checked="" type="checkbox"/>	a. Existing/Proposed contours (2 foot minimum) and finished grade elevations.	C3	
<input type="checkbox"/>	14. Open Space: (2.5.4.3M)		
<input checked="" type="checkbox"/>	a. Type, extent and location of all existing/proposed open space.	C2	
<input type="checkbox"/>	15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)		
<input checked="" type="checkbox"/>	16. Location of snow storage areas and/or off-site snow removal. (2.5.4.3O)	C2	
<input type="checkbox"/>	17. Character/Civic District (All following information shall be included): (2.5.4.3Q)	N/A	
<input type="checkbox"/>	a. Applicable Building Height (10.5A21.20 & 10.5A43.30);	N/A	
<input type="checkbox"/>	b. Applicable Special Requirements (10.5A21.30);	N/A	
<input type="checkbox"/>	c. Proposed building form/type (10.5A43);	N/A	
<input type="checkbox"/>	d. Proposed community space (10.5A46).	N/A	

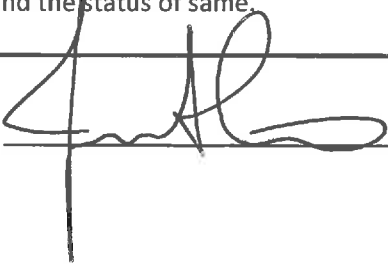
Other Required Information			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Traffic Impact Study or Trip Generation Report, as required. <i>(Four (4) hardcopies of the full study/report and Six (6) summaries to be submitted with the Site Plan Application) (3.2.1-2)</i>		
<input checked="" type="checkbox"/>	Indicate where Low Impact Development Design practices have been incorporated. (7.1)	C3	
<input type="checkbox"/>	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. (7.3.1)	N/A	
<input type="checkbox"/>	Indicate where measures to minimize impervious surfaces have been implemented. (7.4.3)		
<input checked="" type="checkbox"/>	Calculation of the maximum effective impervious surface as a percentage of the site. (7.4.3.2)	C2	
<input checked="" type="checkbox"/>	Stormwater Management and Erosion Control Plan. <i>(Four (4) hardcopies of the full plan/report and Six (6) summaries to be submitted with the Site Plan Application) (7.4.4.1)</i>	W Sheets	

Final Site Plan Approval Required Information			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	All local approvals, permits, easements and licenses required, including but not limited to: <ul style="list-style-type: none"> a. Waivers; b. Driveway permits; c. Special exceptions; d. Variances granted; e. Easements; f. Licenses. (2.5.3.2A)		
<input checked="" type="checkbox"/>	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: <ul style="list-style-type: none"> a. Calculations relating to stormwater runoff; b. Information on composition and quantity of water demand and wastewater generated; c. Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; d. Estimates of traffic generation and counts pre- and post-construction; e. Estimates of noise generation; f. A Stormwater Management and Erosion Control Plan; g. Endangered species and archaeological / historical studies; h. Wetland and water body (coastal and inland) delineations; i. Environmental impact studies. (2.5.3.2B)		

Final Site Plan Approval Required Information

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. (2.5.3.2D)	Pending	
<input checked="" type="checkbox"/>	A list of any required state and federal permit applications required for the project and the status of same. (2.5.3.2E)	Pending	

Applicant's Signature: _____



Date: _____

5/14/21



MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Portsmouth, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 4/1/2019
Data updated 7/17/2019

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

1" = 841 ft

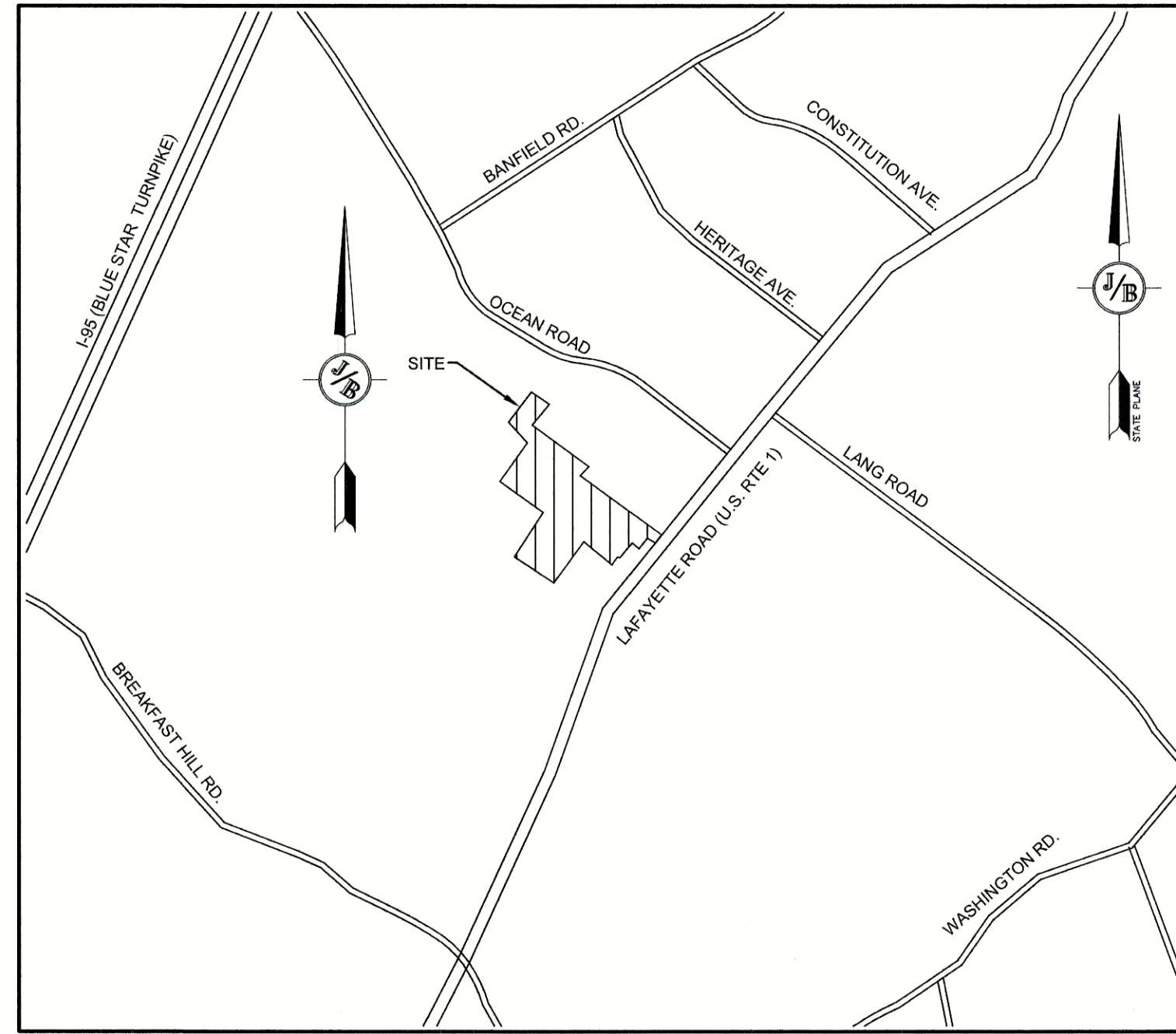
RESIDENTIAL CONDOMINIUMS

TAX MAP 297, LOT 11

3400 LAFAYETTE ROAD, PORTSMOUTH, NH

GENERAL LEGEND

EXISTING	PROPOSED	DESCRIPTION
---	---	PROPERTY LINES
---	---	SETBACK LINES
---	---	CENTERLINE
---	---	FRESHWATER WETLANDS LINE
---	---	TIDAL WETLANDS LINE
---	---	STREAM CHANNEL
---	---	TREE LINE
---	---	STONEWALL
---	---	BARBED WIRE
---	---	FENCE
---	---	STOCKADE FENCE
---	---	SOIL BOUNDARY
---	---	AQUIFER PROTECTION LINE
---	---	FLOOD PLAIN LINE
---	---	ZONELINE
---	---	EASEMENT
---	---	MAJOR CONTOUR
---	---	MINOR CONTOUR
---	---	EDGE OF PAVEMENT
---	---	VERTICAL GRANITE CURB
---	---	SLOPE GRANITE CURB
---	---	CAPE COD BERM
---	---	POURED CONCRETE CURB
---	---	SILT FENCE
---	---	DRAINAGE LINE
---	---	SEWER LINE
---	---	SEWER FORCE MAIN
---	---	GAS LINE
---	---	WATER LINE
---	---	WATER SERVICE
---	---	OVERHEAD ELECTRIC
---	---	UNDERGROUND ELECTRIC
---	---	GUARDRAIL
---	---	UNDERDRAIN
---	---	FIRE PROTECTION LINE
---	---	THRUST BLOCK
---	---	IRON PIPE/IRON ROD
---	---	DRILL HOLE
---	---	IRON ROD/DRILL HOLE
---	---	STONE/GRAVITE BOUND
---	---	SPOT GRADE
---	---	PAVEMENT SPOT GRADE
---	---	CURB SPOT GRADE
---	---	BENCHMARK (TBM)
---	---	DOUBLE POST SIGN
---	---	SINGLE POST SIGN
---	---	WELL
---	---	TEST PIT
---	---	FAILED TEST PIT
---	---	MONITORING WELL
---	---	PERC TEST
---	---	PHOTO LOCATION
---	---	TREES AND BUSHES
---	---	UTILITY POLE
---	---	LIGHT POLES
---	---	DRAIN MANHOLE
---	---	SEWER MANHOLE
---	---	HYDRANT
---	---	WATER GATE
---	---	WATER SHUT OFF
---	---	REDUCER
---	---	SINGLE GRATE CATCH BASIN
---	---	DOUBLE GRATE CATCH BASIN
---	---	TRANSFORMER
---	---	CULVERT W/WINGWALLS
---	---	CULVERT W/FLARED END SECTION
---	---	CULVERT W/STRAIGHT HEADWALL
---	---	STONE CHECK DAM
---	---	DRAINAGE FLOW DIRECTION
---	---	4K SEPTIC AREA
---	---	WETLAND IMPACT
---	---	VEGETATED FILTER STRIP
---	---	RIPRAP
---	---	OPEN WATER
---	---	FRESHWATER WETLANDS
---	---	TIDAL WETLANDS
---	---	STABILIZED CONSTRUCTION ENTRANCE
---	---	CONCRETE
---	---	GRAVEL
---	---	SNOW STORAGE
---	---	RETAINING WALL



LOCUS MAP
SCALE 1" = 2000'

SHEET INDEX

CS	COVER SHEET
A1	BOUNDARY PLAN
EXOVR	OVERVIEW EXISTING CONDITIONS PLAN
C1	EXISTING CONDITIONS PLAN
OVR	OVERVIEW SITE PLAN
C2	SITE PLAN
C3	GRADING AND DRAINAGE PLAN
C4-C5	UTILITY PLAN
L1	LIGHTING PLAN
P1-P3	ROAD PLAN AND PROFILE
P4-P6	SEWER PROFILES
D1-D6	DETAIL SHEETS
E1	EROSION AND SEDIMENT CONTROL DETAILS
T1	TRUCK TURNING PLAN

CIVIL ENGINEER / SURVEYOR
JONES & BEACH ENGINEERS, INC.
 85 PORTSMOUTH AVENUE
 PO BOX 219
 STRATHAM, NH 03885
 (603) 772-4746
 CONTACT: JOSEPH CORONATI
 EMAIL: JCORONATI@JONESANDBEACH.COM

WETLAND CONSULTANT
GZA ENVIRONMENTAL
 5 COMMERCE PARK NORTH
 SUITE 201
 BEDFORD, NH 03110
 603-623-3600
 CONTACT: JAMES LONG

APPLICANT
GREEN & COMPANY
 11 LAFAYETTE ROAD
 PO BOX 1297
 NORTH HAMPTON, NH 03862
 603-964-7572
 CONTACT: MICHAEL GREEN
 MPG114@GMAIL.COM

LANDSCAPE DESIGNER
TF MORAN, INC.
 48 CONSTITUTION DRIVE
 BEDFORD, NH 03110
 603-472-4488
 CONTACT: MIKE KRZEMINSKI
 MKRZEMINSKI@TFMORAN.COM

ARCHITECT:
STONEARCH DEVELOPMENT
 (603) 817-5758
 CONTACT: MICHAEL MACNEIL

ELECTRIC
EVERSOURCE ENERGY
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 ROCHESTER, NH 03867
 (603) 555-5334
 CONTACT: NICHOLAI KOSKO

TELEPHONE
FAIRPOINT COMMUNICATIONS
 1575 GREENLAND ROAD
 GREENLAND, NH 03840
 (603) 427-5525
 CONTACT: JOE CONSIDINE

CABLE TV
COMCAST COMMUNICATION CORPORATION
 334-B CALEF HIGHWAY
 EPPING, NH 03042-2325
 (603) 679-5695

PROJECT PARCEL
 CITY OF PORTSMOUTH
 TAX MAP 297, LOT 11

TOTAL LOT AREA
 1,931,721 SQ. FT. ±
 44.35 ACRES ±

APPROVED – PORTSMOUTH, NH
 PLANNING BOARD

DATE: _____

Design: JAC	Draft: LAZ	Date: 3/3/21
Checked: JAC	Scale: AS NOTED	Project No.: 20737
Drawing Name: 20737-PLAN.dwg		
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.		



REV.	DATE	REVISION	BY
5	5/5/21	REVISIONS	LAZ
4	3/18/21	ADDED DETAIL	LAZ
3	3/3/21	ADDED SURVEY INFO	LAZ
2	1/6/21	MINOR REVISIONS	DJM
1	11/23/20	REVISED PER CLIENT	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

Civil Engineering Services

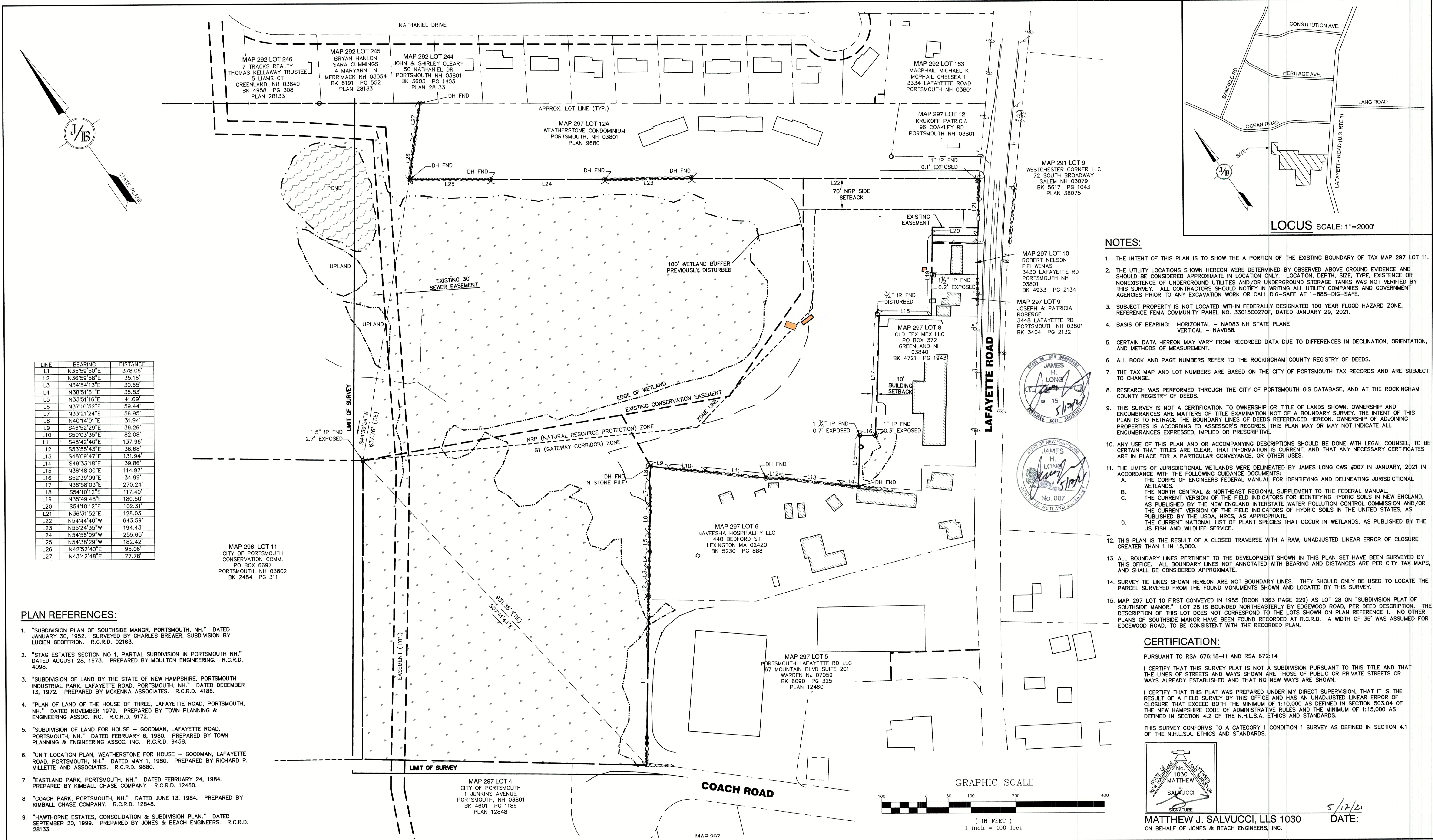
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885

603-772-4746
 FAX: 603-772-0227
 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	COVER SHEET
Project:	3400 LAFAYETTE ROAD PORTSMOUTH, NH
Owner of Record:	RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229

DRAWING No.	CS
SHEET 1 OF 25	JBE PROJECT NO. 20737

PROJECT NAME AND LOCATION: JBE # 20737 REVISION 5/5/21



LINE	BEARING	DISTANCE
L1	N35°59'50"E	378.06'
L2	N36°59'58"E	35.18'
L3	N34°54'13"E	30.65'
L4	N38°51'51"E	35.83'
L5	N33°51'16"E	41.69'
L6	N37°10'52"E	59.44'
L7	N33°21'24"E	56.95'
L8	N40°14'01"E	31.94'
L9	S46°52'29"E	39.26'
L10	S50°03'35"E	82.08'
L11	S48°42'40"E	137.96'
L12	S53°55'43"E	36.68'
L13	S48°09'47"E	131.94'
L14	S49°33'18"E	39.86'
L15	N36°48'00"E	114.97'
L16	S52°39'09"E	34.99'
L17	N36°58'03"E	270.24'
L18	S54°10'12"E	117.40'
L19	N35°49'48"E	180.50'
L20	S54°10'12"E	102.31'
L21	N36°31'52"E	128.03'
L22	N54°44'40"W	643.59'
L23	N55°24'35"W	194.43'
L24	N54°56'09"W	255.65'
L25	N54°38'29"W	162.42'
L26	N42°52'40"E	95.06'
L27	N43°42'48"E	77.78'

MAP 296 LOT 11
CITY OF PORTSMOUTH
CONSERVATION COMM.
PO BOX 6997
PORTSMOUTH, NH 03802
BK 2484 PG 311

PLAN REFERENCES:

- "SUBDIVISION PLAN OF SOUTHSIDE MANOR, PORTSMOUTH, NH." DATED JANUARY 30, 1952. SURVEYED BY CHARLES BREWER, SUBDIVISION BY LUCIEN GEOFFRION. R.C.R.D. 02163.
- "STAG ESTATES SECTION NO 1, PARTIAL SUBDIVISION IN PORTSMOUTH NH." DATED AUGUST 28, 1973. PREPARED BY MOULTON ENGINEERING. R.C.R.D. 4098.
- "SUBDIVISION OF LAND BY THE STATE OF NEW HAMPSHIRE, PORTSMOUTH INDUSTRIAL PARK, LAFAYETTE ROAD, PORTSMOUTH, NH." DATED DECEMBER 13, 1972. PREPARED BY MCKENNA ASSOCIATES. R.C.R.D. 4186.
- "PLAN OF LAND OF THE HOUSE OF THREE, LAFAYETTE ROAD, PORTSMOUTH, NH." DATED NOVEMBER 1979. PREPARED BY TOWN PLANNING & ENGINEERING ASSOC. INC. R.C.R.D. 9172.
- "SUBDIVISION OF LAND FOR HOUSE - GOODMAN, LAFAYETTE ROAD, PORTSMOUTH, NH." DATED FEBRUARY 6, 1980. PREPARED BY TOWN PLANNING & ENGINEERING ASSOC. INC. R.C.R.D. 9458.
- "UNIT LOCATION PLAN, WEATHERSTONE FOR HOUSE - GOODMAN, LAFAYETTE ROAD, PORTSMOUTH, NH." DATED MAY 1, 1980. PREPARED BY RICHARD P. MILLETTE AND ASSOCIATES. R.C.R.D. 9680.
- "EASTLAND PARK, PORTSMOUTH, NH." DATED FEBRUARY 24, 1984. PREPARED BY KIMBALL CHASE COMPANY. R.C.R.D. 12460.
- "COACH PARK, PORTSMOUTH, NH." DATED JUNE 13, 1984. PREPARED BY KIMBALL CHASE COMPANY. R.C.R.D. 12848.
- "HAWTHORNE ESTATES, CONSOLIDATION & SUBDIVISION PLAN." DATED SEPTEMBER 20, 1999. PREPARED BY JONES & BEACH ENGINEERS. R.C.R.D. 28133.

Design:	JAC	Draft:	LAZ	Date:	3/3/21
Checked:	JAC	Scale:	AS SHOWN	Project No.:	20737
Drawing Name: 20737-PLAN.dwg					
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REV.	DATE	REVISION	BY
5	5/5/21	REVISIONS	LAZ
4	3/18/21	ADDED DETAIL	LAZ
3	3/3/21	ADDED SURVEY INFO	LAZ
2	1/6/21	MINOR REVISIONS	DJM
1	11/23/20	REVISED PER CLIENT	DJM
REV.	DATE	REVISION	BY

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885

Civil Engineering Services

603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: **BOUNDARY PLAN**

Project: **3400 LAFAYETTE ROAD PORTSMOUTH, NH**

Owner of Record: **RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229**

DRAWING No. **A1**

SHEET 2 OF 25
JBE PROJECT NO. 20737

NOTES:

- THE INTENT OF THIS PLAN IS TO SHOW THE A PORTION OF THE EXISTING BOUNDARY OF TAX MAP 297 LOT 11.
- THE UTILITY LOCATIONS SHOWN HEREON WERE DETERMINED BY OBSERVED ABOVE GROUND EVIDENCE AND SHOULD BE CONSIDERED APPROXIMATE IN LOCATION, DEPTH, SIZE, TYPE, EXISTENCE OR NONEXISTENCE OF UNDERGROUND UTILITIES AND/OR UNDERGROUND STORAGE TANKS WAS NOT VERIFIED BY THIS SURVEY. ALL CONTRACTORS SHOULD NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES PRIOR TO ANY EXCAVATION WORK OR CALL DIG-SAFE AT 1-888-DIG-SAFE.
- SUBJECT PROPERTY IS NOT LOCATED WITHIN FEDERALLY DESIGNATED 100 YEAR FLOOD HAZARD ZONE. REFERENCE FEMA COMMUNITY PANEL NO. 33015C0270F, DATED JANUARY 29, 2021.
- BASIS OF BEARING: HORIZONTAL - NAD83 NH STATE PLANE
VERTICAL - NAVD83.
- CERTAIN DATA HEREON MAY VARY FROM RECORDED DATA DUE TO DIFFERENCES IN DECLINATION, ORIENTATION, AND METHODS OF MEASUREMENT.
- ALL BOOK AND PAGE NUMBERS REFER TO THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
- THE TAX MAP AND LOT NUMBERS ARE BASED ON THE CITY OF PORTSMOUTH TAX RECORDS AND ARE SUBJECT TO CHANGE.
- RESEARCH WAS PERFORMED THROUGH THE CITY OF PORTSMOUTH GIS DATABASE, AND AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
- THIS SURVEY IS NOT A CERTIFICATION TO OWNERSHIP OR TITLE OF LANDS SHOWN. OWNERSHIP AND ENCUMBRANCES ARE MATTERS OF TITLE EXAMINATION NOT OF A BOUNDARY SURVEY. THE INTENT OF THIS PLAN IS TO RETRACE THE BOUNDARY LINES OF DEEDS REFERENCED HEREON. OWNERSHIP OF ADJOINING PROPERTIES IS ACCORDING TO ASSESSOR'S RECORDS. THIS PLAN MAY OR MAY NOT INDICATE ALL ENCUMBRANCES EXPRESSED, IMPLIED OR PRESCRIPTIVE.
- ANY USE OF THIS PLAN AND OR ACCOMPANYING DESCRIPTIONS SHOULD BE DONE WITH LEGAL COUNSEL, TO BE CERTAIN THAT TITLES ARE CLEAR, THAT INFORMATION IS CURRENT, AND THAT ANY NECESSARY CERTIFICATES ARE IN PLACE FOR A PARTICULAR CONVEYANCE, OR OTHER USES.
- THE LIMITS OF JURISDICTIONAL WETLANDS WERE DELINEATED BY JAMES LONG #007 IN JANUARY, 2021 IN ACCORDANCE WITH THE FOLLOWING GUIDANCE DOCUMENTS:
 - THE CORPS OF ENGINEERS FEDERAL MANUAL FOR IDENTIFYING AND DELINEATING JURISDICTIONAL WETLANDS.
 - THE NORTH CENTRAL & NORTHEAST REGIONAL SUPPLEMENT TO THE FEDERAL MANUAL.
 - THE CURRENT VERSION OF THE FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, AS PUBLISHED BY THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION AND/OR THE CURRENT VERSION OF THE FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, AS PUBLISHED BY THE USDA, NRCS, AS APPROPRIATE.
 - THE CURRENT NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS, AS PUBLISHED BY THE US FISH AND WILDLIFE SERVICE.
- THIS PLAN IS THE RESULT OF A CLOSED TRAVERSE WITH A RAW, UNADJUSTED LINEAR ERROR OF CLOSURE GREATER THAN 1 IN 15,000.
- ALL BOUNDARY LINES PERTINENT TO THE DEVELOPMENT SHOWN IN THIS PLAN SET HAVE BEEN SURVEYED BY THIS OFFICE. ALL BOUNDARY LINES NOT ANNOTATED WITH BEARING AND DISTANCES ARE PER CITY TAX MAPS, AND SHALL BE CONSIDERED APPROXIMATE.
- SURVEY TIE LINES SHOWN HEREON ARE NOT BOUNDARY LINES. THEY SHOULD ONLY BE USED TO LOCATE THE PARCEL SURVEYED FROM THE FOUND MONUMENTS SHOWN AND LOCATED BY THIS SURVEY.
- MAP 297 LOT 10 FIRST CONVEYED IN 1955 (BOOK 1363 PAGE 229) AS LOT 28 ON "SUBDIVISION PLAT OF SOUTHSIDE MANOR." LOT 28 IS BOUNDED NORTHEASTERLY BY EDGEWOOD ROAD, PER DEED DESCRIPTION. THE DESCRIPTION OF THIS LOT DOES NOT CORRESPOND TO THE LOTS SHOWN ON PLAN REFERENCE 1. NO OTHER PLANS OF SOUTHSIDE MANOR HAVE BEEN FOUND RECORDED AT R.C.R.D. A WIDTH OF 35' WAS ASSUMED FOR EDGEWOOD ROAD, TO BE CONSISTENT WITH THE RECORDED PLAN.

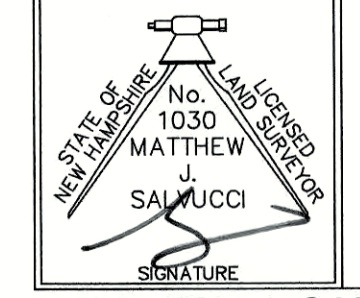


CERTIFICATION:

PURSUANT TO RSA 676:18-III AND RSA 672:14
I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

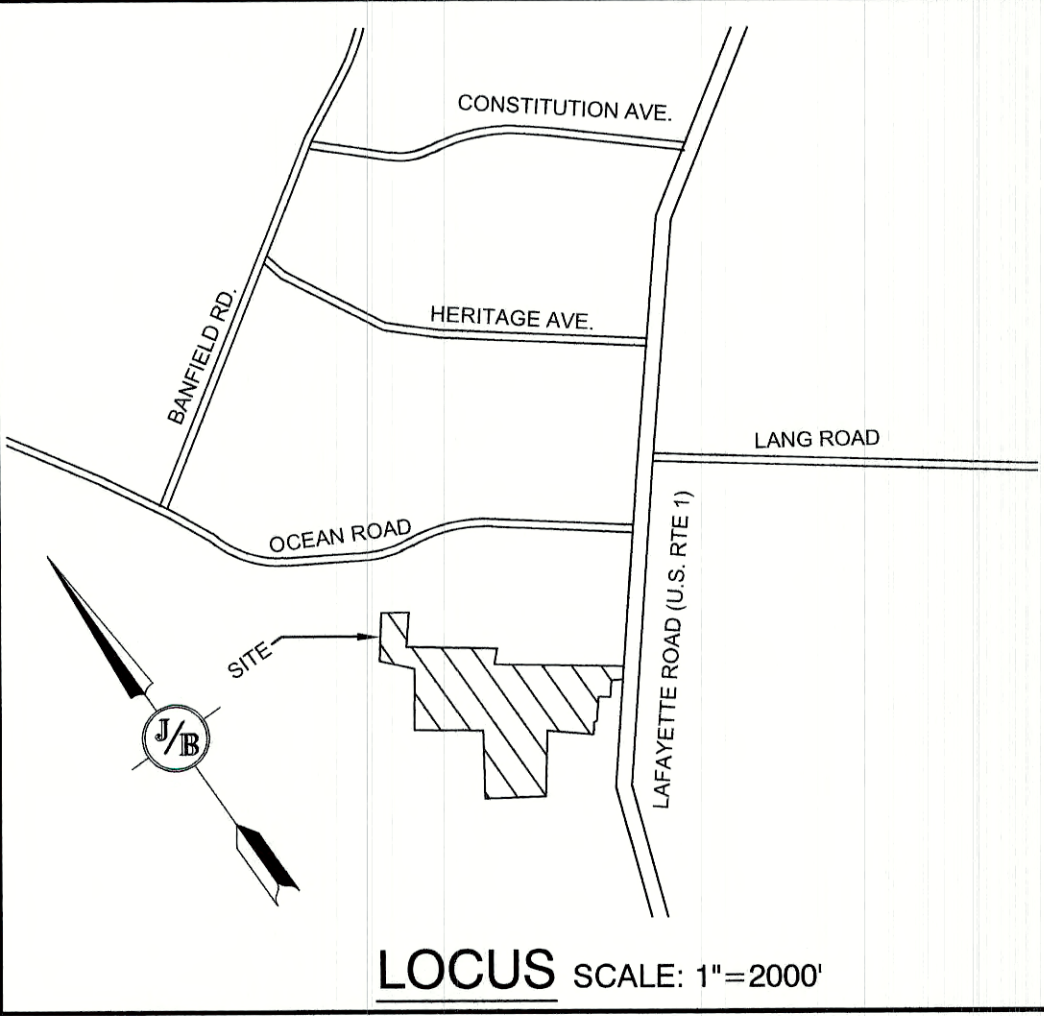
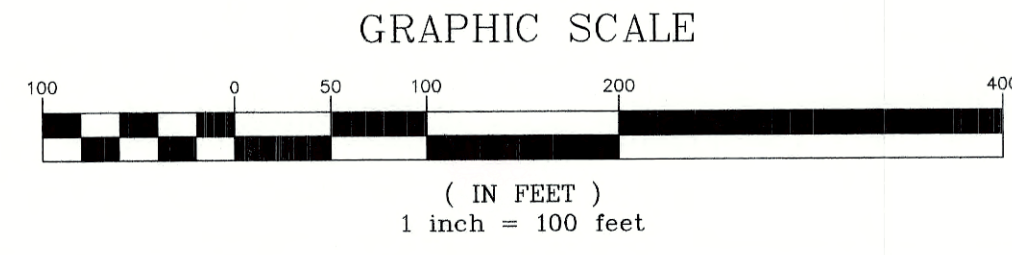
I CERTIFY THAT THIS PLAT WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN UNADJUSTED LINEAR ERROR OF CLOSURE THAT EXCEEDS BOTH THE MINIMUM OF 1:10,000 AS DEFINED IN SECTION 503.04 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES AND THE MINIMUM OF 1:15,000 AS DEFINED IN SECTION 4.2 OF THE N.H.L.S.A. ETHICS AND STANDARDS.

THIS SURVEY CONFORMS TO A CATEGORY 1 CONDITION 1 SURVEY AS DEFINED IN SECTION 4.1 OF THE N.H.L.S.A. ETHICS AND STANDARDS.



MATTHEW J. SALVUCCI, LLS 1030
ON BEHALF OF JONES & BEACH ENGINEERS, INC.

DATE: 5/12/21



ADDITIONAL ABUTTERS

TAX MAP 292 LOT 222
FRENCH FAMILY REVOCABLE TRUST OF 1999
FRENCH JAMES H & HEIDI B TRUSTEES
9 NATHANIEL DR
PORTSMOUTH NH 03801

TAX MAP 292 LOT 236
HERNANDEZ EMMANUEL
HERNANDEZ KAREN
130 NATHANIEL DR
PORTSMOUTH NH 03801

TAX MAP 292 LOT 237
GORONSKI RICHARD C
GORONSKI ALICJA K
120 NATHANIEL DR
PORTSMOUTH NH 03801

TAX MAP 292 LOT 223
DIEMER FREDERICK C REVO TRUST
DIEMER FREDERICK C TRUSTEE
31 NATHANIEL DR
PORTSMOUTH NH 03801

TAX MAP 292 LOT 224
BARSTOW ERIK T
BARSTOW JENAFER J
41 NATHANIEL DR
PORTSMOUTH NH 03801

TAX MAP 292 LOT 225
LE RYAN NGHIEM
NGO HELEN
53 NATHANIEL DR
PORTSMOUTH NH 03801

TAX MAP 292 LOT 234
GARDNER JR C WESLEY REVO TRUST
GARDNER JR C WESLEY TRUSTEE
150 NATHANIEL DR
PORTSMOUTH NH 03801

TAX MAP 292 LOT 235
YAEGER SUSAN
140 NATHANIEL DR
PORTSMOUTH NH 03801

TAX MAP 292 LOT 238
KARUNAKAREN FAM REV TST OF 2021
KARUNAKAREN SUBRAMANIAN TRUSTEE
SHANMUHANANTHAN NAGHDEVI TRUSTEE
110 NATHANIEL DR
PORTSMOUTH NH 03801

TAX MAP 292 LOT 239
REDDY LAXMINARAYAN N
REDDY DHANALAXMI L
100 NATHANIEL DR
PORTSMOUTH NH 03801

TAX MAP 292 LOT 240
MCCARTHY KAREN A
BEAUVAIS AUDRA E
90 NATHANIEL DR
PORTSMOUTH NH 03801

TAX MAP 292 LOT 241
GALLAGHER PAUL J
80 NATHANIEL DR
PORTSMOUTH NH 03801

TAX MAP 292 LOT 242
WERRY WILLIAM A
DOWD-WERRY DIANA M
72 NATHANIEL DR
PORTSMOUTH NH 03801

TAX MAP 292 LOT 243
HASSAN KERRI
HASSAN COREY
60 NATHANIEL DR
PORTSMOUTH NH 03801

TAX MAP 293 LOT 1
RICHARDSON SCOTT A
35 MARIETTE DR
PORTSMOUTH NH 03801

TAX MAP 293 LOT 3
CAHILL JEROME J
CAHILL ERIN G
37 MARIETTE DR
PORTSMOUTH NH 03801

TAX MAP 293 LOTS- 1
DANFORTH FAMILY NOMINEE TRUST
DANFORTH RICHARD K TRUSTEE
377 OCEAN BLVD
PORTSMOUTH, NH 03801

TAX MAP 293 LOT 5-2
TRAN THEM T
VU MINH D
379 OCEAN BLVD
PORTSMOUTH, NH 03801

TAX MAP 293 LOT 5-3
COUTURIER FAM REV TST OF 2020
COUTURIER MICHAEL & KELLY TRUSTEES
381 OCEAN BLVD
PORTSMOUTH, NH 03801

TAX MAP 293 LOT 5-5
PHAM CUC
BUI TONY
385 OCEAN BLVD
PORTSMOUTH, NH 03801

TAX MAP 293 LOT 6
GRAVEL TYLER
409 OCEAN RD
PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-1
SEAWARD DANIEL O III
3370 LAFAYETTE RD #1
PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-2
LAROUCHE NOAH
3370 LAFAYETTE RD UNIT 2
PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-3
SALMON CAROLYN M REVO TRUST
SALMON CAROLYN M TRUSTEE
3370 LAFAYETTE RD #3
PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-4
PERCHENIS FAM REV TST
LEHOUX NEIL M & RAYMOND J ROY TTEES
3370 LAFAYETTE RD UNIT 4
PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-5
SLATTERY & DUMONT LLC
66 OLD CONCORD TURNPIKE #10
BARRINGTON NH 03825

TAX MAP 297 LOT 12A-6
RAMSAY STEVEN J
RAMSAY SARAH B
2 INDIAN TR
EXETER NH 03833

TAX MAP 297 LOT 12A-7
GUTIERREZ NOEL E
GUTIERREZ MYRNA M
3370 LAFAYETTE RD #7
PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-8
NEVEU CHRISTOPHER PAUL
3370 LAFAYETTE RD UNIT 9
PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-9
CERAMI KRISTEN A REV TST OF 2020
CERAMI KRISTEN A TRUSTEE
3370 LAFAYETTE RD #9
PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-10
BOGARDUS KIRK W
11 WINTER ST APT 6
FRANKLIN MA 02038

TAX MAP 297 LOT 12A-11
BOURQUE ALICIA K
TIPPING KYLE T
83 SAINT MATTHEWS DR
BARRINGTON NH 03825

TAX MAP 297 LOT 12A-12
HUBBARD CHARLOTTE
3370 LAFAYETTE RD UNIT 12
PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-13
MCCOURT TREVOR
MCCOURT KELSEY A
3370 LAFAYETTE RD UNIT #13
PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-14
MORGAN ROBERT E
3370 LAFAYETTE RD #14
PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-15
SHULTZ KEVIN J
3370 LAFAYETTE RD #15
PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-16
AIKENS PETER J SR
AIKENS JEAN P
3370 LAFAYETTE RD #16
PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-17
FREIERMUTH CONSTANCE K REVO LIV
FREIERMUTH CONSTANCE K TRUSTEE
3370 LAFAYETTE RD UNIT 17
PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-18
QUINONES
CARLOS M JR 1/2 INT
POMBO LOREN DAVILA REVO TRST 06 1/4 INT
75 HIGH ST APT E4
EXETER NH 03833-2928

TAX MAP 297 LOT 12A-19
KALIMUTHU MANIKANDAN
3370 LAFAYETTE RD #19
PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-20
MILLER GEORGE R JR REVO TRUST 09
MILLER PATRICIA I REVO TRUST 09
3370 LAFAYETTE RD #20
PORTSMOUTH NH 03801

TAX MAP 293 LOT 2
CITY OF PORTSMOUTH DPW
PO BOX 628
PORTSMOUTH NH 03801
BK 2660 PG 2419

MAP 293 LOT 6-1
IVILO & EDNA RENZULLO
2959 MUIR RD
YUBA CITY CA 95991
BK 2298 PG 941

MAP 292 LOT 221
CITY OF PORTSMOUTH
1 JUNKINS AVENUE
PORTSMOUTH, NH 03801
BK 3481 PG 288
PLAN 28133

MAP 292 LOT 246
7 TRACKS REALTY
THOMAS KELLAWAY TRUSTEE
5 LIAMS CT
GREENLAND, NH 03840
BK 4958 PG 308
PLAN 28133

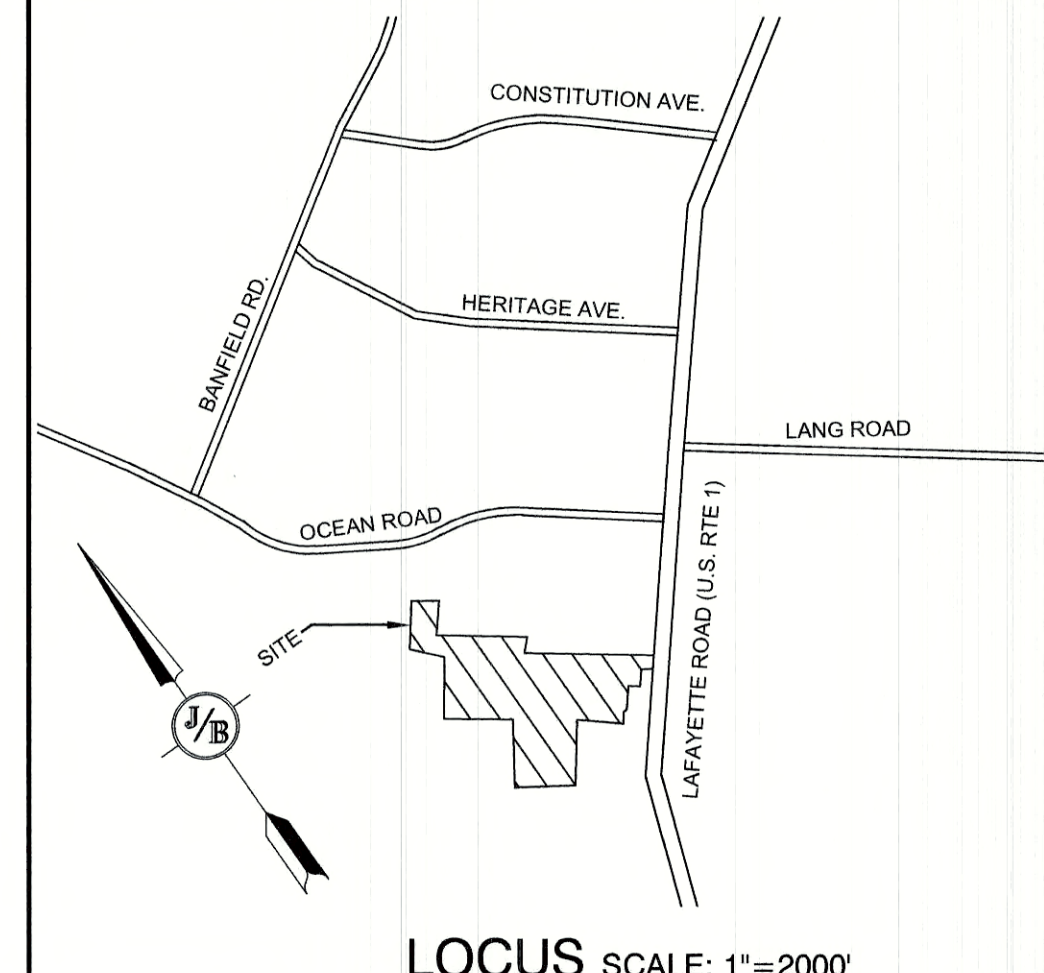
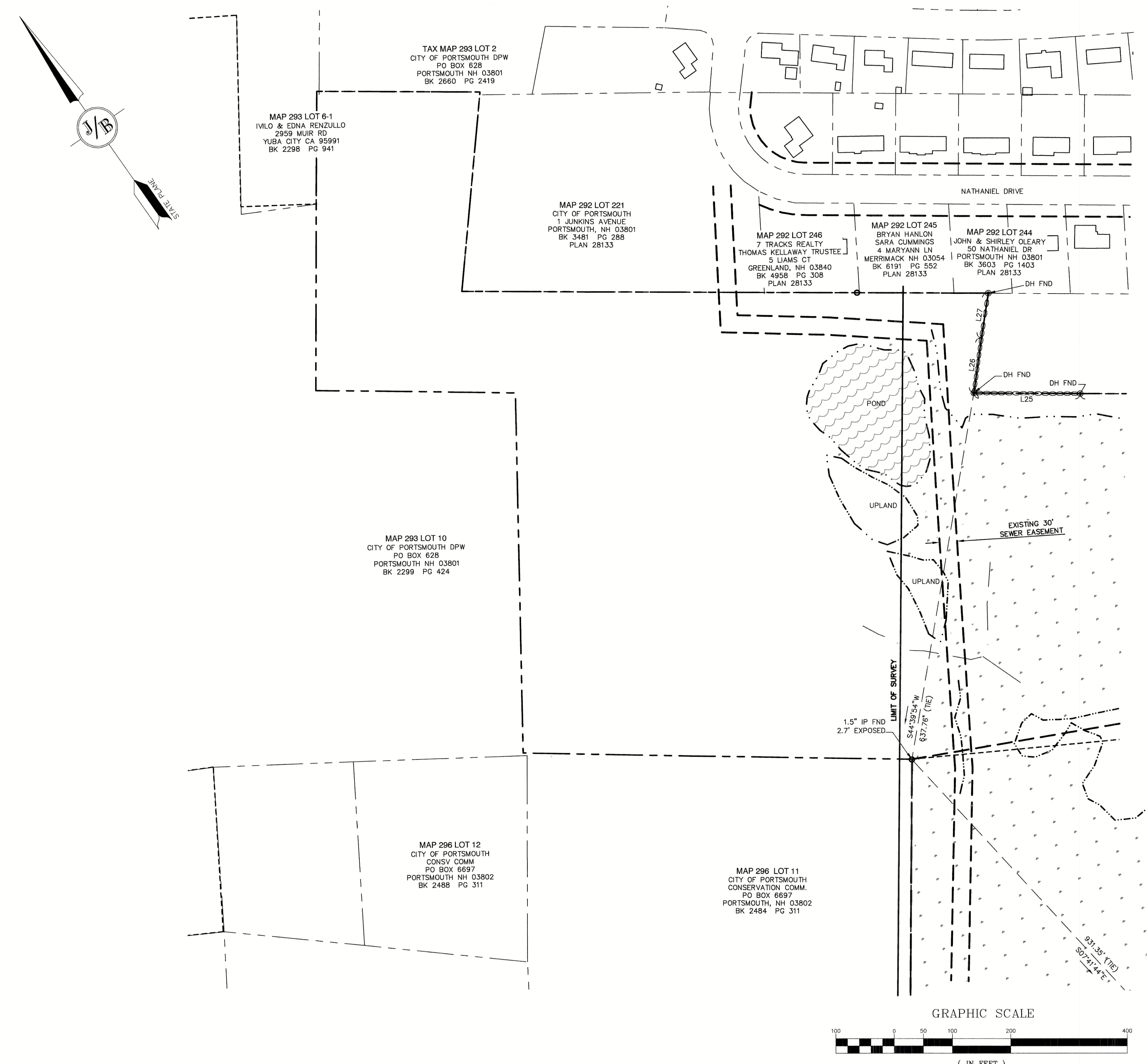
MAP 292 LOT 245
BRYAN HANLON
SARA CUMMINGS
4 MARYANN LN
MERRIMACK NH 03054
BK 6191 PG 552
PLAN 28133

MAP 292 LOT 244
JOHN & SHIRLEY OLEARY
50 NATHANIEL DR
PORTSMOUTH NH 03801
BK 3603 PG 1403
PLAN 28133

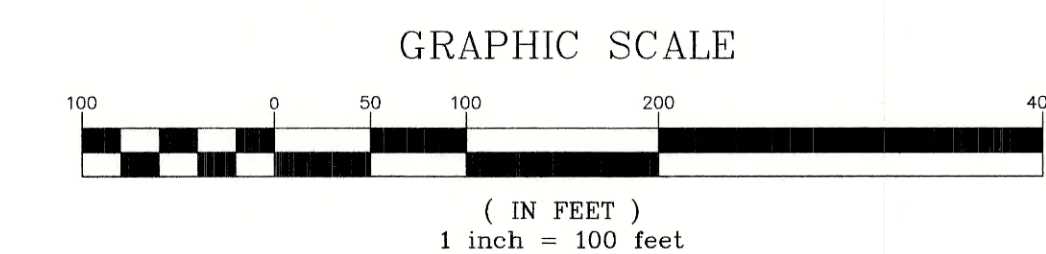
MAP 293 LOT 10
CITY OF PORTSMOUTH DPW
PO BOX 628
PORTSMOUTH NH 03801
BK 2299 PG 424

MAP 296 LOT 12
CITY OF PORTSMOUTH
CONSV COMM
PO BOX 6697
PORTSMOUTH NH 03802
BK 2488 PG 311

MAP 296 LOT 11
CITY OF PORTSMOUTH
CONSERVATION COMM.
PO BOX 6697
PORTSMOUTH, NH 03802
BK 2484 PG 311



CERTIFICATION:
PURSUANT TO RSA 676:18-III AND RSA 672:14
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THIS SURVEY CONFORMS TO A CATEGORY 1 CONDITION 1 SURVEY AS DEFINED IN SECTION 4.1 OF THE N.H.L.S.A. ETHICS AND STANDARDS.



MATTHEW J. SALVUCCI, LLS 1030
ON BEHALF OF JONES & BEACH ENGINEERS, INC.
DATE: 5/17/21

Design: JAC	Draft: LAZ	Date: 3/3/21
Checked: JAC	Scale: AS SHOWN	Project No.: 20737
Drawing Name: 20737-PLAN.dwg		
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REV.	DATE	REVISION	BY
5	5/5/21	REVISIONS	LAZ
4	3/18/21	ADDED DETAIL	LAZ
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2	1/6/21	MINOR REVISIONS	DJM
1	11/23/20	REVISED PER CLIENT	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.
Civil Engineering Services
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885
603-772-4746
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: **BOUNDARY PLAN**
Project: **3400 LAFAYETTE ROAD PORTSMOUTH, NH**
Owner of Record: **RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229**

DRAWING No. **A2**
SHEET 3 OF 25
JBE PROJECT NO. 20737

ADDITIONAL ABUTTERS

TAX MAP 292 LOT 222 FRENCH FAMILY REVOCABLE TRUST OF 1999 FRENCH JAMES H & HEIDI B TRUSTEES 9 NATHANIEL DR PORTSMOUTH NH 03801

TAX MAP 292 LOT 236 HERNANDEZ EMMANUEL HERNANDEZ KAREN 130 NATHANIEL DR PORTSMOUTH NH 03801

TAX MAP 292 LOT 237 GORONSKI RICHARD C GORONSKI ALICIA K 120 NATHANIEL DR PORTSMOUTH NH 03801

TAX MAP 292 LOT 223 DIEMER FREDERICK C REV TRUST DIEMER FREDERICK C TRUSTEE 31 NATHANIEL DR PORTSMOUTH NH 03801

TAX MAP 292 LOT 224 BARSTOW ERIK T BARSTOW JENNAFER J 41 NATHANIEL DR PORTSMOUTH NH 03801

TAX MAP 292 LOT 225 LE RYAN NGHIEM NGO HELEN 53 NATHANIEL DR PORTSMOUTH NH 03801

TAX MAP 292 LOT 234 GARDNER JR C WESLEY REV TRUST GARDNER JR C WESLEY TRUSTEE 150 NATHANIEL DR PORTSMOUTH NH 03801

TAX MAP 292 LOT 235 YAEGER SUSAN 140 NATHANIEL DR PORTSMOUTH NH 03801

TAX MAP 292 LOT 238 KARUNAKAREN FAM REV TST D 2021 KARUNAKAREN SUBRAMANIAN TRUSTEE SHANMUHANANTHAN NAGHDEV TRUSTEE 110 NATHANIEL DR PORTSMOUTH NH 03801

TAX MAP 292 LOT 239 REDDY LAXMINARAYAN N REDDY DHANALAXMI L 100 NATHANIEL DR PORTSMOUTH NH 03801

TAX MAP 292 LOT 240 MCCARTHY KAREN A BEAUVAIS AUDRA E 90 NATHANIEL DR PORTSMOUTH NH 03801

TAX MAP 292 LOT 241 GALLAGHER PAUL J 80 NATHANIEL DR PORTSMOUTH NH 03801

TAX MAP 292 LOT 242 WERRY WILLIAM A DOWD-WERRY DIANA M 72 NATHANIEL DR PORTSMOUTH NH 03801

TAX MAP 292 LOT 243 HASSAN KERRI HASSAN COREY 60 NATHANIEL DR PORTSMOUTH NH 03801

TAX MAP 293 LOT 1 RICHARDSON SCOTT A 35 MARIETTE DR PORTSMOUTH NH 03801

TAX MAP 293 LOT 3 CAHILL JEROME J CAHILL ERIN G 37 MARIETTE DR PORTSMOUTH NH 03801

TAX MAP 293 LOTS - 1 DANFORTH FAMILY NOMINEE TRUST DANFORTH RICHARD K TRUSTEE 377 OCEAN BLVD PORTSMOUTH, NH 03801

TAX MAP 293 LOT 5-2 TRAN THEM T VU MINH D 379 OCEAN BLVD PORTSMOUTH, NH 03801

TAX MAP 293 LOT 5-3 COUTURIER FAM REV TST OF 2020 COUTURIER MICHAEL & KELLY TRUSTEES 381 OCEAN BLVD PORTSMOUTH, NH 03801

TAX MAP 293 LOT 5-5 PHAM CUU BUI TONY 385 OCEAN BLVD PORTSMOUTH, NH 03801

TAX MAP 293 LOT 6 GRAVEL TYLER 409 OCEAN RD PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-1 SEAWARD DANIEL O III 3370 LAFAYETTE RD #1 PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-2 LAROCHE NOAH 3370 LAFAYETTE RD UNIT 2 PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-3 SALMON CAROLYN M REV TRUST SALMON CAROLYN M TRUSTEE 3370 LAFAYETTE RD #3 PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-4 PERCHENSIS FAM REV TST LEHOUX NEIL M & RAYMOND J ROY TIEES 3370 LAFAYETTE RD UNIT 4 PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-5 SLATTERY & DUMONT LLC 66 OLD CONCORD TURNPIKE #10 BARRINGTON NH 03825

TAX MAP 297 LOT 12A-6 RAMSAY STEVEN J RAMSAY SARAH B 2 INDIAN TR EXETER NH 03833

TAX MAP 297 LOT 12A-7 GUTIERREZ NOEL E GUTIERREZ MYRNA M 3370 LAFAYETTE RD #7 PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-8 NEVEU CHRISTOPHER PAUL 3370 LAFAYETTE RD UNIT 9 PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-9 CERAMI KRISTEN A REV TST OF 2020 CERAMI KRISTEN A TRUSTEE 3370 LAFAYETTE RD #9 PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-10 BOGARDUS KIRK W 11 WINTER ST APT 6 FRANKLIN MA 02038

TAX MAP 297 LOT 12A-11 BOURQUE ALICIA K TIPPING KYLE T 83 SAINT MATTHEW'S DR BARRINGTON NH 03825

TAX MAP 297 LOT 12A-12 HUBBARD CHARLOTTE 3370 LAFAYETTE RD UNIT 12 PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-13 MCCOURT TREVOR MCCOURT KESEY A 3370 LAFAYETTE RD UNIT #13 PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-14 MORGAN ROBERT E 3370 LAFAYETTE RD #14 PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-15 SHULTZ KEVIN J 3370 LAFAYETTE RD #15 PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-16 AIKENS PETER J SR AIKENS JEAN P 3370 LAFAYETTE RD #16 PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-17 FREIERMUTH CONSTANCE K REV LIV FREIERMUTH CONSTANCE K TRUSTEE 3370 LAFAYETTE RD UNIT 17 PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-18 QUINONES CARLOS M JR 3/4 INT POMBO LOREN DAVILA REV TRST 06 3/4 INT 75 HIGH ST APT E4 EXETER NH 03833-2928

TAX MAP 297 LOT 12A-19 KALIMUTHI MANKANDAN 3370 LAFAYETTE RD #19 PORTSMOUTH NH 03801

TAX MAP 297 LOT 12A-20 MILLER GEORGE R JR REV TRUST 09 MILLER PATRICIA I REV TRUST 09 3370 LAFAYETTE RD #20 PORTSMOUTH NH 03801

TAX MAP 293 LOT 6-1 MVLO & EDNA RENZULLO 2959 MUIR RD YUBA CITY CA 95991 BK 2298 PG 941

TAX MAP 293 LOT 2 CITY OF PORTSMOUTH DPW PO BOX 628 PORTSMOUTH NH 03801 BK 2660 PG 2419

TAX MAP 292 LOT 21 JUNKINS AVENUE PORTSMOUTH, NH 03801 BK 3481 PG 288 PLAN 28133

TAX MAP 292 LOT 246 THOMAS KELLAWAY TRUSTEE 5 LIAMS CT GREENLAND, NH 03840 BK 4858 PG 308 PLAN 28133

TAX MAP 292 LOT 245 BRYAN HANLON SARA CUMMINGS 4 MARYANN LN MERRIMACK NH 03054 BK 6191 PG 552 PLAN 28133

TAX MAP 292 LOT 244 JOHN & SHIRLEY OLEARY 50 NATHANIEL DR PORTSMOUTH NH 03801 BK 3603 PG 1403 PLAN 28133

TAX MAP 292 LOT 163 MACPHAIL MICHAEL K MCPHAIL CHELSEA L 3334 LAFAYETTE ROAD PORTSMOUTH NH 03801

TAX MAP 297 LOT 12 KRUKOFF PATRICIA 96 COAKLEY RD PORTSMOUTH NH 03801

TAX MAP 291 LOT 9 WESTCHESTER CORNER LLC 72 SOUTH BROADWAY SALEM NH 03079 BK 5617 PG 1043 PLAN 38075

TAX MAP 297 LOT 10 ROBERT NELSON FIFI WENAS 3430 LAFAYETTE RD PORTSMOUTH NH 03801 BK 4933 PG 2134

TAX MAP 297 LOT 9 JOSEPH & PATRICIA ROBERGE 3448 LAFAYETTE RD PORTSMOUTH NH 03801 BK 3404 PG 2132

TAX MAP 297 LOT 8 OLD TEX MEX LLC PO BOX 372 GREENLAND NH 03840 BK 4721 PG 1943

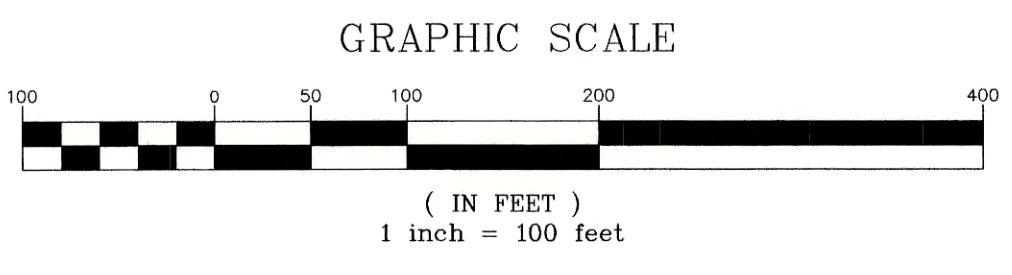
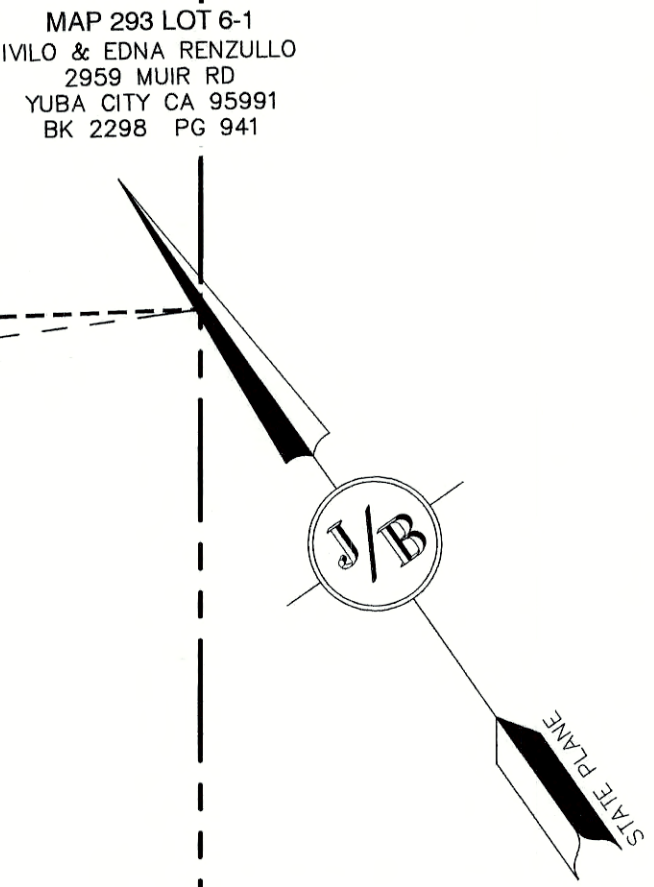
TAX MAP 297 LOT 6 NAVESHA HOSPITALITY LLC 440 BEDFORD ST LEXINGTON MA 02420 BK 5230 PG 888

TAX MAP 297 LOT 5 PORTSMOUTH LAFAYETTE RD LLC 67 MOUNTAIN BLVD SUITE 201 WARREN NJ 07059 BK 6090 PG 325 PLAN 12460

MAP 293 LOT 10 CITY OF PORTSMOUTH DPW PO BOX 628 PORTSMOUTH NH 03801 BK 2299 PG 424

MAP 296 LOT 12 CITY OF PORTSMOUTH CONSV COMM PO BOX 6697 PORTSMOUTH NH 03802 BK 2488 PG 311

MAP 296 LOT 11 CITY OF PORTSMOUTH CONSERVATION COMM. PO BOX 6697 PORTSMOUTH, NH 03802 BK 2484 PG 311



Design: JAC | Draft: LAZ | Date: 3/3/21
 Checked: JAC | Scale: AS SHOWN | Project No.: 20737
 Drawing Name: 20737-PLAN.dwg
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REV.	DATE	REVISION	BY
5	5/5/21	REVISIONS	LAZ
4	3/18/21	ADDED DETAIL	LAZ
3	3/3/21	ADDED SURVEY INFO	LAZ
2	1/6/21	MINOR REVISIONS	DJM
1	11/23/20	REVISED PER CLIENT	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.
 Civil Engineering Services

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885 | 603-772-4746 | FAX: 603-772-0227 | E-MAIL: JBE@JONESANDBEACH.COM

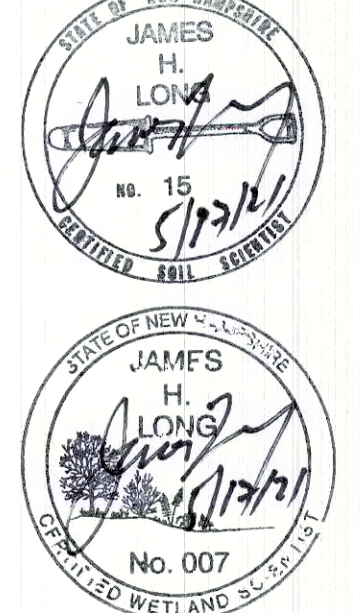
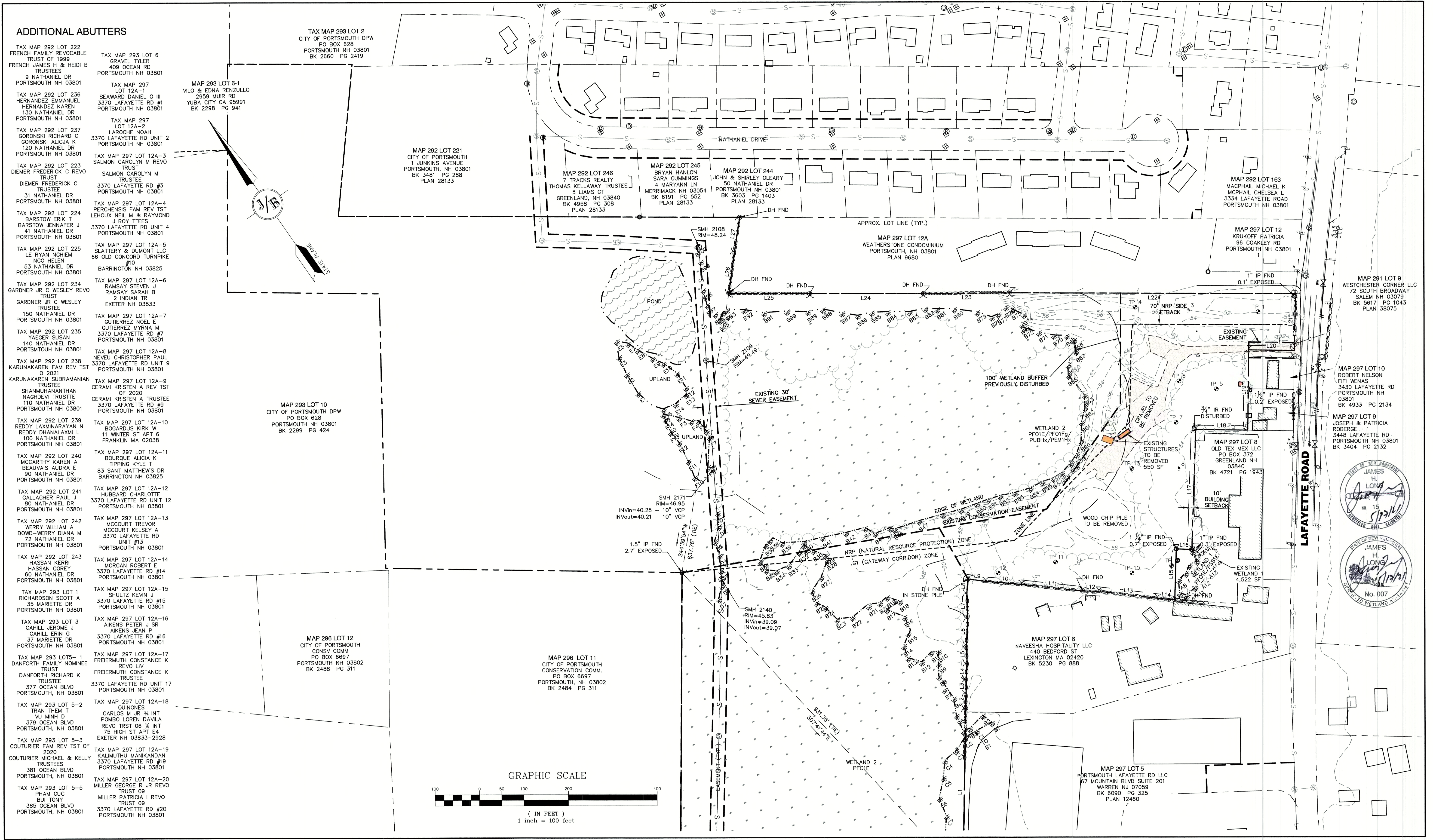
Plan Name: **OVERVIEW EXISTING CONDITIONS PLAN**

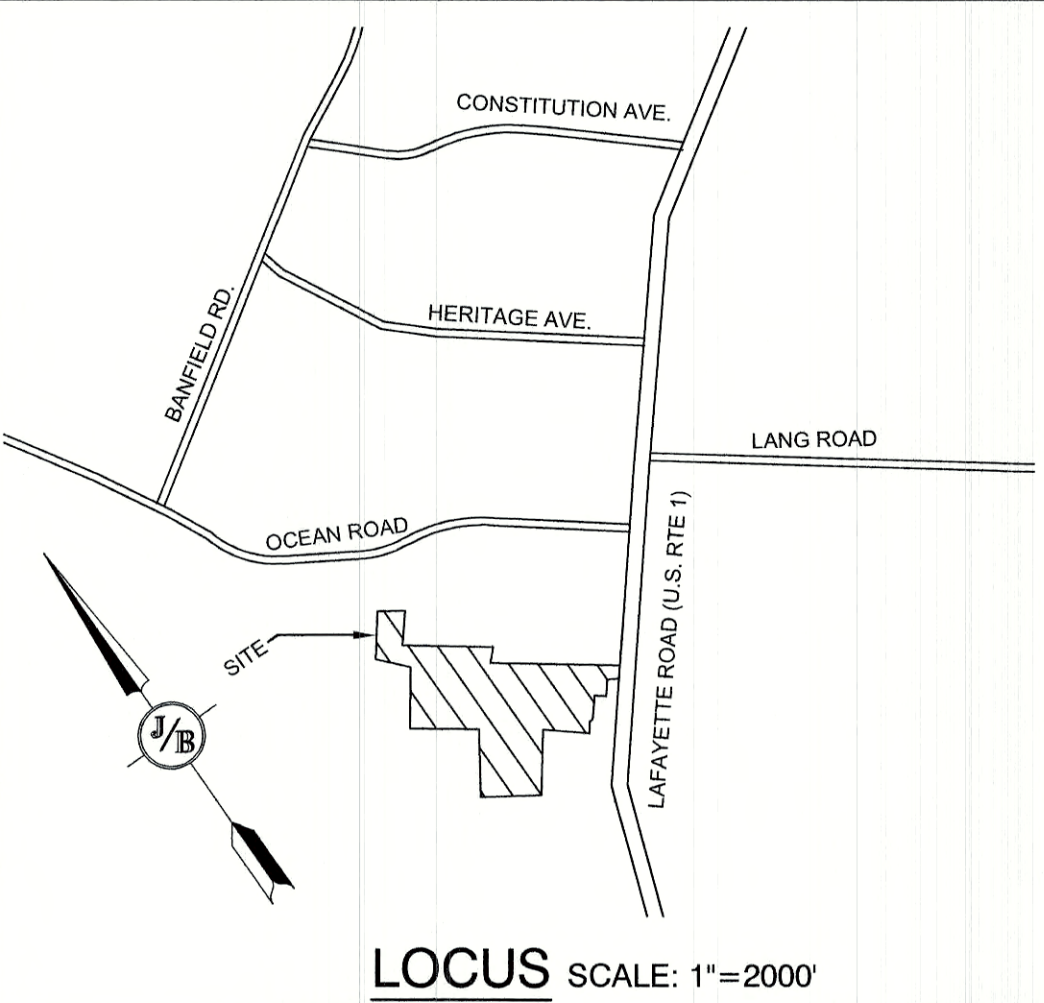
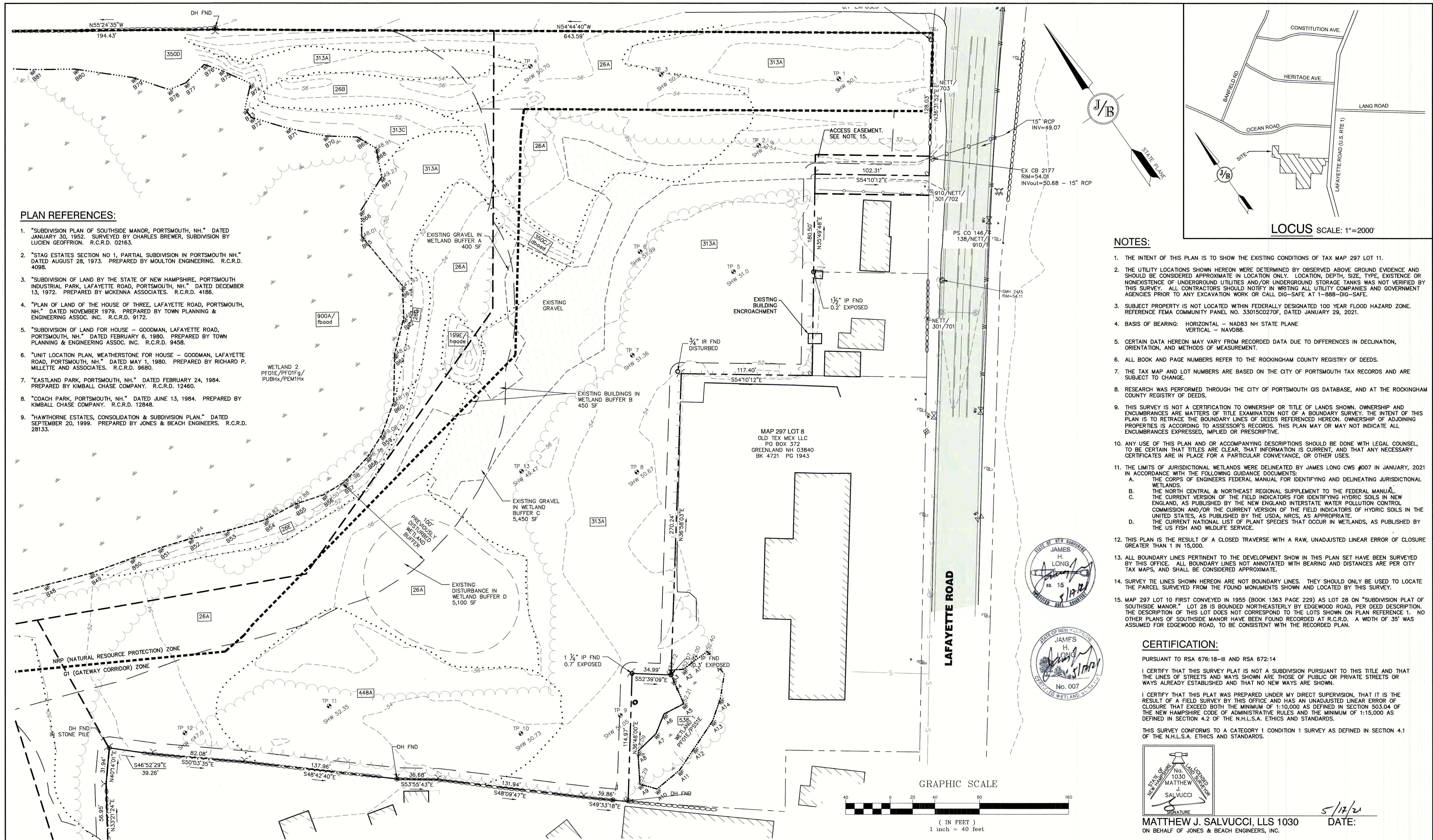
Project: **3400 LAFAYETTE ROAD PORTSMOUTH, NH**

Owner of Record: **RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229**

DRAWING No. **EXOVR**

SHEET 4 OF 25
 JBE PROJECT NO. 20737





PLAN REFERENCES:

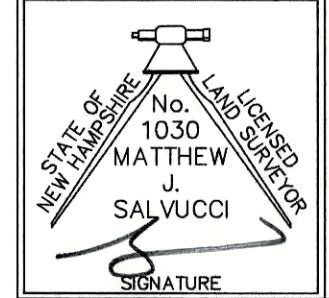
- "SUBDIVISION PLAN OF SOUTHSIDE MANOR, PORTSMOUTH, NH." DATED JANUARY 30, 1952. SURVEYED BY CHARLES BREWER, SUBDIVISION BY LUCIEN GEOFFRION. R.C.R.D. 02163.
- "STAG ESTATES SECTION NO 1, PARTIAL SUBDIVISION IN PORTSMOUTH NH." DATED AUGUST 28, 1973. PREPARED BY MOULTON ENGINEERING. R.C.R.D. 4098.
- "SUBDIVISION OF LAND BY THE STATE OF NEW HAMPSHIRE, PORTSMOUTH INDUSTRIAL PARK, LAFAYETTE ROAD, PORTSMOUTH, NH." DATED DECEMBER 13, 1972. PREPARED BY MCKENNA ASSOCIATES. R.C.R.D. 4186.
- "PLAN OF LAND OF THE HOUSE OF THREE, LAFAYETTE ROAD, PORTSMOUTH, NH." DATED NOVEMBER 1979. PREPARED BY TOWN PLANNING & ENGINEERING ASSOC. INC. R.C.R.D. 9172.
- "SUBDIVISION OF LAND FOR HOUSE - GOODMAN, LAFAYETTE ROAD, PORTSMOUTH, NH." DATED FEBRUARY 6, 1980. PREPARED BY TOWN PLANNING & ENGINEERING ASSOC. INC. R.C.R.D. 9458.
- "UNIT LOCATION PLAN, WEATHERSTONE FOR HOUSE - GOODMAN, LAFAYETTE ROAD, PORTSMOUTH, NH." DATED MAY 1, 1980. PREPARED BY RICHARD P. MILLETTE AND ASSOCIATES. R.C.R.D. 9680.
- "EASTLAND PARK, PORTSMOUTH, NH." DATED FEBRUARY 24, 1984. PREPARED BY KIMBALL CHASE COMPANY. R.C.R.D. 12460.
- "COACH PARK, PORTSMOUTH, NH." DATED JUNE 13, 1984. PREPARED BY KIMBALL CHASE COMPANY. R.C.R.D. 12848.
- "HAWTHORNE ESTATES, CONSOLIDATION & SUBDIVISION PLAN." DATED SEPTEMBER 20, 1999. PREPARED BY JONES & BEACH ENGINEERS. R.C.R.D. 28133.

NOTES:

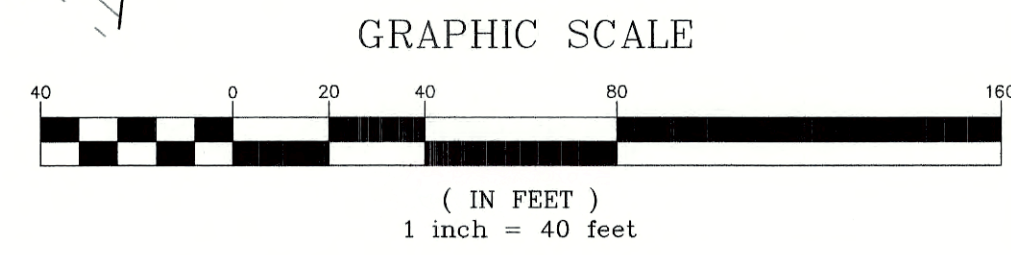
- THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS OF TAX MAP 297 LOT 11.
- THE UTILITY LOCATIONS SHOWN HEREON WERE DETERMINED BY OBSERVED ABOVE GROUND EVIDENCE AND SHOULD BE CONSIDERED APPROXIMATE IN LOCATION ONLY. LOCATION, DEPTH, SIZE, TYPE, EXISTENCE OR NONEXISTENCE OF UNDERGROUND UTILITIES AND/OR UNDERGROUND STORAGE TANKS WAS NOT VERIFIED BY THIS SURVEY. ALL CONTRACTORS SHOULD NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES PRIOR TO ANY EXCAVATION WORK OR CALL DIG-SAFE AT 1-888-DIG-SAFE.
- SUBJECT PROPERTY IS NOT LOCATED WITHIN FEDERALLY DESIGNATED 100 YEAR FLOOD HAZARD ZONE. REFERENCE FEMA COMMUNITY PANEL NO. 33015C0270F, DATED JANUARY 29, 2021.
- BASIS OF BEARING: HORIZONTAL - NAD83 NH STATE PLANE
VERTICAL - NAVD88.
- CERTAIN DATA HEREON MAY VARY FROM RECORDED DATA DUE TO DIFFERENCES IN DECLINATION, ORIENTATION, AND METHODS OF MEASUREMENT.
- ALL BOOK AND PAGE NUMBERS REFER TO THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
- THE TAX MAP AND LOT NUMBERS ARE BASED ON THE CITY OF PORTSMOUTH TAX RECORDS AND ARE SUBJECT TO CHANGE.
- RESEARCH WAS PERFORMED THROUGH THE CITY OF PORTSMOUTH GIS DATABASE, AND AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
- THIS SURVEY IS NOT A CERTIFICATION TO OWNERSHIP OR TITLE OF LANDS SHOWN. OWNERSHIP AND ENCUMBRANCES ARE MATTERS OF TITLE EXAMINATION NOT OF A BOUNDARY SURVEY. THE INTENT OF THIS PLAN IS TO TRACE THE BOUNDARY LINES OF DEEDS REFERENCED HEREON. OWNERSHIP OF ADJOINING PROPERTIES IS ACCORDING TO ASSESSOR'S RECORDS. THIS PLAN MAY OR MAY NOT INDICATE ALL ENCUMBRANCES EXPRESSED, IMPLIED OR PRESCRIPTIVE.
- ANY USE OF THIS PLAN AND OR ACCOMPANYING DESCRIPTIONS SHOULD BE DONE WITH LEGAL COUNSEL, TO BE CERTAIN THAT TITLES ARE CLEAR, THAT INFORMATION IS CURRENT, AND THAT ANY NECESSARY CERTIFICATIONS ARE IN PLACE FOR A PARTICULAR CONVEYANCE, OR OTHER USES.
- THE LIMITS OF JURISDICTIONAL WETLANDS WERE DELINEATED BY JAMES LONG CWS #007 IN JANUARY, 2021 IN ACCORDANCE WITH THE FOLLOWING GUIDANCE DOCUMENTS:
 - THE CORPS OF ENGINEERS FEDERAL MANUAL FOR IDENTIFYING AND DELINEATING JURISDICTIONAL WETLANDS.
 - THE NORTH CENTRAL & NORTHEAST REGIONAL SUPPLEMENT TO THE FEDERAL MANUAL.
 - THE CURRENT VERSION OF THE FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, AS PUBLISHED BY THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION AND/OR THE CURRENT VERSION OF THE FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, AS PUBLISHED BY THE USDA, NRCS, AS APPROPRIATE.
 - THE CURRENT NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS, AS PUBLISHED BY THE US FISH AND WILDLIFE SERVICE.
- THIS PLAN IS THE RESULT OF A CLOSED TRAVERSE WITH A RAW, UNADJUSTED LINEAR ERROR OF CLOSURE GREATER THAN 1 IN 15,000.
- ALL BOUNDARY LINES PERTINENT TO THE DEVELOPMENT SHOWN IN THIS PLAN SET HAVE BEEN SURVEYED BY THIS OFFICE. ALL BOUNDARY LINES NOT ANNOTATED WITH BEARING AND DISTANCES ARE PER CITY TAX MAPS, AND SHALL BE CONSIDERED APPROXIMATE.
- SURVEY TIE LINES SHOWN HEREON ARE NOT BOUNDARY LINES. THEY SHOULD ONLY BE USED TO LOCATE THE PARCEL SURVEYED FROM THE FOUND MONUMENTS SHOWN AND LOCATED BY THIS SURVEY.
- MAP 297 LOT 10 FIRST CONVEYED IN 1955 (BOOK 1363 PAGE 229) AS LOT 28 ON "SUBDIVISION PLAT OF SOUTHSIDE MANOR." LOT 28 IS BOUNDED NORTHEASTERLY BY EDGEWOOD ROAD, PER DEED DESCRIPTION. THE DESCRIPTION OF THIS LOT DOES NOT CORRESPOND TO THE LOTS SHOWN ON PLAN REFERENCE 1. NO OTHER PLANS OF SOUTHSIDE MANOR HAVE BEEN FOUND RECORDED AT R.C.R.D. A WIDTH OF 35' WAS ASSUMED FOR EDGEWOOD ROAD, TO BE CONSISTENT WITH THE RECORDED PLAN.

CERTIFICATION:

PURSUANT TO RSA 678:18-III AND RSA 672:14
 I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.
 I CERTIFY THAT THIS PLAT WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN UNADJUSTED LINEAR ERROR OF CLOSURE THAT EXCEED BOTH THE MINIMUM OF 1:10,000 AS DEFINED IN SECTION 503.04 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES, AND THE MINIMUM OF 1:15,000 AS DEFINED IN SECTION 4.2 OF THE N.H.L.S.A. ETHICS AND STANDARDS.
 THIS SURVEY CONFORMS TO A CATEGORY 1 CONDITION 1 SURVEY AS DEFINED IN SECTION 4.1 OF THE N.H.L.S.A. ETHICS AND STANDARDS.



MATTHEW J. SALVUCCI, LLS 1030
 ON BEHALF OF JONES & BEACH ENGINEERS, INC. DATE: 5/17/21



Design: JAC	Draft: LAZ	Date: 3/3/21
Checked: JAC	Scale: AS SHOWN	Project No.: 20737
Drawing Name: 20737-PLAN.dwg		
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3	3/3/21	ADDED SURVEY INFO	LAZ
2	1/6/21	MINOR REVISIONS	DJM
1	11/23/20	REVISED PER CLIENT	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.
Civil Engineering Services

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885
 603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	EXISTING CONDITIONS PLAN
Project:	3400 LAFAYETTE ROAD PORTSMOUTH, NH
Owner of Record:	RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229

DRAWING No.

C1

SHEET 5 OF 25
 JBE PROJECT NO. 20737

MAP 293 LOT 6-1
IMILO & EDNA RENZULLO
2959 MUIR RD
YUBA CITY CA 95991
BK 2298 PG 941

MAP 292 LOT 221
CITY OF PORTSMOUTH
1 JUNKINS AVENUE
PORTSMOUTH, NH 03801
BK 3481 PG 285
PLAN 28133

MAP 292 LOT 246
7 TRACKS REALTY
THOMAS KELLAWAY TRUSTEE
5 LIAMS CT
GREENLAND, NH 03840
BK 4958 PG 308
PLAN 28133

MAP 292 LOT 245
BRYAN HANLON
SARA CUMMINGS
4 MARYANN LN
MERRIMACK NH 03054
BK 6191 PG 552
PLAN 28133

MAP 292 LOT 244
JOHN & SHIRLEY O'LEARY
50 NATHANIEL DR
PORTSMOUTH NH 03801
BK 3603 PG 1403
PLAN 28133

MAP 292 LOT 163
MACPHAIL MICHAEL K
MCPHAIL CHELSEA L
3334 LAFAYETTE ROAD
PORTSMOUTH NH 03801

MAP 297 LOT 12
KRUKOFF PATRICIA
96 COAKLEY RD
PORTSMOUTH NH 03801

MAP 291 LOT 9
WESTCHESTER CORNER LLC
72 SOUTH BROADWAY
SALEM NH 03079
BK 5617 PG 1043
PLAN 38075

MAP 297 LOT 10
ROBERT NELSON
FIFI WENAS
3430 LAFAYETTE RD
PORTSMOUTH NH
03801
BK 4933 PG 2134

MAP 297 LOT 9
JOSEPH & PATRICIA
ROBERGE
3448 LAFAYETTE RD
PORTSMOUTH NH 03801
BK 3404 PG 2132

MAP 297 LOT 8
OLD TEX MEX LLC
PO BOX 372
GREENLAND NH
03840
BK 4721 PG 1943

MAP 297 LOT 6
NAVEESHA HOSPITALITY LLC
440 BEDFORD ST
LEXINGTON MA 02420
BK 5230 PG 888

MAP 297 LOT 5
PORTSMOUTH LAFAYETTE RD LLC
67 MOUNTAIN BLVD SUITE 201
WARREN NJ 07059
BK 6090 PG 325
PLAN 12460

MAP 293 LOT 10
CITY OF PORTSMOUTH DPW
PO BOX 628
PORTSMOUTH NH 03801
BK 2299 PG 424

MAP 296 LOT 12
CITY OF PORTSMOUTH
CONSV COMM
PO BOX 6697
PORTSMOUTH NH 03802
BK 2488 PG 311

MAP 296 LOT 11
CITY OF PORTSMOUTH
CONSERVATION COMM.
PO BOX 6697
PORTSMOUTH, NH 03802
BK 2484 PG 311

TEMPORARY WETLAND IMPACT	
A	2,100 SF
B	150 SF
C	100 SF
TOTAL	2,350 SF

WETLAND BUFFER IMPACTS	
EXISTING	PROPOSED
A	400 SF
B	450 SF
C	5,450 SF
D	5,100 SF
E	14,000 SF
TOTAL	11,400 SF

LINE	BEARING	DISTANCE
L1	N35°59'50"E	378.06'
L2	N36°59'58"E	35.16'
L3	N34°54'13"E	30.65'
L4	N38°51'51"E	35.83'
L5	N33°51'16"E	41.69'
L6	N37°10'52"E	59.44'
L7	N33°21'24"E	56.95'
L8	N40°14'01"E	31.94'
L9	S46°52'29"E	39.26'
L10	S50°03'35"E	82.08'
L11	S48°42'40"E	137.96'
L12	S53°55'43"E	36.68'
L13	S48°09'47"E	131.94'
L14	S49°33'18"E	39.86'
L15	N36°48'00"E	114.97'
L16	S52°39'09"E	34.99'
L17	N36°58'03"E	270.24'
L18	S54°10'12"E	117.40'
L19	N35°49'48"E	180.50'
L20	S54°10'12"E	102.31'
L21	N36°31'52"E	128.03'
L22	N54°44'40"W	643.59'
L23	N55°24'35"W	194.43'
L24	N54°56'09"W	255.65'
L25	N54°38'29"W	182.42'
L26	N42°52'40"E	95.06'
L27	N43°42'48"E	77.78'

GRAPHIC SCALE



(IN FEET)
1 inch = 100 feet

APPROX. LOT LINE (TYP.)

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Checked: JAC Scale: AS SHOWN Project No.: 20737
Drawing Name: 20737-PLAN.dwg
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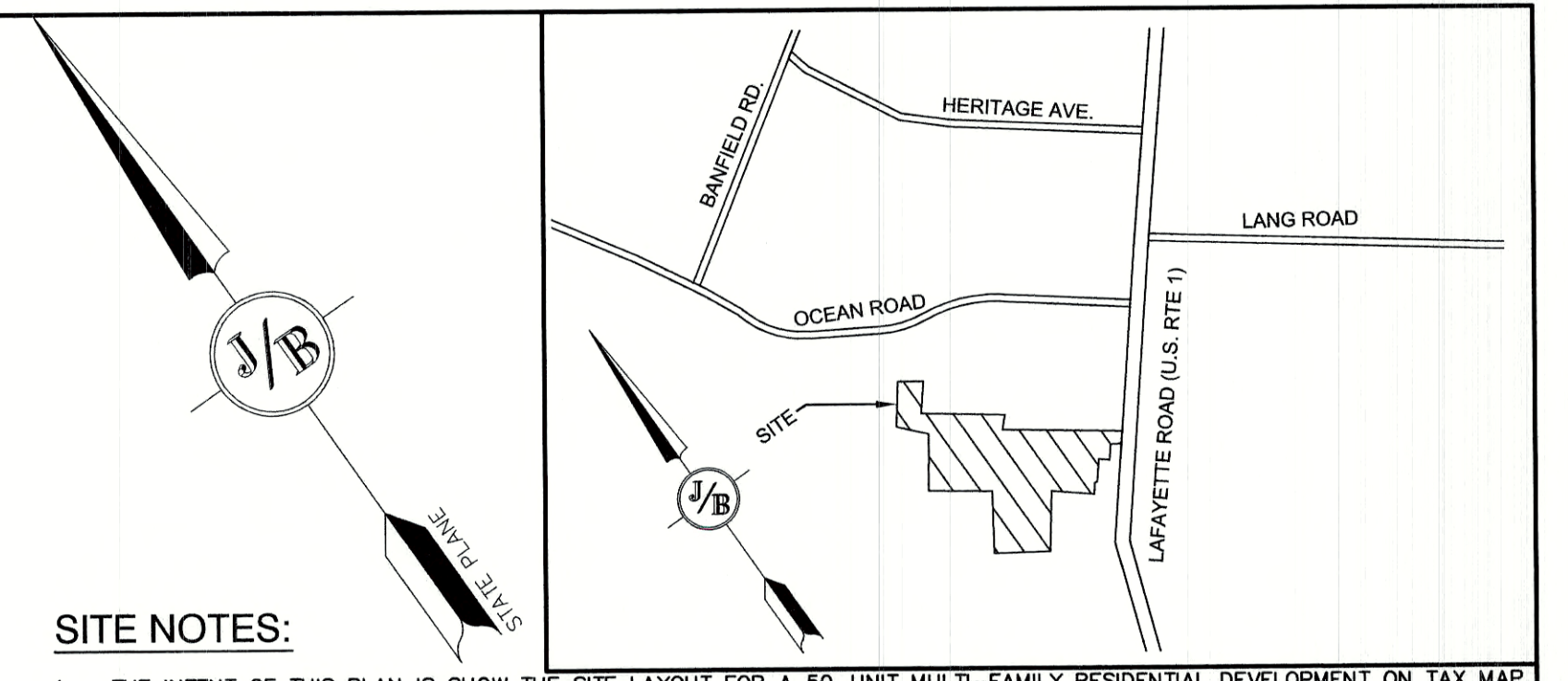
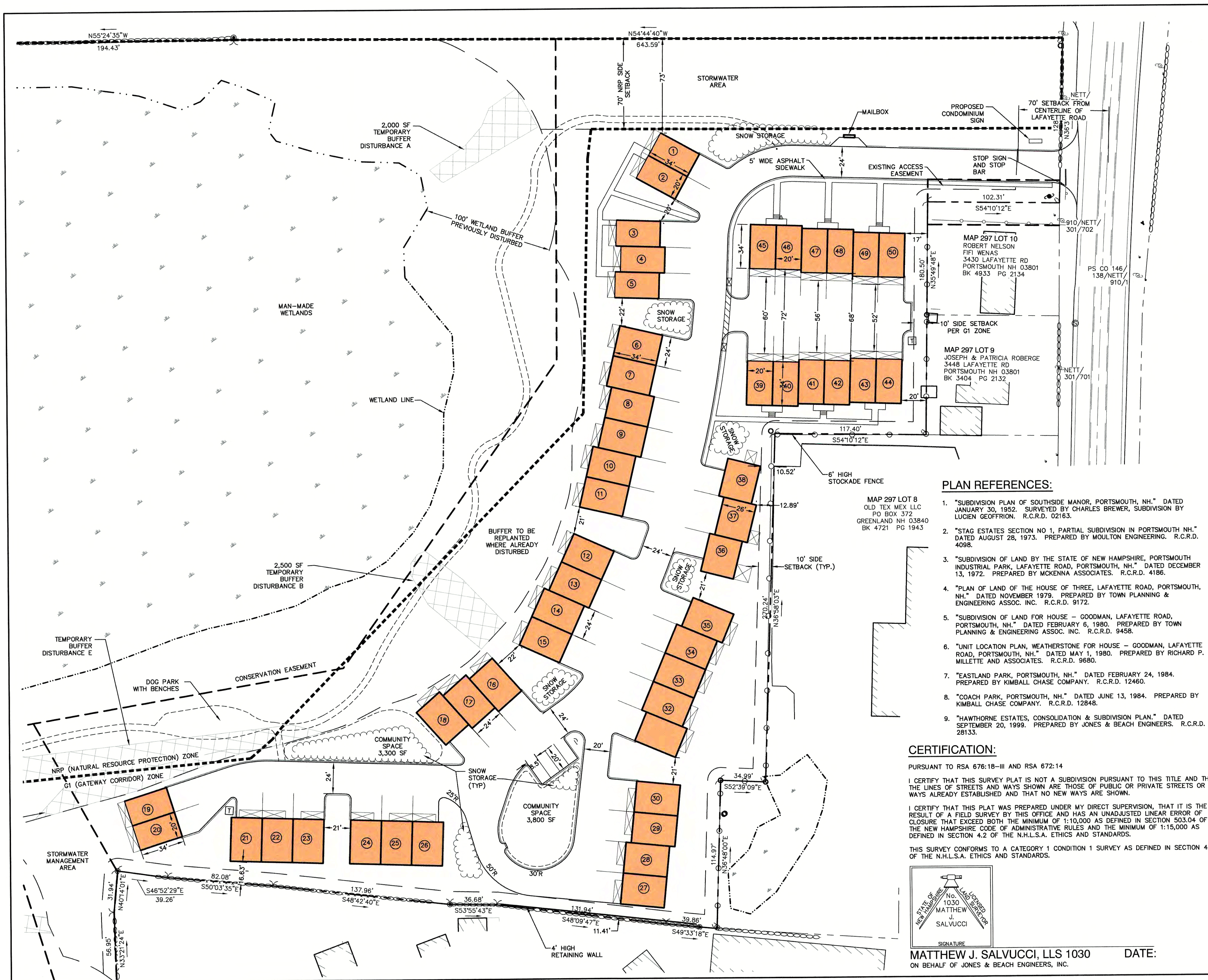
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885
603-772-4746
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: **OVERVIEW SITE PLAN**
3400 LAFAYETTE ROAD
PORTSMOUTH, NH

Project: RICCI CONSTRUCTION CO., INC.
225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229

Owner of Record:

DRAWING No. **OVR**
SHEET 6 OF 25
JBE PROJECT NO. 20737



SITE NOTES:

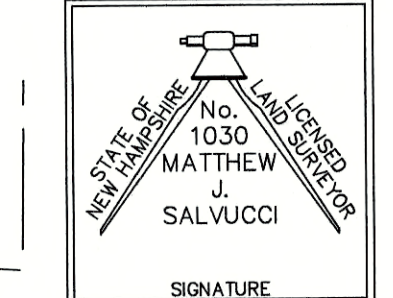
- THE INTENT OF THIS PLAN IS SHOW THE SITE LAYOUT FOR A 50-UNIT MULTI-FAMILY RESIDENTIAL DEVELOPMENT ON TAX MAP 297 LOT 11.
- ZONING DISTRICT: GATEWAY CORRIDOR (G1), USE: GATEWAY TOWNHOUSE
 LOT AREA MINIMUM = NO REQUIREMENT FOUND
 LOT FRONTAGE MINIMUM = 100'
 BUILDING SETBACKS (MINIMUM):
 FRONT SETBACK = 70' FROM CENTERLINE OF LAFAYETTE ROAD
 SIDE SETBACK = 10'
 REAR SETBACK = 15'
 WETLAND SETBACK = 100'
 MAX. BUILDING HEIGHT = 35'
 MIN. OPEN SPACE = 20%
 MAX. BUILDING COVERAGE = 50%
 AREA OF LOT WITHIN G1 DISTRICT = 643,867 S.F. ±
 OPEN SPACE PROPOSED = 540,347 S.F. = 83.9% ± WITHIN G1 DISTRICT
 BUILDING COVERAGE PROPOSED = 43,716 S.F. = 6.8% ± WITHIN G1 DISTRICT
 ZONING DISTRICT: NATURAL RESOURCE PROTECTION (NRP)
 LOT AREA MINIMUM = NO REQUIREMENT
 LOT FRONTAGE MINIMUM = NO REQUIREMENT
 BUILDING SETBACKS (MINIMUM):
 FRONT SETBACK = 70'
 SIDE SETBACK = 70'
 REAR SETBACK = 70'
 MAX. BUILDING HEIGHT = 35'
 MIN. OPEN SPACE = 95%
 MAX. BUILDING COVERAGE = NO REQUIREMENT
 AREA OF LOT WITHIN NRP DISTRICT = 1,287,854 S.F. ±
 OPEN SPACE PROPOSED = 1,287,854 S.F. = 100% WITHIN NRP DISTRICT
- PARKING CALCULATIONS:
 1.3 SPACES PER UNIT > 750 S.F.
 TOTAL NUMBER OF UNITS = 50. EACH UNIT HAS 2 SPACES IN GARAGE.
 4 OUTDOOR PARKING SPACES PROVIDED.
 TOTAL SPACES REQUIRED = 65, TOTAL SPACES PROVIDED = 104
- PAVEMENT AREA 59,780 SF = 3% OF SITE
- THIS PLAN SET HAS BEEN PREPARED BY JONES & BEACH ENGINEERS, INC. FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS, INCLUDING ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS ON THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS, MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED. CONTRACTOR TO ALWAYS CONTACT DIG SAFE PRIOR TO DIGGING ON-SITE OR OFF-SITE TO ENSURE SAFETY AND OBEY THE LAW.
- ALL CONSTRUCTION SHALL CONFORM TO CITY STANDARDS AND REGULATIONS, AND NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WHICHEVER IS MORE STRINGENT.
- SUBJECT PROPERTY IS NOT LOCATED WITHIN FEDERALLY DESIGNATED 100 YEAR FLOOD HAZARD ZONE. REFERENCE FEMA COMMUNITY PANEL NO. 3301500270E, DATED MAY 17, 2005.
- LANDOWNERS ARE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING PERMITTING REQUIRED UNDER THESE REGULATIONS.
- ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (S.W.P.P.), THIS DOCUMENT IS TO BE KEPT ON-SITE AT ALL TIMES AND UPDATED AS REQUIRED.
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, FEES AND BONDS.
- ALL PROPOSED SIGNAGE SHALL CONFORM WITH THE CITY ZONING REGULATIONS, UNLESS A VARIANCE IS OTHERWISE REQUESTED.
- ALL SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND NHDOT STANDARDS AND SPECIFICATIONS (NON-REFLECTORIZED PAVEMENT MARKINGS), UNLESS OTHERWISE NOTED.
- ALL PARKING STALLS SHALL BE SEPARATED USING 4" WIDE SOLID STRIPES. STRIPING SHALL HAVE TWO COATS OF PAINT, ALKYD BASIN SYNTHETIC RESIN, FEDERAL SPECIFICATION TTP-115 TYPE 1, IN A COLOR OF WHITE.
- ALL STOP BARS SHALL BE 18" IN WIDTH IN A COLOR OF WHITE; ALL TRAFFIC ARROWS SHALL BE PAINTED IN A COLOR OF WHITE.
- ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PROVIDED BY THE OWNER. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND OWNER PRIOR TO THE START OF CONSTRUCTION. BUILDING DIMENSIONS AND AREAS TO BE OUTSIDE OF MASONRY, UNLESS OTHERWISE NOTED.
- ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.
- ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
- THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
- ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THE SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
- EACH UNIT TO HAVE TRASH CANS TO BE PICKED UP BY A PRIVATE TRASH HAULER.
- SNOW TO BE TRUCKED OFFSITE WHEN DESIGNATED SNOW STORAGE AREA ARE FULL.
- THE FOLLOWING STATE PERMITS ARE REQUIRED FOR THIS PROJECT:
 NHDES ALTERNATION OF TERRAIN PERMIT
 NHDES WETLAND PERMIT
 NHDES SEWER CONNECTION PERMIT
 NHDOT DRIVEWAY PERMIT

PLAN REFERENCES:

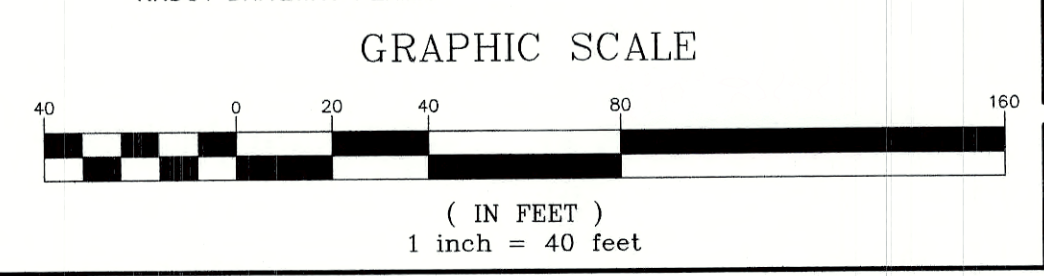
- "SUBDIVISION PLAN OF SOUTHSIDE MANOR, PORTSMOUTH, NH." DATED JANUARY 30, 1952. SURVEYED BY CHARLES BREWER, SUBDIVISION BY LUCIEN GEOFFRION. R.C.R.D. 02163.
- "STAG ESTATES SECTION NO 1, PARTIAL SUBDIVISION IN PORTSMOUTH, NH." DATED AUGUST 28, 1973. PREPARED BY MOULTON ENGINEERING. R.C.R.D. 4098.
- "SUBDIVISION OF LAND BY THE STATE OF NEW HAMPSHIRE, PORTSMOUTH INDUSTRIAL PARK, LAFAYETTE ROAD, PORTSMOUTH, NH." DATED DECEMBER 13, 1972. PREPARED BY MCKENNA ASSOCIATES. R.C.R.D. 4186.
- "PLAN OF LAND OF THE HOUSE OF THREE, LAFAYETTE ROAD, PORTSMOUTH, NH." DATED NOVEMBER 1979. PREPARED BY TOWN PLANNING & ENGINEERING ASSOC. INC. R.C.R.D. 9172.
- "SUBDIVISION OF LAND FOR HOUSE - GOODMAN, LAFAYETTE ROAD, PORTSMOUTH, NH." DATED FEBRUARY 6, 1980. PREPARED BY TOWN PLANNING & ENGINEERING ASSOC. INC. R.C.R.D. 9458.
- "UNIT LOCATION PLAN, WEATHERSTONE FOR HOUSE - GOODMAN, LAFAYETTE ROAD, PORTSMOUTH, NH." DATED MAY 1, 1980. PREPARED BY RICHARD P. MILLETTE AND ASSOCIATES. R.C.R.D. 9680.
- "EASTLAND PARK, PORTSMOUTH, NH." DATED FEBRUARY 24, 1984. PREPARED BY KIMBALL CHASE COMPANY. R.C.R.D. 12460.
- "COACH PARK, PORTSMOUTH, NH." DATED JUNE 13, 1984. PREPARED BY KIMBALL CHASE COMPANY. R.C.R.D. 12848.
- "HAWTHORNE ESTATES, CONSOLIDATION & SUBDIVISION PLAN." DATED SEPTEMBER 20, 1999. PREPARED BY JONES & BEACH ENGINEERS. R.C.R.D. 28133.

CERTIFICATION:

PURSUANT TO RSA 676:18-III AND RSA 672:14
 I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.
 I CERTIFY THAT THIS PLAT WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN UNADJUSTED LINEAR ERROR OF CLOSURE THAT EXCEEDS BOTH THE MINIMUM OF 1:10,000 AS DEFINED IN SECTION 503.04 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES AND THE MINIMUM OF 1:15,000 AS DEFINED IN SECTION 4.2 OF THE N.H.L.S.A. ETHICS AND STANDARDS.
 THIS SURVEY CONFORMS TO A CATEGORY 1 CONDITION 1 SURVEY AS DEFINED IN SECTION 4.1 OF THE N.H.L.S.A. ETHICS AND STANDARDS.



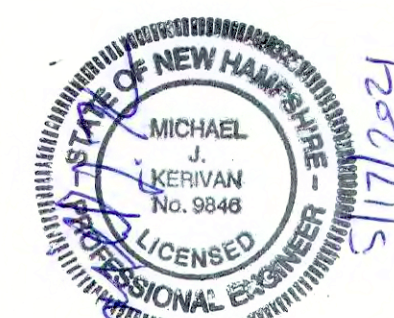
MATTHEW J. SALVUCCI, LLS 1030 DATE: _____
 ON BEHALF OF JONES & BEACH ENGINEERS, INC.



PROJECT PARCEL
 CITY OF PORTSMOUTH
 TAX MAP 297, LOT 11

TOTAL LOT AREA
 1,931,721 SQ. FT. ±
 44.35 ACRES ±

Design: JAC	Draft: LAZ	Date: 3/3/21
Checked: JAC	Scale: AS SHOWN	Project No.: 20737
Drawing Name: 20737-PLAN.dwg		
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4	3/18/21	ADDED DETAIL	LAZ
3	3/3/21	ADDED SURVEY INFO	LAZ
2	1/6/21	MINOR REVISIONS	DJM
1	11/23/20	REVISED PER CLIENT	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.
Civil Engineering Services

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885
 603-772-4746
 FAX: 603-772-0227
 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	SITE PLAN
Project:	3400 LAFAYETTE ROAD PORTSMOUTH, NH
Owner of Record:	RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229

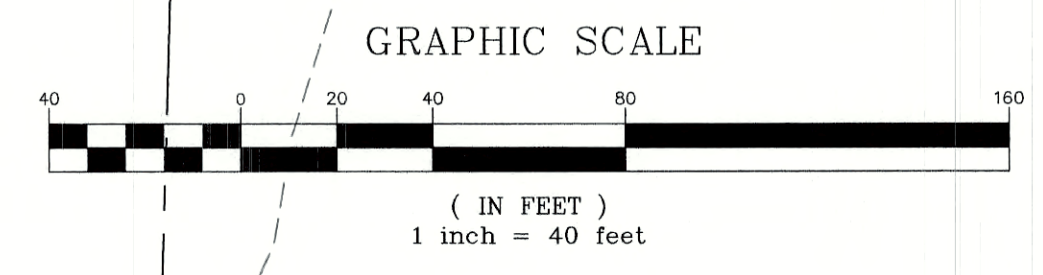
DRAWING No.
C2
 SHEET 7 OF 25
 JBE PROJECT NO. 20737



GRADING AND DRAINAGE NOTES:

- UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER JONES & BEACH ENGINEERS, INC., NOR ANY OF THEIR EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES AND/OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 888-DIG-SAFE (888-344-7233).
- ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
- SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED. SEE CONSTRUCTION SEQUENCE ON SHEET E1.
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO HAVE THE PROJECT'S LAND SURVEYOR STAKE OR FLAG CLEARING LIMITS. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED.
- ALL SWALES AND DETENTION PONDS ARE TO BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- PROPOSED RIM ELEVATIONS OF DRAINAGE STRUCTURES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES.
- ALL SWALES AND ANY SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH NORTH AMERICAN GREEN SCI505GN EROSION CONTROL BLANKETS (OR AN EQUIVALENT APPROVED IN WRITING BY THE ENGINEER), UNLESS OTHERWISE SPECIFIED.
- ALL DRAINAGE AND SANITARY STRUCTURE INTERIOR DIAMETERS (4" MIN) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS. CATCH BASINS SHALL HAVE 3" DEEP SUMPS WITH GREASE HOODS, UNLESS OTHERWISE NOTED.
- ALL DRAINAGE STRUCTURES SHALL BE PRECAST, UNLESS OTHERWISE SPECIFIED.
- ALL DRAINAGE STRUCTURES AND STORM SEWER PIPES SHALL MEET HEAVY DUTY TRAFFIC H2O LOADING AND SHALL BE INSTALLED ACCORDINGLY.
- ALL DRAINAGE PIPE SHALL BE NON-PERFORATED ADS N-12 OR APPROVED EQUAL.
- STONE INLET PROTECTION SHALL BE PLACED AT ALL CATCH BASINS. SEE DETAIL WITHIN THE DETAIL SHEETS.
- LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY ALL GOVERNING AUTHORITIES. THE GENERAL CONTRACTOR SHALL STRICTLY ADHERE TO THE EPA SWPPP DURING CONSTRUCTION OPERATIONS.
- NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
- ALL EXPOSED AREAS SHALL BE SEED AS SPECIFIED WITHIN 3 DAYS OF FINAL GRADING.
- SHOULD CONSTRUCTION STOP FOR LONGER THAN 3 DAYS, THE SITE SHALL BE SEED AS SPECIFIED.
- MAINTAIN EROSION CONTROL MEASURES AFTER EACH RAIN EVENT OF 0.5" OR GREATER IN A 24 HOUR PERIOD AND AT LEAST ONCE A WEEK.
- THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE, AS THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SEDIMENT FROM LEAVING THE SITE.
- CONSTRUCTION VEHICLES SHALL UTILIZE THE STABILIZED CONSTRUCTION ENTRANCE TO THE EXTENT POSSIBLE THROUGHOUT CONSTRUCTION.
- IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
- SEDIMENT SHALL BE REMOVED FROM ALL SEDIMENT BASINS BEFORE THEY ARE 25% FULL.
- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH PROJECT SPECIFICATIONS.
- ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED, IF DEEMED NECESSARY BY ON-SITE INSPECTION BY ENGINEER AND/OR REGULATORY OFFICIALS.
- SEE ALSO EROSION AND SEDIMENT CONTROL SPECIFICATIONS ON SHEET E1.
- TOTAL DISTURBANCE = 210,500 SF = 4.8 AC

LAFAYETTE ROAD (U.S. ROUTE 1)



PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 297, LOT 11

TOTAL LOT AREA
1,931,721 SQ. FT. ±
44.35 ACRES ±

Design: JAC Draft: LAZ Date: 3/3/21
Checked: JAC Scale: AS SHOWN Project No.: 20737
Drawing Name: 20737-PLAN.dwg
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Civil Engineering Services
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603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: **GRADING AND DRAINAGE PLAN**
Project: **3400 LAFAYETTE ROAD PORTSMOUTH, NH**
Owner of Record: **225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229**

DRAWING No. **C3**
SHEET 8 OF 25
JBE PROJECT NO. 20737



UTILITY NOTES:

- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, CONNECTION FEES AND BONDS.
- THE CONTRACTOR SHALL PROVIDE A MINIMUM NOTICE OF FOURTEEN (14) DAYS TO ALL CORPORATIONS, COMPANIES AND/OR LOCAL AUTHORITIES OWNING OR HAVING A JURISDICTION OVER UTILITIES RUNNING TO, THROUGH OR ACROSS PROJECT AREAS PRIOR TO DEMOLITION AND/OR CONSTRUCTION ACTIVITIES.
- THE LOCATION, SIZE, DEPTH AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE TO THE STANDARDS AND REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANY (ELECTRIC, TELEPHONE, CABLE TELEVISION, FIRE ALARM, GAS, WATER, AND SEWER).
- A PRECONSTRUCTION MEETING SHALL BE HELD WITH THE OWNER, ENGINEER, ARCHITECT, CONTRACTOR, LOCAL OFFICIALS, AND ALL PROJECT-RELATED UTILITY COMPANIES (PUBLIC AND PRIVATE) PRIOR TO START OF CONSTRUCTION.
- ALL CONSTRUCTION SHALL CONFORM TO THE CITY STANDARDS AND REGULATIONS, AND NHDES STANDARDS AND SPECIFICATIONS, WHICHEVER ARE MORE STRINGENT, UNLESS OTHERWISE SPECIFIED.
- ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.
- BUILDING TO BE SERVICED BY UNDERGROUND UTILITIES UNLESS OTHERWISE NOTED.
- THE CONTRACTOR IS TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITY STUBS PRIOR TO CONSTRUCTION AND DISCONNECT ALL EXISTING SERVICE CONNECTIONS AT THEIR RESPECTIVE MAINS IN ACCORDANCE WITH THE RESPECTIVE UTILITY COMPANY'S STANDARDS AND SPECIFICATIONS. ENGINEER TO BE NOTIFIED.
- AS-BUILT PLANS SHALL BE SUBMITTED TO DEPARTMENT OF PUBLIC WORKS.
- INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW AT CHANGES IN DIRECTION. THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE THROUGH CHANNEL UNDERLAYMENT OF INVERT, AND SHELF SHALL CONSIST OF BRICK MASONRY.
- FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30 INCH DIA, CLEAR OPENING. THE WORD "SEWER" OR "DRAIN" SHALL BE CAST INTO THE CENTER OF THE UPPER FACE OF EACH COVER WITH RAISED, 3" LETTERS.
- SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H2O LOADS.
- CONTRACTOR SHALL PLACE 2" WIDE METAL WIRE IMPREGNATED RED PLASTIC WARNING TAPE OVER ENTIRE LENGTH OF ALL GRAVITY SEWERS, SERVICES, AND FORCE MAINS.
- SANITARY SEWER FLOW CALCULATIONS:
50 - THREE BEDROOM UNITS @ 150 GPD/BEDROOM =
TOTAL FLOW = 22,500 GPD
- ALL SANITARY STRUCTURE INTERIOR DIAMETERS (4" MIN) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS.
- PROPOSED RIM ELEVATIONS OF DRAINAGE AND SANITARY MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES. ADJUST ALL OTHER RIM ELEVATIONS OF MANHOLES, WATER GATES, GAS GATES AND OTHER UTILITIES TO FINISH GRADE AS SHOWN ON THE GRADING AND DRAINAGE PLAN.
- ALL WATER MAINS AND SERVICE PIPES SHALL HAVE A MINIMUM 12" VERTICAL AND 24" HORIZONTAL SEPARATION TO MANHOLES, OR CONTRACTOR SHALL INSTALL BOARD INSULATION FOR FREEZING PROTECTION.
- WATER MAINS SHALL BE HYDROSTATICALLY PRESSURE TESTED FOR LEAKAGE PRIOR TO ACCEPTANCE. WATERMANS SHALL BE TESTED AT 1.5 TIMES THE WORKING PRESSURE OR 150 PSI, WHICHEVER IS GREATER. TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH SECTION 4 OF AWWA STANDARD C 600. WATERMANS SHALL BE DISINFECTED AFTER THE ACCEPTANCE OF THE PRESSURE AND LEAKAGE TESTS ACCORDING TO AWWA STANDARD C 651.
- THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS, TEES, MECHANICAL JOINTS AND FIRE HYDRANTS.
- DIMENSIONS ARE SHOWN TO CENTERLINE OF PIPE OR FITTING.
- THE CONTRACTOR SHALL HAVE THE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER FIRE PROTECTION SYSTEM PRIOR TO INSTALLATION.
- CONTRACTOR TO FURNISH SHOP DRAWINGS FOR UTILITY RELATED ITEMS TO ENSURE CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. SHOP DRAWINGS SHOULD BE SENT IN TRIPPLICATE TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
- EXISTING UTILITIES SHALL BE DIGSAFE'D BEFORE CONSTRUCTION.
- ALL WATER LINES SHOULD HAVE TESTABLE BACKFLOW PREVENTERS AT THE ENTRANCE TO EACH BUILDING.
- ALL GRAVITY SEWER PIPE, MANHOLES, AND FORCE MAINS SHALL BE TESTED ACCORDING TO NHDES STANDARDS OF DESIGN AND CONSTRUCTION FOR SEWAGE AND WASTEWATER TREATMENT FACILITIES, CHAPTER ENV-WQ 700, ADOPTED ON 10-15-14.
- ENV-WQ 704.06 GRAVITY SEWER PIPE TESTING: GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY USE OF LOW-PRESSURE AIR TESTS CONFORMING WITH ASTM F1417-92(2005) OR UN-BELL PVC PIPE ASSOCIATION UNI-B-6. LINES SHALL BE CLEANED AND VISUALLY INSPECTED AND TRUE TO LINE AND GRADE. DEFLECTION TESTS SHALL TAKE PLACE AFTER 30 DAYS FOLLOWING INSTALLATION AND THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 5% OF AVERAGE INSIDE DIAMETER. A RIGID BALL OR MANDREL WITH A DIAMETER OF AT LEAST 95% OF THE AVERAGE INSIDE PIPE DIAMETER SHALL BE USED FOR TESTING PIPE DEFLECTION. THE DEFLECTION TEST SHALL BE CONDUCTED WITHOUT MECHANICAL PULLING DEVICES.
- ENV-WQ 704.17 SEWER MANHOLE TESTING: SHALL BE TESTED FOR LEAKAGE USING A VACUUM TEST PRIOR TO BACKFILLING AND PLACEMENT OF SHELVES AND INVERTS.
- SANITARY SEWER LINES SHALL BE LOCATED AT LEAST TEN (10) FEET HORIZONTALLY FROM AN EXISTING OR PROPOSED WATER LINE. WHEN A SEWER LINE CROSSES UNDER A WATER LINE, THE SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM THE WATERMAIN. THE SEWER LINE SHALL ALSO MAINTAIN A VERTICAL SEPARATION OF NOT LESS THAN 18 INCHES.
- SEWERS SHALL BE BURIED TO A MINIMUM DEPTH OF 6 FEET BELOW GRADE IN ALL ROADWAY LOCATIONS, AND TO A MINIMUM DEPTH OF 4 FEET BELOW GRADE IN ALL CROSS-COUNTRY LOCATIONS. PROVIDE TWO-INCHES OF 7-10 FOAM BOARD INSULATION 2-FOOT WIDE TO BE INSTALLED 6-INCHES OVER SEWER PIPE IN AREAS WHERE DEPTH IS NOT ACHIEVED. A WAIVER FROM THE DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER ENGINEERING BUREAU IS REQUIRED PRIOR TO INSTALLING SEWER AT LESS THAN MINIMUM COVER.
- THE CONTRACTOR SHALL MINIMIZE THE DISRUPTIONS TO THE EXISTING SEWER FLOWS AND THOSE INTERRUPTIONS SHALL BE LIMITED TO FOUR (4) HOURS OR LESS AS DESIGNATED BY THE CITY SEWER DEPARTMENT.
- LIGHTING CONDUIT SHALL BE SCHEDULE 40 PVC, AND SHALL BE INSTALLED IN CONFORMANCE WITH THE NATIONAL ELECTRIC CODE. CONTRACTOR SHALL PROVIDE EXCAVATION AND BACKFILL.
- ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.

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 Checked: JAC Scale: AS SHOWN Project No.: 20737
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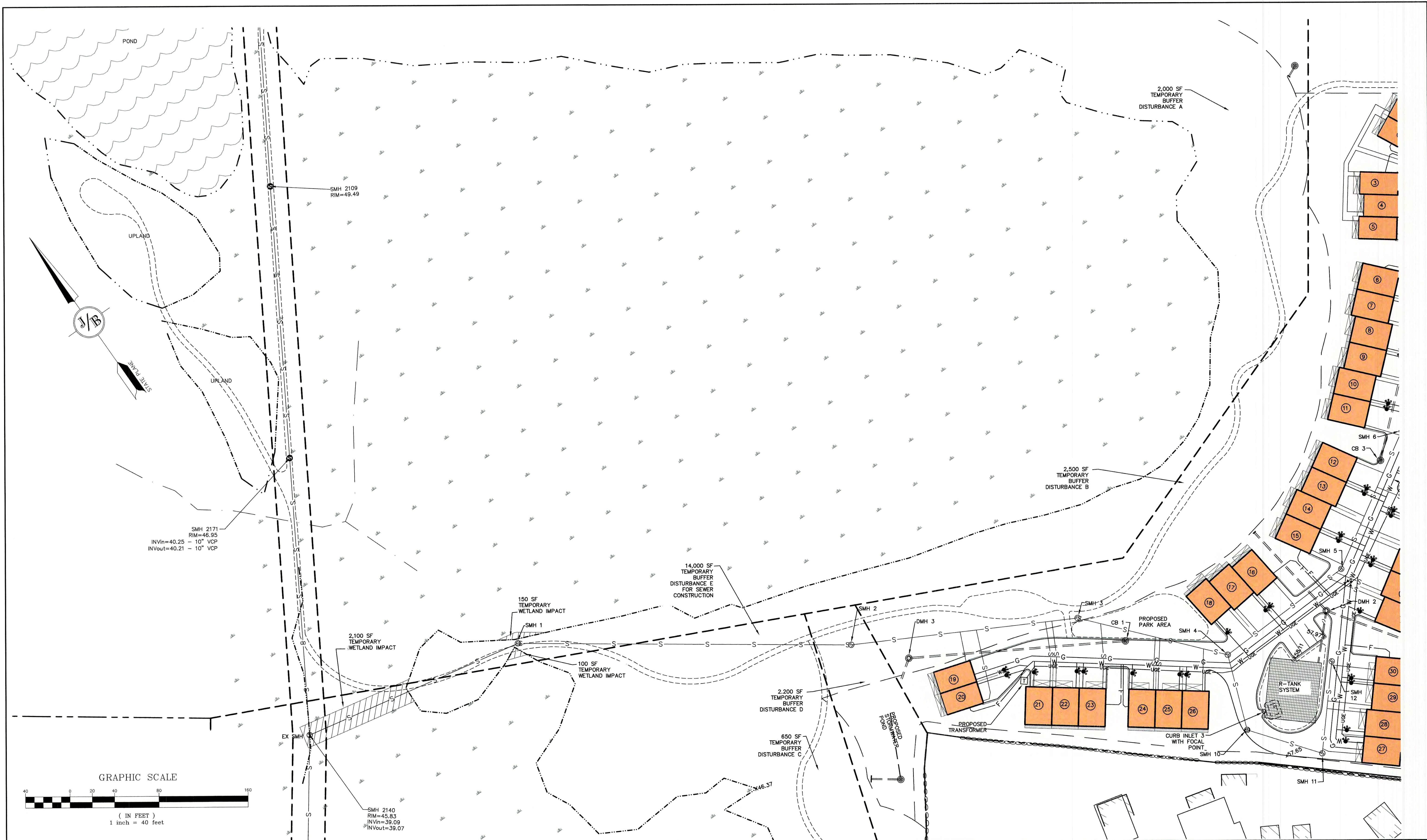
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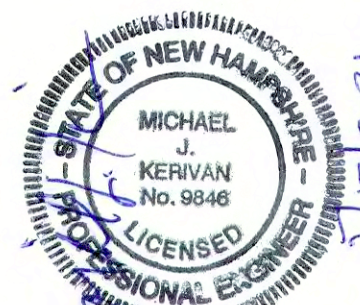
J/B Jones & Beach Engineers, Inc.
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Plan Name: **UTILITY PLAN**
 Project: **3400 LAFAYETTE ROAD PORTSMOUTH, NH**
 Owner of Record: **RICCI CONSTRUCTION CO., INC.**
 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229

DRAWING No. **C4**
 SHEET 9 OF 25
 JBE PROJECT NO. 20737



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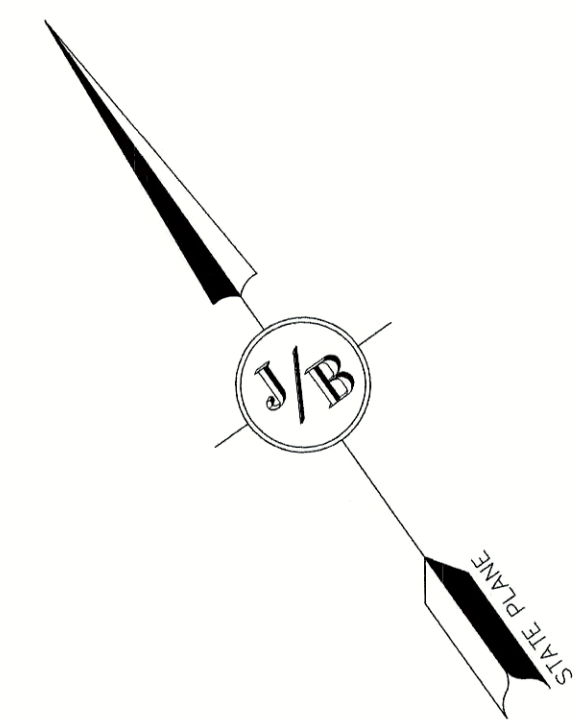
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DRAWING No.
C5
 SHEET 10 OF 25
 JBE PROJECT NO. 20737

LIGHTING AND ELECTRICAL NOTES:

1. SITE ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF EASEMENTS, UNDERGROUND UTILITIES AND DRAINAGE BEFORE DRILLING POLE BASES.
2. CONTRACTOR SHALL INSTALL PROPOSED LIGHT POLES ACCORDING TO CITY REGULATIONS.
3. ALL OUTDOOR LIGHTING SYSTEMS SHALL BE EQUIPPED WITH TIMERS TO REDUCE ILLUMINATION LEVELS TO NON-OPERATIONAL VALUES PER CITY REGULATIONS.
4. LIGHTING CONDUIT SHALL BE SCHEDULE 40 PVC, AND SHALL BE INSTALLED IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE. CONTRACTOR SHALL PROVIDE EXCAVATION AND BACKFILL.
5. ILLUMINATION READINGS SHOWN ARE BASED ON A TOTAL LLF OF 0.75 AT GRADE. ILLUMINATION READINGS SHOWN ARE IN UNITS OF FOOT-CANDLES.
6. LIGHTING CALCULATIONS SHOWN ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM AND SAFETY.
7. ALL LIGHTING FIXTURES SHALL BE FULL CUT-OFF DARK-SKY COMPLIANT, UNLESS OTHERWISE NOTED.
8. THE PROPOSED LIGHTING CALCULATIONS AND DESIGN WAS PERFORMED BY CHARRON, INC., P.O. BOX 4550, MANCHESTER, NH 03108, ATTENTION KEN SWEENEY. ALL LIGHTS SHOULD BE PURCHASED FROM THIS COMPANY, OR AN EQUAL LIGHTING DESIGN SHOULD BE SUBMITTED FOR REVIEW IF EQUAL SUBSTITUTIONS ARE PROPOSED BY THE CONTRACTOR OR OWNER.



DESCRIPTION

The Traditionaire LED outdoor luminaire displays the old-fashioned charm of traditional area lighting, enhancing any setting with distinctive styling. As a decorative luminaire, the Traditionaire LED tastefully complements the architectural and environmental design of parks and roadways. The high-lumen downlight configuration uses Cooper Lighting Solutions' patented LightBAR™ technology to deliver uniform and efficient illumination to pedestrian and roadway applications.

SPECIFICATION FEATURES

Construction
Hinged (stainless steel hinge pins) die-cast aluminum housing and cover with cupola. 3G vibration tested to ensure strength of construction and longevity in application.

Optics
Choice of six patented, high-efficiency AccuLED Optic™ technology manufactured from injection-molded acrylic. Optics are precisely designed to shape the light output, maximizing efficiency and application spacing. AccuLED Optic technology, creates consistent distributions with the scalability to meet customized application requirements. Offered Standard in 4000K (+/- 275K) CCT and minimum 70 CRI. Optional 3000K CCT, 5000K CCT and 5700K CCT. For the ultimate level of spill

light control, an optional house-side shield accessory can be field or factory installed. The house-side shield is designed to seamlessly integrate with the SL2 or SL3 optics.

Electrical
LED drivers mount to die-cast aluminum back housing for optimal heat sinking, operation efficacy, and prolonged life. Standard drivers feature electronic universal voltage (120-277V 50/60Hz), 347V 60Hz or 480V 60Hz operation, greater than 0.9 power factor, less than 20% harmonic distortion, and is suitable for operation in -40°C to 40°C ambient environments. All fixtures are shipped standard with 10kV/10kA common – and differential – mode surge protection. LightBARs feature an IP66 enclosure rating and

maintain greater than 95% lumen maintenance at 60,000 hours per IESNA TM-21.

Mounting
Self-aligning pole-top fitter for 3" O.D. pole tops or vertical tenons. Square headed 1-1/4" polymer coated mounting bolts with a lock nut.

Finish
Cast components finished in a super durable black TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Optional colors include: bronze, grey and white. RAL and custom color matches available.

Warranty
Five-year warranty.

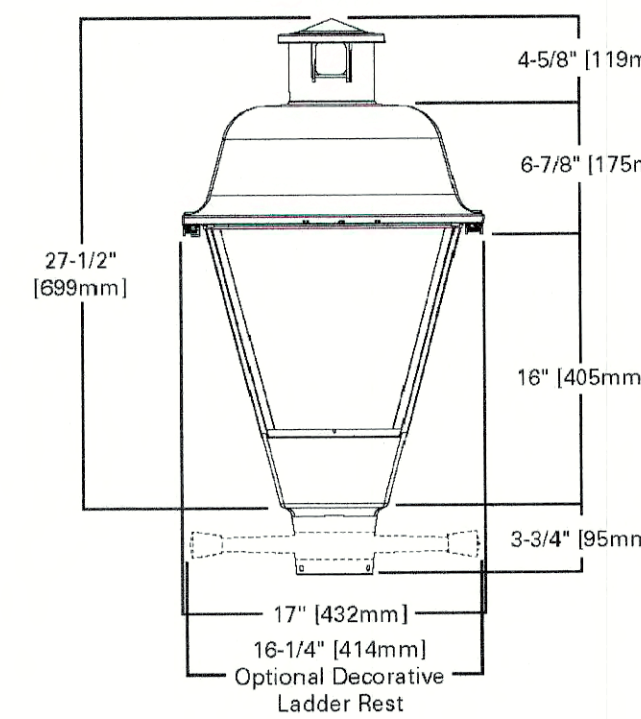


UTLD TRADITIONAIRE LED DOWNLIGHT

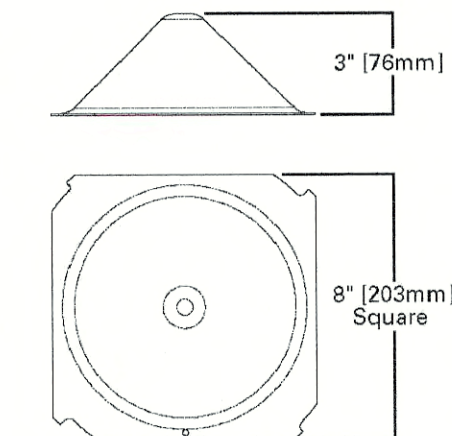
1 - 3 LightBARs
Solid State LED

DECORATIVE POST TOP LUMINAIRE

DIMENSIONS



OPTIONAL BIRD CONE



CERTIFICATION DATA
ULcUL Listed
LM79 / LM80 Compliant
3G Vibration Rated
IP66 LightBARs
ISO 9001

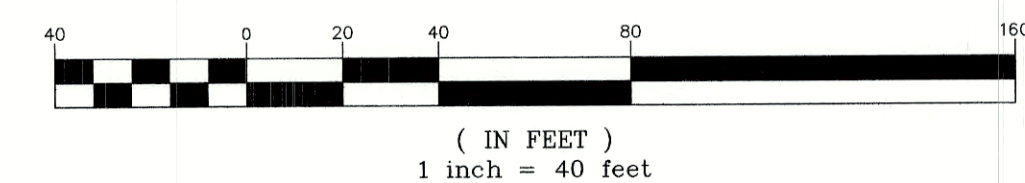
ENERGY DATA
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V/50 & 60Hz, 347V/60Hz, 480V/60Hz
-40°C Minimum Temperature
40°C Ambient Temperature Rating

EPA
Effective Projected Area: (Sq. Ft.)
2.3

SHIPPING DATA
Approximate Net Weight:
37 lbs. (17 kgs.)

Symbol	Qty	Label	Arrangement	Description
1	F4		SINGLE	UTLD-F02-LED-E-U-SL4/ MFD ON 12' POLE TBD
8	F3		SINGLE	UTLD-F02-LED-E-U-T3/ MFD ON A 12' POLE TBD

GRAPHIC SCALE



Design: JAC	Draft: LAZ	Date: 3/3/21
Checked: JAC	Scale: AS SHOWN	Project No.: 20737
Drawing Name: 20737-PLAN.dwg		
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REV.	DATE	REVISION	BY
5	5/5/21	REVISIONS	LAZ
4	3/18/21	ADDED DETAIL	LAZ
3	3/3/21	ADDED SURVEY INFO	LAZ
2	1/6/21	MINOR REVISIONS	DJM
1	11/23/20	REVISED PER CLIENT	DJM

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

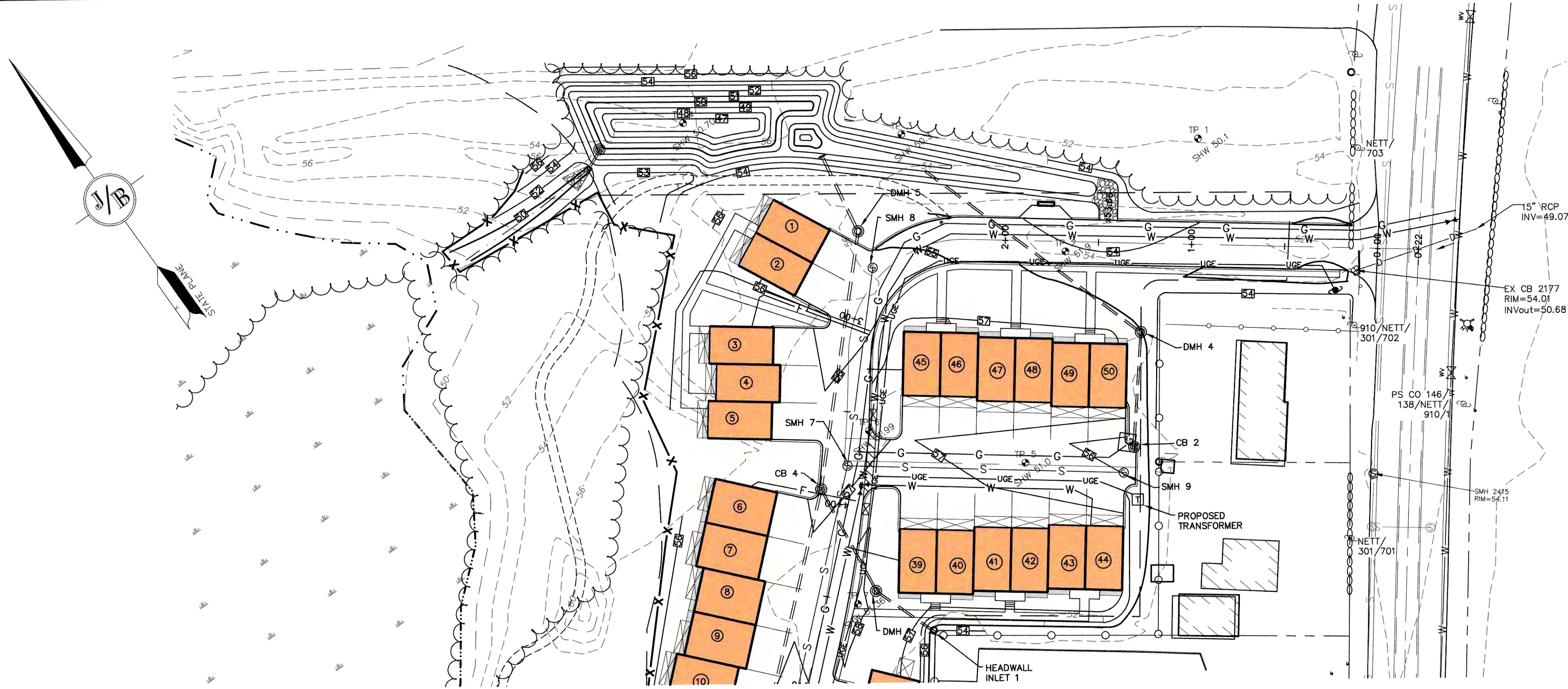
85 Portsmouth Ave. Civil Engineering Services 603-772-4746
PO Box 219 Stratham, NH 03885 FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	LIGHTING PLAN
Project:	3400 LAFAYETTE ROAD PORTSMOUTH, NH
Owner of Record:	RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229

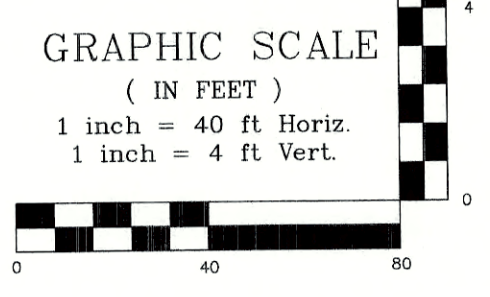
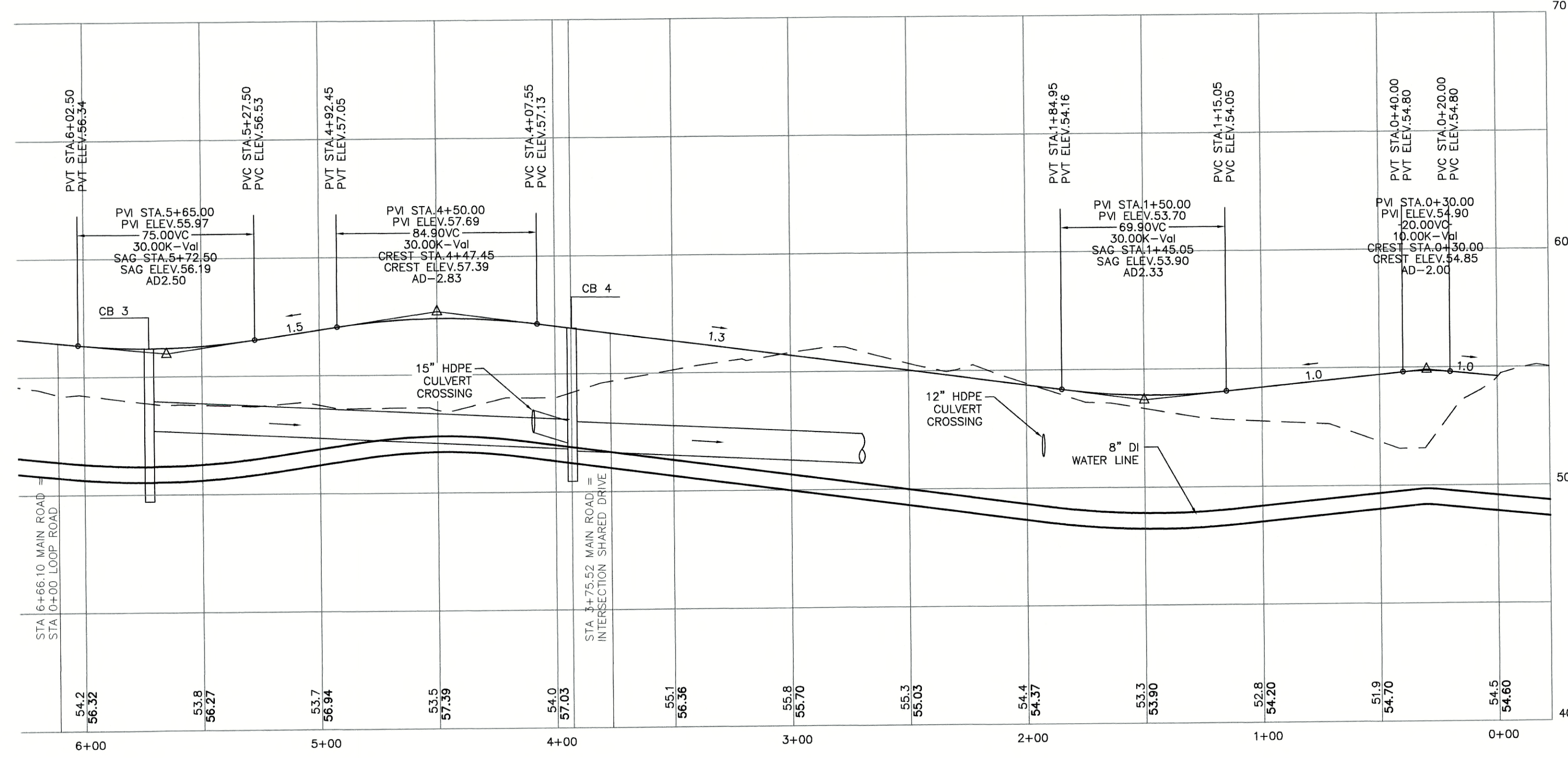
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L1

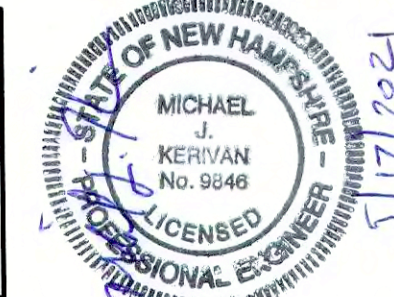
SHEET 11 OF 25
JBE PROJECT NO. 20737



- NOTES:**
- THIS SITE WILL REQUIRE A USEPA NPDES PERMIT FOR STORMWATER DISCHARGE FOR THE CONSTRUCTION SITE. THE CONSTRUCTION SITE OPERATOR SHALL DEVELOP AND IMPLEMENT A CONSTRUCTION STORM WATER POLLUTION PREVENTION PLAN (SWPPP), WHICH SHALL REMAIN ON SITE AND BE MADE ACCESSIBLE TO THE PUBLIC. THE CONSTRUCTION SITE OPERATOR SHALL SUBMIT A NOTICE OF INTENT (NOI) TO THE EPA REGIONAL OFFICE SEVEN DAYS PRIOR TO COMMENCEMENT OF ANY WORK ON SITE. EPA WILL POST THE NOI AT [HTTP://CFPUB1.EPA.GOV/NPDES/STORMWATER/NOI/NOISEARCH.CFM](http://cfpub1.epa.gov/npdes/stormwater/noi/noisearch.cfm). AUTHORIZATION IS GRANTED UNDER THE PERMIT ONCE THE NOI IS SHOWN "ACTIVE" STATUS ON THIS WEBSITE. A COMPLETED NOTICE OF TERMINATION SHALL BE SUBMITTED TO THE NPDES PERMITTING AUTHORITY WITHIN 30 DAYS AFTER EITHER OF THE FOLLOWING CONDITIONS HAVE BEEN MET:
 - FINAL STABILIZATION HAS BEEN ACHIEVED ON ALL PORTIONS OF THE SITE FOR WHICH THE PERMITTEE IS RESPONSIBLE; OR
 - ANOTHER OPERATOR/PERMITEE HAS ASSUMED CONTROL OVER ALL AREAS OF THE SITE THAT HAVE NOT BEEN FINALLY STABILIZED. PROVIDE DPW WITH A COPY OF THE NOTICE OF TERMINATION (NOT).
 - ALL ROAD AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR THE CITY, AND NHDOT SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WHICHEVER IS MORE STRINGENT.
 - AS-BUILT PLANS TO BE SUBMITTED TO THE CITY PRIOR TO ACCEPTANCE OF THE ROADWAY.
 - DEVELOPER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
 - CONTRACTOR TO COORDINATE AND COMPLETE ALL WORK REQUIRED FOR THE RELOCATION AND/OR INSTALLATION OF ELECTRIC, CATV, TELEPHONE, AND FIRE ALARM PER UTILITY DESIGN AND STANDARDS. LOCATIONS SHOWN ARE APPROXIMATE. LOW PROFILE STRUCTURES SHALL BE USED TO THE GREATEST EXTENT POSSIBLE.
 - THIS PLAN HAS BEEN PREPARED BY JONES & BEACH ENGINEERS, INC. FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA SHOWN ON THE DESIGN PLANS. THIS INCLUDES ANY UNFORESEEN SUBSURFACE OR OTHERWISE. FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS OF THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
 - SILTATION AND EROSION CONTROLS SHALL BE INSTALLED PRIOR TO CONSTRUCTION, SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN UNTIL SITE HAS BEEN STABILIZED WITH PERMANENT VEGETATION. SEE DETAIL SHEET E1 FOR ADDITIONAL NOTES ON EROSION CONTROL.
 - ALL DISTURBED AREAS NOT STABILIZED BY NOVEMBER 1st SHALL BE COVERED WITH AN EROSION CONTROL BLANKET. PRODUCT TO BE SPECIFIED BY THE ENGINEER.
 - FINAL DRAINAGE, GRADING AND EROSION PROTECTION MEASURES SHALL CONFORM TO REGULATIONS OF THE PUBLIC WORKS DEPARTMENT.
 - CONTRACTOR TO VERIFY EXISTING UTILITIES AND TO NOTIFY ENGINEER OF ANY DISCREPANCY IMMEDIATELY.
 - ROADWAY INTERSECTIONS WITH SLOPE GRANITE CURB SHALL EXTEND AROUND RADIUS WITH 6' STRAIGHT PIECE ALONG TANGENT.
 - 6" PERFORATED ADS UNDER DRAIN PLACEMENT TO BE DETERMINED BY THE ENGINEER DURING TIME OF SUBGRADE INSPECTION. CONTRACTOR TO ADJUST LOCATION IN THE FIELD ONLY WITH PRIOR APPROVAL OF PROJECT ENGINEER OR PUBLIC WORKS DEPARTMENT. CONTRACTOR TO INCLUDE 3000 LF IN BID PRICE.
 - ALL DRIVEWAYS TO BE CONSTRUCTED MAXIMUM 10% SLOPE. SEE DETAIL SHEET.
 - ENGINEER TO INSTALL PERMANENT BENCHMARK (REINFORCED GRANITE MARKER) AT LOCATIONS SHOWN ON PLANS. BENCH MARKS TO BE TIED TO STATE PLANE COORDINATE SYSTEM.
 - DRAINAGE INSPECTION AND MAINTENANCE SCHEDULE: ORGANIC FILTER BERM WILL BE INSPECTED DURING AND AFTER STORM EVENTS TO ENSURE THAT THE BERM STILL HAS INTEGRITY AND IS NOT ALLOWING SEDIMENT TO PASS. SEMI-ANNUALLY, AS WELL AS FROM CATCH BASINS, FOLLOWING MAJOR STORM EVENTS, THE STAGE DISCHARGE OUTLET STRUCTURES ARE TO BE INSPECTED AND ANY DEBRIS REMOVED FROM THE ORIFICE, TRASH TRACK AND EMERGENCY SPILL WAY. INFREQUENTLY, SEDIMENT MAY ALSO HAVE TO BE REMOVED FROM THE SUMP OF THE STRUCTURE.
 - ALL DRAINAGE INFRASTRUCTURE SHALL BE INSTALLED AND STABILIZED PRIOR TO DIRECTING ANY RUNOFF TO IT.
 - DETENTION PONDS REQUIRE TIMELY MAINTENANCE AND SHOULD BE INSPECTED AFTER EVERY MAJOR STORM EVENT, AS WELL AS FREQUENTLY DURING THE FIRST YEAR OF OPERATION, AND ANNUALLY THEREAFTER. EVERY FIVE YEARS, THE SERVICES OF A PROFESSIONAL ENGINEER SHOULD BE RETAINED TO PERFORM A THOROUGH INSPECTION OF THE DETENTION POND AND ITS INFRASTRUCTURE. ANY DEBRIS AND SEDIMENT ACCUMULATIONS SHOULD BE REMOVED FROM THE OUTLET STRUCTURE(S) AND EMERGENCY SPILLWAY(S) AND DISPOSED OF PROPERLY. DETENTION POND BERMS SHOULD BE MOWED AT LEAST ONCE ANNUALLY SO AS TO PREVENT THE ESTABLISHMENT OF WOODY VEGETATION. TREES SHOULD NEVER BE ALLOWED TO GROW ON A DETENTION POND BERM, AS THEY MAY DESTABILIZE THE STRUCTURE AND INCREASE THE POTENTIAL FOR FAILURE. AREAS SHOWING SIGNS OF EROSION OR THIN OR DYING VEGETATION SHOULD BE REPAIRED IMMEDIATELY BY WHATEVER MEANS NECESSARY. WITH THE EXCEPTION OF FERTILIZER, RODENT BORROWS SHOULD BE REPAIRED IMMEDIATELY AND THE ANIMALS SHOULD BE TRAPPED AND RELOCATED IF THE PROBLEM PERSISTS.
 - THE DETENTION PONDS ARE TO BE CONSTRUCTED PRIMARILY THROUGH EXCAVATION. IN THOSE AREAS WHERE THE BERMS MUST BE CONSTRUCTED BY THE PLACEMENT OF FILL, THE ENTIRE EMBANKMENT AREA OF THE DETENTION PONDS SHALL BE EXCAVATED TO PROPOSED GRADE, STRIPPED OF ALL ORGANIC MATERIALS, COMPACTED TO AT LEAST 95% AND SCARIFIED PRIOR TO THE PLACEMENT OF THE EMBANKMENT MATERIAL. IN THE EVENT THE FOUNDATION MATERIAL EXPOSED DOES NOT ALLOW THE SPECIFIED COMPACTION, AN ADDITIONAL ONE FOOT (1') OF EXCAVATION AND THE PLACEMENT OF A ONE FOOT (1') THICK, TWELVE FOOT (12') WIDE PAD OF THE MATERIAL DESCRIBED IN THE NOTE BELOW, COMPACTED TO 95% OF ASTM D-1557 MAY BE NECESSARY. PLACEMENT AND COMPACTION SHOULD OCCUR AT A MOISTURE CONTENT OF OPTIMUM PLUS OR MINUS 3%, AND NO FROZEN OR ORGANIC MATERIAL SHOULD BE PLACED WITHIN FOR ANY REASON.
 - EMBANKMENT MATERIAL FOR THE BERMS SHALL BE CLEAN MINERAL SOIL WITH A CLAY COMPONENT FREE OF ROOTS, ORGANIC MATTER, AND OTHER DELETERIOUS SUBSTANCES, AND SHALL CONTAIN NO ROCKS OR LUMPS OVER FOUR INCHES (4") IN DIAMETER. THIS MATERIAL SHOULD BE INSTALLED IN 6" LIFTS AND COMPACTED TO 95% OS ASTM D-1557, AND SHOULD MEET THE FOLLOWING SPECIFICATIONS: 4" PASSING 100%, #4 SIEVE 25-70%, #200 SIEVE 10-29% (IN TOTAL SAMPLE).
 - EMBANKMENT IS TO HAVE 3:1 SIDE SLOPES (MAX.) AND IS TO BE BROUGHT TO SPECIFIED GRADES PRIOR TO THE ADDITION OF LOAM (4" MINIMUM) SO AS TO ALLOW FOR THE COMPACTION OF THE STRUCTURE OVER TIME WHILE MAINTAINING THE PROPER BERM ELEVATION.
 - COMPACTION TESTING SERVICES (I.E. NUCLEAR DENSITY TESTS) ARE TO BE PERFORMED BY AN INDEPENDENT GEOTECHNICAL ENGINEER RETAINED BY THE CONTRACTOR FOR ROADWAY CONSTRUCTION, AND ON THE FOUNDATION OF THE BERM AND ON EVERY LIFT OF NEWLY PLACED MATERIAL.
 - ORNAMENTAL STREET LIGHTING SHALL BE PRIVATELY OWNED AND MAINTAINED BY THE HOME OWNER'S ASSOCIATION. LIGHTING SHALL NOT TO BE OWNED OR MAINTAINED BY THE CITY.
 - SLOPED GRANITE CURB TO BE TIPPED DOWN AT ALL DRIVEWAY ENTRANCES BY THE CONTRACTOR. ALL DRIVEWAY LOCATIONS SHALL BE REVIEWED AND APPROVED BY PUBLIC WORKS PRIOR TO ISSUANCE OF BUILDING PERMIT.



Design: JAC Draft: LAZ Date: 3/3/21
 Checked: JAC Scale: AS SHOWN Project No.: 20737
 Drawing Name: 20737-PLAN.dwg
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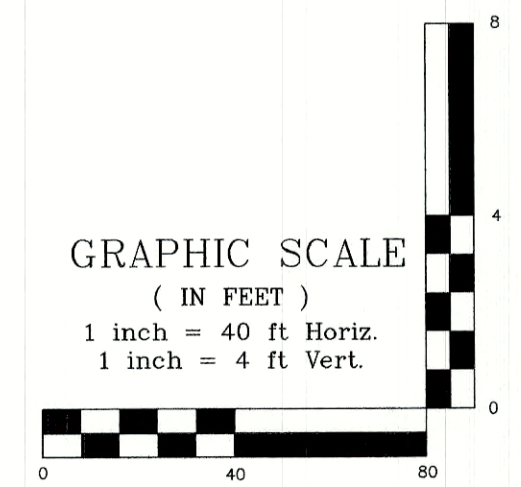
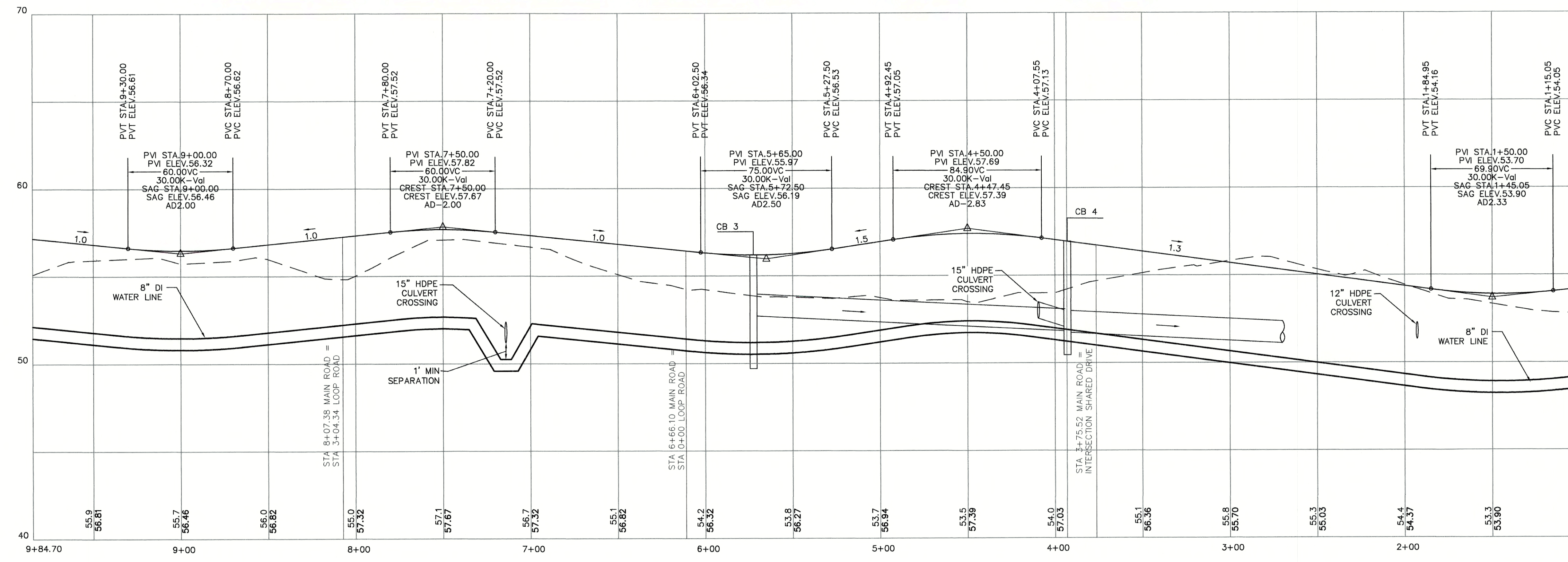
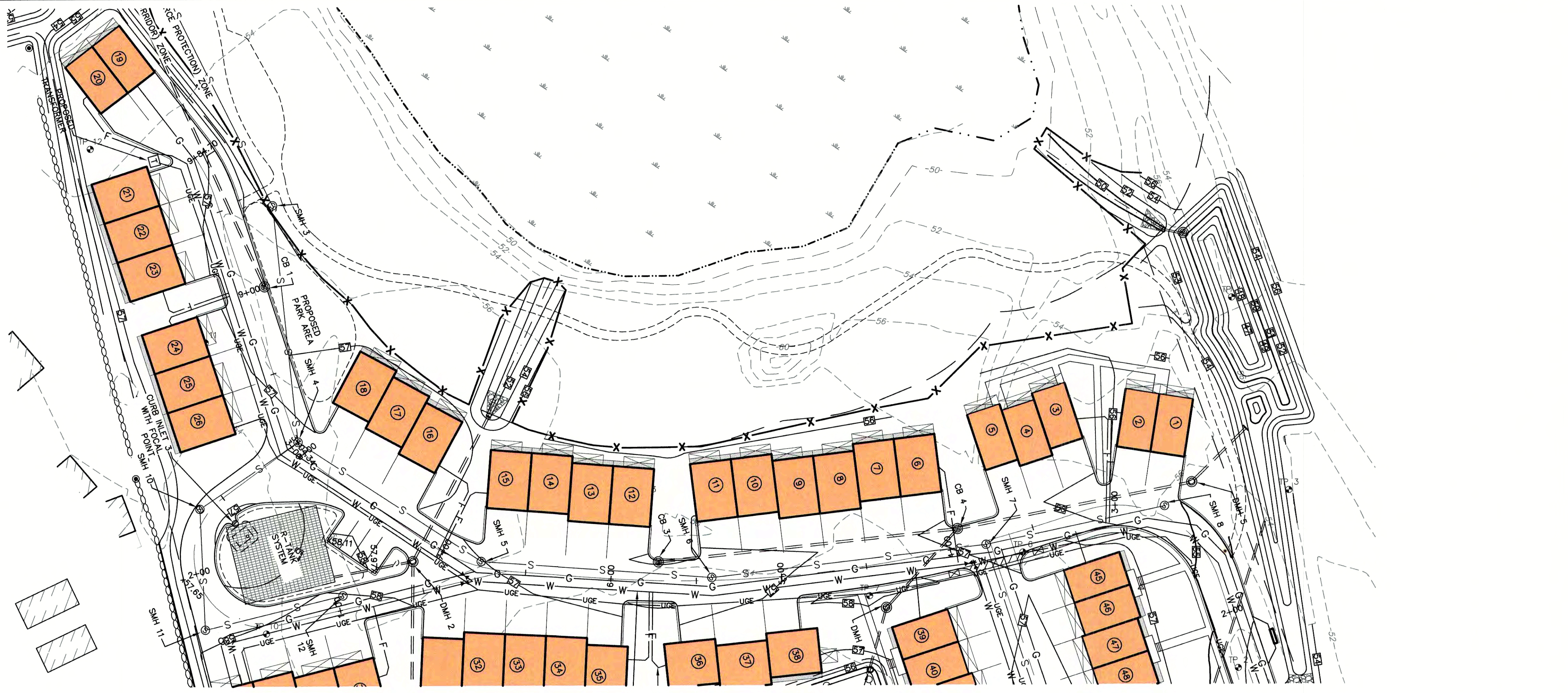
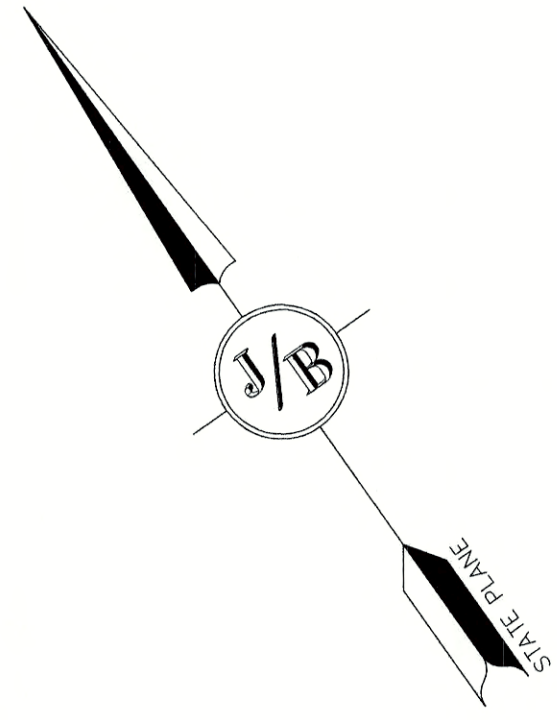


REV.	DATE	REVISION	BY
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4	3/18/21	ADDED DETAIL	LAZ
3	3/3/21	ADDED SURVEY INFO	LAZ
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1	11/23/20	REVISED PER CLIENT	DJM

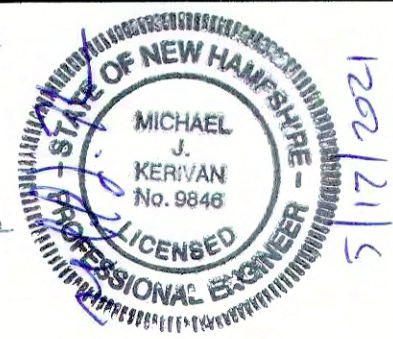
Designed and Produced in NH
J/B Jones & Beach Engineers, Inc.
 Civil Engineering Services
 85 Portsmouth Ave. PO Box 219 Stratham, NH 03885
 603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: **PLAN AND PROFILE**
 Project: **3400 LAFAYETTE ROAD PORTSMOUTH, NH**
 Owner of Record: **RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229**

DRAWING No. **P1**
 SHEET 12 OF 25
 JBE PROJECT NO. 20737



Design: JAC Draft: LAZ Date: 3/3/21
 Checked: JAC Scale: AS SHOWN Project No.: 20737
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REV.	DATE	REVISION	BY

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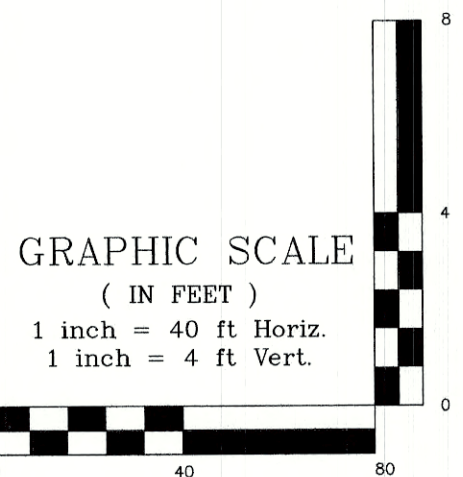
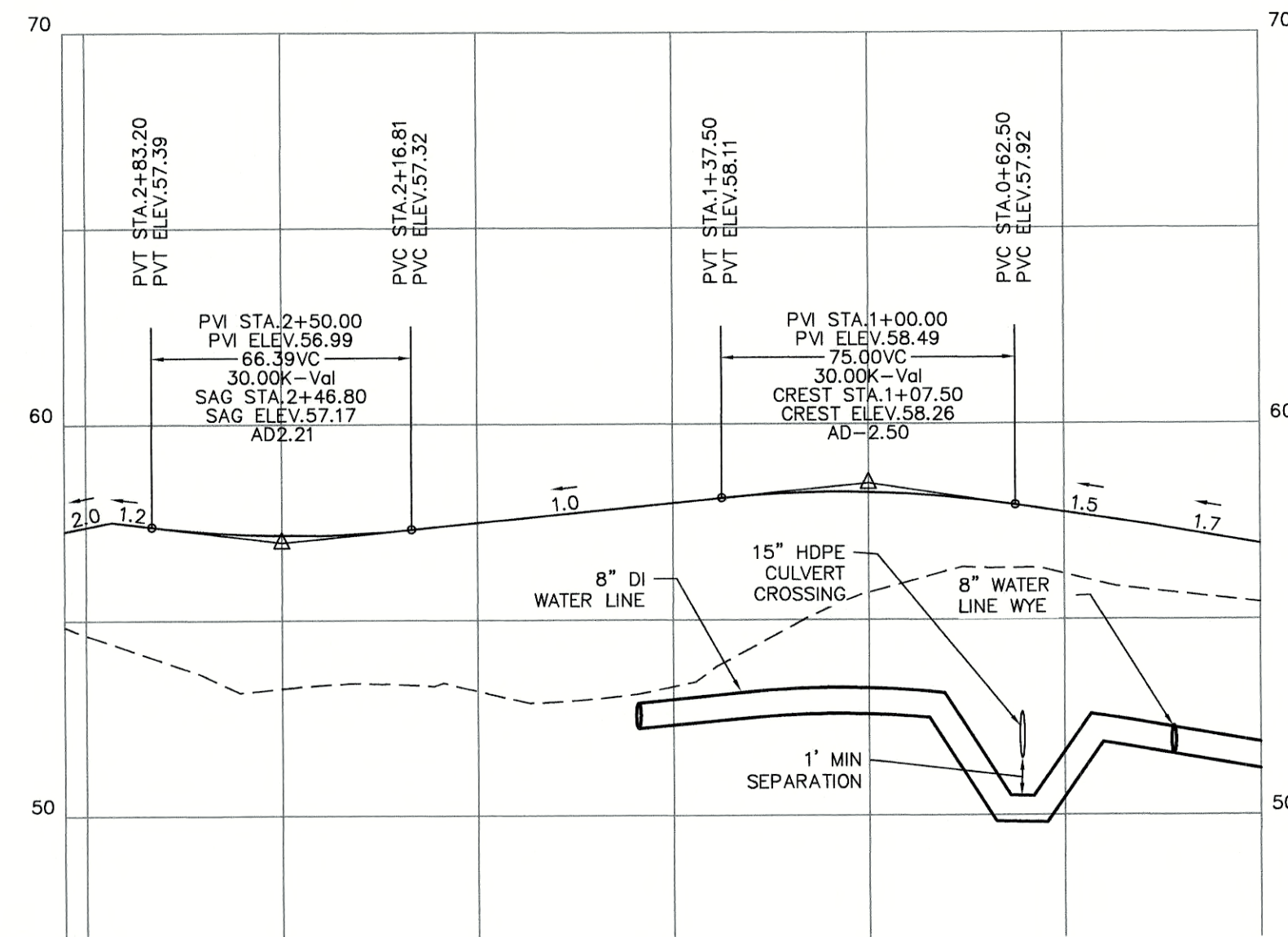
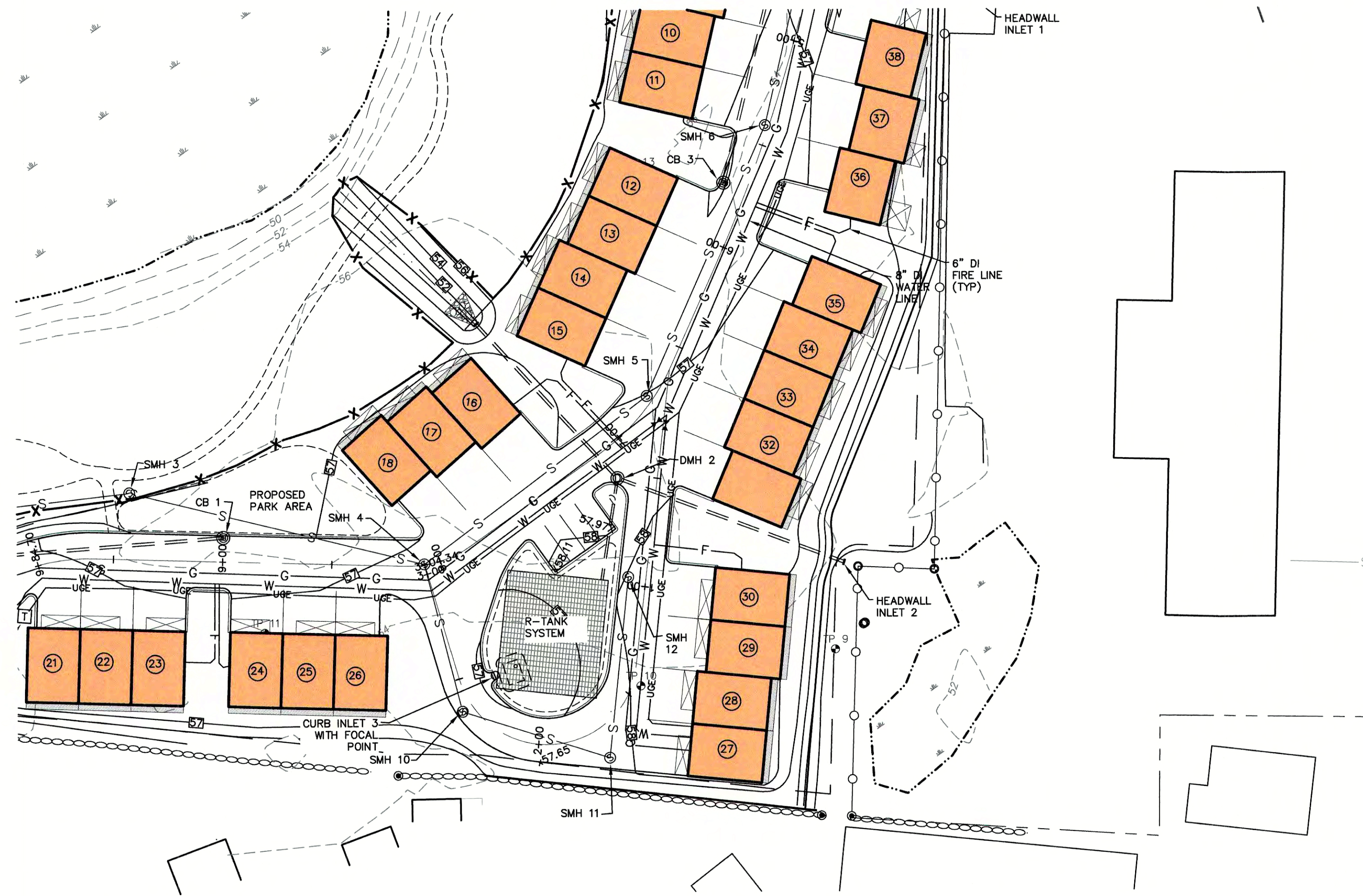
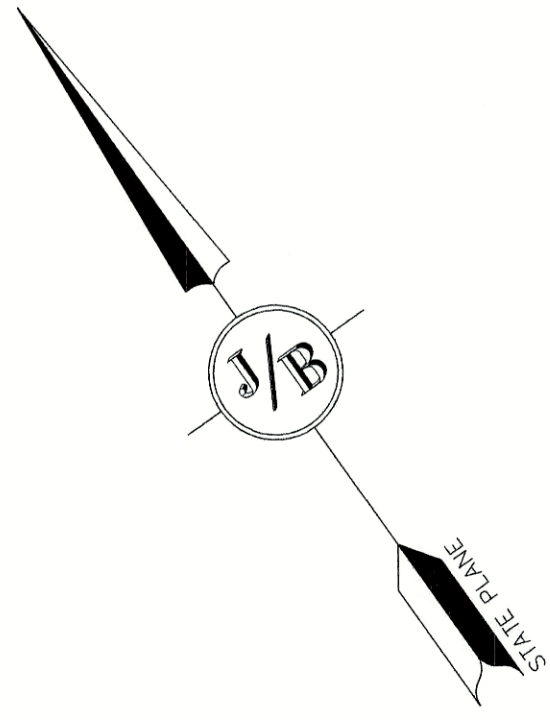
J/B Jones & Beach Engineers, Inc.
Civil Engineering Services

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885

603-772-4746
 FAX: 603-772-0227
 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: **PLAN AND PROFILE**
 Project: **3400 LAFAYETTE ROAD PORTSMOUTH, NH**
 Owner of Record: **RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229**

DRAWING No. **P2**
 SHEET 13 OF 25
 JBE PROJECT NO. 20737



Design: JAC Draft: LAZ Date: 3/3/21
 Checked: JAC Scale: AS SHOWN Project No.: 20737
 Drawing Name: 20737-PLAN.dwg
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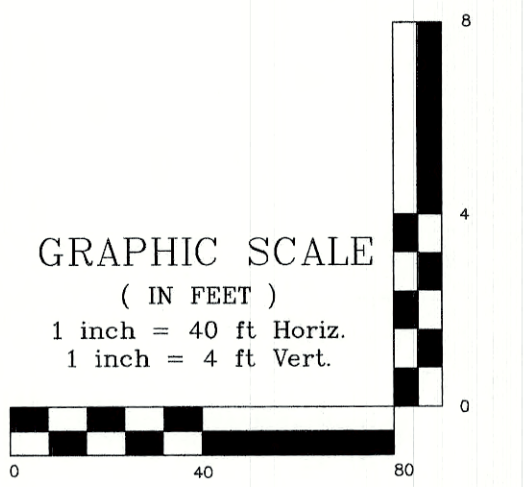
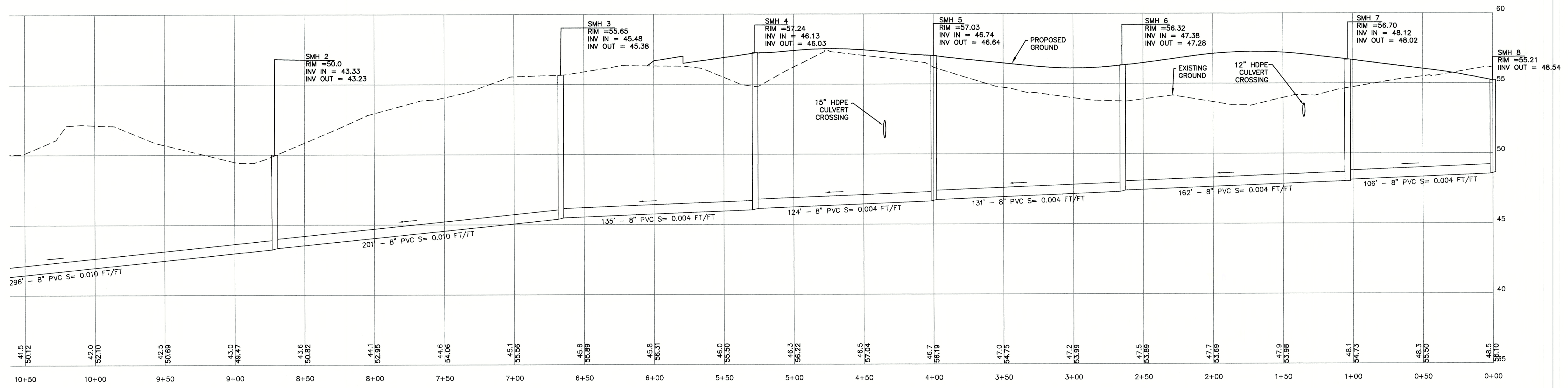


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3	3/3/21	ADDED SURVEY INFO	LAZ
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		REVISION	

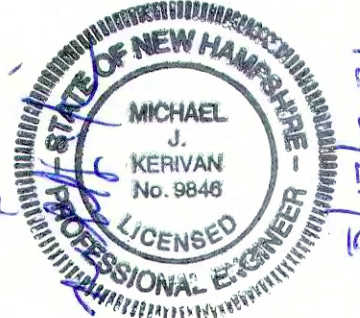
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Plan Name: **PLAN AND PROFILE**
 Project: **3400 LAFAYETTE ROAD PORTSMOUTH, NH**
 Owner of Record: **RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229**

DRAWING No. **P3**
 SHEET 14 OF 25
 JBE PROJECT NO. 20737



Design: JAC Draft: LAZ Date: 3/3/21
 Checked: JAC Scale: AS SHOWN Project No.: 20737
 Drawing Name: 20737-PLAN.dwg
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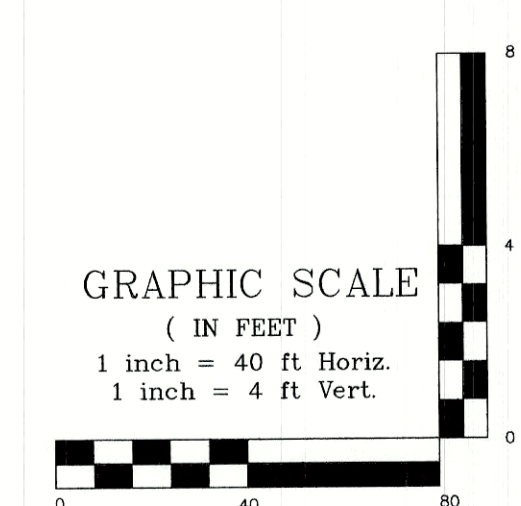
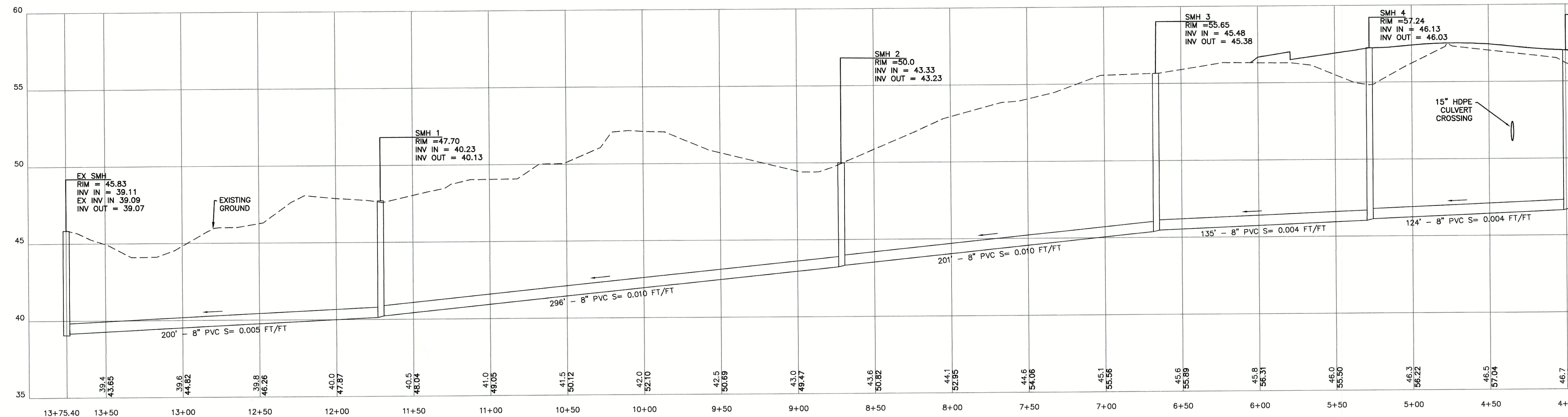
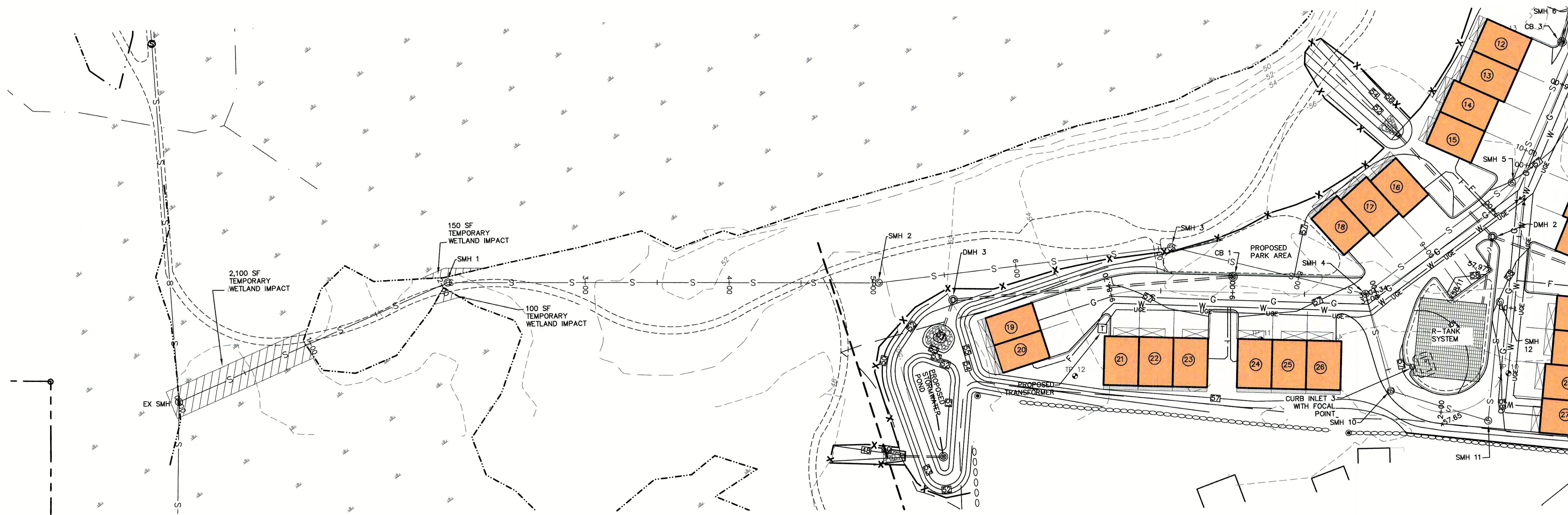


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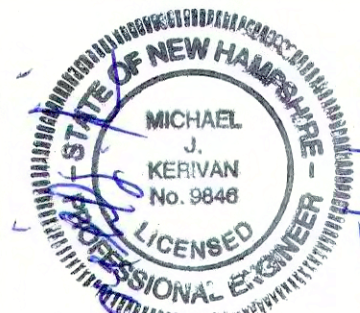
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Plan Name: **SEWER PROFILE**
 Project: **3400 LAFAYETTE ROAD PORTSMOUTH, NH**
 Owner of Record: **RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229**

DRAWING No. **P4**
 SHEET 15 OF 25
 JBE PROJECT NO. 20737



Design: JAC | Draft: LAZ | Date: 3/3/21
 Checked: JAC | Scale: AS SHOWN | Project No.: 20737
 Drawing Name: 20737-PLAN.dwg
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REV.	DATE	REVISION	BY

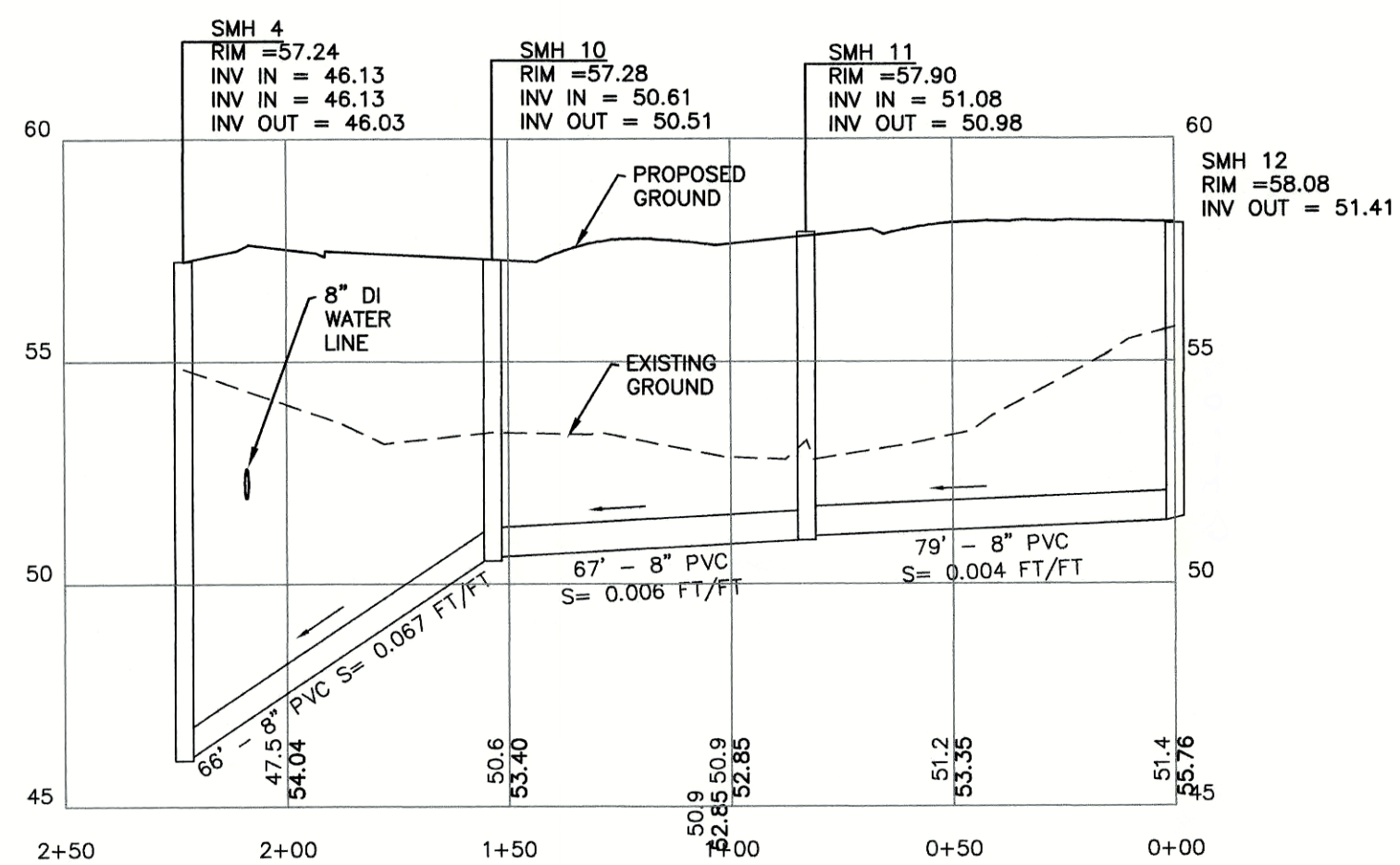
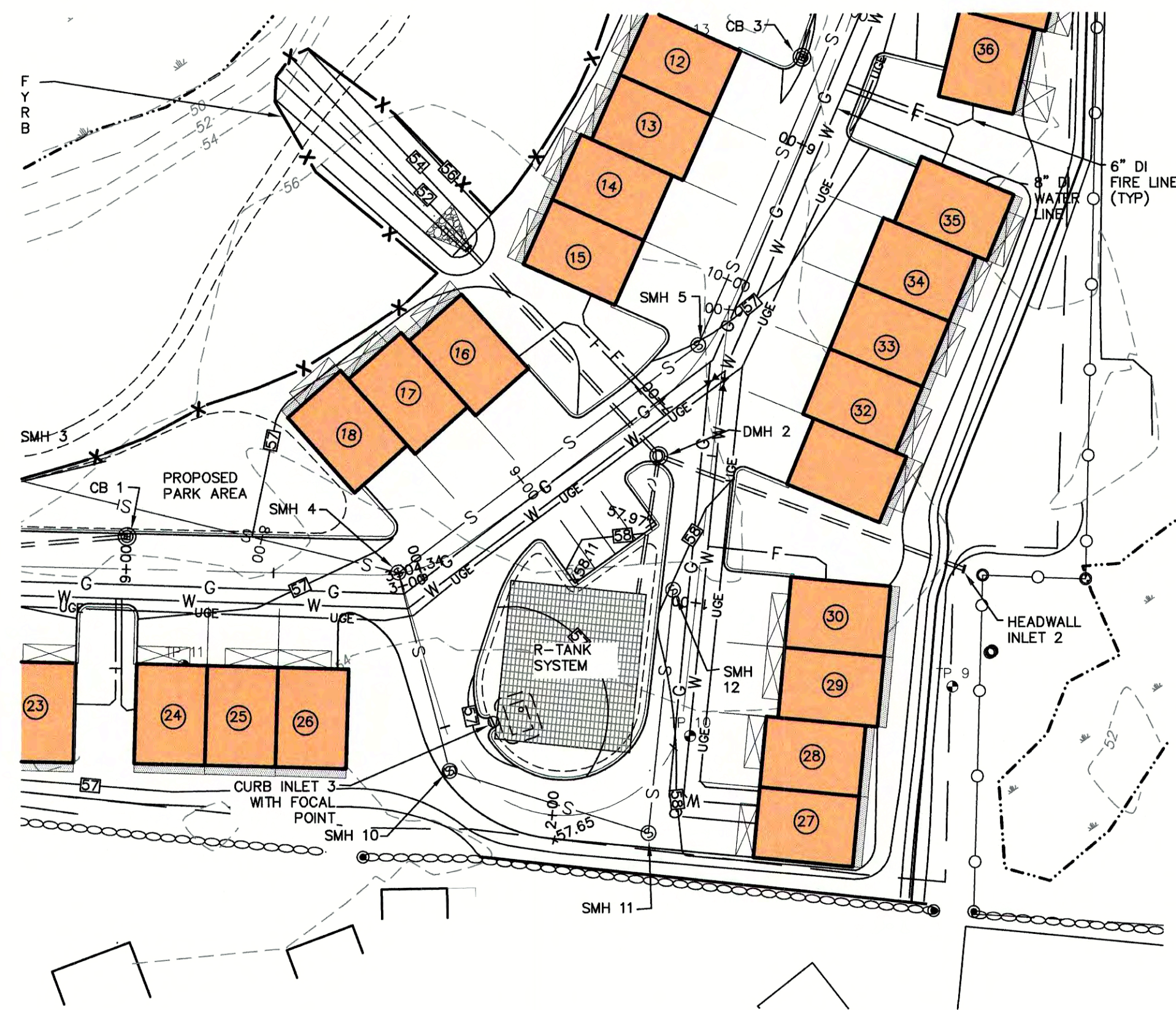
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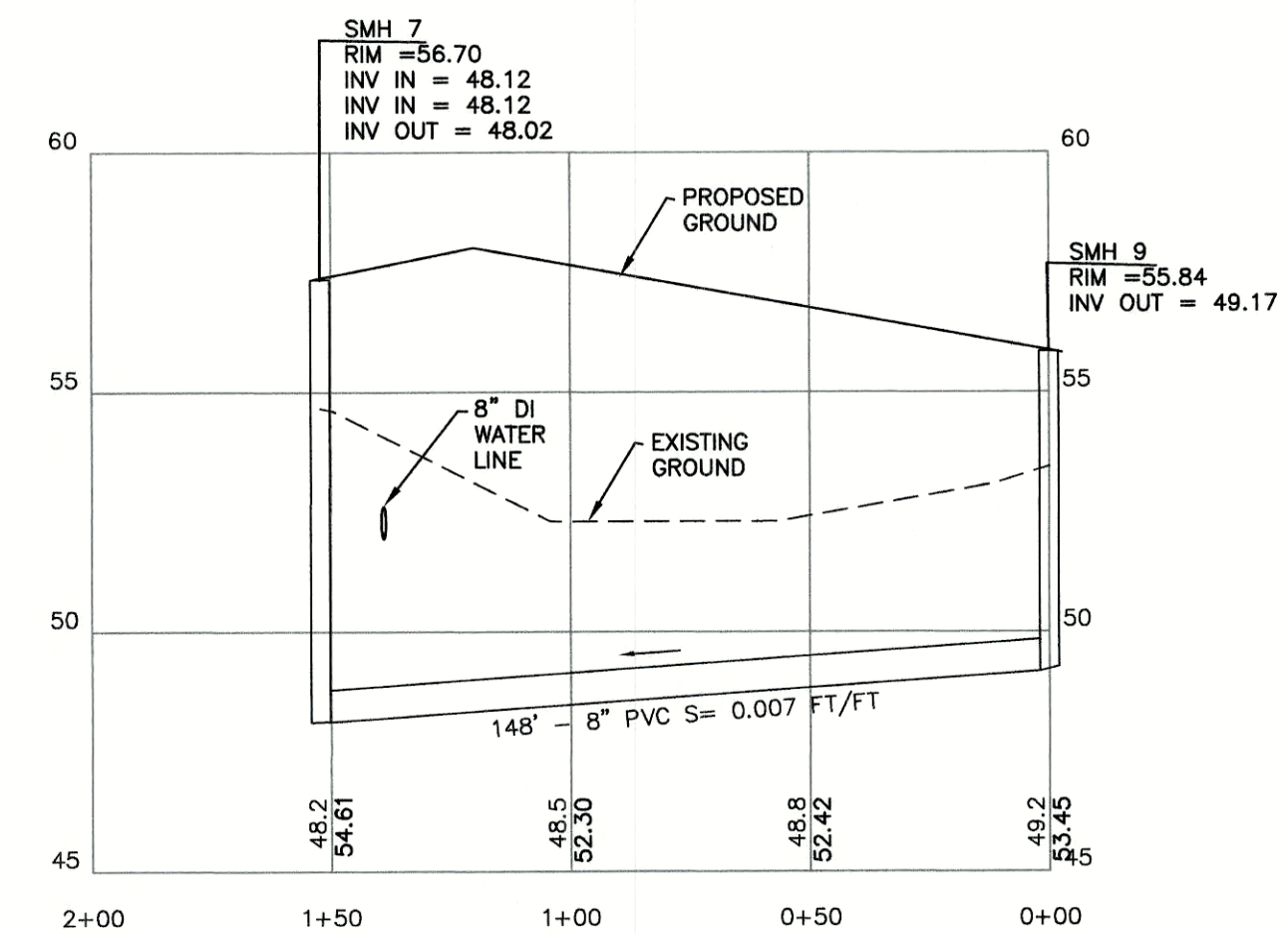
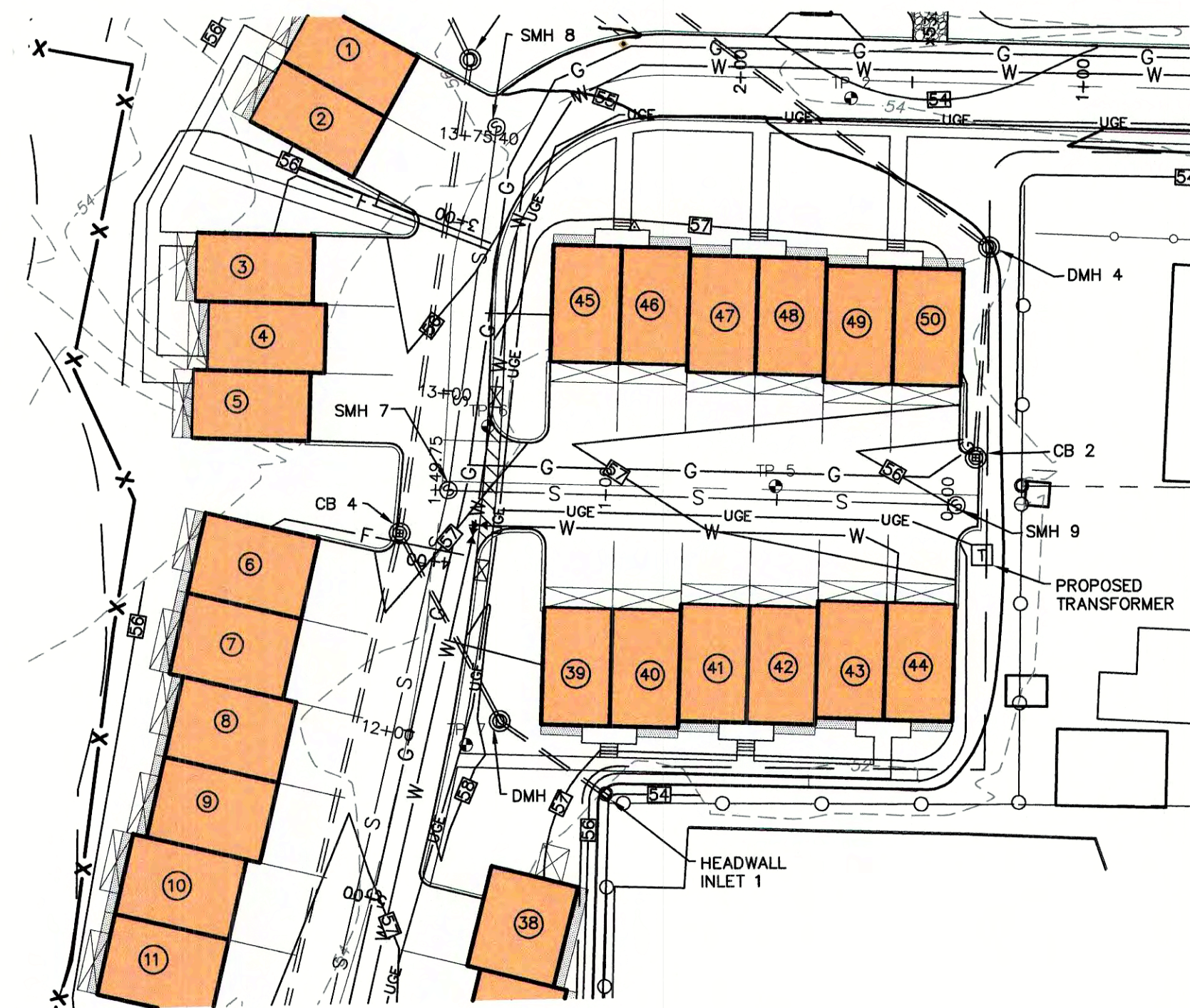
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Plan Name: **SEWER PROFILE**
 Project: **3400 LAFAYETTE ROAD PORTSMOUTH, NH**
 Owner of Record: **RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229**

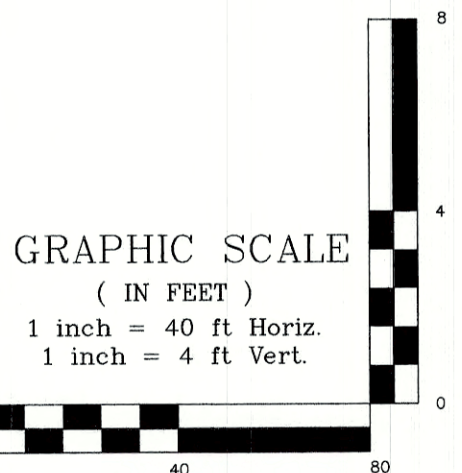
DRAWING No. **P5**
 SHEET 16 OF 25
 JBE PROJECT NO. 20737



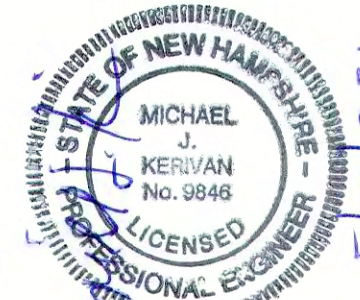
LOOP ROAD



SHARED DRIVEWAY



Design: JAC Draft: LAZ Date: 3/3/21
 Checked: JAC Scale: AS SHOWN Project No.: 20737
 Drawing Name: 20737-PLAN.dwg
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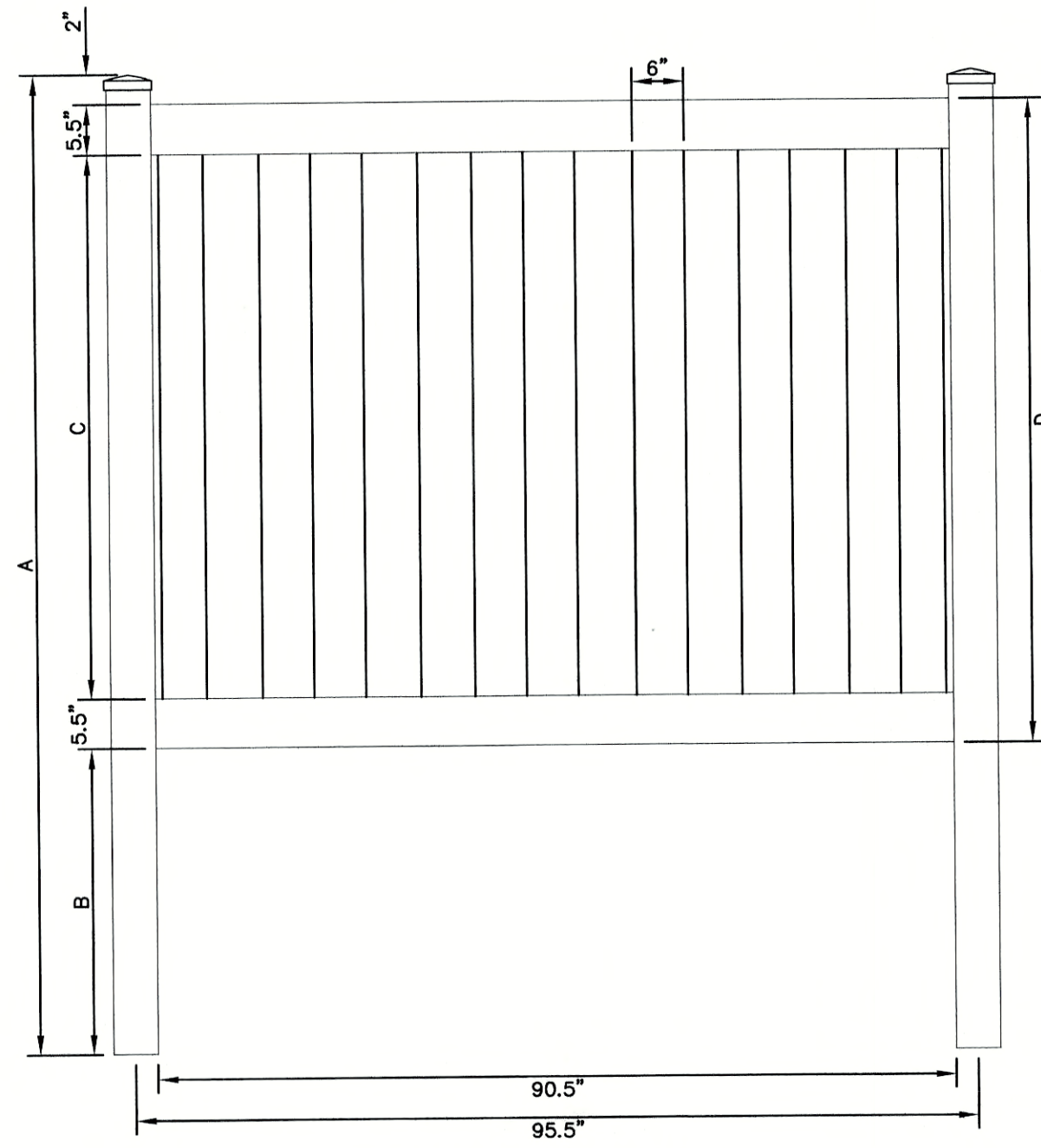


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Plan Name: **SEWER PROFILE**
 Project: **3400 LAFAYETTE ROAD PORTSMOUTH, NH**
 Owner of Record: **RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229**

DRAWING No. **P5**
 SHEET 17 OF 25
 JBE PROJECT NO. 20737



FRONT ELEVATION

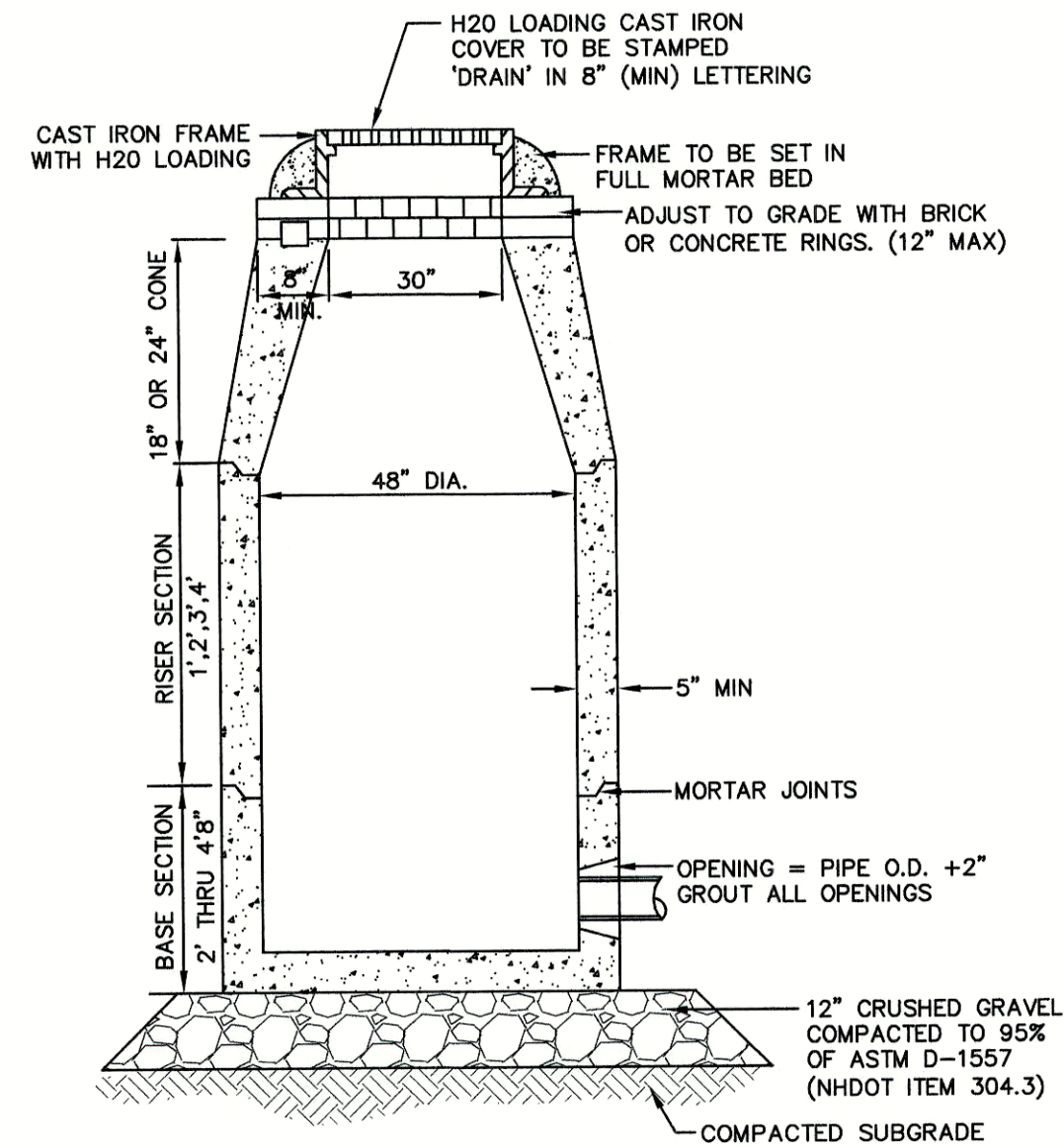
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H(FT)	INCHES	H(FT)	INCHES	H(FT)	INCHES	H(FT)	INCHES	
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4	84	4	34	4	37	4	48	
5	96	5	34	5	49	5	60	
6	108	6	34	6	61	6	72	

NOTES:

- CONTRACTOR TO PROVIDE FENCE SPEC TO ENGINEER FOR REVIEW PRIOR TO INSTALLATION.
- VINYL FENCE SHALL MEET ASTM F964-09 STANDARDS.

6' VINYL STOCKADE FENCE

NOT TO SCALE

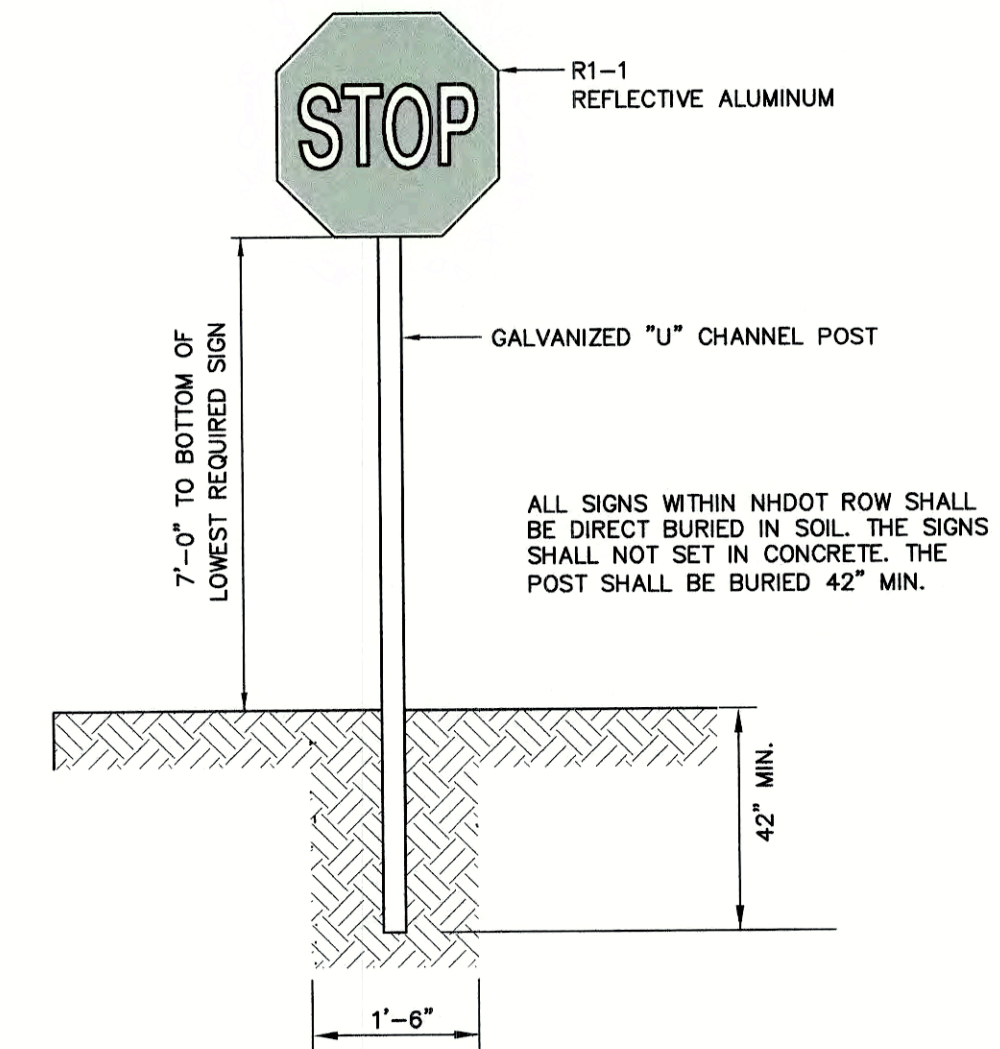


NOTES:

- BASE SECTION SHALL BE MONOLITHIC WITH 48" INSIDE DIAMETER.
- ALL SECTIONS SHALL BE DESIGNED FOR H2O LOADING.
- CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI, TYPE II CEMENT.
- FRAMES AND GRATES SHALL BE HEAVY DUTY AND DESIGNED FOR H2O LOADING.
- PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS SO AS TO BE WATERTIGHT.
- JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE BUTYL RUBBER.
- ALL DRAIN MANHOLE FRAMES AND GRATES SHALL BE NHDOT TYPE MH-1, OR NEENAH R-1798 OR APPROVED EQUAL (30" DIA. TYPICAL).
- STANDARD FRAME(S) AND GRATE(S) SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM, BUT NO MORE THAN 12"), OR PRECAST CONCRETE 'DONUTS'.

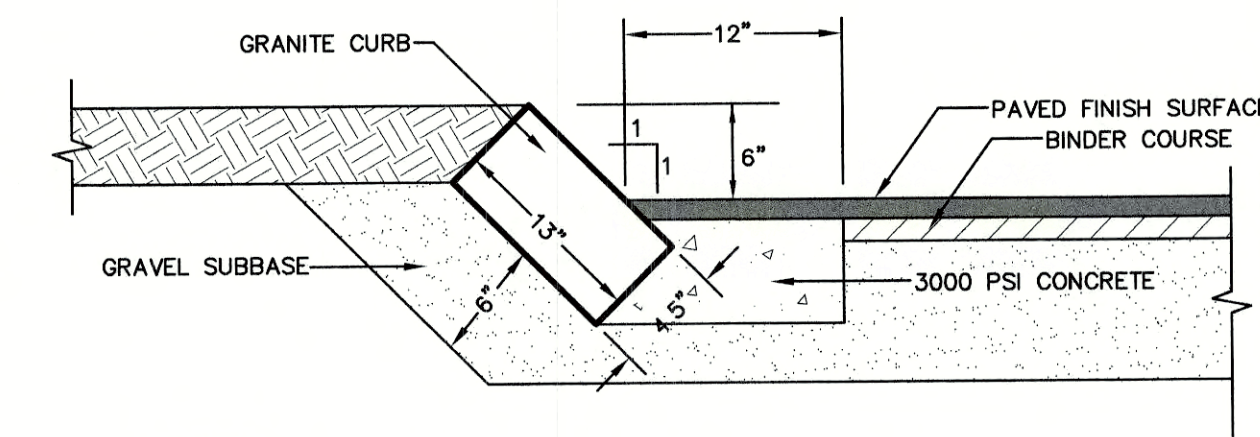
DRAIN MANHOLE

NOT TO SCALE



STOP SIGN (R1-1)

NOT TO SCALE

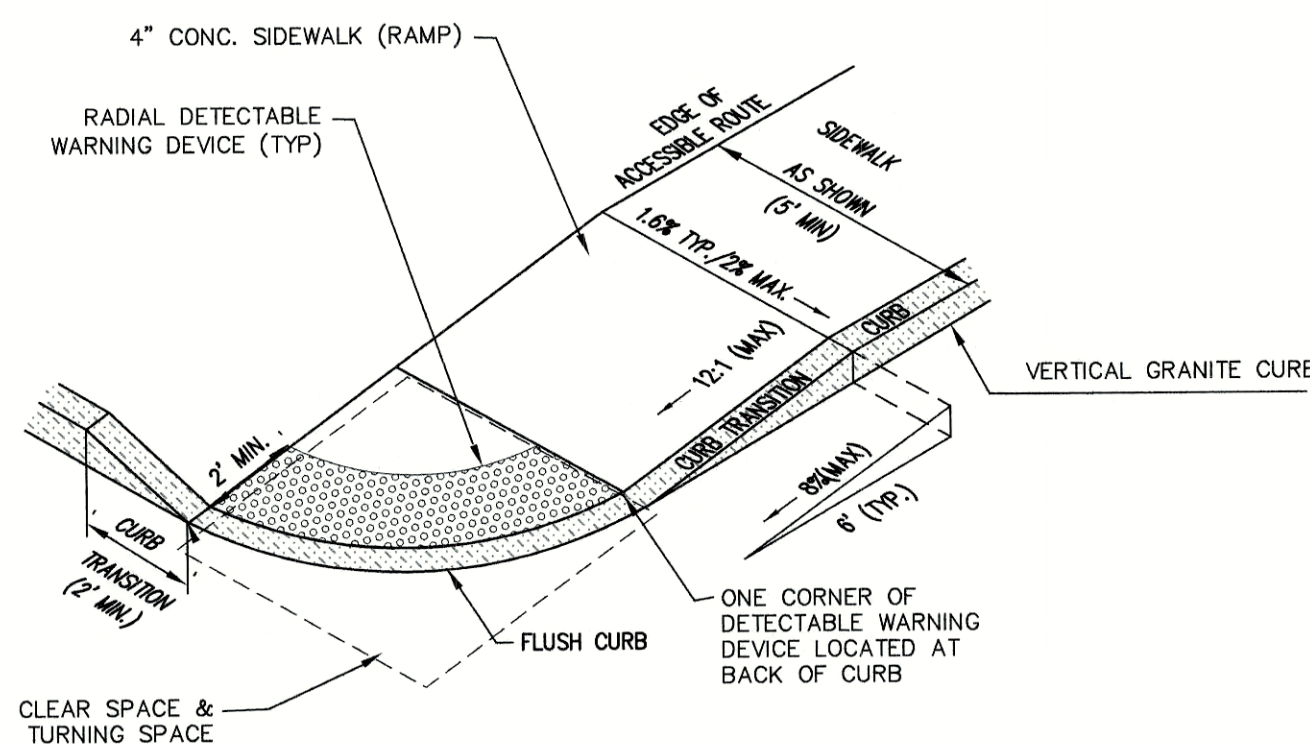


NOTES:

- CURB TO BE PLACED PRIOR TO PLACING TOP SURFACE COURSE.
- JOINTS BETWEEN STONES SHALL BE MORTARED.

SLOPED GRANITE CURB

NOT TO SCALE

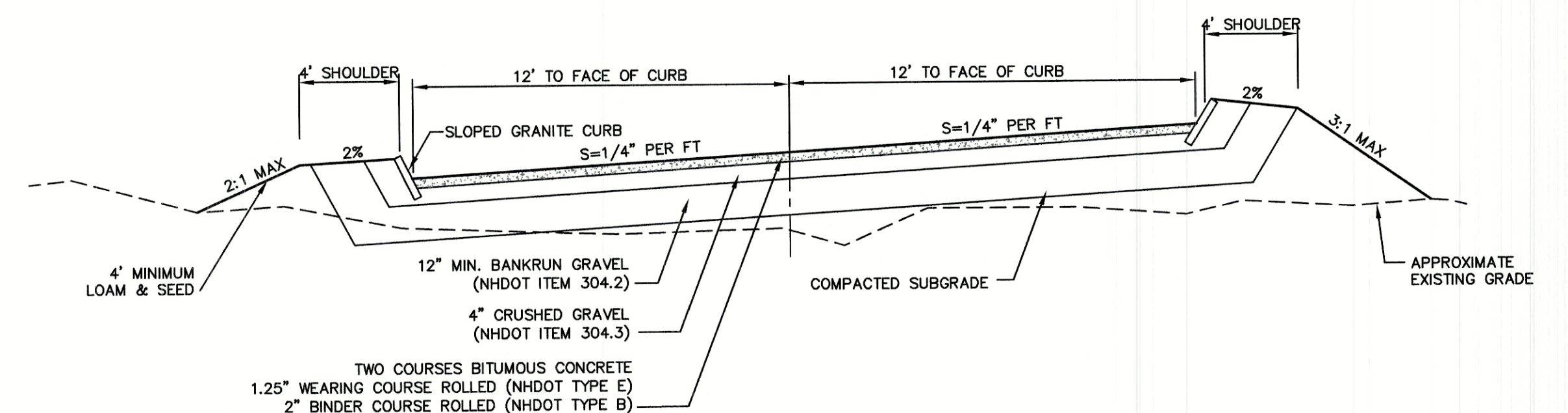


ACCESSIBLE CURB RAMP (NHDOT OPTION 3)

NOT TO SCALE

NOTES:

- THE MAXIMUM ALLOWABLE CROSS SLOPE OF ACCESSIBLE ROUTE (SIDEWALK) AND CURB SHALL BE 1.5%.
- THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
- THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE (SIDEWALK) CURB RAMPS SHALL BE 8.3%.
- A MINIMUM OF 4 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (i.e., HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC.).
- CURB TREATMENT VARIES. SEE PLANS FOR CURB TYPE.
- BASE OF RAMP SHALL BE GRADED TO PREVENT PONDING.
- SEE TYPICAL SECTION FOR RAMP CONSTRUCTION.
- WHERE A CHANGE IN DIRECTION IS REQUIRED TO UTILIZE A CURB RAMP, A TURNING SPACE SHALL BE PROVIDED AT THE BASE AND/OR THE TOP OF THE CURB RAMP. TURNING SPACES SHALL BE PERMITTED TO OVERLAP CLEAR SPACES.
- TURNING SPACE MAXIMUM CROSS SLOPE IS 2% IN ANY DIRECTION.
- BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4'x4' MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN CROSSWALK, AND OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE. THE CLEAR SPACE MAY OVERLAP TURNING SPACES, DETECTABLE WARNING SURFACES AND DROP CURBS.



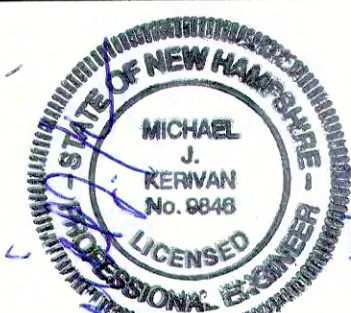
NOTES:

- REMOVE ALL ORGANICS, TOPSOIL AND MATERIAL YIELDING TO A 10 TON ROLLER. SUBBASE AREAS THAT CONTAIN UNSUITABLE MATERIALS MUST BE EXCAVATED TO A DEPTH NO LESS THAN 36" BELOW FINISH GRADE AND BE REPLACED WITH GRAVEL COMPACTED TO 95%.
- ALL MATERIALS TO BE AS SPECIFIED PER TOWN STANDARDS AND NHDOT, WHICHEVER IS MOST STRINGENT. GRADATION AND COMPACTION TEST RESULTS (95% MIN.) SHALL BE SUBMITTED FOR REVIEW AND APPROVAL.
- TOWN MAY REQUIRE UNDERDRAIN AND/OR ADDITIONAL DRAINAGE IF SOIL CONDITIONS WARRANT.

TYPICAL ROADWAY SECTION W/CURBING

NOT TO SCALE

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Checked: JAC	Scale: AS NOTED	Project No.: 20737
Drawing Name: 20737-PLAN.dwg		
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5	5/5/21	REVISIONS	LAZ
4	3/18/21	ADDED DETAIL	LAZ
3	3/3/21	ADDED SURVEY INFO	LAZ
2	1/6/21	MINOR REVISIONS	DJM
1	11/23/20	REVISED PER CLIENT	DJM
REV.	DATE	REVISION	BY

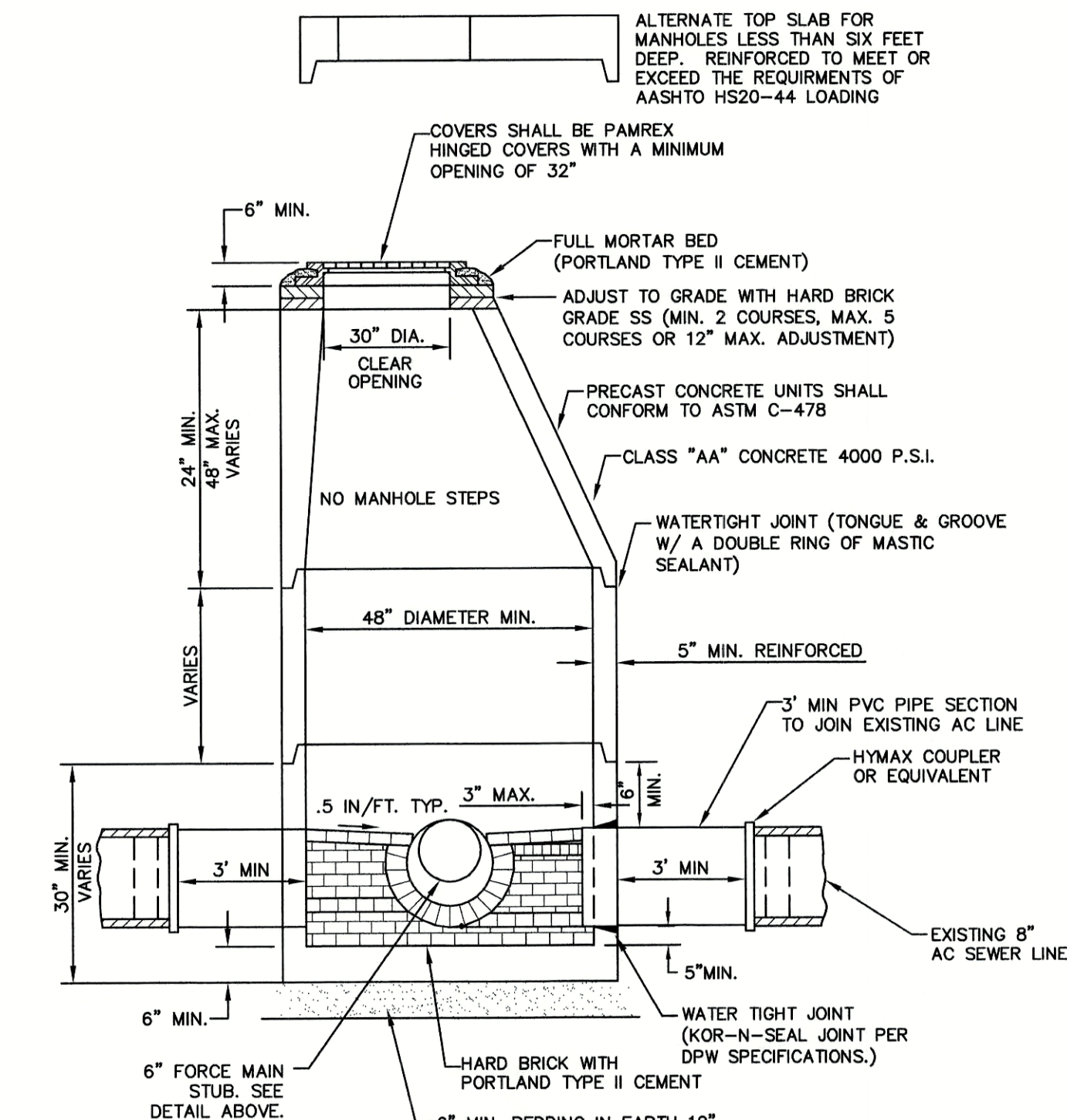
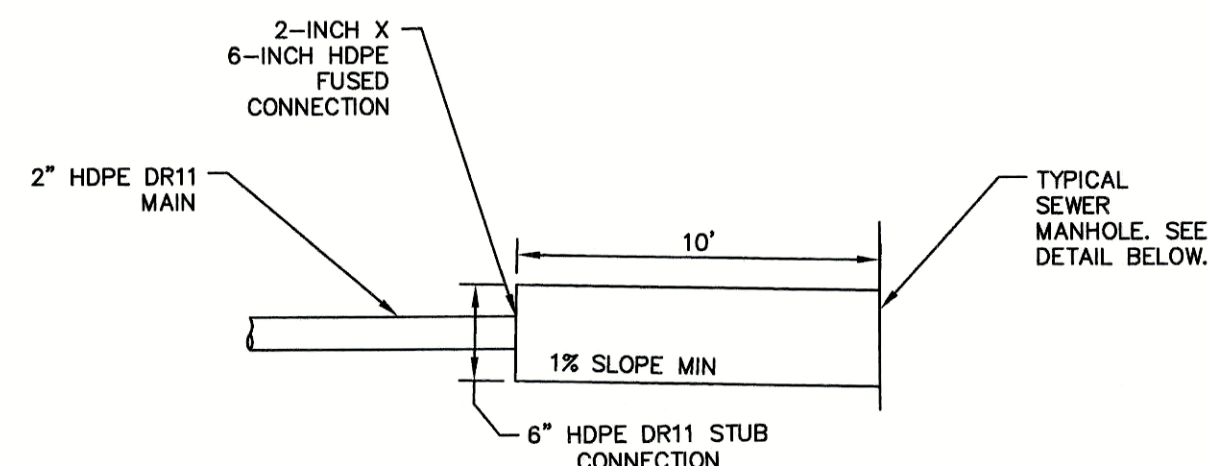
Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. Civil Engineering Services 603-772-4746
 PO Box 219 Stratham, NH 03885 FAX: 603-772-0227
 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	DETAIL SHEET
Project:	3400 LAFAYETTE ROAD PORTSMOUTH, NH
Owner of Record:	RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229

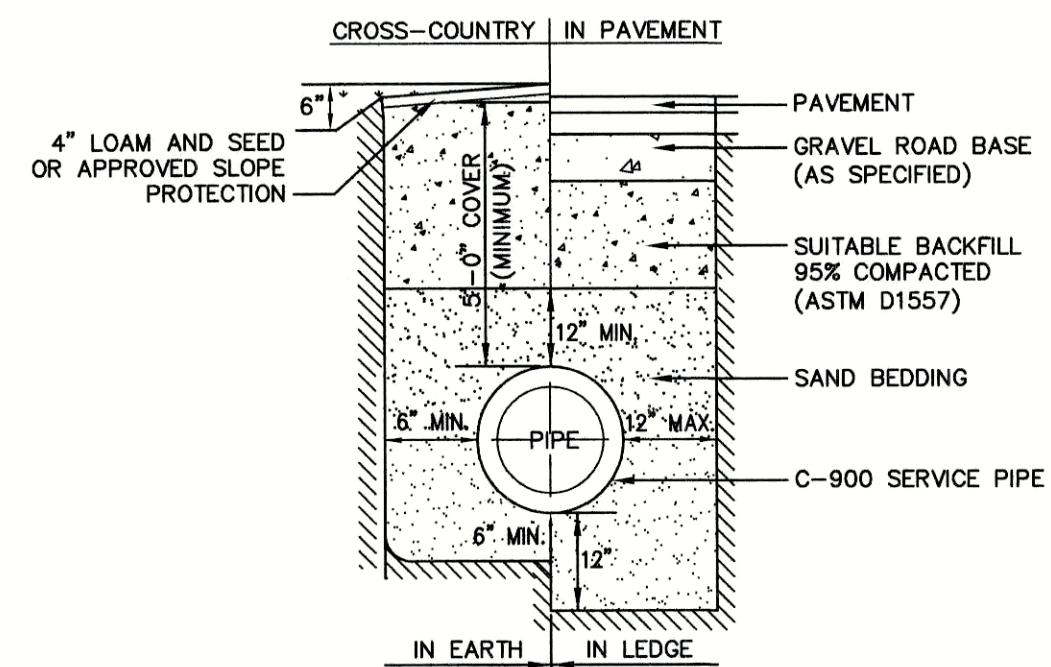
DRAWING No.	D1
SHEET 18 OF 25	JBE PROJECT NO. 20737



- NOTES:
- PER NHDES ENV-WQ 704.13(C), THE MORTAR SPECIFICATION SHALL BE AS FOLLOWS:
 1. MORTAR SHALL BE COMPOSED OF PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITION;
 2. PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE:
 A. 4.5 PARTS SAND AND 1.5 PARTS CEMENT; OR
 B. 4.5 PARTS SAND, ONE PART CEMENT AND 0.5 PART HYDRATED LIME;
 3. CEMENT SHALL BE TYPE II PORTLAND CEMENT CONFORMING TO ASTM C150-05;
 4. HYDRATED LIME SHALL BE TYPE S CONFORMING TO THE ASTM C207-06 STANDARD SPECIFICATIONS FOR HYDRATED LIME FOR MASONRY PURPOSES;
 5. SAND SHALL CONSIST OF INERT NATURAL SAND CONFORMING TO THE ASTM C33-03 STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES;
 - SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL IN ACCORDANCE WITH ENV-WQ 704.12 (K).
 - ALL MANHOLES SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH ENV-WQ 704.17 (a) THROUGH (e).
 - SEWER MANHOLE COVERS SHALL CONFORM TO ASTM A48 WITH A CASTING EQUAL TO CLASS 30 IN ACCORDANCE WITH ENV-WQ 704.13 (a).
 - ALL ASBESTOS CONTAINING WASTE MATERIALS MUST BE PROPERLY IDENTIFIED, PACKAGED AND DELIVERED TO A LANDFILL LICENSED BY THE NHDES SOLID WASTE MANAGEMENT PROGRAM FOR DISPOSAL. CALL (603) 271-2925 FOR MORE INFORMATION.
 - PORTSMOUTH STANDARD SEWER MANHOLE SHALL BE USED.
 - CONTRACTOR TO PURCHASE SEWER MANHOLE COVERS FROM THE CITY OF PORTSMOUTH DIRECTLY.
 - MANHOLE BASE SECTIONS SHALL BE MONOLITHIC TO A POINT AT LEAST 6" ABOVE THE HIGHEST INCOMING SEWER PIPE PER ENV-WQ 704.12 (e).
 - MANHOLE CASTINGS SHALL CONFORM TO ASTM A48 PER ENV-WQ 704.13 (a) (B).

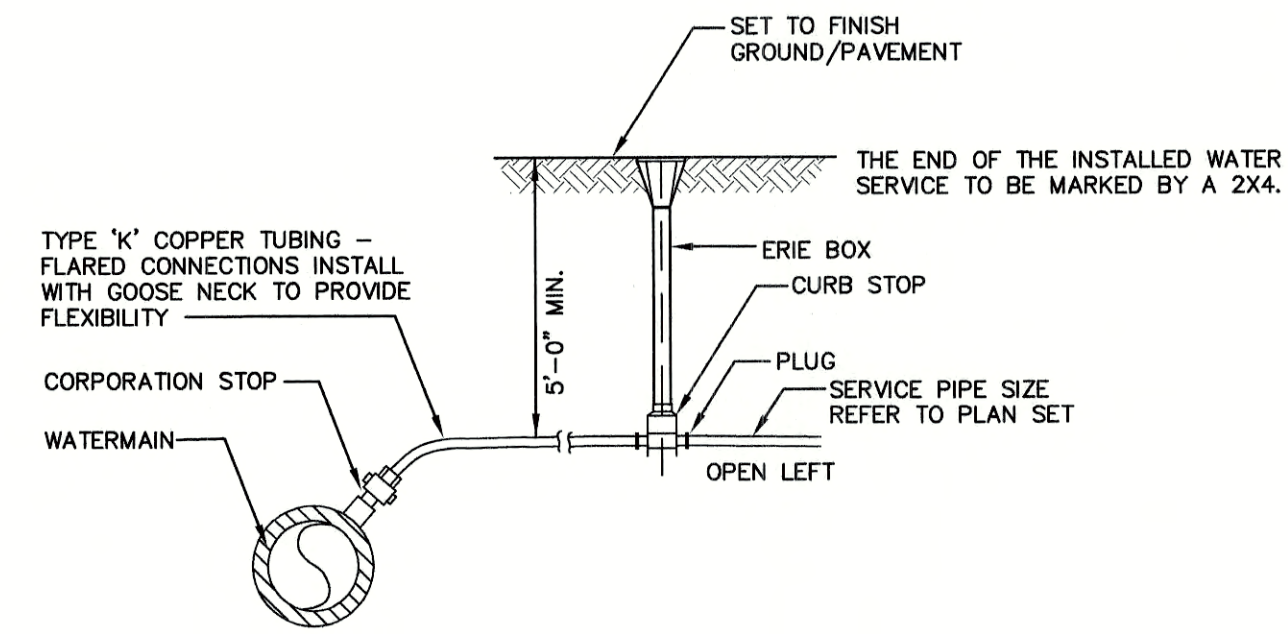
PORTSMOUTH SEWER MANHOLE

NOT TO SCALE



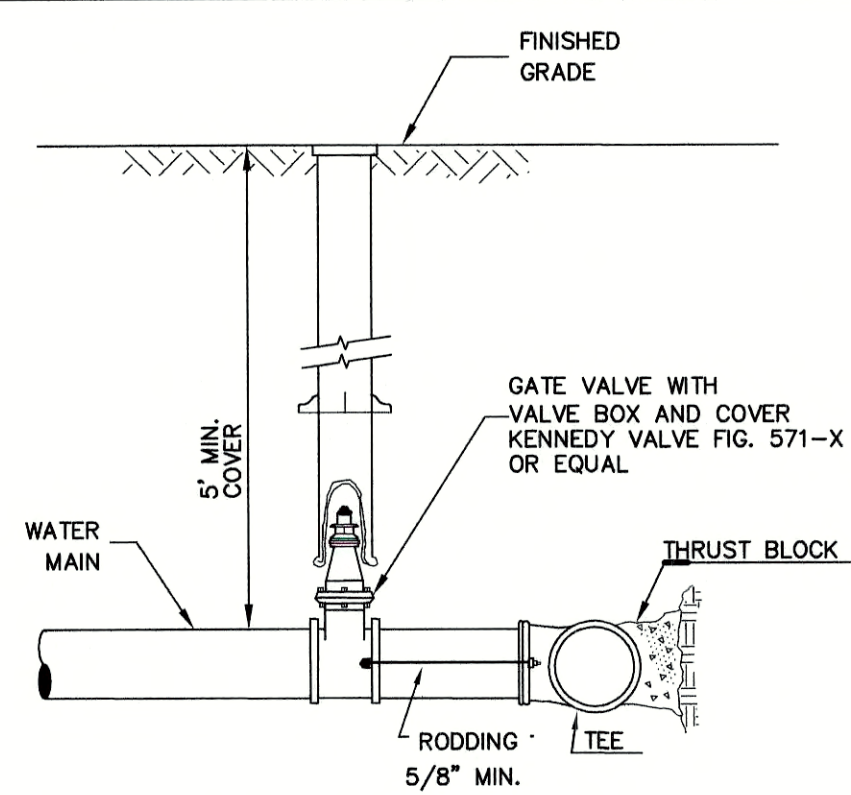
WATER SYSTEM TRENCH

NOT TO SCALE



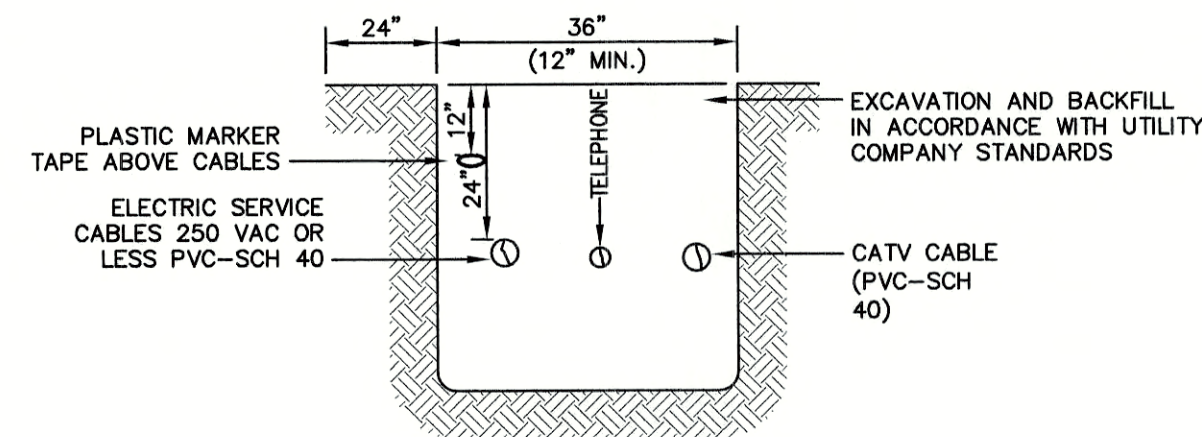
WATER SERVICE CONNECTION-COPPER PIPE

NOT TO SCALE



BURIED GATE VALVE DETAIL

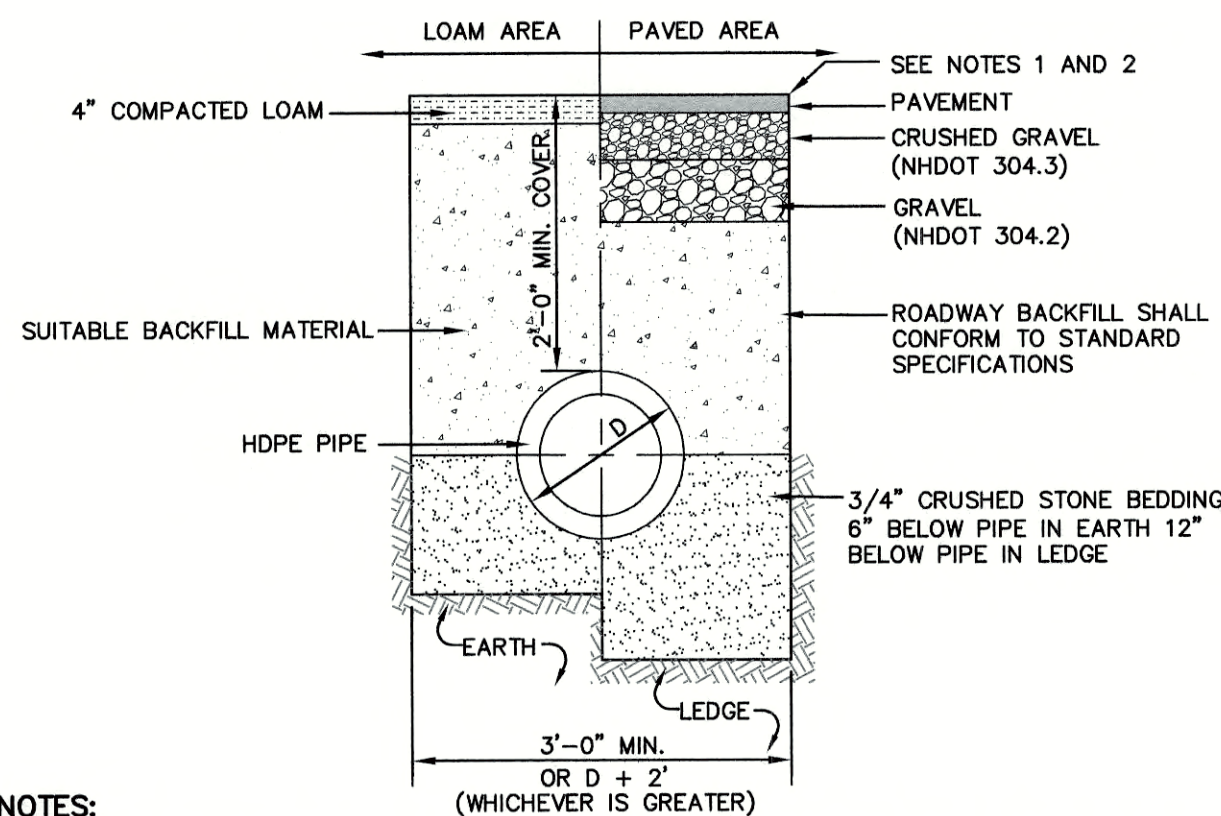
NOT TO SCALE



NOTE: ALL UTILITIES SHALL BE REVIEWED AND APPROVED BY APPROPRIATE UTILITY COMPANY.

UTILITY TRENCH

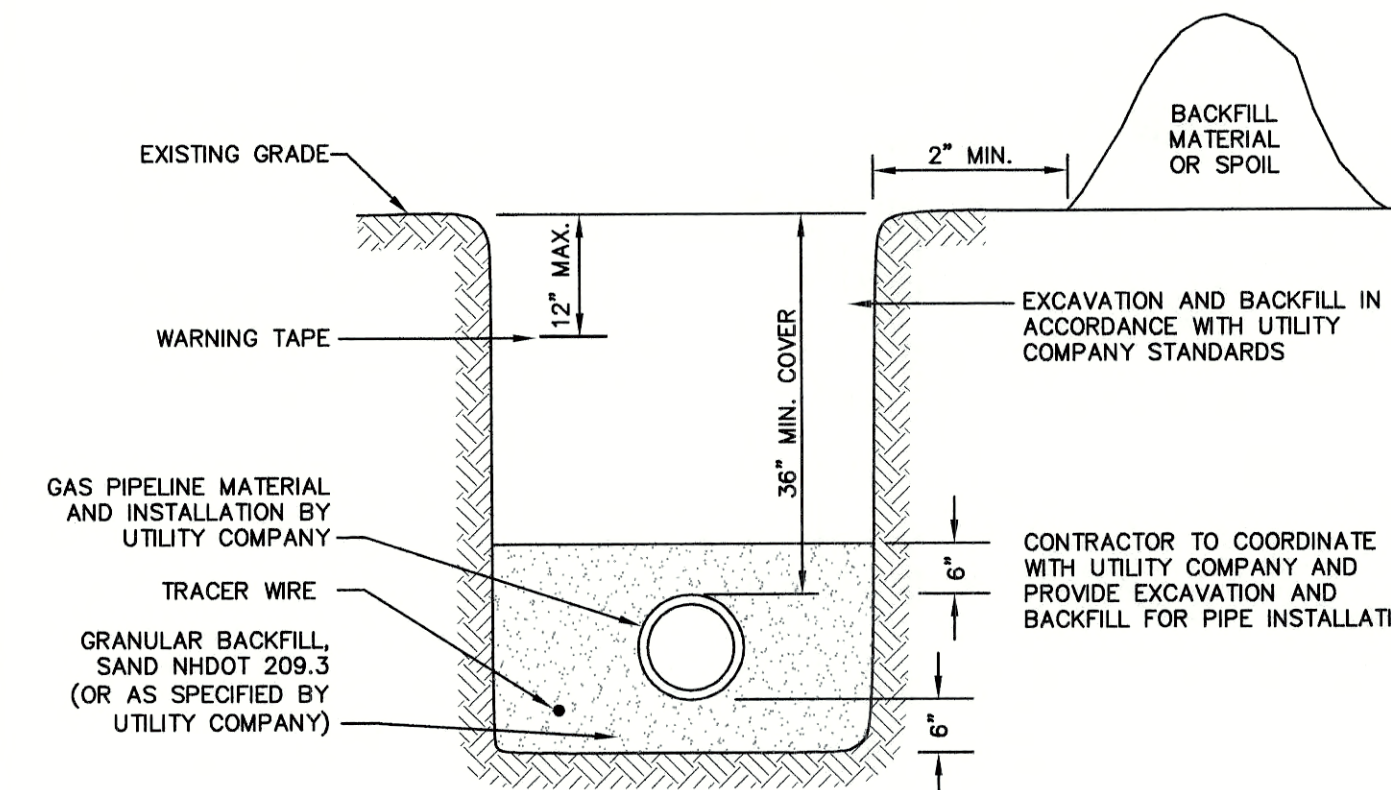
NOT TO SCALE



- NOTES:
- PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.
 - NEW ROADWAY CONSTRUCTION SHALL CONFORM WITH PROJECT AND TOWN SPECIFICATIONS.
 - ALL MATERIALS ARE TO BE COMPACTED TO 95% OF ASTM D-1557.

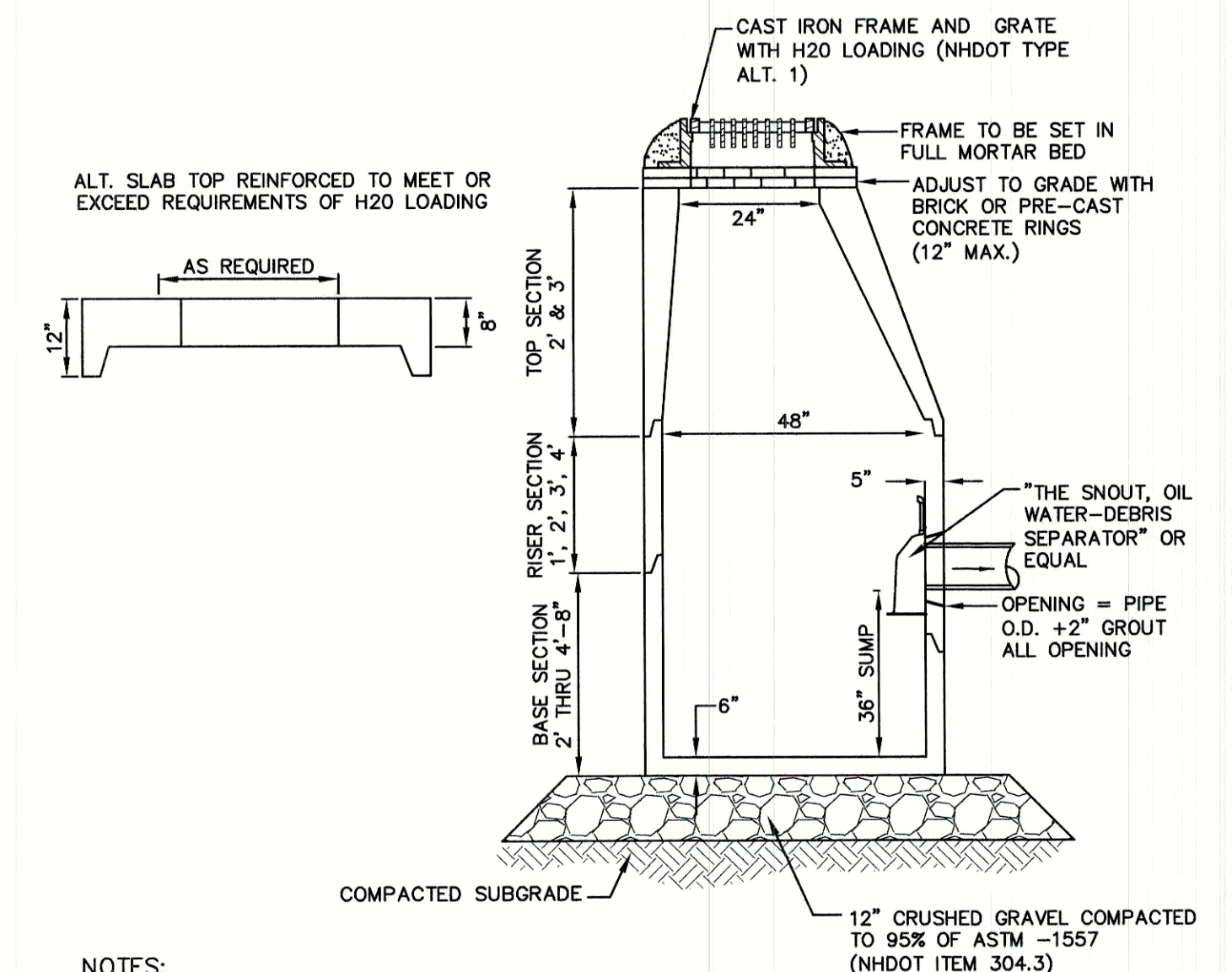
DRAINAGE TRENCH

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GAS TRENCH

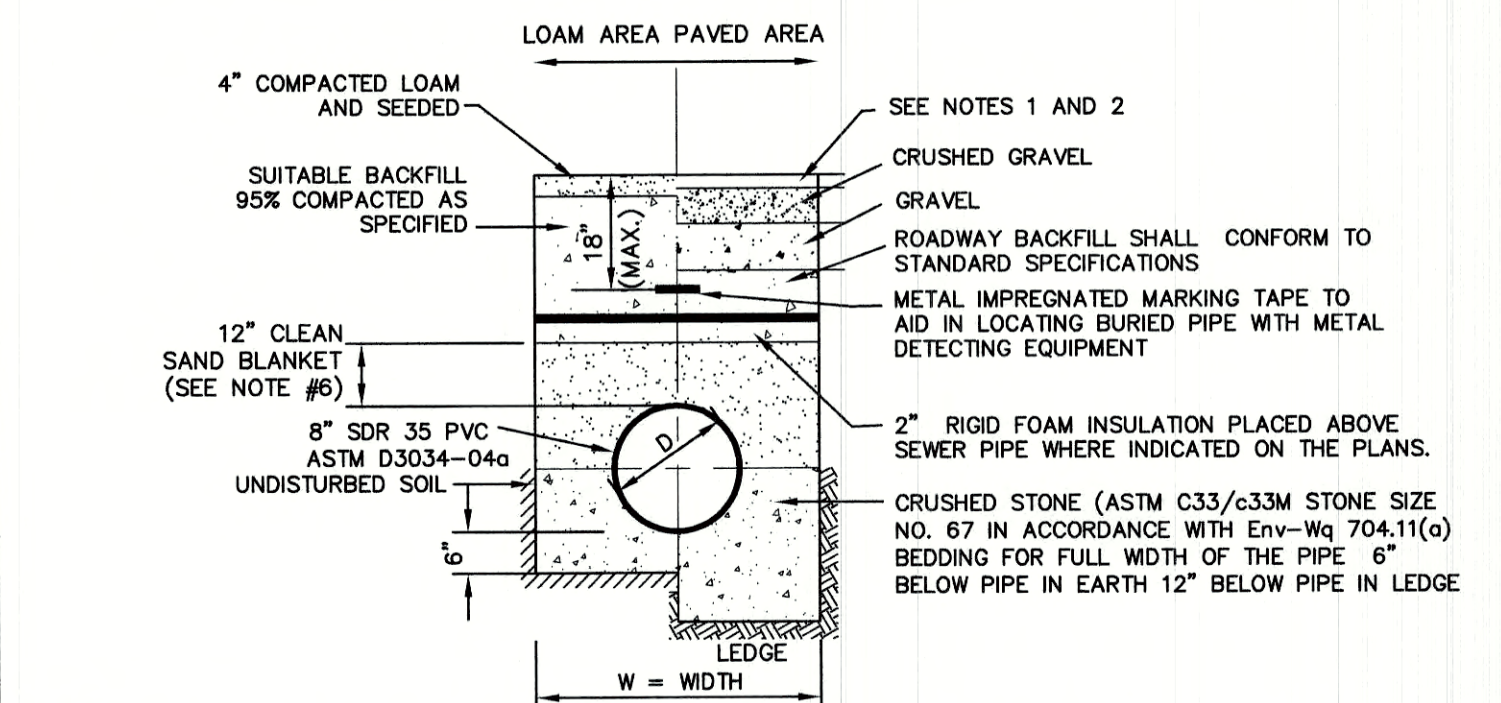
NOT TO SCALE



- NOTES:
- BASE SECTION SHALL BE MONOLITHIC WITH 48" INSIDE DIAMETER.
 - ALL SECTIONS SHALL BE DESIGNED FOR H2O LOADING.
 - CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI, TYPE II CEMENT.
 - FRAMES AND GRATES SHALL BE HEAVY DUTY AND DESIGNED FOR H2O LOADING
 - PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS SO AS TO BE WATERTIGHT.
 - JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE BUTYL RUBBER.
 - ALL CATCH BASIN FRAMES AND GRATES SHALL BE NHDOT CATCH BASIN TYPE ALTERNATE 1 OR NEENAH R-3570 OR APPROVED EQUAL (24"x24" TYPICAL).
 - STANDARD CATCH BASIN FRAME AND GRATE(S) SHALL BE SET IN FULL MORTAR BED, ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM, BUT NO MORE THAN 12"), OR PRECAST CONCRETE 'DONUTS'.
 - ALL CATCH BASINS ARE TO BE FITTED WITH GREASE HOODS.

CATCH BASIN WITH GREASE HOOD

NOT TO SCALE



- NOTES:
- PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO PAVEMENT DETAILS.
 - NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPECIFICATIONS.
 - TRENCH BACKFILL SHALL CONFORM WITH ENV. Wq 704.11(h) AND BE FREE OF DEBRIS, PAVEMENT, ORGANIC MATTER, TOP SOIL, WET OR SOFT MUCK, PEAT OR CLAY, EXCAVATED LEDGE OR ROCKS OVER SIX INCHES.
 - W= MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12" INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, WIDTH SHALL BE NO MORE THAN 36"; FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, WIDTH SHALL BE 24 INCHES PLUS PIPE O.D. WIDTH SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
 - RIGID FOAM INSULATION TO BE PROVIDED WHERE COVER IN THE ROADWAY IS LESS THAN 6" AND CROSS COUNTRY IS LESS THAN 4' WHERE INDICATED ON THE DES APPROVED PLANS.
 - PIPE SAND BLANKET MATERIAL SHALL BE GRADED SAND, FREE FROM ORGANIC MATERIALS, GRADED SUCH THAT 100% PASSES A 1/2" SIEVE AND A MAXIMUM OF 15% PASSES A #200 SIEVE IN ACCORDANCE WITH ENV-Wq 704.11(b).
 - JOINT SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL AND CERTIFIED BY THE MANUFACTURER AS CONFORMING TO THE ASTM D3212 STANDARD IN EFFECT WHEN THE JOINT SEALS WERE MANUFACTURED, AND SHALL BE PUSH-ON, BELL-AND-SPIGOT TYPE PER ENV-Wq 704.05 (e).

SEWER TRENCH

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Designed and Produced in NH

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Civil Engineering Services

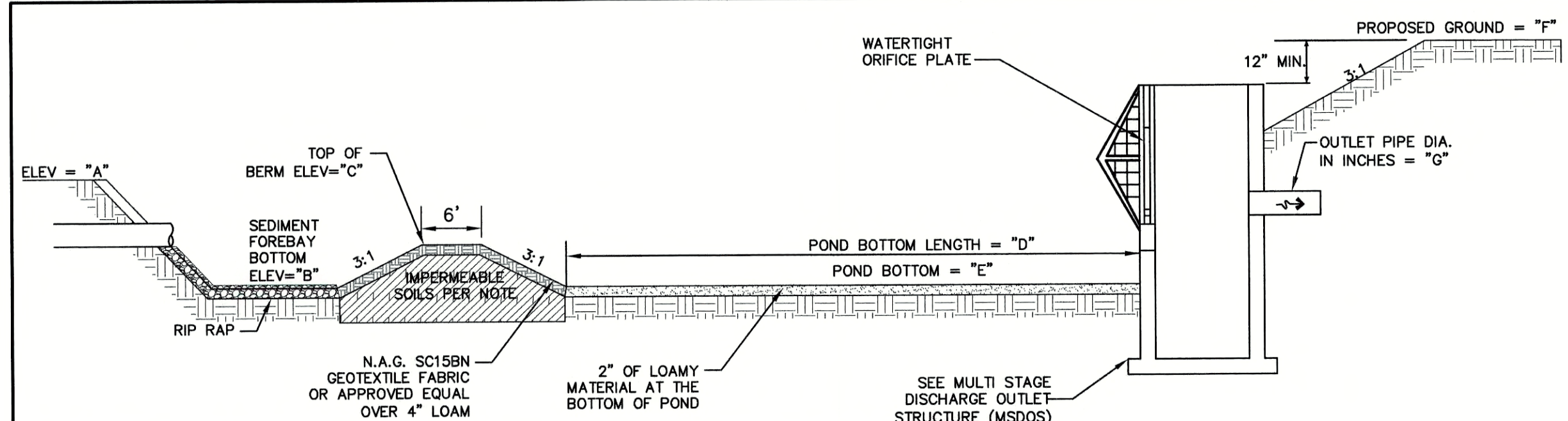
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DRAWING No.

D2

SHEET 19 OF 25
JBE PROJECT NO. 20737



	ELEVATIONS/DIMENSIONS						
	A	B	C	D	E	F	G
WET POND	53.00	49.00	51.00	80.00	47.00	53.00	18"

WET POND SECTION

NOT TO SCALE

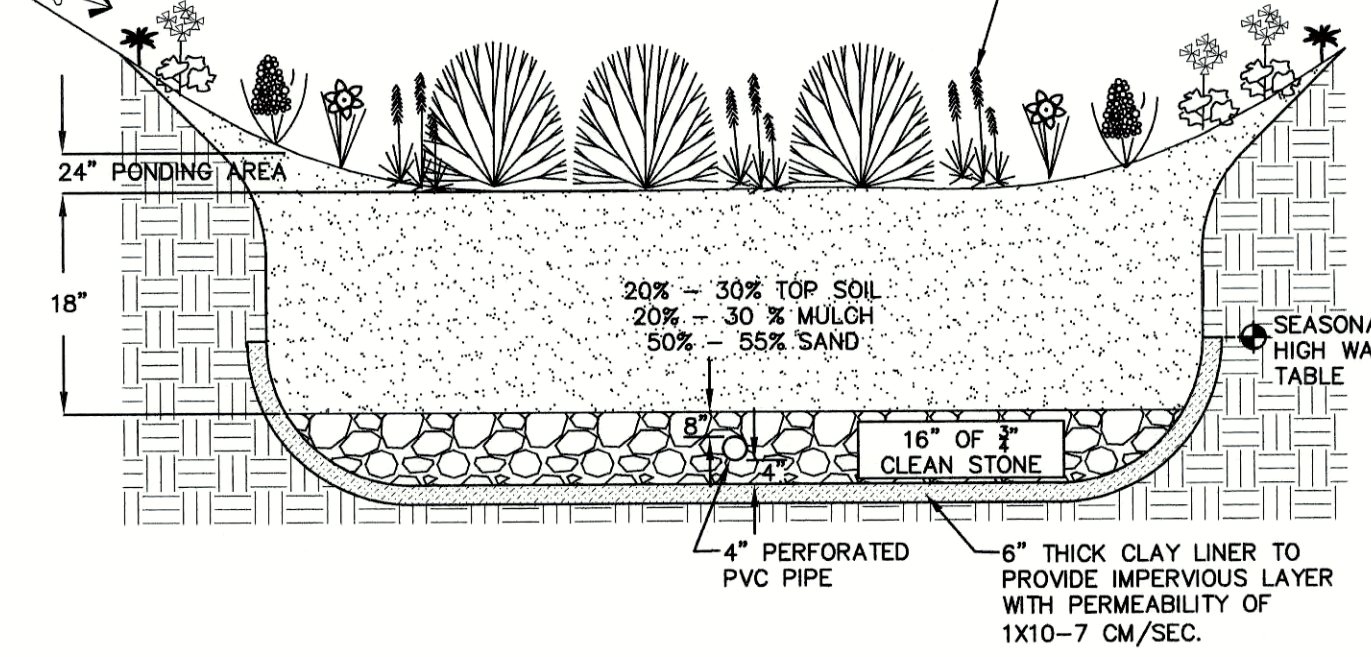
WET POND CONSTRUCTION CRITERIA

- FOUNDATION PREPARATION** -- THE FOUNDATION AREA SHALL BE CLEARED OF TREES LOGS, STUMPS, ROOTS, BRUSH, BOULDERS, SOD, AND RUBBISH. IF NEEDED TO ESTABLISH VEGETATION, THE TOPSOIL AND SOD SHALL BE STOCKPILED AND SPREAD ON THE COMPLETED DAM AND SPILLWAYS. FOUNDATION SURFACES SHALL BE SLOPED NO STEEPER THAN 1:1. THE FOUNDATION AREA SHALL BE THOROUGHLY SCARIFIED BEFORE PLACEMENT OF THE MATERIAL. THE SURFACE SHALL HAVE MOISTURE ADDED OR IT SHALL BE COMPACTED, IF NECESSARY, SO THAT THE FIRST LAYER OF FILL MATERIAL CAN BE COMPACTED AND BONDED TO THE FOUNDATIONS. THE CUTOFF TRENCH AND ANY OTHER REQUIRED EXCAVATIONS SHALL BE DUG TO THE LINES AND GRADES SHOWN ON THE PLANS OR AS STAKED IN THE FIELD. IF THEY ARE SUITABLE, EXCAVATED MATERIALS SHALL BE USED IN THE PERMANENT FILL. EXISTING STREAM CHANNELS IN THE FOUNDATION AREA SHALL BE SLOPED NO STEEPER THAN 1:1 AND DEEPEMED AND WIDENED AS NECESSARY TO REMOVE ALL STONES, GRAVEL, SAND, STUMPS, ROOTS, AND OTHER OBJECTIONABLE MATERIAL AND TO ACCOMMODATE COMPACTION EQUIPMENT. FILL PLACEMENT -- THE MATERIAL PLACED IN THE FILL SHALL BE FREE OF DETRIMENTAL AMOUNTS OF SOD, ROOTS, FROZEN SOIL, STONES MORE THAN 6 INCHES IN DIAMETER (EXCEPT FOR ROCK FILLS), AND OTHER OBJECTIONABLE MATTER.
- SELECTED BACK FILL MATERIAL** SHALL BE PLACED AROUND STRUCTURES, PIPE CONDUITS AND ANTI SEEP COLLARS AT ABOUT THE SAME RATE ON ALL SIDES, TO PREVENT DAMAGE FROM UNEQUAL LOADING. THE PLACING AND SPREADING OF FILL MATERIAL SHALL BE STARTED AT THE LOWEST POINT OF THE FOUNDATION AND THE FILL BROUGHT UP IN HORIZONTAL LAYERS OF SUCH THICKNESS THAT THE REQUIRED COMPACTION CAN BE OBTAINED. THE FILL SHALL BE CONSTRUCTED IN CONTINUOUS HORIZONTAL LAYERS EXCEPT WHERE OPENINGS OR SECTIONALIZED FILLS ARE REQUIRED. IN THOSE CASES, THE SLOPE OF THE BONDING SURFACES BETWEEN THE EMBANKMENT IN PLACE AND THE EMBANKMENT TO BE PLACED SHALL NOT BE STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL. THE BONDING SURFACE SHALL BE TREATED THE SAME AS THAT SPECIFIED FOR THE FOUNDATION SO AS TO INSURE A GOOD BOND WITH THE NEW FILL. THE DISTRIBUTION AND GRADATION OF MATERIALS SHALL BE SUCH THAT NO LENSES, POCKETS, STREAKS, OR LAYERS OF MATERIAL DIFFER SUBSTANTIALLY IN TEXTURE OF GRADATION FROM THE SURROUNDING MATERIAL. IF IT IS NECESSARY TO USE MATERIALS OF VARYING TEXTURE AND GRADATION, THE MORE IMPERVIOUS MATERIAL SHALL BE PLACED IN THE CENTER AND UPSTREAM PARTS OF THE FILL. IF ZONED FILLS OF SUBSTANTIALLY DIFFERING MATERIALS ARE SPECIFIED, THE ZONES SHALL BE PLACED ACCORDING TO THE LINES AND GRADES SHOWN ON THE DRAWINGS. THE COMPLETE WORK SHALL CONFORM TO THE LINES, GRADES, AND ELEVATIONS SHOWN ON THE DRAWINGS OR AS STAKED IN THE FIELD.
- MOISTURE CONTROL** -- THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE ADEQUATE FOR OBTAINING THE REQUIRED COMPACTION. MATERIAL THAT IS TOO WET SHALL BE DRIED TO MEET THIS REQUIREMENT, AND MATERIAL THAT IS TOO DRY SHALL HAVE WATER ADDED AND MIXED UNTIL THE REQUIREMENT IS MET.
- COMPACTION** -- CONSTRUCTION EQUIPMENT SHALL BE OPERATED OVER THE AREAS OR EACH LAYER OF FILL TO INSURE THAT THE REQUIRED COMPACTION IS OBTAINED. SPECIAL EQUIPMENT SHALL BE USED IF NEEDED TO OBTAIN THE REQUIRED COMPACTION. IF A MINIMUM REQUIRED DENSITY IS SPECIFIED, EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY. FILL ADJACENT TO STRUCTURES, PIPE CONDUITS, AND ANTI SEEP COLLARS SHALL BE COMPACTED TO A DENSITY EQUIVALENT TO THAT OF THE SURROUNDING FILL BY MEANS OF HAND TAMPING OR MANUALLY DIRECTED POWER TAMPER OR PLATE VIBRATORS. FILL ADJACENT TO CONCRETE STRUCTURES SHALL NOT BE COMPACTED UNTIL THE CONCRETE IS STRONG ENOUGH TO SUPPORT THE LOAD.
- PROTECTION** -- A PROTECTIVE COVER OF VEGETATION SHALL BE ESTABLISHED ON ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, AND BORROW AREA IF SOIL AND CLIMATIC CONDITIONS PERMIT. IF SOIL OR CLIMATIC CONDITIONS PRECLUDE THE USE OF VEGETATION AND PROTECTION IS NEEDED, NON-VEGETATIVE MEANS SUCH AS MULCHES OR GRAVEL MAY BE USED. IN SOME PLACES, TEMPORARY VEGETATION MAY BE USED UNTIL CONDITIONS PERMIT ESTABLISHMENT OF PERMANENT VEGETATION. THE EMBANKMENT AND SPILLWAY SHALL BE FENCED IF NECESSARY TO PROTECT THE VEGETATION.
- SEEDBED PREPARATION, SEEDING, FERTILIZING, AND MULCHING** SHALL COMPLY WITH THE APPROPRIATE VEGETATIVE BMP'S.
- CONCRETE** -- THE MIX DESIGN AND TESTING OF CONCRETE SHALL BE CONSISTENT WITH THE STRENGTH REQUIREMENTS OF THE JOB. MIX REQUIREMENTS OR NECESSARY STRENGTH SHALL BE SPECIFIED. THE TYPE OF CEMENT, AIR ENTRAPMENT, SLUMP, AGGREGATE, OR OTHER PROPERTIES SHALL BE SPECIFIED IF NECESSARY. ALL CONCRETE IS TO CONSIST OF A WORKABLE MIX THAT CAN BE PLACED AND FINISHED IN AN ACCEPTABLE MANNER. NECESSARY CURING SHALL BE SPECIFIED. REINFORCING STEEL SHALL BE PLACED AS INDICATED ON THE PLANS AND SHALL BE HELD SECURELY IN PLACE DURING CONCRETE PLACEMENT. SUB GRADES AND FORMS SHALL BE INSTALLED TO LINE AND GRADE, AND THE FORMS SHALL BE MORTAR TIGHT AND UNYIELDING AS THE CONCRETE IS PLACED.
- THE CONTRACTOR WILL NOTIFY JONES AND BEACH ENGINEERS** AFTER EACH OF THE GRAVEL WETLAND PONDS HAVE BEEN EXCAVATED TO THE BOTTOM OF THE SYSTEM FOR A MANDATORY INSPECTION PRIOR TO BUILDING BERMS, PLACING STONE OR INSTALLING PIPE SYSTEM.
- BERMS AND WEIRS** SEPARATING THE FOREBAY AND TREATMENT CELLS SHOULD BE CONSTRUCTED WITH CLAY, OR NON-CONDUCTIVE SOILS, AND/OR A FINE GEOTEXTILE, OR SOME COMBINATION THEREOF, TO AVOID WATER SEEPAGE AND SOIL PIPING THROUGH THESE EARTHEN DIVIDERS.

SAND SPECIFICATION	
SEIVE SIZE	% BY WEIGHT
#4	100
#8	95-100
#16	80-100
#30	50-85
#60	25-80
#100	10-30
#200	2-10
	0-5

TOPSOIL SPECIFICATION
LOAMY SAND TOPSOIL WITH MINIMAL CLAY CONTENT AND BETWEEN 15 TO 25% FINES PASSING THE #200 SEIVE.

MULCH SPECIFICATION
MODERATELY FINE, SHREDED BARK OR WOOD FIBER MULCH WITH LESS THAN 5% PASSING THE #200 SEIVE.

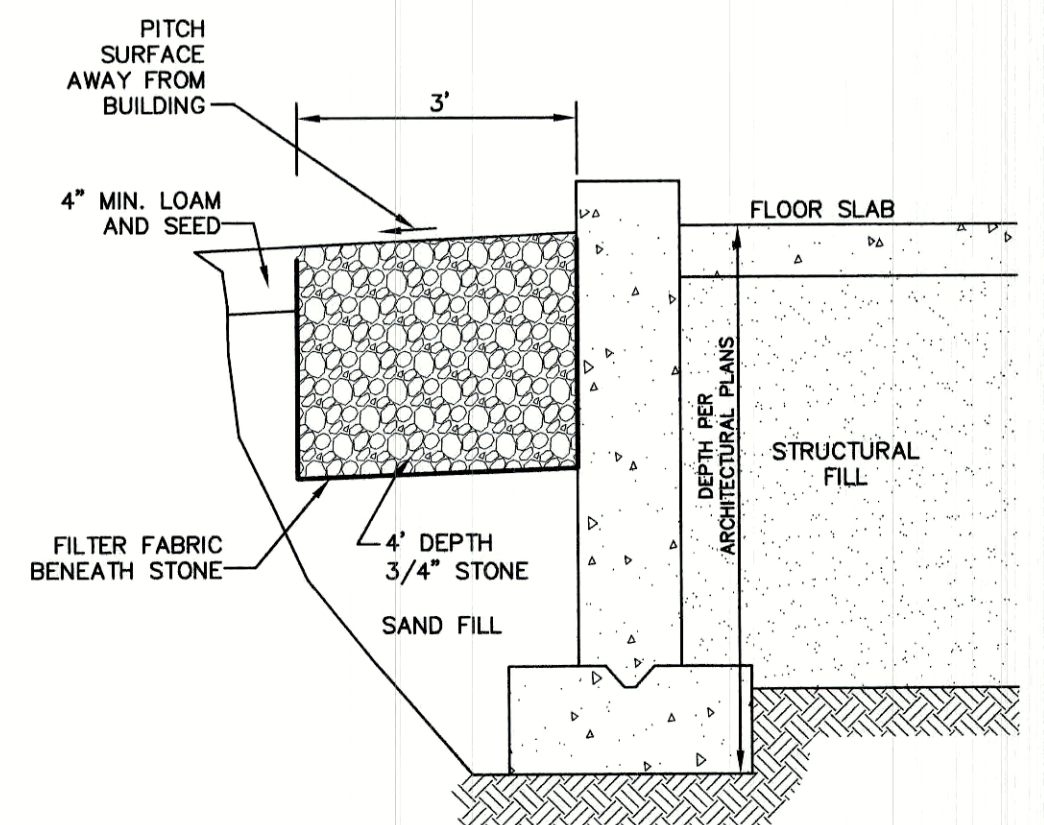


BIORETENTION SYSTEM (with clay bottom and pipe)

NOT TO SCALE

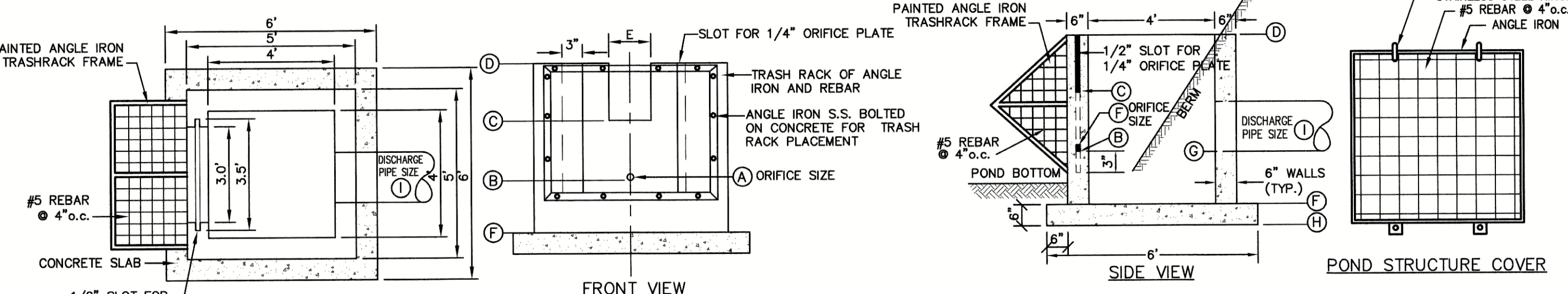
DESIGN CONSIDERATIONS

- DO NOT PLACE BIORETENTION SYSTEMS INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
- DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUN-OFF, WATER FROM EXCAVATIONS) TO THE BIORETENTION AREA DURING ANY STAGE OF CONSTRUCTION.
- DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.
- CLAY LINER MATERIAL SHALL BE CLEAN SILTY-CLAY BORROW FREE OF ROOTS, ORGANIC MATTER, AND OTHER DELETERIOUS SUBSTANCES, AND SHALL CONTAIN NO ROCKS OR LUMPS OVER THREE INCHES (3") IN DIAMETER. THIS MATERIAL SHALL BE INSTALLED IN 6" LIFTS COMPACTED TO 92% OF ASTM D-1557, AND SHALL MEET THE FOLLOWING SPECIFICATIONS: 6" PASSING 100%, #4 SEIVE 95-100%, #40 SEIVE 60-90%, #100 SEIVE 40-60%, #200 SEIVE 25-45% (OF THE FRACTION PASSING THE #4 SEIVE). THE CLAY COMPONENT SHALL HAVE A PLASTICITY INDEX OF AT LEAST 8 AND A HYDRAULIC CONDUCTIVITY OF 10 TO THE -6 CM/SEC.
- COMPACTION AND MATERIALS TESTING SERVICES SHALL BE PERFORMED BY AN INDEPENDENT GEOTECHNICAL ENGINEER RETAINED BY THE OWNER.



DRIP EDGE DETAIL

NOT TO SCALE



APPROXIMATE LIST OF MATERIALS

- 3 C.Y. - 5000 PSI CONCRETE
- 15 ANGLE IRONS @ 4" LENGTH
- REQUIRED S.S. BOLTS AND FASTENERS
- 1/4" STEEL PLATE WITH DRILLED ORIFICES
- 1 C.Y. - CRUSHED STONE FOR BASE
- 48 #5 REBARS @ 1', 2' AND 3' LENGTHS
- 32 #4 REBARS @ 4.5' LENGTH

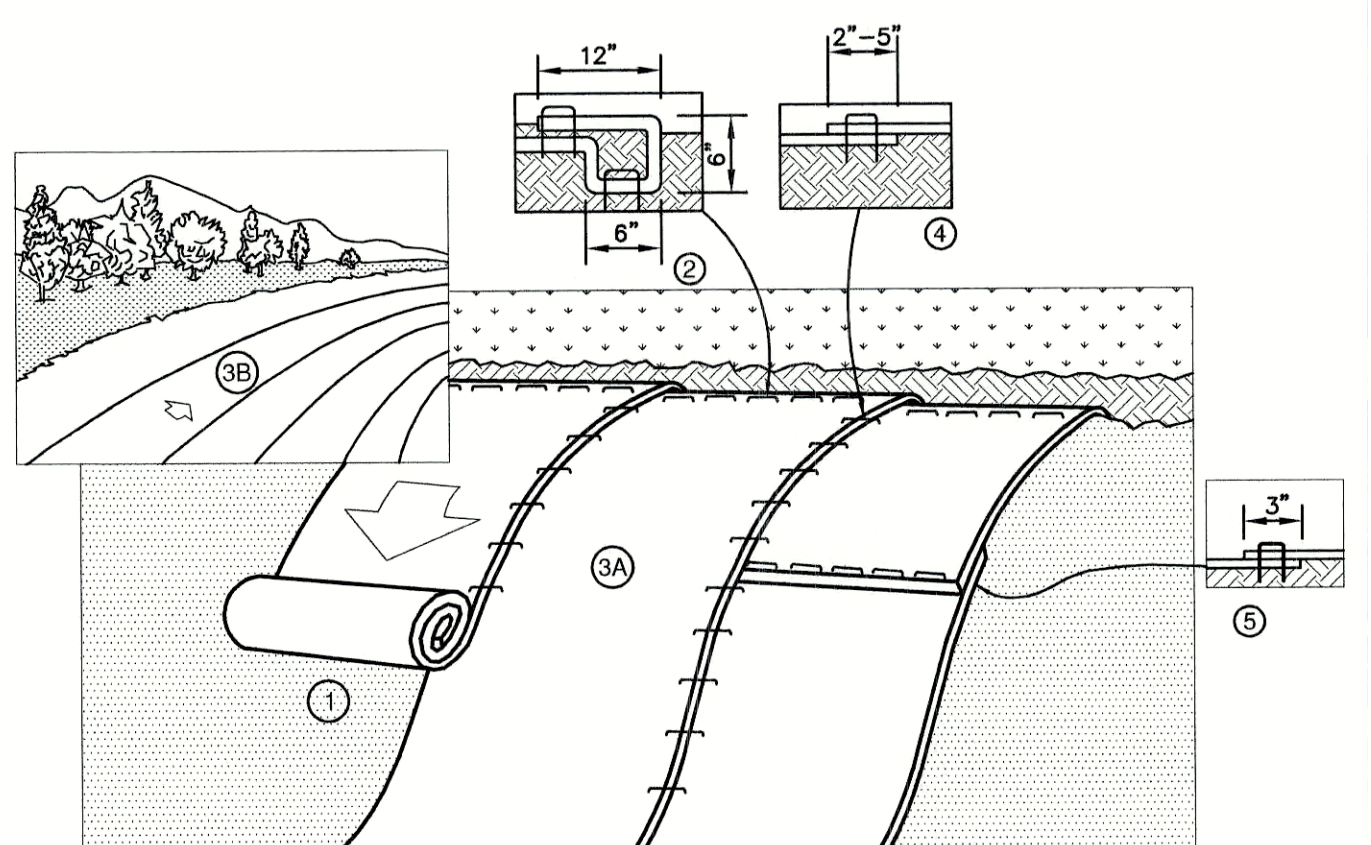
	A	B	C	D	E	F	G	H	I
WET POND	6"	51.00	52.25	52.75	36"	48.00	51.00	47.50	18"

- NOTES:**
- REINFORCING STEEL SHALL CONSIST OF A SINGLE LAYER OF HORIZONTAL AND VERTICAL PLACED #4 REBAR @ 12" O.C.
 - CONCRETE BOX TO BE CONSTRUCTED OR PRECAST OF EQUAL DIMENSIONS AND REINFORCING.
 - CONCRETE SLAB TO BE CONSTRUCTED ALONG WITH BASE. FOR PRECAST BOX, A SLOTTED CONCRETE SLAB TO BE USED.
 - SECTION JOINTS AND PIPE OPENING SHALL BE SEALED WATERTIGHT WITH MORTAR BY CONTRACTOR.

- ALL EXPOSED REBAR TO BE PAINTED WITH RUST-RESISTANT PAINT, COLOR AT CONTRACTOR'S DISCRETION.
- TO BE SUPPLIED BY CAPITAL CONCRETE PRODUCTS OF HENNIKER, N.H., (1-603-428-3218) OR EQUAL.
- STRUCTURE TO HAVE TEMPORARY PLYWOOD INSTALLED IN THE ORIFICE PLATE SLOT UNTIL THE SITE IS STABILIZED.
- STRUCTURE IS TO BE DESIGNED FOR H2O LOADING.
- SOIL UNDERLYING THE STRUCTURE IS TO BE COMPACTED TO 95% MODIFIED PROCTOR.

MULTI-STAGE DISCHARGE OUTLET STRUCTURE (MSDOS)

NOT TO SCALE

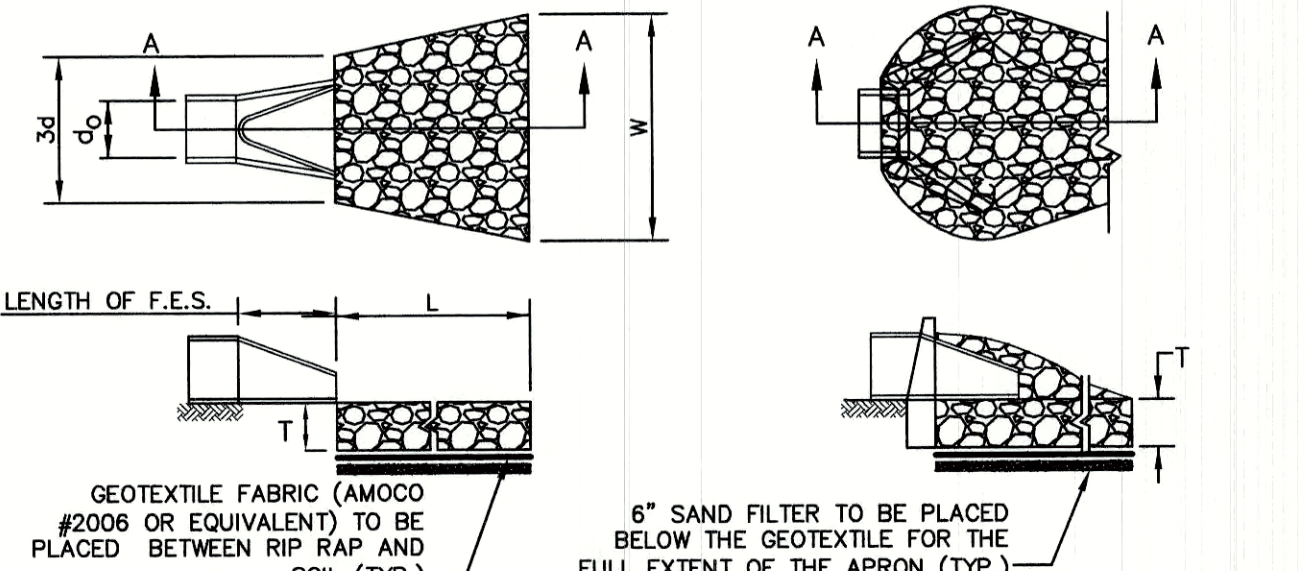


- NOTES:**
- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
 - BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP BY 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.
 - ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
 - 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.
 - CONSECUTIVE BLANKETS SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

NORTH AMERICAN GREEN
14649 HIGHWAY 41 NORTH
EVANSVILLE, INDIANA 47725
1-800-772-2040

EROSION CONTROL BLANKET SLOPE INSTALLATION

NOT TO SCALE



SECTION A-A
PIPE OUTLET TO FLAT AREA WITH NO DEFINED CHANNEL

SECTION A'-A
PIPE OUTLET TO WELL-DEFINED CHANNEL

TABLE 7-24--RECOMMENDED RIP RAP GRADATION RANGES

THICKNESS OF RIP RAP = 1.5 FEET

d50 SIZE=	0.50	FEET	6	INCHES
% OF WEIGHT SMALLER THAN THE GIVEN d50 SIZE				
100%	9		12	
85%	8		11	
50%	6		9	
15%	2		3	

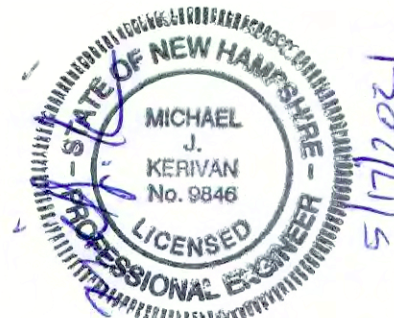
- NOTES:**
- THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
 - THE RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
 - GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE RIP RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
 - 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.
 - OUTLETS TO A DEFINED CHANNEL SHALL HAVE 2:1 OR FLATTER SIDE SLOPES AND SHOULD BEGIN AT THE TOP OF THE CULVERT AND TAPER DOWN TO THE CHANNEL BOTTOM THROUGH THE LENGTH OF THE APRON.
 - MAINTENANCE:** THE OUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIP RAP 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 OUTLET PROTECTION.

RIP RAP OUTLET PROTECTION APRON

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Design: JAC	Draft: LAZ	Date: 3/3/21
Checked: JAC	Scale: AS NOTED	Project No.: 20737
Drawing Name: 20737-PLAN.dwg		

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4	3/18/21	ADDED DETAIL	LAZ
3	3/3/21	ADDED SURVEY INFO	LAZ
2	1/6/21	MINOR REVISIONS	DJM
1	11/23/20	REVISED PER CLIENT	DJM

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Civil Engineering Services

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885

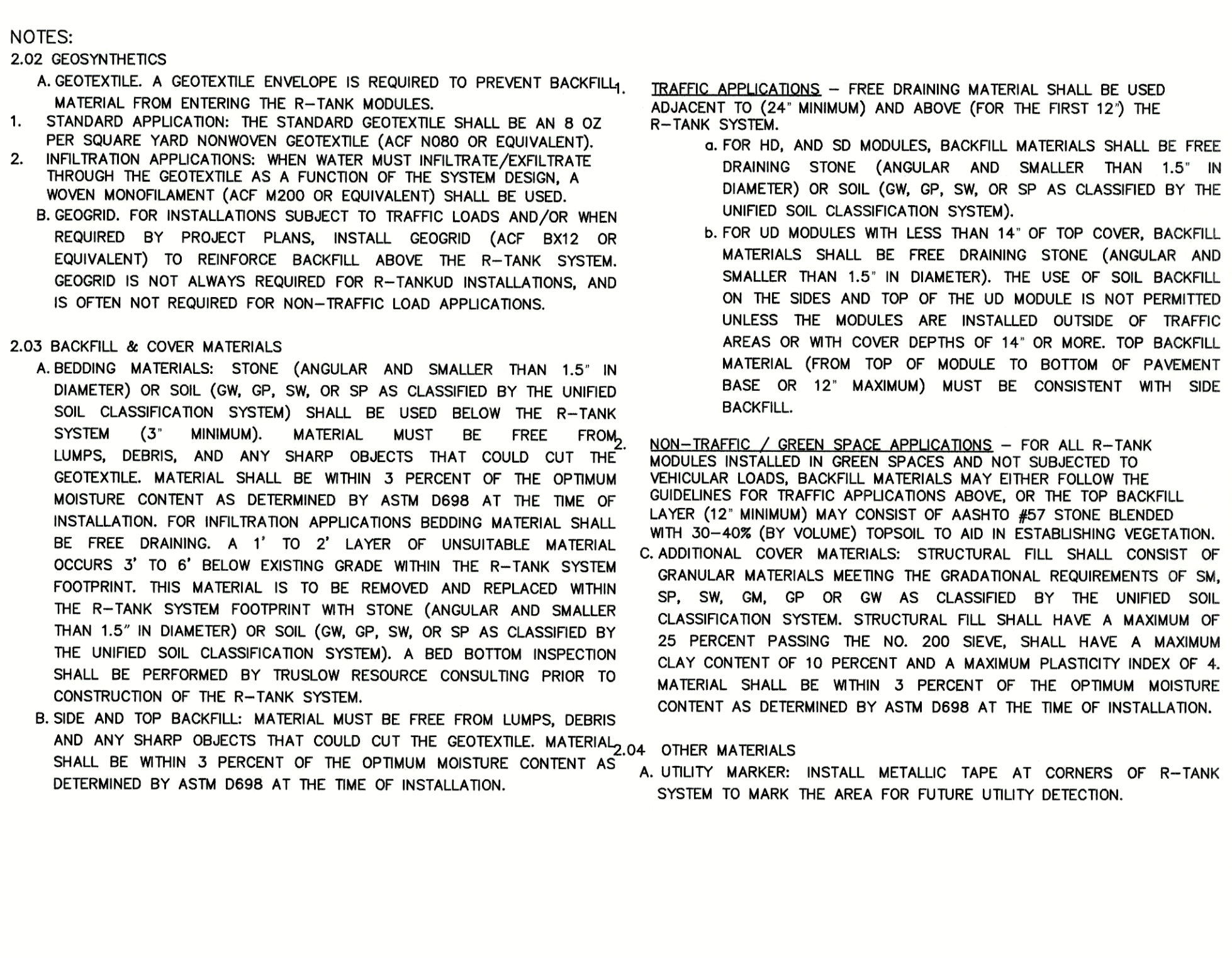
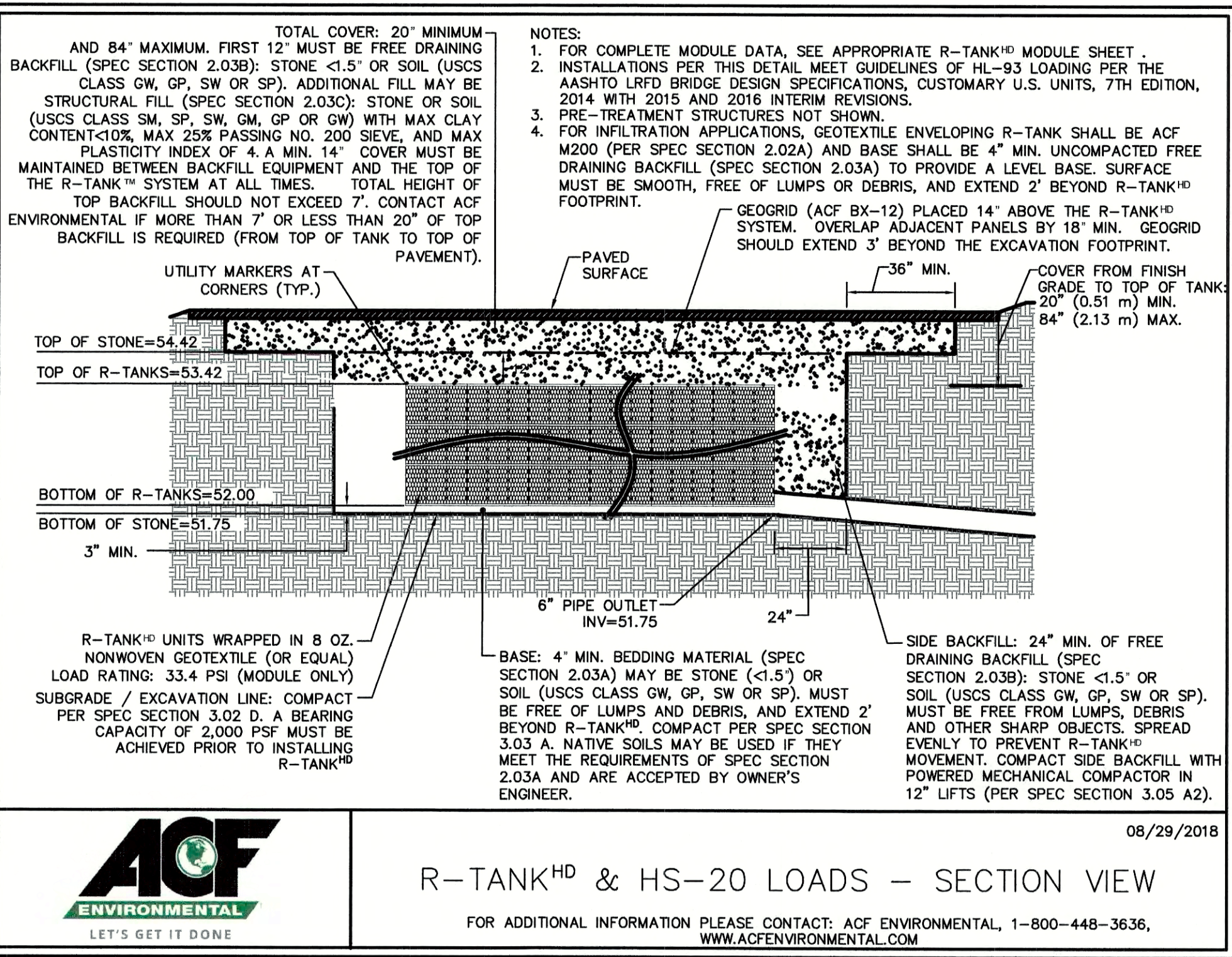
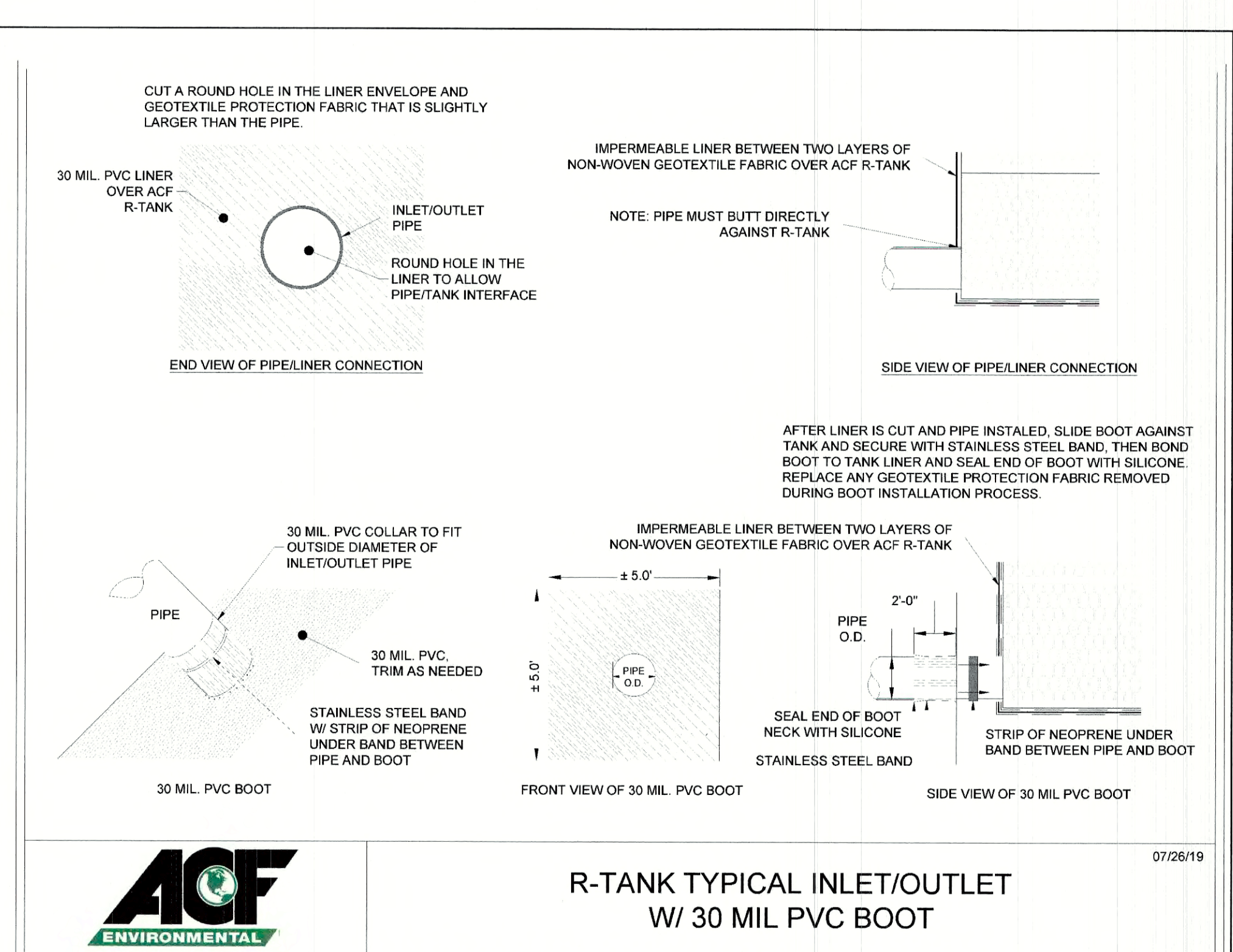
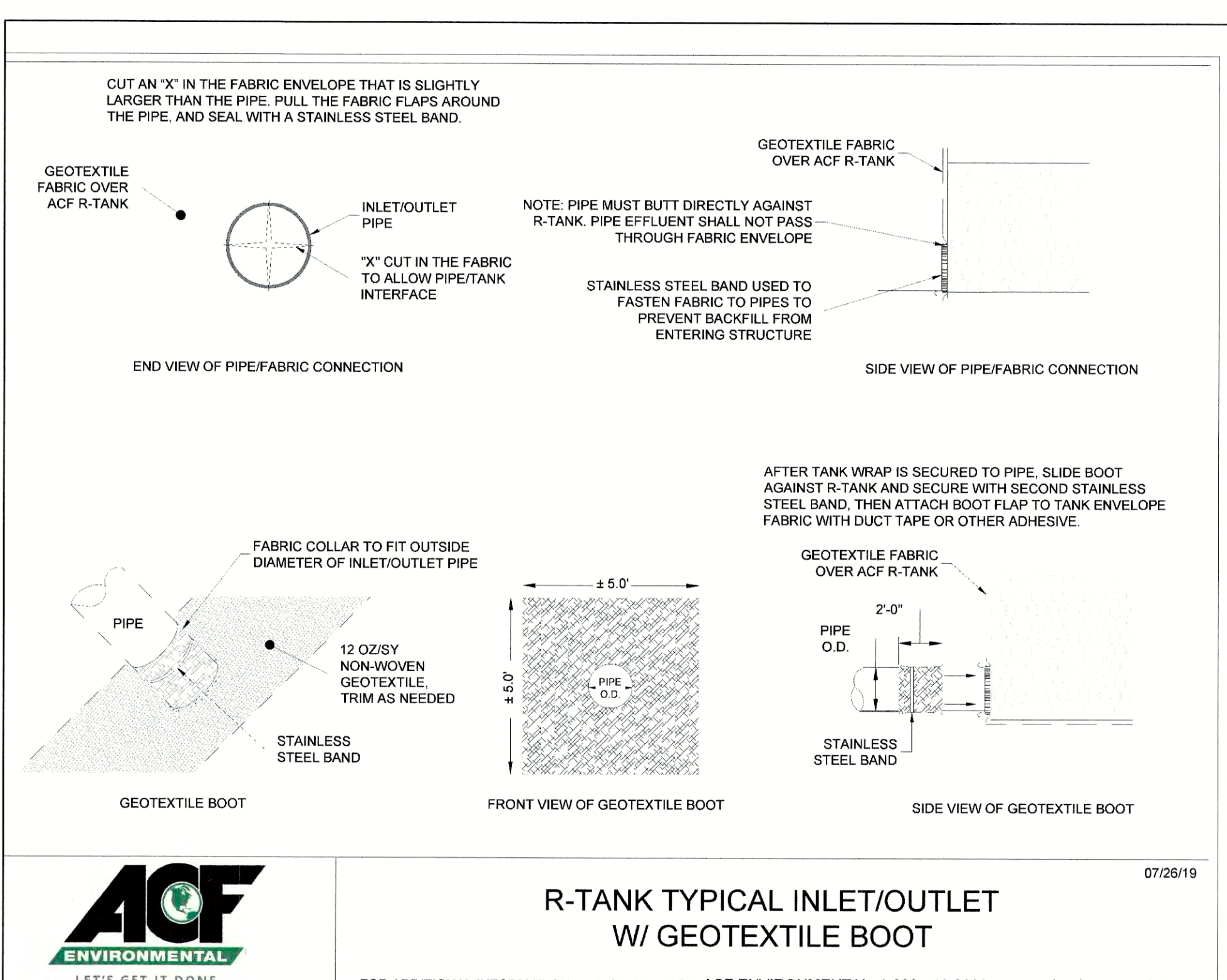
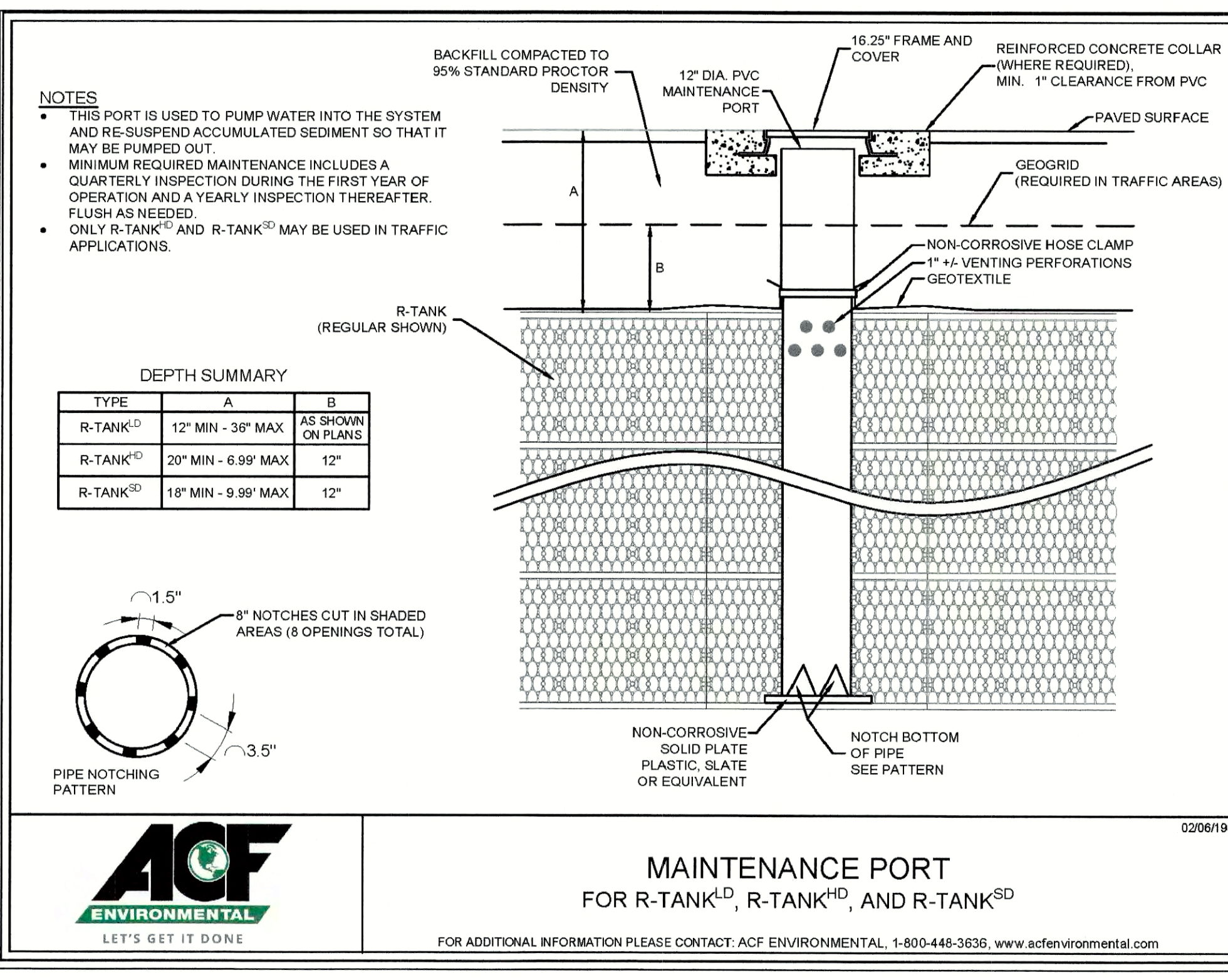
603-772-4746
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	DETAIL SHEET
Project:	3400 LAFAYETTE ROAD PORTSMOUTH, NH
Owner of Record:	RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229

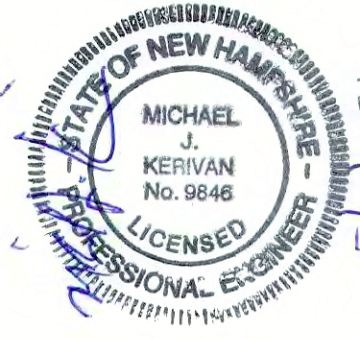
DRAWING No.

D3

SHEET 20 OF 25
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4	3/18/21	ADDED DETAIL	LAZ
3	3/3/21	ADDED SURVEY INFO	LAZ
2	1/6/21	MINOR REVISIONS	DJM
1	11/23/20	REVISED PER CLIENT	DJM

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Civil Engineering Services

603-772-4746
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Plan Name: **DETAIL SHEET**

Project: **3400 LAFAYETTE ROAD PORTSMOUTH, NH**

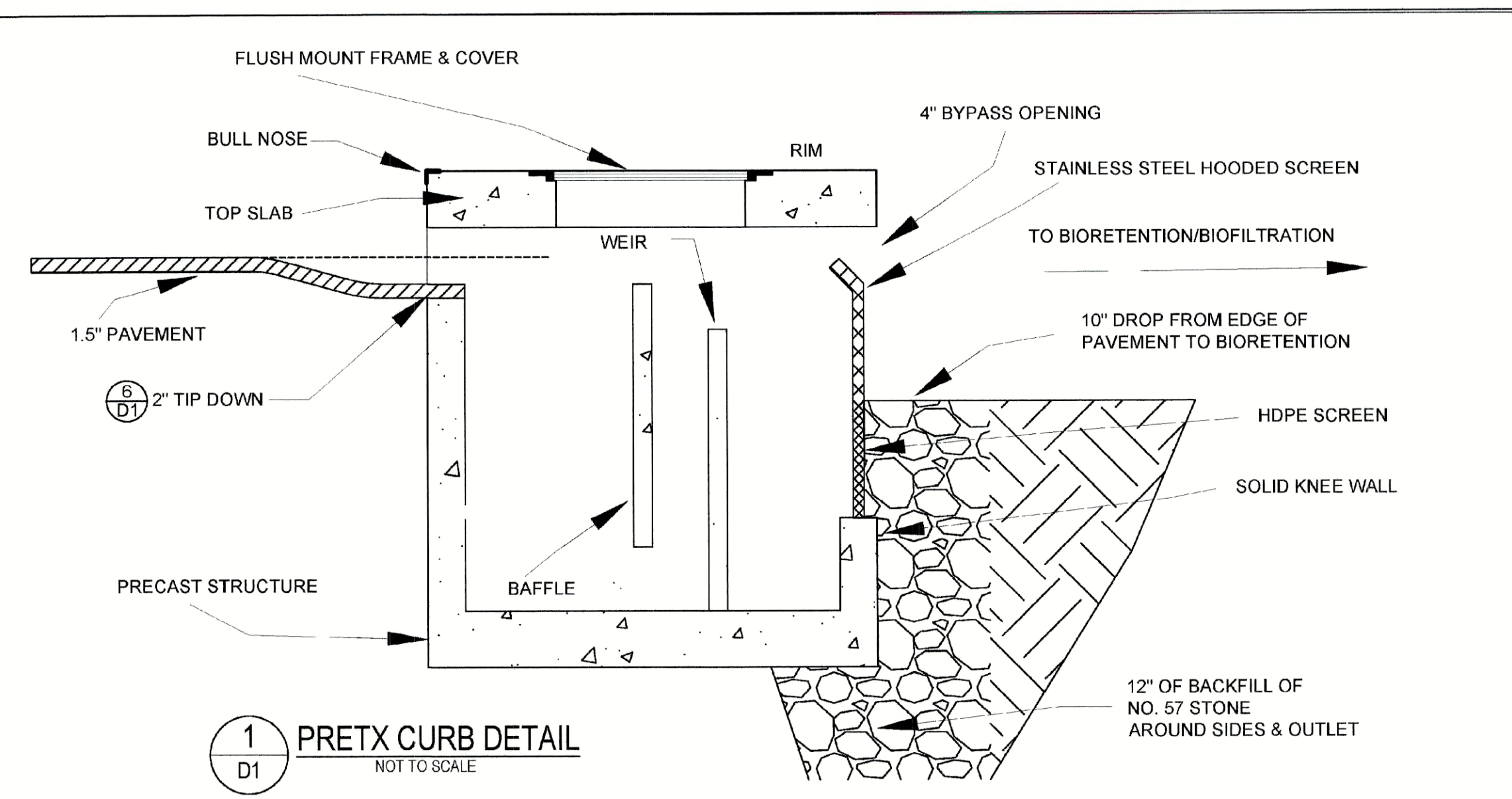
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DRAWING No. **D4**

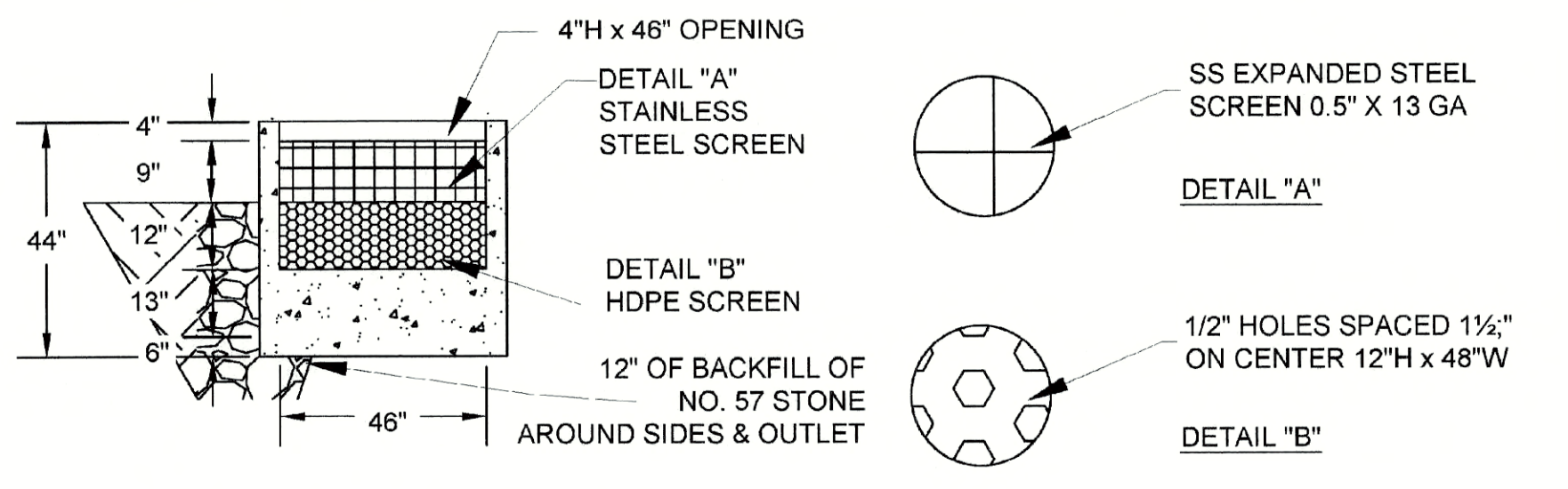
SHEET 21 OF 25
 JBE PROJECT NO. 20737

PRETX SPECIFICATIONS

- A. GENERAL**
- PRETX SYSTEMS ARE A PRE-FILTER AND CRITICAL MAINTENANCE DEVICE THAT EXTENDS THE OPERATING LIFE AND REDUCES THE MAINTENANCE BURDEN OF BIORETENTION SYSTEMS, RAIN GARDENS, BIOSWALES AND OTHER TYPES OF SURFACE BEST MANAGEMENT PRACTICES BY FILTERING OUT SEDIMENT, TRASH AND DEBRIS AT THE INLET.
- B. PRODUCTS**
- PRETX IS AVAILABLE IN 3 MODELS THAT MANAGE MOST BIORETENTION INLET CONFIGURATIONS: CURB, DROP, AND INLINE.
 - PRETX-CURB IS FOR EDGE OF PAVEMENT RUNOFF AT A CURB CUT IN LIEU OF A STONE SPREADER.
 - PRETX-DROP IS FOR USE AS A DROP INLET CONFIGURATION ALONG A CURB LINE AND WOULD BE INSTALLED WITH A STANDARD DROP INLET GRATE.
 - PRETX INLINE IS FOR USE WITH SUBSURFACE INLET AND OUTLET PIPE.
 - PRETX IS SIZED TO PRETREAT WATER QUALITY FLOWS AND BYPASS LARGER FLOWS THAT HAVE MINIMAL TRASH AND DEBRIS. PRETX CAN BE USED BOTH IN RETROFIT OR NEW INSTALLATIONS.
 - ACCEPTABLE SYSTEM SUPPLIER:
CONVERGENT WATER TECHNOLOGIES, INC. OR ITS AUTHORIZED VALUE-ADDED RESELLER
(800) 711-5428
WWW.CONVERGENTWATER.COM
- C. SUBMITTALS**
- SUBMIT PROPOSED LAYOUT DRAWINGS. DRAWINGS SHALL INCLUDE TYPICAL SECTION DETAILS ANNOTED WITH SYSTEM ELEVATIONS (E.G., RIM, PIPE INVERTS, OUTSIDE BOTTOM OF STRUCTURE, ETC.).
 - SUBMIT MATERIAL CERTIFICATES FOR FRAMES AND COVERS.
 - ANY PROPOSED EQUAL ALTERNATE PRODUCT SUBSTITUTION TO THIS SPECIFICATION MUST BE SUBMITTED FOR REVIEW AND APPROVED PRIOR TO BID OPENING.
- D. EXECUTION**
- ALL PUBLIC STORM DRAINAGE SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS AND ACCORDING TO LOCAL MUNICIPAL REQUIREMENTS.
 - ALL STORM DRAINAGE SYSTEM CONSTRUCTION IS SUBJECT TO INSPECTION AND APPROVAL BY THE PROJECT ENGINEER.
 - THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER A MINIMUM OF TWO FULL BUSINESS DAYS PRIOR TO THE START OF CONSTRUCTION.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND OBTAINING APPROVAL FROM DIG-SAFE AND DETERMINING THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION/ EXCAVATION AND SHALL NOTIFY THE PROJECT ENGINEER OF ANY POTENTIAL CONFLICTS.
 - TO PROTECT STORMWATER FLOW CONTROL AND QUALITY TREATMENT FACILITIES FROM SEDIMENTATION, THEY SHALL BE CONNECTED TO THE STORM CONVEYANCE SYSTEM ONLY AFTER ALL SITE WORK, ROAD CONSTRUCTION, UTILITY WORK AND LANDSCAPING ARE IN PLACE IN ALL AREAS ABOVE AND UPSTREAM OF THE FACILITY.
 - THE EXISTING STORM SEWER SYSTEM SHALL STAY ISOLATED FROM THE NEW SYSTEM UNTIL THE NEW SYSTEM IS CLEANED, AND APPROVED FOR USE. THERE SHALL BE NO DEBRIS IN THE LINES OR FURTHER CLEANING WILL BE REQUIRED PRIOR TO ACCEPTANCE.
 - PROVIDE A 1/2" MINIMUM GAP BETWEEN THE KNOCKOUT WALL AND THE OUTSIDE OF THE PIPE. AFTER THE PIPE IS INSTALLED, FILL THE GAP WITH JOINT MORTAR.
 - THE OPENING SHALL BE MEASURED AT THE TOP OF THE PRECAST BASE SECTION.
 - ALL PICKUP HOLES SHALL BE GROUTED FULL AFTER THE BASIN HAS BEEN PLACED.
 - STANDARD CURB INLETS AND TIPDOWNS SHALL BE PRECAST CONCRETE OR ASPHALT.
 - PIPE ENDS SHALL BE FLUSH WITH THE INNER WALL OR 1" MAXIMUM INTRUSION. MASONRY, CINDER BLOCKS, OR SIMILAR MATERIALS MAY BE USED TO ADJUST THE RISERS TO GRADE PRIOR TO GROUTING.
 - GROUTING SHALL BE SUFFICIENT TO PREVENT LEAKS BETWEEN THE PRECAST COMPONENTS OF THE COMPLETED STRUCTURE & SHALL BE PERFORMED INSIDE, BETWEEN & OUTSIDE OF ALL RISERS, JOINTS & PIPE PENETRATIONS.
 - MANHOLES TO BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M-199 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE STANDARD SPECIFICATIONS.
 - ALL REINFORCED CAST IN PLACE CONCRETE SHALL BE CLASS 4000. ALL PRECAST CONCRETE SHALL BE CLASS 4000.
 - RECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM.
 - MATING SURFACES OF MANHOLE RINGS AND COVERS SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITIONS.
- E. CONSTRUCTION AND SEQUENCING**
- EXAMINATION
 - VERIFY LAYOUT AND ORIENTATION OF PRE-TX SYSTEM AREA INCLUDING EDGE OF PAVEMENT, TIP DOWN, CURBS AND SIDEWALK, BIOPRE-TX SYSTEM, AND CONNECTIONS.
 - VERIFY EXCAVATION BASE IS READY TO RECEIVE WORK AND EXCAVATIONS, DIMENSIONS, AND ELEVATIONS ARE AS INDICATED ON DRAWINGS.
 - PREPARATION
 - CALL DIG SAFE AND RECEIVE APPROVAL BEFORE PERFORMING WORK.
 - REQUEST UNDERGROUND UTILITIES TO BE LOCATED AND MARKED WITHIN AND SURROUNDING CONSTRUCTION AREAS.
 - IDENTIFY REQUIRED LINES, LEVELS, CONTOURS, AND DATUM.
 - CLEAR AND GRUB THE PROPOSED PRE-TX SYSTEM AREA.
 - EXCAVATION AND INSTALLATION
 - THE FOLLOWING CONSTRUCTION SEQUENCE IS TO BE USED AS A GENERAL GUIDELINE. COORDINATE WITH THE OWNER, AND ENGINEERS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
 - INSTALL TEMPORARY EROSION AND SEDIMENT CONTROLS TO DIVERT STORM WATER AWAY FROM THE PRE-TX SYSTEM AREA.
 - EXCAVATE TO THE BOTTOM INVERT OF THE SYSTEM.
 - TO MINIMIZE COMPACTION OF ADJACENT BIOPRE-TX SYSTEMS, WORK EXCAVATORS OR BACKHOES FROM THE SIDES TO EXCAVATE THE PRE-TX SYSTEM AREA TO ITS APPROPRIATE DESIGN DEPTH AND DIMENSIONS.
 - ROUGH GRADE THE PRE-TX SYSTEM AREA DURING GENERAL CONSTRUCTION. EXCAVATE THE PRE-TX SYSTEM FACILITIES TO WITHIN 1 FOOT OF STRUCTURE BOTTOM.
 - PLACE 1 FOOT BED OF COARSE STONE TO ELEVATION OF BASE OF STRUCTURE.
 - ESTABLISH ELEVATIONS FOR ADJACENT CURBS, EDGE OF PAVEMENT AND TIP DOWN, SIDEWALK, PIPE INVERTS FOR INLETS AND OUTLETS AS INDICATED ON DRAWINGS.
 - INSTALLATION
 - PLACE THE PRECAST SYSTEM TO NECESSARY ELEVATION.
 - VERIFY ELEVATIONS FOR ADJACENT CURBS, EDGE OF PAVEMENT, PAVEMENT GRADING FOR INLET GRATE FOR PRETX-DROP, SIDEWALK, PIPE INVERTS FOR INLETS AND OUTLETS, OUTLET INVERT FOR KNEE WALL.
 - FOR PRETX-SURFACE:
 - VERIFY ELEVATIONS FOR ADJACENT CURBS.
 - VERIFY EDGE OF PAVEMENT TIP DOWN PAVEMENT GRADING FOR INLET GRATE.
 - VERIFY CURB ELEVATION IN RELATION TO PAVEMENT AND TIP DOWN.
 - VERIFY OUTLET INVERT FOR KNEE WALL IN RELATION TO FILTER MEDIA.
 - FOR PRETX-DROP:
 - VERIFY ALL INLET PIPES ENTER THE STRUCTURE UPSTREAM OF BAFFLE.
 - VERIFY FRAME AND GRATE OFFSET ON INLET SIDE AND UPSTREAM OF BAFFLE.
 - VERIFY CURB LOCATION WITH RESPECT TO FRAME AND GRATE ORIENTATION.
 - INSTALL BAFFLES, WEIR, AND SCREENS AS INDICATED ON DRAWINGS.
 - VERIFY MAINTENANCE ACCESS THROUGH GRATE OR COVER AND CLEARANCE FOR VEHICLE.
 - INSTALL TOP OF STRUCTURE LEVEL WITH ADJACENT CURB OR SIDEWALK AS PER MANUFACTURERS SPECIFICATIONS. ENGINEER FIELD VISIT REQUIRED PRIOR TO BACKFILLING.
 - BACKFILLING
 - BACKFILL WITH APPROVED SOIL AND STONE TO THE DESIGN GRADE AS SPECIFIED IN THE DRAWINGS.
 - BACKFILL WITH 12" OF NO. 57 STONE AROUND REAR, LEFT, AND RIGHT SIDES TO LEVEL WITH TOP OF HDPE SCREEN.
 - BACKFILL WITH BIORETENTION SOIL MIX BEYOND STONE BACKFILL TO EQUAL ELEVATION OF THE TOP OF HDPE SCREEN.
 - DO NOT BACKFILL SOIL OR STONE AGAINST STAINLESS SCREEN.
 - DO NOT COMPACT ADJACENT FILTRATION SYSTEM SOIL WITH MECHANICAL EQUIPMENT.
 - STABILIZE ALL REMAINING DISTURBED AREAS AND SIDE SLOPES WITH SEEDING, HYDROSEEDING, AND/ OR EROSION CONTROL BLANKETS AS INDICATED ON DRAWINGS.
 - CLEAN UP
 - AFTER COMPLETION OF THE WORK, REMOVE AND PROPERLY DISPOSE ALL DEBRIS, CONSTRUCTION MATERIALS, RUBBISH, EXCESS SOIL, ETC., FROM THE PROJECT SITE. REPAIR PROMPTLY ANY IDENTIFIED DEFICIENCIES AND LEAVE THE PROJECT SITE IN A CLEAN AND SATISFACTORY CONDITION.

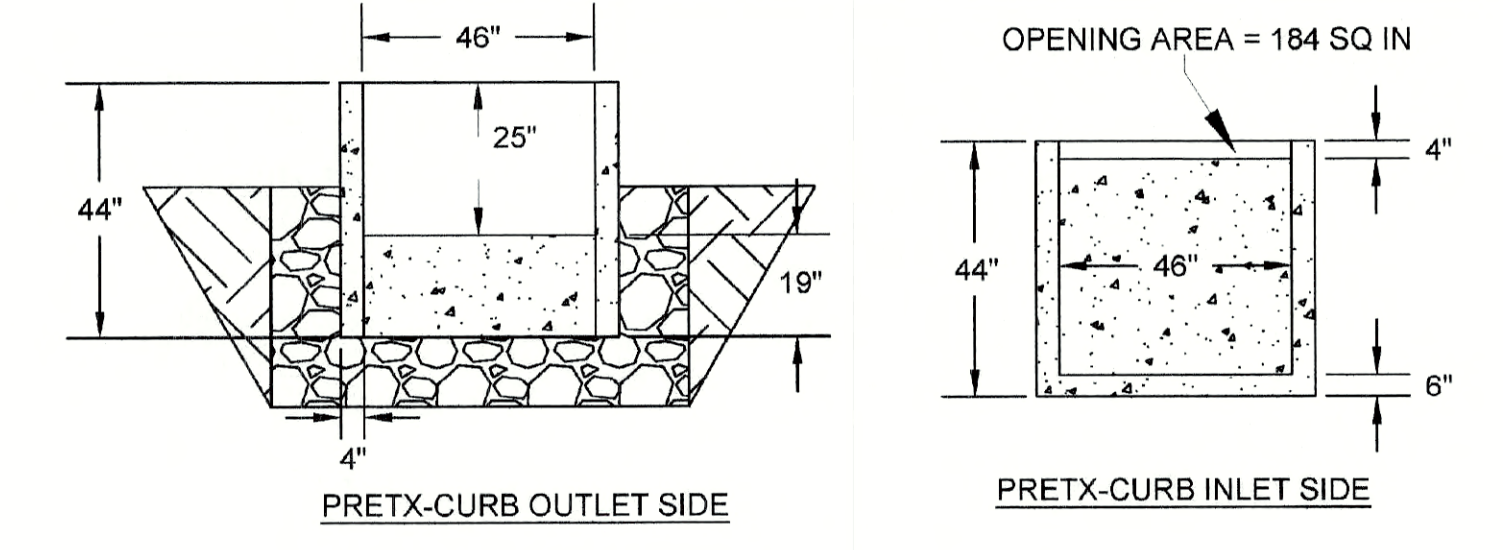


1 PRETX CURB DETAIL
NOT TO SCALE

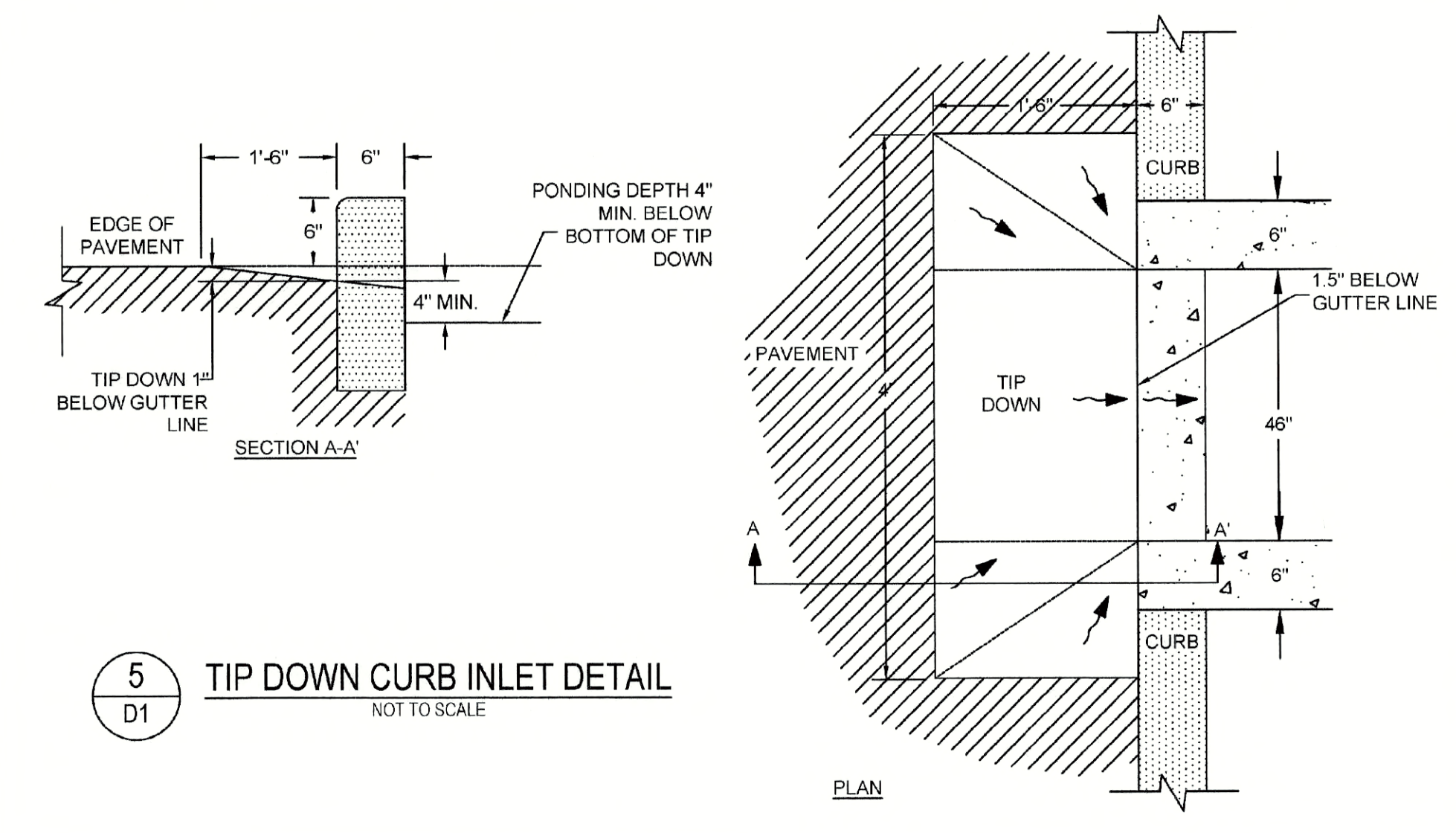


3 PRETX CURB OUTLET SIDE
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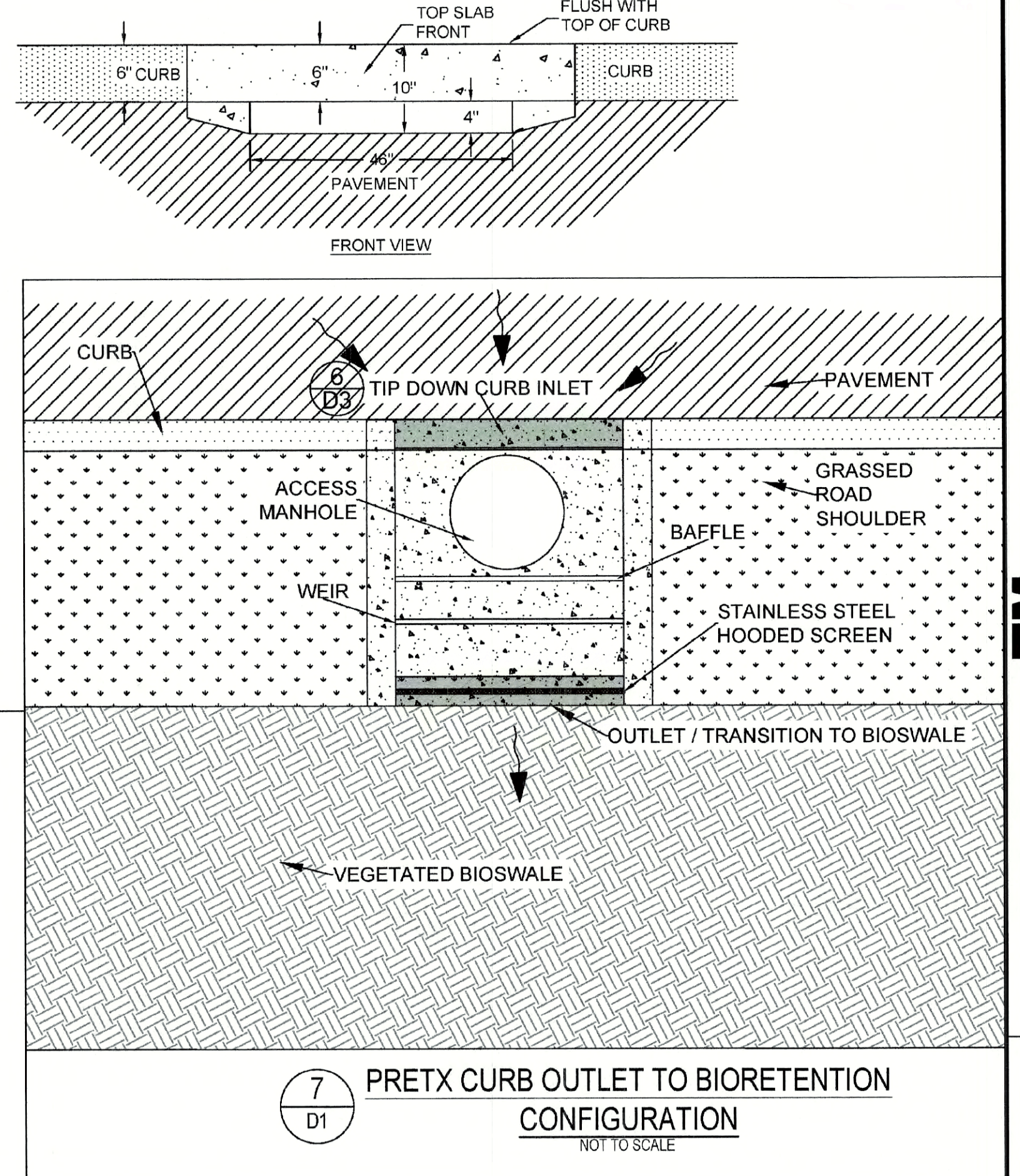
OUTLET SIDE INSTALLED W/ SCREENS



4 PRETX CURB SIDE DETAIL
NOT TO SCALE



5 TIP DOWN CURB INLET DETAIL
NOT TO SCALE



7 PRETX CURB OUTLET TO BIORETENTION CONFIGURATION
NOT TO SCALE

PRETX-CURB ELEVATION GUIDE

POINT	DESCRIPTION	HEIGHT IN REFERENCE TO PT. A
A	EDGE OF PAVEMENT	0 INCHES
B	OUTSIDE TOP SLAB	8 INCHES
C	TOP OF BIORETENTION	12 INCHES
D	SUMP INVERT	36 INCHES
E	OUTSIDE BOTTOM	42 INCHES

6 ELEVATION GUIDE
NOT TO SCALE

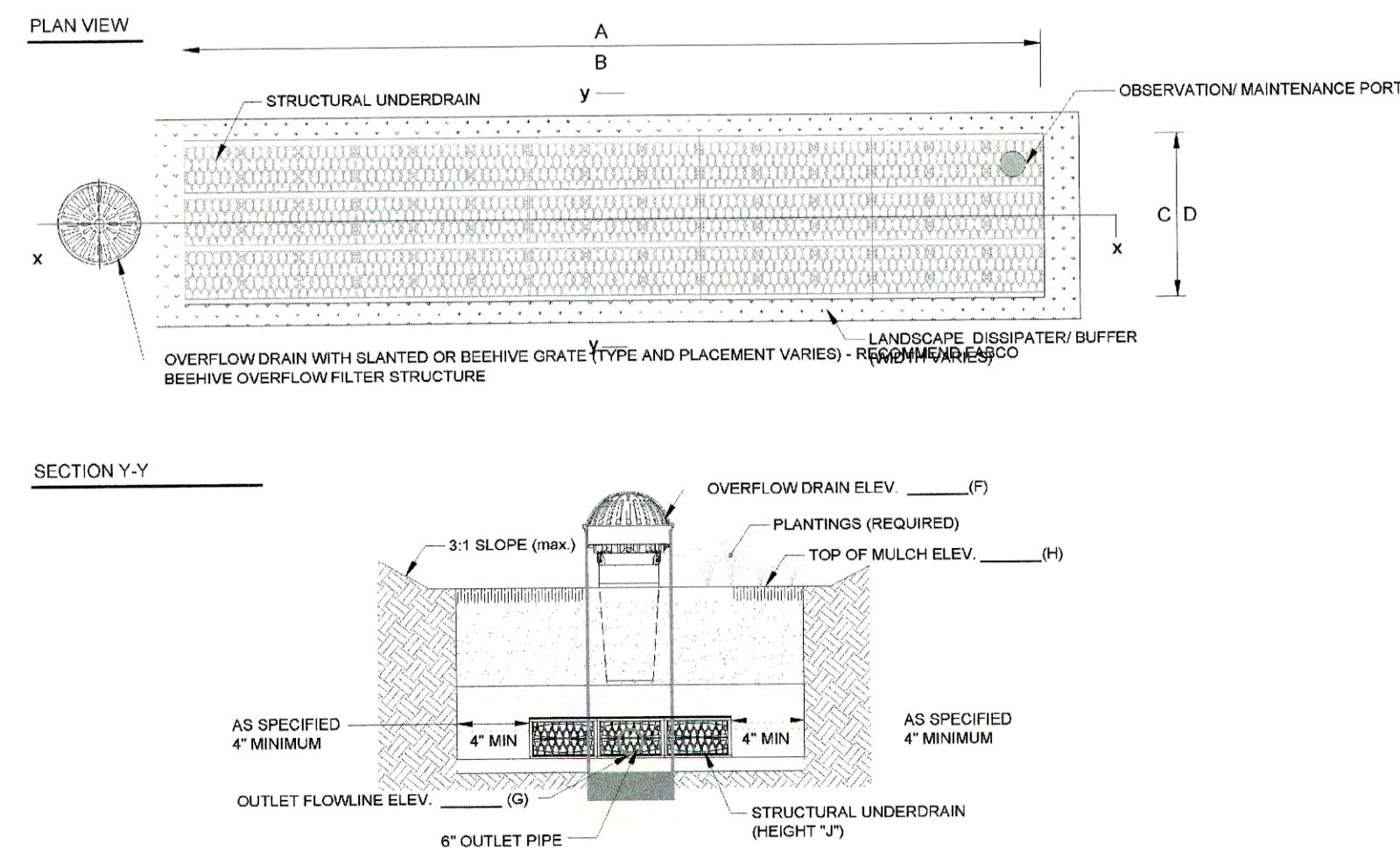
D-1 PRETX™ CURB INLET PRETREATMENT DETAIL



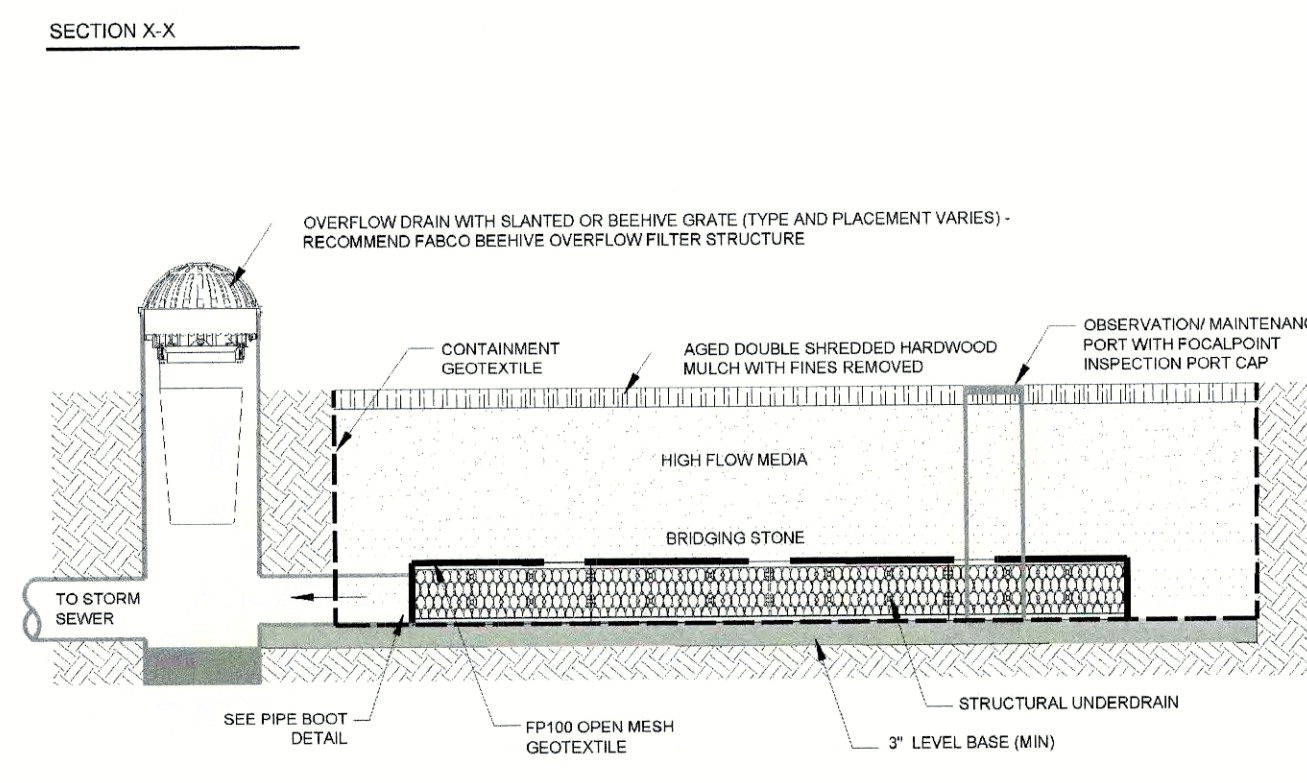
TO FIND A VALUE ADDED RESELLER IN YOUR AREA VISIT
WWW.CONVERGENTWATER.COM/STORMWATER-PRODUCTS
OR CONTACT CONVERGENT WATER TECHNOLOGIES AT
1.800.711.5428



REVISED 11/2018; ELEVATION DETAILS ADDED; CHECKED BY: RR

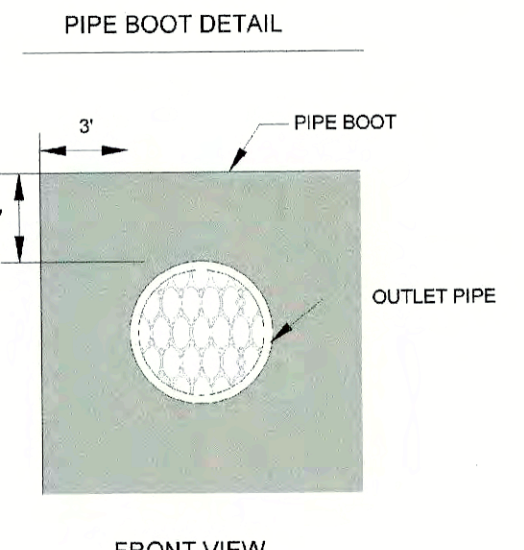
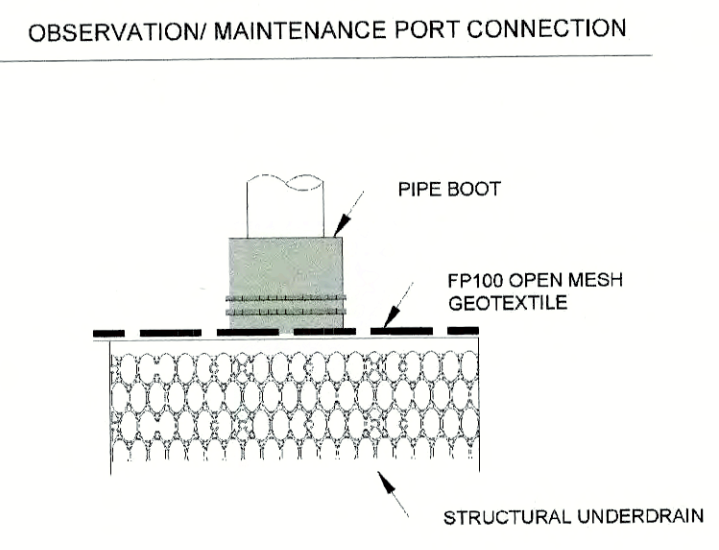


1 TYPICAL LAYOUT AND SECTION Y-Y

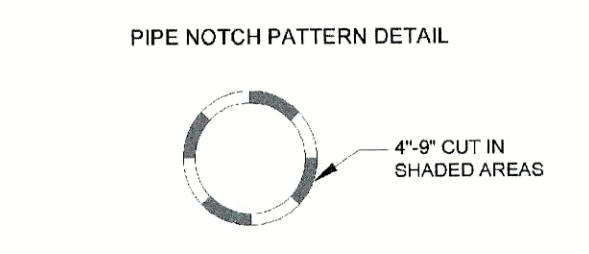
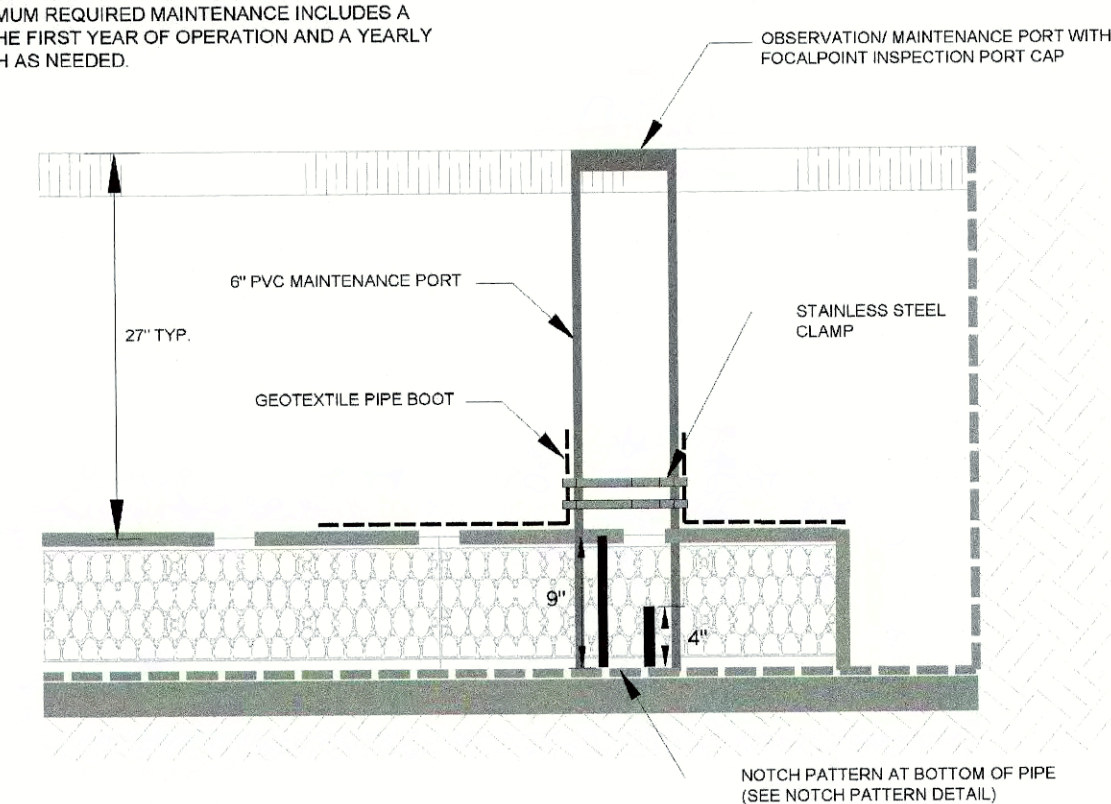


2 SECTION X-X

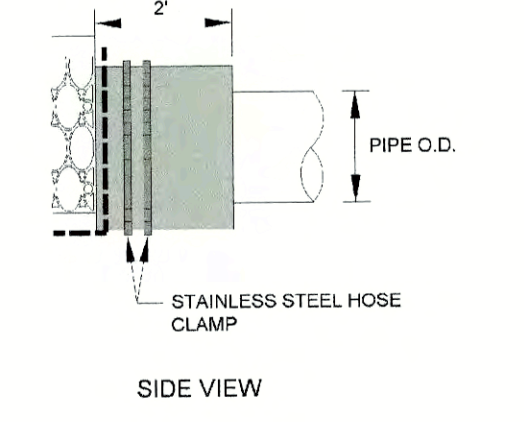
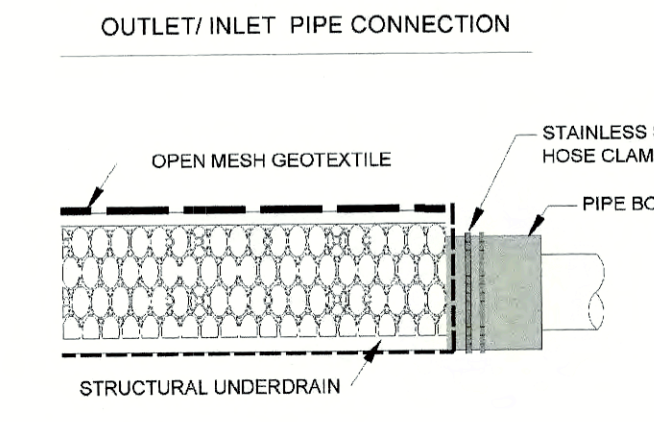
FOCALPOINT HP PERFORMANCE SPECIFICATION:
HIGH PERFORMANCE MEDIA
 HIGH PERFORMANCE MEDIA MUST MEET A MINIMUM OF 100" PER HOUR INFILTRATION RATE. FIELD HYDRAULIC CONDUCTIVITY TESTING MUST BE CONDUCTED WITHIN 30 DAYS OF INSTALLATION. FIELD TEST MUST BE CONDUCTED WITH PROSCRIBED INFILTROMETER AND SOP (SEE SPECIFICATION) FAILURE TO MEET FIELD TESTING WILL RESULT IN THE REMOVAL OF MEDIA AND REPLACEMENT FROM ALTERNATE BATCH.
HIGH PERFORMANCE STRUCTURAL UNDERDRAIN
 MUST HAVE A MINIMUM OF 19 SQUARE INCHES OF ORIFICE OPENING PER SQUARE FOOT. MUST MEET H2O LOADING REQUIREMENTS. MUST BE MODULAR IN NATURE AND ASSEMBLED ON SITE. MUST HAVE MINIMUM 90% INTERIOR VOID SPACE.
PLANT COMPONENT
 SUPPLIER SHALL PROVIDE LIST OF ACCEPTABLE PLANTS. IF PLANTS ARE NOT INCLUDED IN THE LANDSCAPE CONTRACT/PLANS, SITE CONTRACTOR SHALL PROVIDE PLANTS. PLANTS SHALL BE INSTALLED AT THE TIME OF THE SYSTEM IS COMMISSIONED FOR USE. PLANTING OUTSIDE THIS TIME REQUIRES APPROVAL BY THE ENGINEER OF RECORD. SEE FOCALPOINT INSTALLATION GUIDE FOR PLANT SPACING, PLANTING PROCEDURES, ETC.



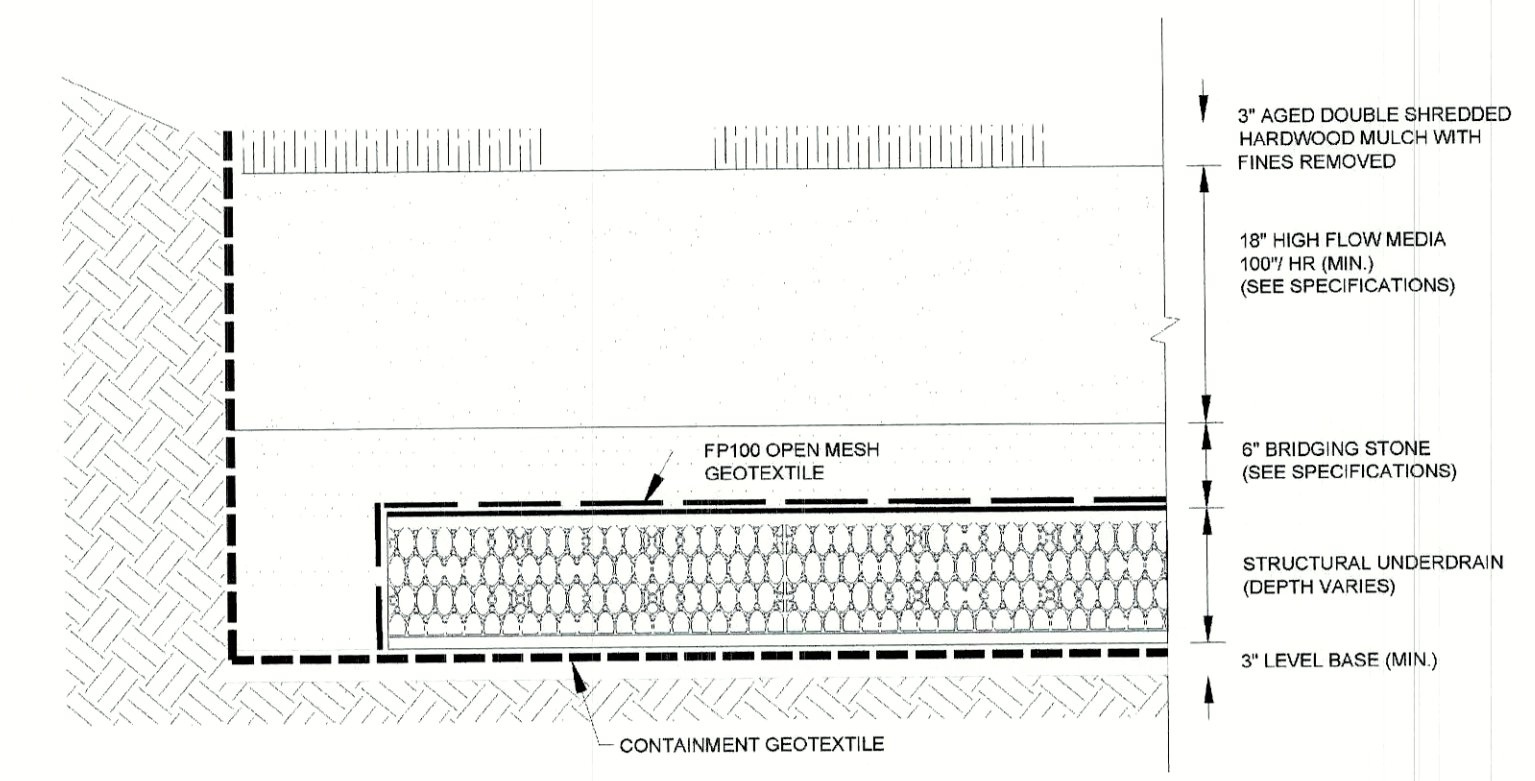
OBSERVATION/ MAINTENANCE PORT
 PORT USED FOR INSPECTION PURPOSES AND FOR SYSTEM MAINTENANCE AS REQUIRED. WATER SHALL BE PUMPED INTO THE SYSTEM AND RESUSPEND ACCUMULATED SEDIMENT. MINIMUM REQUIRED MAINTENANCE INCLUDES A QUARTERLY INSPECTION FOR THE FIRST YEAR OF OPERATION AND A YEARLY INSPECTION THEREAFTER FLUSH AS NEEDED.



5 INSPECTION PORT DETAIL

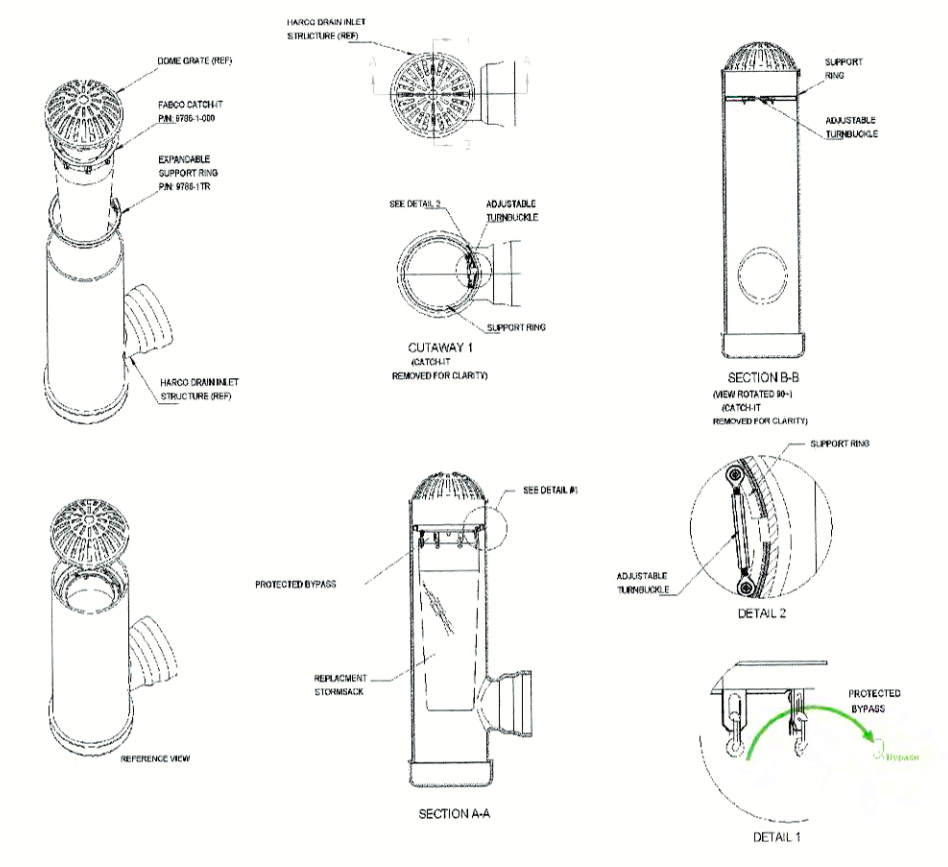


4 PIPE CONNECTION DETAIL

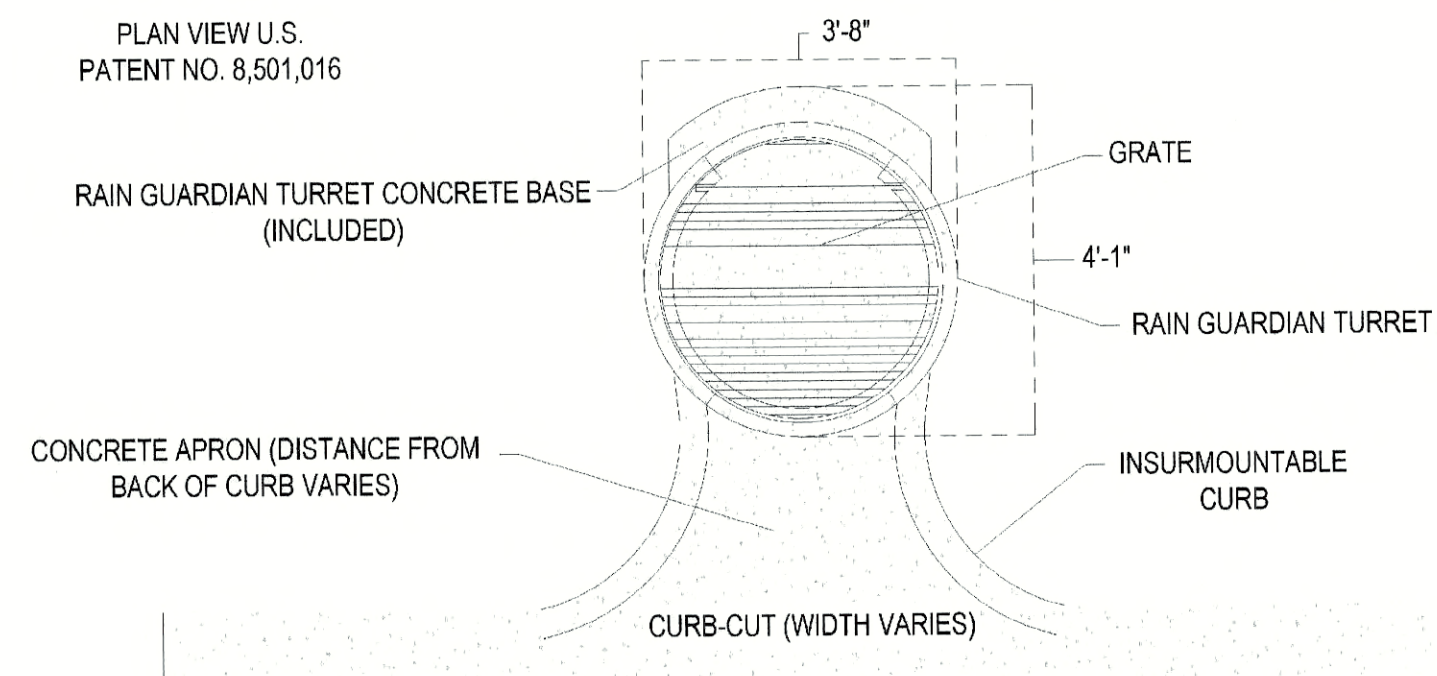


6 DETAILED CROSS SECTION

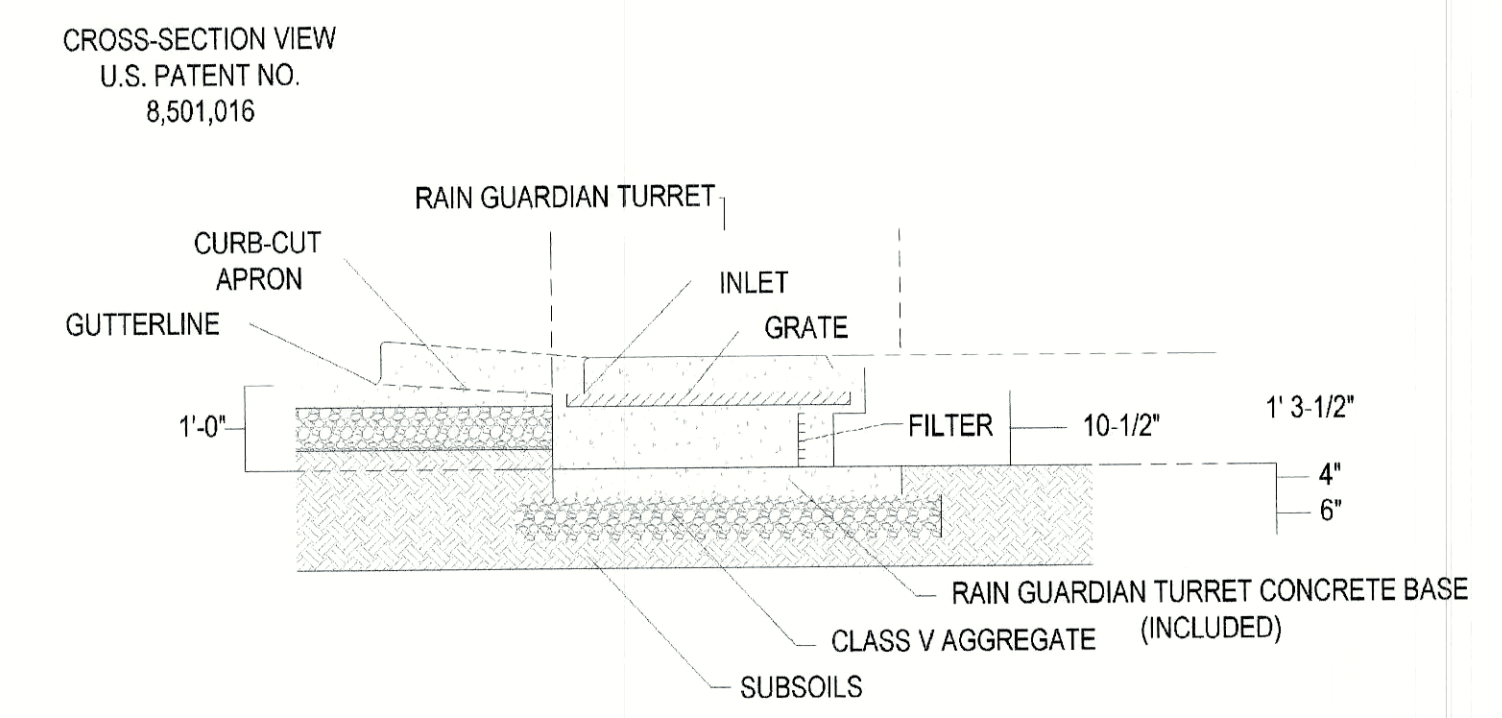
STRUCTURE DIAMETER (INCHES)	DEBRIS CAPACITY (CF)	FILTERED FLOWRATE (CF/S)	BYPASS FLOWRATE (CF/S)	TOTAL SYSTEM FLOWRATE (CF/S)
12	0.77	2.2	1.2	3.4
18	1.85	2.5	1.0	3.5
24	3.60	4.9	2.4	7.3
30	6.20	4.9	2.4	7.3



7 R-TANK[®] TYPICAL TANK INLET/OUTLET DETAIL



8 RAIN GUARDIAN TURRET (PLAN)



9 RAIN GUARDIAN TURRET (SECTION)

NOTE: ENGINEER OF RECORD TO REVIEW, APPROVE AND ENDORSE FINAL SITE SPECIFIC DESIGN.

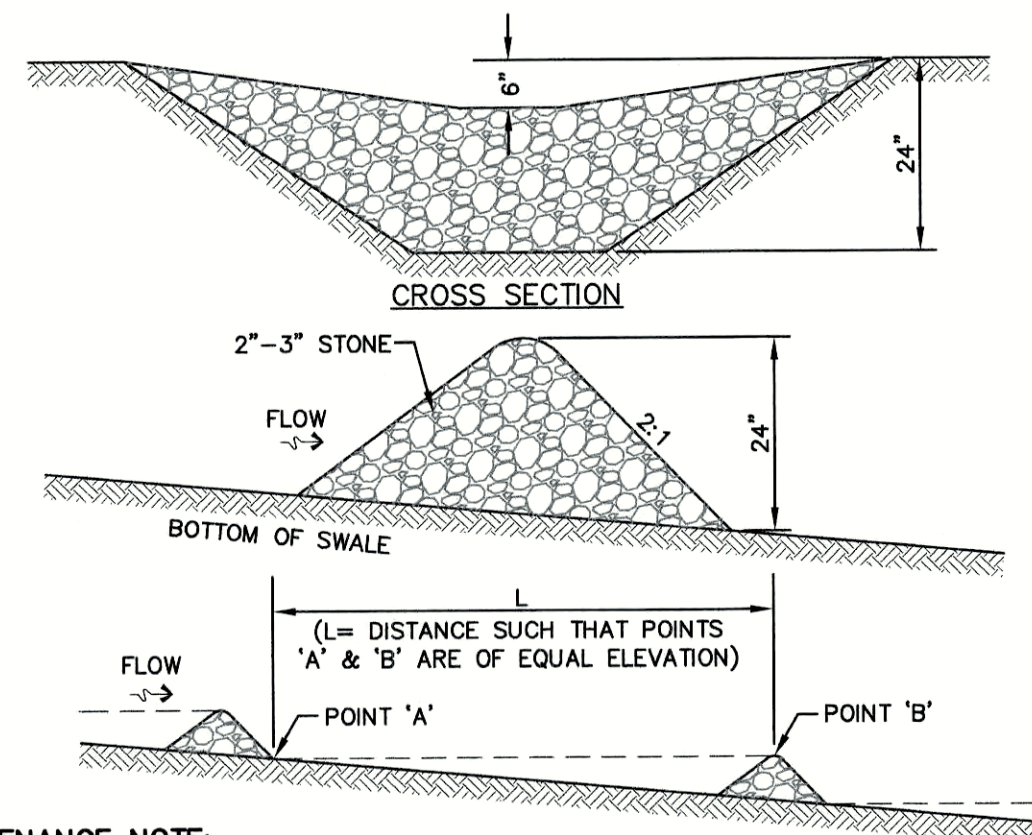
FOR ADDITIONAL INFORMATION PLEASE CONTACT ACF ENVIRONMENTAL 1-800-448-363 www.acfenvironmental.com



FOCALPOINT DETAILS

PROJECT NO.
35.336
DATE
AUG 15, 2019
SHEET NO.

FP-1

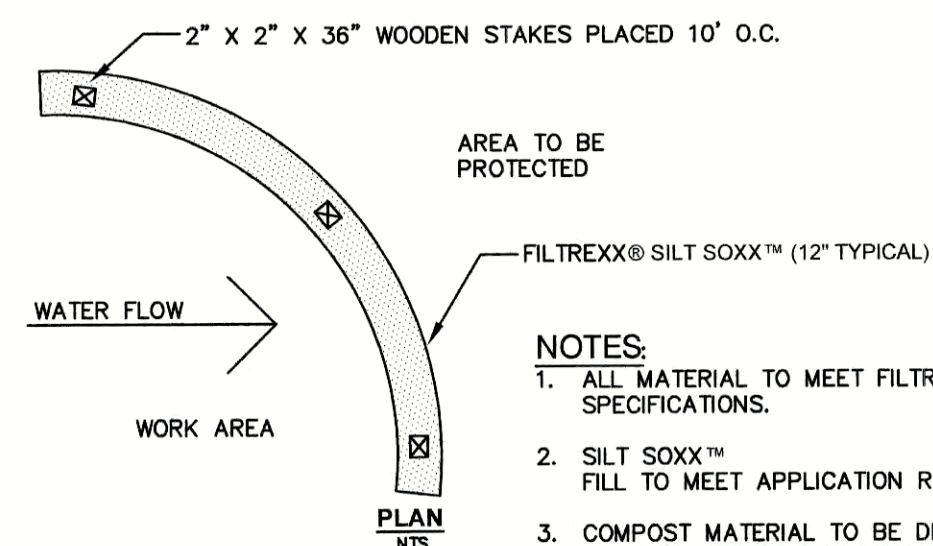
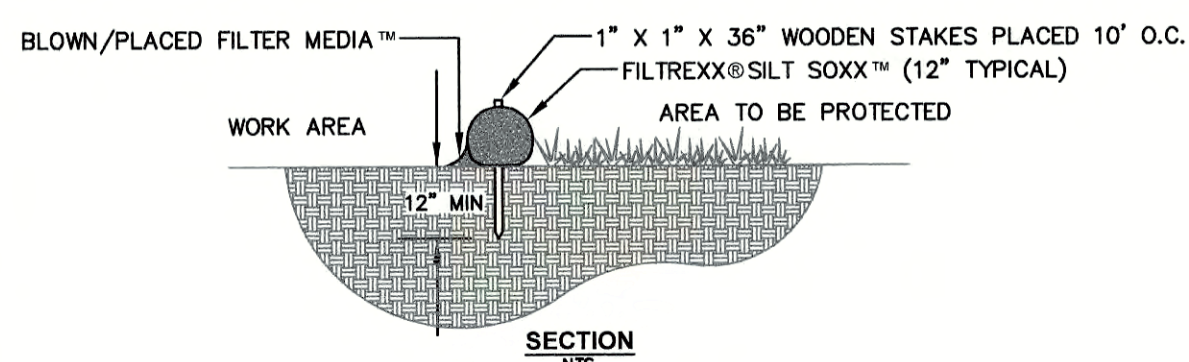


MAINTENANCE NOTE:

- STONE CHECK DAMS SHOULD BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY NECESSARY REPAIRS SHOULD BE MADE IMMEDIATELY. PARTICULAR ATTENTION SHOULD BE GIVEN TO END RUN AND EROSION AT THE DOWNSTREAM TOE OF THE STRUCTURE. WHEN THE STRUCTURES ARE REMOVED, THE DISTURBED PORTION SHOULD BE BROUGHT TO THE EXISTING CHANNEL GRADE AND THE AREAS PREPARED, SEEDING AND MULCHED. WHILE THIS PRACTICE IS NOT INTENDED TO BE USED PRIMARILY FOR SEDIMENT TRAPPING, SOME SEDIMENT WILL ACCUMULATE BEHIND THE STRUCTURES. SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRUCTURES WHEN IT HAS ACCUMULATED TO ONE HALF OF THE ORIGINAL HEIGHT OF THE STRUCTURE.

STONE CHECK DAM

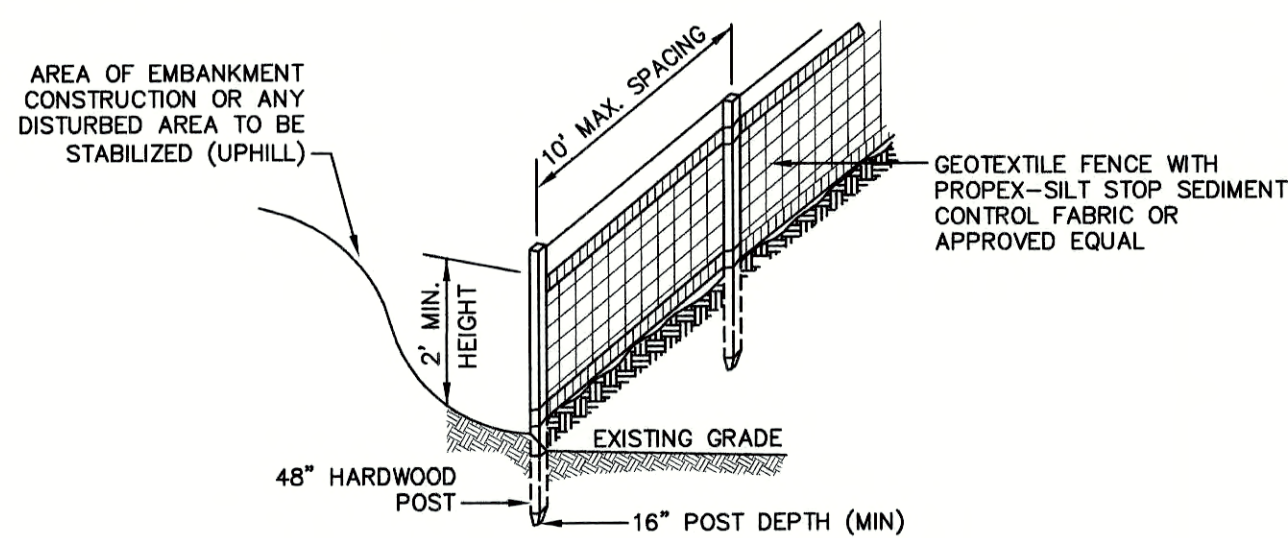
NOT TO SCALE



- NOTES:**
- ALL MATERIAL TO MEET FILTREX® SPECIFICATIONS.
 - SILT SOXX™ FILL TO MEET APPLICATION REQUIREMENTS.
 - COMPOST MATERIAL TO BE DISPersed ON SITE, AS DETERMINED BY ENGINEER.

FILTREX® SILT SOXX™

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS:

- WOVEN FABRIC FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP, MID AND BOTTOM AND EMBEDDED IN THE GROUND A MINIMUM OF 8" AND THEN COVERED WITH SOIL.
- THE FENCE POSTS SHALL BE A MINIMUM OF 48" LONG, SPACED A MAXIMUM 10' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED 6", FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BY-PASSING.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED AND PROPERLY DISPOSED OF WHEN IT IS 6" DEEP OR VISIBLE 'BULGES' DEVELOP IN THE SILT FENCE.
- PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE.
- SILT FENCE SHALL REMAIN IN PLACE FOR 24 MONTHS.

SILT FENCE

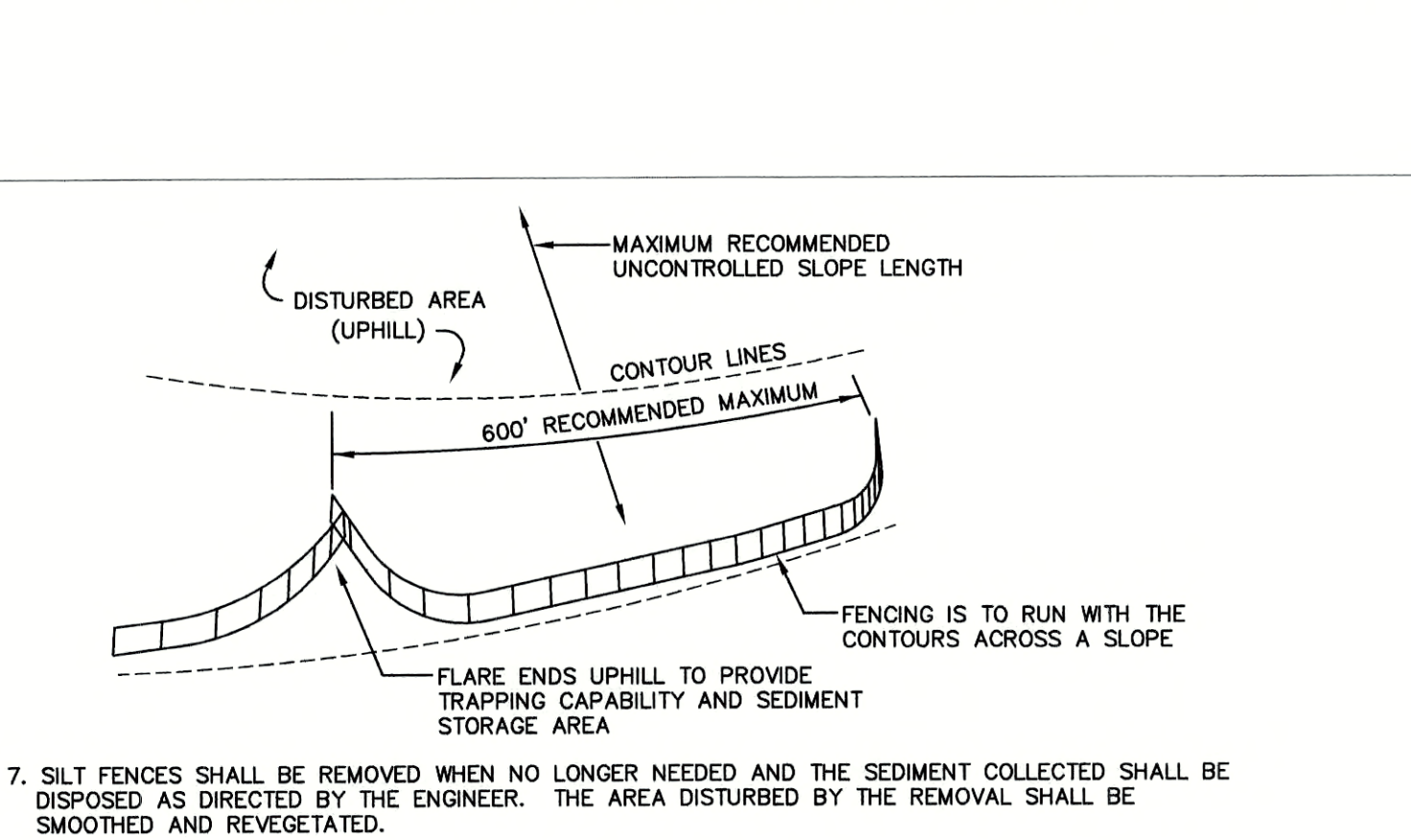
NOT TO SCALE

TEMPORARY EROSION CONTROL NOTES

- THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME. AT NO TIME SHALL AN AREA IN EXCESS OF 5 ACRES BE EXPOSED AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
- EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED, DIRECTED BY THE ENGINEER.
- ALL DISTURBED AREAS (INCLUDING POND AREAS BELOW THE PROPOSED WATERLINE) SHALL BE RETURNED TO PROPOSED GRADES AND ELEVATIONS. DISTURBED AREAS SHALL BE LOADED WITH A MINIMUM OF 6" OF SCREENED ORGANIC LOAM AND SEEDED WITH SEED MIXTURE 'C' AT A RATE NOT LESS THAN 1.10 POUNDS OF SEED PER 1,000 S.F. OF AREA (48 LBS. / ACRE).
- SILT FENCES AND OTHER BARRIERS SHALL BE INSPECTED EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 0.5" OR GREATER. ALL DAMAGED AREAS SHALL BE REPAIRED, AND SEDIMENT DEPOSITS SHALL BE PERIODICALLY REMOVED AND DISPOSED OF.
- AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
- AREAS MUST BE SEEDED AND MULCHED OR OTHERWISE PERMANENTLY STABILIZED WITHIN 3 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 14 DAYS OF THE INITIAL DISTURBANCE OF SOIL. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
- ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING NORTH AMERICAN GREEN S75 EROSION CONTROL BLANKETS (OR AN EQUIVALENT APPROVED IN WRITING BY THE ENGINEER) ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
- ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
- AFTER OCTOBER 15th, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3" OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.
- AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
 - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
 - A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH STONE OR RIPRAP HAS BEEN INSTALLED; OR
 - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

- FUGITIVE DUST CONTROL IS REQUIRED TO BE CONTROLLED IN ACCORDANCE WITH ENV-A 1000, AND THE PROJECT IS TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
- PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR'S NAME, ADDRESS, AND PHONE NUMBER SHALL BE SUBMITTED TO DES VIA EMAIL (SEE BELOW).
- PRIOR TO CONSTRUCTION, A PHASING PLAN THAT DELINEATES EACH PHASE OF THE PROJECT SHALL BE SUBMITTED. ALL TEMPORARY SEDIMENT BASINS THAT WILL BE NEEDED FOR DEWATERING WORK AREAS SHALL BE LOCATED AND IDENTIFIED ON THIS PLAN.
- IN ORDER TO ENSURE THE STABILITY OF THE SITE AND EFFECTIVE IMPLEMENTATION OF THE SEDIMENT AND EROSION CONTROL MEASURES SPECIFIED IN THE PLANS FOR THE DURATION OF CONSTRUCTION, THE CONTRACTOR SHALL BE IN STRICT COMPLIANCE WITH THE FOLLOWING INSPECTION AND MAINTENANCE REQUIREMENTS IN ADDITION TO THOSE CALLED FOR IN THE SWPPP:
 - A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL OR A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE ("MONITOR") SHALL BE EMPLOYED TO INSPECT THE SITE FROM THE START OF ALTERATION OF TERRAIN ACTIVITIES UNTIL THE SITE IS IN FULL COMPLIANCE WITH THE SITE SPECIFIC PERMIT ("PERMIT").
 - DURING THIS PERIOD, THE MONITOR SHALL INSPECT THE SUBJECT SITE AT LEAST ONCE A WEEK, AND IF POSSIBLE, DURING ANY 1/2 INCH OR GREATER RAIN EVENT (I.E. 1/2 INCH OF PRECIPITATION OR MORE WITHIN A 24 HOUR PERIOD). IF UNABLE TO BE PRESENT DURING SUCH A STORM, THE MONITOR SHALL INSPECT THE SITE WITHIN 24 HOURS OF THIS EVENT.
 - THE MONITOR SHALL PROVIDE TECHNICAL ASSISTANCE AND RECOMMENDATIONS TO THE CONTRACTOR ON THE APPROPRIATE BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROLS REQUIRED TO MEET THE REQUIREMENTS OF RSA 485 A:17 AND ALL APPLICABLE DES PERMIT CONDITIONS.
 - WITHIN 24 HOURS OF EACH INSPECTION, THE MONITOR SHALL SUBMIT A REPORT TO DES VIA EMAIL (RIDGELY MAUCK AT: RIDGELY.MAUCK@DES.NH.GOV).
 - THE MONITOR SHALL MEET WITH DES TO DECIDE UPON A REPORT FORMAT. THE REPORT FORMAT SHALL BE REVIEWED AND APPROVED BY DES PRIOR TO THE START OF CONSTRUCTION.

- A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL OR A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE ("MONITOR") SHALL BE EMPLOYED TO INSPECT THE SITE FROM THE START OF ALTERATION OF TERRAIN ACTIVITIES UNTIL THE SITE IS IN FULL COMPLIANCE WITH THE SITE SPECIFIC PERMIT ("PERMIT").
- DURING THIS PERIOD, THE MONITOR SHALL INSPECT THE SUBJECT SITE AT LEAST ONCE A WEEK, AND IF POSSIBLE, DURING ANY 1/2 INCH OR GREATER RAIN EVENT (I.E. 1/2 INCH OF PRECIPITATION OR MORE WITHIN A 24 HOUR PERIOD). IF UNABLE TO BE PRESENT DURING SUCH A STORM, THE MONITOR SHALL INSPECT THE SITE WITHIN 24 HOURS OF THIS EVENT.
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- THE MONITOR SHALL MEET WITH DES TO DECIDE UPON A REPORT FORMAT. THE REPORT FORMAT SHALL BE REVIEWED AND APPROVED BY DES PRIOR TO THE START OF CONSTRUCTION.



- SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER. THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND REVEGETATED.

MAINTENANCE:

- SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE DONE IMMEDIATELY.
- IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
- SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER.
- SEDIMENT DEPOSITS THAT ARE REMOVED, OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED, SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

REV.	DATE	REVISION	BY
5	5/5/21	REVISIONS	LAZ
4	3/18/21	ADDED DETAIL	LAZ
3	3/3/21	ADDED SURVEY INFO	LAZ
2	1/6/21	MINOR REVISIONS	DJM
1	11/23/20	REVISED PER CLIENT	DJM
REV.	DATE	REVISION	BY

SEEDING SPECIFICATIONS

- GRADING AND SHAPING**
 - SLOPES SHALL NOT BE STEEPER THAN 2:1 WITHOUT APPROPRIATE EROSION CONTROL MEASURES AS SPECIFIED ON THE PLANS (3:1 SLOPES OR FLATTER ARE PREFERRED).
 - WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.
- SEEDBED PREPARATION**
 - SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
 - STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND FERTILIZER AND LIME MIXED INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.
- ESTABLISHING A STAND**
 - LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. TYPES AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:
 - AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS. PER 1,000 SQ.FT.
 - NITROGEN(N), 50 LBS. PER ACRE OR 1.1 LBS. PER 1,000 SQ.FT.
 - PHOSPHATE(P2O5), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ.FT.
 - POTASH(K2O), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ.FT.
 (NOTE: THIS IS THE EQUIVALENT OF 500 LBS. PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS. PER ACRE OF 5-10-10.)
 - SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLUDE BROADCASTING, DRILLING AND HYDROSEEDING. WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF SOIL OR LESS, BY CULTIPACKING OR RAKING.
 - REFER TO THE 'SEEDING GUIDE' AND 'SEEDING RATES' TABLES ON THIS SHEET FOR APPROPRIATE SEED MIXTURES AND RATES OF SEEDING. ALL LEGUMES (CROWNVECH, BIRDSFOOT, TREFOL AND FLATPEA) MUST BE INOCULATED WITH THEIR SPECIFIC INOCULANT PRIOR TO THEIR INTRODUCTION TO THE SITE.
 - WHEN SEEDS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WHEN SEEDS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM EARLY SPRING TO MAY 20th OR FROM AUGUST 10th TO SEPTEMBER 1st.
- MULCH**
 - HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
 - MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE FOR MULCHING. HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90 LBS PER 1000 S.F.
- MAINTENANCE TO ESTABLISH A STAND**
 - PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
 - FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIALS TAKE 2 TO 3 YEARS TO BECOME FULLY ESTABLISHED.
 - IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED, ANNUAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

USE	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	POOR	GOOD	EXCELLENT	GOOD
	D	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER.	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
	F	FAIR	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES.	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	E	FAIR	EXCELLENT	EXCELLENT	2/
	F	FAIR	EXCELLENT	EXCELLENT	2/

GRAVEL PIT. SEE NH-PM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.
 1/ REFER TO SEEDING MIXTURES AND RATES IN TABLE BELOW.
 2/ POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAYING AREA AND ATHLETIC FIELDS.
 NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR OATS AT A RATE OF 2.5 LBS. PER 1000 S.F. AND SHALL BE PLACED PRIOR TO OCTOBER 15th, IF PERMANENT SEEDING NOT YET COMPLETE.

SEEDING GUIDE

MIXTURE	POUNDS PER ACRE	POUNDS PER 1,000 Sq. Ft.
A. TALL FESCUE	20	0.45
CREeping RED FESCUE	20	0.45
RED TOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREeping RED FESCUE	10	0.25
CROWN VETCH	15	0.35
OR FLAT PEA	30	0.75
TOTAL	40 OR 55	0.95 OR 1.35
C. TALL FESCUE	20	0.45
CREeping RED FESCUE	20	0.45
BIRDS FOOT TREFOL	8	0.20
TOTAL	48	1.10
D. TALL FESCUE	20	0.45
FLAT PEA	30	0.75
TOTAL	50	1.20
E. CREeping RED FESCUE 1/	50	1.15
KENTUCKY BLUEGRASS 1/	50	1.15
TOTAL	100	2.30
F. TALL FESCUE 1	150	3.60

SEEDING RATES

Designed and Produced in NH

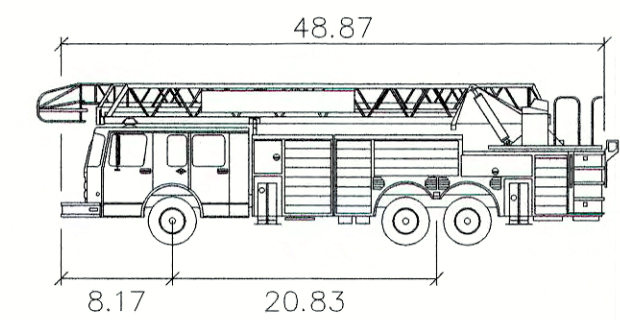
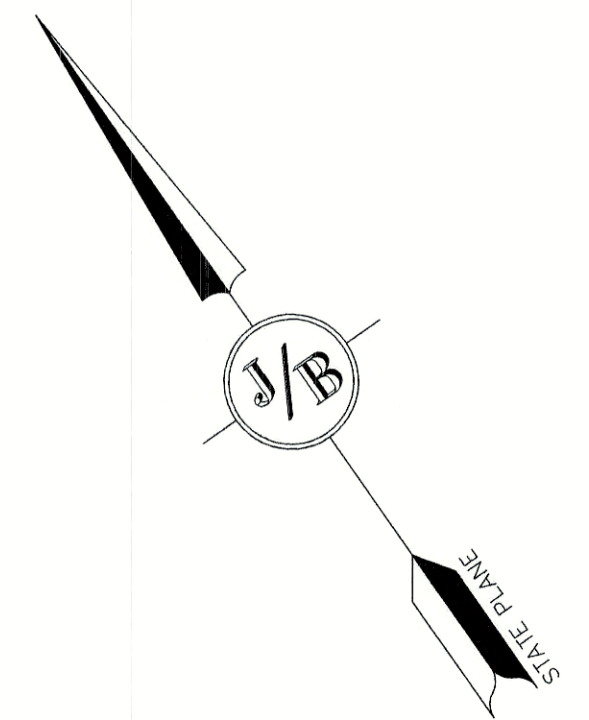
J/B Jones & Beach Engineers, Inc.
 Civil Engineering Services
 85 Portsmouth Ave. PO Box 219 Stratham, NH 03885
 603-772-4746
 FAX: 603-772-0227
 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: **EROSION AND SEDIMENT CONTROL DETAILS**
 Project: **3400 LAFAYETTE ROAD PORTSMOUTH, NH**
 Owner of Record: **RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229**

DRAWING No. **E1**
 SHEET 24 OF 25
 JBE PROJECT NO. 20737

Design: JAC Draft: LAZ Date: 3/3/21
 Checked: JAC Scale: AS NOTED Project No.: 20737
 Drawing Name: 20737-PLAN.dwg
 THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.

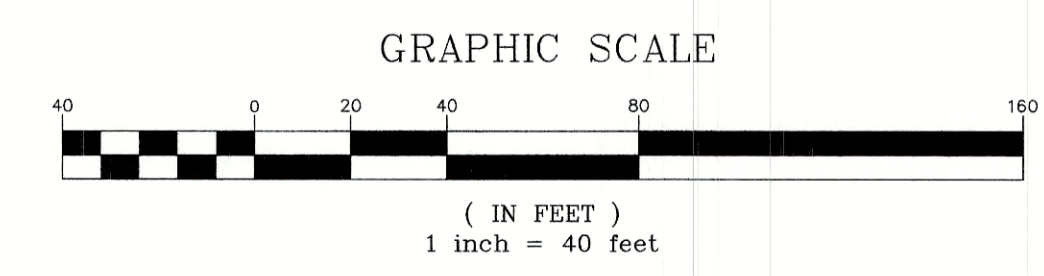




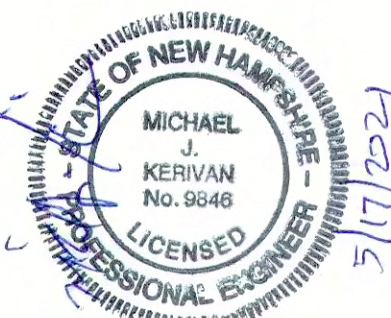
Portsmouth Fire Truck

feet

Width : 8.50
 Track : 6.91
 Lock to Lock Time : 6.0
 Steering Angle : 38.7



Design: JAC | Draft: LAZ | Date: 3/3/21
 Checked: JAC | Scale: AS SHOWN | Project No.: 20737
 Drawing Name: 20737-PLAN.dwg
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5	5/5/21	REVISIONS	LAZ
4	3/18/21	ADDED DETAIL	LAZ
3	3/3/21	ADDED SURVEY INFO	LAZ
2	1/6/21	MINOR REVISIONS	DJM
1	11/23/20	REVISED PER CLIENT	DJM
		REVISION	

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.
Civil Engineering Services

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885
 603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: **TRUCK TURNING PLAN**

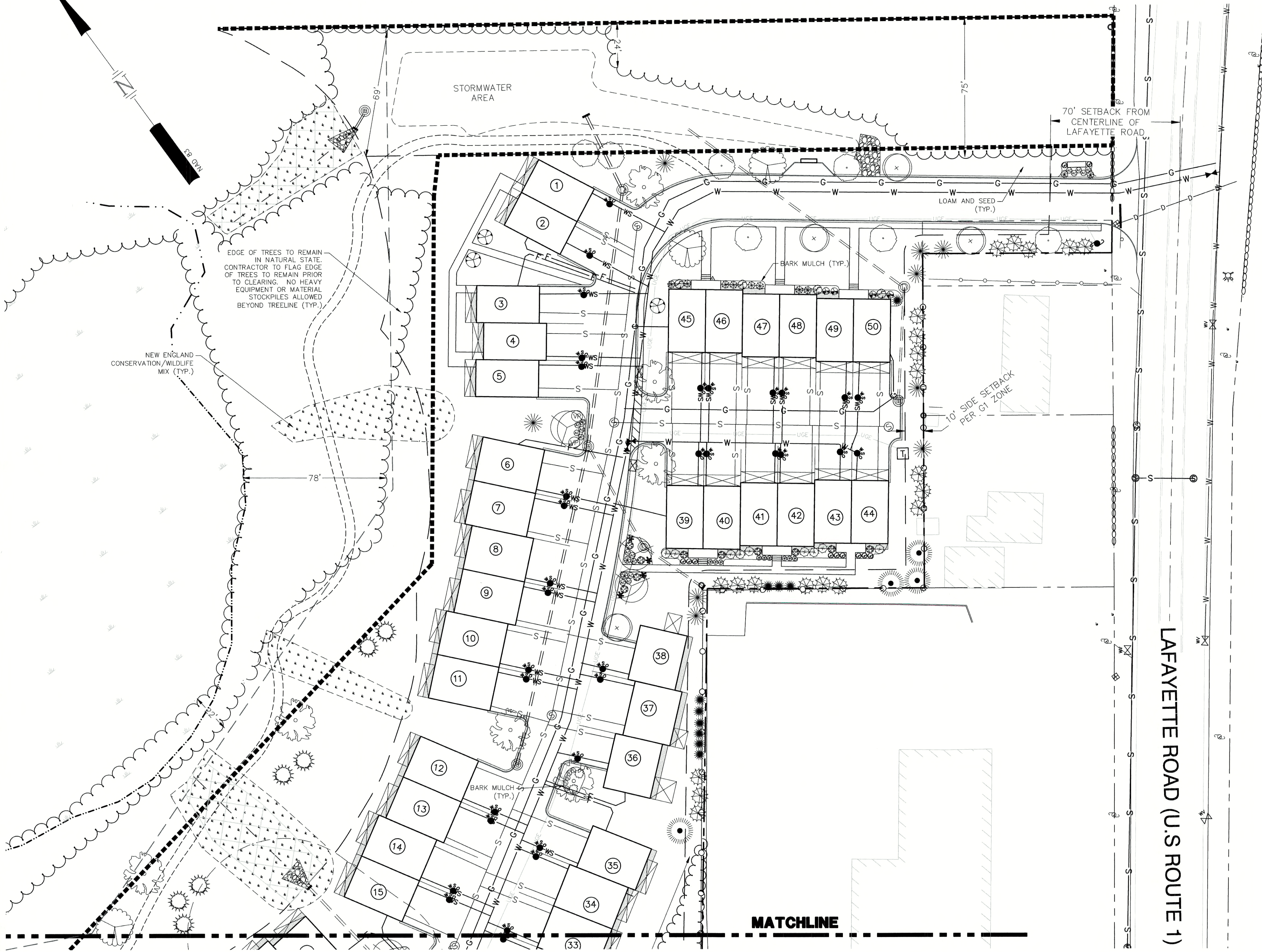
Project: **3400 LAFAYETTE ROAD PORTSMOUTH, NH**

Owner of Record: **RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229**

DRAWING No. **T1**

SHEET 25 OF 25
 JBE PROJECT NO. 20737

NOTE:
 LANDSCAPE DESIGN IS SUBJECT TO CHANGE, FOR MANAGEMENT OR ELIMINATION OF CONFLICTS, UPON RECEIVING UP-TO-DATE GRADING, UTILITIES, LIGHTING, AND STORMWATER-MANAGEMENT REVISIONS.



LANDSCAPE LEGEND

SYMBOL	QTY	BOTANICAL NAME COMMON NAME	SIZE	REMARKS	GROWTH HABIT
SHADE TREES					
	12	ACER RUBRUM 'REDPOINTE' **REDPOINTE RED MAPLE	2 1/2" TO 3" CAL.	B&B	PYRAMIDAL
	8	ACER SACCHARUM 'COMMEMORATION' **COMMEMORATION SUGAR MAPLE	3" TO 3 1/2" CAL.	B&B	ROUNDED
	11	MAACKIA AMURENSIS AMUR MAACKIA	2 1/2" TO 3" CAL.	B&B	ROUNDED
	5	NYSSA SYLVATICA *BLACK GUM	2 1/2" TO 3" CAL.	B&B	PYRAMIDAL
	6	ULMUS AMERICANA 'VALLEY FORGE' **VALLEY FORGE AMERICAN ELM	2 1/2" TO 3" CAL.	B&B	SPREADING-VASE
EVERGREEN TREES					
	20	ABIES BALSAMAE *BALSAM FIR	6' TO 7'	B&B	PYRAMIDAL
	24	JUNIPERUS VIRGINIANA *EASTERN RED CEDAR	6' TO 7'	B&B	UPRIGHT-PYRAMIDAL
	18	PICEA GLAUCA *WHITE SPRUCE	7' TO 8'	B&B	PYRAMIDAL
	13	PINUS STROBUS *WHITE PINE	6' TO 7'	B&B	PYRAMIDAL
DECIDUOUS SHRUB					
	3	AMELANCHEIR CANADENSIS *SHADBLOW SERVICEBERRY	5' TO 6' CLUMP	B&B	ROUNDED
	4	CLETHRA ALNIFOLIA 'COMPACTA' **COMPACT SUMMERSWEET	7 GAL.	CONT.	ROUNDED
	10	CORNUS SERICEA 'ARCTIC FIRE' **ARCTIC FIRE RED-OSIER DOGWOOD	7 GAL.	CONT.	ROUNDED
	9	FORSYTHIA 'GOLD TIDE' GOLD TIDE FORSYTHIA	3 GAL.	CONT.	LOW-SPREADING
	8	HYDRANGEA ARBORESCENS 'INCREDIBALL' INCREDIBALL SMOOTH HYDRANGEA	5 GAL.	CONT.	ROUNDED
	9	PHYSOCARPUS O. 'BURGUNDY CANDY' **BURGUNDY CANDY NINEBARK	2 GAL.	CONT.	ROUNDED
	6	VIBURNUM P.T. 'SUMMER SNOWFLAKE' SUMMER SNOWFLAKE VIBURNUM	3' TO 4'	B&B	ROUNDED
EVERGREEN SHRUB					
	28	AZALEA 'GIRARD'S CRIMSON' GIRARD'S CRIMSON AZALEA	3 GAL.	CONT.	ROUNDED
	4	RHODODENDRON 'ROSEUM PINK' **ROSEUM PINK RHODODENDRON	7 GAL.	CONT.	ROUNDED
	9	ILEX GLABRA 'COMPACTA' **COMPACT INKBERRY	3 GAL.	CONT.	ROUNDED
	6	JUNIPERUS CHINENSIS 'SEAGREEN' SEAGREEN JUNIPER	3 GAL.	CONT.	ARCHING
	4	JUNIPERUS H. 'BAR HARBOR' *BAR HARBOR JUNIPER	3 GAL.	CONT.	LOW-SPREADING
	11	PINUS M. 'MOPS' MOPS MUGO PINE	3 GAL.	CONT.	ROUNDED
	28	THUJA O. NIGRA *DARK AMERICAN ARBORVITAE	5' TO 6'	B&B	UPRIGHT-PYRAMIDAL
GRASSES					
	9	PANICUM VIRGATUM 'CLOUD NINE' **CLOUD NINE SWITCH GRASS	3 GAL.	CONT.	UPRIGHT
	25,250 ±SF	NEW ENGLAND CONSERVATION/ WILDLIFE MIX	BAGS	BULK LBS	

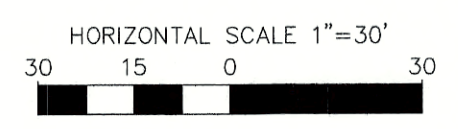
*NATIVE, ** IMPROVED NATIVE
 NOTE: ALL PLANTS CONTAINED IN LEGEND HAVE BEEN LOCATED ON SITE TO REFLECT A PROPER GROWING ENVIRONMENT AND MEET THE HARDINESS ZONE OF 6a AS DETERMINED BY THE U.S. DEPT. OF AGRICULTURE. PLANT TYPES MAY VARY BASED ON AVAILABILITY AND SUPPLY. THIS LAYOUT REPRESENTS THE INTENT OF THE PLANTINGS AND APPROXIMATE NUMBERS OF PLANTS TO BE PROVIDED.

SITE DEVELOPMENT PLANS
 TAX MAP 297 LOT 11
LANDSCAPE PLAN
 3400 LAFAYETTE ROAD
 PORTSMOUTH, NH
 OWNED BY
RICCI CONSTRUCTION CO, INC.
 PREPARED FOR
GREEN & COMPANY REAL ESTATE
 1"=60' (11"X17")
 SCALE: 1"=30' (22"X34") MARCH 8, 2021

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PROGRESS PRINT
 MAY 17, 2021



REV	DATE	DESCRIPTION	MSK	JK	DR	CK
1	5/13/2021	REVISE PER GRADING & UTILITY LAYOUT	MSK	JK		

TFM Civil Engineers
 Structural Engineers
 Traffic Engineers
 Land Surveyors
 Landscape Architects
 Scientists

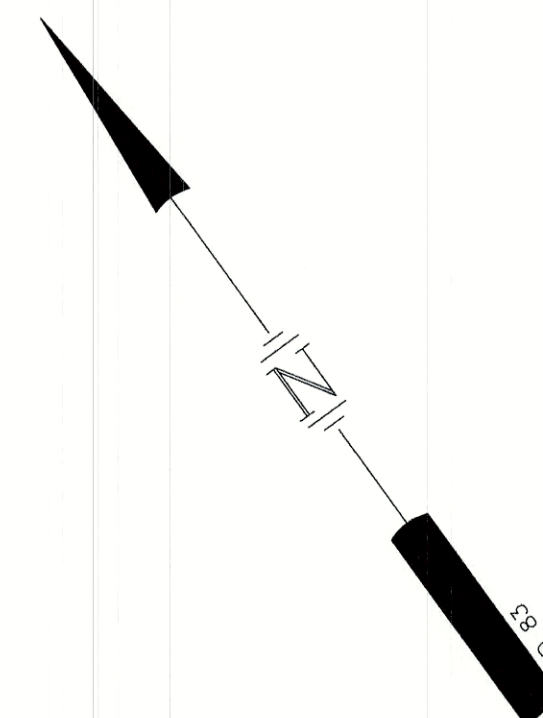
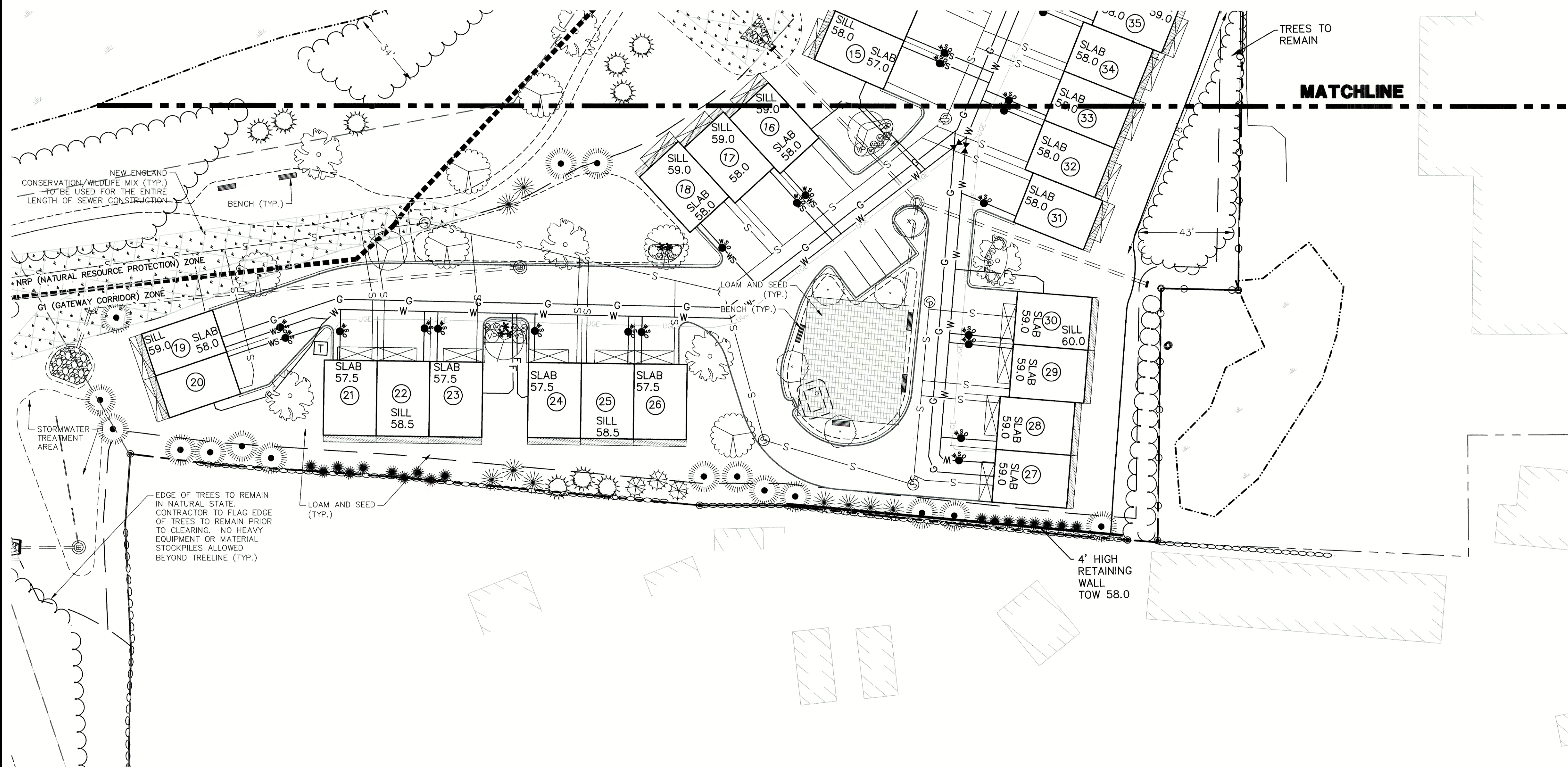
48 Constitution Drive
 Bedford, NH 03110
 Phone (603) 472-4488
 Fax (603) 472-9747
 www.tfmoran.com

45407.110 DR ARJ FB
 CK MSK CADFILE 45407-110 LANDSCAPE LS-1

May 17, 2021 11:26am F:\MSC Projects\45407-110 - Lafayette Road - Portsmouth\45407-110 - Green and Co - 3400 Lafayette Rd\Design\Production\DRAWINGS\45407-110_Landscape.dwg

NOTES

1. SEE DETAIL SHEET FOR LANDSCAPE RELATED NOTES AND DETAILS.

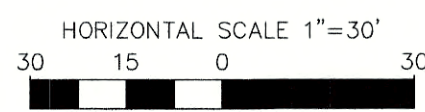


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MAY 17, 2021

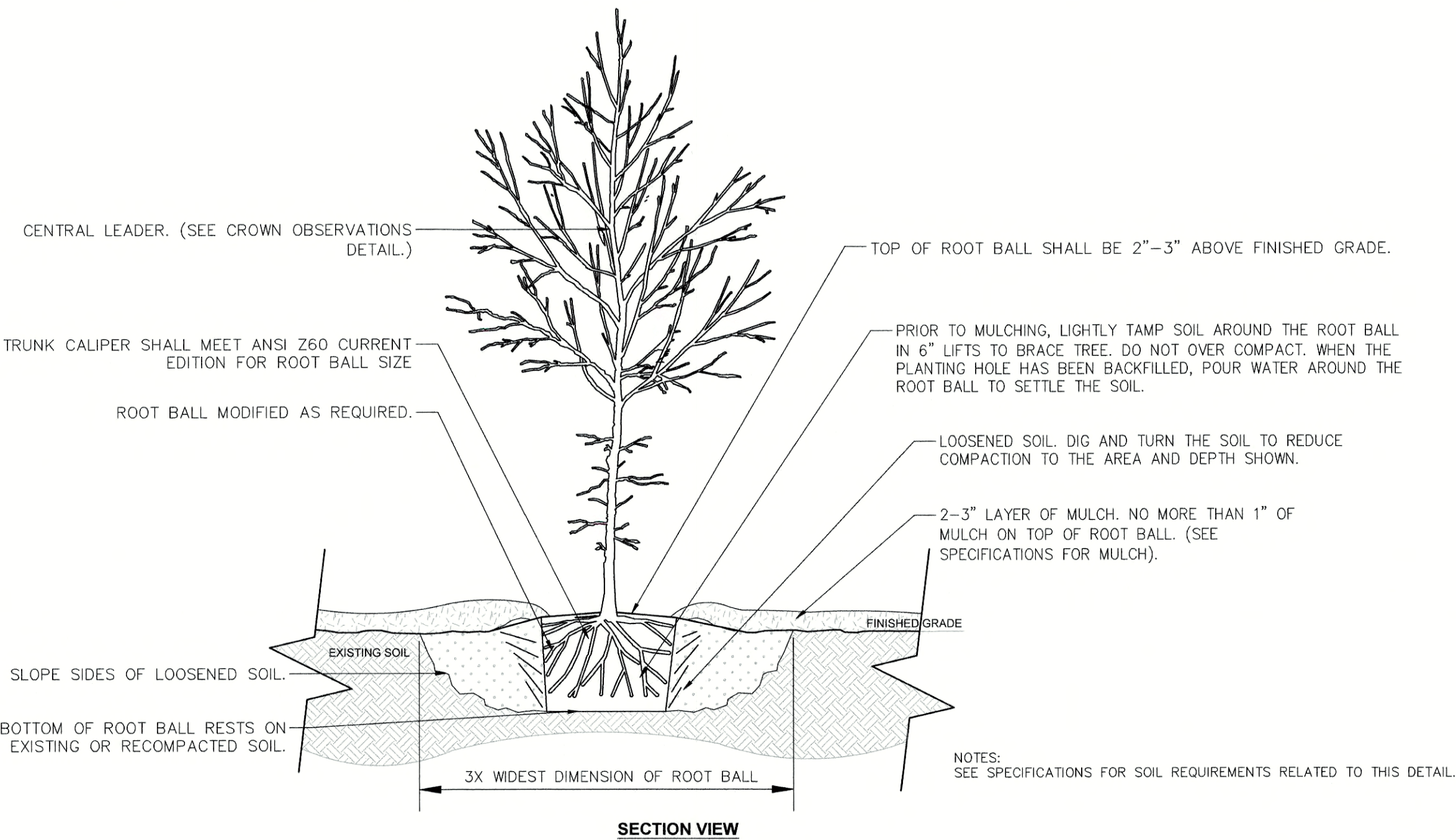


REV	DATE	DESCRIPTION	DR	CK
1	5/13/2021	REVISE PER GRADING & UTILITY LAYOUT	MSK	JCC

SITE DEVELOPMENT PLANS

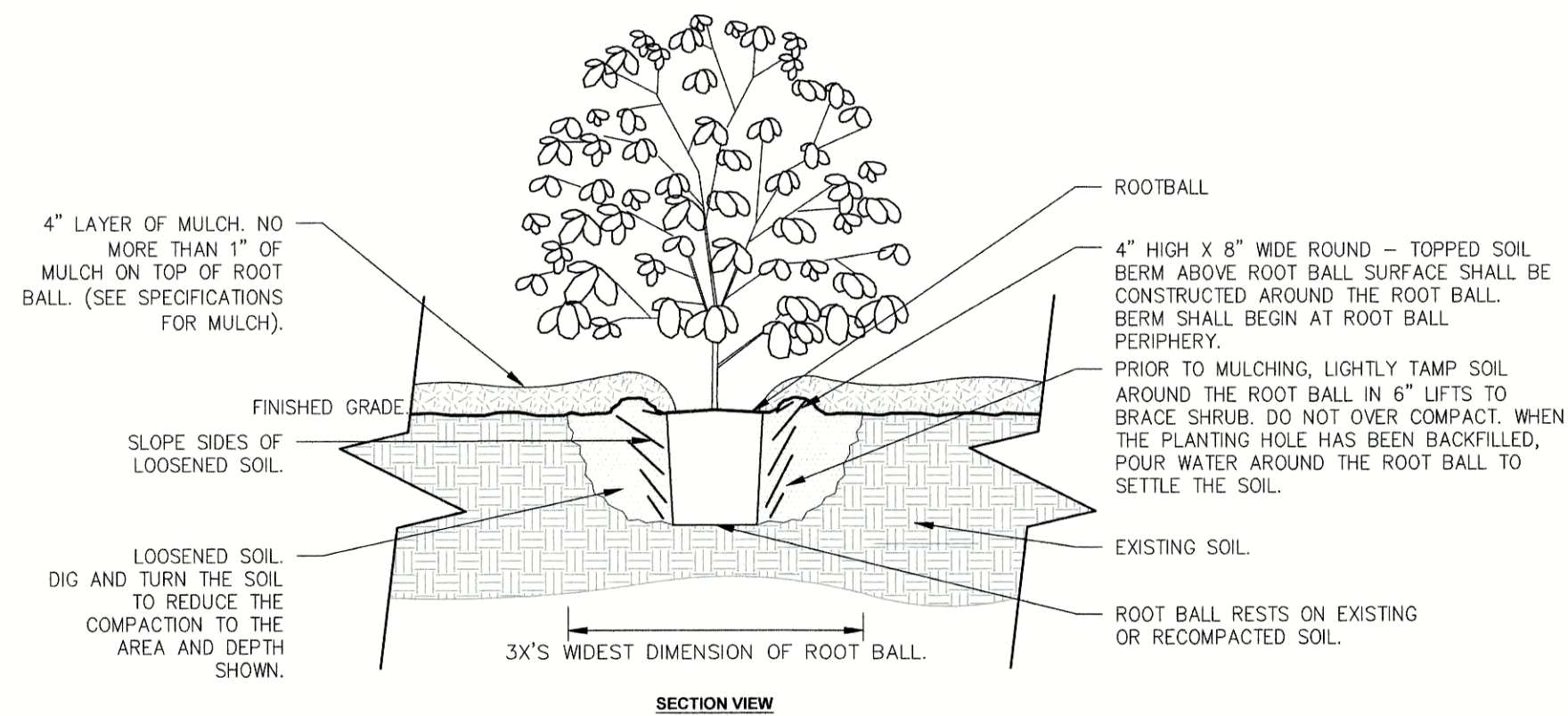
TAX MAP 297 LOT 11
LANDSCAPE PLAN
3400 LAFAYETTE ROAD
PORTSMOUTH, NH
OWNED BY
RICCI CONSTRUCTION CO, INC.
PREPARED FOR
GREEN & COMPANY REAL ESTATE
1"=60' (11"X17")
SCALE: 1"=30' (22"X34") MARCH 8, 2021

TFM	Civil Engineers	48 Constitution Drive Bedford, NH 03110 Phone (603) 472-4488 Fax (603) 472-9747 www.tfmoran.com
	Structural Engineers Traffic Engineers Land Surveyors Landscape Architects Scientists	
45407.110	DR ARJ CK MSK	FB CADFILE
45407-110 LANDSCAPE		LS-2



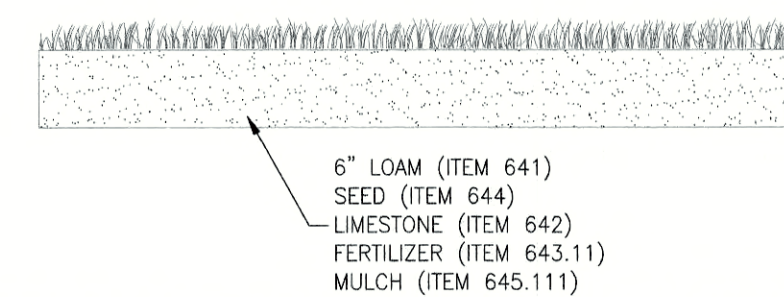
TREE WITH BERM

NOT TO SCALE



SHRUB PLANTING

NOT TO SCALE



LOAM & SEED (WHERE SPECIFIED)

NOT TO SCALE

LANDSCAPE NOTES

1. CONTRACTOR WILL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWNWORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES WILL IMMEDIATELY BE REPORTED TO THE LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE, SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
2. CONTRACTOR WILL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. IN CASES OF DISCREPANCY BETWEEN PLAN AND LIST CLARIFY WITH LANDSCAPE ARCHITECT PRIOR TO PLACING PURCHASE ORDER AND AGAIN PRIOR TO PLANTING.
3. SEE PLANTING DETAILS AND IF INCLUDED, SPECIFICATIONS FOR ADDITIONAL INFORMATION.
4. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE THE APPROPRIATE ARRANGEMENTS TO PROVIDE ALL PLANTS AND MATERIALS TO ACCOMMODATE PLANTING WITHIN THE TIME ALLOWED BY THE CONSTRUCTION SCHEDULE.
6. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 15TH UNLESS OTHERWISE NOTED IN SPECIFICATIONS. THERE WILL BE NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT BY PROVIDING ADDITIONAL WATERING.
7. ALL PLANTS WILL BE NURSERY GROWN.
8. PLANTS WILL BE IN ACCORDANCE, AT A MINIMUM, WITH CURRENT EDITION OF "AMERICAN STANDARDS FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN HORTICULTURE INDUSTRY ASSOCIATION.
9. TREES WILL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 PART 1, "TREE, SHRUB AND OTHER WOODY PLANT MAINTENANCE STANDARD PRACTICES".
10. PLANTS MATERIAL IS SUBJECT TO APPROVAL / REJECTION BY THE LANDSCAPE ARCHITECT AT THE SITE AND AT THE NURSERY.
11. ALL PLANTS WILL BE MOVED WITH ROOT SYSTEMS AS SOLID UNITS AND WITH BALLS OF EARTH FIRMLY WRAPPED WITH BURLAP. NO PLANT WILL BE ACCEPTED WHEN BALL OF EARTH SURROUNDING ITS ROOTS HAS BEEN BADLY CRACKED OR BROKEN BEFORE PLANTING. ALL PLANTS THAT CANNOT BE PLANTED AT ONCE WILL BE HEEL-ED-IN BY SETTING IN THE GROUND AND COVERING THE BALLS WITH SOIL AND THEN WATERING. DURING TRANSPORT, ALL PLANT MATERIALS WILL BE WRAPPED WITH WIND PROOF COVERING.
12. NEWLY PLANTED MATERIAL WILL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL GRADE OF THE PLANT PRIOR TO DIGGING.
13. MULCH FOR PLANTED AREAS (NOT INCLUDING RAIN GARDENS) WILL BE AGED SHREDDED PINE BARK, PARTIALLY DECOMPOSED, DARK BROWN IN COLOR AND FREE OF WOOD CHIPS UNLESS OTHERWISE SHOWN.
14. PLANT MATERIAL WILL BE LOCATED OUTSIDE BUILDING DRIP LINES AND ROOF VALLEY POINTS OF CONCENTRATION TO PREVENT DAMAGE TO PLANTS. CLARIFY DISCREPANCIES WITH LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
15. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, WILL RECEIVE SIX (6) INCH LOAM AND SEED AT THE DIRECTION OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
16. ALL PLANT GROUPINGS WILL BE IN MULCH BEDS UNLESS OTHERWISE SPECIFIED OR NOTED ON PLANS. WHERE MULCHED PLANT BED ADJUTS LAWN, PROVIDE TURF CUT EDGE.
17. ALL PLANT BEDS WILL INTERSECT WITH PAVEMENT AT 90 DEGREES UNLESS OTHERWISE NOTED ON PLANS.
18. ALL PLANT BED EDGES WILL BE SMOOTH AND CONSISTENT IN LAYOUT OF RADII AND TANGENTS. IRREGULAR, WAVY EDGES WILL NOT BE ACCEPTED.

LANDSCAPE GUARANTEE AND MAINTENANCE NOTES

1. CONTRACTOR WILL BE RESPONSIBLE FOR ALL MEANS, METHODS AND TECHNIQUES OF WATERING.
2. CONTRACTOR WILL BEGIN WATERING IMMEDIATELY AFTER PLANTING. ALL PLANTS WILL BE THOROUGHLY WATERED TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS WILL BE WATERED WEEKLY, OR MORE OFTEN, IF NECESSARY DURING THE FIRST GROWING SEASON BUT NOT LESS THAN ONE YEAR FROM TIME OF INSTALLATION.
3. WATER ALL LAWNS AS REQUIRED. DO NOT LET NEWLY PLANTED LAWNS DRY OUT DURING THE FIRST FOUR WEEKS MINIMUM.
4. ALL NEW LAWNS WILL BE MAINTAINED AND MOWED A MINIMUM THREE (3) TIMES BEFORE REQUESTING REVIEW BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE FOR ACCEPTANCE. MAINTENANCE AND MOWING WILL CONTINUE UNTIL ACCEPTED BY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE IS ISSUED IN WRITING.
5. THE CONTRACTOR WILL MAINTAIN AND GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF ONE (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE SHOWING LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE (1) YEAR PERIOD WILL BE IMMEDIATELY REPLACED BY THE CONTRACTOR.
6. DECIDUOUS PLANT MATERIAL INSTALLED AFTER SEPTEMBER 30 AND BEFORE APRIL 15 WILL NOT BE REVIEWED THAT SEASON FOR ACCEPTANCE DUE TO STAGE OF LEAF PHYSIOLOGY. THIS PLANT MATERIAL WILL NOT BE REVIEWED UNTIL THE FOLLOWING GROWING SEASON. GUARANTEE PERIOD WILL BEGIN ONLY AFTER ACCEPTANCE BY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE.
7. EVERGREEN PLANT MATERIAL INSTALLED AFTER OCTOBER 30 AND BEFORE APRIL 15 WILL NOT BE REVIEWED THAT SEASON FOR ACCEPTANCE DUE TO END OF GROWTH SEASON. THIS PLANT MATERIAL WILL NOT BE REVIEWED UNTIL THE FOLLOWING GROWING SEASON. GUARANTEE PERIOD WILL BEGIN ONLY AFTER ACCEPTANCE BY LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE.

INVASIVE PLANT NOTES

1. EXISTING NON-NATIVE, INVASIVE PLANT SPECIES WILL BE IDENTIFIED, REMOVED, DESTROYED AND LEGALLY DISPOSED OF OFF-SITE IN ACCORDANCE WITH THE LATEST UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION METHODS OF DISPOSING NON-NATIVE INVASIVE PLANTS. SEE "MANAGE AND CONTROL INVASIVES" AND PROPERLY DISPOSE OF INVASIVE PLANTS".

PORTSMOUTH NOTES

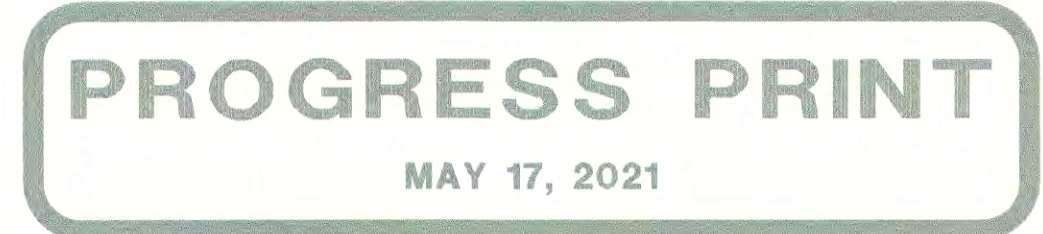
1. THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNER'S WILL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL REQUIRED SCREENING AND LANDSCAPE MATERIALS INDICATED ON THESE PLAN(S).
2. ALL REQUIRED PLANT MATERIAL WILL BE TENDED TO AND KEPT FREE OF REFUSE AND DEBRIS.
3. ALL REQUIRED FENCES AND WALLS WILL BE MAINTAINED IN GOOD REPAIR.
4. THE PROPERTY OWNER WILL BE RESPONSIBLE TO REMOVE AND REPLACE DEAD OR DISEASED PLANT MATERIALS IMMEDIATELY WITH THE SAME TYPE, SIZE AND QUANTITY OF PLANT MATERIALS AS ORIGINALLY INSTALLED, UNLESS ALTERNATIVE PLANTINGS ARE REQUESTED, JUSTIFIED AND APPROVED BY THE PLANNING BOARD OR PLANNING DIRECTOR.
5. ALL IMPROVEMENTS SHOWN ON THIS PLAN WILL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THIS PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES WILL BE MADE TO THIS PLAN WITHOUT THE WRITTEN APPROVAL OF THE PORTSMOUTH PLANNING BOARD OR PLANNING DIRECTOR.
6. THE LANDSCAPE PLAN WILL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.

SEEDING NOTES

1. SLOPES UP TO AND INCLUDING 3:1 GRADE, SEED WILL BE NEW ENGLAND EROSION CONTROL & RESTORATION MIX PER NEW ENGLAND WETLANDS PLANTS INC., AMHERST, MA.
2. SLOPES STEEPER THAN 3:1 GRADE, SEED WILL BE NEW ENGLAND EROSION CONTROL & RESTORATION MIX PER NEW ENGLAND WETLANDS PLANTS INC., AMHERST, MA. SEE CIVIL FOR ADDITIONAL EROSION CONTROL MEASURES.
3. GENERAL SEED WILL BE NHDOT SPECIFICATION SECTION 644, TABLE 644-1-PARK SEED TYPE 15, INCLUDING NOTES TO TABLE 1, 2 & 3.

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REV	DATE	DESCRIPTION	DR	CK
1	5/13/2021	NO REVISIONS THIS SHEET	MVP	JCC

SITE DEVELOPMENT PLANS

TAX MAP 297 LOT 11
LANDSCAPE DETAIL SHEET
3400 LAFAYETTE ROAD
PORTSMOUTH, NH

OWNED BY
RICCI CONSTRUCTION CO, INC.
PREPARED FOR
GREEN & COMPANY REAL ESTATE

SCALE: NOT TO SCALE **MARCH 8, 2021**

TFM	Civil Engineers	48 Constitution Drive
	Structural Engineers	Bedford, NH 03110
	Traffic Engineers	Phone (603) 472-4488
	Land Surveyors	Fax (603) 472-9747
	Landscape Architects	www.tfmoran.com
	Scientists	

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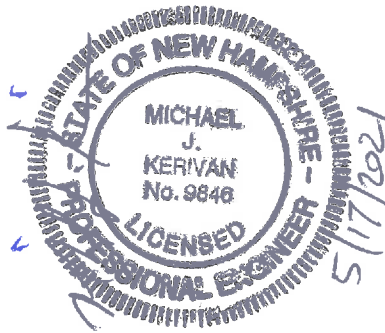
JONES & BEACH ENGINEERS INC.

85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

DRAINAGE ANALYSIS SEDIMENT AND EROSION CONTROL PLAN

Prepared for:

**Residential Condominiums
Tax Map 297, Lot 11
3400 LaFayette Road
Portsmouth, NH 03801**



**May 14, 2021
JBE Project No. 20737**

TABLE OF CONTENTS

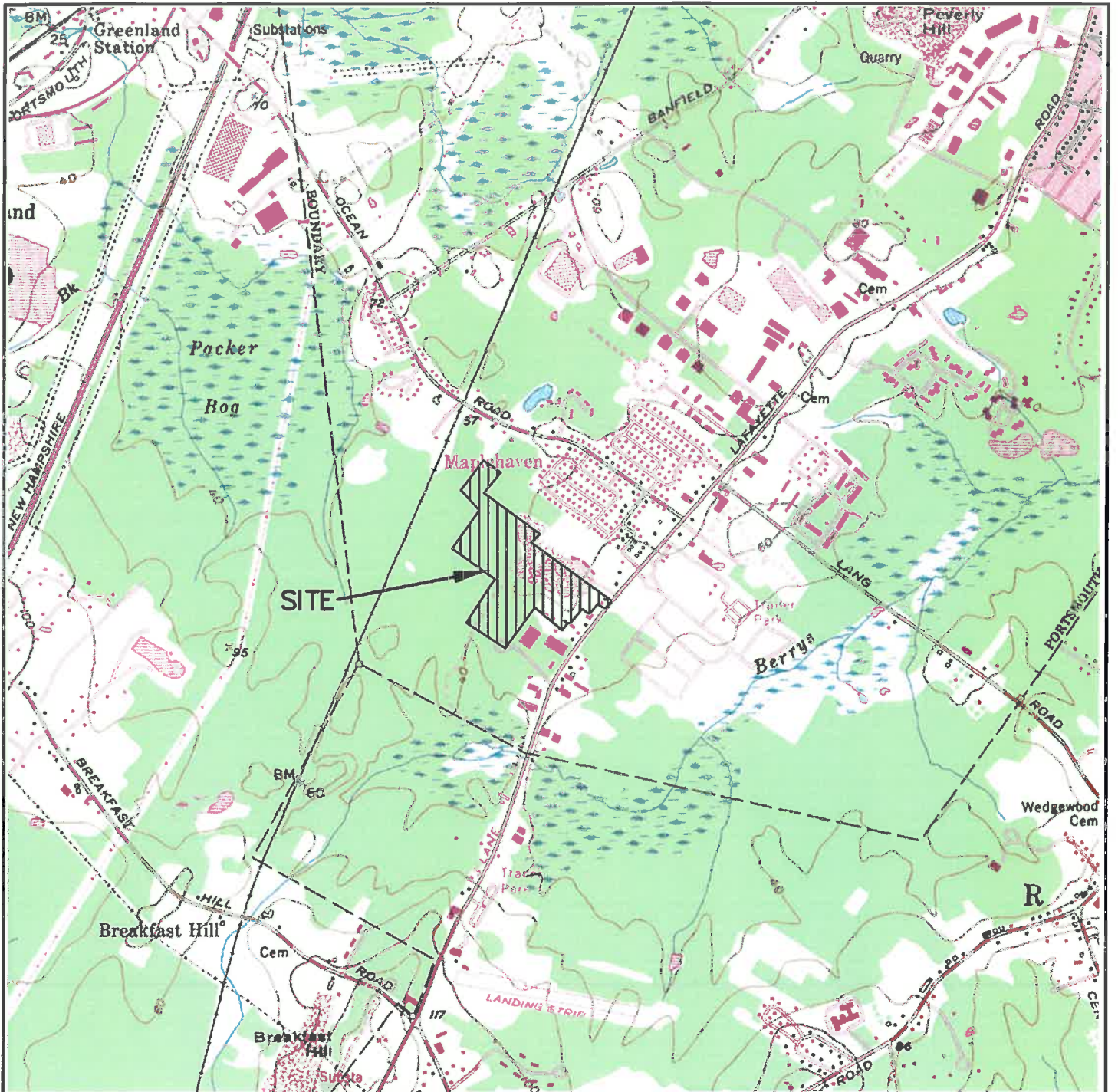
1. Executive Summary
2. USGS Quadrangle
3. Web Soil Survey
4. Drainage Analysis
 - 4.1. Rainfall Characteristics
 - 4.2. Existing Conditions Analysis
 - 4.3. Proposed Conditions Analysis
 - 4.4. Conclusion
 - 4.5. Existing Conditions Analysis - Appendix I
 - 4.5.1. 2 Year - 24 Hour Summary
 - 4.5.2. 10 Year - 24 Hour Complete
 - 4.5.3. 25 Year - 24 Hour Summary
 - 4.5.4. 50 Year - 24 Hour Summary
 - 4.6. Proposed Conditions Analysis - Appendix II
 - 4.6.1. 2 Year - 24 Hour Summary
 - 4.6.2. 10 Year - 24 Hour Complete
 - 4.6.3. 25 Year - 24 Hour Summary
 - 4.6.4. 50 Year - 24 Hour Summary
5. Soils Report
6. Plans
 - 6.1. Existing Conditions Watershed Plan - W1
 - 6.2. Proposed Conditions Watershed Plan - W2

1. EXECUTIVE SUMMARY

Green and Company proposes to construct a 54-unit multi-family residential development on a ±45.25-acre parcel of land located on the west side of Lafayette Road (Route 1) in Portsmouth, NH. A drainage analysis of the entire site and its offsite contributing watershed areas was conducted for the purpose of estimating the peak rate of stormwater runoff and to subsequently design adequate drainage structures. Two models were compiled, one for the area in its existing (pre-construction) condition, and a second for its proposed (post-construction) condition. A summary of the existing and proposed conditions peak rates of runoff is as follows:

COMPONENT	PEAK DISCHARGE COMPARISON							
	2 Year		10 Year		25 Year		50 Year	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Analysis Point #1	0.16	0.22	0.85	0.76	1.64	1.30	2.47	1.84
Analysis Point #2	2.04	1.92	7.53	6.13	13.00	12.16	18.65	18.55

The drainage design intent for this site is to maintain the post-development peak flow to the pre-development peak flow conditions to the extent practicable and to effectively treat stormwater from the development of this site. This has been accomplished through the use of a wet pond with a forebay, a bioretention area and roof drip edges to maintain the peak discharge and effectively treat stormwater exiting the site.



SITE COORDINATES: 43° 01' 22" N, 70° 47' 57" W

GRAPHIC SCALE



(IN FEET)

1 inch = 2000ft.

J/B Designed and Produced in NH
Jones & Beach Engineers, Inc.
 Civil Engineering Services

85 Portsmouth Ave.
 PO Box 219
 Stratham, NH 03885

603-772-4746
 FAX: 603-772-0227
 E-Mail: JBE@jonesandbeach.com

Drawing Name:

USGS

Project:

RESIDENTIAL CONDOMINIUMS

Owner of Record: RICCI CONSTRUCTION CO., INC.
 225 BANFIELD ROAD, PORTSMOUTH, NH

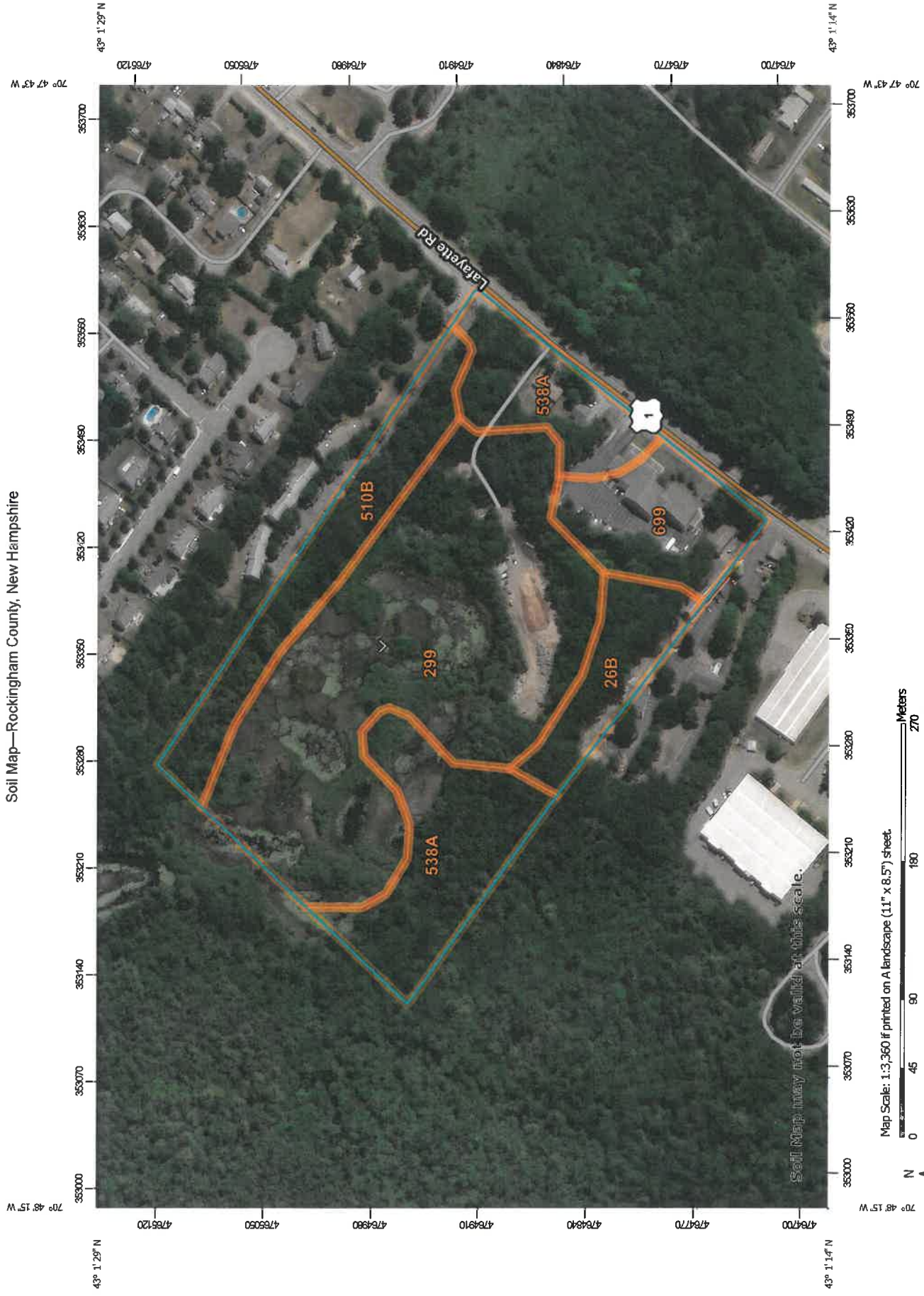
DRAWING No.

USGS1








































SHEET 1 OF 1

JBE PROJECT
 No. **20737**

Soil Map—Rockingham County, New Hampshire



MAP LEGEND

 Area of Interest (AOI)	 Spoil Area
 Soils	 Stony Spot
 Soil Map Unit Polygons	 Very Stony Spot
 Soil Map Unit Lines	 Wet Spot
 Soil Map Unit Points	 Other
 Special Point Features	 Special Line Features
 Blowout	 Water Features
 Borrow Pit	 Streams and Canals
 Clay Spot	 Transportation
 Closed Depression	 Rails
 Gravel Pit	 Interstate Highways
 Gravelly Spot	 US Routes
 Landfill	 Major Roads
 Lava Flow	 Local Roads
 Marsh or swamp	 Background
 Mine or Quarry	 Aerial Photography
 Miscellaneous Water	
 Perennial Water	
 Rock Outcrop	
 Saline Spot	
 Sandy Spot	
 Severely Eroded Spot	
 Sinkhole	
Slide or Slip	
Sodic Spot	

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Rockingham County, New Hampshire
 Survey Area Data: Version 22, 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—Jun 14, 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
26B	Windsor loamy sand, 3 to 8 percent slopes	1.6	7.1%
299	Udorthents, smoothed	10.7	48.3%
510B	Hoosic gravelly fine sandy loam, 3 to 8 percent slopes	2.7	12.2%
538A	Squamscott fine sandy loam, 0 to 5 percent slopes	5.0	22.8%
699	Urban land	2.1	9.7%
Totals for Area of Interest		22.1	100.0%

4. DRAINAGE ANALYSIS

4.1 METHODOLOGY

This drainage report includes an existing conditions analysis of the area involved in the proposed development, as well as a proposed condition, or post-construction analysis, of the same location. These analyses were accomplished using the USDA SCS TR-20 Method within the HydroCAD Stormwater Modeling System. The curve numbers were developed using the SCS TR-55 Runoff Curve numbers for Urban Areas. A Type III SCS 24-hour rainfall distribution was utilized in analyzing the data for the 2 Year – 24 Hour (3.74”), 10 Year – 24 Hour (5.67”), 25 Year – 24 Hour (7.19”) and 50 Year – 24 Hour (8.61”).

4.2 EXISTING CONDITIONS ANALYSIS

The study area consists of the subject property and upstream contributing area. The study area contains 8.387 acres including offsite contributing areas. The existing site is currently used for logging operations and has a gravel access drive and cleared areas. The existing site is fairly flat with a small portion in the northeast corner draining to a low spot near Lafayette Road and the remainder draining to the rear of the property into a large wetland complex, resulting in two (2) Analysis Points.

The majority of the soils for this site are described as Hydrological Soils "A" and "B", with a smaller section of "C", and an even smaller section of "D" soil.

Two (2) Analysis Points (AP's) were defined for this project.

Analysis Point #1 is defined as a low point in the northeast corner of the property near Lafayette Road. This low point drains to an existing catch basin (CB 2177) located to the southwest adjacent to Lafayette Road.

Analysis Point #2 is defined as a large wetland complex located in the western portion of the site. Flow from portions of the existing abutter buildings located between this site and Lafayette Road along with the site runoff makes its way across the site and into the large wetland complex.

4.3 PROPOSED CONDITIONS ANALYSIS

The proposed site includes the construction of a 50-unit multi-family residential development with associated parking, utilities, and drainage.

Drainage from the first 30' of the entrance drive will drain to Analysis Point 1, along with a portion of the area draining to this point in the existing conditions.

Drainage along the entrance drive, from station 0+30 to station 4+50, sheet flows to a curb break at the low point station 1+45 which discharges to a proposed wet pond (20P). Drainage along the entrance drive, from station 4+50 to station 7+50, is collected in a closed drainage system, including deep sump hooded catch basins, is directed to the same wet pond (20P). Discharge from the proposed wet pond enters the existing wetland system (AP 2).

Drainage along the entrance drive, from Station 7+50 to Sta 8+00, including a portion of the proposed loop road, is directed to a Pret-x curb inlet and focal point structure for treatment. This focal point then

discharges to a proposed R-Tank system located in the center area of the loop road, which is connected to a closed drainage system which discharges to Analysis Point 2. The remainder of the roadway is directed to a deep sump hooded catch basin located at Sta. 9+00. This catch basin discharges to a proposed bioretention area located behind the units that are at the end of the roadway. This bioretention area drains to Analysis Point 2.

The ear half of all roof areas will be directed to drip edges located adjacent to the units. The proposed drip edges will be 3' wide by 4' deep.

4.4 CONCLUSION

This proposed site development will have minimal effect on abutting infrastructures or properties by way of stormwater runoff or siltation. Peak runoff rate from the proposed site has been maintained to the existing conditions peak rate to the extent practicable. Treatment is obtained through the use of deep sump hooded catch basins, a wet basin with forebay, and a bioretention pond with forebay as described above.

The area of disturbance is greater than 100,000 square feet and will require an NHDES Alteration of Terrain Permit.

Respectfully Submitted,
JONES & BEACH ENGINEERS, INC.



Michael Kerivan, P.E.
Project Engineer

4.5 EXISTING CONDITIONS ANALYSIS APPENDIX I

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



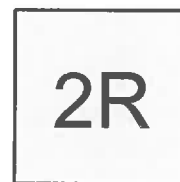
Subcatchment 1S



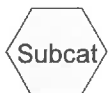
Analysis Point #1



Subcatchment 2S



Analysis Point #2



Routing Diagram for 20737_EX CONDITION

Prepared by Microsoft, Printed 5/14/2021

HydroCAD® 10.00-20 s/n 10589 © 2017 HydroCAD Software Solutions LLC

20737_EX CONDITION

Prepared by Microsoft

HydroCAD® 10.00-20 s/n 10589 © 2017 HydroCAD Software Solutions LLC

Printed 5/14/2021

Page 2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.112	39	>75% Grass cover, Good, HSG A (1S, 2S)
0.644	61	>75% Grass cover, Good, HSG B (1S, 2S)
0.095	74	>75% Grass cover, Good, HSG C (2S)
0.026	80	>75% Grass cover, Good, HSG D (2S)
0.113	96	Gravel surface, HSG A (2S)
0.421	96	Gravel surface, HSG B (1S, 2S)
0.003	96	Gravel surface, HSG D (2S)
0.639	98	Paved roads w/curbs & sewers, HSG B (1S, 2S)
0.004	98	Roofs, HSG A (2S)
0.222	98	Roofs, HSG B (1S, 2S)
1.673	30	Woods, Good, HSG A (1S, 2S)
2.656	55	Woods, Good, HSG B (1S, 2S)
0.663	70	Woods, Good, HSG C (2S)
0.115	77	Woods, Good, HSG D (2S)
8.387	57	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
2.903	HSG A	1S, 2S
4.582	HSG B	1S, 2S
0.758	HSG C	2S
0.144	HSG D	2S
0.000	Other	
8.387		TOTAL AREA

20737_EX CONDITION

Type III 24-hr 2-YR STORM Rainfall=3.74"

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

Subcatchment 1S: Subcatchment 1S Runoff Area=49,203 sf 3.67% Impervious Runoff Depth>0.35"
Flow Length=340' Tc=21.1 min CN=53 Runoff=0.16 cfs 0.033 af

Subcatchment 2S: Subcatchment 2S Runoff Area=316,130 sf 11.36% Impervious Runoff Depth>0.55"
Flow Length=565' Slope=0.0200 '/' Tc=23.5 min CN=58 Runoff=2.04 cfs 0.330 af

Reach 1R: Analysis Point #1 Inflow=0.16 cfs 0.033 af
Outflow=0.16 cfs 0.033 af

Reach 2R: Analysis Point #2 Inflow=2.04 cfs 0.330 af
Outflow=2.04 cfs 0.330 af

Total Runoff Area = 8.387 ac Runoff Volume = 0.364 af Average Runoff Depth = 0.52"
89.68% Pervious = 7.521 ac 10.32% Impervious = 0.866 ac

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Type III 24-hr 10-YR STORM Rainfall=5.67"

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

Subcatchment 1S: Subcatchment 1S Runoff Area=49,203 sf 3.67% Impervious Runoff Depth>1.18"
Flow Length=340' Tc=21.1 min CN=53 Runoff=0.85 cfs 0.111 af

Subcatchment 2S: Subcatchment 2S Runoff Area=316,130 sf 11.36% Impervious Runoff Depth>1.54"
Flow Length=565' Slope=0.0200 ' / ' Tc=23.5 min CN=58 Runoff=7.53 cfs 0.934 af

Reach 1R: Analysis Point #1 Inflow=0.85 cfs 0.111 af
Outflow=0.85 cfs 0.111 af

Reach 2R: Analysis Point #2 Inflow=7.53 cfs 0.934 af
Outflow=7.53 cfs 0.934 af

Total Runoff Area = 8.387 ac Runoff Volume = 1.045 af Average Runoff Depth = 1.50"
89.68% Pervious = 7.521 ac 10.32% Impervious = 0.866 ac

Summary for Subcatchment 1S: Subcatchment 1S

Runoff = 0.85 cfs @ 12.35 hrs, Volume= 0.111 af, Depth> 1.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
1,053	98	Paved roads w/curbs & sewers, HSG B
752	98	Roofs, HSG B
2,461	96	Gravel surface, HSG B
1,348	39	>75% Grass cover, Good, HSG A
6,824	61	>75% Grass cover, Good, HSG B
12,179	30	Woods, Good, HSG A
24,586	55	Woods, Good, HSG B
49,203	53	Weighted Average
47,398		96.33% Pervious Area
1,805		3.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	50	0.0200	0.07		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.74"
9.7	290	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
21.1	340	Total			

Summary for Subcatchment 2S: Subcatchment 2S

Runoff = 7.53 cfs @ 12.37 hrs, Volume= 0.934 af, Depth> 1.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-YR STORM Rainfall=5.67"

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Type III 24-hr 10-YR STORM Rainfall=5.67"

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Area (sf)	CN	Description
26,803	98	Paved roads w/curbs & sewers, HSG B
4,917	96	Gravel surface, HSG A
15,867	96	Gravel surface, HSG B
134	96	Gravel surface, HSG D
191	98	Roofs, HSG A
8,903	98	Roofs, HSG B
47,092	39	>75% Grass cover, Good, HSG A
21,243	61	>75% Grass cover, Good, HSG B
4,130	74	>75% Grass cover, Good, HSG C
1,130	80	>75% Grass cover, Good, HSG D
60,710	30	Woods, Good, HSG A
91,089	55	Woods, Good, HSG B
28,895	70	Woods, Good, HSG C
5,026	77	Woods, Good, HSG D
316,130	58	Weighted Average
280,233		88.64% Pervious Area
35,897		11.36% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.4	50	0.0200	0.07		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.74"
12.1	515	0.0200	0.71		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
23.5	565	Total			

Summary for Reach 1R: Analysis Point #1

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

Inflow Area = 1.130 ac, 3.67% Impervious, Inflow Depth > 1.18" for 10-YR STORM event
 Inflow = 0.85 cfs @ 12.35 hrs, Volume= 0.111 af
 Outflow = 0.85 cfs @ 12.35 hrs, Volume= 0.111 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Summary for Reach 2R: Analysis Point #2

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

Inflow Area = 7.257 ac, 11.36% Impervious, Inflow Depth > 1.54" for 10-YR STORM event
 Inflow = 7.53 cfs @ 12.37 hrs, Volume= 0.934 af
 Outflow = 7.53 cfs @ 12.37 hrs, Volume= 0.934 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

20737_EX CONDITION

Type III 24-hr 25-YR STORM Rainfall=7.19"

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

Subcatchment 1S: Subcatchment 1S Runoff Area=49,203 sf 3.67% Impervious Runoff Depth>2.04"
Flow Length=340' Tc=21.1 min CN=53 Runoff=1.64 cfs 0.192 af

Subcatchment 2S: Subcatchment 2S Runoff Area=316,130 sf 11.36% Impervious Runoff Depth>2.52"
Flow Length=565' Slope=0.0200 '/' Tc=23.5 min CN=58 Runoff=13.00 cfs 1.527 af

Reach 1R: Analysis Point #1 Inflow=1.64 cfs 0.192 af
Outflow=1.64 cfs 0.192 af

Reach 2R: Analysis Point #2 Inflow=13.00 cfs 1.527 af
Outflow=13.00 cfs 1.527 af

Total Runoff Area = 8.387 ac Runoff Volume = 1.719 af Average Runoff Depth = 2.46"
89.68% Pervious = 7.521 ac 10.32% Impervious = 0.866 ac

20737_EX CONDITION

Type III 24-hr 50-YR STORM Rainfall=8.61"

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

Subcatchment 1S: Subcatchment 1S Runoff Area=49,203 sf 3.67% Impervious Runoff Depth>2.96"
Flow Length=340' Tc=21.1 min CN=53 Runoff=2.47 cfs 0.279 af

Subcatchment 2S: Subcatchment 2S Runoff Area=316,130 sf 11.36% Impervious Runoff Depth>3.54"
Flow Length=565' Slope=0.0200 '/' Tc=23.5 min CN=58 Runoff=18.65 cfs 2.142 af

Reach 1R: Analysis Point #1 Inflow=2.47 cfs 0.279 af
Outflow=2.47 cfs 0.279 af

Reach 2R: Analysis Point #2 Inflow=18.65 cfs 2.142 af
Outflow=18.65 cfs 2.142 af

Total Runoff Area = 8.387 ac Runoff Volume = 2.421 af Average Runoff Depth = 3.46"
89.68% Pervious = 7.521 ac 10.32% Impervious = 0.866 ac

4.6 PROPOSED CONDITIONS ANALYSIS APPENDIX II

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

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.716	39	>75% Grass cover, Good, HSG A (10S, 22S, 24S, 25S, 26S, 27S)
1.553	61	>75% Grass cover, Good, HSG B (10S, 20S, 21S, 22S, 24S, 27S)
0.320	74	>75% Grass cover, Good, HSG C (21S, 25S, 26S, 27S)
0.024	80	>75% Grass cover, Good, HSG D (22S, 27S)
0.309	98	Paved roads w/curbs & sewers, HSG A (22S, 24S, 25S, 26S, 27S)
1.461	98	Paved roads w/curbs & sewers, HSG B (10S, 20S, 21S, 22S, 23S, 24S, 25S)
0.320	98	Paved roads w/curbs & sewers, HSG C (24S, 25S, 26S)
0.003	98	Paved roads w/curbs & sewers, HSG D (27S)
0.188	98	Roofs, HSG A (1_2S, 3_5S, 12_15S, 16_18S, 19_20S, 21_23S, 22S, 24S, 25S, 26S)
0.767	98	Roofs, HSG B (6_11S, 10S, 12_15S, 20S, 21S, 22S, 23S, 24S, 25S, 27_30S, 31_35S, 36_38S, 39_44S, 45_50S)
0.109	98	Roofs, HSG C (21_23S, 24S, 24_26S, 25S, 26S)
0.008	98	Roofs, HSG D (3_5S, 22S)
0.070	98	Water Surface, HSG A (1_2S, 3_5S, 12_15S, 16_18S, 19_20S, 21_23S, 22S)
0.050	98	Water Surface, HSG B (6_11S, 12_15S, 22S, 27_30S, 31_35S, 36_38S, 39_44S, 45_50S)
0.008	98	Water Surface, HSG C (21_23S, 24_26S)
0.001	98	Water Surface, HSG D (3_5S)
0.619	30	Woods, Good, HSG A (10S, 22S, 27S)
0.751	55	Woods, Good, HSG B (10S, 27S)
0.108	77	Woods, Good, HSG D (21S, 27S)
8.387	69	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
2.903	HSG A	1_2S, 3_5S, 10S, 12_15S, 16_18S, 19_20S, 21_23S, 22S, 24S, 25S, 26S, 27S
4.582	HSG B	6_11S, 10S, 12_15S, 20S, 21S, 22S, 23S, 24S, 25S, 27S, 27_30S, 31_35S, 36_38S, 39_44S, 45_50S
0.758	HSG C	21S, 21_23S, 24S, 24_26S, 25S, 26S, 27S
0.144	HSG D	3_5S, 21S, 22S, 27S
0.000	Other	
8.387		TOTAL AREA

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1_2S: Roof 1_2	Runoff Area=1,224 sf 100.00% Impervious Runoff Depth=3.51" Tc=6.0 min CN=98 Runoff=0.10 cfs 0.008 af
Subcatchment 3_5S: Roof 3_5	Runoff Area=1,224 sf 100.00% Impervious Runoff Depth=3.51" Tc=6.0 min CN=98 Runoff=0.10 cfs 0.008 af
Subcatchment 6_11S: Roof 6_11	Runoff Area=2,904 sf 100.00% Impervious Runoff Depth=3.51" Tc=6.0 min CN=98 Runoff=0.24 cfs 0.019 af
Subcatchment 10S: Subcatchment 10S Flow Length=280'	Runoff Area=29,654 sf 6.99% Impervious Runoff Depth=0.59" Slope=0.0100 '/' Tc=22.8 min CN=59 Runoff=0.22 cfs 0.034 af
Subcatchment 12_15S: Roof 12_15	Runoff Area=1,932 sf 100.00% Impervious Runoff Depth=3.51" Tc=6.0 min CN=98 Runoff=0.16 cfs 0.013 af
Subcatchment 16_18S: Roof 16_18	Runoff Area=1,560 sf 100.00% Impervious Runoff Depth=3.51" Tc=6.0 min CN=98 Runoff=0.13 cfs 0.010 af
Subcatchment 19_20S: Roof 19_20	Runoff Area=800 sf 100.00% Impervious Runoff Depth=3.51" Tc=6.0 min CN=98 Runoff=0.07 cfs 0.005 af
Subcatchment 20S: Subcatchment 20S	Runoff Area=18,078 sf 20.06% Impervious Runoff Depth=1.04" Tc=6.0 min CN=68 Runoff=0.46 cfs 0.036 af
Subcatchment 21S: Subcatchment 21S	Runoff Area=61,821 sf 49.16% Impervious Runoff Depth=1.90" Tc=6.0 min CN=81 Runoff=3.17 cfs 0.225 af
Subcatchment 21_23S: Roof 21_23	Runoff Area=1,440 sf 100.00% Impervious Runoff Depth=3.51" Tc=6.0 min CN=98 Runoff=0.12 cfs 0.010 af
Subcatchment 22S: Subcatchment 22S	Runoff Area=42,220 sf 50.92% Impervious Runoff Depth=1.34" Tc=6.0 min CN=73 Runoff=1.47 cfs 0.109 af
Subcatchment 23S: Subcatchment 23S	Runoff Area=12,524 sf 100.00% Impervious Runoff Depth=3.51" Tc=6.0 min CN=98 Runoff=1.05 cfs 0.084 af
Subcatchment 24S: Subcatchment 24S	Runoff Area=31,941 sf 82.12% Impervious Runoff Depth=2.67" Tc=6.0 min CN=90 Runoff=2.26 cfs 0.163 af
Subcatchment 24_26S: Roof 24_26	Runoff Area=1,440 sf 100.00% Impervious Runoff Depth=3.51" Tc=6.0 min CN=98 Runoff=0.12 cfs 0.010 af
Subcatchment 25S: Subcatchment 26S	Runoff Area=15,080 sf 71.23% Impervious Runoff Depth=2.67" Tc=6.0 min CN=90 Runoff=1.07 cfs 0.077 af
Subcatchment 26S: Subcatchment 26S	Runoff Area=14,100 sf 88.87% Impervious Runoff Depth=3.07" Tc=6.0 min CN=94 Runoff=1.10 cfs 0.083 af

Subcatchment 27S: Subcatchment 27S	Runoff Area=116,735 sf 0.62% Impervious Runoff Depth=0.08" Tc=6.0 min CN=43 Runoff=0.03 cfs 0.018 af
Subcatchment 27_30S: Roof 27_30	Runoff Area=1,932 sf 100.00% Impervious Runoff Depth=3.51" Tc=6.0 min CN=98 Runoff=0.16 cfs 0.013 af
Subcatchment 31_35S: Roof 31_35	Runoff Area=2,424 sf 100.00% Impervious Runoff Depth=3.51" Tc=6.0 min CN=98 Runoff=0.20 cfs 0.016 af
Subcatchment 36_38S: Roof 36_38	Runoff Area=1,464 sf 100.00% Impervious Runoff Depth=3.51" Tc=6.0 min CN=98 Runoff=0.12 cfs 0.010 af
Subcatchment 39_44S: Roof 39_44	Runoff Area=2,412 sf 100.00% Impervious Runoff Depth=3.51" Tc=6.0 min CN=98 Runoff=0.20 cfs 0.016 af
Subcatchment 45_50S: Roof 45_50	Runoff Area=2,412 sf 100.00% Impervious Runoff Depth=3.51" Tc=6.0 min CN=98 Runoff=0.20 cfs 0.016 af
Reach 1R: Analysis Point #1	Inflow=0.22 cfs 0.034 af Outflow=0.22 cfs 0.034 af
Reach 2R: Analysis Point #2	Inflow=1.92 cfs 0.565 af Outflow=1.92 cfs 0.565 af
Reach 10R: HW 1	Avg. Flow Depth=0.29' Max Vel=2.45 fps Inflow=0.46 cfs 0.036 af 12.0" Round Pipe n=0.013 L=40.0' S=0.0050 '/ Capacity=2.52 cfs Outflow=0.46 cfs 0.036 af
Pond 1P: DMH 1	Peak Elev=55.03' Inflow=2.71 cfs 0.199 af 12.0" Round Culvert n=0.013 L=60.0' S=0.0272 '/ Outflow=2.71 cfs 0.199 af
Pond 1_2P: Roof 27_30	Peak Elev=52.96' Storage=79 cf Inflow=0.10 cfs 0.008 af Discarded=0.03 cfs 0.008 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.008 af
Pond 2P: DMH 2	Peak Elev=51.60' Inflow=0.39 cfs 0.077 af 15.0" Round Culvert n=0.013 L=85.0' S=0.0049 '/ Outflow=0.39 cfs 0.077 af
Pond 3P: DMH 3	Peak Elev=52.65' Inflow=1.10 cfs 0.083 af 15.0" Round Culvert n=0.013 L=16.0' S=0.0050 '/ Outflow=1.10 cfs 0.083 af
Pond 3_5P: Roof 3_5	Peak Elev=52.96' Storage=79 cf Inflow=0.10 cfs 0.008 af Discarded=0.03 cfs 0.008 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.008 af
Pond 4P: DMH 4	Peak Elev=52.40' Inflow=1.05 cfs 0.084 af 12.0" Round Culvert n=0.013 L=142.0' S=0.0050 '/ Outflow=1.05 cfs 0.084 af
Pond 5P: DMH 5	Peak Elev=52.20' Inflow=2.71 cfs 0.199 af 15.0" Round Culvert n=0.013 L=40.0' S=0.0050 '/ Outflow=2.71 cfs 0.199 af
Pond 6_11P: Roof 6_11	Peak Elev=54.16' Storage=213 cf Inflow=0.24 cfs 0.019 af Discarded=0.05 cfs 0.019 af Primary=0.00 cfs 0.000 af Outflow=0.05 cfs 0.019 af

Pond 10P: CB 1 Peak Elev=53.59' Inflow=1.10 cfs 0.083 af
15.0" Round Culvert n=0.013 L=195.0' S=0.0050 ' Outflow=1.10 cfs 0.083 af

Pond 11P: CB 2 Peak Elev=52.78' Inflow=1.05 cfs 0.084 af
12.0" Round Culvert n=0.013 L=58.0' S=0.0050 ' Outflow=1.05 cfs 0.084 af

Pond 12P: CB 3 Peak Elev=55.34' Inflow=2.26 cfs 0.163 af
15.0" Round Culvert n=0.013 L=176.0' S=0.0050 ' Outflow=2.26 cfs 0.163 af

Pond 12_15P: Roof 27_30 Peak Elev=57.29' Storage=156 cf Inflow=0.16 cfs 0.013 af
Discarded=0.03 cfs 0.013 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.013 af

Pond 13P: CB 4 Peak Elev=52.82' Inflow=2.71 cfs 0.199 af
15.0" Round Culvert n=0.013 L=136.0' S=0.0050 ' Outflow=2.71 cfs 0.199 af

Pond 16_18P: Roof 16_18 Peak Elev=57.31' Storage=127 cf Inflow=0.13 cfs 0.010 af
Discarded=0.02 cfs 0.010 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.010 af

Pond 19_20P: Roof 19_20 Peak Elev=57.36' Storage=66 cf Inflow=0.07 cfs 0.005 af
Discarded=0.01 cfs 0.005 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.005 af

Pond 20P: WET POND 1 Peak Elev=52.19' Storage=14,956 cf Inflow=5.23 cfs 0.392 af
Outflow=0.92 cfs 0.387 af

Pond 21P: BIORETENTION 1 Peak Elev=51.07' Storage=694 cf Inflow=1.10 cfs 0.083 af
Outflow=0.65 cfs 0.083 af

Pond 21_23P: Roof 21_23 Peak Elev=57.36' Storage=118 cf Inflow=0.12 cfs 0.010 af
Discarded=0.02 cfs 0.010 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.010 af

Pond 22P: R-TANKS Peak Elev=52.28' Storage=904 cf Inflow=1.07 cfs 0.077 af
6.0" Round Culvert n=0.013 L=45.0' S=0.0087 ' Outflow=0.39 cfs 0.077 af

Pond 24_26P: Roof 24_26 Peak Elev=57.36' Storage=118 cf Inflow=0.12 cfs 0.010 af
Discarded=0.02 cfs 0.010 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.010 af

Pond 27_30P: Roof 27_30 Peak Elev=57.29' Storage=156 cf Inflow=0.16 cfs 0.013 af
Discarded=0.03 cfs 0.013 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.013 af

Pond 31_35P: Roof 31_35 Peak Elev=58.27' Storage=197 cf Inflow=0.20 cfs 0.016 af
Discarded=0.03 cfs 0.016 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.016 af

Pond 36_38P: Roof 36_38 Peak Elev=56.88' Storage=105 cf Inflow=0.12 cfs 0.010 af
Discarded=0.02 cfs 0.010 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.010 af

Pond 39_44P: Roof 39_44 Peak Elev=55.70' Storage=205 cf Inflow=0.20 cfs 0.016 af
Discarded=0.03 cfs 0.016 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.016 af

Pond 40P: LOW POINT Peak Elev=53.45' Storage=9,813 cf Inflow=3.17 cfs 0.225 af
12.0" Round Culvert n=0.013 L=1,100.0' S=0.0029 ' Outflow=0.00 cfs 0.000 af

Pond 45_50P: Roof 45_50

Peak Elev=55.70' Storage=205 cf Inflow=0.20 cfs 0.016 af
Discarded=0.03 cfs 0.016 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.016 af

Total Runoff Area = 8.387 ac Runoff Volume = 0.985 af Average Runoff Depth = 1.41"
60.72% Pervious = 5.092 ac 39.28% Impervious = 3.294 ac

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1_2S: Roof 1_2	Runoff Area=1,224 sf 100.00% Impervious Runoff Depth=5.43" Tc=6.0 min CN=98 Runoff=0.16 cfs 0.013 af
Subcatchment 3_5S: Roof 3_5	Runoff Area=1,224 sf 100.00% Impervious Runoff Depth=5.43" Tc=6.0 min CN=98 Runoff=0.16 cfs 0.013 af
Subcatchment 6_11S: Roof 6_11	Runoff Area=2,904 sf 100.00% Impervious Runoff Depth=5.43" Tc=6.0 min CN=98 Runoff=0.37 cfs 0.030 af
Subcatchment 10S: Subcatchment 10S Flow Length=280'	Runoff Area=29,654 sf 6.99% Impervious Runoff Depth=1.63" Slope=0.0100 ' Tc=22.8 min CN=59 Runoff=0.76 cfs 0.093 af
Subcatchment 12_15S: Roof 12_15	Runoff Area=1,932 sf 100.00% Impervious Runoff Depth=5.43" Tc=6.0 min CN=98 Runoff=0.25 cfs 0.020 af
Subcatchment 16_18S: Roof 16_18	Runoff Area=1,560 sf 100.00% Impervious Runoff Depth=5.43" Tc=6.0 min CN=98 Runoff=0.20 cfs 0.016 af
Subcatchment 19_20S: Roof 19_20	Runoff Area=800 sf 100.00% Impervious Runoff Depth=5.43" Tc=6.0 min CN=98 Runoff=0.10 cfs 0.008 af
Subcatchment 20S: Subcatchment 20S	Runoff Area=18,078 sf 20.06% Impervious Runoff Depth=2.37" Tc=6.0 min CN=68 Runoff=1.14 cfs 0.082 af
Subcatchment 21S: Subcatchment 21S	Runoff Area=61,821 sf 49.16% Impervious Runoff Depth=3.58" Tc=6.0 min CN=81 Runoff=5.94 cfs 0.424 af
Subcatchment 21_23S: Roof 21_23	Runoff Area=1,440 sf 100.00% Impervious Runoff Depth=5.43" Tc=6.0 min CN=98 Runoff=0.18 cfs 0.015 af
Subcatchment 22S: Subcatchment 22S	Runoff Area=42,220 sf 50.92% Impervious Runoff Depth=2.82" Tc=6.0 min CN=73 Runoff=3.20 cfs 0.228 af
Subcatchment 23S: Subcatchment 23S	Runoff Area=12,524 sf 100.00% Impervious Runoff Depth=5.43" Tc=6.0 min CN=98 Runoff=1.60 cfs 0.130 af
Subcatchment 24S: Subcatchment 24S	Runoff Area=31,941 sf 82.12% Impervious Runoff Depth=4.52" Tc=6.0 min CN=90 Runoff=3.72 cfs 0.276 af
Subcatchment 24_26S: Roof 24_26	Runoff Area=1,440 sf 100.00% Impervious Runoff Depth=5.43" Tc=6.0 min CN=98 Runoff=0.18 cfs 0.015 af
Subcatchment 25S: Subcatchment 26S	Runoff Area=15,080 sf 71.23% Impervious Runoff Depth=4.52" Tc=6.0 min CN=90 Runoff=1.76 cfs 0.131 af
Subcatchment 26S: Subcatchment 26S	Runoff Area=14,100 sf 88.87% Impervious Runoff Depth=4.97" Tc=6.0 min CN=94 Runoff=1.74 cfs 0.134 af

Subcatchment 27S: Subcatchment 27S	Runoff Area=116,735 sf 0.62% Impervious Runoff Depth=0.56" Tc=6.0 min CN=43 Runoff=0.72 cfs 0.125 af
Subcatchment 27_30S: Roof 27_30	Runoff Area=1,932 sf 100.00% Impervious Runoff Depth=5.43" Tc=6.0 min CN=98 Runoff=0.25 cfs 0.020 af
Subcatchment 31_35S: Roof 31_35	Runoff Area=2,424 sf 100.00% Impervious Runoff Depth=5.43" Tc=6.0 min CN=98 Runoff=0.31 cfs 0.025 af
Subcatchment 36_38S: Roof 36_38	Runoff Area=1,464 sf 100.00% Impervious Runoff Depth=5.43" Tc=6.0 min CN=98 Runoff=0.19 cfs 0.015 af
Subcatchment 39_44S: Roof 39_44	Runoff Area=2,412 sf 100.00% Impervious Runoff Depth=5.43" Tc=6.0 min CN=98 Runoff=0.31 cfs 0.025 af
Subcatchment 45_50S: Roof 45_50	Runoff Area=2,412 sf 100.00% Impervious Runoff Depth=5.43" Tc=6.0 min CN=98 Runoff=0.31 cfs 0.025 af
Reach 1R: Analysis Point #1	Inflow=0.76 cfs 0.093 af Outflow=0.76 cfs 0.093 af
Reach 2R: Analysis Point #2	Inflow=6.13 cfs 1.100 af Outflow=6.13 cfs 1.100 af
Reach 10R: HW 1	Avg. Flow Depth=0.47' Max Vel=3.12 fps Inflow=1.14 cfs 0.082 af 12.0" Round Pipe n=0.013 L=40.0' S=0.0050 '/ Capacity=2.52 cfs Outflow=1.14 cfs 0.082 af
Pond 1P: DMH 1	Peak Elev=57.22' Inflow=4.85 cfs 0.358 af 12.0" Round Culvert n=0.013 L=60.0' S=0.0272 '/ Outflow=4.85 cfs 0.358 af
Pond 1_2P: Roof 27_30	Peak Elev=53.70' Storage=139 cf Inflow=0.16 cfs 0.013 af Discarded=0.04 cfs 0.013 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.013 af
Pond 2P: DMH 2	Peak Elev=51.67' Inflow=0.56 cfs 0.130 af 15.0" Round Culvert n=0.013 L=85.0' S=0.0049 '/ Outflow=0.56 cfs 0.130 af
Pond 3P: DMH 3	Peak Elev=52.84' Inflow=1.74 cfs 0.134 af 15.0" Round Culvert n=0.013 L=16.0' S=0.0050 '/ Outflow=1.74 cfs 0.134 af
Pond 3_5P: Roof 3_5	Peak Elev=53.70' Storage=139 cf Inflow=0.16 cfs 0.013 af Discarded=0.04 cfs 0.013 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.013 af
Pond 4P: DMH 4	Peak Elev=52.81' Inflow=1.60 cfs 0.130 af 12.0" Round Culvert n=0.013 L=142.0' S=0.0050 '/ Outflow=1.60 cfs 0.130 af
Pond 5P: DMH 5	Peak Elev=53.42' Inflow=4.85 cfs 0.358 af 15.0" Round Culvert n=0.013 L=40.0' S=0.0050 '/ Outflow=4.85 cfs 0.358 af
Pond 6_11P: Roof 6_11	Peak Elev=55.07' Storage=379 cf Inflow=0.37 cfs 0.030 af Discarded=0.07 cfs 0.030 af Primary=0.00 cfs 0.000 af Outflow=0.07 cfs 0.030 af

Pond 10P: CB 1 Peak Elev=53.78' Inflow=1.74 cfs 0.134 af
15.0" Round Culvert n=0.013 L=195.0' S=0.0050 '/' Outflow=1.74 cfs 0.134 af

Pond 11P: CB 2 Peak Elev=53.11' Inflow=1.60 cfs 0.130 af
12.0" Round Culvert n=0.013 L=58.0' S=0.0050 '/' Outflow=1.60 cfs 0.130 af

Pond 12P: CB 3 Peak Elev=58.07' Inflow=3.72 cfs 0.276 af
15.0" Round Culvert n=0.013 L=176.0' S=0.0050 '/' Outflow=3.72 cfs 0.276 af

Pond 12_15P: Roof 27_30 Peak Elev=58.32' Storage=280 cf Inflow=0.25 cfs 0.020 af
Discarded=0.03 cfs 0.020 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.020 af

Pond 13P: CB 4 Peak Elev=54.64' Inflow=4.85 cfs 0.358 af
15.0" Round Culvert n=0.013 L=136.0' S=0.0050 '/' Outflow=4.85 cfs 0.358 af

Pond 16_18P: Roof 16_18 Peak Elev=58.35' Storage=227 cf Inflow=0.20 cfs 0.016 af
Discarded=0.02 cfs 0.016 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.016 af

Pond 19_20P: Roof 19_20 Peak Elev=58.44' Storage=117 cf Inflow=0.10 cfs 0.008 af
Discarded=0.01 cfs 0.008 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.008 af

Pond 20P: WET POND 1 Peak Elev=52.64' Storage=18,256 cf Inflow=9.64 cfs 0.716 af
Outflow=4.15 cfs 0.710 af

Pond 21P: BIORETENTION 1 Peak Elev=51.50' Storage=1,192 cf Inflow=1.74 cfs 0.134 af
Outflow=0.71 cfs 0.134 af

Pond 21_23P: Roof 21_23 Peak Elev=58.44' Storage=211 cf Inflow=0.18 cfs 0.015 af
Discarded=0.02 cfs 0.015 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.015 af

Pond 22P: R-TANKS Peak Elev=52.57' Storage=1,576 cf Inflow=1.76 cfs 0.131 af
6.0" Round Culvert n=0.013 L=45.0' S=0.0087 '/' Outflow=0.56 cfs 0.130 af

Pond 24_26P: Roof 24_26 Peak Elev=58.44' Storage=211 cf Inflow=0.18 cfs 0.015 af
Discarded=0.02 cfs 0.015 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.015 af

Pond 27_30P: Roof 27_30 Peak Elev=58.32' Storage=280 cf Inflow=0.25 cfs 0.020 af
Discarded=0.03 cfs 0.020 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.020 af

Pond 31_35P: Roof 31_35 Peak Elev=59.30' Storage=355 cf Inflow=0.31 cfs 0.025 af
Discarded=0.04 cfs 0.025 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.025 af

Pond 36_38P: Roof 36_38 Peak Elev=57.64' Storage=194 cf Inflow=0.19 cfs 0.015 af
Discarded=0.03 cfs 0.015 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.015 af

Pond 39_44P: Roof 39_44 Peak Elev=56.98' Storage=359 cf Inflow=0.31 cfs 0.025 af
Discarded=0.04 cfs 0.025 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.025 af

Pond 40P: LOW POINT Peak Elev=53.94' Storage=18,465 cf Inflow=5.94 cfs 0.424 af
12.0" Round Culvert n=0.013 L=1,100.0' S=0.0029 '/' Outflow=0.00 cfs 0.000 af

Pond 45_50P: Roof 45_50

Peak Elev=56.98' Storage=359 cf Inflow=0.31 cfs 0.025 af
Discarded=0.04 cfs 0.025 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.025 af

Total Runoff Area = 8.387 ac Runoff Volume = 1.863 af Average Runoff Depth = 2.67"
60.72% Pervious = 5.092 ac 39.28% Impervious = 3.294 ac

Summary for Subcatchment 1_2S: Roof 1_2

Runoff = 0.16 cfs @ 12.08 hrs, Volume= 0.013 af, Depth= 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
1,020	98	Roofs, HSG A
204	98	Water Surface, HSG A
1,224	98	Weighted Average
1,224		100.00% Impervious Area

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

Summary for Subcatchment 3_5S: Roof 3_5

Runoff = 0.16 cfs @ 12.08 hrs, Volume= 0.013 af, Depth= 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
745	98	Roofs, HSG A
139	98	Water Surface, HSG A
275	98	Roofs, HSG D
65	98	Water Surface, HSG D
1,224	98	Weighted Average
1,224		100.00% Impervious Area

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

Summary for Subcatchment 6_11S: Roof 6_11

Runoff = 0.37 cfs @ 12.08 hrs, Volume= 0.030 af, Depth= 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
2,448	98	Roofs, HSG B
456	98	Water Surface, HSG B
2,904	98	Weighted Average
2,904		100.00% Impervious Area

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

Summary for Subcatchment 10S: Subcatchment 10S

Runoff = 0.76 cfs @ 12.34 hrs, Volume= 0.093 af, Depth= 1.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
1,320	98	Paved roads w/curbs & sewers, HSG B
752	98	Roofs, HSG B
133	39	>75% Grass cover, Good, HSG A
8,795	61	>75% Grass cover, Good, HSG B
685	30	Woods, Good, HSG A
17,969	55	Woods, Good, HSG B
29,654	59	Weighted Average
27,582		93.01% Pervious Area
2,072		6.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.1	50	0.0100	0.06		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.74"
7.7	230	0.0100	0.50		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
22.8	280	Total			

Summary for Subcatchment 12_15S: Roof 12_15

Runoff = 0.25 cfs @ 12.08 hrs, Volume= 0.020 af, Depth= 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
429	98	Roofs, HSG A
87	98	Water Surface, HSG A
1,203	98	Roofs, HSG B
213	98	Water Surface, HSG B
1,932	98	Weighted Average
1,932		100.00% Impervious Area

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

Summary for Subcatchment 16_18S: Roof 16_18

Runoff = 0.20 cfs @ 12.08 hrs, Volume= 0.016 af, Depth= 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
1,320	98	Roofs, HSG A
240	98	Water Surface, HSG A
1,560	98	Weighted Average
1,560		100.00% Impervious Area

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

Summary for Subcatchment 19_20S: Roof 19_20

Runoff = 0.10 cfs @ 12.08 hrs, Volume= 0.008 af, Depth= 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
680	98	Roofs, HSG A
120	98	Water Surface, HSG A
800	98	Weighted Average
800		100.00% Impervious Area

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

Summary for Subcatchment 20S: Subcatchment 20S

Runoff = 1.14 cfs @ 12.09 hrs, Volume= 0.082 af, Depth= 2.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
1,853	98	Paved roads w/curbs & sewers, HSG B
1,774	98	Roofs, HSG B
14,451	61	>75% Grass cover, Good, HSG B
18,078	68	Weighted Average
14,451		79.94% Pervious Area
3,627		20.06% Impervious Area

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

Summary for Subcatchment 21S: Subcatchment 21S

Runoff = 5.94 cfs @ 12.09 hrs, Volume= 0.424 af, Depth= 3.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
24,950	98	Paved roads w/curbs & sewers, HSG B
5,442	98	Roofs, HSG B
23,567	61	>75% Grass cover, Good, HSG B
3,353	74	>75% Grass cover, Good, HSG C
4,509	77	Woods, Good, HSG D
61,821	81	Weighted Average
31,429		50.84% Pervious Area
30,392		49.16% Impervious Area

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

Summary for Subcatchment 21_23S: Roof 21_23

Runoff = 0.18 cfs @ 12.08 hrs, Volume= 0.015 af, Depth= 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
259	98	Roofs, HSG A
73	98	Water Surface, HSG A
965	98	Roofs, HSG C
143	98	Water Surface, HSG C
1,440	98	Weighted Average
1,440		100.00% Impervious Area

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

Summary for Subcatchment 22S: Subcatchment 22S

Runoff = 3.20 cfs @ 12.09 hrs, Volume= 0.228 af, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
4,066	98	Paved roads w/curbs & sewers, HSG A
12,645	98	Paved roads w/curbs & sewers, HSG B
1,423	98	Roofs, HSG A
1,019	98	Roofs, HSG B
74	98	Roofs, HSG D
2,188	98	Water Surface, HSG A
84	98	Water Surface, HSG B
11,927	39	>75% Grass cover, Good, HSG A
8,357	61	>75% Grass cover, Good, HSG B
69	80	>75% Grass cover, Good, HSG D
368	30	Woods, Good, HSG A
42,220	73	Weighted Average
20,721		49.08% Pervious Area
21,499		50.92% Impervious Area

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

Summary for Subcatchment 23S: Subcatchment 23S

Runoff = 1.60 cfs @ 12.08 hrs, Volume= 0.130 af, Depth= 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
8,444	98	Paved roads w/curbs & sewers, HSG B
4,080	98	Roofs, HSG B
12,524	98	Weighted Average
12,524		100.00% Impervious Area

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

Summary for Subcatchment 24S: Subcatchment 24S

Runoff = 3.72 cfs @ 12.08 hrs, Volume= 0.276 af, Depth= 4.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
4,408	98	Paved roads w/curbs & sewers, HSG A
13,925	98	Paved roads w/curbs & sewers, HSG B
699	98	Paved roads w/curbs & sewers, HSG C
797	98	Roofs, HSG A
6,394	98	Roofs, HSG B
8	98	Roofs, HSG C
1,515	39	>75% Grass cover, Good, HSG A
4,195	61	>75% Grass cover, Good, HSG B
31,941	90	Weighted Average
5,710		17.88% Pervious Area
26,231		82.12% Impervious Area

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

Summary for Subcatchment 24_26S: Roof 24_26

Runoff = 0.18 cfs @ 12.08 hrs, Volume= 0.015 af, Depth= 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
1,224	98	Roofs, HSG C
216	98	Water Surface, HSG C
1,440	98	Weighted Average
1,440		100.00% Impervious Area

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

Summary for Subcatchment 25S: Subcatchment 26S

Runoff = 1.76 cfs @ 12.08 hrs, Volume= 0.131 af, Depth= 4.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
1,677	98	Paved roads w/curbs & sewers, HSG A
485	98	Paved roads w/curbs & sewers, HSG B
6,545	98	Paved roads w/curbs & sewers, HSG C
692	98	Roofs, HSG A
1,090	98	Roofs, HSG B
253	98	Roofs, HSG C
442	39	>75% Grass cover, Good, HSG A
3,896	74	>75% Grass cover, Good, HSG C
15,080	90	Weighted Average
4,338		28.77% Pervious Area
10,742		71.23% Impervious Area

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

Summary for Subcatchment 26S: Subcatchment 26S

Runoff = 1.74 cfs @ 12.08 hrs, Volume= 0.134 af, Depth= 4.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
2,715	98	Paved roads w/curbs & sewers, HSG A
6,682	98	Paved roads w/curbs & sewers, HSG C
822	98	Roofs, HSG A
2,311	98	Roofs, HSG C
426	39	>75% Grass cover, Good, HSG A
1,144	74	>75% Grass cover, Good, HSG C
14,100	94	Weighted Average
1,570		11.13% Pervious Area
12,530		88.87% Impervious Area

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

Summary for Subcatchment 27S: Subcatchment 27S

Runoff = 0.72 cfs @ 12.27 hrs, Volume= 0.125 af, Depth= 0.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
601	98	Paved roads w/curbs & sewers, HSG A
120	98	Paved roads w/curbs & sewers, HSG D
60,312	39	>75% Grass cover, Good, HSG A
8,297	61	>75% Grass cover, Good, HSG B
5,561	74	>75% Grass cover, Good, HSG C
975	80	>75% Grass cover, Good, HSG D
25,928	30	Woods, Good, HSG A
14,750	55	Woods, Good, HSG B
191	77	Woods, Good, HSG D
116,735	43	Weighted Average
116,014		99.38% Pervious Area
721		0.62% Impervious Area

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

Summary for Subcatchment 27_30S: Roof 27_30

Runoff = 0.25 cfs @ 12.08 hrs, Volume= 0.020 af, Depth= 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
1,632	98	Roofs, HSG B
300	98	Water Surface, HSG B
1,932	98	Weighted Average
1,932		100.00% Impervious Area

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

Summary for Subcatchment 31_35S: Roof 31_35

Runoff = 0.31 cfs @ 12.08 hrs, Volume= 0.025 af, Depth= 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
2,040	98	Roofs, HSG B
384	98	Water Surface, HSG B
2,424	98	Weighted Average
2,424		100.00% Impervious Area

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

Summary for Subcatchment 36_38S: Roof 36_38

Runoff = 0.19 cfs @ 12.08 hrs, Volume= 0.015 af, Depth= 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
1,170	98	Roofs, HSG B
294	98	Water Surface, HSG B
1,464	98	Weighted Average
1,464		100.00% Impervious Area

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

Summary for Subcatchment 39_44S: Roof 39_44

Runoff = 0.31 cfs @ 12.08 hrs, Volume= 0.025 af, Depth= 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
2,184	98	Roofs, HSG B
228	98	Water Surface, HSG B
2,412	98	Weighted Average
2,412		100.00% Impervious Area

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

Summary for Subcatchment 45_50S: Roof 45_50

Runoff = 0.31 cfs @ 12.08 hrs, Volume= 0.025 af, Depth= 5.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR STORM Rainfall=5.67"

Area (sf)	CN	Description
2,184	98	Roofs, HSG B
228	98	Water Surface, HSG B
2,412	98	Weighted Average
2,412		100.00% Impervious Area

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

Summary for Reach 1R: Analysis Point #1

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

Inflow Area = 0.681 ac, 6.99% Impervious, Inflow Depth = 1.63" for 10-YR STORM event
 Inflow = 0.76 cfs @ 12.34 hrs, Volume= 0.093 af
 Outflow = 0.76 cfs @ 12.34 hrs, Volume= 0.093 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Summary for Reach 2R: Analysis Point #2

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

Inflow Area = 7.706 ac, 42.14% Impervious, Inflow Depth > 1.71" for 10-YR STORM event
 Inflow = 6.13 cfs @ 12.30 hrs, Volume= 1.100 af
 Outflow = 6.13 cfs @ 12.30 hrs, Volume= 1.100 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Summary for Reach 10R: HW 1

[52] Hint: Inlet/Outlet conditions not evaluated

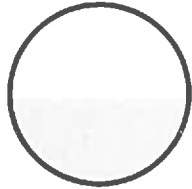
Inflow Area = 0.470 ac, 29.47% Impervious, Inflow Depth = 2.09" for 10-YR STORM event
 Inflow = 1.14 cfs @ 12.09 hrs, Volume= 0.082 af
 Outflow = 1.14 cfs @ 12.09 hrs, Volume= 0.082 af, Atten= 0%, Lag= 0.2 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Max. Velocity= 3.12 fps, Min. Travel Time= 0.2 min
 Avg. Velocity = 1.18 fps, Avg. Travel Time= 0.6 min

Peak Storage= 15 cf @ 12.09 hrs
 Average Depth at Peak Storage= 0.47'
 Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 2.52 cfs

12.0" Round Pipe
 n= 0.013 Corrugated PE, smooth interior
 Length= 40.0' Slope= 0.0050 '/'
 Inlet Invert= 54.00', Outlet Invert= 53.80'



Summary for Pond 1P: DMH 1

[63] Warning: Exceeded Reach 10R INLET depth by 2.75' @ 12.09 hrs

[80] Warning: Exceeded Pond 12P by 1.01' @ 24.25 hrs (2.68 cfs 0.381 af)

Inflow Area = 1.204 ac, 61.55% Impervious, Inflow Depth = 3.57" for 10-YR STORM event
 Inflow = 4.85 cfs @ 12.09 hrs, Volume= 0.358 af
 Outflow = 4.85 cfs @ 12.09 hrs, Volume= 0.358 af, Atten= 0%, Lag= 0.0 min
 Primary = 4.85 cfs @ 12.09 hrs, Volume= 0.358 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 57.22' @ 12.09 hrs

Flood Elev= 57.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	53.70'	12.0" Round Culvert L= 60.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 53.70' / 52.07' S= 0.0272 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=4.80 cfs @ 12.09 hrs HW=57.20' TW=54.61' (Dynamic Tailwater)

←1=Culvert (Inlet Controls 4.80 cfs @ 6.11 fps)

Summary for Pond 1_2P: Roof 27_30

Inflow Area = 0.028 ac, 100.00% Impervious, Inflow Depth = 5.43" for 10-YR STORM event
 Inflow = 0.16 cfs @ 12.08 hrs, Volume= 0.013 af
 Outflow = 0.04 cfs @ 12.45 hrs, Volume= 0.013 af, Atten= 75%, Lag= 22.3 min
 Discarded = 0.04 cfs @ 12.45 hrs, Volume= 0.013 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 53.70' @ 12.45 hrs Surf.Area= 204 sf Storage= 139 cf

Plug-Flow detention time= 24.9 min calculated for 0.013 af (100% of inflow)

Center-of-Mass det. time= 24.9 min (770.9 - 746.0)

Volume	Invert	Avail.Storage	Storage Description
#1	51.99'	532 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.99	204	0.0	0	0
52.00	204	40.0	1	1
55.99	204	40.0	326	326
56.00	204	100.0	2	328
57.00	204	100.0	204	532

Device	Routing	Invert	Outlet Devices
#1	Primary	56.00'	40.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	51.99'	3.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 51.00' Phase-In= 0.01'

Discarded OutFlow Max=0.04 cfs @ 12.45 hrs HW=53.70' (Free Discharge)

↳ **2=Exfiltration** (Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=51.99' TW=0.00' (Dynamic Tailwater)

↳ **1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 2P: DMH 2

Inflow Area = 0.346 ac, 71.23% Impervious, Inflow Depth > 4.51" for 10-YR STORM event
 Inflow = 0.56 cfs @ 12.39 hrs, Volume= 0.130 af
 Outflow = 0.56 cfs @ 12.39 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min
 Primary = 0.56 cfs @ 12.39 hrs, Volume= 0.130 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 51.67' @ 12.39 hrs

Flood Elev= 57.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.26'	15.0" Round Culvert L= 85.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.26' / 50.84' S= 0.0049 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.56 cfs @ 12.39 hrs HW=51.67' TW=0.00' (Dynamic Tailwater)

↳ **1=Culvert** (Barrel Controls 0.56 cfs @ 2.37 fps)

Summary for Pond 3P: DMH 3

Inflow Area = 0.324 ac, 88.87% Impervious, Inflow Depth = 4.97" for 10-YR STORM event
 Inflow = 1.74 cfs @ 12.08 hrs, Volume= 0.134 af
 Outflow = 1.74 cfs @ 12.08 hrs, Volume= 0.134 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.74 cfs @ 12.08 hrs, Volume= 0.134 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 52.84' @ 12.08 hrs
 Flood Elev= 53.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	52.01'	15.0" Round Culvert L= 16.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.01' / 51.93' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.74 cfs @ 12.08 hrs HW=52.84' TW=51.22' (Dynamic Tailwater)
 ↑1=Culvert (Barrel Controls 1.74 cfs @ 2.85 fps)

Summary for Pond 3_5P: Roof 3_5

Inflow Area = 0.028 ac, 100.00% Impervious, inflow Depth = 5.43" for 10-YR STORM event
 Inflow = 0.16 cfs @ 12.08 hrs, Volume= 0.013 af
 Outflow = 0.04 cfs @ 12.45 hrs, Volume= 0.013 af, Atten= 75%, Lag= 22.3 min
 Discarded = 0.04 cfs @ 12.45 hrs, Volume= 0.013 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 53.70' @ 12.45 hrs Surf.Area= 204 sf Storage= 139 cf

Plug-Flow detention time= 24.9 min calculated for 0.013 af (100% of inflow)
 Center-of-Mass det. time= 24.9 min (770.9 - 746.0)

Volume	Invert	Avail.Storage	Storage Description
#1	51.99'	532 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)
51.99	204	0.0	0
52.00	204	40.0	1
55.99	204	40.0	326
56.00	204	100.0	2
57.00	204	100.0	204

Device	Routing	Invert	Outlet Devices
#1	Primary	56.00'	40.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	51.99'	3.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 51.00' Phase-In= 0.01'

Discarded OutFlow Max=0.04 cfs @ 12.45 hrs HW=53.70' (Free Discharge)
 ↑2=Exfiltration (Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=51.99' TW=0.00' (Dynamic Tailwater)
 ↑1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 4P: DMH 4

Inflow Area = 0.288 ac, 100.00% Impervious, Inflow Depth = 5.43" for 10-YR STORM event
 Inflow = 1.60 cfs @ 12.08 hrs, Volume= 0.130 af
 Outflow = 1.60 cfs @ 12.08 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.60 cfs @ 12.08 hrs, Volume= 0.130 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 52.81' @ 12.12 hrs
 Flood Elev= 55.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.71'	12.0" Round Culvert L= 142.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.71' / 51.00' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.59 cfs @ 12.08 hrs HW=52.77' TW=52.29' (Dynamic Tailwater)
 ↑1=Culvert (Outlet Controls 1.59 cfs @ 2.39 fps)

Summary for Pond 5P: DMH 5

Inflow Area = 1.204 ac, 61.55% Impervious, Inflow Depth = 3.57" for 10-YR STORM event
 Inflow = 4.85 cfs @ 12.09 hrs, Volume= 0.358 af
 Outflow = 4.85 cfs @ 12.09 hrs, Volume= 0.358 af, Atten= 0%, Lag= 0.0 min
 Primary = 4.85 cfs @ 12.09 hrs, Volume= 0.358 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 53.42' @ 12.10 hrs
 Flood Elev= 56.69'

Device	Routing	Invert	Outlet Devices
#1	Primary	50.94'	15.0" Round Culvert L= 40.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 50.94' / 50.74' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=4.84 cfs @ 12.09 hrs HW=53.39' TW=52.31' (Dynamic Tailwater)
 ↑1=Culvert (Inlet Controls 4.84 cfs @ 3.95 fps)

Summary for Pond 6_11P: Roof 6_11

Inflow Area = 0.067 ac, 100.00% Impervious, Inflow Depth = 5.43" for 10-YR STORM event
 Inflow = 0.37 cfs @ 12.08 hrs, Volume= 0.030 af
 Outflow = 0.07 cfs @ 12.53 hrs, Volume= 0.030 af, Atten= 82%, Lag= 26.9 min
 Discarded = 0.07 cfs @ 12.53 hrs, Volume= 0.030 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 55.07' @ 12.53 hrs Surf.Area= 456 sf Storage= 379 cf

Plug-Flow detention time= 39.9 min calculated for 0.030 af (100% of inflow)

Center-of-Mass det. time= 39.9 min (785.9 - 746.0)

Volume	Invert	Avail.Storage	Storage Description
#1	52.99'	1,190 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
52.99	465	0.0	0	0
53.00	456	40.0	2	2
56.99	456	40.0	728	730
57.00	456	100.0	5	734
58.00	456	100.0	456	1,190

Device	Routing	Invert	Outlet Devices
#1	Primary	57.00'	40.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	52.99'	3.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 51.00' Phase-In= 0.01'

Discarded OutFlow Max=0.07 cfs @ 12.53 hrs HW=55.07' (Free Discharge)

↑2=Exfiltration (Controls 0.07 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=52.99' TW=0.00' (Dynamic Tailwater)

↑1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 10P: CB 1

Inflow Area = 0.324 ac, 88.87% Impervious, Inflow Depth = 4.97" for 10-YR STORM event
 Inflow = 1.74 cfs @ 12.08 hrs, Volume= 0.134 af
 Outflow = 1.74 cfs @ 12.08 hrs, Volume= 0.134 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.74 cfs @ 12.08 hrs, Volume= 0.134 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 53.78' @ 12.08 hrs

Flood Elev= 56.24'

Device	Routing	Invert	Outlet Devices
#1	Primary	52.99'	15.0" Round Culvert L= 195.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.99' / 52.01' S= 0.0050 1' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.74 cfs @ 12.08 hrs HW=53.78' TW=52.84' (Dynamic Tailwater)

↑1=Culvert (Outlet Controls 1.74 cfs @ 3.02 fps)

Summary for Pond 11P: CB 2

Inflow Area = 0.288 ac, 100.00% Impervious, Inflow Depth = 5.43" for 10-YR STORM event
 Inflow = 1.60 cfs @ 12.08 hrs, Volume= 0.130 af
 Outflow = 1.60 cfs @ 12.08 hrs, Volume= 0.130 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.60 cfs @ 12.08 hrs, Volume= 0.130 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 53.11' @ 12.10 hrs
 Flood Elev= 55.50'

Device	Routing	Invert	Outlet Devices
#1	Primary	52.10'	12.0" Round Culvert L= 58.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.10' / 51.81' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.59 cfs @ 12.08 hrs HW=53.10' TW=52.77' (Dynamic Tailwater)
 ↑1=Culvert (Outlet Controls 1.59 cfs @ 2.53 fps)

Summary for Pond 12P: CB 3

[58] Hint: Peaked 2.12' above defined flood level

Inflow Area = 0.733 ac, 82.12% Impervious, Inflow Depth = 4.52" for 10-YR STORM event
 Inflow = 3.72 cfs @ 12.08 hrs, Volume= 0.276 af
 Outflow = 3.72 cfs @ 12.08 hrs, Volume= 0.276 af, Atten= 0%, Lag= 0.0 min
 Primary = 3.72 cfs @ 12.08 hrs, Volume= 0.276 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 58.07' @ 12.09 hrs
 Flood Elev= 55.95'

Device	Routing	Invert	Outlet Devices
#1	Primary	52.70'	15.0" Round Culvert L= 176.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 52.70' / 51.82' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=3.66 cfs @ 12.08 hrs HW=58.01' TW=57.18' (Dynamic Tailwater)
 ↑1=Culvert (Outlet Controls 3.66 cfs @ 2.98 fps)

Summary for Pond 12_15P: Roof 27_30

Inflow Area = 0.044 ac, 100.00% Impervious, Inflow Depth = 5.43" for 10-YR STORM event
 Inflow = 0.25 cfs @ 12.08 hrs, Volume= 0.020 af
 Outflow = 0.03 cfs @ 12.63 hrs, Volume= 0.020 af, Atten= 88%, Lag= 32.8 min
 Discarded = 0.03 cfs @ 12.63 hrs, Volume= 0.020 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 58.32' @ 12.63 hrs Surf.Area= 300 sf Storage= 280 cf

Plug-Flow detention time= 64.0 min calculated for 0.020 af (100% of inflow)

Center-of-Mass det. time= 64.0 min (810.0 - 746.0)

Volume	Invert	Avail.Storage	Storage Description
#1	55.99'	783 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
55.99	300	0.0	0	0
56.00	300	40.0	1	1
59.99	300	40.0	479	480
60.00	300	100.0	3	483
61.00	300	100.0	300	783

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	96.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	55.99'	3.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 51.00' Phase-In= 0.01'

Discarded OutFlow Max=0.03 cfs @ 12.63 hrs HW=58.32' (Free Discharge)

↑2=Exfiltration (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.99' TW=0.00' (Dynamic Tailwater)

↑1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 13P: CB 4

Inflow Area = 1.204 ac, 61.55% Impervious, Inflow Depth = 3.57" for 10-YR STORM event
 Inflow = 4.85 cfs @ 12.09 hrs, Volume= 0.358 af
 Outflow = 4.85 cfs @ 12.09 hrs, Volume= 0.358 af, Atten= 0%, Lag= 0.0 min
 Primary = 4.85 cfs @ 12.09 hrs, Volume= 0.358 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 54.64' @ 12.09 hrs

Flood Elev= 56.69'

Device	Routing	Invert	Outlet Devices
#1	Primary	51.72'	15.0" Round Culvert L= 136.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.72' / 51.04' S= 0.0050 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=4.84 cfs @ 12.09 hrs HW=54.61' TW=53.39' (Dynamic Tailwater)

↑1=Culvert (Outlet Controls 4.84 cfs @ 3.95 fps)

Summary for Pond 16_18P: Roof 16_18

Inflow Area = 0.036 ac, 100.00% Impervious, Inflow Depth = 5.43" for 10-YR STORM event
 Inflow = 0.20 cfs @ 12.08 hrs, Volume= 0.016 af
 Outflow = 0.02 cfs @ 12.63 hrs, Volume= 0.016 af, Atten= 88%, Lag= 33.0 min
 Discarded = 0.02 cfs @ 12.63 hrs, Volume= 0.016 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 58.35' @ 12.63 hrs Surf.Area= 240 sf Storage= 227 cf

Plug-Flow detention time= 64.8 min calculated for 0.016 af (100% of inflow)
 Center-of-Mass det. time= 64.8 min (810.8 - 746.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	55.99'	626 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
55.99	240	0.0	0	0
56.00	240	40.0	1	1
59.99	240	40.0	383	384
60.00	240	100.0	2	386
61.00	240	100.0	240	626

Device	Routing	Invert	Outlet Devices	
#1	Primary	60.00'	96.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32	
#2	Discarded	55.99'	3.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 51.00' Phase-In= 0.01'	

Discarded OutFlow Max=0.02 cfs @ 12.63 hrs HW=58.35' (Free Discharge)
 ↳2=Exfiltration (Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.99' TW=0.00' (Dynamic Tailwater)
 ↳1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 19_20P: Roof 19_20

Inflow Area = 0.018 ac, 100.00% Impervious, Inflow Depth = 5.43" for 10-YR STORM event
 Inflow = 0.10 cfs @ 12.08 hrs, Volume= 0.008 af
 Outflow = 0.01 cfs @ 12.64 hrs, Volume= 0.008 af, Atten= 88%, Lag= 33.5 min
 Discarded = 0.01 cfs @ 12.64 hrs, Volume= 0.008 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 58.44' @ 12.64 hrs Surf.Area= 120 sf Storage= 117 cf

Plug-Flow detention time= 66.9 min calculated for 0.008 af (100% of inflow)
 Center-of-Mass det. time= 66.9 min (812.9 - 746.0)

Volume	Invert	Avail.Storage	Storage Description
#1	55.99'	313 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
55.99	120	0.0	0	0
56.00	120	40.0	0	0
59.99	120	40.0	192	192
60.00	120	100.0	1	193
61.00	120	100.0	120	313

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	96.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	55.99'	3.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 51.00' Phase-In= 0.01'

Discarded OutFlow Max=0.01 cfs @ 12.64 hrs HW=58.44' (Free Discharge)

↳2=Exfiltration (Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.99' TW=0.00' (Dynamic Tailwater)

↳1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 20P: WET POND 1

[80] Warning: Exceeded Pond 5P by 0.26' @ 24.23 hrs (0.21 cfs 0.023 af)

Inflow Area = 2.516 ac, 62.69% Impervious, Inflow Depth = 3.42" for 10-YR STORM event
 Inflow = 9.64 cfs @ 12.09 hrs, Volume= 0.716 af
 Outflow = 4.15 cfs @ 12.30 hrs, Volume= 0.710 af, Atten= 57%, Lag= 12.5 min
 Primary = 4.15 cfs @ 12.30 hrs, Volume= 0.710 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Starting Elev= 51.00' Surf.Area= 4,566 sf Storage= 8,239 cf

Peak Elev= 52.64' @ 12.30 hrs Surf.Area= 7,802 sf Storage= 18,256 cf (10,017 cf above start)

Plug-Flow detention time= 252.2 min calculated for 0.521 af (73% of inflow)

Center-of-Mass det. time= 89.8 min (890.8 - 801.0)

Volume	Invert	Avail.Storage	Storage Description
#1	47.00'	21,181 cf	Custom Stage Data (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
47.00	641	186.9	0	0	641
48.00	1,252	213.4	930	930	1,509
49.00	1,949	240.7	1,588	2,517	2,521
50.00	2,849	307.1	2,385	4,902	5,428
50.99	3,832	336.6	3,295	8,197	6,973
51.00	4,566	436.6	42	8,239	13,126
52.00	6,392	592.7	5,453	13,693	25,922
53.00	8,642	699.0	7,489	21,181	36,868

Device	Routing	Invert	Outlet Devices
#1	Primary	51.00'	18.0" Round Culvert L= 30.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.00' / 49.00' S= 0.0667 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	51.00'	6.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	52.25'	36.0" W x 5.9" H Vert. Orifice/Grate C= 0.600
#4	Device 1	52.75'	30.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Primary	52.50'	5.0' long x 4.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.38 2.54 2.69 2.68 2.67 2.67 2.65 2.66 2.66 2.68 2.72 2.73 2.76 2.79 2.88 3.07 3.32

Primary OutFlow Max=4.15 cfs @ 12.30 hrs HW=52.64' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 3.50 cfs of 6.35 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 1.12 cfs @ 5.68 fps)
- 3=Orifice/Grate (Orifice Controls 2.38 cfs @ 2.01 fps)
- 4=Orifice/Grate (Controls 0.00 cfs)
- 5=Broad-Crested Rectangular Weir (Weir Controls 0.65 cfs @ 0.90 fps)

Summary for Pond 21P: BIORETENTION 1

Inflow Area = 0.324 ac, 88.87% Impervious, Inflow Depth = 4.97" for 10-YR STORM event
 Inflow = 1.74 cfs @ 12.08 hrs, Volume= 0.134 af
 Outflow = 0.71 cfs @ 12.29 hrs, Volume= 0.134 af, Atten= 59%, Lag= 12.5 min
 Primary = 0.71 cfs @ 12.29 hrs, Volume= 0.134 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
 Starting Elev= 48.50' Surf.Area= 1,010 sf Storage= 137 cf
 Peak Elev= 51.50' @ 12.29 hrs Surf.Area= 1,274 sf Storage= 1,192 cf (1,054 cf above start)

Plug-Flow detention time= 44.8 min calculated for 0.131 af (98% of inflow)
 Center-of-Mass det. time= 19.4 min (789.4 - 770.0)

Volume	Invert	Avail.Storage	Storage Description
#1	48.16'	3,756 cf	Custom Stage Data (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
48.16	1,010	146.5	0.0	0	0	1,010
48.17	1,010	146.5	40.0	4	4	1,011
48.50	1,010	146.5	40.0	133	137	1,060
49.49	1,010	146.5	40.0	400	537	1,205
49.50	1,010	146.5	5.0	1	538	1,206
50.99	1,010	146.5	5.0	75	613	1,425
51.00	1,010	146.5	100.0	10	623	1,426
52.00	1,569	185.6	100.0	1,279	1,902	2,473
53.00	2,154	204.4	100.0	1,854	3,756	3,088

Device	Routing	Invert	Outlet Devices
#1	Primary	48.50'	4.0" Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=0.71 cfs @ 12.29 hrs HW=51.50' TW=0.00' (Dynamic Tailwater)

1=Orifice/Grate (Orifice Controls 0.71 cfs @ 8.10 fps)

Summary for Pond 21_23P: Roof 21_23

Inflow Area = 0.033 ac, 100.00% Impervious, Inflow Depth = 5.43" for 10-YR STORM event
 Inflow = 0.18 cfs @ 12.08 hrs, Volume= 0.015 af
 Outflow = 0.02 cfs @ 12.64 hrs, Volume= 0.015 af, Atten= 88%, Lag= 33.5 min
 Discarded = 0.02 cfs @ 12.64 hrs, Volume= 0.015 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 58.44' @ 12.64 hrs Surf.Area= 216 sf Storage= 211 cf

Plug-Flow detention time= 66.9 min calculated for 0.015 af (100% of inflow)
 Center-of-Mass det. time= 66.9 min (812.9 - 746.0)

Volume	Invert	Avail.Storage	Storage Description
#1	55.99'	564 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
55.99	216	0.0	0	0
56.00	216	40.0	1	1
59.99	216	40.0	345	346
60.00	216	100.0	2	348
61.00	216	100.0	216	564

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	96.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	55.99'	3.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 51.00' Phase-In= 0.01'

Discarded OutFlow Max=0.02 cfs @ 12.64 hrs HW=58.44' (Free Discharge)

↳2=Exfiltration (Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.99' TW=0.00' (Dynamic Tailwater)

↳1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 22P: R-TANKS

Inflow Area = 0.346 ac, 71.23% Impervious, Inflow Depth = 4.52" for 10-YR STORM event
 Inflow = 1.76 cfs @ 12.08 hrs, Volume= 0.131 af
 Outflow = 0.56 cfs @ 12.39 hrs, Volume= 0.130 af, Atten= 68%, Lag= 18.1 min
 Primary = 0.56 cfs @ 12.39 hrs, Volume= 0.130 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 52.57' @ 12.39 hrs Surf.Area= 2,666 sf Storage= 1,576 cf

Plug-Flow detention time= 46.8 min calculated for 0.130 af (100% of inflow)
 Center-of-Mass det. time= 44.7 min (831.2 - 786.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	51.75'	1,459 cf	45.99'W x 57.95'L x 2.04'H Field A 5,431 cf Overall - 1,784 cf Embedded = 3,647 cf x 40.0% Voids
#2A	52.00'	1,695 cf	ACF R-Tank HD 0.5 x 736 Inside #1 Inside= 15.7"W x 9.4"H => 0.98 sf x 2.35'L = 2.3 cf Outside= 15.7"W x 9.4"H => 1.03 sf x 2.35'L = 2.4 cf 32 Rows of 23 Chambers
		3,154 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	51.75'	6.0" Round Culvert L= 45.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 51.75' / 51.36' S= 0.0087 ' / ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.56 cfs @ 12.39 hrs HW=52.57' TW=51.67' (Dynamic Tailwater)

↳1=Culvert (Inlet Controls 0.56 cfs @ 2.86 fps)

Summary for Pond 24_26P: Roof 24_26

Inflow Area = 0.033 ac, 100.00% Impervious, Inflow Depth = 5.43" for 10-YR STORM event
 Inflow = 0.18 cfs @ 12.08 hrs, Volume= 0.015 af
 Outflow = 0.02 cfs @ 12.64 hrs, Volume= 0.015 af, Atten= 88%, Lag= 33.5 min
 Discarded = 0.02 cfs @ 12.64 hrs, Volume= 0.015 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 58.44' @ 12.64 hrs Surf.Area= 216 sf Storage= 211 cf

Plug-Flow detention time= 66.9 min calculated for 0.015 af (100% of inflow)

Center-of-Mass det. time= 66.9 min (812.9 - 746.0)

Volume	Invert	Avail.Storage	Storage Description
#1	55.99'	564 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
55.99	216	0.0	0	0
56.00	216	40.0	1	1
59.99	216	40.0	345	346
60.00	216	100.0	2	348
61.00	216	100.0	216	564

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	96.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	55.99'	3.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 51.00' Phase-In= 0.01'

Discarded OutFlow Max=0.02 cfs @ 12.64 hrs HW=58.44' (Free Discharge)

↑2=Exfiltration (Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.99' TW=0.00' (Dynamic Tailwater)

↑1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 27_30P: Roof 27_30

Inflow Area = 0.044 ac, 100.00% Impervious, Inflow Depth = 5.43" for 10-YR STORM event
 Inflow = 0.25 cfs @ 12.08 hrs, Volume= 0.020 af
 Outflow = 0.03 cfs @ 12.63 hrs, Volume= 0.020 af, Atten= 88%, Lag= 32.8 min
 Discarded = 0.03 cfs @ 12.63 hrs, Volume= 0.020 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 58.32' @ 12.63 hrs Surf.Area= 300 sf Storage= 280 cf

Plug-Flow detention time= 64.0 min calculated for 0.020 af (100% of inflow)

Center-of-Mass det. time= 64.0 min (810.0 - 746.0)

Volume	Invert	Avail.Storage	Storage Description
#1	55.99'	783 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
55.99	300	0.0	0	0
56.00	300	40.0	1	1
59.99	300	40.0	479	480
60.00	300	100.0	3	483
61.00	300	100.0	300	783

Device	Routing	Invert	Outlet Devices
#1	Primary	60.00'	96.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	55.99'	3.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 51.00' Phase-In= 0.01'

Discarded OutFlow Max=0.03 cfs @ 12.63 hrs HW=58.32' (Free Discharge)

↳ **2=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.99' TW=0.00' (Dynamic Tailwater)

↳ **1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 31_35P: Roof 31_35

Inflow Area = 0.056 ac, 100.00% Impervious, Inflow Depth = 5.43" for 10-YR STORM event
 Inflow = 0.31 cfs @ 12.08 hrs, Volume= 0.025 af
 Outflow = 0.04 cfs @ 12.67 hrs, Volume= 0.025 af, Atten= 88%, Lag= 35.1 min
 Discarded = 0.04 cfs @ 12.67 hrs, Volume= 0.025 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 59.30' @ 12.67 hrs Surf.Area= 384 sf Storage= 355 cf

Plug-Flow detention time= 67.9 min calculated for 0.025 af (100% of inflow)

Center-of-Mass det. time= 67.9 min (813.9 - 746.0)

Volume	Invert	Avail.Storage	Storage Description
#1	56.99'	1,002 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
56.99	384	0.0	0	0
57.00	384	40.0	2	2
60.99	384	40.0	613	614
61.00	384	100.0	4	618
62.00	384	100.0	384	1,002

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	123.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	56.99'	3.000 in/hr Exfiltration over Surface area

Conductivity to Groundwater Elevation = 50.50' Phase-In= 0.01'

Discarded OutFlow Max=0.04 cfs @ 12.67 hrs HW=59.30' (Free Discharge)

↳2=Exfiltration (Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=56.99' TW=0.00' (Dynamic Tailwater)

↳1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 36_38P: Roof 36_38

Inflow Area = 0.034 ac, 100.00% Impervious, Inflow Depth = 5.43" for 10-YR STORM event
 Inflow = 0.19 cfs @ 12.08 hrs, Volume= 0.015 af
 Outflow = 0.03 cfs @ 12.58 hrs, Volume= 0.015 af, Atten= 86%, Lag= 29.8 min
 Discarded = 0.03 cfs @ 12.58 hrs, Volume= 0.015 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 57.64' @ 12.58 hrs Surf.Area= 294 sf Storage= 194 cf

Plug-Flow detention time= 46.1 min calculated for 0.015 af (100% of inflow)
 Center-of-Mass det. time= 46.1 min (792.1 - 746.0)

Volume	Invert	Avail.Storage	Storage Description		
#1	55.99'	767 cf	Custom Stage Data (Prismatic) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	
55.99	294	0.0	0	0	
56.00	294	40.0	1	1	
59.99	294	40.0	469	470	
60.00	294	100.0	3	473	
61.00	294	100.0	294	767	

Device	Routing	Invert	Outlet Devices					
#1	Primary	60.00'	90.0' long x 0.5' breadth Broad-Crested Rectangular Weir					
			Head (feet)	0.20	0.40	0.60	0.80	1.00
			Coef. (English)	2.80	2.92	3.08	3.30	3.32
#2	Discarded	55.99'	3.000 in/hr Exfiltration over Surface area					
			Conductivity to Groundwater Elevation = 50.50' Phase-In= 0.01'					

Discarded OutFlow Max=0.03 cfs @ 12.58 hrs HW=57.64' (Free Discharge)

↳2=Exfiltration (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=55.99' TW=0.00' (Dynamic Tailwater)

↳1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 39_44P: Roof 39_44

Inflow Area = 0.055 ac, 100.00% Impervious, Inflow Depth = 5.43" for 10-YR STORM event
 Inflow = 0.31 cfs @ 12.08 hrs, Volume= 0.025 af
 Outflow = 0.04 cfs @ 12.59 hrs, Volume= 0.025 af, Atten= 86%, Lag= 30.6 min
 Discarded = 0.04 cfs @ 12.59 hrs, Volume= 0.025 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 56.98' @ 12.59 hrs Surf.Area= 300 sf Storage= 359 cf

Plug-Flow detention time= 65.7 min calculated for 0.025 af (100% of inflow)
 Center-of-Mass det. time= 65.7 min (811.7 - 746.0)

Volume	Invert	Avail.Storage	Storage Description	
#1	53.99'	783 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
53.99	300	0.0	0	0
54.00	300	40.0	1	1
57.99	300	40.0	479	480
58.00	300	100.0	3	483
59.00	300	100.0	300	783

Device	Routing	Invert	Outlet Devices	
#1	Primary	58.00'	72.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32	
#2	Discarded	53.99'	3.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 51.00' Phase-In= 0.01'	

Discarded OutFlow Max=0.04 cfs @ 12.59 hrs HW=56.98' (Free Discharge)
 ↳2=Exfiltration (Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=53.99' TW=54.00' (Dynamic Tailwater)
 ↳1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond 40P: LOW POINT

Inflow Area = 1.419 ac, 49.16% Impervious, inflow Depth = 3.58" for 10-YR STORM event
 Inflow = 5.94 cfs @ 12.09 hrs, Volume= 0.424 af
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 53.94' @ 24.34 hrs Surf.Area= 21,405 sf Storage= 18,465 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
 Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	52.00'	45,022 cf	Custom Stage Data (Irregular) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
52.00	1,480	195.4	0	0	1,480
54.00	22,343	662.6	19,716	19,716	33,391
55.00	28,390	704.3	25,306	45,022	37,978

Device	Routing	Invert	Outlet Devices
#1	Primary	54.60'	12.0" Round Culvert L= 1,100.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 54.60' / 51.36' S= 0.0029 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=52.00' TW=0.00' (Dynamic Tailwater)

↑1=Culvert (Controls 0.00 cfs)

Summary for Pond 45_50P: Roof 45_50

Inflow Area = 0.055 ac, 100.00% Impervious, Inflow Depth = 5.43" for 10-YR STORM event
 Inflow = 0.31 cfs @ 12.08 hrs, Volume= 0.025 af
 Outflow = 0.04 cfs @ 12.59 hrs, Volume= 0.025 af, Atten= 86%, Lag= 30.6 min
 Discarded = 0.04 cfs @ 12.59 hrs, Volume= 0.025 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs / 3
 Peak Elev= 56.98' @ 12.59 hrs Surf.Area= 300 sf Storage= 359 cf

Plug-Flow detention time= 65.7 min calculated for 0.025 af (100% of inflow)
 Center-of-Mass det. time= 65.7 min (811.7 - 746.0)

Volume	Invert	Avail.Storage	Storage Description
#1	53.99'	783 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
53.99	300	0.0	0	0
54.00	300	40.0	1	1
57.99	300	40.0	479	480
58.00	300	100.0	3	483
59.00	300	100.0	300	783

Device	Routing	Invert	Outlet Devices
#1	Primary	58.00'	72.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#2	Discarded	53.99'	3.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 51.00' Phase-In= 0.01'

Discarded OutFlow Max=0.04 cfs @ 12.59 hrs HW=56.98' (Free Discharge)

↳2=Exfiltration (Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=53.99' TW=51.00' (Dynamic Tailwater)

↳1=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1_2S: Roof 1_2	Runoff Area=1,224 sf 100.00% Impervious Runoff Depth=6.95" Tc=6.0 min CN=98 Runoff=0.20 cfs 0.016 af
Subcatchment 3_5S: Roof 3_5	Runoff Area=1,224 sf 100.00% Impervious Runoff Depth=6.95" Tc=6.0 min CN=98 Runoff=0.20 cfs 0.016 af
Subcatchment 6_11S: Roof 6_11	Runoff Area=2,904 sf 100.00% Impervious Runoff Depth=6.95" Tc=6.0 min CN=98 Runoff=0.47 cfs 0.039 af
Subcatchment 10S: Subcatchment 10S Flow Length=280'	Runoff Area=29,654 sf 6.99% Impervious Runoff Depth=2.64" Slope=0.0100 ' Tc=22.8 min CN=59 Runoff=1.30 cfs 0.150 af
Subcatchment 12_15S: Roof 12_15	Runoff Area=1,932 sf 100.00% Impervious Runoff Depth=6.95" Tc=6.0 min CN=98 Runoff=0.31 cfs 0.026 af
Subcatchment 16_18S: Roof 16_18	Runoff Area=1,560 sf 100.00% Impervious Runoff Depth=6.95" Tc=6.0 min CN=98 Runoff=0.25 cfs 0.021 af
Subcatchment 19_20S: Roof 19_20	Runoff Area=800 sf 100.00% Impervious Runoff Depth=6.95" Tc=6.0 min CN=98 Runoff=0.13 cfs 0.011 af
Subcatchment 20S: Subcatchment 20S	Runoff Area=18,078 sf 20.06% Impervious Runoff Depth=3.56" Tc=6.0 min CN=68 Runoff=1.73 cfs 0.123 af
Subcatchment 21S: Subcatchment 21S	Runoff Area=61,821 sf 49.16% Impervious Runoff Depth=4.98" Tc=6.0 min CN=81 Runoff=8.18 cfs 0.589 af
Subcatchment 21_23S: Roof 21_23	Runoff Area=1,440 sf 100.00% Impervious Runoff Depth=6.95" Tc=6.0 min CN=98 Runoff=0.23 cfs 0.019 af
Subcatchment 22S: Subcatchment 22S	Runoff Area=42,220 sf 50.92% Impervious Runoff Depth=4.10" Tc=6.0 min CN=73 Runoff=4.66 cfs 0.331 af
Subcatchment 23S: Subcatchment 23S	Runoff Area=12,524 sf 100.00% Impervious Runoff Depth=6.95" Tc=6.0 min CN=98 Runoff=2.03 cfs 0.167 af
Subcatchment 24S: Subcatchment 24S	Runoff Area=31,941 sf 82.12% Impervious Runoff Depth=6.01" Tc=6.0 min CN=90 Runoff=4.86 cfs 0.367 af
Subcatchment 24_26S: Roof 24_26	Runoff Area=1,440 sf 100.00% Impervious Runoff Depth=6.95" Tc=6.0 min CN=98 Runoff=0.23 cfs 0.019 af
Subcatchment 25S: Subcatchment 25S	Runoff Area=15,080 sf 71.23% Impervious Runoff Depth=6.01" Tc=6.0 min CN=90 Runoff=2.30 cfs 0.173 af
Subcatchment 26S: Subcatchment 26S	Runoff Area=14,100 sf 88.87% Impervious Runoff Depth=6.48" Tc=6.0 min CN=94 Runoff=2.23 cfs 0.175 af

Subcatchment 27S: Subcatchment 27S	Runoff Area=116,735 sf 0.62% Impervious Runoff Depth=1.16" Tc=6.0 min CN=43 Runoff=2.58 cfs 0.259 af
Subcatchment 27_30S: Roof 27_30	Runoff Area=1,932 sf 100.00% Impervious Runoff Depth=6.95" Tc=6.0 min CN=98 Runoff=0.31 cfs 0.026 af
Subcatchment 31_35S: Roof 31_35	Runoff Area=2,424 sf 100.00% Impervious Runoff Depth=6.95" Tc=6.0 min CN=98 Runoff=0.39 cfs 0.032 af
Subcatchment 36_38S: Roof 36_38	Runoff Area=1,464 sf 100.00% Impervious Runoff Depth=6.95" Tc=6.0 min CN=98 Runoff=0.24 cfs 0.019 af
Subcatchment 39_44S: Roof 39_44	Runoff Area=2,412 sf 100.00% Impervious Runoff Depth=6.95" Tc=6.0 min CN=98 Runoff=0.39 cfs 0.032 af
Subcatchment 45_50S: Roof 45_50	Runoff Area=2,412 sf 100.00% Impervious Runoff Depth=6.95" Tc=6.0 min CN=98 Runoff=0.39 cfs 0.032 af
Reach 1R: Analysis Point #1	Inflow=1.30 cfs 0.150 af Outflow=1.30 cfs 0.150 af
Reach 2R: Analysis Point #2	Inflow=12.16 cfs 1.589 af Outflow=12.16 cfs 1.589 af
Reach 10R: HW 1	Avg. Flow Depth=0.61' Max Vel=3.46 fps Inflow=1.73 cfs 0.123 af 12.0" Round Pipe n=0.013 L=40.0' S=0.0050 '/' Capacity=2.52 cfs Outflow=1.73 cfs 0.123 af
Pond 1P: DMH 1	Peak Elev=61.78' Inflow=6.59 cfs 0.491 af 12.0" Round Culvert n=0.013 L=60.0' S=0.0272 '/' Outflow=6.59 cfs 0.491 af
Pond 1_2P: Roof 27_30	Peak Elev=54.31' Storage=189 cf Inflow=0.20 cfs 0.016 af Discarded=0.05 cfs 0.016 af Primary=0.00 cfs 0.000 af Outflow=0.05 cfs 0.016 af
Pond 2P: DMH 2	Peak Elev=51.71' Inflow=0.67 cfs 0.173 af 15.0" Round Culvert n=0.013 L=85.0' S=0.0049 '/' Outflow=0.67 cfs 0.173 af
Pond 3P: DMH 3	Peak Elev=52.97' Inflow=2.23 cfs 0.175 af 15.0" Round Culvert n=0.013 L=16.0' S=0.0050 '/' Outflow=2.23 cfs 0.175 af
Pond 3_5P: Roof 3_5	Peak Elev=54.31' Storage=189 cf Inflow=0.20 cfs 0.016 af Discarded=0.05 cfs 0.016 af Primary=0.00 cfs 0.000 af Outflow=0.05 cfs 0.016 af
Pond 4P: DMH 4	Peak Elev=53.36' Inflow=2.03 cfs 0.167 af 12.0" Round Culvert n=0.013 L=142.0' S=0.0050 '/' Outflow=2.03 cfs 0.167 af
Pond 5P: DMH 5	Peak Elev=54.69' Inflow=6.59 cfs 0.491 af 15.0" Round Culvert n=0.013 L=40.0' S=0.0050 '/' Outflow=6.59 cfs 0.491 af
Pond 6_11P: Roof 6_11	Peak Elev=55.83' Storage=518 cf Inflow=0.47 cfs 0.039 af Discarded=0.08 cfs 0.039 af Primary=0.00 cfs 0.000 af Outflow=0.08 cfs 0.039 af

Pond 10P: CB 1	Peak Elev=53.92' Inflow=2.23 cfs 0.175 af 15.0" Round Culvert n=0.013 L=195.0' S=0.0050 '/' Outflow=2.23 cfs 0.175 af
Pond 11P: CB 2	Peak Elev=53.81' Inflow=2.03 cfs 0.167 af 12.0" Round Culvert n=0.013 L=58.0' S=0.0050 '/' Outflow=2.03 cfs 0.167 af
Pond 12P: CB 3	Peak Elev=63.22' Inflow=4.86 cfs 0.367 af 15.0" Round Culvert n=0.013 L=176.0' S=0.0050 '/' Outflow=4.86 cfs 0.367 af
Pond 12_15P: Roof 27_30	Peak Elev=59.20' Storage=385 cf Inflow=0.31 cfs 0.026 af Discarded=0.03 cfs 0.026 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.026 af
Pond 13P: CB 4	Peak Elev=56.95' Inflow=6.59 cfs 0.491 af 15.0" Round Culvert n=0.013 L=136.0' S=0.0050 '/' Outflow=6.59 cfs 0.491 af
Pond 16_18P: Roof 16_18	Peak Elev=59.24' Storage=312 cf Inflow=0.25 cfs 0.021 af Discarded=0.03 cfs 0.021 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.021 af
Pond 19_20P: Roof 19_20	Peak Elev=59.35' Storage=161 cf Inflow=0.13 cfs 0.011 af Discarded=0.01 cfs 0.011 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.011 af
Pond 20P: WET POND 1	Peak Elev=52.85' Storage=19,886 cf Inflow=13.27 cfs 0.988 af Outflow=8.63 cfs 0.982 af
Pond 21P: BIORETENTION 1	Peak Elev=51.85' Storage=1,672 cf Inflow=2.23 cfs 0.175 af Outflow=0.75 cfs 0.175 af
Pond 21_23P: Roof 21_23	Peak Elev=59.35' Storage=291 cf Inflow=0.23 cfs 0.019 af Discarded=0.03 cfs 0.019 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.019 af
Pond 22P: R-TANKS	Peak Elev=52.85' Storage=2,158 cf Inflow=2.30 cfs 0.173 af 6.0" Round Culvert n=0.013 L=45.0' S=0.0087 '/' Outflow=0.67 cfs 0.173 af
Pond 24_26P: Roof 24_26	Peak Elev=59.35' Storage=291 cf Inflow=0.23 cfs 0.019 af Discarded=0.03 cfs 0.019 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.019 af
Pond 27_30P: Roof 27_30	Peak Elev=59.20' Storage=385 cf Inflow=0.31 cfs 0.026 af Discarded=0.03 cfs 0.026 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.026 af
Pond 31_35P: Roof 31_35	Peak Elev=60.18' Storage=490 cf Inflow=0.39 cfs 0.032 af Discarded=0.04 cfs 0.032 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.032 af
Pond 36_38P: Roof 36_38	Peak Elev=58.28' Storage=270 cf Inflow=0.24 cfs 0.019 af Discarded=0.03 cfs 0.019 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.019 af
Pond 39_44P: Roof 39_44	Peak Elev=58.00' Storage=484 cf Inflow=0.39 cfs 0.032 af Discarded=0.05 cfs 0.032 af Primary=0.03 cfs 0.000 af Outflow=0.08 cfs 0.032 af
Pond 40P: LOW POINT	Peak Elev=54.26' Storage=25,666 cf Inflow=8.18 cfs 0.589 af 12.0" Round Culvert n=0.013 L=1,100.0' S=0.0029 '/' Outflow=0.00 cfs 0.000 af

Pond 45_50P: Roof 45_50

Peak Elev=58.00' Storage=484 cf Inflow=0.39 cfs 0.032 af
Discarded=0.05 cfs 0.032 af Primary=0.03 cfs 0.000 af Outflow=0.08 cfs 0.032 af

Total Runoff Area = 8.387 ac Runoff Volume = 2.642 af Average Runoff Depth = 3.78"
60.72% Pervious = 5.092 ac 39.28% Impervious = 3.294 ac

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 points x 3
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1_2S: Roof 1_2	Runoff Area=1,224 sf 100.00% Impervious Runoff Depth=8.37" Tc=6.0 min CN=98 Runoff=0.24 cfs 0.020 af
Subcatchment 3_5S: Roof 3_5	Runoff Area=1,224 sf 100.00% Impervious Runoff Depth=8.37" Tc=6.0 min CN=98 Runoff=0.24 cfs 0.020 af
Subcatchment 6_11S: Roof 6_11	Runoff Area=2,904 sf 100.00% Impervious Runoff Depth=8.37" Tc=6.0 min CN=98 Runoff=0.56 cfs 0.046 af
Subcatchment 10S: Subcatchment 10S Flow Length=280'	Runoff Area=29,654 sf 6.99% Impervious Runoff Depth=3.68" Slope=0.0100 ' Tc=22.8 min CN=59 Runoff=1.84 cfs 0.209 af
Subcatchment 12_15S: Roof 12_15	Runoff Area=1,932 sf 100.00% Impervious Runoff Depth=8.37" Tc=6.0 min CN=98 Runoff=0.38 cfs 0.031 af
Subcatchment 16_18S: Roof 16_18	Runoff Area=1,560 sf 100.00% Impervious Runoff Depth=8.37" Tc=6.0 min CN=98 Runoff=0.30 cfs 0.025 af
Subcatchment 19_20S: Roof 19_20	Runoff Area=800 sf 100.00% Impervious Runoff Depth=8.37" Tc=6.0 min CN=98 Runoff=0.16 cfs 0.013 af
Subcatchment 20S: Subcatchment 20S	Runoff Area=18,078 sf 20.06% Impervious Runoff Depth=4.75" Tc=6.0 min CN=68 Runoff=2.31 cfs 0.164 af
Subcatchment 21S: Subcatchment 21S	Runoff Area=61,821 sf 49.16% Impervious Runoff Depth=6.32" Tc=6.0 min CN=81 Runoff=10.27 cfs 0.747 af
Subcatchment 21_23S: Roof 21_23	Runoff Area=1,440 sf 100.00% Impervious Runoff Depth=8.37" Tc=6.0 min CN=98 Runoff=0.28 cfs 0.023 af
Subcatchment 22S: Subcatchment 22S	Runoff Area=42,220 sf 50.92% Impervious Runoff Depth=5.35" Tc=6.0 min CN=73 Runoff=6.07 cfs 0.432 af
Subcatchment 23S: Subcatchment 23S	Runoff Area=12,524 sf 100.00% Impervious Runoff Depth=8.37" Tc=6.0 min CN=98 Runoff=2.43 cfs 0.201 af
Subcatchment 24S: Subcatchment 24S	Runoff Area=31,941 sf 82.12% Impervious Runoff Depth=7.41" Tc=6.0 min CN=90 Runoff=5.92 cfs 0.453 af
Subcatchment 24_26S: Roof 24_26	Runoff Area=1,440 sf 100.00% Impervious Runoff Depth=8.37" Tc=6.0 min CN=98 Runoff=0.28 cfs 0.023 af
Subcatchment 25S: Subcatchment 26S	Runoff Area=15,080 sf 71.23% Impervious Runoff Depth=7.41" Tc=6.0 min CN=90 Runoff=2.80 cfs 0.214 af
Subcatchment 26S: Subcatchment 26S	Runoff Area=14,100 sf 88.87% Impervious Runoff Depth=7.89" Tc=6.0 min CN=94 Runoff=2.69 cfs 0.213 af

Subcatchment 27S: Subcatchment 27S	Runoff Area=116,735 sf 0.62% Impervious Runoff Depth=1.85" Tc=6.0 min CN=43 Runoff=4.85 cfs 0.413 af
Subcatchment 27_30S: Roof 27_30	Runoff Area=1,932 sf 100.00% Impervious Runoff Depth=8.37" Tc=6.0 min CN=98 Runoff=0.38 cfs 0.031 af
Subcatchment 31_35S: Roof 31_35	Runoff Area=2,424 sf 100.00% Impervious Runoff Depth=8.37" Tc=6.0 min CN=98 Runoff=0.47 cfs 0.039 af
Subcatchment 36_38S: Roof 36_38	Runoff Area=1,464 sf 100.00% Impervious Runoff Depth=8.37" Tc=6.0 min CN=98 Runoff=0.28 cfs 0.023 af
Subcatchment 39_44S: Roof 39_44	Runoff Area=2,412 sf 100.00% Impervious Runoff Depth=8.37" Tc=6.0 min CN=98 Runoff=0.47 cfs 0.039 af
Subcatchment 45_50S: Roof 45_50	Runoff Area=2,412 sf 100.00% impervious Runoff Depth=8.37" Tc=6.0 min CN=98 Runoff=0.47 cfs 0.039 af
Reach 1R: Analysis Point #1	Inflow=1.84 cfs 0.209 af Outflow=1.84 cfs 0.209 af
Reach 2R: Analysis Point #2	Inflow=18.55 cfs 2.091 af Outflow=18.55 cfs 2.091 af
Reach 10R: HW 1	Avg. Flow Depth=0.75' Max Vel=3.64 fps Inflow=2.31 cfs 0.168 af 12.0" Round Pipe n=0.013 L=40.0' S=0.0050 '/ Capacity=2.52 cfs Outflow=2.31 cfs 0.168 af
Pond 1P: DMH 1	Peak Elev=67.12' Inflow=8.23 cfs 0.620 af 12.0" Round Culvert n=0.013 L=60.0' S=0.0272 '/ Outflow=8.23 cfs 0.620 af
Pond 1_2P: Roof 27_30	Peak Elev=54.90' Storage=237 cf Inflow=0.24 cfs 0.020 af Discarded=0.06 cfs 0.020 af Primary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.020 af
Pond 2P: DMH 2	Peak Elev=51.77' Inflow=0.82 cfs 0.213 af 15.0" Round Culvert n=0.013 L=85.0' S=0.0049 '/ Outflow=0.82 cfs 0.213 af
Pond 3P: DMH 3	Peak Elev=53.09' Inflow=2.69 cfs 0.213 af 15.0" Round Culvert n=0.013 L=16.0' S=0.0050 '/ Outflow=2.69 cfs 0.213 af
Pond 3_5P: Roof 3_5	Peak Elev=54.90' Storage=237 cf Inflow=0.24 cfs 0.020 af Discarded=0.06 cfs 0.020 af Primary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.020 af
Pond 4P: DMH 4	Peak Elev=53.85' Inflow=2.43 cfs 0.201 af 12.0" Round Culvert n=0.013 L=142.0' S=0.0050 '/ Outflow=2.43 cfs 0.201 af
Pond 5P: DMH 5	Peak Elev=56.01' Inflow=8.23 cfs 0.620 af 15.0" Round Culvert n=0.013 L=40.0' S=0.0050 '/ Outflow=8.23 cfs 0.620 af
Pond 6_11P: Roof 6_11	Peak Elev=56.57' Storage=654 cf Inflow=0.56 cfs 0.046 af Discarded=0.09 cfs 0.046 af Primary=0.00 cfs 0.000 af Outflow=0.09 cfs 0.046 af

Pond 10P: CB 1 Peak Elev=54.05' Inflow=2.69 cfs 0.213 af
15.0" Round Culvert n=0.013 L=195.0' S=0.0050 '/ Outflow=2.69 cfs 0.213 af

Pond 11P: CB 2 Peak Elev=54.50' Inflow=2.43 cfs 0.201 af
12.0" Round Culvert n=0.013 L=58.0' S=0.0050 '/ Outflow=2.43 cfs 0.201 af

Pond 12P: CB 3 Peak Elev=69.25' Inflow=5.92 cfs 0.453 af
15.0" Round Culvert n=0.013 L=176.0' S=0.0050 '/ Outflow=5.92 cfs 0.453 af

Pond 12_15P: Roof 27_30 Peak Elev=60.00' Storage=484 cf Inflow=0.38 cfs 0.031 af
Discarded=0.04 cfs 0.031 af Primary=0.02 cfs 0.000 af Outflow=0.06 cfs 0.031 af

Pond 13P: CB 4 Peak Elev=59.55' Inflow=8.23 cfs 0.620 af
15.0" Round Culvert n=0.013 L=136.0' S=0.0050 '/ Outflow=8.23 cfs 0.620 af

Pond 16_18P: Roof 16_18 Peak Elev=60.00' Storage=387 cf Inflow=0.30 cfs 0.025 af
Discarded=0.03 cfs 0.025 af Primary=0.03 cfs 0.000 af Outflow=0.06 cfs 0.025 af

Pond 19_20P: Roof 19_20 Peak Elev=60.00' Storage=193 cf Inflow=0.16 cfs 0.013 af
Discarded=0.02 cfs 0.013 af Primary=0.03 cfs 0.000 af Outflow=0.05 cfs 0.013 af

Pond 20P: WET POND 1 Peak Elev=53.05' Storage=21,181 cf Inflow=16.72 cfs 1.257 af
Outflow=13.00 cfs 1.250 af

Pond 21P: BIORETENTION 1 Peak Elev=52.17' Storage=2,181 cf Inflow=2.69 cfs 0.213 af
Outflow=0.79 cfs 0.213 af

Pond 21_23P: Roof 21_23 Peak Elev=60.00' Storage=349 cf Inflow=0.28 cfs 0.023 af
Discarded=0.03 cfs 0.023 af Primary=0.06 cfs 0.001 af Outflow=0.08 cfs 0.023 af

Pond 22P: R-TANKS Peak Elev=53.34' Storage=2,676 cf Inflow=2.80 cfs 0.214 af
6.0" Round Culvert n=0.013 L=45.0' S=0.0087 '/ Outflow=0.82 cfs 0.213 af

Pond 24_26P: Roof 24_26 Peak Elev=60.00' Storage=349 cf Inflow=0.28 cfs 0.023 af
Discarded=0.03 cfs 0.023 af Primary=0.06 cfs 0.001 af Outflow=0.08 cfs 0.023 af

Pond 27_30P: Roof 27_30 Peak Elev=60.00' Storage=484 cf Inflow=0.38 cfs 0.031 af
Discarded=0.04 cfs 0.031 af Primary=0.02 cfs 0.000 af Outflow=0.06 cfs 0.031 af

Pond 31_35P: Roof 31_35 Peak Elev=61.00' Storage=619 cf Inflow=0.47 cfs 0.039 af
Discarded=0.04 cfs 0.039 af Primary=0.02 cfs 0.000 af Outflow=0.06 cfs 0.039 af

Pond 36_38P: Roof 36_38 Peak Elev=58.91' Storage=344 cf Inflow=0.28 cfs 0.023 af
Discarded=0.03 cfs 0.023 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.023 af

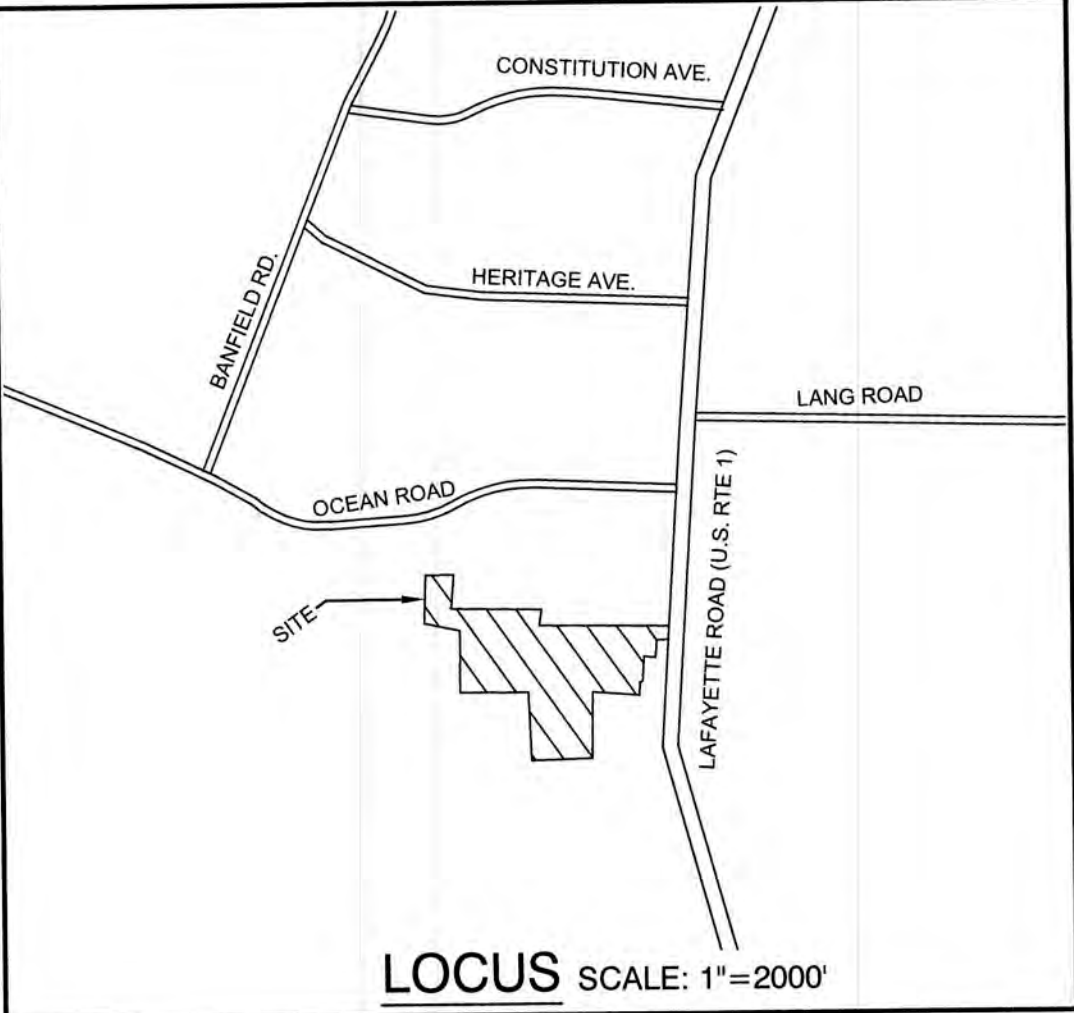
Pond 39_44P: Roof 39_44 Peak Elev=58.01' Storage=486 cf Inflow=0.47 cfs 0.039 af
Discarded=0.05 cfs 0.035 af Primary=0.21 cfs 0.003 af Outflow=0.26 cfs 0.039 af

Pond 40P: LOW POINT Peak Elev=54.54' Storage=32,558 cf Inflow=10.27 cfs 0.747 af
12.0" Round Culvert n=0.013 L=1,100.0' S=0.0029 '/ Outflow=0.00 cfs 0.000 af

Pond 45_50P: Roof 45_50

Peak Elev=58.01' Storage=486 cf Inflow=0.47 cfs 0.039 af
Discarded=0.05 cfs 0.035 af Primary=0.21 cfs 0.003 af Outflow=0.26 cfs 0.039 af

Total Runoff Area = 8.387 ac Runoff Volume = 3.416 af Average Runoff Depth = 4.89"
60.72% Pervious = 5.092 ac 39.28% Impervious = 3.294 ac



LEGEND

SUBCATCHMENT BOUNDARY	---
SUBCATCHMENT	⬡
REACH	⬡
POND	⚠
TC PATH	→
WETLANDS	⋯
HISS SOILS	⋯
FLOW ARROW	→

PROJECT PARCEL CITY OF PORTSMOUTH TAX MAP 297, LOT 11
TOTAL LOT AREA 1,971,090 SQ. FT. ± 45.25 ACRES ±

F:\CADD\MASTER STANDARD\dwg\JB-LAYOUTS.dwg 2/16/2017 12:25:50 PM EST

Design: JAC	Draft: LAZ	Date: 3/3/21
Checked: JAC	Scale: AS SHOWN	Project No.: 20737
Drawing Name: 20737-PLAN.dwg		
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.		



REV.	DATE	REVISION	BY
0	5/17/21	ISSUED FOR REVIEW	MJK

Designed and Produced in NH

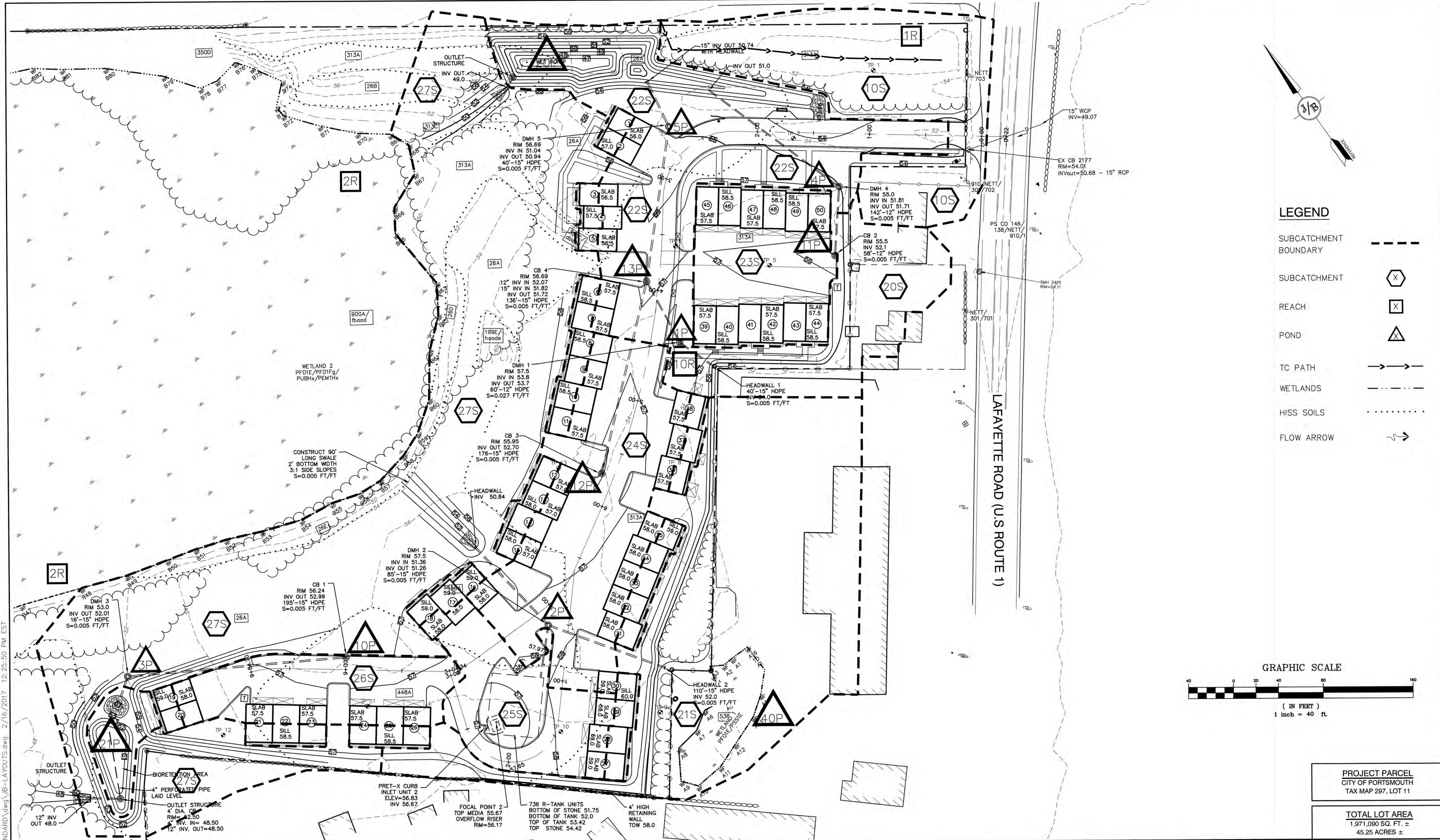
J/B Jones & Beach Engineers, Inc.
Civil Engineering Services

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885

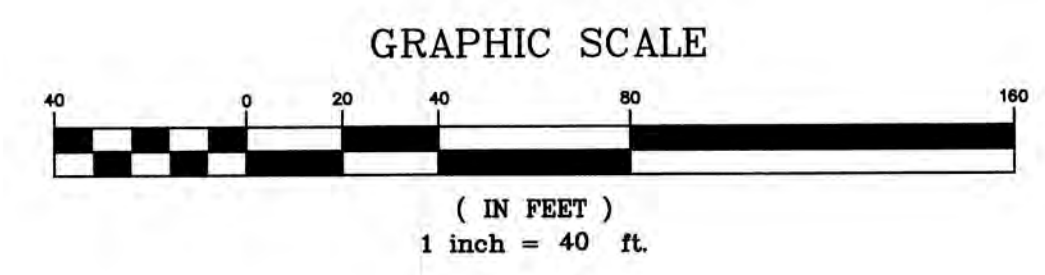
603-772-4746
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	EXISTING WATERSHED PLAN
Project:	3400 LAFAYETTE ROAD PORTSMOUTH, NH
Owner of Record:	RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229

DRAWING No.	W1
SHEET 1 OF 2 JBE PROJECT NO. 20737	



- LEGEND**
- SUBCATCHMENT BOUNDARY
 - SUBCATCHMENT
 - REACH
 - POND
 - TC PATH
 - WETLANDS
 - HISS SOILS
 - FLOW ARROW



PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 297, LOT 11

TOTAL LOT AREA
1,971,090 SQ. FT. ±
45.25 ACRES ±

Design: JAC Draft: LAZ Date: 3/3/21
 Checked: JAC Scale: AS SHOWN Project No.: 20737
 Drawing Name: 20737-PLAN.dwg

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REV.	DATE	REVISION	BY
0	5/17/21	ISSUED FOR REVIEW	MJK

Designed and Produced in NH

J/B Jones & Beach Engineers, Inc.
Civil Engineering Services

85 Portsmouth Ave. PO Box 219 Stratham, NH 03885

603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name: **PROPOSED WATERSHED PLAN**

Project: **3400 LAFAYETTE ROAD
PORTSMOUTH, NH**

Owner of Record: **RICCI CONSTRUCTION CO., INC.
225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229**

DRAWING No.

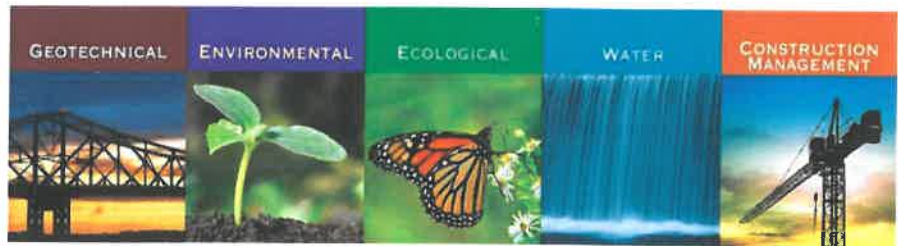
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SHEET 2 OF 2
JBE PROJECT NO. 20737

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SITE-SPECIFIC SOIL MAPPING REPORT

**3400 Lafayette Road
Tax Map 297, Lot 11
Portsmouth, New Hampshire**

April 2021
File No. 04.0191186.00



PREPARED FOR:
John O'Neil
Dover, New Hampshire

GZA GeoEnvironmental, Inc.
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VIA EMAIL

April 1, 2021
File No. 04.0191186.00

Mr. John O'Neil
42J Dover Point Road
Dover, New Hampshire 03820

Re: Site Specific Soil Map Report
3400 Lafayette Road, Tax Map 297, Lot 11
Portsmouth, New Hampshire

Dear Mr. O'Neil:

This report presents the findings of Site-Specific Soil Mapping conducted at 3400 Lafayette Road Portsmouth, New Hampshire, New Hampshire Tax Map 297, Lot 11 (i.e., the Site). This report summarizes the results of the field work completed in January and March 2021 to identify Site soils and develop mapping.

Should you have any questions, please feel free to contact Lindsey White at 603-232-8753 or lindsey.white@gza.com.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.


Lindsey White, Soil Scientist Apprentice
Project Manager


Deborah M. Zarta Gier, CNRP
Consultant/Reviewer


Tracy L. Tarr, CWS, CESSWI
Associate Principal


James Long, James Long, CWS, CSS
Field Lead

LEW/DMZ/TLT

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Attachment: Site-Specific Soil Mapping Report



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1.0 INTRODUCTION

This report presents the findings of Site-Specific Soil Mapping conducted by GZA GeoEnvironmental, Inc. (GZA) during January and March 2021. GZA completed test pit observations on January 9, 2021 and hand dug test pits on March 12, 2021. GZA understands the parcel is approximately 45 acres and is proposed to be developed as a condominium association. The Site is primarily undeveloped and forested, and a portion of the Site closest to Lafayette Road currently serves as headquarters for Cornerstone Tree Care. The Site is bordered to the east by Lafayette Road, to the south by Coach Road, to the west by City of Portsmouth owned, and to the north by Ocean Road and Nathaniel Drive.

GZA understands that the proposed development is planned to be located in the upland area on the eastern side of the Site. GZA further understands a site-specific soil map is required to support the potential development of the Site and Alteration of Terrain permitting through the New Hampshire Department of Environmental Services (NHDES) to be completed by Jones and Beach Engineers. This report is subject to the Limitations in **Appendix A**.

2.0 METHODOLOGY

The soil mapping of the Site was conducted in accordance with the standards set forth in the Society of Soil Scientists of Northern New England (SSSNNE) Publication No. 3 "Site-Specific Soil Mapping Standards for New Hampshire and Vermont, Version 5.0" dated December 2017 by New Hampshire Certified Soil Scientists (CSS) James H. Long (CSS #15). The Site-Specific Standards are based on a universally recognized taxonomic system of soil classification and are supported by national soil mapping standards established by the USDA National Cooperative Soil Survey.

This investigation has been prepared based on a combination of publicly available databases and site-specific data collected by on-site observations. This report provides soil information including soil drainage classification, physical characteristics, and depth to bedrock (if encountered). Soil characteristics on the property were assessed through the evaluation of 13 test pits evaluated on January 9, 2021. On March 12, 2021, additional hand dug test pits were conducted to complete the site-specific soil identification. The hand dug holes were completed with a tile spade and soil auger used to reach depths of 40 inches or more to examine and identify the soils' characteristics. Locations were selected when changes in slope, vegetation or soil surface were observed. Where changes were noted from one hole to the next involving soil drainage or parent material, a soil boundary was placed on the map between the holes to reflect the transition between the soils as it occurs on the landscape. The slopes of the soil map units were measured in the field using a clinometer and augmented by the topography shown on the Existing Conditions Plan dated 3/3/2021 prepared and provided by Jones & Beach Engineers, Inc. (see Figure 1 – Site Specific Soil Map). For purposes of this report, GZA considered the minimum size of a Site-Specific Soil Survey map units as 2,000 square feet, with the exception being poorly or very poorly drained soil areas that are jurisdictional wetlands. Wetland delineations on the Site were previously conducted by GZA in January 2021.



GZA used the following resources during data collection to support on-site observations:

- Natural Resource Conservation Service (NRCS) Web Soil Survey¹;
- New Hampshire Statewide Geographic Information System Clearinghouse (NH GRANIT)².

The Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS). Use of the online resource NH GRANIT LiDAR- Based Bare Earth Hillshade of the project area provided imagery to assist in soil unit delineation.

3.0 RESULTS

3.1 SITE DESCRIPTION

The on-site observations were conducted on January 9 and March 12, 2021 using a base plan with a 1:40 scale and 2-foot topography. No snow cover present during soil mapping field work on March 12, 2021.

Results of our observations indicate the Site is underlain by sandy glaciofluvial deposits, organic deposits and human disturbed soils.

According to the WSS, a very large portion of the Site is mapped as sandy glaciofluvial deposits and organic deposits in the low-lying swales and human disturbed soils west of the proposed development. GZA understands that this area is a reclaimed sand and gravel pit that is now a mix of a man-made pond and scrub-shrub wetlands (pers. comm. John O'Neill, see **Appendix B – Photo Log**). According to the WSS, a significant portion of the Site is underlain by a stratified drift aquifer and glaciofluvial deposits. GZA observed broad sandy glaciofluvial deposits with uniform smooth surfaces adjacent Lafayette Road. Most of the forest land is undisturbed with a large portion classified as wetlands (see **Figure 1 – Site-Specific Soil Map**).

In accordance with the Site-Specific Soil Mapping standards, the identified individual soil map units have been correlated to the New Hampshire State-Wide Numerical Soils Legend maintained by the New Hampshire State office of the NRCS. Soil characteristics for each of these units comply with the Range in Characteristics described in the Official Series Descriptions for each map unit. The human disturbed soil map units are labelled in accordance with the "Site-Specific Soil Mapping Standards for New Hampshire and Vermont, Version 5.0" dated December 2017- *Disturbed Soil Mapping Unit Supplement for New Hampshire DES AoT Site Specific Soil Maps* (see **Appendix C – Disturbed Soil Mapping Unit Supplement for DES AoT**). The disturbed soil map unit Denominators provide additional information on Drainage Class, Parent Material, Restrictive/Impervious Layers, Estimated Ksat, and Hydrologic Soil Group.

¹ www.websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

² <https://granitview.unh.edu/>



3.2 SOIL MAP UNIT DESCRIPTIONS

Individual soil map units are summarized in the table below:

Soil ID	Soil Type
26	Windsor (excessively drained)
199	Dumps, bark chips and organic matter
313	Deerfield (moderately drained)
350	Udipsamments, wet substratum (moderately well drained to somewhat poorly drained)
393	Timakwa (muck)
448	Scituate (moderately well drained)
538	Squamscott (poorly drained)
900	Endoaquents, sandy or gravelly

26A - Windsor (excessively drained), loamy sand, 0 to 3 percent slopes

This map unit consists of excessively drained soils that formed in sandy glaciofluvial deposits. It occurs on the knolls in undisturbed uplands.

Typically, the surface layer is very dark brown to dark brown loamy very fine sand about 4 inches thick. The subsoil is dark brown, strong brown, dark yellowish brown to yellowish brown loamy sand, sand and coarse sand about 24 inches thick. The substratum, to a depth of 40 inches or more, is yellowish brown, light yellowish gray, light olive brown sand and coarse sand.

Included with this mapping are small areas of slopes greater than 3 percent; and moderately well drained Deerfield soils. These inclusions make up as much as 15 percent of the map unit.

26B - Windsor (excessively drained), loamy sand, 3 to 8 percent slopes

This map unit consists of excessively drained soils that formed in sandy glaciofluvial deposits. It occurs on the knolls in the undisturbed uplands.

Typically, the surface layer is very dark brown to dark brown loamy very fine sand about 4 inches thick. The subsoil is dark brown, strong brown, dark yellowish brown to yellowish brown loamy sand, sand and coarse sand about 24 inches thick. The substratum, to a depth of 40 inches or more, is yellowish brown, light yellowish gray, light olive brown sand and coarse sand.

Included with this mapping are small areas of slopes less than 3 percent and greater than 8 percent; and moderately well drained Deerfield soils. These inclusions make up as much as 15 percent of the map unit.



26D - Windsor (excessively drained), loamy sand, 15 to 25 percent slopes

This map unit consists of excessively drained soils that formed in sandy glaciofluvial deposits. It occurs on the knolls in the undisturbed uplands.

Typically, the surface layer is very dark brown to dark brown loamy very fine sand about 4 inches thick. The subsoil is dark brown, strong brown, dark yellowish brown to yellowish brown loamy sand, sand and coarse sand about 24 inches thick. The substratum, to a depth of 40 inches or more, is yellowish brown, light yellowish gray, light olive brown sand and coarse sand.

Included with this mapping are small areas of slopes less than 15 percent and greater than 25 percent; and moderately well drained Deerfield soils. These inclusions make up as much as 15 percent of the map unit.

26E - Windsor (excessively drained), loamy sand, 25 to 50 percent slopes

This map unit consists of excessively drained soils that formed in sandy glaciofluvial deposits. It occurs on the knolls in the undisturbed uplands.

Typically, the surface layer is very dark brown to dark brown loamy very fine sand about 4 inches thick. The subsoil is dark brown, strong brown, dark yellowish brown to yellowish brown loamy sand, sand and coarse sand about 24 inches thick. The substratum, to a depth of 40 inches or more, is yellowish brown, light yellowish gray, light olive brown sand and coarse sand.

Included with this mapping are small areas of slopes less than 25 percent and greater than 50 percent; and moderately well drained Deerfield soils. These inclusions make up as much as 15 percent of the map unit.

199E - Dumps, bark chips, and organic matter, 25 to 50 percent slopes

This map unit consists of loamy sand fill materials with stumps and woody debris. Undisturbed material is at a depth of more than 40 inches. There are no identifiable diagnostic horizons at a depth within 40 inches.

313A -Deerfield loamy sand, 0 to 3 percent slopes

This map unit consists of moderately well drained soils that formed in sandy glaciofluvial deposits. It occurs at the swales adjacent to the Windsor soils.

Typically, the surface layer is black, very dark brown to dark brown loamy fine sand about 4 inches thick. The subsoil is brown, strong brown, dark yellowish brown, yellowish brown to light olive brown fine sand and sand about 20 inches thick. The substratum, to a depth of 40 inches or more, is light brownish gray to light olive brown sand, and coarse sand.

Included with this mapping are small areas of slopes greater than 3 percent. These inclusions make up as much as 15 percent of the map unit.

313C -Deerfield loamy sand, 8 to 15 percent slopes



This map unit consists of moderately well drained soils that formed in sandy glaciofluvial deposits. It occurs at the swales adjacent to the Windsor soils.

Typically, the surface layer is black, very dark brown to dark brown loamy fine sand about 4 inches thick. The subsoil is brown, strong brown, dark yellowish brown, yellowish brown to light olive brown fine sand and sand about 20 inches thick. The substratum, to a depth of 40 inches or more, is light brownish gray to light olive brown sand, and coarse sand.

Included with this mapping are small areas of slopes less than 8 percent and greater than 15 percent. These inclusions make up as much as 15 percent of the map unit.

350C – Udipsamments, wet substratum, 8 to 15 percent slopes

This map unit is characterized by soil textures of loamy fine sand to sand and gravel throughout the entire particle-size class control section. Saturated hydraulic conductivity (Ksat) is high or very high. Drainage class is moderately well drained.

Included with this mapping are small areas of slopes less than 8 percent and greater than 15 percent; and moderately well drained Deerfield soils. These inclusions make up as much as 15 percent of the map unit.

350D – Udipsamments, wet substratum, 15 to 25 percent slopes

This map unit is characterized by soil textures of loamy fine sand to sand and gravel throughout the entire particle-size class control section. Saturated hydraulic conductivity (Ksat) is high or very high. Drainage class is moderately well drained.

Included with this mapping are small areas of slopes less than 15 percent and greater than 25 percent; and moderately well drained Deerfield soils. These inclusions make up as much as 15 percent of the map unit.

393A -Timakwa muck, 0 to 3 percent slopes

This map unit consists of very poorly drained soils that formed in muck over sandy glaciofluvial deposits. The very poorly drained Timakwa soils have mucky surfaces that 16 to 51 inches thick over sands. It occurs in low lying areas within the mapping area.

Typically, the surface layer is black muck about 30 inches thick. The subsoil and substratum, to a depth of 40 inches or more, is light brownish gray, light olive gray to gray very fine sand, fine sand and sand.

Included with this mapping are small areas of poorly drained Squamscott soils along the margins, sandy alluvial deposits and very deep organic deposits, Catden soils, greater than 51 inches thick. Included with this mapping are small areas of slopes greater than 3 percent. These inclusions make up as much as 20 percent of the map unit.

448A -Scituate fine sandy loam, 0 to 3 percent slopes

This map unit consists of well drained soils that formed in loamy sand compact glacial till. It occurs on the upland areas within the mapping area.



Typically, the surface layer is black very fine sandy loam about 4 inches thick. The subsoil is brown, strong brown, dark yellowish brown, yellowish brown and light olive brown sandy loam, loamy fine sand and loamy sand about 30 inches thick. The substratum, to a depth of 40 inches or more, is light olive brown, olive and light yellowish brown loamy fine sand, loamy sand, loamy coarse sand, and gravelly loamy sand. Note that refusal was noted between 42-50" in the map unit.

Included with this mapping are small areas of slopes greater than 3 percent, and moderately well drained Deerfield soils. These inclusions make up as much as 15 percent of the map unit.

538A – Squamscott, poorly drained, 0 to 3 percent slopes

This map unit consists of poorly drained soils that formed in sandy material over loamy sediments. These soils are typically located on marine plains or terraces.

Typically, the surface layer is black loamy very fine sand about 4 inches thick. The E horizon is light brownish gray, loamy fine sand, approximately 2 inches thick. The subsoil is dark reddish brown loamy sand to a depth to about 24 inches. The substratum to a depth greater than 40 inches is gray, silt loam.

Included in this map unit are small areas of slopes greater than 3 percent, and very poorly drained Timakwa soils. These inclusions make up as much as 15 percent of the map unit.

900A - Endoaquents, sandy or gravelly, 0 to 3 percent slopes

This map unit consists of poorly drained soils that formed in excavated sandy glaciofluvial deposits. It occurs in the ponded area of the old sand and gravel pit. The soils range from fine sand to sand and their gravelly analogs.

Included with this mapping are small areas of slopes greater than 3 percent. These inclusions make up as much as 10 percent of the map unit.

3.3 HYDROLOGIC SOIL GROUP CORRELATION

In order to correlate the soil map units identified, as part of this soil survey, to the appropriate hydrologic soil group, we referenced the Society of Soil Scientists of Northern New England "Ksat Values for New Hampshire Soils, Special Publication No. 5, September 2009"³. Below is the correlation of the identified soil map units to the appropriate hydrologic soil group.

Soil ID	Soil Type	Hydrologic Soil Group
26	Windsor (excessively drained)	A
199	Dumps, bark chips and organic matter	No Group
313	Deerfield(moderately well drained)	B
350	Udipsammets, nearly level (moderately well drained)	D
393	Timakwa (very poorly drained)	D

³ www.sssne.org/publications.html



448	Scituate (moderately well drained)	C
538	Squamscott (poorly drained)	D
900	Endoaquents, sandy or gravelly (poorly drained)	D

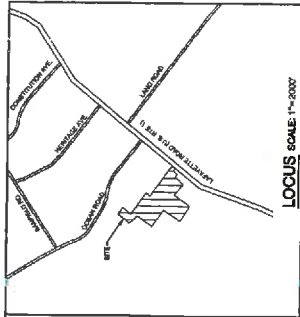
4.0 FINDINGS AND CONCLUSIONS

GZA has completed Site-Specific Soil Mapping on the Site in support of proposed development of the Site. The following is a summary of our findings and conclusions:

- The Site consists of a mix of primarily sandy glaciofluvial deposits and loamy sand compact glacial till, with areas of sandy alluvial deposits, organic deposits, and human disturbed soils.
- The WSS shows a very large portion of the Site is mapped as sandy glaciofluvial deposits and organic deposits in the low-lying swales and human disturbed soils west of the proposed development. This area contains a reclaimed sand and gravel pit that is now a mix of a man-made pond and scrub-shrub wetlands.
- The Site currently is used as the headquarters for Cornerstone Tree Care. Associated with this use, there are some mulch piles and logs stored on Site.



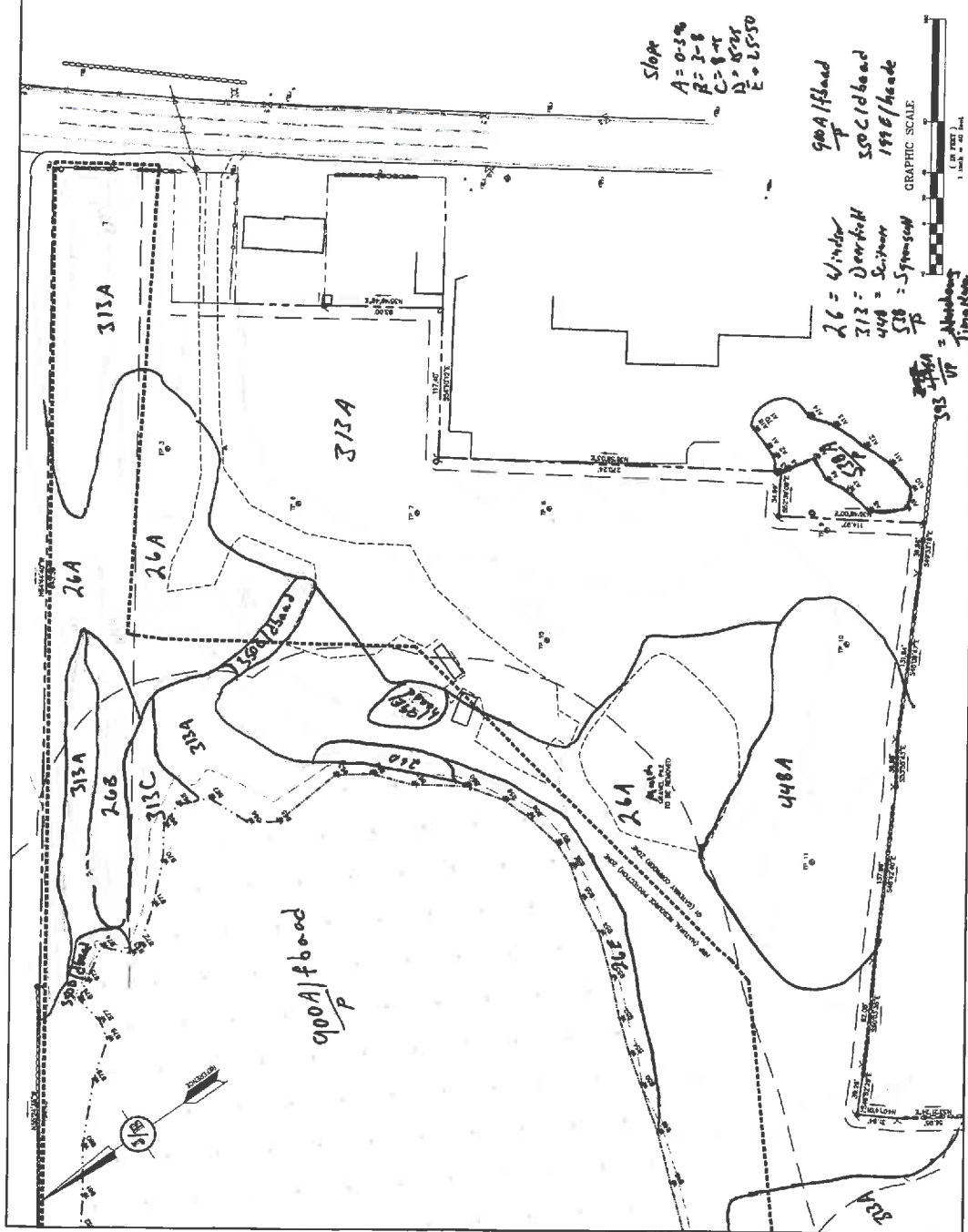
Figure 1 – Site Specific Soil Map



LOCUS SCALE: 1"=200'

NOTES:

1. THE SHEET OF THIS PLAN IS THE PROPERTY OF THE ENGINEER. IT IS TO BE KEPT IN THE OFFICE OF THE ENGINEER AND NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF THE ENGINEER.
2. THE ENGINEER HAS CONDUCTED A VISUAL SURVEY OF THE PROPERTY AND HAS FOUND THAT THE PROPERTY IS AS SHOWN ON THIS PLAN.
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Slopes:
 A = 0-5%
 B = 2-8%
 C = 8-12%
 D = 12-15%
 E = 15-20%

900A flood
 26A flood
 199E/1600

26 = Windsor
 313 = Deerfield
 448 = Spencer
 538 = Spencer

313A
 26A
 26B
 26C
 26D
 26E
 26F
 26G
 26H
 26I
 26J
 26K
 26L
 26M
 26N
 26O
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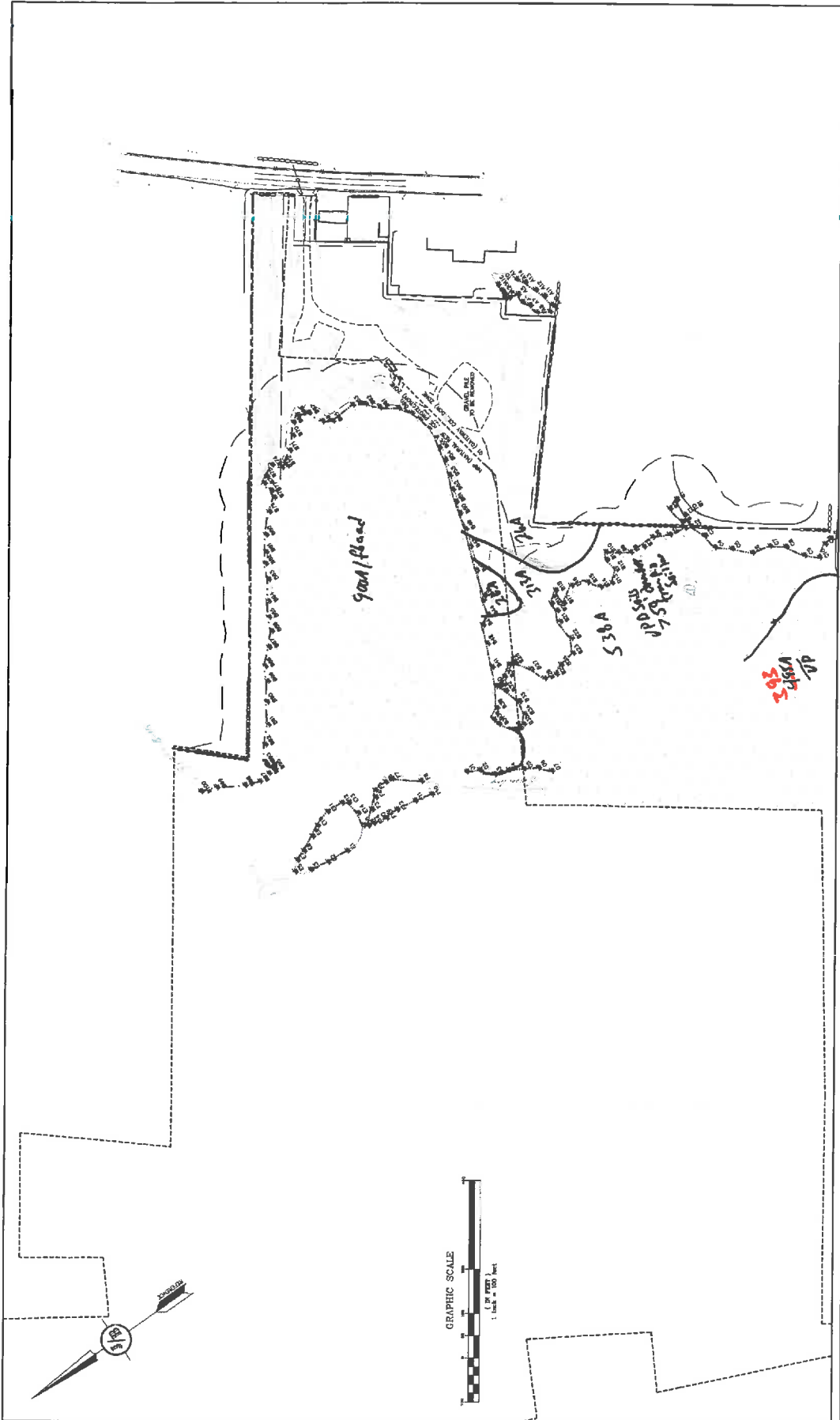
DATE: 08/20/07
 SHEET OF 2
 PROJECT NO. 07077

EXISTING CONDITIONS PLAN
 9400 LAFAYETTE ROAD
 PORTSMOUTH, NH
 JONES & BEACH ENGINEERS, INC.
 800-779-4798
 100 BOX 110
 STRAFFORD, NH 03085

J/B Jones & Beach Engineers, Inc.
 Civil Engineering Services
 800-779-4798
 100 BOX 110
 STRAFFORD, NH 03085
 E-MAIL: JBE@JONESANDBEACH.COM

NO.	DATE	REVISION
1	08/20/07	ISSUED FOR PERMIT
2	08/20/07	ISSUED FOR PERMIT
3	08/20/07	ISSUED FOR PERMIT
4	08/20/07	ISSUED FOR PERMIT
5	08/20/07	ISSUED FOR PERMIT
6	08/20/07	ISSUED FOR PERMIT
7	08/20/07	ISSUED FOR PERMIT
8	08/20/07	ISSUED FOR PERMIT
9	08/20/07	ISSUED FOR PERMIT
10	08/20/07	ISSUED FOR PERMIT
11	08/20/07	ISSUED FOR PERMIT
12	08/20/07	ISSUED FOR PERMIT
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19	08/20/07	ISSUED FOR PERMIT
20	08/20/07	ISSUED FOR PERMIT

DATE: 08/20/07
 DRAWN: JBE
 CHECKED: JBE
 PROJECT NO.: 07077
 SHEET NO.: 1 OF 2
 PROJECT TITLE: 9400 LAFAYETTE ROAD, PORTSMOUTH, NH
 ENGINEER: JONES & BEACH ENGINEERS, INC.
 800-779-4798
 100 BOX 110
 STRAFFORD, NH 03085
 E-MAIL: JBE@JONESANDBEACH.COM



DRAWING NO.
EX1
SHEET 1 OF 3
DATE: 07/11/2011

Plan Name: **EXISTING CONDITIONS PLAN**
Project: **3400 LEAVELLE ROAD
PORTSMOUTH, NH**
Owner of Record: **REGO CONSTRUCTION, INC.
226 BAMFIELD ROAD, PORTSMOUTH, NH 03801 BK 1820 PG 0229**

Designed and Produced in NH
JBR Jones & Beach Engineers, Inc.
Civil Engineering Services
160 State Street, Portsmouth, NH 03801
P.O. Box 210, Portsmouth, NH 03801
Phone: 603.778.4348
Fax: 603.773-0227
E-MAIL: info@jonesandbeach.com

NO.	DATE	BY	REVISION
1	08/21	LAK	ADDED SURVEY INFO
2	11/20/10	DAM	MINOR REVISIONS
3	11/20/10	DAM	REVIEWED PER CLIENT
4	11/20/10	DAM	REVIEWED FOR REVIEW
5			PROVISION

DATE: 08/21
DRAWN BY: JAC
CHECKED BY: JAC
DESIGNED BY: JAC
PROJECT NO.: 07027
THIS PLAN SHALL NOT BE REPRODUCED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE).
AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.



Appendix A - Natural Resource Limitations



USE OF REPORT

1. GZA GeoEnvironmental, Inc. (GZA) has prepared this report on behalf of, and for the exclusive use of Mr. John O'Neil ("Client") for the stated purpose(s) and location(s) identified in the report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not identified in the agreement, for any use, without our prior written permission, shall be at that party's risk, and without any liability to GZA.

STANDARD OF CARE

2. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Report and/or proposal, and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the data gathered and observations made during the course of our work. Conditions other than described in this report may be found at the subject location(s).
3. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made.

LIMITS TO OBSERVATIONS

4. Natural resource characteristics are inherently variable. Biological community composition and diversity can be affected by seasonal, annual or anthropogenic influences. In addition, soil conditions are reflective of subsurface geologic materials, the composition and distribution of which vary spatially.
5. The observations described in this report were made on the dates referenced and under the conditions stated therein. Conditions observed and reported by GZA reflect the conditions that could be reasonably observed based upon the visual observations of surface conditions and/or a limited observation of subsurface conditions at the specific time of observation. Such conditions are subject to environmental and circumstantial alteration and may not reflect conditions observable at another time.
6. The conclusions and recommendations contained in this report are based upon the data obtained from a limited number of surveys performed during the course of our work on the site, as described in the Report. There may be variations between these surveys and other past or future surveys due to inherent environmental and circumstantial variability.

RELIANCE ON INFORMATION FROM OTHERS

7. Preparation of this Report may have relied upon information made available by Federal, state and local authorities; and/or work products prepared by other professionals as specified in the report. Unless specifically stated, GZA did not attempt to independently verify the accuracy or completeness of that information.

COMPLIANCE WITH REGULATIONS AND CODES

8. GZA's services were performed to render an opinion on the presence and/or condition of natural resources as described in the Report. Standards used to identify or assess these resources as well as regulatory jurisdiction, if any, are stated in the Report. Standards for identification of jurisdictional resources and regulatory control



over them may vary between governmental agencies at Federal, state and local levels and are subject to change over time which may affect the conclusions and findings of this report.

NEW INFORMATION

9. In the event that the Client or others authorized to use this report obtain information on environmental regulatory compliance issues at the site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this work, may modify the conclusions stated in this report.

ADDITIONAL SERVICES

10. GZA recommends that we be retained to provide further investigation, if necessary, which would allow GZA to (1) observe compliance with the concepts and recommendations contained herein; (2) evaluate whether the manner of implementation creates a potential new finding; and (3) evaluate whether the manner of implementation affects or changes the conditions on which our opinions were made.



Appendix B – Photo Log

PHOTO LOG
Lafayette Road
Portsmouth, New Hampshire

Photos Taken: January 9 & 20, 2021



Photograph No. 1: Looking at the pond on Site. GZA understands this is a man-made pond.



Photograph No. 2: Looking at portion of the Site proposed to be developed. This portion of the Site consists of Deerfield loamy sand with 0 to 3 percent slopes (Soil Unit 313A).

PHOTO LOG
Lafayette Road
Portsmouth, New Hampshire

Photos Taken: January 9 & 20, 2021



Photograph No. 3: Looking at portion of the Site proposed to be developed. This portion of the Site consists of Scituate fine sandy loam with 0 to 3 percent slopes (Soil Unit 448A).



Photograph No. 4: Looking westerly into an emergent wetland on Site near wetland flag B-45. This area consists of Endoaquents, sandy or gravelly with 0 to 3 percent slopes (Soil Unit 900A)



Appendix C - Disturbed Soil Mapping Unit Supplement for DES AOT

Supplemental Symbols

The five components of the Disturbed Soil Mapping Unit Supplement are as follows:

Symbol 1: Drainage Class

- a** - Excessively Drained
- b** - Somewhat Excessively Drained
- c** - Well Drained
- d** - Moderately Well Drained
- e** - Somewhat Poorly Drained
- f** - Poorly Drained
- g** - Very Poorly Drained
- h** - Not Determined

Symbol 2: Parent Material (of naturally formed soil only, if present)

- a** - No natural soil within 60"
- b** - Glaciofluvial Deposits (outwash/terraces of sand or sand and gravel)
- c** - Glacial Till Material (active ice)
- d** - Glaciolacustrine very fine sand and silt deposits (glacial lakes)
- e** - Loamy/sandy over Silt/Clay deposits
- f** - Marine Silt and Clay deposits (ocean waters)
- g** - Alluvial Deposits (floodplains)
- h** - Organic Materials-Fresh water Bogs, etc.
- j** - Organic Materials-Tidal Marsh

Symbol 3: Restrictive/Impervious Layers

- a** - None
- b** - Bouldery surface with more than 15% of the surface covered with boulders
- c** - Mineral restrictive layer(s) are present in the soil profile less than 40 inches below the soil surface such as hard pan, platy structure or clayey texture with consistence of at least firm (i.e. more than 20 newtons). For other examples of soil characteristics that qualify for restrictive layers, see "Soil Manual for Site evaluations in NH" 2nd Ed., (page 3-17, figure 3-14)
- d** - Bedrock in the soil profile; 0-20 inches
- e** - Bedrock in the soil profile; 20-60 inches
- f** - Areas where depth to bedrock is so variable that a single soil type cannot be applied, will be mapped as a complex of soil types
- g** - Subject to Flooding
- h** - Man-made impervious surface including pavement, concrete, or built-up surfaces (i.e. buildings) with no morphological restrictive layer within control section

Symbol 4: Estimated Ksat* (most limiting layer excluding symbol 3h above).

- a** - High.
- b** - Moderate
- c** - Low
- d** - Not determined

*See "Guidelines for Ksat Class Placement" in Chapter 3 of the Soil Survey Manual, USDA

Symbol 5: Hydrologic Soil Group*

- a** - Group A
- b** - Group B
- c** - Group C
- d** - Group D
- e** - Not determined

*excluding man-made surface impervious/restrictive layers

MEMORANDUM

Ref: 2105A

To: Michael Green
Green & Company

From: Stephen G. Pernaw, P.E., PTOE

Subject: Proposed Residential Development
Portsmouth, New Hampshire

Date: May 17, 2021

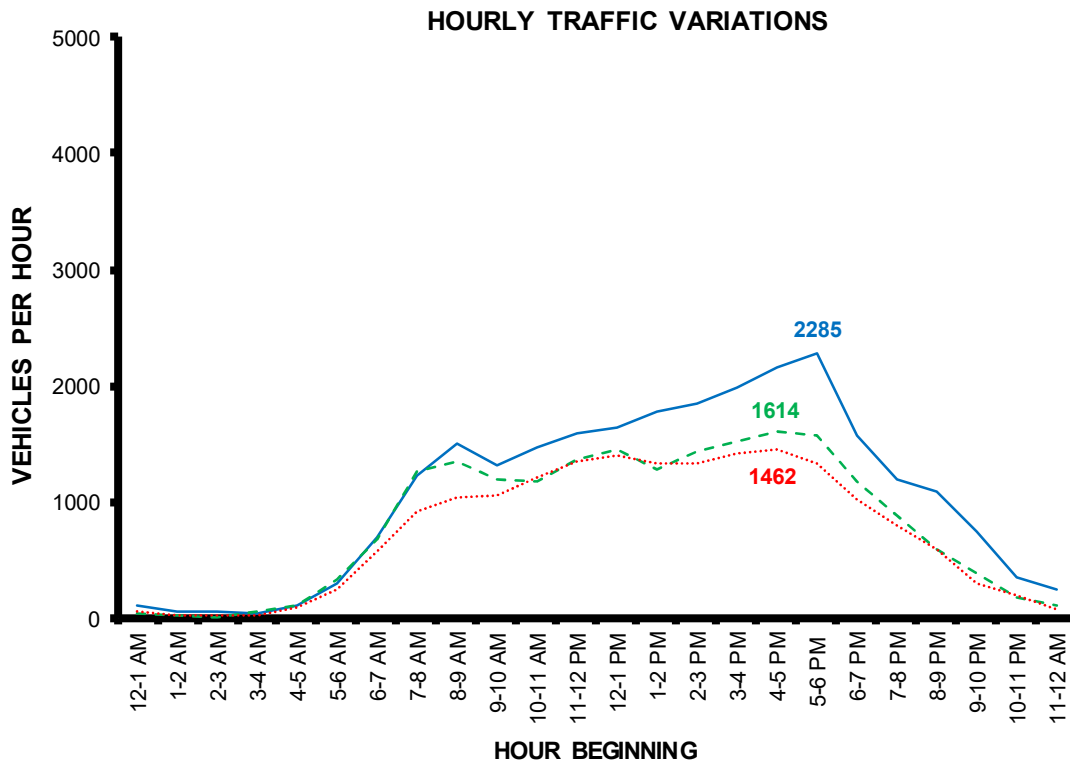
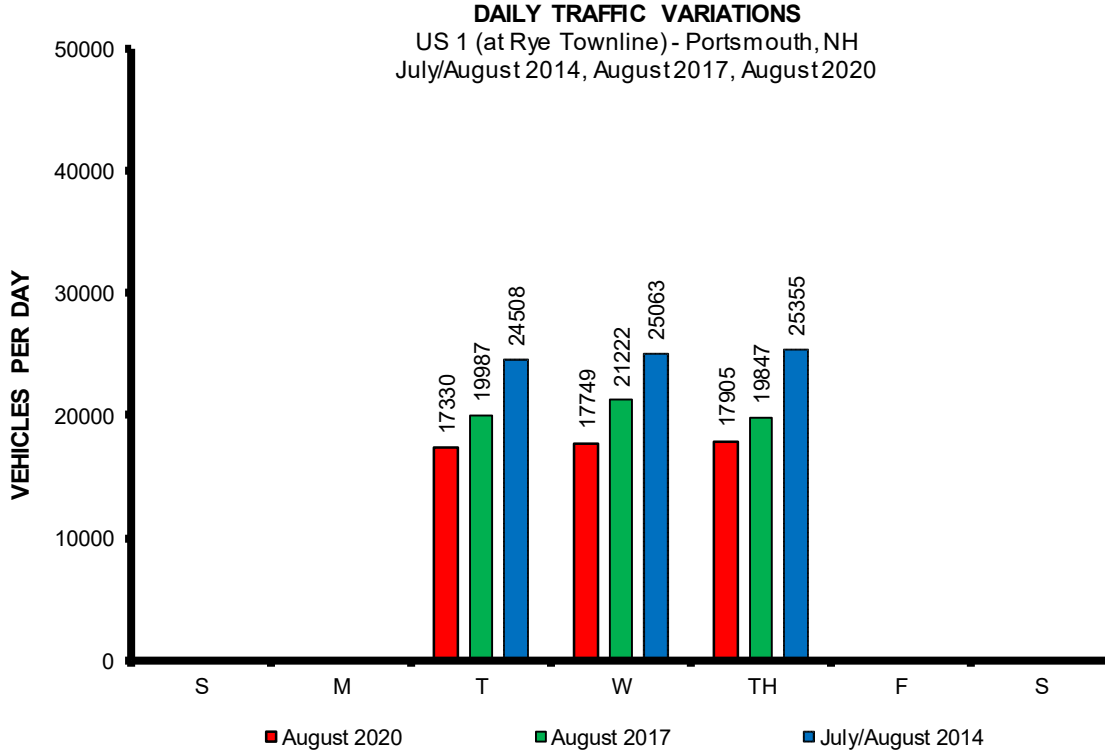
As requested, Pernaw & Company, Inc. has prepared this “*Trip Generation*” memorandum regarding your proposed residential development project located at 3400 Lafayette Road in Portsmouth, New Hampshire. The purpose of this memorandum is to summarize our research of available traffic count data and the results of our trip generation analyses. To summarize:

Proposed Development – The plan entitled: “*Site Plan*” prepared by Jones & Beach Engineers, Inc., Drawing Number C2, Sheet 7 of 25, dated 3/3/21 (revised 5/5/21) shows the location of the subject site, the proposed residential townhouse condominiums, and the internal roadway layout (see Attachment 1). The proposed residential development involves the construction of 50 multi-family dwelling units in 13 separate buildings. Vehicular access to the residential development is proposed via a two-way site access road that will intersect the west side of Lafayette Road approximately 150-feet south of the Weatherstone Condominium driveway.

Existing Conditions – Lafayette Road extends in a general north-south direction along the site frontage and provides access to Rye and Hampton to the south, and Maine to the north. This roadway provides one travel lane in each direction with a center turn lane. The speed limit is posted at 45 mph in this area.

Existing Traffic Volumes – According to a short-term NHDOT traffic count conducted on Lafayette Road (at Rye Townline) in August 2020, this roadway section carried an estimated Annual Average Daily Traffic (AADT) volume of approximately 15,268 vehicles per day (vpd) in 2020, down from 18,297 vpd in 2019. This count station is located approximately 0.4 mile south of the subject site.

The hourly data indicates that weekday volumes typically reached peak levels from 3:00 to 4:00 PM, 4:00 to 5:00 PM or 5:00 to 6:00 PM. The diagrams on Page 2 summarize the daily and hourly variations in traffic demand over several years (2014, 2017 and 2020) at this location (see Attachments 2 - 5). When compared with previous count data, it is obvious that the 2020 traffic levels on Lafayette Road have been affected by the COVID-19 pandemic.



Trip Generation - To estimate the quantity of vehicle-trips that will be produced by the proposed residential development, the standard trip generation rates and equations published by the Institute of Transportation Engineers¹ (ITE) were considered. More specifically, the trip generation equations for Land Use Code 221 - Multifamily Housing (Mid-Rise) were utilized, and the number of dwelling units was used as the independent variable.

Table 1 **Trip Generation Summary**
50 Multi-Family Dwelling Units¹

	Average Weekday Volumes
Weekday Total (24 hours)	
Entering	136 veh
Exiting	<u>136 veh</u>
Total	272 trips
Weekday AM Peak Hour	
Entering	4 veh
Exiting	<u>13 veh</u>
Total	17 trips
Weekday PM Peak Hour	
Entering	14 veh
Exiting	<u>9 veh</u>
Total	23 trips

¹ LUC 221- Multifamily Housing (Mid-Rise) - Trip Equation Method

Based upon ITE Land Use Code 221, the overall development is expected to generate approximately 17 vehicle-trips (4 arrivals, 13 departures) during the AM peak hour period, and 23 vehicle-trips (14 arrivals, 9 departures) during the PM peak hour period, on an average weekday basis (see Attachment 6).

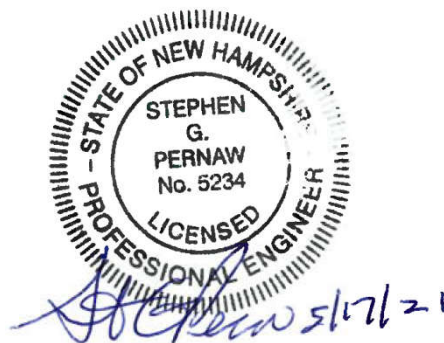
¹ Institute of Transportation Engineers, *Trip Generation*, 10th Edition (Washington, D.C., 2017)

Findings & Conclusions

1. The NHDOT count station that is located on Lafayette Road approximately 0.4 miles south of the subject site (at Rye Townline) revealed that this section of Lafayette Road carried an estimated Annual Average Daily Traffic volume of approximately 15,268 vehicles per day in 2020, down from 18,297 vehicles per day in 2019. The highest hourly traffic volumes typically occurred in the early evening from 3:00 to 4:00 PM, 4:00 to 5:00 PM or 5:00 to 6:00 PM on weekdays. When compared to previous count data, it is obvious that the current traffic levels on Lafayette Road have been affected by the COVID-19 pandemic.
2. The proposed residential development is expected to generate approximately 17 vehicle-trips (4 arrivals, 13 departures) during the morning peak hour, and 23 vehicle-trips (14 arrivals, 9 departures) during the evening peak hour, on an average weekday basis.
3. Development sites that generate fewer than 500 vehicle-trips per day are generally considered to be “low” traffic generators. Based on the daily estimate of 272 vehicle-trips per day (see Table 1), the proposed development is not considered to be a major traffic generator.

The trip generation estimates contained herein are not of sufficient magnitude to significantly alter the prevailing traffic operations on nearby roads and intersections. In fact, random traffic flow from one day to the next accounts for more variability than will result from the proposed residential development. In terms of recommendations, the proposed site access road approach to US1 should operate under stop sign control (MUTCD R1-1), and be delineated with a 12–24-inch white stop line. A short section of 4-inch double-yellow centerline on access road to separate inbound and outbound vehicles is considered optional, but desirable. The design of this intersection should be compatible with a Single-Unit Design Vehicle and local fire apparatus. Clear sight distance triangles should be established looking left and looking right from the access road approach to US1 for safety reasons.

Attachments



ATTACHMENTS



Transportation Data Management System

List View All DIRs

Record	1	of 1	Goto Record	go
Location ID	82379021	MPO ID		
Type	SPOT	HPMS ID		
On NHS	Yes	On HPMS	Yes	
LRS ID	U0000001__	LRS Loc Pt.		
SF Group	04	Route Type		
AF Group	04	Route	US 1	
GF Group	E	Active	Yes	
Class Dist Grp	Default	Category	3	
Seas Clss Grp	Default			
WIM Group	Default			
QC Group	Default			
Funct'l Class	Other Principal Arterial	Milepost		
Located On	Lafayette Rd			
Loc On Alias	US 1 (LAFAYETTE RD) AT RYE TL			
More Detail				
STATION DATA				

Directions: 2-WAY NB SB ?

AADT ?								
Year	AADT	DHV-30	K %	D %	PA	BC	Src	
2020	15,268	1,462	10	51	14,192 (93%)	1,076 (7%)		
2019	18,297 ³		10	51	16,759 (92%)	1,538 (8%)	Grown from 2018	
2018	18,080 ³		10	51	16,671 (92%)	1,409 (8%)	Grown from 2017	
2017	17,725	1,741	10	51	16,448 (93%)	1,277 (7%)		
2016	22,063 ³				20,122 (91%)	1,941 (9%)	Grown from 2015	

1-5 of 15

Travel Demand Model										
Model Year	Model AADT	AM PHV	AM PPV	MD PHV	MD PPV	PM PHV	PM PPV	NT PHV	NT PPV	

VOLUME COUNT			
	Date	Int	Total
	Thu 8/13/2020	60	17,905
	Wed 8/12/2020	60	17,749
	Tue 8/11/2020	60	17,330
	Thu 8/31/2017	60	19,847
	Wed 8/30/2017	60	21,222
	Tue 8/29/2017	60	19,987
	Fri 8/1/2014	60	25,642
	Thu 7/31/2014	60	25,355
	Wed 7/30/2014	60	25,063
	Tue 7/29/2014	60	24,508

VOLUME TREND ?	
Year	Annual Growth
2020	-17%
2019	1%
2018	2%
2017	-20%
2016	2%
2015	3%
2014	7%
2011	6%
2009	-4%



Transportation Data Management System



Excel Version

2020

Weekly Volume Report			
Location ID:	82379021	Type:	SPOT
Located On:	Lafayette Rd	:	
Direction:	2-WAY		
Community:	PORTSMOUTH	Period:	Mon 8/10/2020 - Sun 8/16/2020
AADT:	15268		

Start Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Avg	Graph
12:00 AM		39	44	56				46	0.3%
1:00 AM		44	33	34				37	0.2%
2:00 AM		21	26	23				23	0.1%
3:00 AM		33	29	30				31	0.2%
4:00 AM		72	83	95				83	0.5%
5:00 AM		238	317	249				268	1.5%
6:00 AM		568	586	584				579	3.3%
7:00 AM		911	928	917				919	5.2%
8:00 AM		1060	1039	1045				1,048	5.9%
9:00 AM		1147	1070	1052				1,090	6.2%
10:00 AM		1128	1210	1211				1,183	6.7%
11:00 AM		1247	1261	1342				1,283	7.3%
12:00 PM		1326	1342	1406				1,358	7.7%
1:00 PM		1244	1272	1334				1,283	7.3%
2:00 PM		1274	1312	1325				1,304	7.4%
3:00 PM		1399	1345	1424				1,389	7.9%
4:00 PM		1373	1458	1462				1,431	8.1%
5:00 PM		1280	1308	1325				1,304	7.4%
6:00 PM		1008	1092	1019				1,040	5.9%
7:00 PM		782	875	798				818	4.6%
8:00 PM		586	580	594				587	3.3%
9:00 PM		313	266	293				291	1.6%
10:00 PM		145	174	204				174	1.0%
11:00 PM		92	99	83				91	0.5%
Total	0	17,330	17,749	17,905	0	0	0		
24hr Total		17330	17749	17905				17,661	
AM Pk Hr		11:00	11:00	11:00					
AM Peak		1247	1261	1342				1,283	
PM Pk Hr		3:00	4:00	4:00					
PM Peak		1399	1458	1462				1,440	
% Pk Hr		8.07%	8.21%	8.17%				8.15%	



Transportation Data Management System



Excel Version

2017

Weekly Volume Report			
Location ID:	82379021	Type:	SPOT
Located On:	Lafayette Rd	:	
Direction:	2-WAY		
Community:	PORTSMOUTH	Period:	Mon 8/28/2017 - Sun 9/3/2017
AADT:	17725		

Start Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Avg	Graph
12:00 AM		82	75	38				65	0.3%
1:00 AM		43	47	29				40	0.2%
2:00 AM		18	31	17				22	0.1%
3:00 AM		47	40	54				47	0.2%
4:00 AM		69	74	114				86	0.4%
5:00 AM		360	348	343				350	1.7%
6:00 AM		820	693	672				728	3.6%
7:00 AM		1232	1115	1268				1,205	5.9%
8:00 AM		1396	1238	1357				1,330	6.5%
9:00 AM		1156	1236	1195				1,196	5.9%
10:00 AM		1233	1357	1183				1,258	6.2%
11:00 AM		1325	1443	1376				1,381	6.8%
12:00 PM		1490	1630	1446				1,522	7.5%
1:00 PM		1365	1663	1276				1,435	7.0%
2:00 PM		1424	1712	1436				1,524	7.5%
3:00 PM		1530	1741	1521				1,597	7.8%
4:00 PM		1581	1618	1614				1,604	7.9%
5:00 PM		1592	1609	1572				1,591	7.8%
6:00 PM		1166	1310	1186				1,221	6.0%
7:00 PM		818	882	885				862	4.2%
8:00 PM		614	552	595				587	2.9%
9:00 PM		331	432	379				381	1.9%
10:00 PM		179	260	175				205	1.0%
11:00 PM		116	116	116				116	0.6%
Total	0	19,987	21,222	19,847	0	0	0		
24hr Total		19987	21222	19847				20,352	
AM Pk Hr		8:00	11:00	11:00					
AM Peak		1396	1443	1376				1,405	
PM Pk Hr		5:00	3:00	4:00					
PM Peak		1592	1741	1614				1,649	
% Pk Hr		7.97%	8.20%	8.13%				8.10%	



Transportation Data Management System



Excel Version

2014

Weekly Volume Report			
Location ID:	82379021	Type:	SPOT
Located On:	Lafayette Rd	:	
Direction:	2-WAY		
Community:	PORTSMOUTH	Period:	Mon 7/28/2014 - Sun 8/3/2014
AADT:	21000		

Start Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Avg	Graph
12:00 AM	73	91	94	106	121			97	0.4%
1:00 AM	47	55	86	58	74			64	0.3%
2:00 AM	44	40	41	60	43			46	0.2%
3:00 AM	33	60	55	35	56			48	0.2%
4:00 AM	122	100	85	113	113			107	0.4%
5:00 AM	288	306	318	293	291			299	1.2%
6:00 AM	656	688	733	701	659			687	2.8%
7:00 AM	1147	1158	1198	1228	1210			1,188	4.8%
8:00 AM	1321	1427	1436	1505	1378			1,413	5.7%
9:00 AM	1340	1326	1354	1314	1397			1,346	5.5%
10:00 AM	1266	1463	1414	1471	1579			1,439	5.8%
11:00 AM	1477	1607	1616	1587	1617			1,581	6.4%
12:00 PM	1642	1636	1671	1644	1753			1,669	6.8%
1:00 PM	1664	1649	1705	1773	1788			1,716	7.0%
2:00 PM	1704	1705	1787	1850	1841			1,777	7.2%
3:00 PM	1874	1919	1989	1989	1989			1,952	7.9%
4:00 PM	1926	2058	2107	2160	2148			2,080	8.4%
5:00 PM	1981	2182	2163	2285	2078			2,138	8.7%
6:00 PM	1425	1580	1598	1570	1732			1,581	6.4%
7:00 PM	917	1202	1267	1195	1204			1,157	4.7%
8:00 PM	791	1004	982	1085	1052			983	4.0%
9:00 PM	521	711	730	742	777			696	2.8%
10:00 PM	257	367	417	350	467			372	1.5%
11:00 PM	192	174	217	241	275			220	0.9%
Total	22,708	24,508	25,063	25,355	25,642	0	0		
24hr Total	22708	24508	25063	25355	25642			24,655	
AM Pk Hr	11:00	11:00	11:00	11:00	11:00				
AM Peak	1477	1607	1616	1587	1617			1,581	
PM Pk Hr	5:00	5:00	5:00	5:00	4:00				
PM Peak	1981	2182	2163	2285	2148			2,152	
% Pk Hr	8.72%	8.90%	8.63%	9.01%	8.38%			8.73%	

Trip Generation Summary

Alternative: Alternative 1

Phase:

Project: 2105A Gen

Open Date: 5/14/2021

Analysis Date: 5/14/2021

ITE	Land Use	Weekday Average Daily Trips			Weekday AM Peak Hour of Adjacent Street Traffic			Weekday PM Peak Hour of Adjacent Street Traffic		
		* Enter	Exit	Total	* Enter	Exit	Total	* Enter	Exit	Total
221	MID-RISE 1	136	135	271	4	13	17	14	9	23
	50 Dwelling Units									
	Unadjusted Volume	136	135	271	4	13	17	14	9	23
	Internal Capture Trips	0	0	0	0	0	0	0	0	0
	Pass-By Trips	0	0	0	0	0	0	0	0	0
	Volume Added to Adjacent Streets	136	135	271	4	13	17	14	9	23

Total Weekday Average Daily Trips Internal Capture = 0 Percent

Total Weekday AM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent

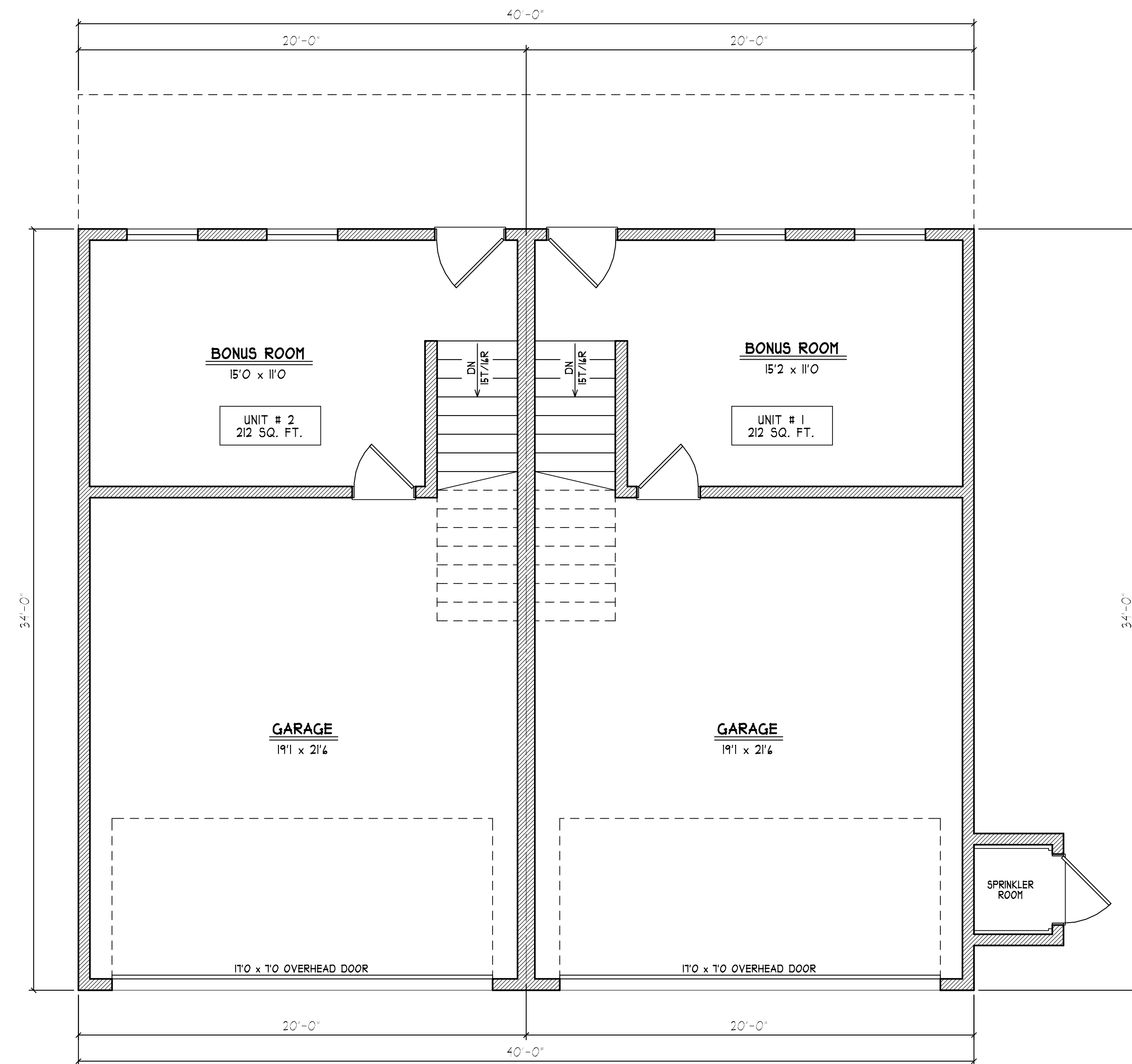
Total Weekday PM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent

* - Custom rate used for selected time period.



FRONT ELEVATION

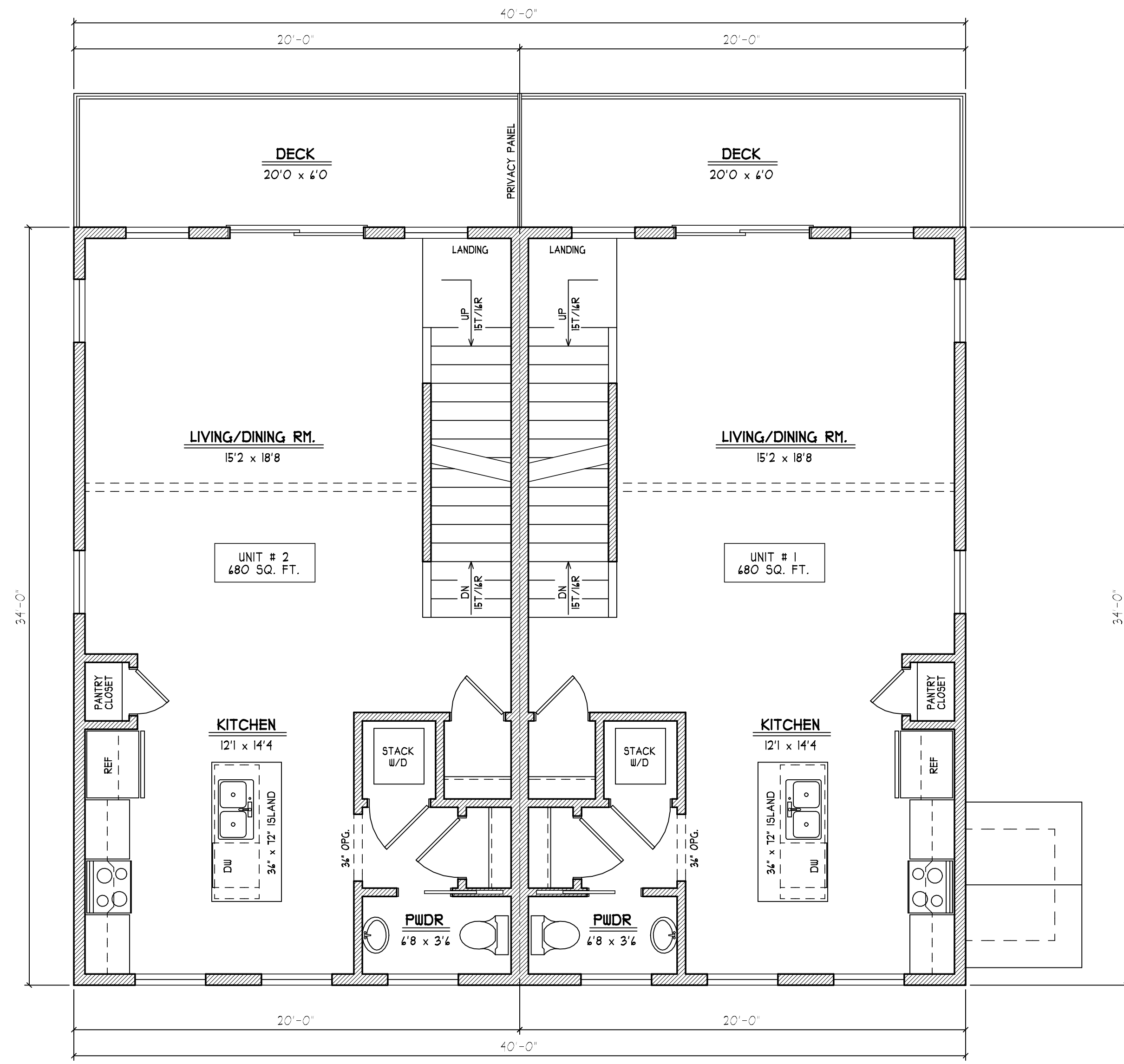
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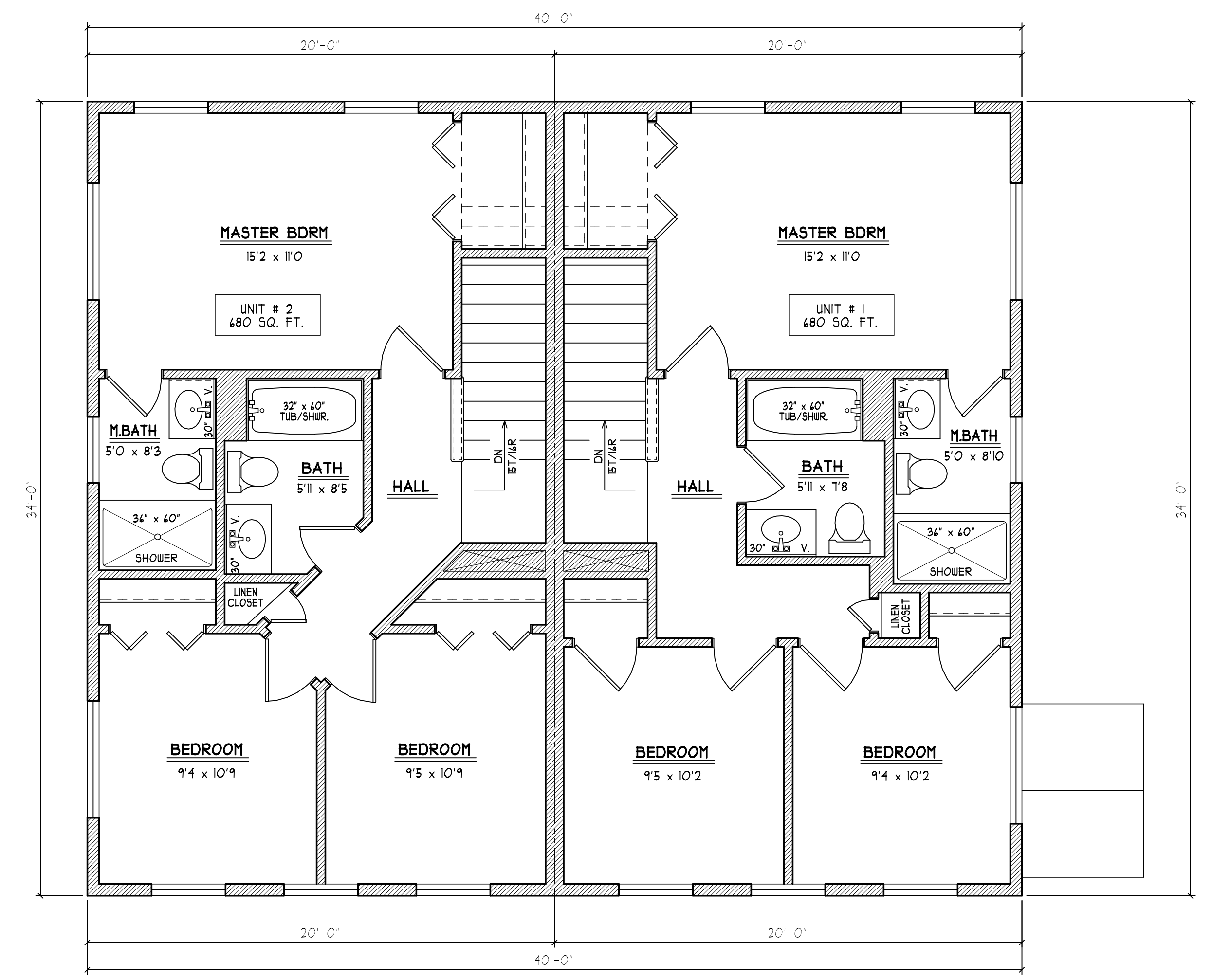
GROUND FLOOR PLAN

(UNITS 1 & 2)

SCALE: 1/4" = 1'-0"



SECOND FLOOR PLAN
 (UNITS 1 & 2) SCALE: 1/4" = 1'-0"

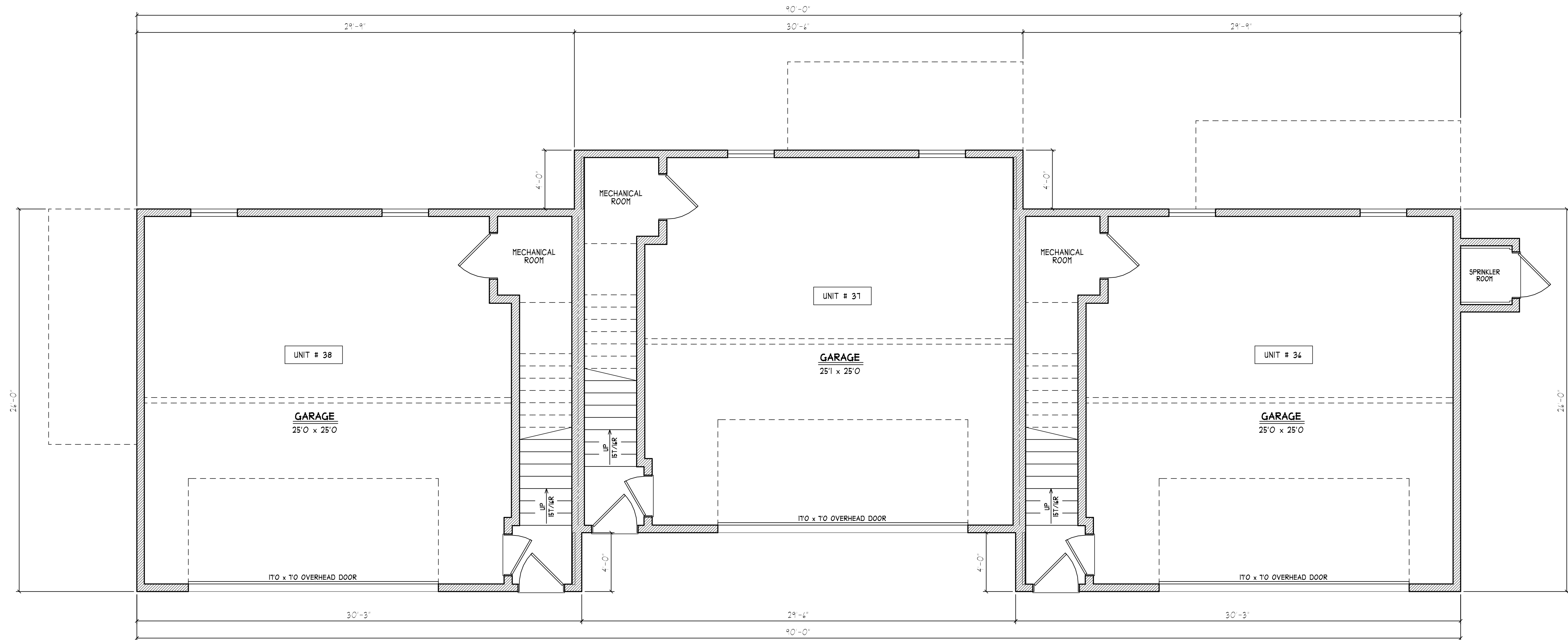


THIRD FLOOR PLAN
 (UNITS 1 & 2) SCALE: 1/4" = 1'-0"



FRONT ELEVATION

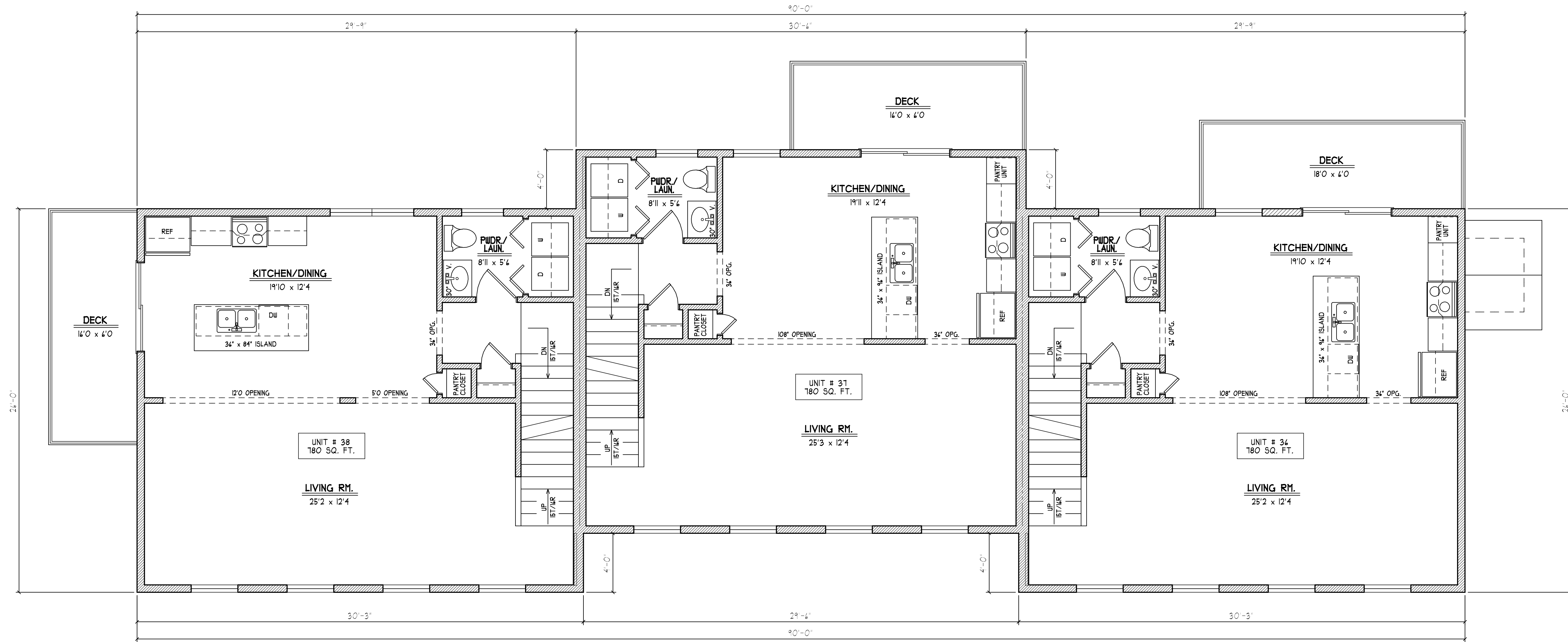
SCALE: 1/4" = 1'-0"



GROUND FLOOR PLAN

(UNITS 34 - 38)

SCALE: 1/4" = 1'-0"



SECOND FLOOR PLAN

(UNITS 34 - 38)

SCALE: 1/4" = 1'-0"



THIRD FLOOR PLAN

(UNITS 36 - 38)

SCALE: 1/4" = 1'-0"