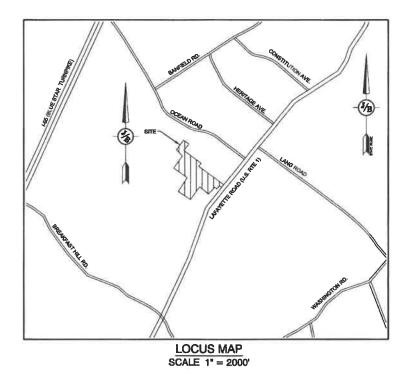
GENERAL LEGEND 100x0 <u>x 100.00</u> x 100.00 4K SEPTIC AREA WETLAND IMPACT RIPRAP OPEN WATER **■** ⋈ ऒ FRESHWATER WETLANDS STABILIZED CONSTRUCTION ENTRANCE CONCRETE GRAVEL SNOW STORAGE

RESIDENTIAL CONDOMINIUMS TAX MAP 297, LOT 11 3400 LAFAYETTE ROAD, PORTSMOUTH, NH



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

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

MPG114@GMAIL.COM

ARCHITECT: STONEARCH DEVELOPMENT (603) 817-5758 CONTACT: MICHAEL MACNEIL ELECTRIC
EVERSOURCE ENERGY
74 OLD DOVER ROAD
ROCHESTER, NH 03867
(603) 555-5334
CONTACT: NICHOLAI KOSKO

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

E-MAIL: JBE@JONESANDBEACH.COM

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

SHEET INDEX

CS	COVER SHEET
A1	BOUNDARY PLAN
EXOVR	OVERVIEW EXISTING CONDITIONS PLAN
C1	EXISTING CONDTIONS PLAN
OVR	OVERVIEW SITE PLAN
C2	SITE PLAN
СЗ	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
TRI	STORMWATER TREATMENT PLAN
LS-1-4	LANDSCAPE PLANS

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:

ı	Cheanail TVC:	Lifait.	LAZ	Date. 3/3/21	
ļ	Checked: JAC	Scale:	AS NOTED	Project No.: 20737	_
1	Drawing Name: 20737-PLAN.dwg				
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AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.



REV.	DATE	REVISION	BY
3	3/3/21	ADDED SURVEY INFO	LAZ
4	3/18/21	ADDED DETAIL	LAZ
5	6/5/21	REVISIONS	LAZ
6	8/22/21	REVISIONS PER CITY REVIEW	LAZ
7	7/20/21	REVISIONS PER CITY REVIEW	LAZ

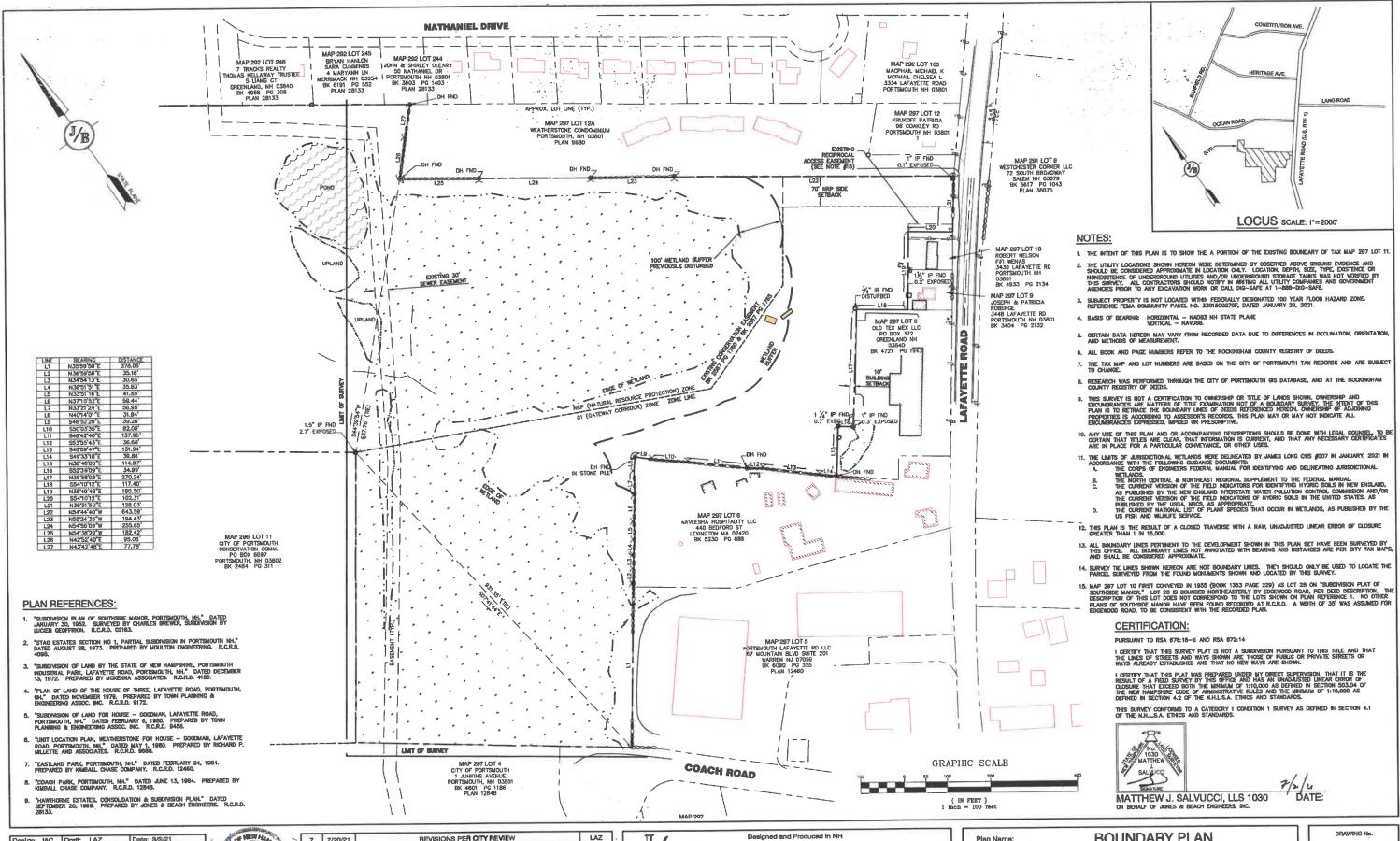


Plan Name:	COVER SHEET
Project:	3400 LAFAYETTE ROAD PORTSMOUTH, NH
Owner of Record: 225 BA	RICCI CONSTRUCTION CO., INC. ANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229

DRAWING No.

CS
SHEET 1 OF 26
JBE PROJECT NO. 20737

JECT NAME AND LOCATION



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
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4	3/18/21	ADDED DETAIL	LAZ
5	5/5/21	REVISIONS	LAZ
6	8/22/21	REVISIONS PER CITY REVIEW	LAZ
7	7/20/21	REVISIONS PER CITY REVIEW	LAZ

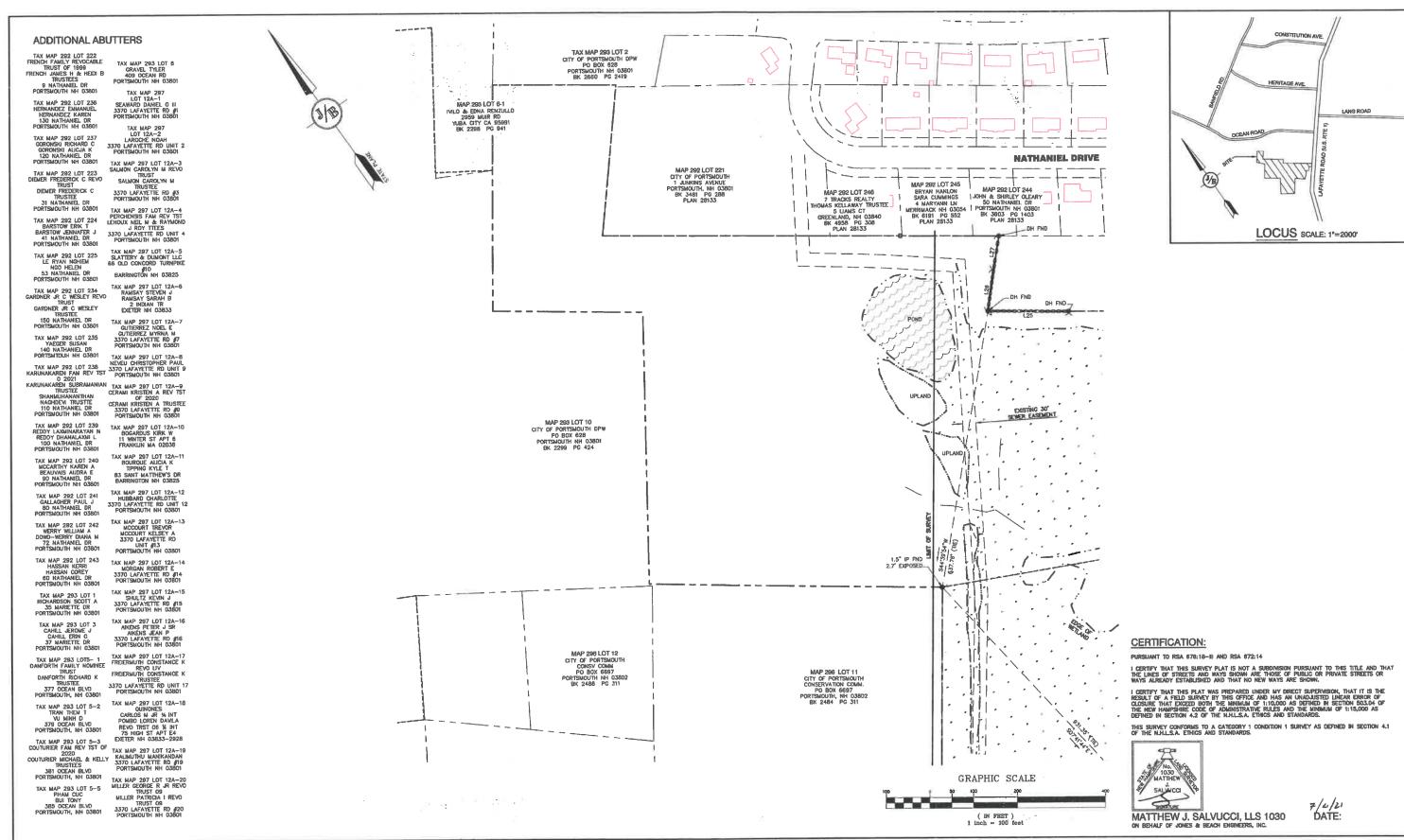
Jones & Beach Engineers, Inc.

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

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

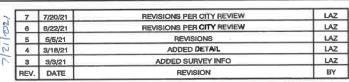
SHEET 2 OF 26

JIBE PROJECT NO. 20737



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

MICHARL J. KERIVAN No. 6848 RMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.



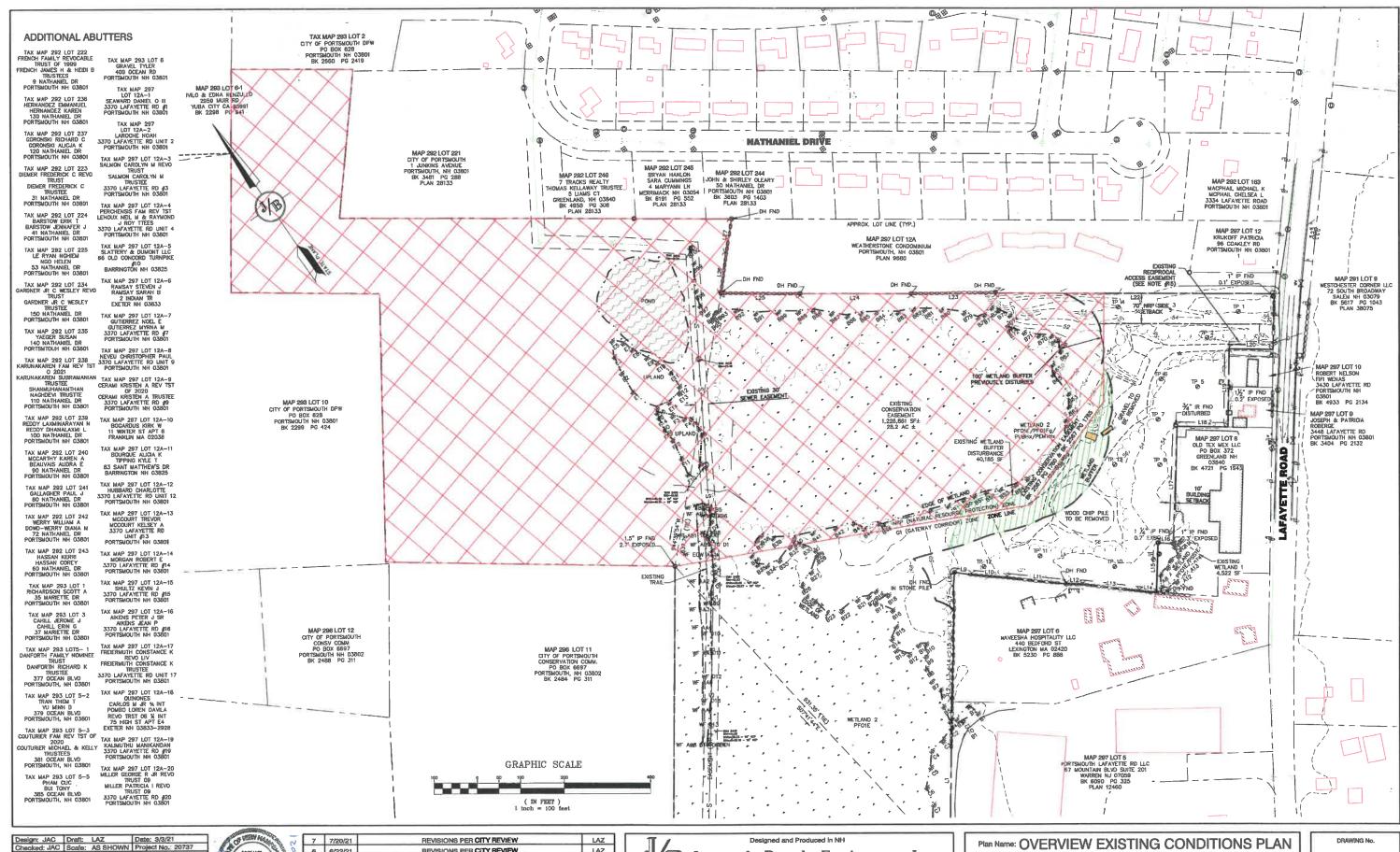
Designed and Produced in NH Jones & Beach Engineers, Inc. 603-772-4746 85 Portsmouth Ave. Civil Engineering Services

E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	BOUNDARY PLAN	
Project:	3400 LAFAYETTE ROAD PORTSMOUTH, NH	
Owner of Record: 225 B	RICCI CONSTRUCTION CO., INC. ANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0228	

JBE PROJECT NO. 20737

DRAWING No.



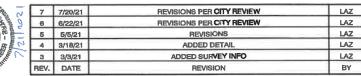
PO Box 219 Stratham, NH 03885

Design: JAC Desig: AS SHOWN Project No. 20737

Drawing Name: 20737-PLAN.dwg

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BE Portsmouth Avo. Civil Engineering Services

BOS-772-4748

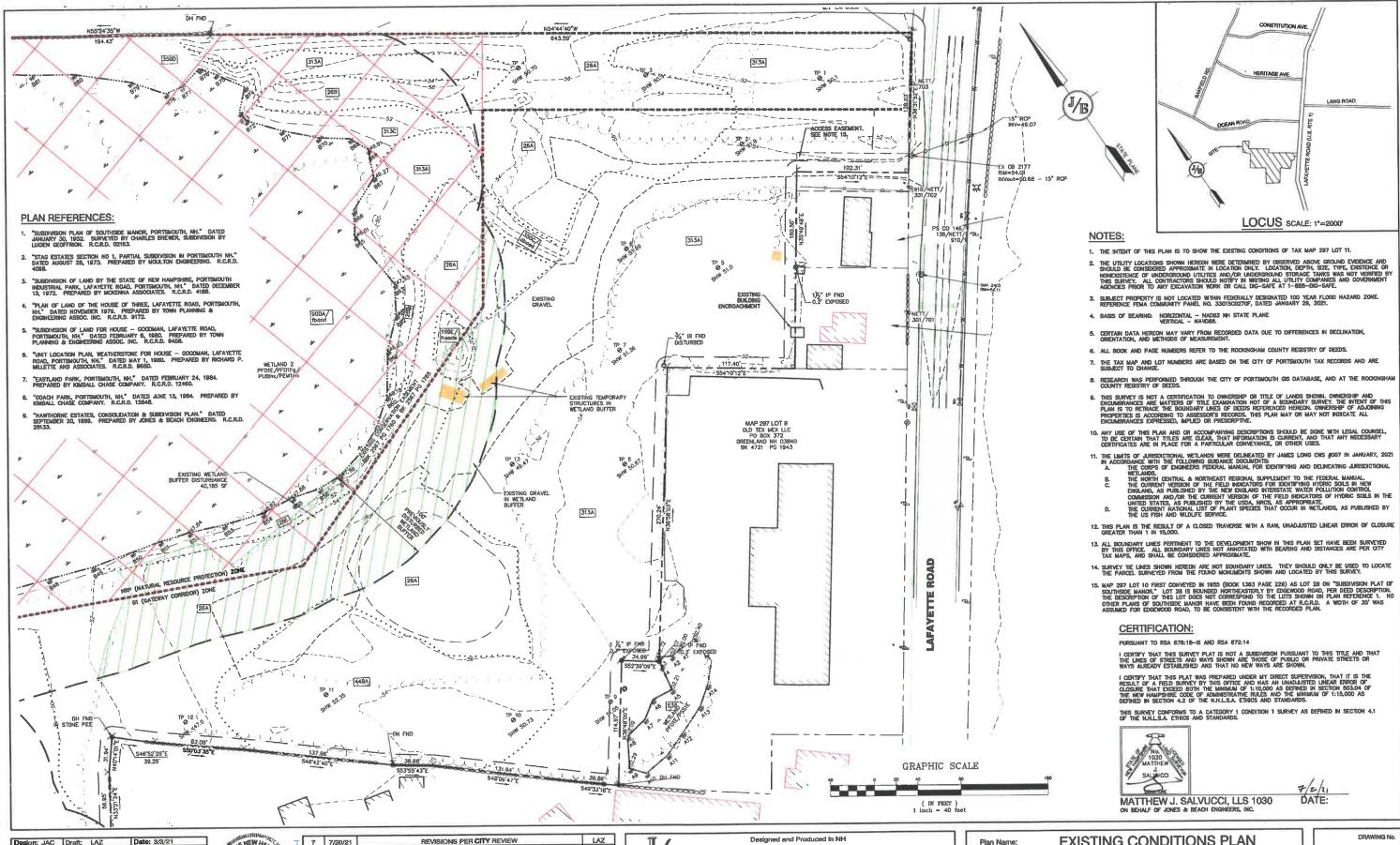
EAN: 673-773-0222

E-MAIL: JBE@JONESANDBEACH.COM

LIBITION OF LAAILAA	EVIOLING COMPLICION LEVIN	ı
Project:	3400 LAFAYETTE ROAD PORTSMOUTH, NH	
Owner of Record:	RICCI CONSTRUCTION CO., INC.	١

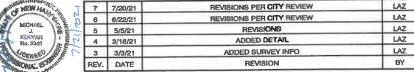
EXOVR

SHEET 4 OF 26
JBE PROJECT NO. 20737



PO Box 219 Stratham, NH 03885

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 ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.

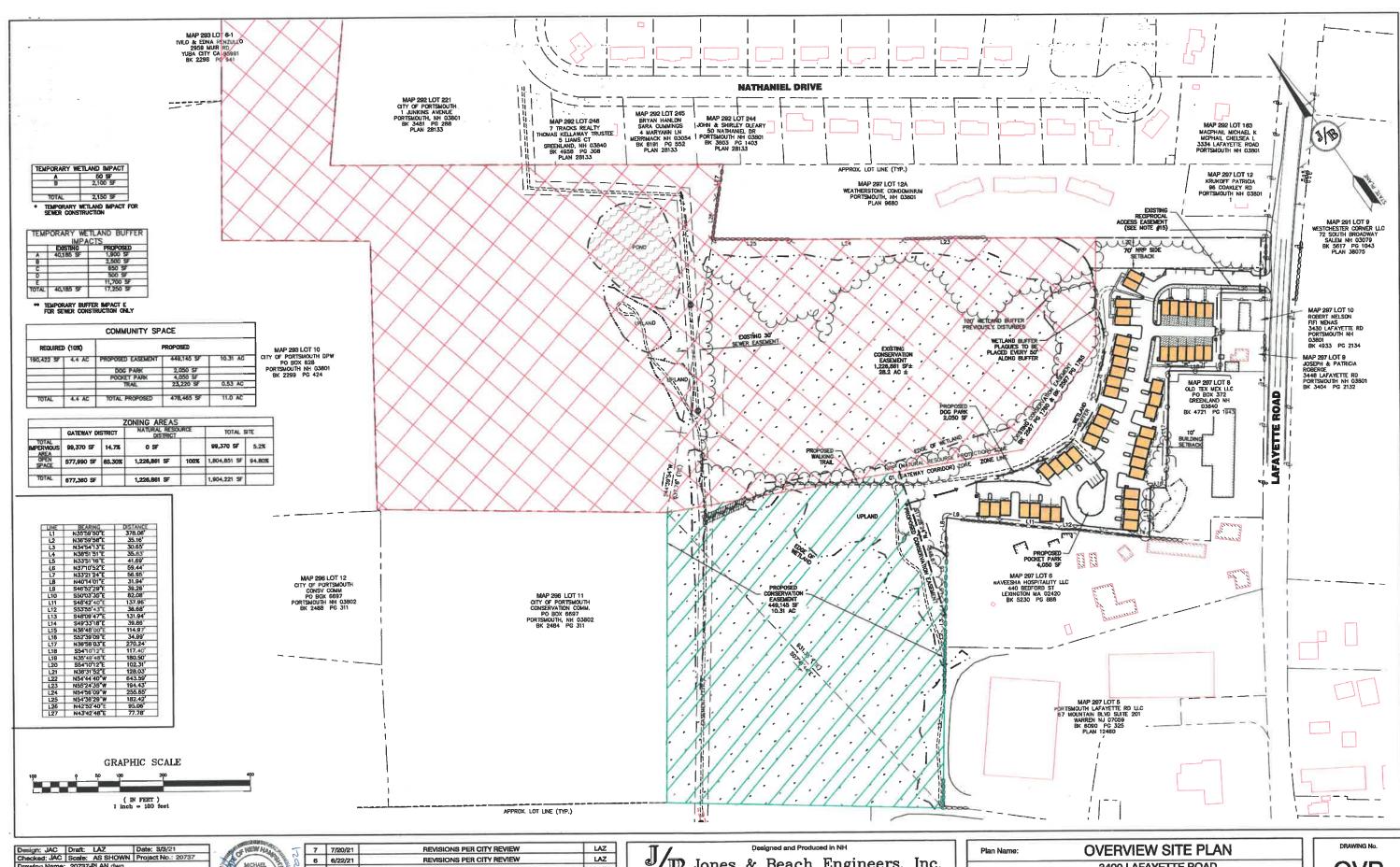


Jones & Beach Engineers, Inc. | | 85 Portsmouth Ave. Civil Engineering Servi

0		1111
	603-772-4746	
ces	FAX: 603-772-0227	
· JBF@JO	NESANDBEACH.COM	111

Plan Name:	EXISTING CONDITIONS PLAN
Project:	3400 LAFAYETTE ROAD PORTSMOUTH, NH
Owner of Record:	RICCI CONSTRUCTION CO., INC. 5 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1830 PG 0229

SHEET 5 OF 26 JIBE PROJECT NO. 20737



PO Box 219 Stratham, NH 03885

Drawing Name: 2073-PLAN.dwg
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7 7	7/20/21	REVISIONS PER CITY REVIEW	LAZ
6	6/22/21	REVISIONS PER CITY REVIEW	LAZ
5	5/5/21	REVISIONS	LAZ
2 4	3/18/21	ADDED DETAIL	LAZ
3	3/3/21	ADDED SURVEY INFO	LAZ
REV	DATE	REVISION	BY
REV	DATE	REVISION	BY

Jones & Beach Engineers, Inc.

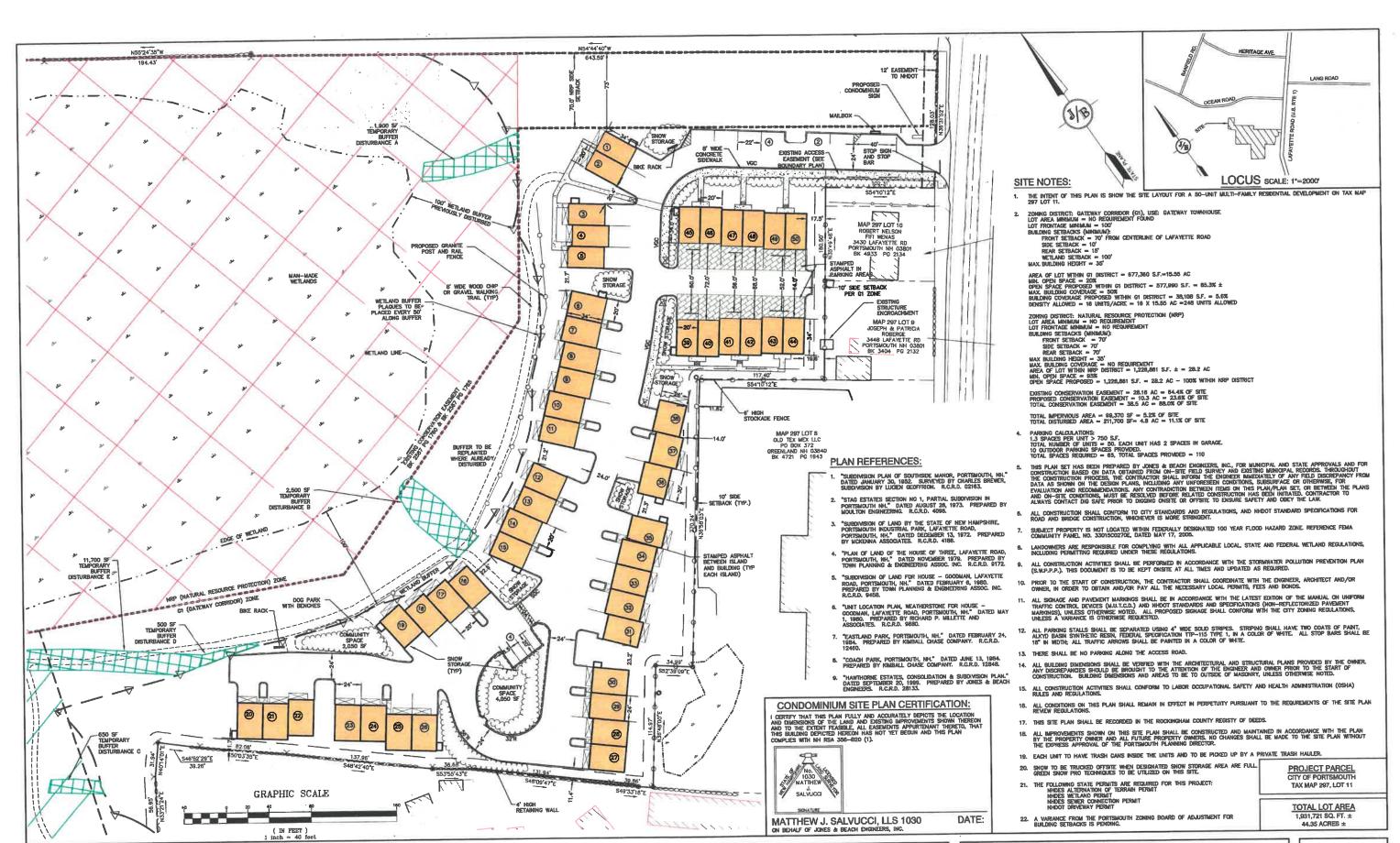
B5 Portsmouth Ave. Civil Engineering Services

FAX: 603-772-0227

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

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

OVR
SHEET 6 OF 28
JBE PROJECT NO. 20797



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



LAZ REVISIONS PER CITY REVIEW 7 7/20/21 LAZ REVISIONS PER CITY REVIEW 6 6/22/21 REVISIONS LAZ 5 5/5/21 LAZ ADDED DETAIL 4 3/18/21 ADDED SURVEY INFO LAZ 3 3/3/21 BY REVISION REV. DATE

Designed and Produced in NH B Jones & Beach Engineers, Inc.

85 Portsmouth Ave. Civil Engineering Services PO Box 219 E-MAIL: JBE@JONESANDBEACH.COM

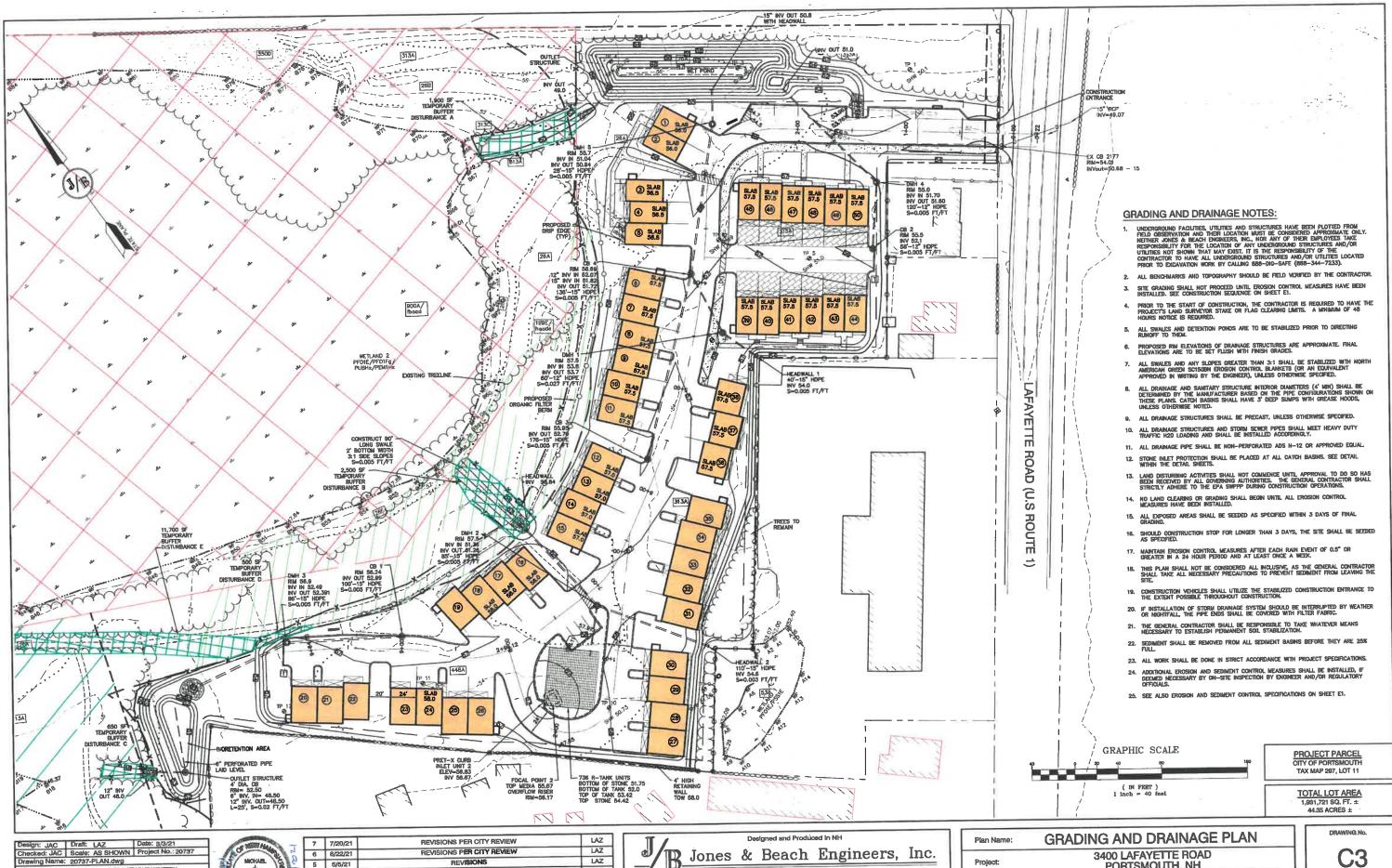
CONDOMINIUM SITE PLAN Plan Name:

Project:

Owner of Record:

3400 LAFAYETTE ROAD PORTSMOUTH, NH RICCI CONSTRUCTION CO., INC. 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229 C2

SHEET 7 OF 26 JBE PROJECT NO. 20737



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REVISIONS 5 5/5/21 LAZ ADDED DETAIL 4 3/18/21 LAZ 3 3/3/21 ADDED SURVEY INFO BY REVISION REV. DATE

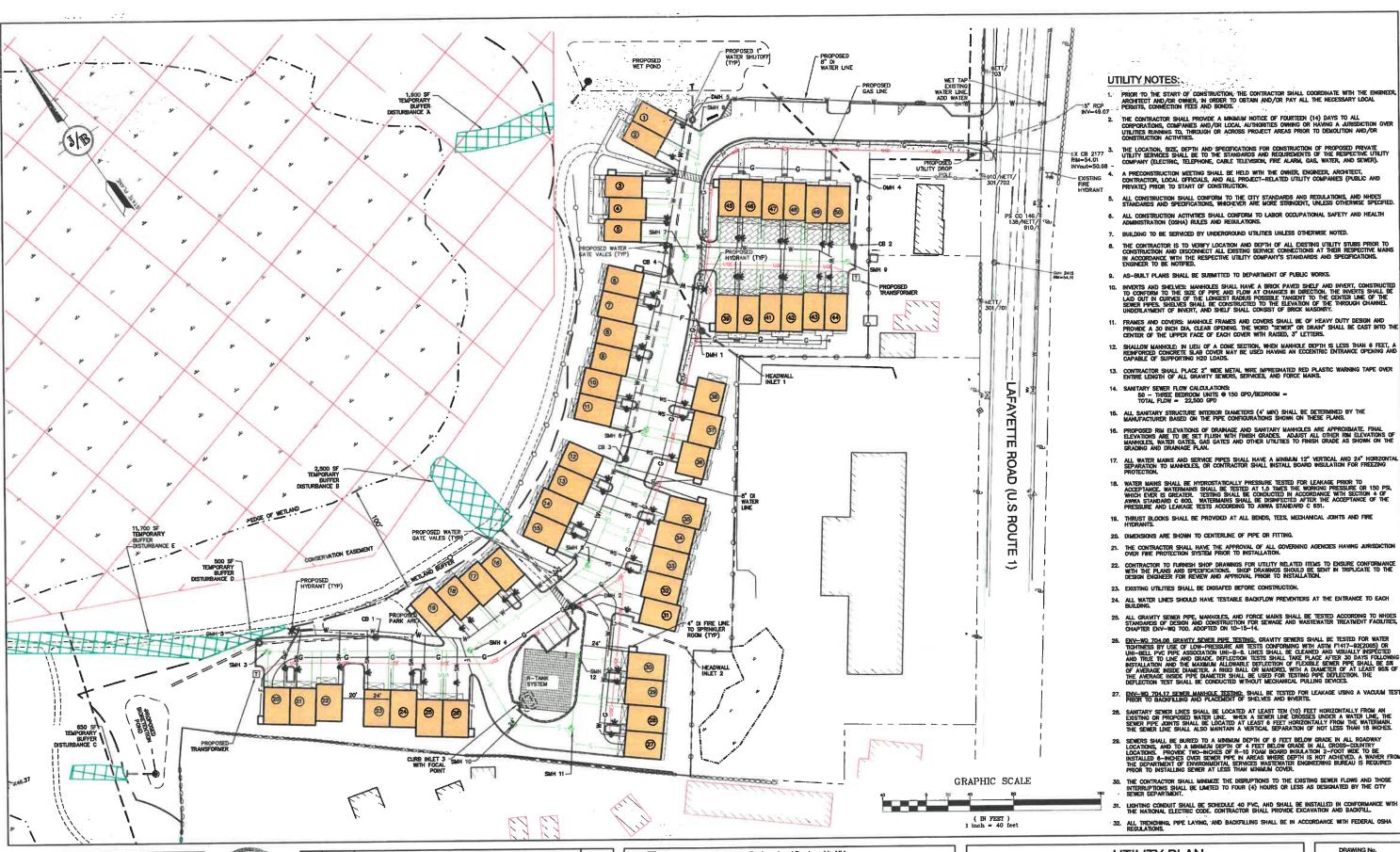
Jones & Beach Engineers, Inc. 85 Portsmouth Ave. Civil Engineering Services

PO Box 219 Stratham, NH 03885

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

PORTSMOUTH, NH RICCI CONSTRUCTION CO., INC.
Owner of Record: 225 BANFIELD ROAD, PORTSMOUTH, NH D3801 BK 1930 PG 0229

C3 SHEET 8 OF 26



Design: JAC Draft LAZ Dete: 3/3/21
Checked: JAC Scale: AS SHOWN Project No.: 20737
Drawing Name: 20737-PLAN.dwg
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LAZ REVISIONS PER CITY REVIEW 7 7/20/21 LAZ 6 6/22/21 REVISIONS PER CITY REVIEW REVISIONS LAZ 5 5/5/21 LAZ ADDED DETAIL 4 3/18/21 LAZ 3 3/3/21 ADDED SURVEY INFO BY REVISION

Designed and Produced in NH

Jones & Beach Engineers, Inc.

603-772-4746

85 Portsmouth Ave. Civil Engineering Services FAX: 603-772-4745
PO BOX 219
E-MAIL: JBE@JONESANDBEACH.COM

 Plan Name:
 UTILITY PLAN

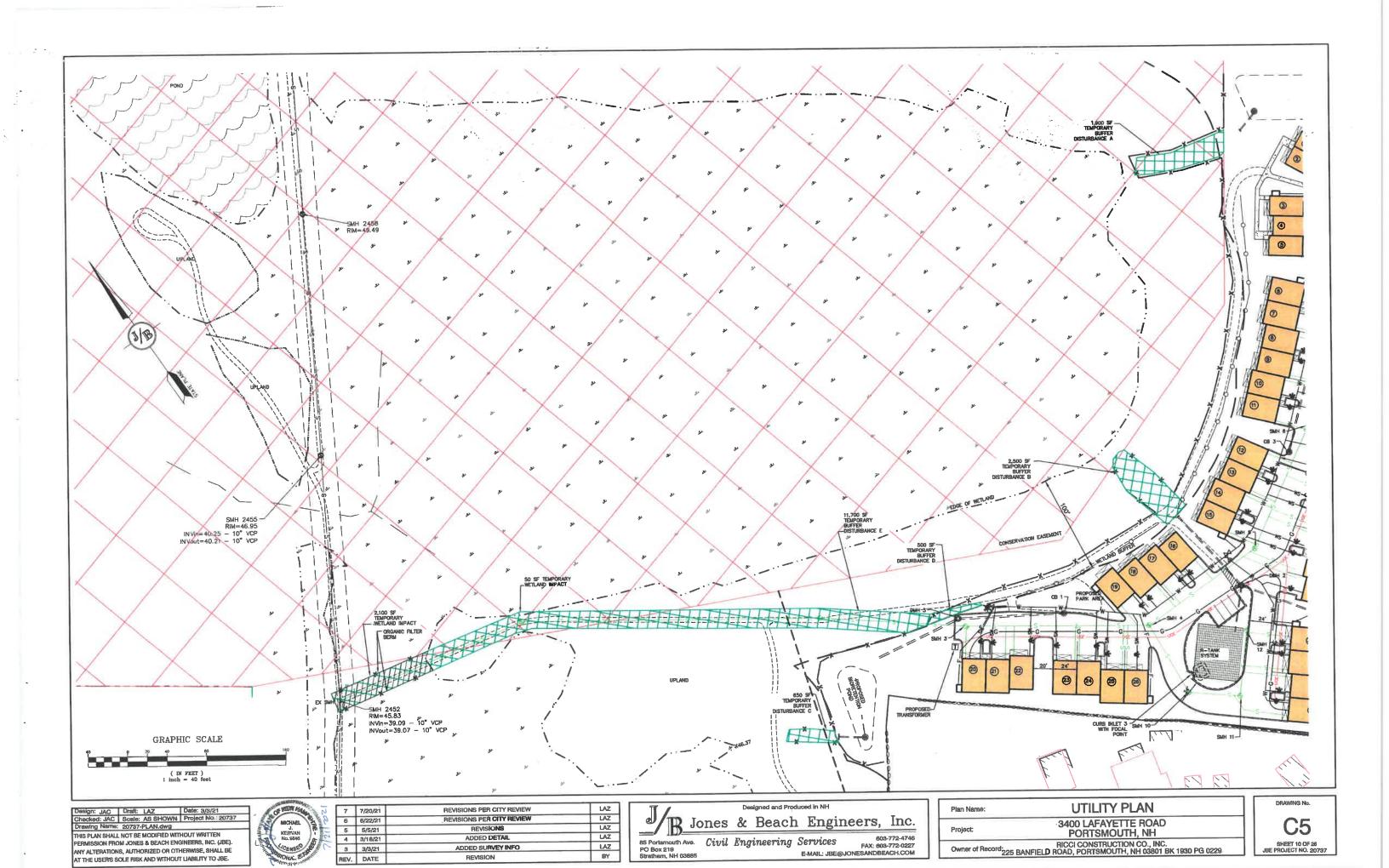
 Project:
 3400 LAFAYETTE ROAD PORTSMOUTH, NH

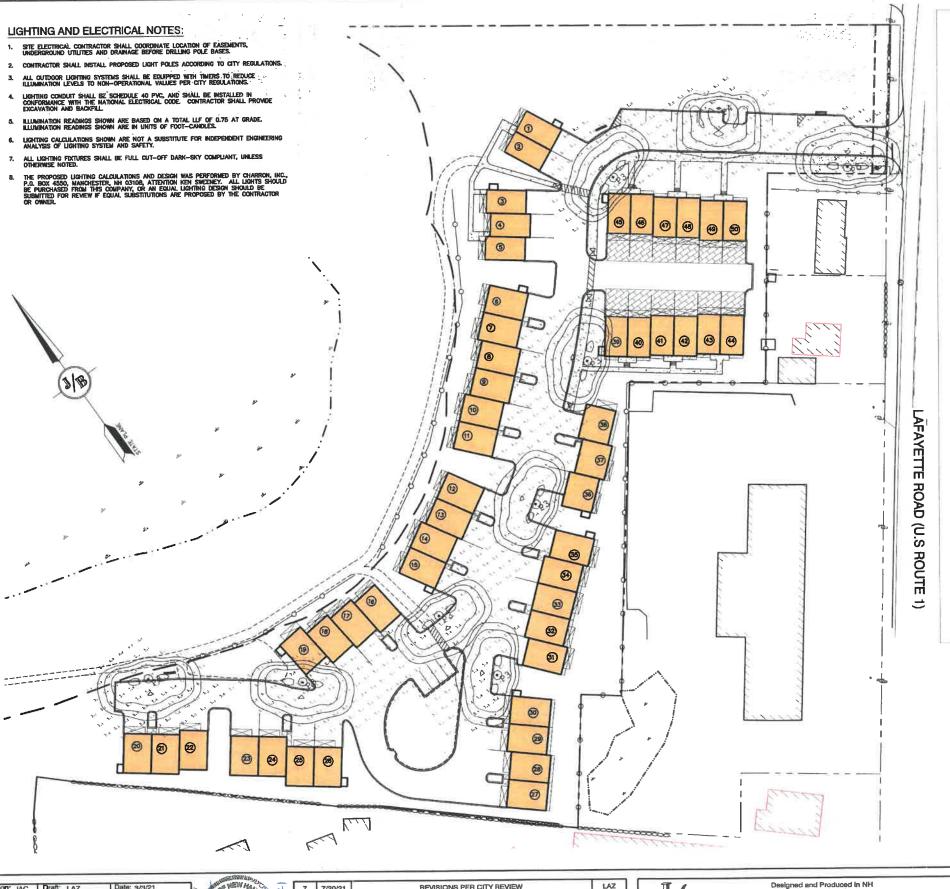
 PORTSMOUTH, NH
 RICCI CONSTRUCTION CO., INC.

 Owner of Record 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229

C4

SHEET 9 OF 26 JBE PROJECT NO. 2073





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 testefully 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 afficient illumination to pedestrian and roadway applications.

Date

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

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, create consistent distributions with the scalability to meet customized application requirements. Offered Standard in 4000K (+/- 275K) CCT and minimum 70 CRt. Optiona 3000K CCT, 5000K CCT and 5700K

DIMENSIONS

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

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 IESNA TM-21.

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

Cast components finished in a super durable black TGIC polyests 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 colo



Streetworks

TRADITIONAIRE LED DOWNLIGHT

> 1 - 3 LightBARs Solid State LED

DECORATIVE POST TOP

OPTIONAL BIRD CONE 4-5/8" [119mm 3-3/4" [95mm - 17° (432mm)

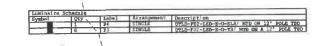
CERTIFICATION DATA UL/cUL Listed LM79 / LM80 Compliant

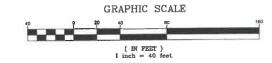
IP66 LightBARs ISO 9001

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

ffective Projected Area: [Sq. Ft.]

SHIPPING DATA





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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No.	MICHAEL MICHAEL	7	
1	NO. BOAS		
1	Marillo for	S. C.	

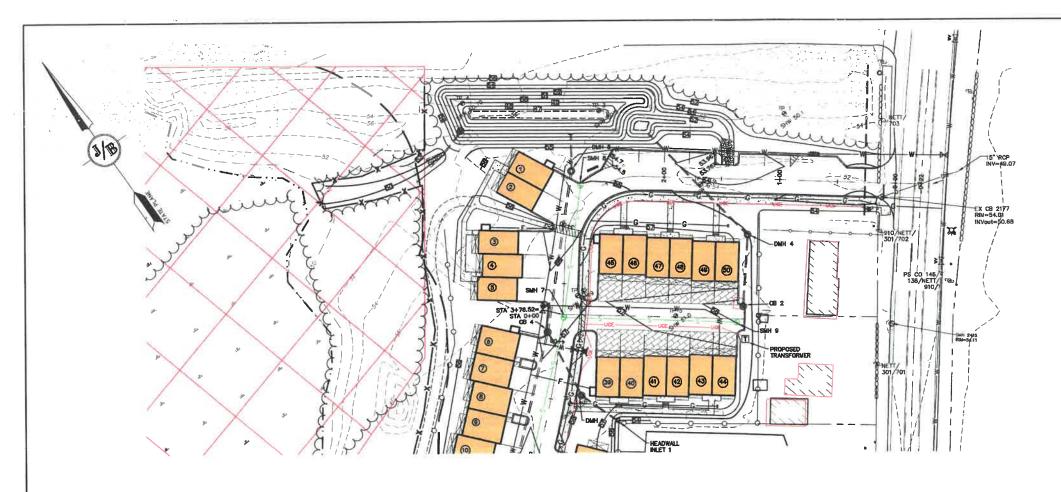
REV.	DATE	REVISION	BY
3	3/3/21	ADDED SURVEY INFO	LAZ
4	3/18/21	ADDED DETAIL	LAZ
5	5/5/21	REVISIONS	LAZ
6	6/22/21	REVISIONS PER CITY REVIEW	LAZ
7	7/20/21	REVISIONS PER CITY REVIEW	LAZ

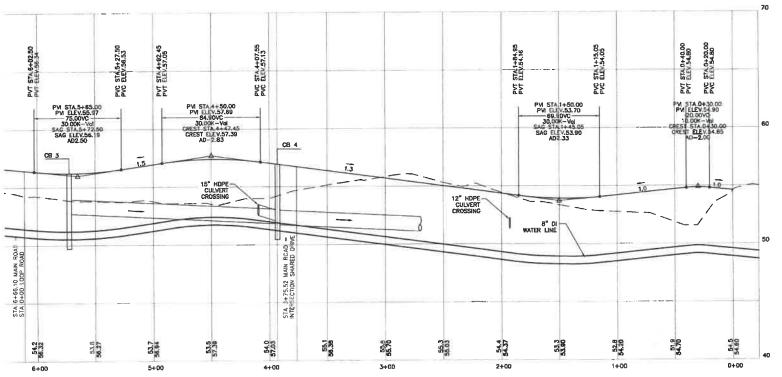
/B Jones & Beach Engineers, Inc. 85 Portsmouth Ave. Civil Engineering Services PO Box 219 Stratham, NH 03885

E-MAIL: JBE@JONESANDBEACH.COM

LIGHTING PLAN Plan Name: 3400 LAFAYETTE ROAD Project: PORTSMOUTH, NH RICCI CONSTRUCTION CO., INC.

Owner of Record; 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0228 SHEET 11 OF 26 JBE PROJECT NO. 20737





NOTES:

1. THIS SITE WILL REQUIRE A USEPA MPDES PERMIT FOR STORMWATER DISCHARGE FOR THE CONSTRUCTION SITE. THE CONSTRUCTION SITE OFERATOR SHALL DEVELOP AND IMPLEMENT A CONSTRUCTION STORM WATER POLILITION PREVENTION PLAN (SWEPP), WHICH SHALL REMAN ON SITE AND BE MADE ACCESSIBLE TO THE PUBLIC THE CONSTRUCTION STEE ATTENDED AS SHALL POST THE NOT AT HITTEP, O'POPUBLISHED, ONLY PROSE STORM AUTHORIZATION SHALL SHALL POST ONCE THE NOT IS SHOWN IN "ACTIVE" STATUS ON THIS WEBSITE. A COMPLETED NOTICE OF TERMINATION SHALL BE SWEMTTED TO THE NOTES PERMITTING AUTHORITY WHITH NO DON'S AFTER ETHER OF THE FOLLOWING CONTINUAN HAVE BEEN BET.

A FINAL STABILIZATION HAS BEEN ACREVED ON ALL PORTIGINS OF THE SITE FOR WHICH THE PERMITTEE IS RESPONSIBLE.

CR.

A ANOTHER OPERATOR/PERMITTEE HAS ASSUMED CONTROL OVER ALEXES OF THE SITE THAT HAVE NOT BEEN FINALLY.

ALL ROAD AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR THE CITY, AND INHOOT SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WHICHEVER IS MORE STRINGENT.

3. 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.

THIS PLAN HAS BEEN PREPARED BY JONES & BEACH ENGINEERS, INC. FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL REFORM THE ENGINEER MANUFALELY OF MAY FIELD DISCREPANCY FROM DATA SHOWN ON THE DESIGN PLANS. THIS INCLUDES ANY UNFORESEEN CONDITIONS, 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 BETWEE RELATED CONSTRUCTION HAS BEEN INTITATED.

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 ET FOR ADDITIONAL NOTES ON EROSION CONTROL.

8. ALL DISTURBED AREAS NOT STABILIZED BY NOVEMBER 1st SHALL BE COVERED WITH AN EROSION CONTROL BLANKET. PRODUCT TO BE SPECIFIED BY THE ENGINEER.

10. CONTRACTOR TO VERIFY EXISTING UTILITIES AND TO NOTIFY ENGINEER OF ANY DISCREPANCY IMMEDIATELY.

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 PRIOR.

13. ALL DRIVEWAYS TO BE CONSTRUCTED MAJONUM 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.

ORAINAGE INSPECTION AND MAINTENANCE SCHEDULE: ORGANIC FILTER BERM WILL BE INSPECTED DURING AND AFTER STORM EVENTS TO ENISINE THAT THE BERM STILL HAS INTEGRITY AND IS NOT ALLOWING SEDMENT TO PASS. SEDMENT BUILD UP BI SWALES WILL BE REMOVED IF IT IS DEPERED THAN SIX INCHES, AND IS TO BE REMOVED FROM SUMPS BELD, WE INLECT OF CLUCKETS SEMIANUALLY, AS WELL AS FROM CATCH BASHS. 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 STRUCTURE.

18. ALL DRAINAGE INFRASTRUCTURE SHALL BE INSTALLED AND STABILIZED PRIOR TO DIRECTING ANY RUNOFF

17. DETENTION POINDS REQUIRE THIRLY MAINTENANCE AND SHOULD BE INSPECTED AFTER EVERY MAJOR STORM EVENT, AS WELL AS PRECIENTLY DURNIC THE FIRST YEAR OF OFFERATION, AND ANNUALLY THEREAFTER, EVERY FIVE YEARS, THE SERVICES OF A PROFESSIONAL ENGINEERS SHOULD BE RETAINED TO PERFORM A HOROLOUGH INSPECTION OF THE DETENTION POIND AND ITS PROFESSIONAL ENGINEERS AND SEDMENT ACCUMULATIONS SHOULD BE READINED FROM THE CUTLET STRUCTURE(S) AND EMERGENCY SHULMAYS) AND INSPECTOR OF PROSECUL PROFESSIONAL BETT OFFER ANNUALLY SO ANNUALLY SO AND INSPECTOR OF PROSECUL PROFESSIONAL BETT OFFER ANNUALLY SO ANNUALLY SO ANNUALLY SO ANNUALLY SO ANNUALLY SO AND SERVICE AND ASSESSIONAL PROFESSIONAL BETT OFFER ANNUALLY SO SIGNS OF EROSION OF THIN OR DYNING VESCETATION SHOULD BE REPAIRED MAEDIATELY BY WHATEVER MEANS HECESSARY, WITH THE EXCEPTION OF FERTILIZER. RODOR TO SHOULD BE REPAIRED BIMEDIATELY BY WHATEVER MEANS HECESSARY, WITH THE EXCEPTION OF FERTILIZER. RODOR TO SHOULD BE REPAIRED BIMEDIATELY AND THE ANNUALS SHOULD BE TRAPPED AND RELOCATED IF THE PROBLEM PERSISTS.

18. 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 EMBANMIENT AREA OF THE DETENTION PONDS SHALL BE EXCAVATED TO PROPOSED GRADE, STRIPPED OF ALL DERGADES MATERIALS, FOR TO THE PLACEMENT OF THE EMBANMIENT MATERIAL, IN THE EVENT THE FOUNDATION MATERIAL EXPOSED DOES NOT ALLOW THE SPECIFIED COMPACTION, AN ADDITIONAL ONE FOOT (1') THOSE DESCRIPTION OF ADDITIONAL OF ADDITIONAL OF EXCAVATION AND THE PLACEMENT OF A ONE FOOT (1') THOSE, THE MATERIAL DESCRIPTION THE OWNER OF THE MATERIAL DESCRIPTION THE OWNER OF A MOST OF ASTIM D-1857 MAY BE RECESSARY. PLACEMENT AND COMPACTION SHOULD OCCUR AT A MOSTUME CONTENT OF OPTIMUM PLUS OR MINUS 3X, AND NO FROZEN OR ORGANIC MATERIAL SHOULD BE PLACED WITHIN FOR ANY REASON.

EMBANICIENT MATERIAL FOR THE BERMS SHALL BE CLEAN MINERAL SOIL WITH A CLAY COMPONENT FREE OF ROOTS, ORGANIC MATTER, AND OTHER DELETERIUS SUBSTANCES, AND SHALL CONTAIN NO ROCKS OR LUMPS OVER FOUR NICHES (4") IN DIAMETER. THIS MATERIAL SHOULD BE INSTALLED IN 6" LIFTS AND COMPACTED TO 90% OF ASTIM D-1557, AND SHOULD MEET THE FOLLOWING SPECIFICATIONS: 4" PASSING 100%, #4 SIEVE 25-70%, #200 SIEVE 10-29% (IN TOTAL SAMPLE).

20. EMBANGMENT IS TO HAVE 3:1 SIDE SLOPES (MAX.) AND IS TO BE BROUGHT TO SPECIFIED GRADES PRIOR TO THE ADDITION OF LOAM (4" MIRRIUM) 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 BERN AND ON EVERY LIFT OF NEWLY PLACED MATERIAL.

22. 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.

23. 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.

GRAPHIC SCALE (IN FEET)

F-MAIL: JBE@JONESANDBEACH.COM

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

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7	7/20/21	REVISIONS PER CITY REVIEW	LAZ
6	6/22/21	REVISIONS PER CITY REVIEW	LAZ
5	5/5/21	REVISIONS	LAZ
4	3/18/21	ADDED DETAIL	LAZ
3	3/3/21	ADDED SURVEY INFO	LAZ
REV.	DATE	REVISION	BY



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

SHEET 12 OF 26 JBE PROJECT NO. 20737

DRAWING No



Design: JAC Draft: LAZ Date: 3/3/21
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3	3/3/21	ADDED SURVEY INFO	LAZ
4	3/18/21	ADDED DETAIL	LAZ
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6	6/22/21	REVISIONS PER CITY REVIEW	LAZ
7	7/20/21	REVISIONS PER CITY REVIEW	LAZ

Jones & Beach Engineers, Inc.

85 Portsmouth Ave. Civil Engineering Services
PO Box 219
Stratham, NH 03885

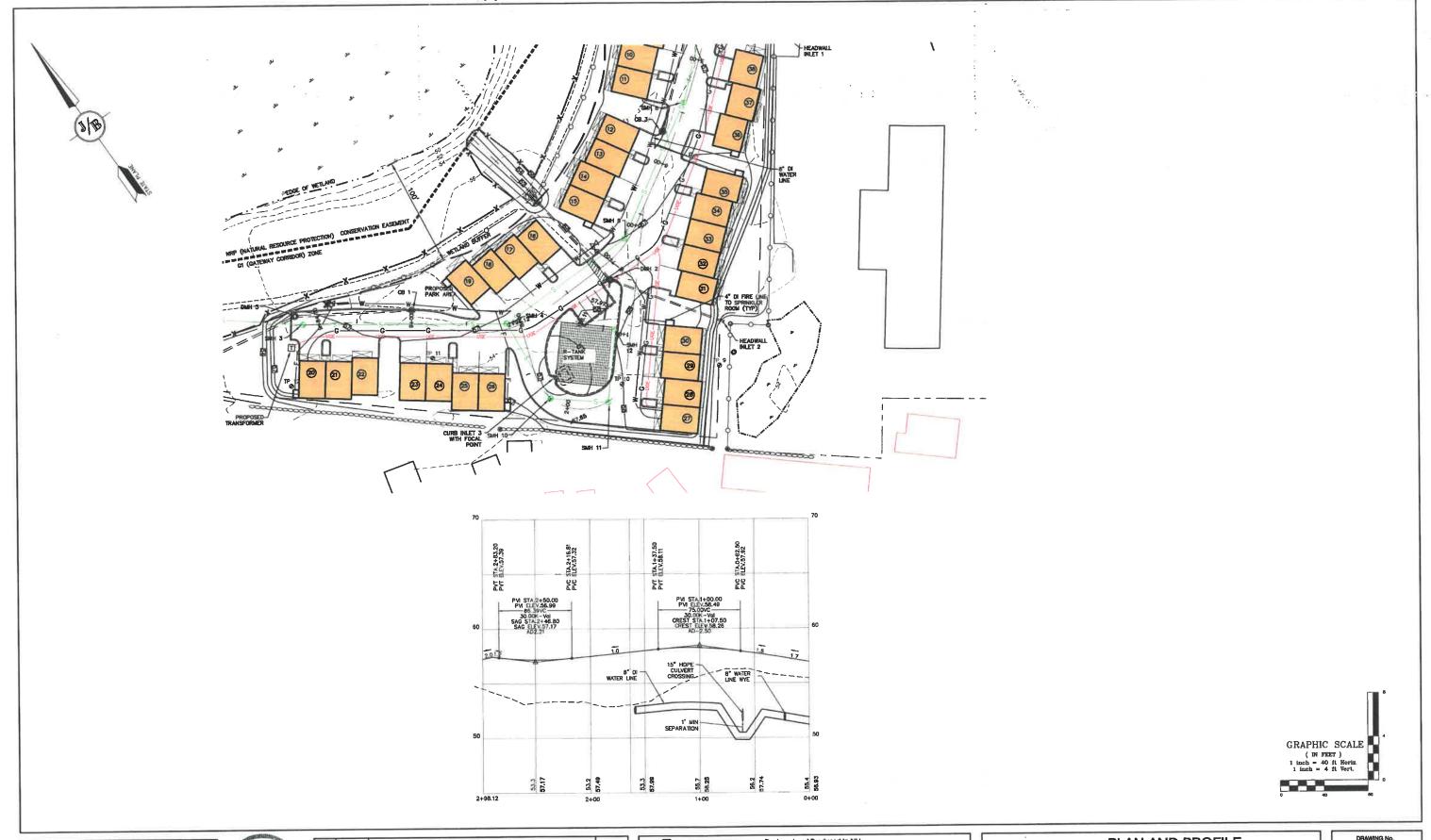
Designed and Produced in NH

Engineers, Inc.

608-772-4745
FAX: 608-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

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

P2
SHEET 13 OF 28
JBE PROJECT NO. 20737



Design: JAC Draft: LAZ Date: 3/3/21
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6	6/22/21	REVISIONS PER CITY REVIEW	LAZ
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4	3/18/21	ADDED DETAIL	LAZ
3	3/3/21	ADDED SURVEY INFO	LAZ
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Jones & Beach Engineers, Inc.

B5 Portsmouth Ave. PO Box 219
Stratham, NH 03885

Designed and Produced in NH

Beach Engineers, Inc.

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

P3
SHEET 14 OF 28
JBE PROJECT NO. 2073;



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•	7/20/21		LAZ
7	7/20/21	REVISIONS PER CITY REVIEW	LAZ

Jones & Beach Engineers, Inc.

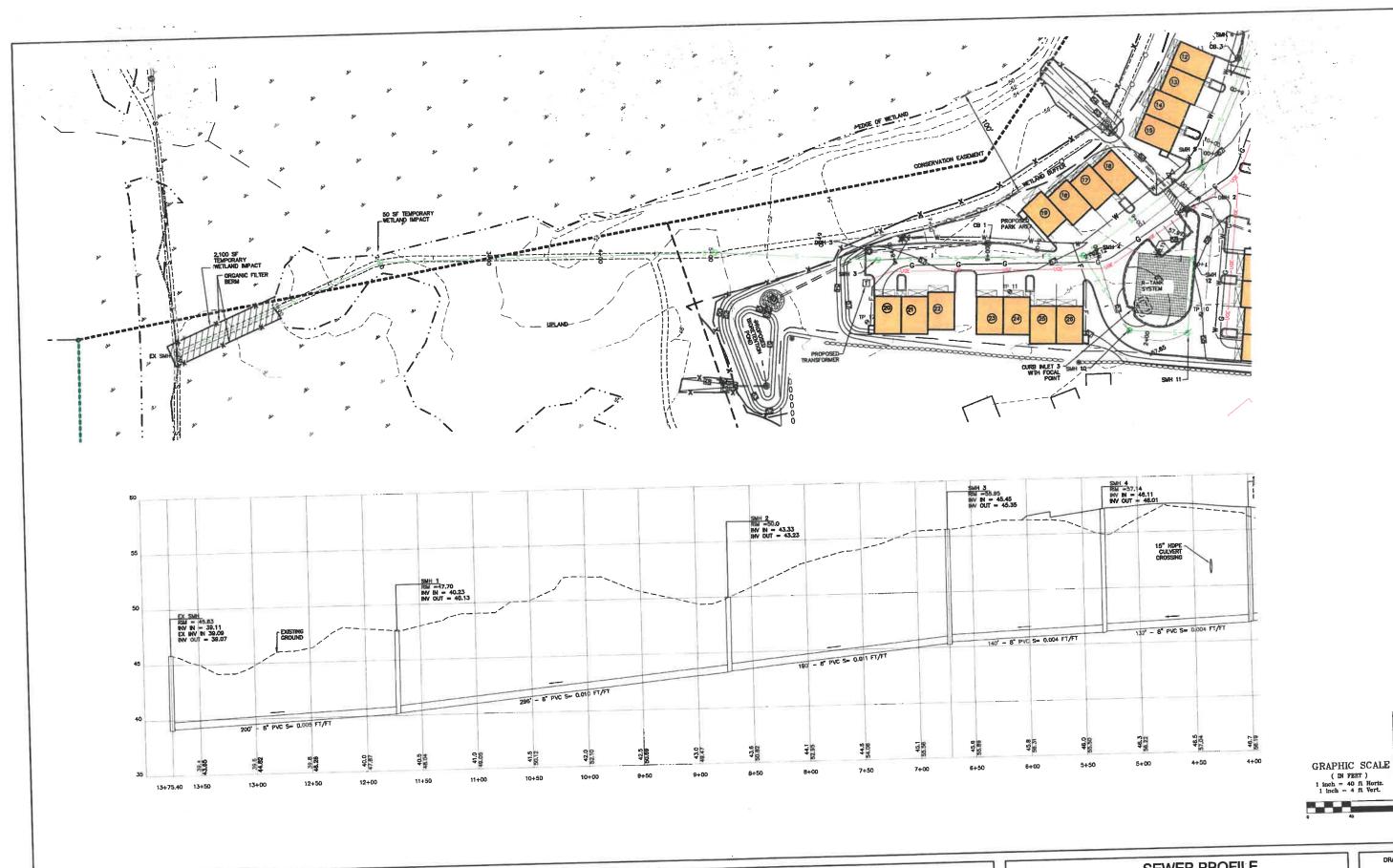
B5 Portsmouth Ave. Civil Engineering Services
P0 Box 219
Stratham, NH 03885

Beach Engineers, Inc.

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

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





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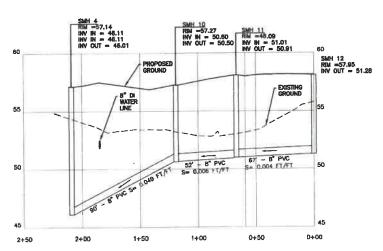
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1	J/D	Jones	&	Beach	Engine	ers,	Inc.		
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\mathbb{B}_{10}	nes	80	Beach	i Engine	eers,	IIIC.
35 Portsmouth Ave.	Civil	Eng	ineering	Services	FAX: 603	772-0227
PO Box 219 Strethem, NH 03885				E-MAIL: JBE@JC	NESANDBE	ACH.COM

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

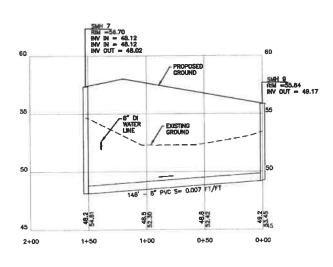
SHEET 16 OF 26 JBE PROJECT NO. 20737



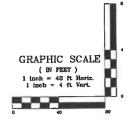


LOOP ROAD





SHARED DRIVEWAY



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Checked: JAC	Scale: AS SHOWN	Project No.: 20737
Drawing Name	20737-PLAN.dwg	
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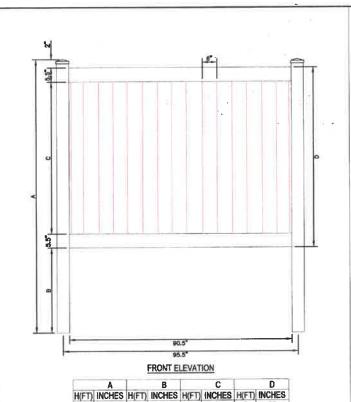


7	7/20/21	REVISIONS PER CITY REVIEW	LAZ
6	6/22/21	REVISIONS PER CITY REVIEW	LAZ
5	5/5/21	REVISIONS	LAZ
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3	3/3/21	ADDED SURVEY INFO	LAZ
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A Jo	nes	&	Beach	n Engin	eers,	Inc.	
85 Portsmouth Ave. PO Box 219 Stretham, NH 03885	Civil	Eng	ineering	Services	FAX: 603	3-772-4746 3-772-0227 ACH.COM	

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

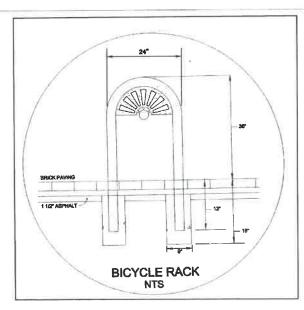
P5 SHEET 17 OF 26 JBE PROJECT NO. 20737



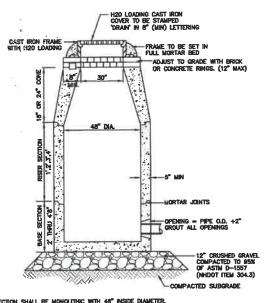
60 84 96 22 3 34 4 25 37 36 48 108 NOTES: 1. CONTRACTOR TO PROVIDE FENCE SPEC TO ENGINEER FOR REVIEW PRIOR TO INSTALLATION. 2. VINYL FENCE SHALL MEET ASTM F964-09 STANDARDS.

6' VINYL STOCKADE FENCE

NOT TO SCALE



PORTSMOUTH BICYCLE RACK

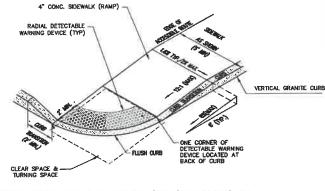


- 1. BASE SECTION SHALL BE MONOLITHIC WITH 48" INSIDE DIAMETER.
- 2. ALL SECTIONS SHALL BE DESIGNED FOR H20 LOADING.
- 3. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI, TYPE II CEMENT.
- 4. FRAMES AND GRATES SHALL BE HEAVY DUTY AND DESIGNED FOR H20 LOADING.
- 5. PROVIDE "V" IONOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS SO AS TO BE WATERTIGHT.
- 6. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE BUTYL RUBBER.
- 7. ALL DRAIN MANHOLE FRAMES AND GRATES SHALL BE NHDOT TYPE MH-1, OR NEENAH R-1788 OR APPROVED EQUAL (30° DIA. TYPICAL).
- 8. STANDARD FRAME(S) AND CRATE(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

NOTES:



NOTES:

1. THE MANAGEM ALLOWARE CROSS SLOPE OF ACCESSIBLE ROUTE (SDEWALF) AND CURB SHALL BE 1.EX

2. THE MANAGEM ALLOWARE SLOPE OF ACCESSIBLE ROUTE (SDEWALF) AND CURB SHALL BE EX.

3. THE MANAGEM ALLOWARE SLOPE OF ACCESSIBLE ROUTE (SDEWALF) CURB RAMPS SHALL BE EX.

4. A MINIMAM OF A FEET CHEAR SHALL BE MANAGEMED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (L.a., HYDRAMTS, UTILITY POLES, THE FIELDS, SHIPS, ETC.)

5. SHEEP CHARMET MARKE, SEE THANS FOR CURB TYPE.

6. SHEEP CHARMET MARKE, SEE THAN FOR CURB TYPE.

7. SEE TYPICAL SECTION FOR RAMP CONSTRUCTION.

7. SEE TYPICAL SECTION FOR RAMP CONSTRUCTION.

8. THERE A CHARME IN DIRECTION IS REQUIRED TO UTALZE A CURB RAMP. A TURNING SPACE SHALL BE PROVIDED AT THE BASE.

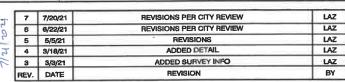
8. AND ON THE TIP OF THE CURB RAMP. LURNING SPACES SHALL BE PROVIDED TO WERLAP CLEAR SPACES.

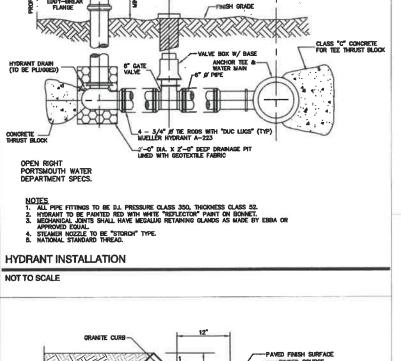
9. TURNING SPACE MANAGEME CROSS SLOPE IS 22 IN ANY DIRECTION.

10. EXTEND THE BOTTOM BROUDE PREMA, A CLEAR SPACE OF 4744 MINIMAL SHALL BE PROVIDED WITHIN THE WOTH OF THE PRESISTENAN CROSSWALL, AND CUTSUS THE PARALLEL VEHICLE TRAVEL LANE. THE CLEAR SPACE MAY OVERLAP TURNING SPACES, CETECHARLE MARRING SLAFFAGES AND DROP CLIRES.

ACCESSIBLE CURB RAMP (NHDOT OPTION 3)

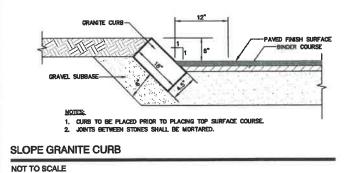
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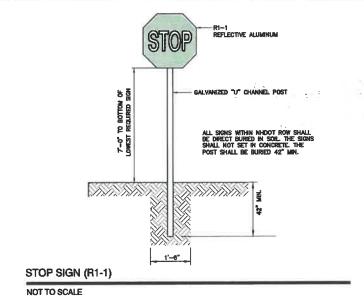


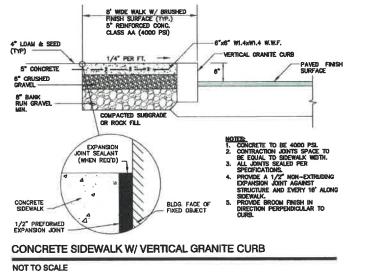


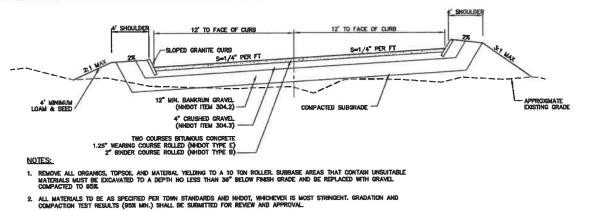
MIN. AS ORDERED

ROAD OR R.O.W.









3. TOWN MAY REQUIRE UNDERDRAIN AND/OR ADDITIONAL DRAINAGE IF SOIL CONDITIONS WARRANT.

TYPICAL ROADWAY SECTION W/CURBING

NOT TO SCALE

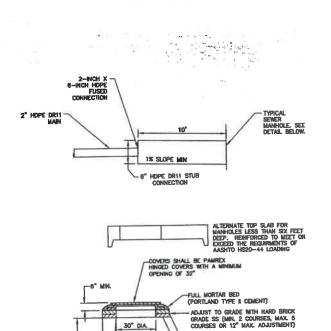
Plan Name:	DETAIL SHEET
Project:	3400 LAFAYETTE ROAD PORTSMOUTH, NH
Owner of Record: 225 B	RICCI CONSTRUCTION CO., INC. ANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229

DRAWING No. SHEET 18 OF 26

T/		Des	signed and Pro	duced in NH		
	ones	&	Beach	n Engir	neers,	Inc
85 Portsmouth Ave. PO Box 219 Strethern, NH 0388		Eng	ineering	Services	FAX: 603	3-772-4746 3-772-0227

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BURIED GATE VALVE DETAIL

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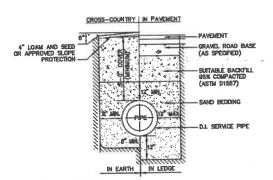
NOT TO SCALE

1. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO STREET OPENING REGULATIONS.

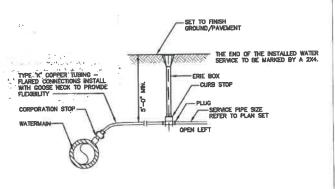
3. ALL MATERIALS ARE TO BE COMPACTED TO 95% OF ASTM D-1557

DRAINAGE TRENCH

NOT TO SCALE



WATER SYSTEM TRENCH



WATER SERVICE CONNECTION-COPPER PIPE

NOT TO SCALE



UTILITY TRENCH

NOT TO SCALE

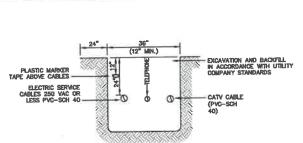
WARNING TAPE -

GAS PIPELINE MATERIAL AND INSTALLATION BY UTILITY COMPANY

GRANULAR BACKFILL, SAND NHDOT 209.3 (OR AS SPECIFIED BY UTILITY COMPANY)

GAS TRENCH

NOT TO SCALE



 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 "DORUTS". 9. ALL CATCH BASINS ARE TO BE FITTED WITH GREASE HOODS.

EXCAVATION AND BACKFILL IF ACCORDANCE WITH UTILITY

ALT, SLAB TOP REINFORCED TO MEET OR EXCEED REQUIREMENTS OF H20 LOADING

CATCH BASIN WITH GREASE HOOD

COMPACTED SUBGRADE

3. CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI, TYPE II CEMENT.

 PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE, MORTAR ALL PIPE CONNECTIONS SO AS TO BE WATERTIGHT. 6. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE BUTYL RUBBER.

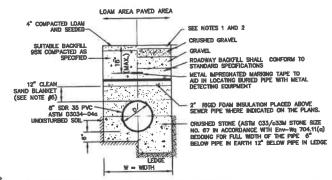
4. FRAMES AND GRATES SHALL BE HEAVY DUTY AND DESIGNED FOR H20 LOADING

ALL CATCH BASIN FRAMES AND GRATES SHALL BE NHOOT CATCH BASIN TYPE ALTERNATE 1 OR NEENAH R-3570 OR APPROVED EQUAL (24%24° TYPICAL).

NOTES:

1. BASE SECTION SHALL BE MONOLITHIC WITH 48" INSIDE DIAMETER.

2. ALL SECTIONS SHALL BE DESIGNED FOR H20 LOADING.



FRAME TO BE SET IN

12" CRUSHED GRAVEL COMPACTED TO 95% OF ASTM -1557 (NHDOT ITEM 304.3)

HALL BE

I. PAVEMENT REPAIR IN EXISTING ROADWAYS SHALL CONFORM TO PAVEMENT DETAILS.

- 2. NEW ROADWAY CONSTRUCTION SHALL CONFORM TO SUBDIVISION SPECIFICATIONS.
- TRENCH BACKFEL 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 MICHES.
- WE 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 0.D. WIDTH SHALL BE 25 INCHES PLUS PIPE 0.D. WIDTH SHALL BE 26 INCHES PLUS PIPE 0.D. WIDTH SHALL ALSO BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED DISCAVATION 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 11
 PASSES A 1/2 " SIEVE AND A MADDRUM OF 15% PASSES A #200 SIEVE IN ACCORDANCE WITH ENV-M9 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 DISTRIST STANDARD IN EFFECT WHEN THE JOINT SEALS WERE MANUFACTURED, AND SHALL BE PUSH-ON, BELL-AND-SPIGOT TYPE PER Env-Wig 704.05 (e).

SEWER TRENCH

NOT TO SCALE

LOAM AREA | PAVED AREA SEE NOTES 1 AND 2 PAVEMENT 4° COMPACTED LOAM - CRUSHED GRAVEL SUITABLE BACKFILL MATERIAL 6" BELOW PIPE IN EARTH 12" BELOW PIPE IN LEDGE

2. NEW ROADWAY CONSTRUCTION SHALL CONFORM WITH PROJECT AND TOWN SPECIFICATIONS.

-6" MIN. BEDDING IN EARTH 12"

MIN. BEDDING IN LEDGE (ASTM C33-03 NO. 67 STONE)

PER NHDES ENY-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 COLLERS SHALL BE:

4. 45 PARTS SAND AND 1.5 PARTS YOULKES SHALL BE:

5. CEMENT SAND AND 1.5 PARTS YOUR SHALL BE:

5. CEMENT SHALL SHALL BE SHALL BE SHALL BE:

6. 4. HYDRATED LIME SHALL BE SHALL BE SHALL BE:

6. HYDRATED LIME FOR MASORRY PURPOSES;

6. SAND SHALL CONSIST OF REET IN ATURAL SAND CONFORMING TO THE ASTM C33—03 STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES;

ALL ASSESTOS CONTAINING WASTE MATERIALS MUST BE PROPERLY IDENTIFIED, PACKAGED AND DELIVERED TO A LANDFILL LICENCED BY THE NHDES SOLID WASTE MANAGEMENT PROGRAM FOR DISPOSAL CALL (603) 271-2825 FOR MORE INFORMATION.

3. ALL MANHOLES SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH ENV-WQ 704.17 (a) THROUGH (a).

7. 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 SEMER PIPE PER ENV-HQ 704.12 (a).

NOT TO SCALE Design: JAC Draft: LAZ Date: 3/3/21 Checked: JAC Scale: AS NOTED Project No.: 20737

wing 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 SEWER MANHOLE

24" MAX.

6" FORCE MAIN STUB. SEE DETAIL ABOVE.

NO MANHOLE STEPS

48" DIAMETER MIN

5 IN/FT. TYP. 3" MAX.

SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN A TOWARD THE FLOWING THROUGH CHANNEL IN ACCORDANCE WITH ENV—WQ 704.12 (K).

9. MANHOLE CASTINGS SHALL CONFORM TO ASTM A48 PER ENV-WQ 704.13 (a) (8).



-CLASS "AA" CONCRETE 4000 P.S.I.

-- WATERTIGHT JOINT (TONGUE & W/A DOUBLE RING OF MASTIC SEALANT)

s' Men PVC PIPE SECTION TO JOIN EXISTING AC LINE

-EXISTING 8" AC SEWER LINE

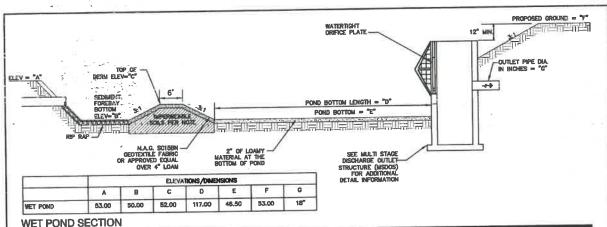
5" MIN. REINFORCED

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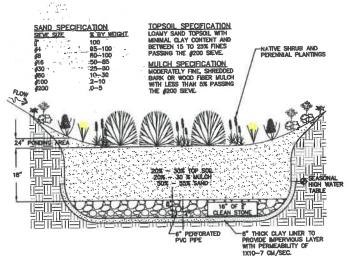
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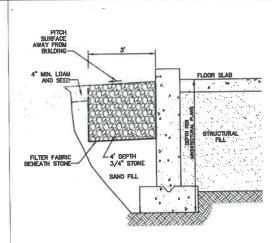
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WET POND CONSTRUCTION CRITERIA

- FOUNDATION PREPARATION THE FOUNDATION AREA SHALL BE CLEARED OF TREES LOCS, STUMPS, ROOTS, BRUSH, BOULDERS, SOD, AND RUBBISH, IF NEEDED TO ESTABLISH VEGETATION, THE TOPSOB, AND SOD SHALL BE STOCKPILED AND SPREAD ON THE COMPLETED DAM AND SPELIANTS, FOUNDATION SUFFACES SHALL BE COMPRETED, IF NEEDESSARY, SO THAT THE FRET LYPER SHALL BE THOROUGHLY SCARRIED BEFORE THAT THE TRETTEN THE SHAPE SHALL BE THOROUGHLY SCARRIED BEFORE THAT THE TRETTEN LYPER SHAPE. SHAPE SHAPE
- 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 FUNDATION AND THE FILL BROUGHT UP IN HORIZONTAL LAYERS OF SUCCESS. THE SLOPE WHERE OPERAINS OF SECTIONALIZED IS SUCH THICOSESS THAT THE REQUIRED COMPACTION CAN BE OBTAINED. THE FILL SHALL BE CONSTRUCTED IN CONTINUOUS HORIZONTAL TO GE PLACED SHALL NOT BE STEEPER THAN 3 ARE REQUIRED. IN THOSE CASES, THE SLOPE OF THE BONDING SURFACES BETWEEN THE EMBRANDET IN PLACE AND THE EMBRANDIST 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 FOUNDRISON SO THE SHE A GOOD BOND WITH THE ROW FILL THE HORIZONTAL TO 1 VERTICAL. THE BONDING SURFACE SHALL BE TREATED THE SAME AS THAT SPECIFIED FOR THE FOUNDRISON SO THE SUBSTAINTLY IN TEXTURE OF GRADATION FROM THE STRUCTURE AND GRADATION, THE MORE SUPERIAL SHALL BE PLACED ON THE THE TREATED THE FOUNDRISON SO THE SUBSTAINTLY IN TEXTURE OF GRADATION FROM THE PLACED ACCORDING TO THE LINES AND GRADES SHOWN ON THE DRAWN THE COMPLETE WORK SHALL CONFORM TO THE LINES, GRADES, AND ELEVATIONS SHOWN ON THE DRAWNING OR AS STANED IN THE FIELD.
- 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 REEDED TO GOTAIN THE REQUIRED COMPACTION. IF A MINIMUM REQUIRED DOLE ACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DELISTY. BETTER THE ADMINIST TO THAT OF THE SURROUNDING FILL BY MEANS OF HAND DELISTY. FILL ADMINIST TO THAT OF THE SURROUNDING FILL BY MEANS OF HAND TAMPING OR MANUALLY DIRECTED POWER TAMPER OR PLATE VIERATURS. FILL ADMINISTRUCTURES 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 DEPOSED SURFACES OF THE EMBANIGMENT, SPILLWAY, AND BORROW AREA IF SOR, AND CLIMATIC CONDITIONS PERMIT, IF SOR, OR CLIMATIC CONDITIONS PRECLIDE 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 EMBANIGMENT AND SPILLWAY SHALL BE FENCED IF NECESSARY OF 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 CHIEFT, ARE ENTRAPHENT, SLIMP, ADDRESSTENT, OR OTHER PROPERTIES SHALL BE SPECIFIED IF NECESSARY. ALL CONCRETE IS TO CONSIST OF A WORKGABLE MIX THAT CAN BE PLACED AND INVESTED IN AN ACCEPTABLE MANNER. NECESSARY CURING SHALL BE SPECIFIED. REINFORCING STEEL SHALL BE PLACED AS INDICATED ON THE FLANS AND SHALL BE HED SECURED. THE PLACED AS INDICATED ON THE FLANS AND SHALL BE HED SECURED. THE PLACED AS INDICATED ON THE FLANS AND SHALL BE HED SECURED. THE PLACED AS INDICATED ON THE FLANS AND SHALL BE HED SECURED. THE PLACED AS INDICATED ON THE FLANS AND SHALL BE HED SECURED. THE PLACED AS INDICATED ON THE FLANS AND SHALL BE HED SECURED. THE PLACED AS INDICATED ON THE FLANS AND SHALL BE HED SECURED. THE PLACED AS INDICATED ON THE FLANS AND SHALL BE MORTAN TIGHT AND UNYELDING AS THE OWNERS. THE 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 WERS 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 PRING THROUGH THESE EARTHEN DIVIDERS.



- DO NOT PLACE BIORETENTION SYSTEMS INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN
- DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUM-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 SLTY-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 8" LIFTS COMPACTED TO 92% OF ASTAI D-1557, AND SHALL MET THE FOLLOWING SPECIFICATIONS: 6" PASSING 100%, #4 SEEVE 95-100%, #40 SIEVE 60-90%, #100 SIEVE 40-80%, #200 SIEVE 25-45% (OF THE FRACTION PASSING THE #4 SIEVE). 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

BIORETENTION SYSTEM (with clay bottom and pipe)

NOT TO SCALE

A ALL EXPOSED REBAR TO BE PARNTED WITH RUST-RESISTANT PAINT, COLOR AT CONTRACTOR'S DISCRETION.

TO BE SUPPLIED BY CAPITAL CONCRETE PRODUCTS OF HENRIKER, N.H., (1-803-428-3218) OR EQUAL.

STRUCTURE TO HAVE TEMPORARY PLYMODO INSTALLED IN THE ORFICE PLATE SLOT UNTIL THE SITE IS STRUCTURE. IS TO BE DESIGNED FOR HZO LOADING.

STRUCTURE IS TO BE DESIGNED FOR HZO LOADING.

SOIL UNDERLYMO THE STRUCTURE IS TO BE COMPACTED TO 95% MODIFIED PROCTOR.

LAZ

LAZ

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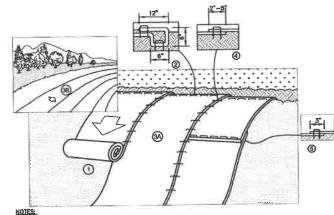
LAZ

LAZ

BY

PO Box 219

Stratham, NH 03885



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

FAX: 603-772-0227

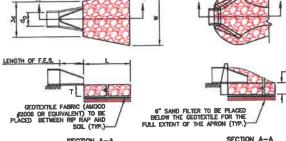


NORTH AMERICAN GREEN 14649 HIGHWAY 41 NORTH EVANSVILLE, INDIANA 47725 1-800-772-2040

EROSION CONTROL BLANKET SLOPE INSTALLATION NORTH AMERICAN GREEN (800) 772-2040

E-MAIL: JBE@JONESANDBEACH.COM

NOT TO SCALE



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

TABLE 7-24I	RECOMMENDED	RIP RAP GR	ADATIO	ON RANGES
THICKNESS OF				
d50 SIZE=	0.50	FEET	6	INCHES
% OF WEIGHT SI		SIZE OF FROM	STON	E (INCHES) TO
100%		9		12
85%		8		11
50%		6		9
15%		2		3

- 1. THE SUBGRADE FOR THE GEOTEXTILE FABRIC AND RIP RAP SHALL BE PREPARED TO THE LINES AND GRADES SHOWN ON THE PLANS.
- 2 THE RIP RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
- 3. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF THE ROCK RIP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OFFE THE DAMAGED AREA OR BY COMPLETE REPLACIMENT OF THE FABRIC, ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
- 4. STONE FOR THE RIP RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE STONE SIZES.
- 6. MAINTENANCE: THE CUTLET PROTECTION SHOULD BE CHECKED AT LEAST ANNUALLY AND AFTER EVERY MAJOR STORM. IF THE RIP RAP HAS BEEN DISPLACED, UNDERWINED OR DANAGED, IT SHOULD BE REPAIRED MAMEDIATELY. THE CHANNEL MAMEDIATELY SELOW THE CUTLET SHOULD BE CHECKED TO SEE THAT ERGSON IS NOT OCCURRING. THE CONNISTEND CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEERS, AND SEDMENT THAT COULD CHANGE FLOW PATTERNS AND OFF TALL WHATED PROTEING ON THE DEEPS DEEPS AND SEDMENT THAT COULD CHANGE FLOW PATTERNS AND OFF TALL WHATED PROTEING ON THE DEEPS DEEPS HIST BE CARDIOTED OUT MAINTENANT OF TALL WHATED PROTEING ON THE DEEPS DEEPS MEDIT OF THE MEDITARY TO A LUMBER OF THE DEEPS DEEPS DEEPS MEDITED OF THE MEDITARY TO A LUMBER OF THE DEEP SECONDER OF THE MEDITARY TO A LUMBER OF THE DEEP SECONDER OF THE MEDITARY TO A LUMBER OF THE DEEP SECONDER OF THE MEDITARY TO A LUMBER OF THE DEEP SECONDER OF THE MEDITARY TO A LUMBER OF THE DEEP SECONDER OF THE MEDITARY TO A LUMBER OF THE DEEP SECONDER OF THE MEDITARY TO A LUMBER OF THE DEEP SECONDER OF THE MEDITARY TO A LUMBER OF THE DEEP SECONDER OF THE MEDITARY TO A LUMBER OF THE DEEP SECONDER OF THE MEDITARY TO A LUMBER OF THE DEEP SECONDER OF THE MEDITARY TO A LUMBER OF THE DEEP SECONDER OF THE MEDITARY TO A LUMBER OF THE DEEP SECONDER OF THE DEEP SEC

RIP RAP OUTLET PROTECTION APRON

NOT TO SCALE

PAINTED ANGLE IRON TRASHRACK FRAME #5 REBAR #6 A*a.c. CONCRETE SLAB	6° 5° 4° 4° 4° 4° 4° 4° 4° 4° 4° 4° 4° 4° 4°	ESOUREZ PO TO TO	©	FRONT VIEW	INCST ROUN CE ROUN AND RESE ANGLE RION SE ON GRETE : RACK PLACEMEN A) ORIFICE SIZE	F ANGLE AR I. BOLTED FOR TRASH	5 REBAR	RON AME BOTTO	1	2° SLOT F 4" ORIFICE SIZE	(\$ - (0 -	© DESCHARGE PPF SZE (SS STELL HINGE REBAR 0 4°-c. — ANGLE IRON
1/2" SLOT FOR 1/4" ORIFICE PLATE	TOP VIEW	A00000	MIATE IS	ST OF MATERIALS			(A)	B	0	0	(E)	(Ē)	©	®	0	
		1. 3 G.Y	5000	PSI CONCRETE 6 0 4' LENGTH		WET POND	8"	51.00	52.25	52.75	36"	48.00	51.00	47.50	18°	
		3. REQU 4. 1/4" 5. 1 C.Y 6. 48 #	ired S.S. I Steel Pla 7. — Crush 5 rebars	BOLTS AND FASTEMERS ATE WITH DRBLED ORIF NED STONE FOR BASE 10 1', 2' AND 3' LENG 4.5' LENGTH	ICES										olo moss	or Trous

NOTES:
1. REINFORCING STEEL SHALL CONSIST OF A SINGLE LAYER OF HORIZONTAL AND VERTICAL PLACED #4 REBAR ®

12° O.C.

2. CONCRETE BOX TO BE CONSTRUCTED OR PRECAST OF EQUAL DIMENSIONS AND REINFORCING.

3. CONCRETE SLAB TO BE CONSTRUCTED ALONG WITH BASE, FOR PRECAST BOX, A SLOTTED CONCRETE SLAB TO BE USED.

4. SECTION JOINTS AND PIPE OPENING SHALL BE SEALED WATERTIGHT WITH MORTAR BY CONTRACTOR.

MULTI-STAGE DISCHARGE OUTLET STRUCTURE (MSDOS)

NOT TO SCALE

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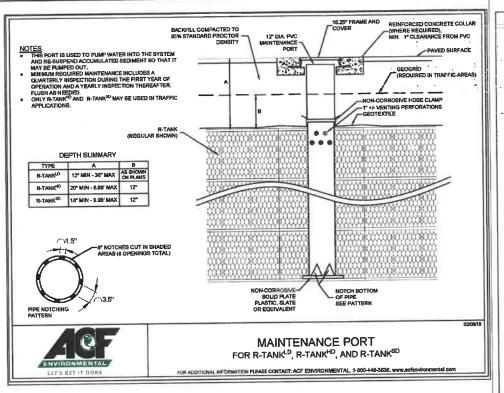
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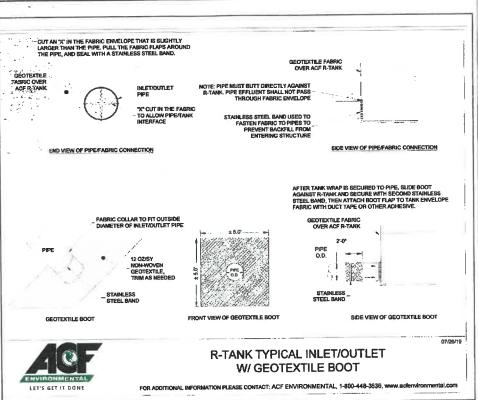
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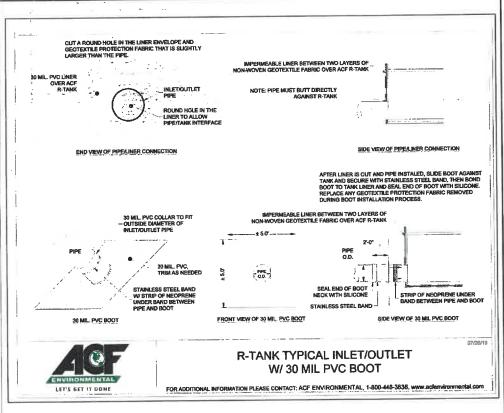
DETAIL SHEET Plan Name 3400 LAFAYETTE ROAD Project PORTSMOUTH, NH RICCI CONSTRUCTION CO., INC. Owner of Record: 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229

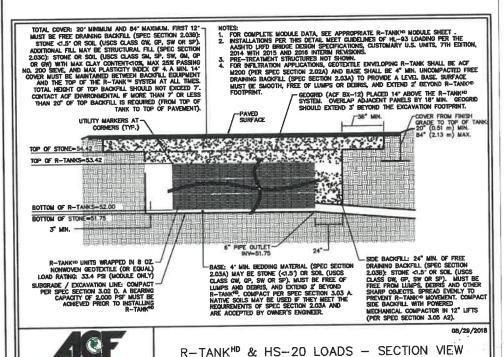
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2.02 GEOSYNTHETICS

A GEOTEXTILE. A GEOTEXTILE ENVELOPE IS REQUIRED TO PREVENT BACKFILL.

A GEOTEVILLE A GEDIEXTILLE ENVELOPE IS REQUIRED TO PREVENT BROUND.
MATERIAL FROM ENTERING THE R-TANK MOULES.
STANDARD APPLICATION: THE STANDARD GEOTEVITLE SHALL BE AN 8 OZ
PER SQUIARE YARD NONWOVEN GEOTEVITLE (ACF NOSO OR EQUIVALENT).
INFLITATION APPLICATIONS: WHEN WATER MUST INFLITATE/EXPLITATE
THROUGH THE GEOTEXTILE AS A FUNCTION OF THE STSTEM DESCION, A
WOVEN MONORLAMENT (ACF M200 OR EQUIVALENT). SHALL BE USED.

B. GEOGRID. FOR INSTALLATIONS SUBJECT TO TRAFFIC LOADS AND/OR WHEN REQUIRED BY PROJECT PLANS, INSTALL GEOGRID (ACF BIX12 OR EQUIVALENT) TO REINFORCE BACKFILL ABOVE THE R-TANK SYSTEM. GEOGRID IS NOT ALWAYS REQUIRED FOR R-TANKUD INSTALLATIONS, AND IS OFTEN NOT REQUIRED FOR NON-TRAFFIC LOAD APPLICATIONS.

2.03 BACKFILL & COVER MATERIALS

A BEDDING MATERIALS: STONE (ANGULAR AND SMALLER THAN 1.5' IN DIAMETER) OR SOIL (GW, GP, SW, OR SP AS CLASSIFIED BY THE UNIFIED SOIL CLASSIFICATION SYSTEM) SHALL BE USED BELOW THE R-TANK
SYSTEM (3' MINIMUM). MATERIAL MUST BE FREE FROM LUMPS, DEERIS,
AND ANY SHARP OBJECTS THAT COULD CUT THE GEOTEXTLE MATERIAL SHALL BE WITHIN 3 PERCENT OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM DOGB AT THE TIME OF INSTALLATION. FOR INFILITRATION APPLICATIONS BEDDING MATERIAL SHALL BE FREE DRAWING. A 1' TO 2' LAYER OF UNSUITABLE MATERIAL OCCURS 3' TO 6' BELOW EXISTING GRADE WITHIN THE R-TANK SYSTEM FOOTPRINT. THIS MATERIAL IS TO BE REMOVED AND REPLACED WITHIN THE R-TANK SYSTEM FOOTPRINT WITH STONE (ANGULAR AND SMALLER THAN 1.5" IN DIAMETER) OR SOIL (6W, 6P, SW, OR SP AS CLASSIFIED BY THE UNIFIED SOIL CLASSIFICATION SYSTEM). A BED BOTTOM INSPECTION SHALL BE PERFORMED BY TRUSLOW RESOURCE CONSULTING PRIOR TO CONSTRUCTION OF THE R-TANK SYSTEM. B. SIDE AND TOP BACKFILL: MATERIAL MUST BE FREE FROM LIJMPS, DEBRIS

AND ANY SHARP OBJECTS THAT COULD CUT THE GEOTEXTILE MATERIAL, OA SHALL BE WITHIN 3 PERCENT OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698 AT THE TIME OF INSTALLATION.

TRAFFIC APPLICATIONS — FREE DRAINING MATERIAL SHALL GE USED ADJACENT TO (24" MINIMUM) AND ABOVE (FOR THE FIRST 12") THE R-TANK SYSTEM.

NH SYSTEM.

O. FOR HD, AND SD MODULES, BACKFILL MATERIALS SHALL BE FREE

DRAWING STONE (ANGULAR AND SMALLER THAN 1.5' IN

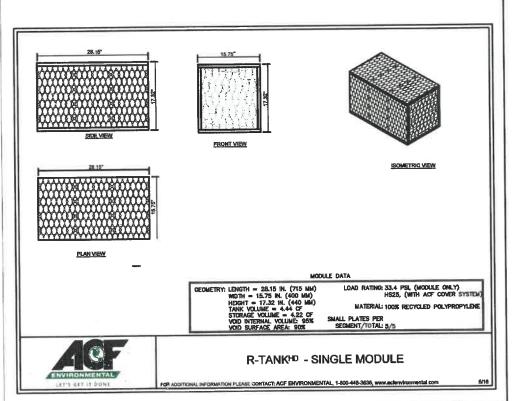
DAMETER) OR SOIL (GW. OP, SW. OR SP AS CLASSIFED BY THE

UNFIELD SOIL CLASSIFICATION SYSTEM).

IN FOR LID MODULES WITH LESS THAN 14" OF TOP COVER, BACKFILL MATERIALS SHALL BE FREE DRAINING STONE (ANGULAR AND SMALLER THAN 1.5" IN DIAMETER). THE USE OF SOIL BACKFILL ON THE SIDES AND TOP OF THE UD MODULE IS NOT PERMITTED UNLESS THE MODULES ARE INSTALLED OUTSIDE OF TRAFFIC AREAS OR WITH COVER DEPTHS OF 14" OR MORE, TOP BACKFILL MATERIAL (FROM TOP OF MODULE TO BOTTOM OF PAVEMENT BASE OR 12" MAXIMUM) MUST BE CONSISTENT WITH SIDE

NON-TRAFFIC / GREEN SPACE APPLICATIONS — FOR ALL R-TANK MODULES INSTALLED IN GREEN SPACES AND NOT SUBJECTED TO VEHICULAR LOADS, BACKFILL MATERIALS MAY DITHER FOLLOW THE GUIDELINES FOR TRAFFIC APPLICATIONS ABOVE, OR THE TOP BACKFILL LAYER (12" MINBRUM) MAY CONSIST OF ASSISTED 485 TOTOR BLENDED WITH 30-40% (BY VOLUME) TOPSOIL TO ADD IN ESTABLISHING VEGETATION. ADDITIONAL COVER MATERIALS: STRUCTURAL FILL SHALL CONSIST OF GRANULAR MATERIALS MEETING THE GRADATIONAL REQUIREMENTS OF SM. GRANULAR MATERIALS MEETING THE GOODATIONAL REQUIREMENTS OF S. SP. SW. GM. GP OR GW AS CLASSIFICD BY THE UNIFIED SOIL CLASSIFICATION SYSTEM. STRUCTURAL FILL SHALL HAVE A MAXIMUM OF EPICENT PASSING THE NO. 200 SEVE, SHALL HAVE A MAXIMUM CLAY CONTENT OF 10 PERCENT AND A MAXIMUM PLASTICITY NIDEX OF 4. MATERIAL SHALL BE WITHIN 3 PERCENT OF THE OPTIMUM MOISTURE

A UTILITY MARKER: INSTALL METALLIC TAPE AT CORNERS OF R-TANK SYSTEM TO MARK THE AREA FOR FUTURE UTILITY DETECTION.



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FOR ADDITIONAL INFORMATION PLEASE CONTACT: ACF ENVIRONMENTAL, 1-800-448-3538, WWW.ACFENVIRONMENTAL.COM

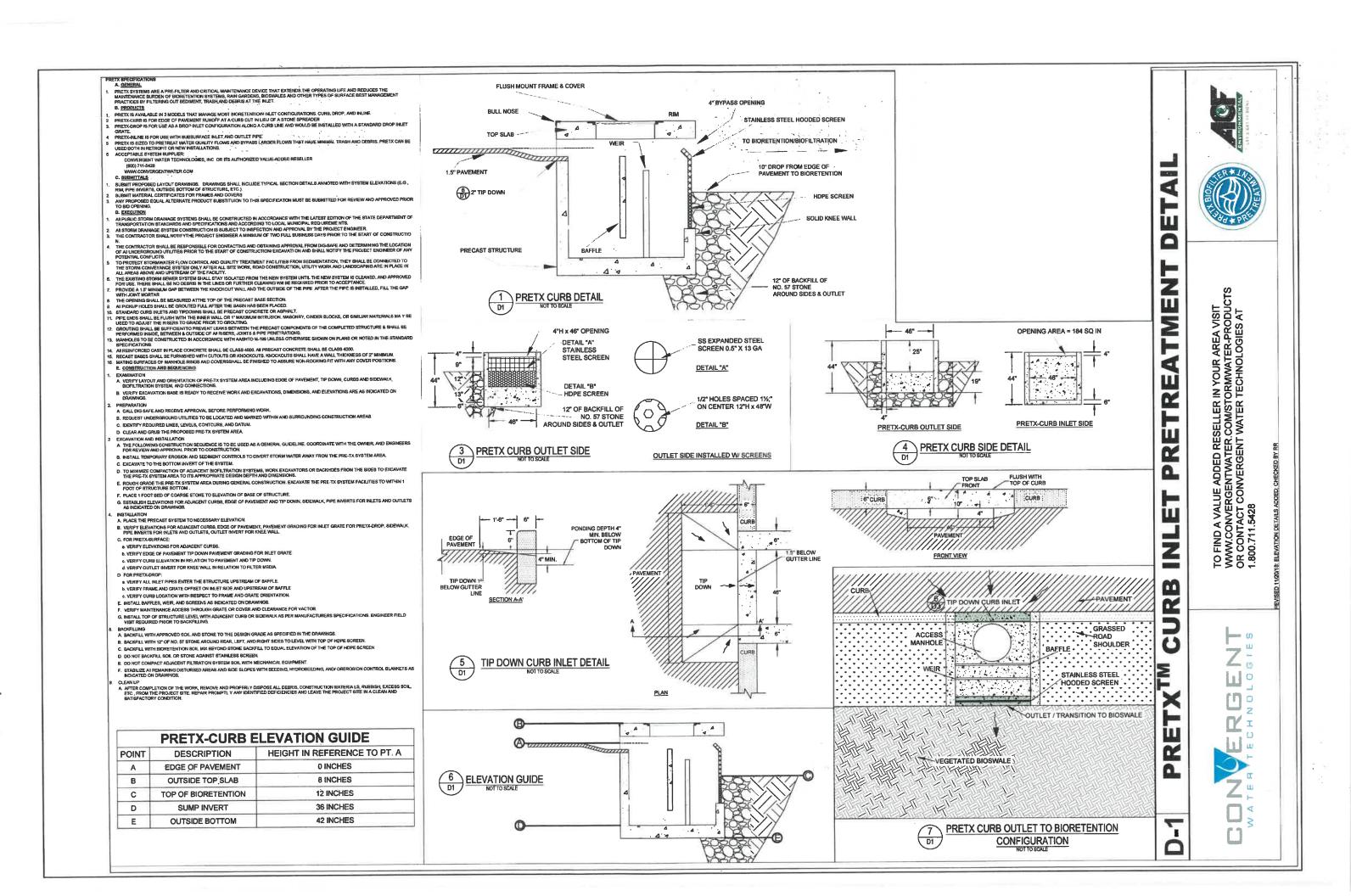
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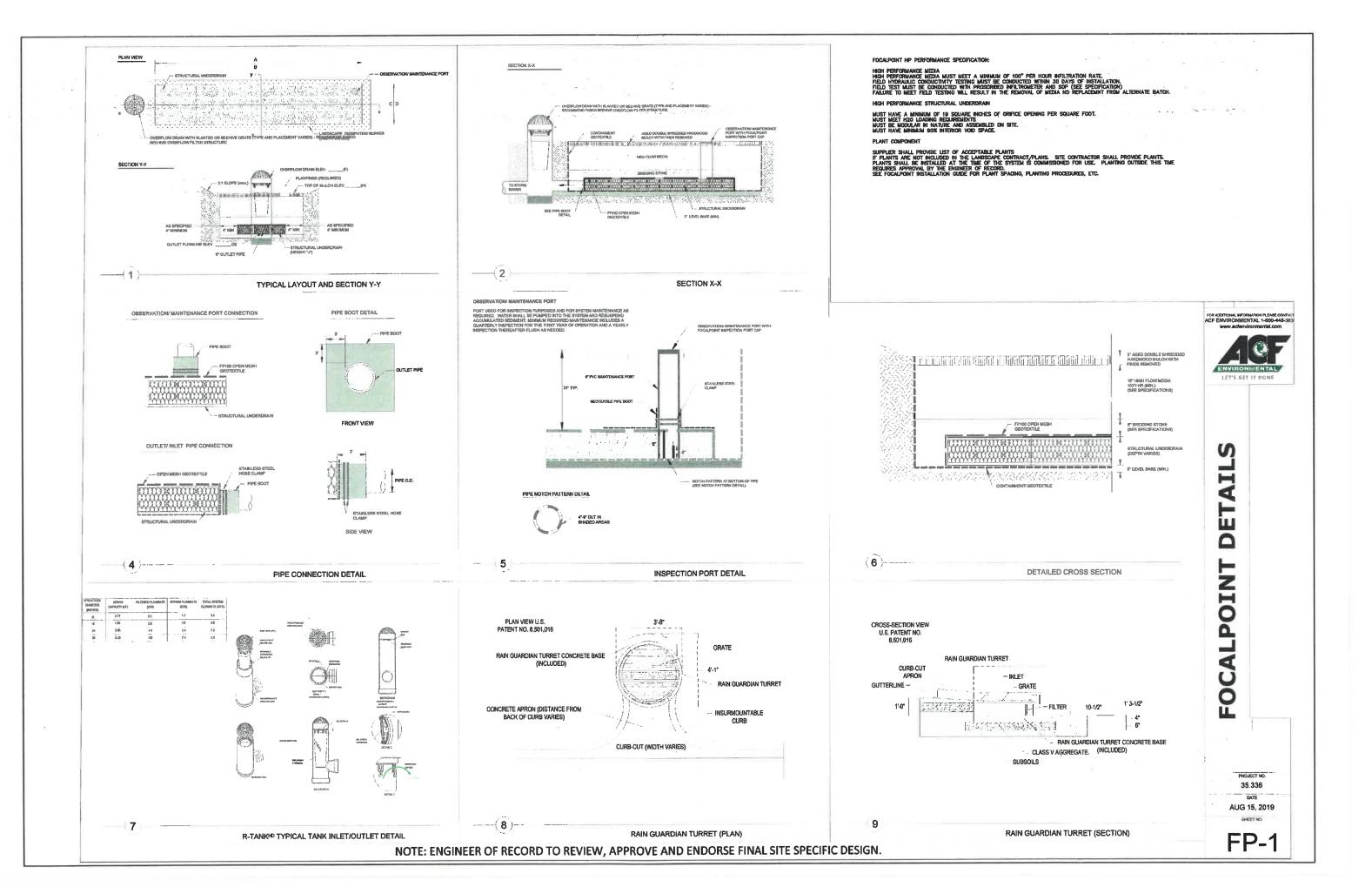
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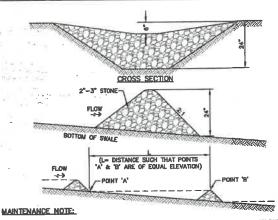
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Owner of Record; 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229

D4 SHEET 21 OF 26







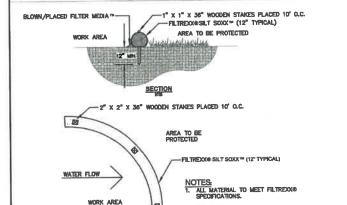
1. STONE CHECK DAMS SHOULD BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY NECESSARY REPAIRS SHOULD BE MADE MAREDIATELY. PARTICULAR ATTENTION SHOULD BE GIVEN TO BUR RIM AND REGISION AT THE DOWNSTREAM TOE OF THE STRUCTURE, WHEN THE STRUCTURES ARE REMOVED, THE DISTURBED PORTION SHOULD BE BROUGHT TO THE ESTRING CHANNEL GRADE AND THE AREAS PREPARED, SEEDED AND MULCHED. WHILE THIS PRACTICE IS NOT INTERDED TO BE USED PROMABILY FOR SECONDAY TRAPPING, SOME SEDIMENT WILL ACQUIRELATE BEHND THE STRUCTURES. SECONDAY TO SHALL BE REMOVED FROM BEHND THE STRUCTURES WHEN IT HAS ACCUMULATED TO DICK HALF OF THE ORIGINAL HEIGHT OF THE STRUCTURE.

STONE CHECK DAM

FILTREXX® SILT SOXX™

NOT TO SCALE

NOT TO SCALE



EXISTING GRADI

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.

WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED 6", FOLDED AND STAPLED TO PREVENT SEDMENT FROM BY—PASSING.

5. PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE

MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED AND PROPERLY DISPOSED OF WHICH IT IS 6" DEEP OR VISIBLE "BULGES" DEVELOP IN THE SILT FENCE.

- 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 MÉASURES 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 LOAMED WITH A MINEJUM OF 6" OF SCREENED GREANIC LOAM AND SECDED WITH SEED MIXTURE "C" AT A RATE NOT LESS THAN 1.10 POUNDS OF SEED PER 1.000 S.F. OF AREA (146 USS. / ADREL).
- 4. SILT FENCES AND OTHER BARRIERS SHALL BE INSPECTED EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF A RAMFALL OF 0.5" OR GREATER. ALL DAMAGED AREAS SHALL BE REPAIRED, AND SEDMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
- 5. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
- 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 STABRIZZED, BY SEDDING AND INSTALLING NORTH AMERICAN GREEN 575 EROSION CONTROL BLANKETS (OR AN EQUIVALENT APPROVED IN WRITING BY THE ENGINEER) ON SLOPES GREATER THAIN 3-1, AND SEEDING AND PLACING 3 TO 4 TORS OF MULCH PER ACRE. SECURED WITH ANCHORED NETTING, DESWEREE, THE INSTALLATION OF EROSION CONTROL BLANCES OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAN OR SPRONG MELT EVENTS.
- ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE OSTRUKED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR ENGSION CONTROL BLANKETS APPROPRIATE FOR THE DESION HOW 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 NHOOT ITEM 304.3.
- - O. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SLICH STONE OR RIPRAP HAS BEEN INSTALLED; OR
 - d. 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 CONSTRUCTION, A PHASING PLAN THAT DELINEATES EACH PHASE OF THE PROJECT SHALL BE SUBMITTED. ALL THEPORARY SEALENT BASINS THAT WILL BE NEEDED FOR DEWATERING WORK AREAS SHALL BE LOCATED AND DENTIFIED ON THIS PLAN.
- 14. IN ORDER TO ENSURE THE STABILITY OF THE SITE AND EFFECTIVE IMPLEMENTATION OF THE SEDMENT AND EROSION CONTROL MEASURES SPECIFED 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. A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL OR A PROFESSIONAL ENGINEER LICENS IN THE STATE OF NEW HAMPSHIRE ("MONITOR") SHALL BE EMPLOYED TO INSPECT THE STE FROM THE START OF ALTERATION OF TERRAIN ACTIVITIES UNTIL THE SITE IS IN FULL COMPLIANCE WITH THE SITE SPECIFIC PERMIT ("PERMIT").
 - b. DURRING THIS PERIOD, THE MONITOR SHALL INSPECT THE SUBJECT SITE AT LEAST ONCE A WEEK, AND IF POSSIBLE, DURRIC ANY 16 WICH OR GREATER RAIN EVENT (I.E. 16 NICH OF PRECIPITATION OR MORE WITHIN A 24 HOUR PERIOD). IF UNABLE TO BE PRESENT DURRING 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 PROSION AND SEMENT CONTROLS REQUIRED TO MEET THE REQUIREMENTS OF RSA 485 A17 AND ALL APPLICABLE DES PRIMET CONTROLS.
 - d. WITHIN 24 HOURS OF EACH INSPECTION, THE MONITOR SHALL SUBMIT A REPORT TO DES VIA EMAIL (RIDGELY MAJOK AT: RIDGELY.MAJICKODES.NH.GOV).

CONTOUR LINES 600' RECOMMENDED MAXIMUM

-Flare ends uphill to provide trapping capability and sediment storage area

SELT 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 EXPECTEL LIFE OF THE FENCE. THE FABRIC SHALL BE REPLACED PROMPTLY.

SEDMENT 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.

e. 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.

SEEDING SPECIFICATIONS

- GRADING AND SHAPING
 A. SLOPES SHALL NOT BE STEEPER THAN 2:1 WITHOUT APPROPRIATE EROSION CONTROL MEASURES AS SPECIFIED ON THE PLANS (3:1 SLOPES OR FLATTER ARE PREFERRED).
 B. WHERE MOWING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.

- 2. SEDBED PREPARATION.

 A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.

 B. STONES LARGER THAN 4 NICHES 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 NICHES TO PREPARE A SEEDED AND FERTILIZER AND LINE MIXED INTO THE SOIL THE SEEDED SHOULD BE LEFT IN A REASONABLY FROM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.

- 3. <u>Establishing a Stand.</u>

 A. Libie and Fertilizer should be applied prior to or at the time of seeding and incorporated into the soil. Types and amounts of libie and fertilizer should be based on an evaluation of soil tests. When a soil test is not available, the following winimum amounts should be
 - APPLED:
 AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 100 LBS. PER 1,000 SQ.FT.
 AGRICULTURAL LIMESTONE, 2 TONS PER ACRE OR 2.00 SQ.FT.
 PHOSPHATE(P205), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ.FT.
 PTORSH(M20), 100 LBS. PER ACRE OR 2.2 LBS. PER 1,000 SQ.FT.
- POTASH(X20), 100 LBS, PER ACRE OR 2.2 LBS. PER 1,000 SQLFT.

 (NOTE: THIS IS THE EQUIVALENT OF 500 LBS, PER ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS. PER ACRE OF 5-10-10.)

 B. SEED SHOULD BE SPREAD UNFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE. METHODS INCLIDE BROADCASTING, DRILLING AND HYDROSEEDING, WHERE BROADCASTING IS USED, COVER SEED WITH .25 INCH OF 500. OR LESS, BY CULTIFACIONS OR RAKING.

 C. REFER TO THE "SEEDING GUIDE" AND "SEEDING ATTES" TABLES ON THIS SHEET FOR APPROPRIATE SEED MIXTURES AND RATES OF SEEDING. ALL LEGUINES (CROWNVETCH, BIRDSFOOT, TREFOIL AND FLATPEA) MUST BE BIOCULATED WITH THEIR SPECIFIC NOCULANT PRIOR TO THEIR HYBOULTOIN TO THE SITE.

 D. WEN SEEDED AREAS ARE MILLOHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER. WEN SEEDED AREAS ARE MILLOHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO MAY 20th OR FROM AUGUST 10th TO SEPTEMBER 1st.

4. MULCH
A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED BRHEDIATELY AFTER SEEDING.
B. MULCH WILL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE BEST MANAGEMENT PRACTICE
FOR MULCHING, HAY OR STRAW MULCH SHALL BE PLACED AT A RATE OF 90 LBS PER 1000 S.F.

- 5. MAINTENANCE TO ESTABLISH A STAND.

 A. PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED
- GROWTH.

 B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS
 USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PEREMINALS
 TAKE 2 TO 3 YEARS TO BECOME FULLY ESTABLISHED.

 C. IN WATERWAYS, CHAMBRILS, OR SWALES WHERE UNFORMS FLOW CONDITIONS ARE ANTICIPATED, ANNUAL
 MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL	A B C	FAIR POOR POOR	G00D G00D	GOOD FAIR EXCELLENT	FAIR FAIR GOOD
AREAS	D	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER.	Č Č	GOOD	GOOD EXCELLENT	GOOD EXCELLENT	FAIR FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES.	A B C	GOOD GOOD	GOOD EXCELLENT	GOOD FAIR EXCELLENT	FAIR POOR FAIR
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	E	FAIR FAIR	EXCELLENT	EXCELLENT	2/ 2/

GRAVEL PIT. SEE NH-PM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.

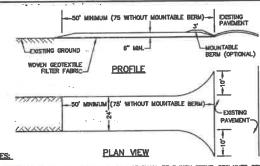
1/ REFER TO SEEDING MIXTURES AND RATES IN TABLE BELOW. 27 POORLY DRAINED SOILS ARE NOT DESIRABLE FOR USE AS PLAYING AREA AND ATHLETIC FIELDS.

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

20 20 2 42 15 10 15 30 40 OR 55	0.45 0.45 0.05 0.95 0.35 0.26 0.35 0.75
10 15 30 40 OR 55	0.25 0.35 0.75
40 OR 55	
20 20 8 48	0.45 0.45 <u>0.20</u> 1.10
20 30 50	0.45 0.75 1.20
50 50 100	1.15 1.15 2.30
150	3.60
	8 48 20 30 50 50 50

SEEDING RATES



- STONE FOR STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
 THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET, 75' WITHOUT A MOUNTABLE BERM, AND EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.

- 2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET, 75 WITHOUT A MOUNTAINE BERM, AND ENCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.

 3. THICKINESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.

 4. THE WOTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WOTH OF THE ENTRANCE WHERE INGRESS OR ERRESS COLURS, OR 10 FEET, WHICKEYER IS GREATER AS THE PRIOR TO PLACING THE STONE.

 5. GEOTIECTILE FILTER FABRIC SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.

 FILTER FABRIC IS NOT REQUIRED FOR A SINGLE FAINTY RESIDENTIAL LOT CONSTRUCTION ENTRANCE SHALL BE PRED BEDEATH THE DITENTANCE FOR THE STONE OF THE STONE BERN WITH \$1 SLOPES THAT CAN BE PRED BEDEATH THE STRIKE OF MAINTAINED. IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF STONESHED ON THE THE THE PROPOSITION THAT WILL PREVENT TRACKING OR FLOWING OF STONESHED ON THE THE THE PROPOSITION THAT WILL PREVENT TRACKING OR FLOWING OF STONESHED ON THE PREVENCE OF PROPOSITION THAT WILL PREVENT TRACKING OR FLOWING OF STONESHED ON THE PUBLIC RIGHT—OF—WAY, THIS MAY REQUIRE PERMONIC TOP DEPERSING WITH ADDITIONAL STONE AS CONDITIONS DEBAND AND BEPAR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDMENT. ALL SEDMENT SPILLED, WASHED, OR TRACKED ONTO THE PUBLIC RIGHT—OF—WAY MUST BE REMOVED PROMPTO.

STABILIZED CONSTRUCTION ENTRANCE

- CONSTRUCTION SEQUENCE

 1. PRIOR TO THE START OF ANY ACTIVITY, IT IS THE RESPONSIBILITY OF THE SITE'S SITE DEVELOPER (OR OWNER) TO THE A NOTICE OF WITCH (NO!) FORM WITH THE ENVIRONMENTAL PROTECTION AGENCY (EPA) IN ORDER TO GAIN COMPRAGE UNDER THE INPOES CENERAL PERMIT FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES. PRICE TO THE START OF CONSTRUCTION MEETING IS TO BE MELD WITH ALL DEPARTMENT HEADS PRICE TO THE START OF CONSTRUCTION.
- 2. WETLAND BOUNDARIES ARE TO BE CLEARLY MARKED PRIOR TO THE START OF CONSTRUCTION
- 3. CUT AND REMOVE TREES IN CONSTRUCTION AREA AS REQUIRED OR DIRECTED.
- INSTALL SILT FENCING, HAY BALES AND CONSTRUCTION ENTRANCES PRIOR TO THE START OF CONSTRUCTION. THESE ARE TO BE MAINTAINED UNTIL THE FINAL PAVEMENT SURFACING AND LANDSCAPING AREAS ARE ESTABLISHED.
- CLEAR, CUT, GRUB AND DISPOSE OF DEBRIS IN APPROVED FACILITIES. THIS INCLIDES ANY REQUIRED DEMOLITION OF EXISTING STRUCTURES, UTILITIES, ETC.
- CONSTRUCT AND/OR INSTALL TEMPORARY OR PERMANENT SEDIMENT AND/OR DETENTION BASIN(S) AS REQUIRED. THESE FACULTIES SHALL BE INSTALLED AND STABILIZED PRIOR TO DIRECTING RUN-OFF TO THEM.
- STRIP LOAM AND PAVEMENT, OR RECLAIM EXISTING PAVEMENT WITHIN LIMITS OF WORK PER THE RECOMMENDATIONS OF THE PROJECT ENGINEER AND STOCKPILE EXCESS MATERIAL STABILIZE STOCKPILE
- 8. PERFORM PRELIMINARY SITE GRADING IN ACCORDANCE WITH THE PLANS, INCLUDING THE CONSTRUCTION OF ANY RETAINING WALLS AND SOUND WALLS.
- BISTALL THE SEWER AND DRAINAGE SYSTEMS FIRST, THEN ANY OTHER UTILITIES IN ACCORDANCE WITH THE PLAN AND DETAILS, MAY CONFLICTS BETWEEN UTILITIES ARE TO BE RESOLVED WITH THE INVOLVEMENT AND APPROVAL OF THE DENGINES.
- INSTALL BILET PROTECTION AT ALL CATCH BASINS AS THEY ARE CONSTRUCTED IN ACCORDANCE WITH DETAILS.
- 11. ALL SWALES AND DRAINAGE STRUCTURES ARE TO BE CONSTRUCTED AND STABILIZED PRIOR TO HAVING RUN-OFF DIRECTED TO THEM.
- DALY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINAGE DITCHES, CHECK DAMS, SEDIMENT TRAPS, ETC., TO PREVENT EROSION ON THE SITE AND PREVENT ANY SILTATION OF ABUTTING WATERS
- 13. PERFORM FINAL FINE GRADING, INCLUDING PLACEMENT OF "SELECT" SUBGRADE MATERIALS.
- 15. PERFORM ALL REMAINING SITE CONSTRUCTION (La. BUILDING, CURBING, UTILITY CONNECTIONS, ETC.).
- LOAM AND SEED ALL DISTURBED AREAS AND INSTALL ANY REQUIRED SEDIMENT AND EROSION CONTROL FACILITIES (Le. RIP RAP, EROSION CONTROL BLANKETS, ETC.).
- 17. FINISH PAVING ALL ROADWAYS AND PARKING AREAS WITH 'FINISH' COURSE
- 18. ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- 19. ALL CLIT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- 21. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE BEEN 75%-85% ESTABLISHED AND SITE IMPROVEMENTS ARE COMPLETE. SMOOTH AND RE-VEGETATE ALL DISTURBED AREAS.
- 22. CLEAN SITE AND ALL DRAINAGE STRUCTURES, PIPES AND SUMPS OF ALL SILT AND DEBRIS.
- 24. ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.
- 25. UPON COMPLETION OF CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY ANY RELEVANT PERMITTING AGENCIES THAT THE CONSTRUCTION HAS BEEN FINISHED IN A SATISFACTORY MANNER.

NOT TO SCALE

SILT FENCE

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.

6. SILT FENCE SHALL REMAIN IN PLACE FOR 24 MONTHS.



SILT SOXX**
FILL TO MEET APPLICATION REQUIREMENTS.

COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

REVISIONS PER CITY REVIEW LAZ 7 7/20/21 REVISIONS PER CITY REVIEW LAZ 6 6/22/21 LAZ 5 6/5/21 LAZ 4 3/18/21 ADDED DETAIL ADDED SURVEY INFO LAZ 3 3/3/21 BY REV. DATE

DISTURBED AREA

Designed and Produced in NH

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

B Jones & Beach Engineers, Inc. FAX: 603-772-0227

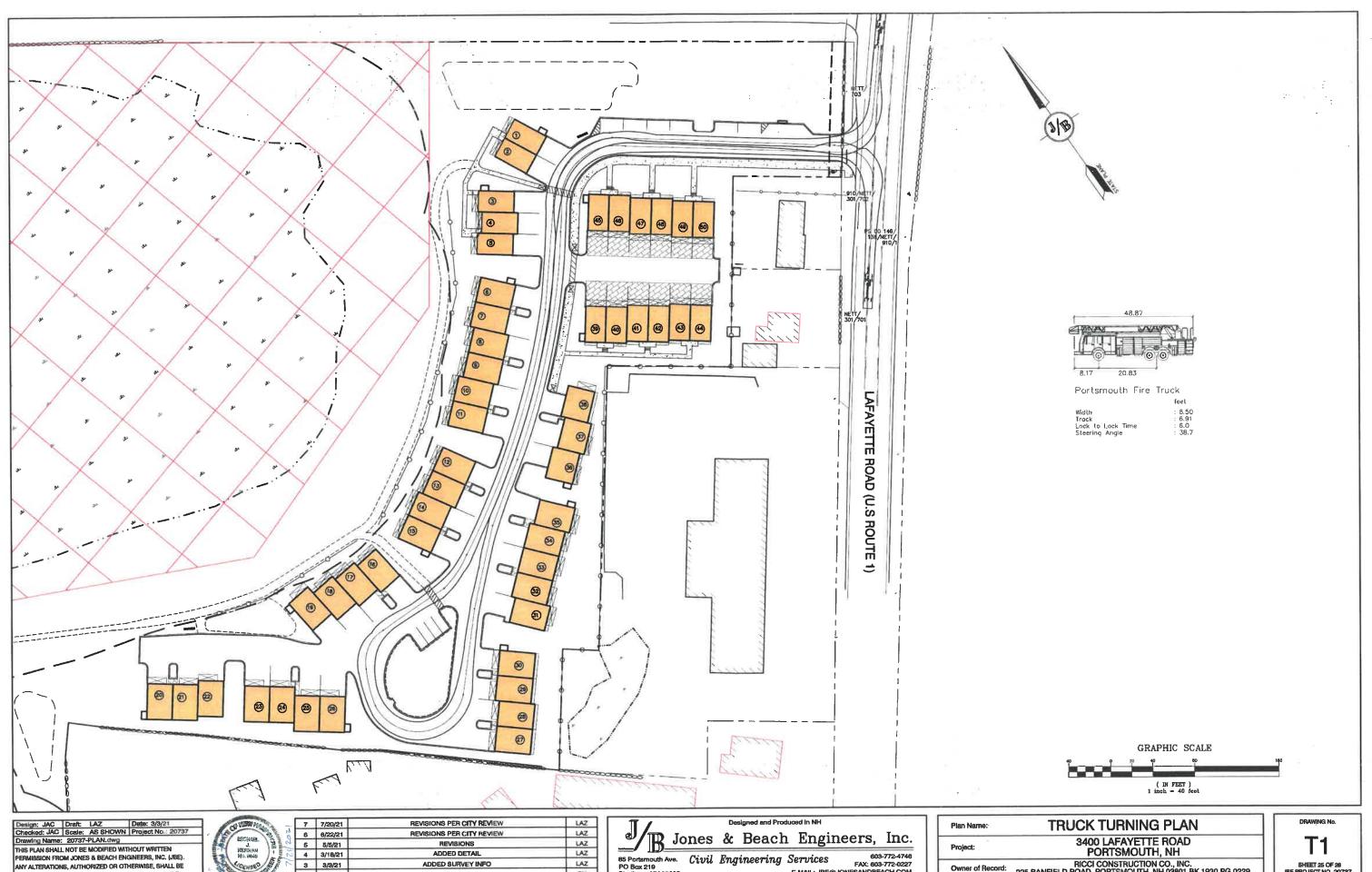
EROSION AND SEDIMENT CONTROL DETAILS

3400 LAFAYETTE ROAD PORTSMOUTH, NH

Owner of Record 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229

DRAWING No

SHEET 24 OF 26 JBE PROJECT NO. 20737



Services 603-772-4748 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

BS Portsmouth Ave. Civil Engineering Services
PO Box 219
Stretthem, NH 03885 E-MAIL: JBE@

REVISIONS

ADDED DETAIL

ADDED SURVEY INFO

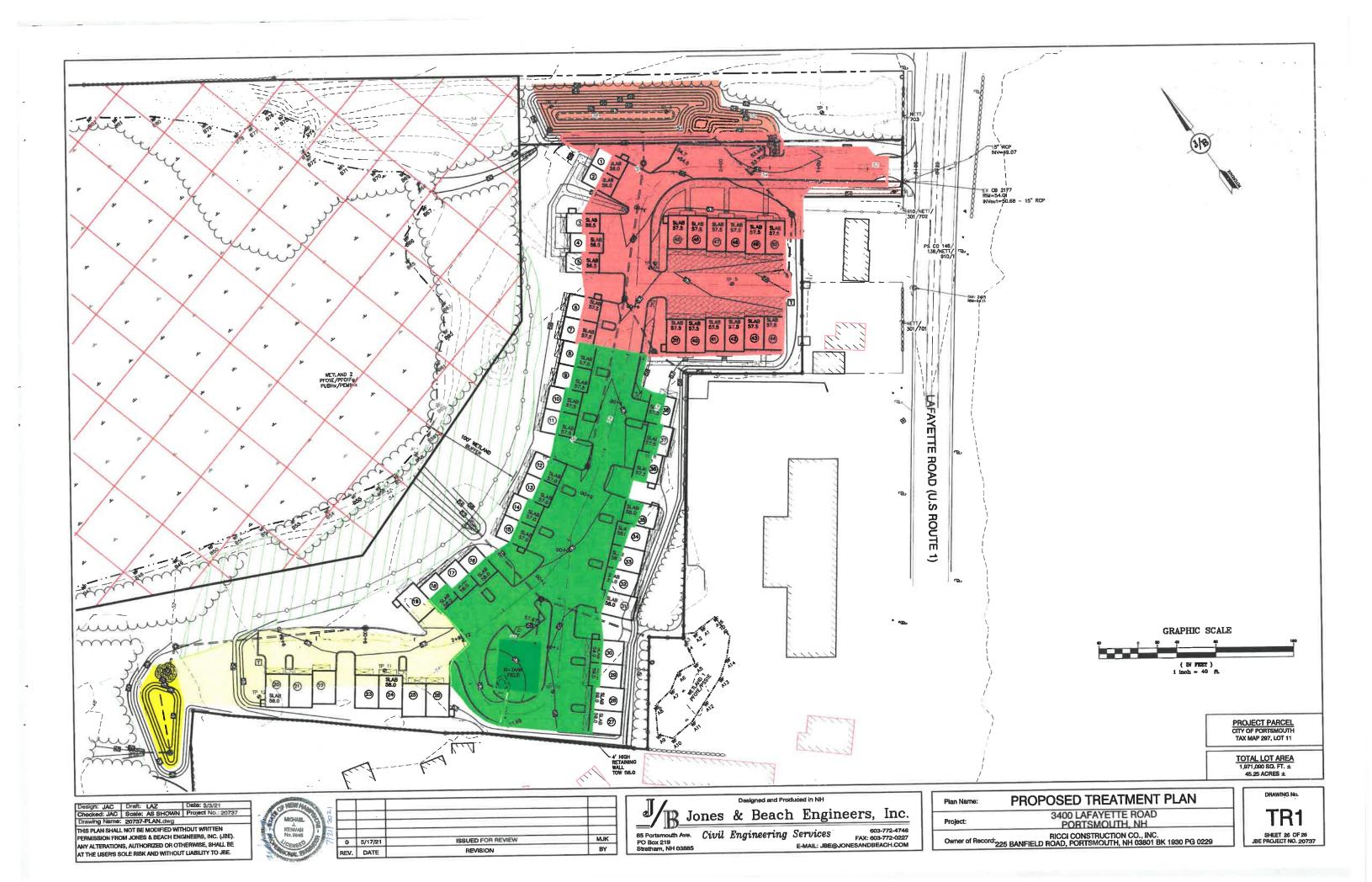
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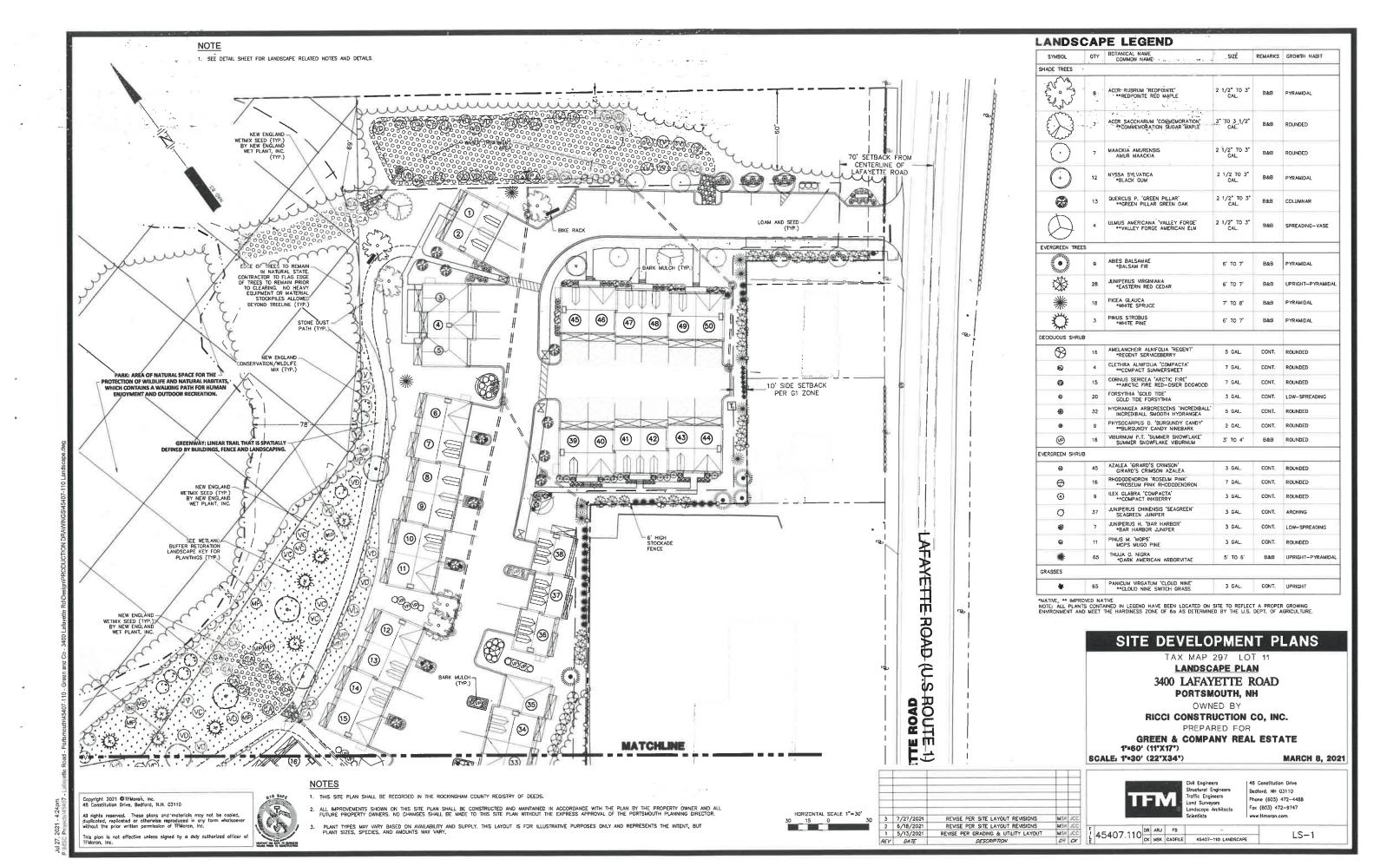
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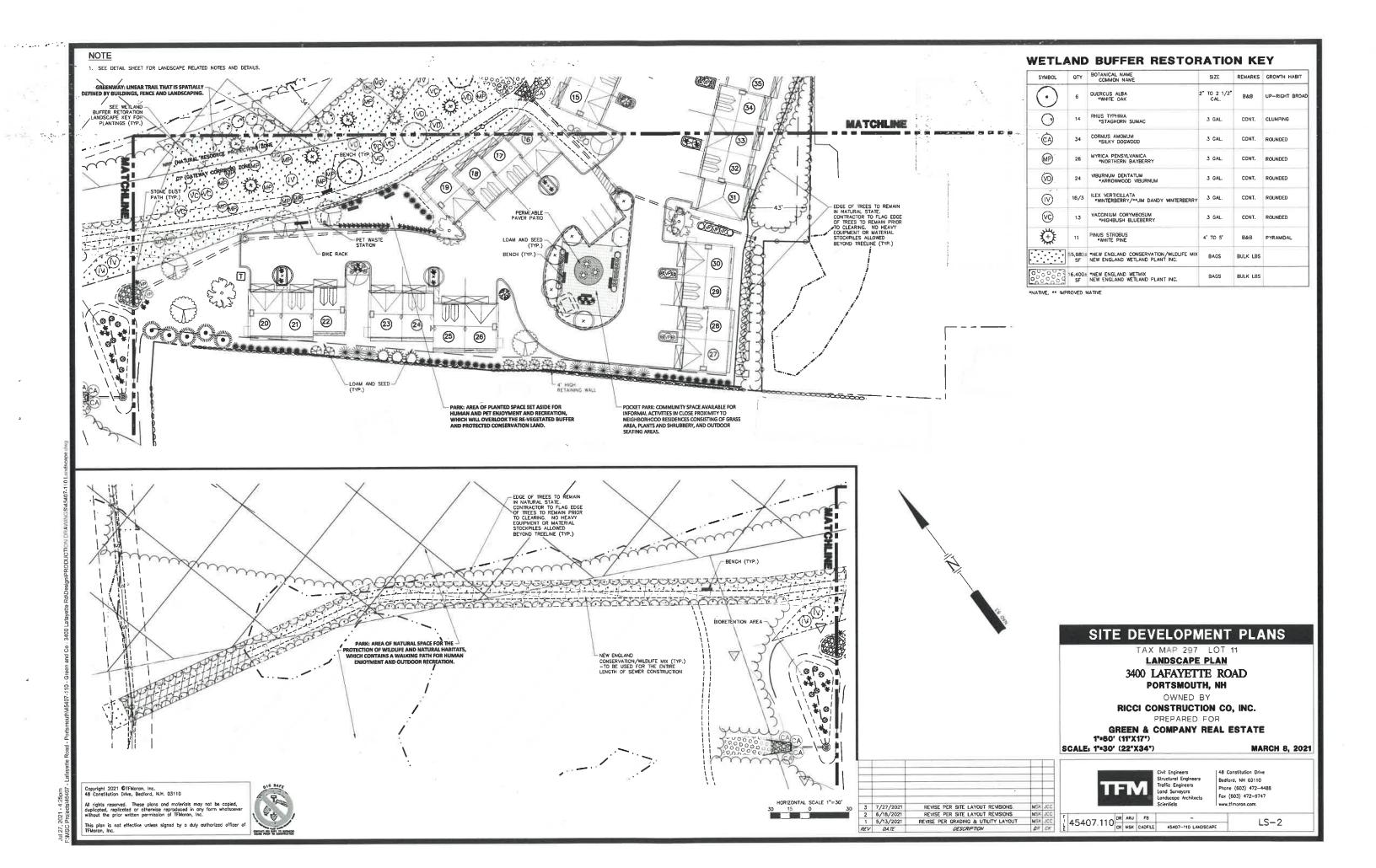
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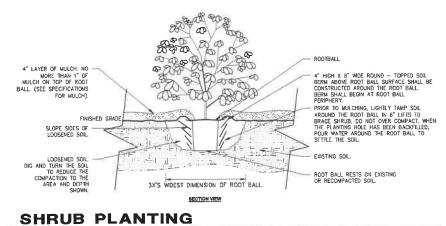






TREE WITH BERM

NOT TO SCALE



NOT TO SCALE

MENNELSK MANDRENDANTIALITYRIKERICHARISCH VISITIALI 6" LOAM (ITEM 641) SEED (ITEM 644) -LIMESTONE (ITEM 642) FERTILIZER (ITEM 643.11)

LOAM & SEED (WHERE SPECIFIED) NOT TO SCALE

2" STONE DUST FINISHED GRADE COMPACTED SUBGRADE-

STONE DUST PATH

NOT TO SCALE

LANDSCAPE NOTES

- CONTRACTOR WILL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTLITES PRIOR TO ANY LAINMORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES WILL IMMEDIATELY BE REPORTED TO THE LANDSCAPE ARCHITECT OR OWNERS' REPRESENTATIVE, SO THAT ALTERNALE "PLANTING LOCATIONS CAN BE
- 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
- 5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE THE APPROPRIATE ARRANGEMENTS TO PROVIDE ALL PLANTS AND MATERIALS TO ACCOMMIDIATE PLANTING WITHIN THE TIME ALLOWED BY THE CONSTRUCTION SCHEDULE.
- 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.
- 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.
- TREES WILL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI AZOD 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 EASTH SURROUNDING ITS ROOTS HAS BEEN BADLY CRACKED OR BROKEN BEFORE PLANTING. ALL PLANTS THAT CANNOT BE PLANTED AT ONCE WILL BE HEELED—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 DRIPLINES AND ROOF VALLEY POINTS OF CONCENTRATION TO PREVENT DAMAGE TO PLANTS. CLARIFY DISCREPANCIES WITH LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- 16. ALL PLANT GROUPINGS WILL BE IN MULCH BEDS UNLESS OTHERWISE SPECIFIED OR NOTED ON PLANS. WHERE MULCHED PLANT BED ABUTS LAWN, PROVIDE TURF CUT EDGE.
- 17. ALL PLANT BEDS WILL INTERSECT WITH PAVEMENT AT 90 DEGREES UNLESS OTHERWISE NOTED ON PLANS.
- 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.
- 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 MECESSARY DURING THE FIRST GROWING SEASON BUT NOT LESS THAN ONE YEAR FROM TIME OF INSTALLATION.
- ALL NEW LAWNS WILL BE MAINTAINED AND MOWED A MINIMUM THREE (3) TIMES BEFORE REQUESTING REVIEW BY LANDSCAPE ARCHITECT OR OWNERS' 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, TREETS AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE SHOWN. ELSS THAN 80% HEALTHY GROWTH AT THE END OF ONE (1) YEAR PERIOD WILL BE IMMEDIATELY REPLACED BY THE CONTRACTOR.
- 5. DECIDIOUS PLANT MATERIAL INSTALLED AFTER SEPTEMBER 30 AND BEFORE APRIL 15 WILL NOT BE REVIEWED THAT SCASON 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

5'-0"

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 INVASINE PLANTS. SEE "MANAGE AND CONTROL INVASIVES" AND PROPERTY DISPOSE OF INVASIVE PLANTS.

- 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.
- 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, JUSTINED AND APPROVED BY THE PLANTINGS DOAD OR PLANTING DIRECTOR.
- 6. THE LANDSCAPE PLAN WILL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.

SEEDING NOTES

PORTSMOUTH NOTES

- 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.
- 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.

SITE DEVELOPMENT PLANS

TAX MAP 297 LOT 11

LANDSCAPE DETAIL SHEET 3400 LAFAYETTE ROAD PORTSMOUTH, NH

OWNED BY

RICCI CONSTRUCTION CO, INC. PREPARED FOR

Troffic Engineers

GREEN & COMPANY REAL ESTATE

SCALE: NOT TO SCALE

MARCH 8, 2021



ledford, NH 03110 Structural Engineers Phone (603) 472-4488 Fox (603) 472-9747

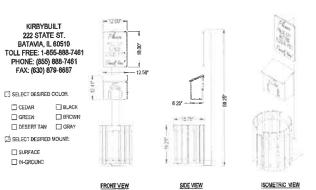
F 45407.110 DR ARJ FB - CK MSK CADFILE 45407-110 LANDSCAPE

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LS-3

PERMEABLE PAVER DETAIL

NOT TO SCALE



SURFACE

- NOTES

 1. ALL MATERIAL RECYCLED HOPE

 2. ALL HARDWARE STAINLESS STEEL

 3. SHIPPED PRITIALLY ASSEMBLED.

 1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- 4. INISTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURENS SPECEFICATIONS.
 5. DO NOT SCALE DRAWING.
 5. DIAS BRAWING IS INTERREDED FOR USE BY ARCHITECTS, ENGINEERS, CONTITACTORS, CONSULTANTS AND DESIGN PROFESSIONALS
 FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
 7. ALL INFORMATION CONTAINED HEREIN WAS CORRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY
 THE PRODUCT MANUFACTURED TO BE CONSIDERED ACCURATE.
 6. CONTRACTORS NOTE FOR PRODUCT AND COMPANY INFORMATION VISIT WWW CADDETAILS COMMINDO AND ENTER
 REFERENCE, MUNIERS 1177-26.

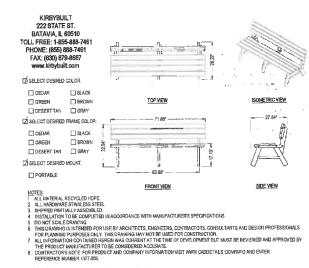
STANDARD ROLL BAG PET WASTE STATIONS

APM1220IAPW1215-STANDARD ROLL BAG PET WASTE STATION AND SIGN (BAG DISPENSER, 5 GALLON RECEPTACLE, POST, SIGN)-SURFACE MOUNT OR IN-GROUND OR APPROVED EQUAL

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LEGEND A-FRAME BENCHES ABC1020-5 LEGEND A-FRAME BEHICH OR APPROVED EQUAL

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



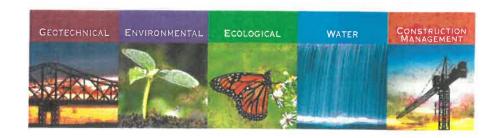
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| 48 Constitution Drive Bedford, NH 03110 Phone (603) 472-4488 Fox (603) 472-9747 www.tfmoran.com

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LS-4





WETLAND FUNCTION VALUE ASSESSMENT REPORT

Lafayette Road Site Development Portsmouth, NH

July 2021 04.0191186.00



PREPARED FOR:

Stonearch Development Corporation 42J Dover Point Road Dover, New Hampshire

GZA GeoEnvironmental, Inc.

5 Commerce Park North, Suite 201 | Bedford, NH 03110-6984 603-623-3600

Offices Nationwide www.gza.com

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CONSTRUCTION MANAGEMENT



Via Email

July 9, 2021 File No. 04.0191186.00

Mr. John O'Neil 42J Dover Point Road Dover, New Hampshire 03820

Re: Wetland Function-Value Assessment Report Lafayette Road, Tax Map 297, Lot 11

Portsmouth, New Hampshire

Dear Mr. O'Neil:

GZA GeoEnvironmental, Inc. (GZA) is pleased to submit the attached Wetland Function-Value Assessment Report for the proposed Site development located off Lafayette Road in Portsmouth, New Hampshire (i.e. the Site). This report summarizes the results of the field work completed by GZA on May 26, 2021 and June 28, 2021 to document wetland functions and values assessment and impact evaluation results for the Site. Wetland delineation field work and wetland function and value assessments were performed by Mr. Peter Petkauskos, Mr. James Long, State of New Hampshire Certified Wetland Scientist (CWS #007) and Certified Soil Scientist (CSS #015) and Ms. Tracy Tarr (CWS #281) on January 20, 2021, May 26, 2021, and June 28, 2021. Additional wildlife observations were completed by Logan Young on June 11, 2021 and incorporated into the wetland function-value assessment.

Please feel free to contact Lindsey White at 603-232-8753 or lindsey.white@gza.com if you have any questions regarding this Wetland Function-Value Assessment Report.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

Lindsey White

Lindsey White, Wetland Scientist Apprentice

Project Manager

Deborah M. Zarta Gier, CNRP Consultant / Reviewer

Debout 11- Jeva C.

Tracy L. Tarr, CWS, CESSWI

Associate Principal

LEW/TLT/DMZ:

Attachment: Wetland Function-Value Assessment Report





Wetland Function-Value Assessment Report Stonearch Development Corporation 04.0191186.00

TOC | i

TABLE OF CONTENTS

1.0	INTROE	DUCTION1
2.0	PROJEC	T DESCRIPTION1
	2.1 2.2	SCOPE OF WORK
3.0	МЕТНО	DOLOGY2
	3.1	WETLAND FUNCTION-VALUE ASSESSMENT
4.0	RESULT	S2
	4.1	RARE SPECIES AND IMPACT ASSESSMENT
	4.2	REGIONAL NATURAL RESOURCE SIGNIFICANCE OF THE SITE2
	4.3	WETLAND FUNCTION-VALUE ASSESSMENT
	4.3.1 4.3.2 4.3.3	Wetland 1
5.0	FINDIN	GS AND CONCLUSIONS7
FIGUR FIGUR FIGUR FIGUR	E 1 E 2 E 3	SITE LOCUS AERIAL OVERVIEW WETLAND DELINEATION SKETCH WILDLIFE ACTION PLAN HABITATS
APPENI APPENI APPENI APPENI	DIX A DIX B DIX C	LIMITATIONS WETLAND FUNCTION-VALUE EVALUATION FORMS NATURAL HERITAGE BUREAU MEMO PHOTO LOG



Wetland Function-Value Assessment Report
Stonearch Development Corp.
04.0191186.00
Page | 1

1.0 INTRODUCTION

This report presents the results of the wetland function-value assessment and an impact evaluation conducted by GZA GeoEnvironmental, Inc. (GZA) for the proposed Site development of the parcel identified as Tax Map 297, Lot 11, located off Lafayette Road in Portsmouth, New Hampshire. The parcel is approximately 45 acres and is bordered to the east by Lafayette Road, to the south by Coach Road, to the west by City of Portsmouth owned land, and to the north by Ocean Road and Nathanial Drive.

This report was prepared to provide a wetland function-value assessment and an impact evaluation based on the current project concept (refer to **Site Plan Figure C2** prepared by Jones & Beach Engineers, inc. dated 5/5/2021). On Site wetlands were delineated by Mr. James Long of GZA, State of New Hampshire Certified Wetland Scientist (#007) and Certified Soil Scientist (#015), on January 20, 2021. An additional Site walk to evaluate wetlands and conduct preliminary wetland function and value assessments was conducted by Mr. James Long and Ms. Tracy Tarr (CWS #281) of GZA on May 26, 2021. Wildlife assessment field work was conducted by Mr. Logan Young of GZA on June 11, 2021. Additional wetland function and value assessment was conducted by Mr. Peter Petkauskos of GZA (Wetland Scientist Apprentice) on June 28, 2021. GZA understands that the data from the function-value assessment will be used in permit applications for the construction of a proposed condominium development. This report is subject to the Limitations in **Appendix A**.

2.0 PROJECT DESCRIPTION

2.1 SCOPE OF WORK

Professional services provided by GZA within the work area described below included:

- Assessment of Wetland Functions and Values. As part of this assessment, GZA reviewed the regional natural resource significance of the property and natural resource maps prepared by the City of Portsmouth including the City of Portsmouth Prime Wetlands Analysis Report prepared by West Environmental, Inc. (West Environmental), dated 2006, the City of Portsmouth Public Undeveloped Land Assessment Comprehensive Baseline Inventory and Natural Resource Inventory prepared by West Environmental, dated 2010, and the City of Portsmouth Vernal Pool Inventory prepared by West Environmental, dated 2008.
- For additional context, GZA reviewed data available through the New Hampshire Geographically Referenced Analysis and Information Transfer System (NHGRANIT) including 2015 aerial photography, United States Geologic Service (USGS) topography, and New Hampshire Wildlife Action Plan data published by the New Hampshire Fish and Game Department (NHF&G).
- Wetland function-value assessment field work was conducted by Peter Petkauskos, Wetland Scientist
 Apprentice and Tracy L. Tarr, Certified Wetland Scientist (CWS #281) on May 26, 2021 and June 28, 2021

2.2 DESCRIPTION OF WORK AREA





04.0191186.00

Page | 2

The site consists of 45 acres and is located off Lafayette Road in Portsmouth, New Hampshire and identified by the City of Portsmouth as Lot 11 on Tax Map 297. The Site is located off an existing gravel access road abutting Lafayette Road. The eastern portion of the Site off of Lafayette Road (approximately three acres) is the current location and headquarters of Cornerstore Tree Care, a wood processing operation. Currently, the eastern portion of the Site contains compacted gravel for access and vehicle/trailer and equipment parking, as well as woodchip stockpiles. There is approximately 11,400 sq. ft. of existing disturbance to the 100-ft prime wetland buffer as a result of the compacted gravel and woodchip stockpiles. The remainder of the Site to the west is undeveloped forested wetland and upland. The Site is bordered to the east by Lafayette Road, to the south by Coach Road, to the west by City of Portsmouth owned land, and to the north by Ocean Road and Nathanial Drive.

3.0 METHODOLOGY

3.1 WETLAND FUNCTION-VALUE ASSESSMENT

The functions and values of wetlands were assessed by GZA utilizing the ACOE Highway Methodology Workbook Supplement (ACOE September 1999). The functions and values assessed included: groundwater recharge/discharge, floodflow alteration, fish/shellfish habitat, sediment/toxicant retention, nutrient removal, production export, sediment/shoreline stabilization, wildlife habitat, recreation, education/scientific value, visual quality/aesthetics, uniqueness/heritage, and endangered species habitat. Functions and values are considered "principal" if they are determined to be an important physical component of a wetland ecosystem, and/or are considered of special value to society, from a local, regional, and/or national perspective. Functions and values may be considered "capable" if a wetland can provide any given function or value on a limited basis. The rationale for the assignment of functions as principal or capable is based upon professional judgment with guidance provided in a list of considerations outlined in the ACOE methodology.

4.0 RESULTS

4.1 RARE SPECIES AND IMPACT ASSESSMENT

GZA queried the Natural Heritage Bureau (NHB) to determine if there any known records of rare species or exemplary communities near or on the Site. According to the NHB, the Site is approximately 0.13 miles southeast of the following exemplary communities: Atlantic white cedar - yellow birch - pepperbush - swamp and red maple - sensitive fern swamp. These communities are not mapped by NHB on the Site.

4.2 REGIONAL NATURAL RESOURCE SIGNIFICANCE OF THE SITE

GZA reviewed publicly available natural resource information published by the NH Fish and Game Department, the Rockingham Planning Commission, GRANIT, and the City of Portsmouth (e.g. Natural Resource Chapter in the Master Plan). Based on 2020 Wildlife Action Plan (WAP) maps, prepared by NHF&G, the western portion of the Site is part of the "highest ranked habitat in the region" (see **Figure 3**, Wildlife Action Plan Habitats). In addition, there are no areas mapped as "flood hazard areas" on the Site based on the 2015 Regional Master Plan — Natural Resources Chapter dated April 2015, prepared by the Rockingham Regional Planning Commission. However, based on the "Conservation and Other Public Land Map", the Site is considered a Conservation Priority Area.





Wetland Function-Value Assessment Report Stonearch Development Corp.

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Page | 3

In addition, GZA reviewed the regional natural resource significance of the property and natural resource maps prepared by the City of Portsmouth including the City of Portsmouth Prime Wetlands Analysis Report prepared by West Environmental, Inc. (West Environmental), dated 2006, the City of Portsmouth Public Undeveloped Land Assessment Comprehensive Baseline Inventory and Natural Resource Inventory prepared by West Environmental, dated 2010, and the City of Portsmouth Vernal Pool Inventory prepared by West Environmental, dated 2008. Wetland 2 is designated as a Prime Wetland in the City of Portsmouth and has a designated 100-ft Prime Wetland buffer. In accordance with the Prime Wetlands Analysis (2006), a Prime Wetland must meet the following minimum criteria:

- 1) The wetland shall have the presence of hydric soils, hydrophytic vegetation, and wetlands hydrology; and
- 2) At least 50% of the prime wetland shall have very poorly drained soils and the remaining soils shall be poorly drained soils.

A total of 27 wetlands were evaluated in the City of Portsmouth and further evaluated for prime wetland designation consideration based on soils, changes in wetland classification since 2002, wetland boundary verification, land use changes within the wetland buffer, potential water quality impacts, invasive species, information on rare plants and wildlife, wildlife habitat, education/scientific values, restoration potential, results of functional analysis, and justification for prime wetland designation. Wetland 2 (i.e. Wetland 001 as defined by the City) was identified as a prime wetland candidate based on its proximity to Berry's Brook wetland complex, Atlantic White Cedar stands, and because it is the sixth largest wetland in the City.

Based on the Portsmouth Vernal Pool Inventory (2008), two vernal pool focus areas were identified approximately 0.66 miles northwest of the Site within the same prime wetland complex as Wetland 2. These two vernal pools are identified as Focus Areas 5C and 5D (refer to **City of Portsmouth Vernal Pool Inventory** report, dated 2008). Both areas were noted within Atlantic white cedar and red maple forest stands and mosquito larvae and water striders were observed at the time of the assessment, and were noted to be capable of supporting vernal pool activity. These areas are located off-site.

In accordance with the Natural Resource Inventory (2010), parcels of land closest to the Site, identified as Public Undeveloped Land Assessment (PULA) ID 6, 7, 8, 15, 16, 18, 19, 20, were evaluated for overall stewardship suggestions based on access, recreation, wildlife habitat, stormwater management opportunities, invasive species control, wetland restoration, education potential, forest management, alternative energy, community gardens, and stewardship clean-up. Site specific management suggestions for each of the above referenced PULA ID's included protection as wildlife habitat, and several areas were suggested to consider conservation protection in perpetuity. PULA ID 15, located just west of the Site, suggested maintaining a trail along the southern property boundary.

4.3 WETLAND FUNCTION-VALUE ASSESSMENT

Two wetland systems were identified by GZA on the Site (see **Table 1**, Wetland Classification Summary Table and **Figure 2**, Aerial Overview). Wetland 1 is a small, isolated wetland system located on the southern portion of the Site near existing residential properties off Lafayette Road. Wetland 2 is a large emergent and forested wetland system located in the northern, western, and southern portions of the Site, and located west of the proposed development. Wetland 2 contains several ponded areas and emergent marsh habitat that GZA understands was intentionally created as part of a wetland mitigation project conducted as part of the construction of the Portsmouth Regional Hospital. Wetland 2 has also been designated as a prime wetland by the City of Portsmouth and has a designated 100-ft prime wetland buffer.



TABLE 1 Wetland Classification Summary Table

Wetland Description	Wetland Classification
Wetland 1	PFO1/PSS1E
Wetland 2	PFO1E/PFO1Fg/PUBHx/PEM1Hx

4.3.1 Wetland 1

Wetland 1 is located in the eastern portion of the Site near Lafayette Road and is demarcated by the A-line wetland flag series (refer to previously submitted **Wetland Delineation Report** prepared by GZA dated February 4, 2021). Wetland 1 is approximately 5,600 sq. ft. and is classified as a palustrine forested and scrub-shrub wetland system dominated by broad leaved deciduous vegetation that is seasonally saturated (PFO1/PSS1E). Dominant vegetation in the wetland includes sensitive fern (*Onoclea sensibilis*), golden rod (*Solidago spp.*), soft rush (*Juncus effusus*), meadowsweet (*Spiraea latifolia*), silky dogwood (*Cornus amomum*), red osier dogwood (*Cornus sericea*), glossy buckthorn (*Frangula alnus*), northern arrowwood (*Viburnum dentatum*), red maple (*Acer rubrum*), and American elm (*Ulmus americana*). Wetland hydrology is seasonally saturated and does not appear to be adequate to support vernal pool species.

The principal functions of the wetland system include floodflow alteration and sediment/toxicant retention. This wetland is an isolated scrub-shrub and forested wetland system to the west of an existing parking lot for a residential apartment building. This wetland appears to accept runoff for the existing parking lot and has evidence a localized flood storage capability. The wetland is located in close proximity to an existing hotel development ("Wren's Nest Village Inn") and commercial development ("A Southern Girl Bakery") and the wetland may receive sediment/toxicants from the surrounding landscape. Wetland 1 is also capable of groundwater recharge/discharge, nutrient removal, and wildlife habitat, albeit on a small, localized scale. The wetland may provide partial habitat requirements for disturbance-tolerant species, but small size, limited hydrology, and proximity to existing development limit overall potential use of the wetland by wetland-dependent species. The project does not propose any temporary or permanent wetland impacts to this system.





View of Wetland 1 looking southerly.

4.3.2 Wetland 2

Wetland 2 is located in the center of the Site just west of Lafayette Road and Wetland 1. The exterior of the wetland is classified as a palustrine forested wetland system dominated by broad leaved deciduous vegetation that is seasonally saturated (PFO1E). The interior of the wetland is classified as a palustrine forested wetland system dominated by broad leaved deciduous vegetation that is semi-permanently flooded/saturated (PFO1Fg).

The southeastern portion of the wetland is classified as a palustrine forested wetland system dominated by broad-leaved deciduous vegetation and is seasonally saturated (PFO1E). The eastern and northeastern portion of the wetland is classified as a palustrine wetland system with unconsolidated bottom and is semi-permanently flooded and has been excavated (PUBHx), and a palustrine emergent wetland system dominated by broad leaved deciduous vegetation and is semi-permanently flooded and has been excavated (PEM1Hx). Dominant vegetation in the forested wetland includes sensitive fern, cinnamon fern (*Osmundastrum cinnamomeum*), bristly dewberry (*Rubus hispidus*), skunk cabbage (*Symplocarpus foetidus*), sphagnum moss (*Sphagnum spp.*), American hornbeam (*Carpinus caroliniana*), American witch hazel (*Hamamelis virginiana*), highbush blueberry (*Vaccinium corymbosum*), common winterberry (*Ilex verticillata*), gray birch (*Betula populifolia*), red maple, black gum (*Nyssa sylvatica*), American elm, yellow birch (*Betula alleghaniensis*), black cherry (*Prunus serotina*), eastern hemlock (*Tsuga canadensis*), and white pine (*Pinus strobus*). Dominant vegetation in the emergent wetland includes broad-leaf cattail (*Typha latifolia*), narrow-leaf cattail (*T. angustifolia*), tussock sedge (*Carex stricta*), and multiflora rose (*Rosa multiflora*).

Wildlife observed in the emergent portion of Wetland 2 during the June 11, 2021 site visit included black-capped chickadee (*Poecile atricapillus*), red-winged blackbird (*Agelaius phoeniceus*), song sparrow (*Melospiza melodia*), gray catbird (*Dumetella carolinensis*), northern cardinal (*Cardinalis cardinalis*), green frog (*Lithobates clamitans*), and American beaver (*Castor canadensis*). Additional species noted in the uplands and proposed development area included American goldfinch (*Spinus tristis*), gray catbird, eastern chipmunk (*Dumetella carolinensis*), and American robin (*Turdus migratorius*). Ponded portions of the wetland also likely support waterfowl such as mallard and amphibians and reptiles including painted turtle (*Chrysemys picta*), snapping turtle (*Chelydra serpentina*), and green frog (*Lithobates clamintans*).



The principal functions of the wetland system include groundwater recharge/discharge, floodflow alteration, sediment/toxicant retention, nutrient removal, production export, wildlife habitat, and uniqueness/heritage. Wetland 2 contains a well-stratified herbaceous, shrub, and tree layer. In addition, Wetland 2 is capable of fish and shellfish habitat, sediment/shoreline stabilization, recreation, endangered species habitat, and visual quality/aesthetics. The presence of several ponded areas, as well as forested cover, supports common woodland wildlife species such as white-tailed deer (*Odocoileus viriginianus*) and pileated woodpecker (*Dryocopus pileatus*), which were observed during field work in June. In addition, the wetland is contiguous with other forested areas off-Site, which provided connectivity for species with large home ranges. The ponded and emergent portions of Wetland 2 provide breeding and foraging habitat for semi-aquatic and aquatic species. Wetland 2 is contiguous with other wetland systems connected to various conservation lands and drains to the south via Berry's Brook which leads into the Piscataqua River. The wetland is designated as a prime wetland and contains exemplary comminutes identified by the New Hampshire Natural Heritage Bureau (see NHB memo NHB21-1722) approximately 0.13 miles west of the Site.



View of Wetland 2 looking northwesterly.

4.3.3 Impact Evaluation

The proposed project includes the development of 13 separate buildings, with a total of 50 condo units and associated parking areas (refer to **Site Plan Figure C2** prepared by Jones & Beach Engineers, inc. dated 5/5/2021). The project does not propose permanent or temporary wetland impacts, and this is a notable aspect of the design. Proposed project impacts have been substantially reduced from earlier concepts. An earlier concept of the project included sewer main replacement in the prime wetland and this portion of the scope was removed from the project design, thereby avoiding temporary and permanent wetland impacts. Further, the footprint of the project is intentionally sited in the location of an existing wood processing operation, to limit new impacts to undeveloped areas. To be protective of the on-site prime wetland, larger landscape, and exemplary communities known to occur off-Site, the project includes a large conservation area that includes a mix of wetland and upland habitat. This supports the goals of the larger Conservation Focus Area that overlaps the Site. The project design includes a proposal to construct a walking trail, which has potential to increase visual aesthetics and recreation values of the



wetland by improving access. The addition of the trail supports goals outlined in the City of Portsmouth Public Undeveloped Land Assessment.

The proposed project includes a planting plan to restore and re-vegetate the 100-ft prime wetland buffer where it is currently disturbed as a result of the existing land use (refer to **Site Presentation Plan** and **Site Landscape Plan** prepared by TF Moran dated June 18, 2021 and March 8, 2021, respectively). In accordance with the City of Portsmouth Natural Resource Inventory management suggestions of surrounding parcels, the proposed project will serve to improve wildlife habitat by restoring the currently impacted 100-ft prime wetland buffer with native plantings. Restoration and planting within the 100-ft prime wetland buffer will also serve to improve the wetlands standing as a designated prime wetland in accordance with the City's Prime Wetland Analysis Report since land use changes within the wetland buffer are part of the prime wetland designation analysis. The project also includes secondary measures to protect the features of the wetland buffer including downward facing lighting, dog waste stations, and trails to protect vegetative growth in the buffer, by focusing and guiding foot traffic.

Consistent with a purpose of the prime wetland buffer (i.e. to aid in the control of nonpoint source pollution and to provide vegetative cover for filtration of runoff), two drainage swales are proposed within the 100-ft prime wetland buffer just west of the proposed development to treat stormwater prior to discharge to the wetland. These swales are relatively small features totaling approximately 7,000 square feet, and are proposed to be vegetated. Proposed building and parking construction is located outside of the 100' wetland buffer, and this has reduced proposed buffer impacts over previously proposed impacts. In its current condition, the 100-ft prime wetland buffer is sparsely vegetated, and vehicles are parked within the buffer. In some locations, the 100-ft prime wetland buffer is disturbed due to compacted gravel and woodchip stockpiles. As a result, as part of the proposed project, the 100ft prime wetland buffer adjacent to the proposed access will be restored by planting native tree species including red maple (Acer rubrum), sugar maple (Acer saccharum), black gum (Nyssa sylvatica), American elm (Ulmus americana), red-osier dogwood (Cornus sericea), as well as other tree and shrub species (refer to Site Landscape Plan prepared by TF Moran, Inc., dated March 8, 2021). Therefore, the proposed project will serve to restore the prime wetland buffer by providing natural vegetation, ultimately improving the functions and values of the associated wetland system. Due to the reduction of proposed wetland and upland buffer impact, location of an existing commercial business in the proposed project area, inclusion of additional conservation land, and the proposed improvement of the 100-ft prime wetland buffer, it is not anticipated that the proposed development will have significant impacts to the functions and values of Wetland 2. As designed, the project proposed to improve the visual aesthetics and recreation values of the wetland. The project represents a re-development that includes buffer restoration and measures to limit potential secondary impacts in the wetland buffer.

5.0 FINDINGS AND CONCLUSIONS

GZA has completed a wetland function-value assessment and impact evaluation for Stonearch Development Corporation's proposed condo development project. The following is a summary of our findings and conclusions:

- Two wetland systems were identified on the Site. The wetlands consist of a Wetland 1 (PFO1/PSS1E) and Wetland 2 (PFO1E/PFO1Fg/PUBHx/PEM1Hx).
- Wetland 1 is directly adjacent to an existing development while Wetland 2 contains mainly forested cover with an emergent wetland with several ponds to the northeast as a result of a prior wetland mitigation project.



Wetland Function-Value Assessment Report Stonearch Development Corp.

04.0191186.00 Page | 8

- Wetland 1 provides floodflow alteration and sediment/toxicant retention as principal functions, while Wetland 2 provides groundwater recharge/discharge, floodflow alteration, sediment/toxicant retention, nutrient removal, production export, wildlife habitat, and uniqueness/heritage as principal functions.
- GZA reviewed the City of Portsmouth Prime Wetlands Analysis Report prepared by West Environmental, Inc. (West Environmental), dated 2006, the City of Portsmouth Public Undeveloped Land Assessment Comprehensive Baseline Inventory and Natural Resource Inventory prepared by West Environmental, dated 2010, and the City of Portsmouth Vernal Pool Inventory prepared by West Environmental, dated 2008. Resources identified in these assessments and reports will not be impacted as a result of the proposed project. In addition, the planting plan which is proposed to be implemented as part of the project would serve to help improve the condition of the 100-ft prime wetland buffer.
- GZA reviewed state-wide mapping efforts to assess the regional importance of the Site from a natural
 resource perspective. According to 2020 WAP maps, a majority of the undeveloped portion of the Site not
 proposed to be developed is mapped as highest ranked habitat in the region. However, the portion of the
 Site to be developed is primarily not ranked, with a portion of the site northwest of the proposed
 development ranked as Supporting Landscapes. No Highest Ranked Habitat in New Hampshire is mapped
 on the Site.
- NHB identified two exemplary natural communities near the Site including Atlantic white cedar yellow birch pepperbush swamp and red maple sensitive fern swamp.
- The project includes the proposed construction of 13 separate buildings, with a total of 50 condo units and associated parking areas, predominantly in the footprint of an existing wood processing operation.
- The project was designed to avoid temporary and permanent wetland impacts. No wetland impacts are
 proposed as part of the access and buildings associated with the project. In addition, the proposed sewer
 replacement portion of the project was removed from the concept.
- The project includes measures to reduce potential secondary impacts in the wetland buffer including downward facing lighting in the development, trails to direct foot traffic, and dog waste stations.
- The project includes a large, proposed conservation area, bordering existing conservation land in support of a Conservation Focus Area and goals identified in the Public Undeveloped Land Assessment.
- A substantial buffer planting plan has been developed, to restore and re-plant a portion of the 100-ft prime
 wetland buffer. In addition, the two proposed swales in the buffer will be planted with a native seed mix,
 consistent with maintaining the buffer, in a natural, vegetated condition.
- The project has been designed to avoid impacts to wetland functions and values and provides potential to improve visual aesthetics and recreation values of Wetland 2.



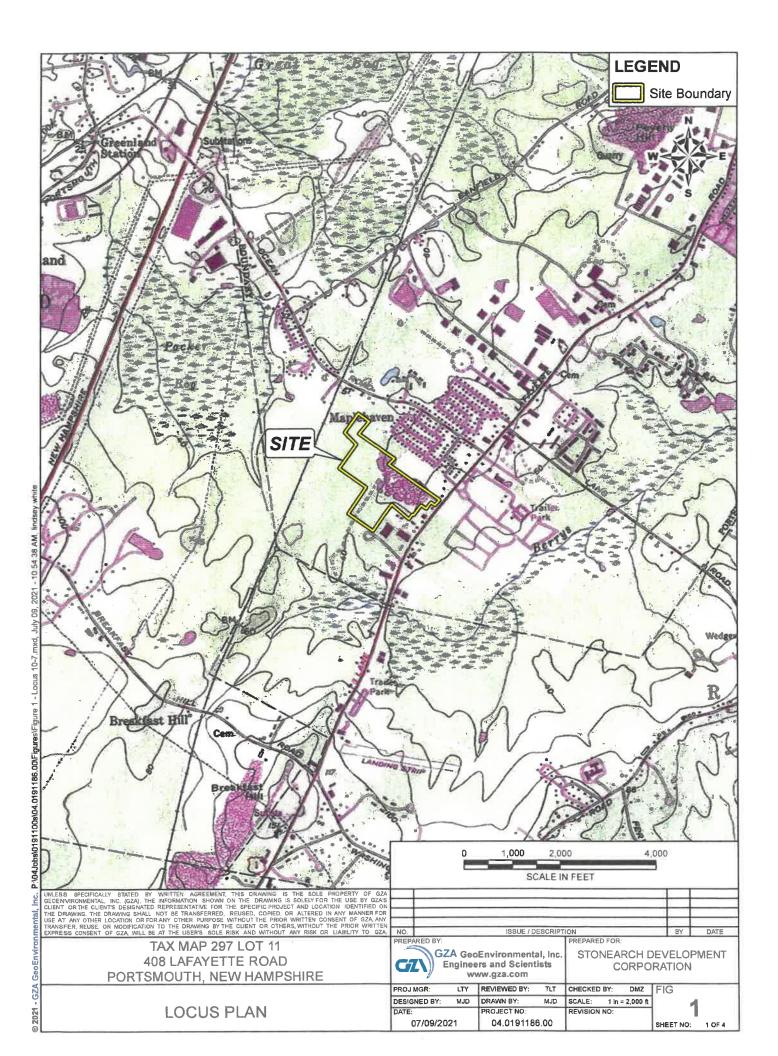
July 9, 2021 Wetland Function-Value Assessment Report Stonearch Development Corp. 04.0191186.00 Page | 9

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- Degraaf, R. M. and M. Yamasaki. 2001. New England Wildlife: Habitat, Natural History, and Distribution. University Press of New England, Hanover, NH.
- Sperduto, D. D. and W. F. Nichols. 2012. Natural Communities of New Hampshire, 2nd edition. The New Hampshire Natural Heritage Bureau, Concord, NH. Pub. UNH Cooperative Extension, Durham, NH.
- U.S. Army Corps of Engineers, New England District. 1999. Wetland Functions and Values: A Descriptive Approach. NAEEP-360-1-30a.



Figure 1 - Site Locus



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Figure 2 - Site Aerial Overview

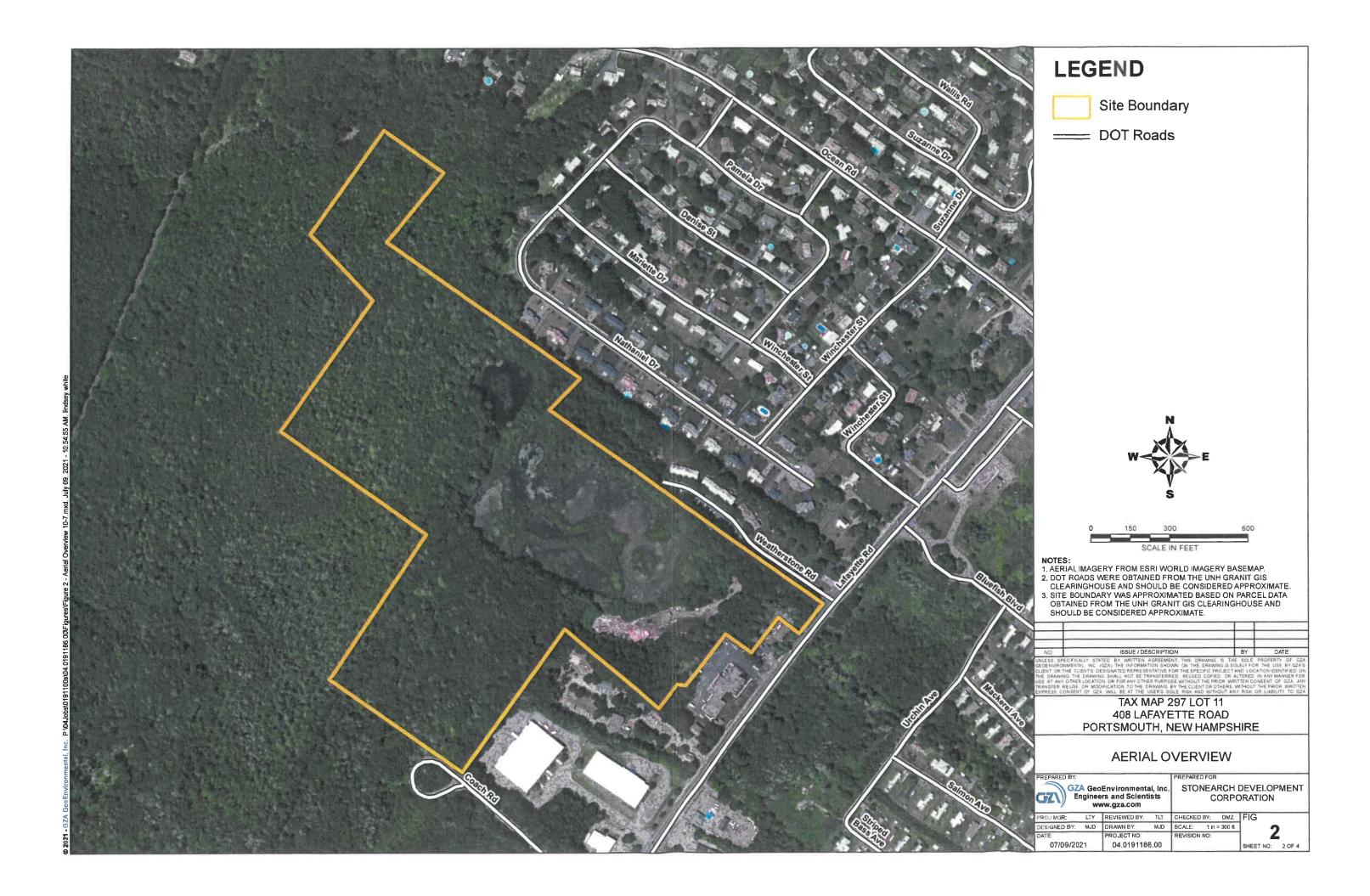
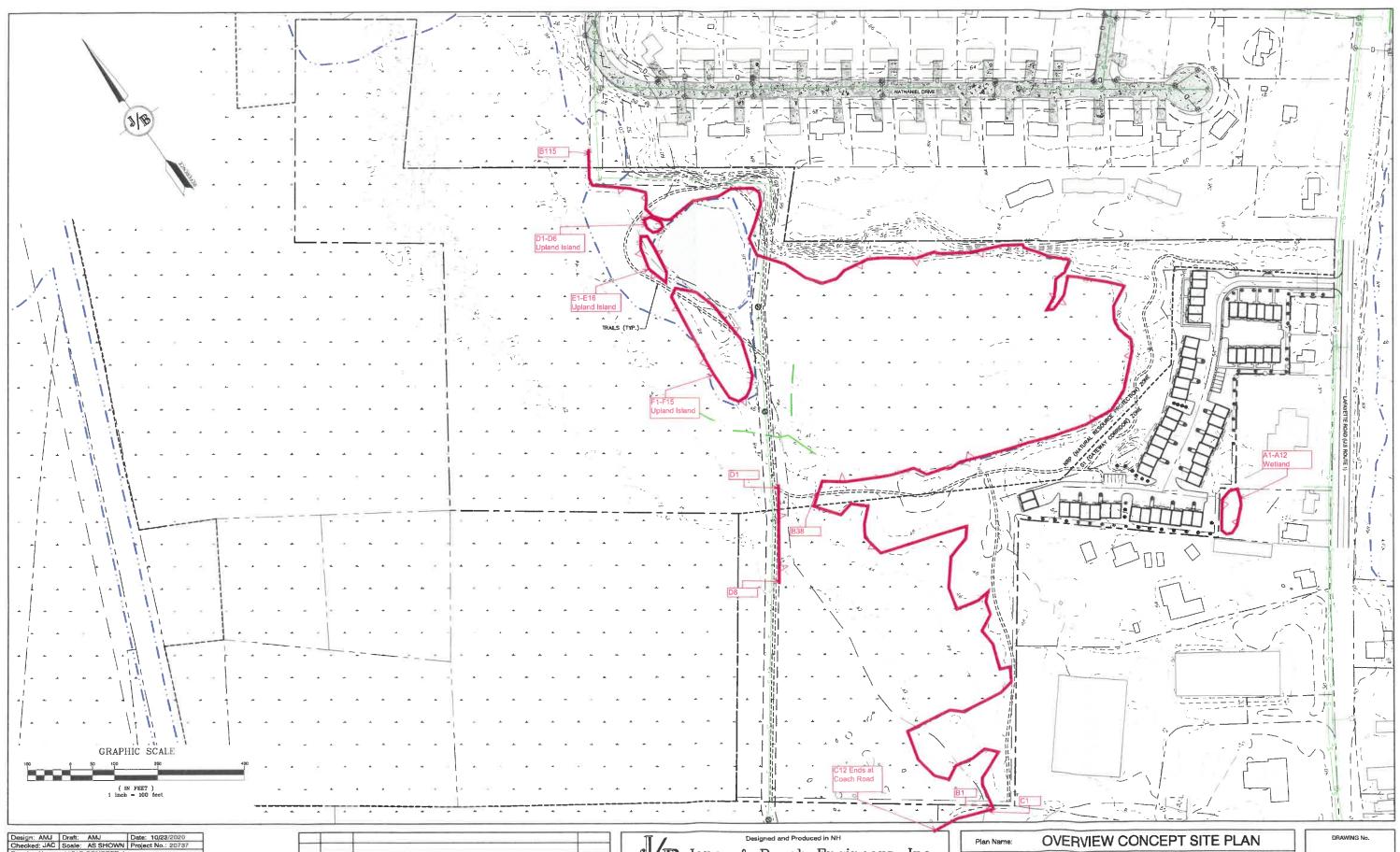




Figure 3 – Wetland Delineation Sketch



Drawing Name: 20737-CONCEPT.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.

1	11/23/20	REVISED PER CLIENT	DJM
D	11/09/20	ISSUED FOR REVIEW	DJM
REV.	DATE	REVISION	BY

Jones & Beach Engineers, Inc. 85 Portsmouth Ave. Civil Engineering Services
PO Box 219
Stretham, NH 03885

E-MAIL: JBE@

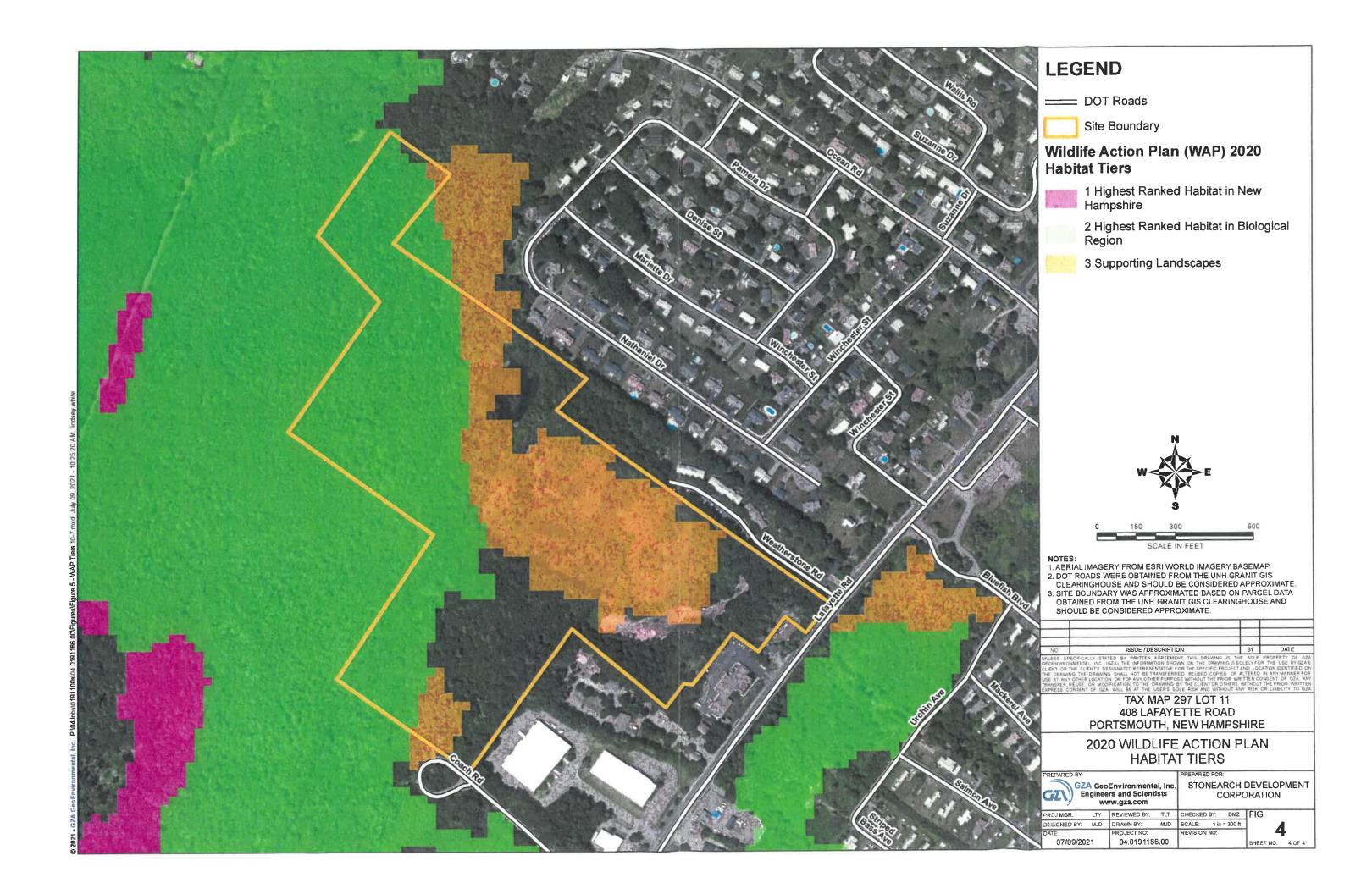
Services 603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

3400 LAFAYETTE ROAD PORTSMOUTH, NH Project: RICCI CONSTRUCTION CO., INC.
Owner of Record 225 BANFIELD ROAD, PORTSMOUTH, NH 03801 BK 1930 PG 0229 CON₁



Figure 4 – Wildlife Action Plan Habitats

			3	



NATURAL RESOURCE SURVEY AND ASSESSMENT LIMITATIONS



04.0191186.00 Page | 1 June 2021

USE OF REPORT

1. GZA GeoEnvironmental, Inc. (GZA) has prepared this report on behalf of, and for the exclusive use of 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.



NATURAL RESOURCE SURVEY AND ASSESSMENT LIMITATIONS

04.0191186.00 Page | 2 June 2021

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 – Wetland Function-Value Assessment Forms



LAFAYETTE ROAD PORTSMOUTH, NEW HAMPSHIRE

File No	File No: 04.0191186.00					Date: 5/26/2021 and 6/28/2021	
Wetland ID: V	Wetland ID: Wetland 1 PFO1/PSS1E	WE	WETLAND		FUNCTION – VALUE EVALUATION FORM	GZA Personnel: Peter Petkauskos and Tracy Tarr	
	Function/Value	Capa	Capability Y N	Rationale (Reference #)	ing	Summary	Principal Yes/No
\ [µ	Groundwater Recharge/Discharge	>		4,	Wetland hydrology is supported by runoff and a seasonally high-wate. The wetland contains sandy soils (see NRCS Soils Overlay). The we directly underlain by an aquifer (see Aquifer Transmissivity Overlay).	Wetland hydrology is supported by runoff and a seasonally high-water table. The wetland contains sandy soils (see NRCS Soils Overlay). The wetland is directly underlain by an aquifer (see Aquifer Transmissivity Overlay).	z
•	Floodflow Alteration	>		3, 4, 5, 6, 9	The wetland receives and retains overland sheet flow.	rland sheet flow.	>
Well organ	Fish and Shellfish Habitat		z	Not Applicable	No streams or permanently flooded h	No streams or permanently flooded habitat are present in the assessment area.	z
**	Sediment/Toxicant Retention	>		1,2	The wetland receives direct stormwater flow from Lafayette Road and surrounding residences.	ter flow from Lafayette Road and	>
	Nutrient Removal	>		9, 8, 9	Dense vegetation is present.		z
•	Production Export		z	7	The wetland is isolated and export is	The wetland is isolated and export is likely limited to wildlife use of the wetland.	z
•	Sediment/Shoreline Stabilization		z	Not Applicable	No streams or shoreline edges are associated with the wetland	ssociated with the wetland.	z
1	Wildlife Habitat	>		7	The wetland provides partial habitat requirements to common The wetland is not located in an area being mapped as "high or "supporting landscape" (see Wildlife Action Plan overlay).	The wetland provides partial habitat requirements to common wildlife species. The wetland is not located in an area being mapped as "highest ranked habitat" or "supporting landscape" (see Wildlife Action Plan overlay).	z
*	Recreation		z	ខ	No water-based recreational opportunities are present.	nities are present.	z
QI.	Educational/Scientific Value		z	5, 10	The wetland is located on private property and parking suitable for school buses is not present.	perty and parking suitable for school	Z
*	Uniqueness/Heritage		z	Not Applicable	The wetland is not known to contain exemplary communities and is not designated as a prime wetland.	exemplary communities and is not	Z
9	Visual Quality/Aesthetics		z	Not Applicable	The wetland does not contain open water or emergent marsh vistas.	rater or emergent marsh vistas.	z
ES	Endangered Species Habitat		z	1,2	The NHB does not have records of ra 21-1722).	The NHB does not have records of rare species (see NHB memo dated NHB 21-1722).	z

Notes:
Plants within the herbaceous layer include sensitive fem, goldenrod, and soft rush.
Plants within the shrub/sapling and tree layer include meadowsweet, silky dogwood, red-osier dogwood, northern arrowwood, glossy buckthorn, red maple, and American elm.



LAFAYETTE ROAD PORTSMOUTH, NEW HAMPSHIRE

File N	File No: 04.0191186.00					Date: 5/26/2021 and 6/28/2021	
Wetlan PFO1E	Wetland ID: Wetland 2 PFO1E/PFO1Fg/PUBHx/PEM1Hx	WE	WETLAND		FUNCTION – VALUE EVALUATION FORM	GZA Personnel: Peter Petkauskos and Tracy Tarr	
	Function/Value	Capa	Capability Y N	Rationale (Reference #)	'nS	Summary	Principal Yes/No
) li	Groundwater Recharge/Discharge	>		1, 2, 3, 4, 7, 15	Wetland hydrology is supported by runoff and a high-water table. A put the wetland contains sandy soils (see NRCS Soils Overlay). The wet directly underlain by an aquifer (see Aquifer Transmissivity Overlay).	Wetland hydrology is supported by runoff and a high-water table. A portion of the wetland contains sandy soils (see NRCS Soils Overlay). The wetland is directly underlain by an aquifer (see Aquifer Transmissivity Overlay).	>
	Floodflow Alteration	>		1, 3, 4, 5, 7, 8, 9, 10, 11, 18	The wetland receives and retains overland sheet flow from surrounding residential and commercial properties to the southeast. The wetland dra Berry's Brook a perennial stream and contains permanently flooded hal	The welland receives and retains overland sheet flow from surrounding residential and commercial properties to the southeast. The wetland drains into Berry's Brook a perennial stream and contains permanently flooded habitat.	\
C.	Fish and Shellfish Habitat	+		1, 2, 5, 10, 16	Permanently flooded habitat is present in the assessment area.	nt in the assessment area.	z
≫	Sediment/Toxicant Retention	>		1, 2, 3, 4, 5	The wetland receives stormwater froi surrounding residences.	The wetland receives stormwater from Lafayette Road, Nathaniel Drive, and surrounding residences.	\
= D	Nutrient Removal	>		1, 2, 3, 4, 5, 6, 7, 8, 9	Dense vegetation is present within th	Dense vegetation is present within the emergent and scrub shrub wetland.	>
†	Production Export	>		1, 4, 5, 7, 8, 12, 13, 14	The wetland contains dense vegetatiuse in the wetland.	The wetland contains dense vegetation and export is occurring through wildlife use in the wetland.	>
	Sediment/Shoreline Stabilization	>		1, 2, 3, 6, 10, 12, 15	A defined bank is present along the areas of impounded water.	ireas of impounded water.	Z
J	Wildlife Habitat	>		6, 7, 8, 9, 10, 13, 15, 17, 18, 19, 20, 21	The wetland is located in "highest rar landscape" (see Wildlife Action Plan bird species were observed in the enwetland.	The wetland is located in "highest ranked habitat in the region" and "supporting landscape" (see Wildlife Action Plan overlay), White-tailed deer and several bird species were observed in the emergent, scrub shrub, and open water wetland.	>
*	Recreation	>		5, 12	Some open water is present. There is potential for value may increase with the construction of trails.	Some open water is present. There is potential for views of the wetland and this value may increase with the construction of trails.	Z
Q.	Educational/Scientific Value		z	3, 5, 6	The wetland is located on private property and parking suitable for school buses is not present.	perty and parking suitable for school	Z
*	Uniqueness/Heritage	>		2, 4, 12, 13, 19, 26, 27, 30	The wetland is known to contain exemplary communities off-Site and is designated as a prime wetland.	nplary communities off-Site and is	\
9	· Visual Quality/Aesthetics	>		1, 2, 5, 7, 8, 12	The wetland contains areas of open water and emergent marsh vistas. value will improve with the construction of trails by improving access for aesthetics.	The wetland contains areas of open water and emergent marsh vistas. This value will improve with the construction of trails by improving access for visual aesthetics.	Z
ES	Endangered Species Habitat	>		1, 2	The NHB does not have records of rare species (see NHB memo dated NHB21-1722). However potential species that may use this wetland incl Blanding's turtle, little brown bat, smooth green snake, sora, and spotter	The NHB does not have records of rare species (see NHB memo dated NHB21-1722). However potential species that may use this wetland include Blanding's turtle, little brown bat, smooth green snake, sora, and spotted turtle.	Z

Notes: Dominant plants within the herbaceous layer include cinnamon fern, sensitive fern, tussock sedge, broad-leaf cattail, narrow-leaf cattail, skunk cabbage, and sphagnum moss. Dominant plants within the shrub/sapling/tree layer include highbush blueberry, common winterberry, speckled alder, red maple, yellow birch, American hornbeam, and gray birch.



Appendix C – Natural Heritage Bureau Memo

Memo

NH Natural Heritage Bureau NHB DataCheck Results Letter

Please note: portions of this document are confidential.

Maps and NHB record pages are confidential and should be redacted from public documents.

To: Michael Kerivan

PO Box 146

Strafford, NH 03884

From: Jessica Bouchard, NH Natural Heritage Bureau

Date: 5/25/2021 (valid until 05/25/2022)

Re: Review by NH Natural Heritage Bureau

Permits: NHDES - Alteration of Terrain Permit

Location: 3400 Lafayette Road Town: Portsmouth NHB21-1722 NHB ID:

Building a 50-unit multi-family residential development at the front of the property closest to lafayette Road. There will be Description:

approximately 206,600 square feet of disturbance with construction to begin summer/fall 2021.

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

NHB: The proposed project site is adjacent to a few exemplary natural community types. Is the project expected to impact wetlands? Please provide a proposed conditions plan overlain on aerial imagery. Comments

F&G: No Comments At This Time

Natural Community	State1	State ¹ Federal Notes	Notes
Atlantic white cedar - yellow birch - pepperbush swamp*	1	ı	Changes to the hydrology of the wetland are the greatest threat facing the cedar swamp. Darming which causes pooling for extended periods can flood and drown existing trees, and drainage that results in lower water levels can lead to invasion by other species that can out compete — and eventually eliminate — Atlantic white cedar
			trees. Increased nutrient input from stormwater runoff could also deleteriously impact this acidic, low-nutrient plant community.
Red maple - sensitive fem swamp*	I	I	These swamps are influenced by groundwater seepage and springs which moderate water fluctuations and maintain conditions favorable for the accumulation of organic matter. The primary threats are changes to the hydrology of the wetland complex, particularly raising or lowering the water levels, and increased nutrient and pollutant input carried in by stormwater runoff.
Seasonally flooded Atlantic white cedars wamp*	1	1	The primary threat to this community is changes in the water level of adjacent

Department of Natural and Cultural Resources Division of Forests and Lands (603) 271-2214 fax. 271-6488

DNCR/NHB 172 Pembroke Rd. Concord, NH 03301

Memo

NH Natural Heritage Bureau NHB DataCheck Results Letter

Please note: portions of this document are confidential.

Maps and NHB record pages are confidential and should be redacted from public documents.

streams or open water. Increased nutrient input from stormwater runoff could also deleteriously impact this acidic, low-nutrient plant community.

been added to the official state list. An asterisk (*) indicates that the most recent report for that occurrence was more than 20 years ago. ¹Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet

species. An on-site survey would provide better information on what species and communities are indeed present. information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on



Appendix D – Photo Log



Photograph No. 1: Looking southerly into Wetland 1.



Photograph No. 2: Looking at dense vegetation in the easterly portion of Wetland 1.



Photograph No. 3: Looking northerly into the ponded and emergent portion of Wetland 2.



Photograph No. 4: Looking at dense vegetation in the northern portion of Wetland 2.



Photograph No. 5: Looking westerly into the forested portion of Wetland 2.



Photograph No. 6: Looking southerly at dense vegetation within Wetland 2.



Photograph No. 7: Looking easterly towards woodchip stockpile and compacted gravel access area. A portion of the woodchip stockpile is located within the 100-ft prime wetland buffer. This portion of the Site is proposed to be developed and the impacted wetland buffer will be restored.



Photograph No. 8: View of compacted gravel parking and access area used for storage equipment. A portion of this area is located within the 100-ft prime wetland buffer. This portion of the Site is proposed to be developed and the impacted wetland buffer will be restored.



GZA GeoEnvironmental, Inc.