ALTUS ENGINEERING, INC.

Civil
Site Planning
Environmental
Engineering

133 Court Street
Portsmouth, NH
03801-4413

November 24, 2021

Peter Britz, Interim Planning Director
Attn: Barbara McMillan, Conservation Commission Chair
City of Portsmouth Municipal Complex
1 Junkins Avenue
Portsmouth, New Hampshire 03801

Re: Wetlands Conditional Use Permit Application
Assessor's Map 201, Lot 2
960 Sagamore Avenue
Altus Project No. 5079

Dear Peter and Barbara,

On behalf of the Applicant, Sagamore Corner, LLC, Altus Engineering, Inc. respectfully submits a Wetlands Conditional Use Permit application for the redevelopment of the former Golden Egg site at 960 Sagamore Avenue. The Proposed development will consist of a new six (6) unit building and a five (5) exterior stall visitor parking lot to serve the new building. Parking for the residents will be located on the garage level of the building. The existing paved parking lot along Sagamore Avenue will be removed and access will be provided from Sagamore Grove, which will eliminate the head-in parking from Sagamore Avenue and traffic conflicts. The majority of the new parking lot and driveway will be constructed with porous pavement and a sub-surface treatment system will be constructed to treat and manage the stormwater from the roof. There will be a reduction of over 8,400 square feet of impervious and gravel area. All existing impervious surfaces (over 750 square feet) in the 100 ft buffer will be removed. A 10 ft x 10 ft porous patio is proposed in the same location.

Per Section 10.1017.50 for criteria for approval of a conditional use permit, the following responses are provided;

(1) The land is reasonably suited to the use, activity or alteration.
The property use is residential in the MRB District and will replace an existing restaurant, retail store, and apartment. This is a reasonable use as allowed by the zoning distict.

(2) There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.
The proposed project will remove over 750 square feet of gravel parking area in the wetland buffer. A small 10 ft x 10 ft porous patio will be constructed in the location of the former parking area. There will be no impervious area in the buffer.

(3) There will be no adverse impact on the wetland functional values of the site or surrounding properties;
The proposed project will reduce approximately 8,400 square feet of impervious from the site and 750 square feet in the wetland buffer. Stormwater treatment will be provided where none currently exists. Peak runoff flows will be significantly reduced and treatment provided to improve water quality runoff.

(4) Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals; and
There will not be any impacts to the natural wooded wetland buffer.

(5) The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this Section.
The proposed project will remove over 750 square feet of impervious area in the buffer and no new impervious is proposed. Stormwater treatment will be provided where none currently exists. Peak runoff flows will be significantly reduced and treatment provided to improve water quality runoff.

(6) Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.
There will be no impacts to the vegetated buffer strip, which exists in its natural state.

Enclosed please find eight (8) copies of the following items for consideration at the December 8th Conservation Commission Meeting:

- Site Plans (1 full size, 7 half size)
- Wetlands Conditional Use Plan
- "Green" Statement
- Wetlands and Buffer Evaluation
  - Wetlands Letter
  - NHD Data Review
- Drainage Report (summary)

Please call me if you have any questions or need any additional information.

Sincerely,

ALTUS ENGINEERING, INC.

Cory D. Belden, PE
Associate Principal

ebs/5079-CUP-PB-CovLtr-112221.docx

Enclosures
eCopy: Eric Katz, Sagamore Corner, LLC

PROPOSED DRAINAGE LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT GRADE
- PROPOSED DRAIN LINE
- PROPOSED CATCH BASIN (PCB)
- PROPOSED STORM DRAIN MANHOLE (PDMH)
- PROPOSED AREA DRAIN (PAD)
- PROPOSED STORMWATER MANAGEMENT GALLERY (SMG)

NH STATE PLANE COORDINATE SYSTEM
NAD 1983

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

TAX MAP 201, LOT 2
(±8,776 S.F.)

POROUS ASPHALT

STEPS
3 STAIR/ 5"H
5 STAIR/ 6"H

PATIO 10' X 10'
(POROUS PAVERS)

PROP.CONDOMINIUM BUILDING
6 UNITS
SEE ARCH. DWGS.

1ST FLOOR
= 30.75

GARAGE
FLOOR=
20.25

TRENCH DRAIN
(SEE DETAILS)

ISOLATOR
CHAMBER

SUB-SURFACE
STORMWATER
CHAMBER SYSTEM
(SEE DETAILS)

30" RETAINING WALL
TOP WALL = 29.5
BOT WALL = 27.0

LIMIT OF WORK IN WETLAND
BUFFER (1,100± SF)

EXISTING STONE WALL
TO REMAIN

LIMITS OF ROADWAY EASEMENT

20 FT DRIVEWAY
APRON (ASPHALT)

TREES TO REMAIN
(SEE LANDSCAPE PLAN)

WOOD GUARDRAIL

SEE DRIVEWAY PROFILE
BOTTOM RIGHT

21.0±
0+00
21.5±
0+60
4.5%

1 FT TW
STEP

4" UD FLAGPOLE

5%

25.3±

SAGAMORE GROVE

SAGAMORE AVE

STORM DRAIN INLET
PROTECTION (TYP)

RECONSTRUCT CATCH BASIN TOP
TO CURB INLET CATCH BASIN
(R-3303 BY NEENAH FOUNDRY
OR APPROVED EQUAL)
CORE COLE FOR 8" HDPE FROM
PAD5 (INV 20.80)

CB# 2352
RIM EL= 19.85
(1) INV IN= 16.10
(2) INV OUT= 16.07

INV OUT= 16.19
INV IN= 16.51
INV IN= 16.18

CB# 2351
RIM EL= 22.40
(1) INV IN= 10.63
(2) INV IN= 19.27(4"PVC)
(3) INV OUT= 10.55

DMH# 25479
RIM EL= 22.45
(1) INV OUT= 10.95

DMH# 25477

CB# 25476

CB# 25473
RIM EL=20.55
(1) INV IN=10.17

DMH# 5046 (FRENCH DRAIN)
RIM EL=20.60
(1) INV IN= 16.60

CB# 25491
RIM EL= 23.62
INV IN= 19.59
INV OUT= 17.96

CB# 25490
RIM EL= 25.50
INV IN= 20.64
INV OUT= 20.34

201-1 201-1-1 201-2 201-3 201-8 201-9 223-25

WETLANDS IMPACT TABLE

DIRECT WETLANDS IMPACTS	= 0 SF
WETLANDS BUFFER IMPACTS	= 1,100 SF
EXISTING IMPERVIOUS AREA IN WETLANDS BUFFER	= 750 SF
PROPOSED IMPERVIOUS AREA IN WETLANDS BUFFER	= 0 SF

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE
11/22/2021

NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: NOVEMBER 22, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	11/02/21
1	TAC WS COMMENTS	CDB	11/22/21

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 5079-SITE.dwg

SCALE: 22"x34" 1" = 20'
11"x17" 1" = 40'

OWNER / APPLICANT:

SAGAMORE CORNER, LLC
273 CORPORATE DRIVE
PORTSMOUTH, NH 03801

PROJECT:

PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT
TAX MAP 201, LOT 2

SAGAMORE ROAD
PORTSMOUTH, NH 03801

TITLE:

WETLANDS CONDITIONAL USE PLAN

SHEET NUMBER:

CUP-1

P5079

Site Redevelopment Plans

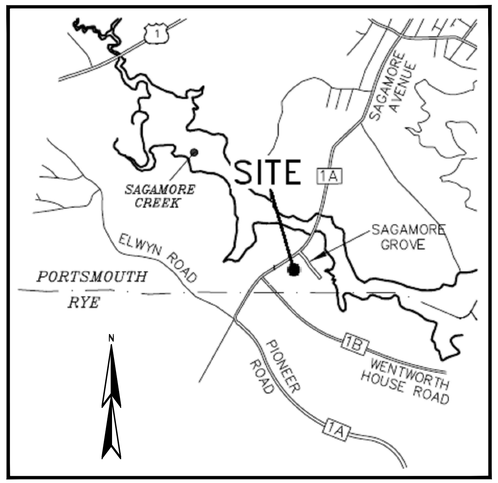
PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT

960 SAGAMORE AVENUE
PORTSMOUTH, NH 03801

TAX MAP 201, LOT 2

Issued for:

NOVEMBER 22, 2021 PLANNING BAORD APPLICATION



Locus Map
Scale: Not to Scale

Owner / Applicant:

SAGAMORE CORNER, LLC
273 CORPORATE DRIVE, STE 150
PORTSMOUTH, NH 03801
(603)427-5100

Civil Engineer:

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

Surveyor:

James Verra and Associates, Inc.
LAND SURVEYORS
101 SHATTUCK WAY - SUITE 8
NEWINGTON, N.H. 03801- 7876
603-436-3557

Architect:

JSA ARCHITECTURE | PLANINNG | INTERIORS
273 CORPORATE DRIVE, SUITE 100
PORTSMOUTH NH 03801
603.436.2551
INFO@JSAINC.COM

Landscape Architect:

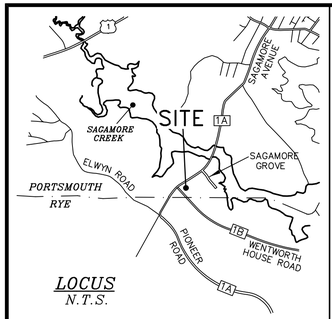
WOODBURN & COMPANY
Landscape Architecture, LLC
103 Kent Place
Newmarket, NH 03857
Tel 603.659.5949
Fax: 603.659.5939

Sheet Index Title	*Sheet No.:*	*Rev.*	*Date*
Existing Conditions Plan (by JVA)	3 SHEETS	0	11/22/21
Demolition Plan	C-1	1	11/22/21
Site Plan	C-2	1	11/22/21
Grading and Drainage Plan	C-3	1	11/22/21
Utilities Plan	C-4	1	11/22/21
Erosion Control Notes and Details	C-5	1	11/22/21
Construction Details	C-6	1	11/22/21
Construction Details	C-7	1	11/22/21
Construction Details	C-8	1	11/22/21
Construction Details	C-9	1	11/22/21
Construction Details	C-10	1	11/22/21
Site Lighting Plan (by Visible Light, Inc.)	S-1	0	11/15/21
Landscape Plan (by Woodburn & Co.)	L-1	0	11/22/21
Garage Level Floor Plan (by JSA)	A-1	0	10/04/21
Elevations (by JSA)	A-2	0	10/4/21
Reference:			
90% Sagamore Grove Sewer Extension (Wright-Pierce)	C-3A		03/21

Permit Summary

ZONING - THE FOLLOWING TWO VARIANCES WERE GRANTED ON SEPTEMBER 21, 2021.

1. SECTION 10.1114.31 -TO ALLOW TWO (2) DRIVEWAYS WHERE ONE (1) IS PERMITTED.
2. ZONING SECTION 10.521 - TO ALLOW A DENSITY OF SIX (6) DWELLING UNITS WHERE 5.7 ARE PERMITTED.



LOCUS
N.T.S.

LEGEND:

- ..... *STONE WALL*
- ..... *IRON ROD FOUND*
- ..... *IRON ROD SET*
- ..... *IRON PIPE FOUND*
- ..... *BOUND as DESCRIBED*
- ..... *DRILL HOLE*
- PSNH..... *PUBLIC SERVICE CO. OF NH*
- VZ..... *VERIZON*
- 110–5 ..... *TAX SHEET – LOT NUMBER*
- (A) ..... *SEE SIGN TABLE*
- RCRD ..... *ROCKINGHAM COUNTY REGISTRY OF DEEDS*
- EOP..... *EDGE OF PAVEMENT*
- ETW..... *EDGE OF TRAVELLED WAY*
- VGC..... *VERTICAL FACED GRANITE CURB*
- ..... *BOLLARD*
- ..... *REFLECTOR*
- ..... *SIGN*
- ..... *DOUBLE POST SIGN*
- ..... *UTILITY POLE*
- ..... *UTILITY POLE W/TRANSFORMER*
- ..... *LIGHT POLE*
- ..... *UTILITY POLE WITH ARM & LIGHT*
- ..... *GUY*
- [E]..... *ELECTRIC METER*
- ..... *VERTICAL PROPANE TANK*
- ..... *HORIZONTAL PROPANE TANK*
- ..... *WATER GATE VALVE*
- ..... *WATER SHUT OFF VALVE*
- ..... *HYDRANT*
- ..... *CATCH BASIN*
- ..... *TREE LINE/BRUSH LINE*
- ..... *CONIFEROUS TREE*
- — W — ..... *WATER LINE*
- —D— ..... *DRAIN LINE*
- —UGU— ..... *UNDERGROUND UTILITIES*
- —OHW— ..... *OVERHEAD WIRES*
- ..... *CEMENT CONCRETE*
- ..... *RIP RAP*
- ..... *EXPOSED ROCK/LEDGE*
- ×12.5..... *SPOT GRADE*
- ..... *BORING*
- ..... *SEE SIGNAGE TABLE*
- (A) ..... *SEE BUILDING ELEVATION TABLE*

ABUTTERS LIST

MAP–LOT	OWNER OF RECORD	DEED REF.
201–1	955 SAGAMORE REALTY TRUST – 3/12/2008 MICHAEL T. GOODRIDGE, TRUSTEE 39 FERRY RD, SALISBURY, MA 01952	4903/695
201–1–1	WILLIAM L. PINGREE 2013 REV. TRUST 11 SAGAMORE GROVE, PORTSMOUTH, NH 03801	6155/537
201–3	LUCIAN SZMYD & DIANE M. SZMYD 41 HARBORVIEW DR, RYE, NH 03870	4547/2733
201–6	JASON GOULEMAS 2002 FAMILY TRUST JASON GOULEMAS, TRUSTEE LISA M. GOULEMAS 2002 FAMILY TRUST LISA M. GOULEMAS, TRUSTEE 5 SAGAMORE GROVE, PORTSMOUTH, NH 03801	5784/2715
201–7	BRIAN L. NESTE BRADFORD J. BYRD 184 WALKER BUNGALOW, PORTSMOUTH, NH 03801	5222/1547
201–8	WALTER J. ALLEN 1 SAGAMORE GROVE, PORTSMOUTH, NH 03801	2296/878
201–12	SEA LEVEL, LLC PO BOX 4094, PORTSMOUTH, NH 03802–4094	5743/352
201–22	WENTWORTH–SAGAMORE, LLC 1150 SAGAMORE AVE, PORTSMOUTH, NH 03801	
201–26	CITY OF PORTSMOUTH C/O CONSERVATION COMMISSION 1 JUNKINS AVE, PORTSMOUTH, NH 03801	
223–25	SEACOAST MENTAL HEALTH CENTER 1145 SAGAMORE AVE, PORTSMOUTH, NH 03801	
223–25–A	SEACOAST MENTAL HEALTH CENTER 1145 SAGAMORE AVE, PORTSMOUTH, NH 03801	
223–25–B	CITY OF PORTSMOUTH 1 JUNKINS AVE, PORTSMOUTH, NH 03801	
224–19	JUSTIN P. NADEAU & MICHELLE FIRMBACH NADEAU 507 STATE ST, PORTSMOUTH, NH 03801	

SEE SHEETS 2 & 3 FOR PLANIMETRIC INFORMATION

NOTES:

1. *OWNER OF RECORD*..... *SAGAMORE CORNER, LLC*
   ADDRESS..... *273 CORPORATE DR, SUITE 150, PORTSMOUTH, NH 03801*
   DEED REFERENCE..... *6350/364*
   TAX SHEET / LOT..... *201–2*
   PARCEL AREA ..... *42,929 S.F. (0.986 ACRES)*
   ZONED ..... *MRB*

   OWNER OF RECORD..... *LIVE FREE REAL ESTATE LLC*
   ADDRESS..... *314 MIDDLE ST, PORTSMOUTH, NH 03801*
   DEED REFERENCE..... *6172/974*
   TAX SHEET / LOT..... *201–9*
   PARCEL AREA ..... *59,243 S.F. (1.360 ACRES)*
   ZONED ..... *MRB*

   OWNER OF RECORD..... *LIVE FREE REAL ESTATE LLC*
   ADDRESS..... *314 MIDDLE ST, PORTSMOUTH, NH 03801*
   DEED REFERENCE..... *6187/68*
   TAX SHEET / LOT..... *201–10*
   PARCEL AREA ..... *31,857 S.F. (0.731 ACRES)*
   ZONED ..... *WB*

   OWNER OF RECORD..... *LIVE FREE REAL ESTATE LLC*
   ADDRESS..... *314 MIDDLE ST, PORTSMOUTH, NH 03801*
   DEED REFERENCE..... *6201/1839*
   TAX SHEET / LOT..... *201–11*
   PARCEL AREA ..... *14,186 S.F. (0.326 ACRES)*
   ZONED ..... *WB*

2. *ZONED:*..... *MRB* — *FRONT YARD SETBACK*.... *5'*
   MINIMUM LOT AREA *7,500 S.F.* — *SIDE YARD SETBACK*..... *10'*
   FRONTAGE..... *100'* — *REAR YARD SETBACK*..... *15'*
   ZONED:..... *WB* — *FRONT YARD SETBACK*.... *30'*
   MINIMUM LOT AREA *20,000 S.F.* — *SIDE YARD SETBACK*..... *30'*
   FRONTAGE..... *100'* — *REAR YARD SETBACK*..... *20'*
3. *THE RELATIVE ERROR OF CLOSURE WAS LESS THAN 1 FOOT IN 15,000 FEET.*
4. *THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED UPON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES (IE CATCH BASINS, MANHOLES, WATER GATES ETC.) AND INFORMATION COMPILED FROM PLANS PROVIDED BY UTILITY COMPANIES AND GOVERNMENTAL AGENCIES. ALL CONTRACTORS SHOULD NOTIFY, IN WRITING, SAID AGENCIES PRIOR TO ANY EXCAVATION WORK AND CALL DIG–SAFE @ 1–888–DIG–SAFE.*
5. *ON SITE CONTROL ESTABLISHED USING SURVEY GRADE GPS UNITS.*
   HORIZONTAL DATUM: NAD 1983 (2011)
   VERTICAL DATUM: NAVD 1988
   PRIMARY BM: CITY CONTROL POINT "ALBA"
6. *WETLANDS DELINEATION 12/2015 & 11/2019 BY MICHAEL CUOMO, NHCWS# 4, 6 YORK POND RD, YORK, ME 03909.*
7. *LOCATION OF "WARRANT HIGHWAY EASEMENT" PER RCRD BOOK 3123, PAGE 2896, DATED OCTOBER 18, 1995 & SHOWN ON "PLAN OF WENTWORTH ROAD (ROUTE 1–B), PORTSMOUTH, HIGHWAY EASEMENT". SAID PLAN IS NOT RECORDED & CAN NOT BE LOCATED BY NHDOT. SEE SAID DEED FOR OTHER RIGHTS GRANTED TO THE STATE OF NH.*
8. *THE SUBJECT TRACT LIES IN ZONE X (NO SCREEN), AREA OF MINIMAL FLOOD HAZARD, AS SHOWN ON FLOOD INSURANCE RATE MAP NO. 33015C0286F, MAP REVISED TO JANUARY 29, 2021, BY FEMA.*
9. *THIS PLAN IS BASED ON A FIELD SURVEY 2016 & 2020 BY JAMES VERRA AND ASSOCIATES, INC.*
10. *SAGAMORE GROVE ROAD IS A PUBLIC WAY. THE UNDERLYING FEE OF THIS PORTION OF THE ROAD REMAINS WITH FRANCES & ARMAND GOSSELIN, THEIR HEIRS, SUCCESSORS & ASSIGNS. SEE ACKNOWLEDGEMENT & RELEASE DATED 3/17/1997, RCRD BOOK 3231, PAGE 470.*
11. *CONTRACTOR TO VERIFY SITE BENCHMARKS BY LEVELING BETWEEN 2 BENCHMARKS PRIOR TO THE SETTING OR ESTABLISHMENT OF ANY GRADES/ELEVATIONS. DISCREPANCIES ARE TO BE REPORTED TO JAMES VERRA AND ASSOC., INC.*

REFERENCE PLANS:

1. *PLAN OF LAND, 1150 SAGAMORE AVENUE, PORTSMOUTH, N.H., RYE CORNER GAS, LLC, DATED 4/8/2015, RCRD PLAN C–38865.*
2. *PLAN OF LAND FOR NC WENTWORTH, LLC, WENTWORTH ROAD, NEW CASTLE, N.H., REVISED TO 8/14/2000, RCRD PLAN C–28285.*
3. *LAND IN PORTSMOUTH, N.H., SADIE P. GOUSE TO FRANCES L. PENDERGAST, DATED 7/1954, RCRD PLAN 02283.*
4. *PLAN OF LAND, PORTSMOUTH, N.H., SADIE P. GOUSE TO JOHN S. DIMOCK, DATED 6/1950, FILE NO. 109, PLAN NO. 1–420, BY JOHN W. DURGIN, CE, NOT RECORDED.*
5. *PLAN OF LAND, PORTSMOUTH, N.H., SADIE P. GOUSE TO LEONARD & EMILY OSTERMAN, DATED 3/1946, FILE NO. 109, PLAN NO. 1–295, BY JOHN W. DURGIN, CE, NOT RECORDED.*
6. *PLAN OF LAND FOR MICHAEL KUCHTEY REVOCABLE TRUST, WENTWORTH ROAD, PORTSMOUTH/RYE, NH, DATED 3/25/1999, RCRD PLAN D–27320.*
7. *RIGHT OF WAY PLAT, SAGAMORE GROVE, PORTSMOUTH, N.H. FOR CITY OF PORTSMOUTH, N.H., DATED 4/9/1995, RCRD PLAN D–25616.*
8. *SUBDIVISION PLAN, TAX MAP 201 – LOT 1, OWNER: 955 SAGAMORE REALTY TRUST, 955 SAGAMORE AVENUE, PORTSMOUTH, N.H., REVISED TO 6/29/2016, RCRD PLAN D–39767.*
9. *SUBSURFACE SEWAGE DISPOSAL SYSTEM FOR THE GOLDEN EGG, GOSSELIN LIVING TRUST / THOMAS GOSSELIN, TRUSTEE, 960 SAGAMORE AVENUE, PORTSMOUTH, NH, JOB # 11–0136, REVISED TO 10/22/2011, BY THE WRIGHT CHOICE, NOT RECORDED.*

P4763

SURVEYOR:
James Verra and Associates, Inc.
LAND SURVEYORS
101 SHATTUCK WAY – SUITE 8
NEWINGTON, N.H. 03801– 7876
603–436–3557
JOB NO: 23655
PLAN NO: 23655–2

ENGINEER:
ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433–2335 www.ALTUS–ENG.com

ISSUED FOR:
DESIGN & PERMITTING

ISSUE DATE:
NOVEMBER 22, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
1	DESIGN & PERMITTING	JV	11/22/21

DRAWN BY: JCS
APPROVED BY: JV
DRAWING FILE: 23655–2.DWG

SCALE:
22" x 34" – 1" = 20'
11" x 17" – 1" = 40'

APPLICANT:

OWNERS:
SAGAMORE CORNER, LLC
273 CORPORATE DRIVE
SUITE 150
PORTSMOUTH, NH 03801

DEED REF: 6350/364
ASSESSOR'S PARCEL 201–2

LIVE FREE REAL ESTATE LLC
1150 SAGAMORE ROAD
PORTSMOUTH, NH 03801

DEED REF: 6172/974
ASSESSOR'S PARCEL 201–9

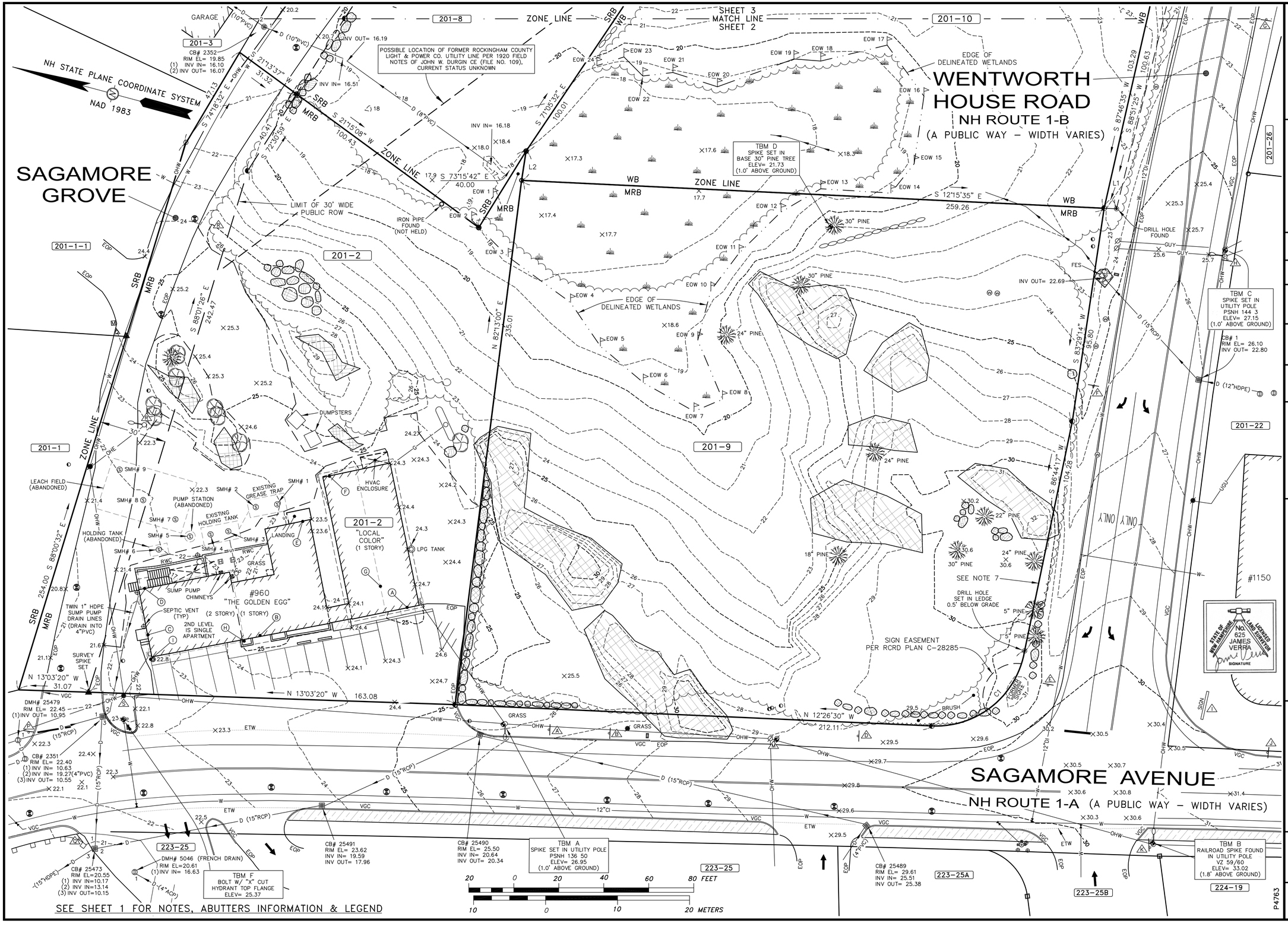
DEED REF: 6187/68
ASSESSOR'S PARCEL 201–10

DEED REF: 6201/1839
ASSESSOR'S PARCEL 201–11

PROJECT:
PROPOSED SITE DEVELOPMENT PLANS
SAGAMORE AVENUE, SAGAMORE GROVE & WENTWORTH HOUSE ROAD
PORTSMOUTH, N.H.
ASSESSOR'S PARCELS 201–2, 201–9, 201–10 & 209–11

TITLE: EXISTING CONDITIONS PLAN

SHEET NUMBER:
1 OF 3



SURVEYOR:

James Verra and Associates, Inc.

LAND SURVEYORS

101 SHATTUCK WAY – SUITE 8
NEWINGTON, N.H. 03801– 7876
603–436–3557
JOB NO: 23655
PLAN NO: 23655–2

ENGINEER:

ALTUS ENGINEERING, INC.

133 COURT STREET PORTSMOUTH, NH 03801
(603) 433–2335 www.ALTUS–ENG.com

ISSUED FOR:

DESIGN & PERMITTING

ISSUE DATE:

NOVEMBER 22, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
1	DESIGN & PERMITTING	JV	11/22/21

DRAWN BY: JCS
APPROVED BY: JV
DRAWING FILE: 23655–2.DWG

SCALE:

22" x 34" – 1" = 20'
11" x 17" – 1" = 40'

APPLICANT:

OWNERS:

SAGAMORE CORNER, LLC
273 CORPORATE DRIVE
SUITE 150
PORTSMOUTH, NH 03801

DEED REF: 6350/364
ASSESSOR'S PARCEL 201–2

LIVE FREE REAL ESTATE LLC
1150 SAGAMORE ROAD
PORTSMOUTH, NH 03801

DEED REF: 6172/974
ASSESSOR'S PARCEL 201–9

DEED REF: 6187/68
ASSESSOR'S PARCEL 201–10

DEED REF: 6201/1839
ASSESSOR'S PARCEL 201–11

PROJECT:

PROPOSED SITE DEVELOPMENT PLANS

SAGAMORE AVENUE, SAGAMORE GROVE & WENTWORTH HOUSE ROAD
PORTSMOUTH, N.H.
ASSESSOR'S PARCELS 201–2, 201–9, 201–10 & 209–11

TITLE:

EXISTING CONDITIONS PLAN

SHEET NUMBER:

2 OF 3

BUILDING ELEVATION TABLE

KEY	TAKEN TO ...	ELEV.
A	ALUMINUM THRESHOLD AT ENTRY	25.49
B	FINISH FLOOR – CARPET	25.47
C	ALUMINUM THRESHOLD AT ENTRY	25.30
D	ALUMINUM THRESHOLD AT ENTRY	25.29
E	ALUMINUM THRESHOLD AT ENTRY	25.13
F	ALUMINUM THRESHOLD AT ENTRY	25.40
G	ROOF PEAK	41.35
H	TOP OF FLAT ROOF	43.85
I	TOP OF FLAT ROOF	43.82

SEWER MANHOLE ELEVATION TABLE

SMH#	RIM ELEVATION
1	22.93
2	22.86
3	22.53
4	22.52
5	22.55
6	21.95
7	22.30
8	21.92
9	22.04

SIGNAGE TABLE

A	"NO PARKING"
B	"SPEED LIMIT 30"
D	"NORTH 1–A" "N.H.D.O.T. URBAN COMPACT"
E	"STOP"
F	LANE DELINEATION
G	"SPEED LIMIT 35"
H	"NORTH 1–B"
I	"WENTWORTH BY THE SEA"
J	"BRIDGE WEIGHT LIMIT 15 TONS" "NEXT RIGHT" (ROUTE 1–B)
K	NH 1–B (TURN LEFT) NH 1–A (STRAIGHT AHEAD)
L	"SPEED LIMIT 35"
M	"ROTARY INTERNATIONAL" "SHARE THE ROAD" BICYCLE SYMBOL "MAY USE FULL LANE"
N	"SHARE THE ROAD"
O	NH 1–A SOUTH (TURN LEFT) NH 1–A NORTH (TURN RIGHT) ECG (TURN LEFT)
P	"STOP"
Q	"NO JUMPING OR DIVING FROM BRIDGE"
R	"DEAD END"
S	"SAGAMORE GRV" "DEAD END"

LINE TABLE

LINE	BEARING	DISTANCE
*L1	N 12°15'35" W	5.50
L2	N 83°48'58" E	13.16
*L3	S 09°39'49" W	8.00
*L4	S 11°01'05" W	7.51

*TIE COURSES

CURVE TABLE

CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
*C1	58.00	40.00	83°04'44"	N 53°58'52" W	53.05

*NON–TANGENTIAL CURVE

NH STATE PLANE COORDINATE SYSTEM NAD 1983

SAGAMORE GROVE
(A PUBLIC WAY)
SEE NOTE 10

WENTWORTH HOUSE ROAD
NH ROUTE 1-B
(A PUBLIC WAY – WIDTH VARIES)

TBM E
SURVEY NAIL FOUND IN UTILITY POLE 1363 50C
ELEV= 21.66
(0.5' ABOVE GROUND)

POSSIBLE LOCATION OF FORMER ROCKINGHAM COUNTY LIGHT & POWER CO. UTILITY LINE PER 1920 FIELD NOTES OF JOHN W. DURGIN CE (FILE NO. 109), CURRENT STATUS UNKNOWN

THIS WATER LINE PURPORTEDLY SERVES SEVERAL RESIDENCES FRONTING ON SAGAMORE GROVE

LOOSE IRON PIPE REPLACED WITH IRON ROD W/ CAP

UNIMPROVED ACCESS

POSSIBLE LEDGE

GRAVEL DRIVE

GARAGE

201–3 · 201–6 · 201–7 · 201–8 · 201–10 · 201–11 · 201–12 · 201–26

ZONE LINE · SRB WB

S 09°39'49" W 148.48'
N 83°11'11" E 69.81'
S 54°35'10" E 30.12'
S 54°10'06" E 100.66'
N 11°01'05" E 162.42'
S 87°46'35" W 100.05'
S 88°04'15" W 100.13'

SHEET 3 MATCH LINE SHEET 2

SEE SHEET 1 FOR NOTES, ABUTTERS INFORMATION & LEGEND

20 0 20 40 60 80 FEET
10 0 10 20 METERS

STATE OF NEW HAMPSHIRE · No. 625 JAMES VERRA · LICENSED LAND SURVEYOR · SIGNATURE

P4763

SURVEYOR:
James Verra and Associates, Inc.
LAND SURVEYORS
101 SHATTUCK WAY – SUITE 8
NEWINGTON, N.H. 03801– 7876
603–436–3557
JOB NO: 23655
PLAN NO: 23655–2

ENGINEER:
ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433–2335 www.ALTUS–ENG.com

ISSUED FOR:
DESIGN & PERMITTING

ISSUE DATE:
NOVEMBER 22, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
1	DESIGN & PERMITTING	JV	11/22/21

DRAWN BY: JCS
APPROVED BY: JV
DRAWING FILE: 23655–2.DWG

SCALE:
22" x 34" – 1" = 20'
11" x 17" – 1" = 40'

APPLICANT:

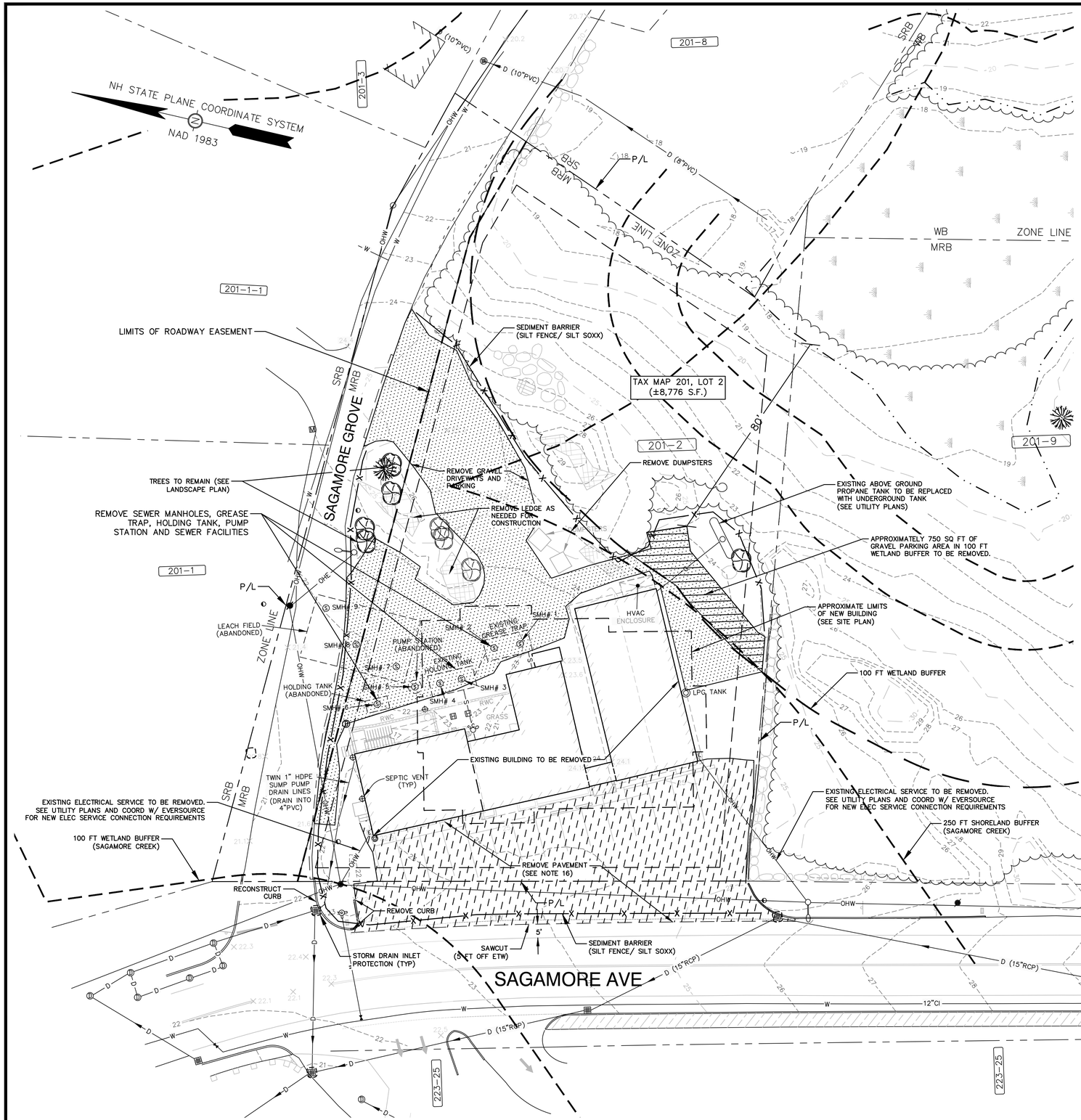
OWNERS:
SAGAMORE CORNER, LLC
273 CORPORATE DRIVE
SUITE 150
PORTSMOUTH, NH 03801
DEED REF: 6350/364
ASSESSOR'S PARCEL 201–2

LIVE FREE REAL ESTATE LLC
1150 SAGAMORE ROAD
PORTSMOUTH, NH 03801
DEED REF: 6172/974
ASSESSOR'S PARCEL 201–9
DEED REF: 6187/68
ASSESSOR'S PARCEL 201–10
DEED REF: 6201/1839
ASSESSOR'S PARCEL 201–11

PROJECT:
PROPOSED SITE DEVELOPMENT PLANS
SAGAMORE AVENUE, SAGAMORE GROVE & WENTWORTH HOUSE ROAD
PORTSMOUTH, N.H.
ASSESSOR'S PARCELS 201–2, 201–9, 201–10 & 209–11

TITLE:
EXISTING CONDITIONS PLAN

SHEET NUMBER:
3 OF 3



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

DEMOLITION NOTES

1. CONTRACTOR SHALL SAFELY SECURE THE SITE WITH SECURITY FENCING. FENCING SHALL BE LOCKED DURING NON-WORK HOURS.
2. CITY DEMOLITION PERMIT REQUIRED PRIOR TO ANY DEMOLITION ACTIVITIES. CONTRACTOR IS NOTIFIED THAT THIS PERMIT PROCESS MAY REQUIRE A 30-DAY LEAD TIME.
3. CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES SCHEDULED TO REMAIN.
4. THIS DEMOLITION PLAN IS INTENDED TO PROVIDE MINIMUM GUIDELINES FOR THE DEMOLITION OF EXISTING SITE FEATURES. UNLESS OTHERWISE NOTED TO REMAIN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL PAVEMENT, CONCRETE, CURBING, SIGNS, POLES, UTILITIES, FENCES, VEGETATION AND OTHER EXISTING FEATURES AS NECESSARY TO FULLY CONSTRUCT THE PROJECT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TIMELY NOTIFICATION OF ALL PARTIES, CORPORATIONS, COMPANIES, INDIVIDUALS AND STATE AND LOCAL AUTHORITIES OWNING AND/OR HAVING JURISDICTION OVER ANY UTILITIES RUNNING TO, THROUGH OR ACROSS AREAS TO BE DISTURBED BY DEMOLITION AND/OR CONSTRUCTION ACTIVITIES WHETHER OR NOT SAID UTILITIES ARE SUBJECT TO DEMOLITION, RELOCATION, MODIFICATION AND/OR CONSTRUCTION.
6. ALL UTILITY DISCONNECTIONS/DEMOLITIONS/RELOCATIONS TO BE COORDINATED BETWEEN THE CONTRACTOR, ALL APPROPRIATE UTILITY COMPANIES AND THE PORTSMOUTH DEPARTMENT OF PUBLIC WORKS. UNLESS OTHERWISE SPECIFIED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELATED EXCAVATION, TRENCHING AND BACKFILLING.
7. ALL STRUCTURES, CURBING, CONCRETE, PAVEMENT AND SUBBASE MATERIALS SHALL BE REMOVED FROM PROPOSED LANDSCAPE AREAS AND REPLACED WITH LOAM MATERIALS SUITABLE FOR LANDSCAPE AND/OR STORMWATER MANAGEMENT PURPOSES AND MEETING THE PROJECT SPECIFICATIONS.
8. WHERE SPECIFIED TO REMAIN, MANHOLE RIMS, CATCH BASIN GRATES, VALVE COVERS, HANDHOLES, MONITORING WELLS, ETC. SHALL BE ADJUSTED TO FINISH GRADE.
9. NO BURNING SHALL BE PERMITTED PER LOCAL REGULATIONS.
10. HAZARDOUS MATERIALS ENCOUNTERED DURING DEMOLITION AND CONSTRUCTION ACTIVITIES SHALL BE ABATED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS.
11. IN AREAS WHERE CONSTRUCTION IS TO BE ADJACENT TO ABUTTING PROPERTIES, THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING ALONG THE PROPERTY LINE IN ALL AREAS WHERE SILT FENCING IS NOT OTHERWISE REQUIRED.
12. SEE EROSION CONTROL PLANS FOR EROSION CONTROL REQUIREMENTS TO BE IN PLACE PRIOR TO START OF DEMOLITION ACTIVITIES, INCLUDING, BUT NOT LIMITED TO; SILT FENCING, STABILIZED CONSTRUCTION SITE EXITS, AND STORM DRAIN INLET PROTECTION.
13. ALL DEMOLISHED MATERIALS OR MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS SPECIFIED.
14. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BE LEGALLY DISPOSED IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS AND CODES.
15. LEDGE REMOVAL IS ANTICIPATED ON THE PROJECT. THE CONTRACTOR SHALL PROVIDE THE CITY WITH A LEDGE REMOVAL PLAN. IF BLASTING IS TO BE PERFORMED, ALL STATE AND LOCAL REQUIREMENTS SHALL BE COMPLIED WITH. SEE BEST MANAGEMENT PRACTICES FOR BLASTING NOTES.
16. EXISTING PAVEMENT ALONG SAGAMOVE AVENUE TO REMAIN DURING CONSTRUCTION UNTIL FOIUNDATIONS ARE BACK FILLED.

UTILITY CONTACTS:

17. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL DISCONNECTIONS/INSTALLATIONS WITH EVERSOURCE. CONTACT NICK KOSKO @ 603-332-4227, EXT. 5555334
18. CONTRACTOR SHALL COORDINATE ALL NATURAL GAS DISCONNECTIONS/INSTALLATIONS WITH UNITIL CORPORATION. CONTACT DAVID BEAULIEU @ 603-294-5144
19. CONTRACTOR SHALL COORDINATE ALL CABLE DISCONNECTIONS/INSTALLATIONS WITH COMCAST. CONTACT MIKE COLLINS @ 603-679-5695 EXT 1037
20. CONTRACTOR SHALL COORDINATE ALL TELE-COMMUNICATION DISCONNECTIONS AND INSTALLATION WITH FAIRPOINT COMMUNICATIONS. CONTACT JOE CONSIONE @ 603-427-5255

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF NEW HAMPSHIRE - CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER
11/22/2021

NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: NOVEMBER 22, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	11/02/21
1	TAC WS COMMENTS	CDB	11/22/21

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 5079-SITE.dwg

SCALE: 22"x34" 1" = 20'
11"x17" 1" = 40'

OWNER / APPLICANT:

SAGAMORE CORNER, LLC
273 CORPORATE DRIVE
PORTSMOUTH, NH 03801

PROJECT:

PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT
TAX MAP 201, LOT 2

SAGAMORE ROAD
PORTSMOUTH, NH 03801

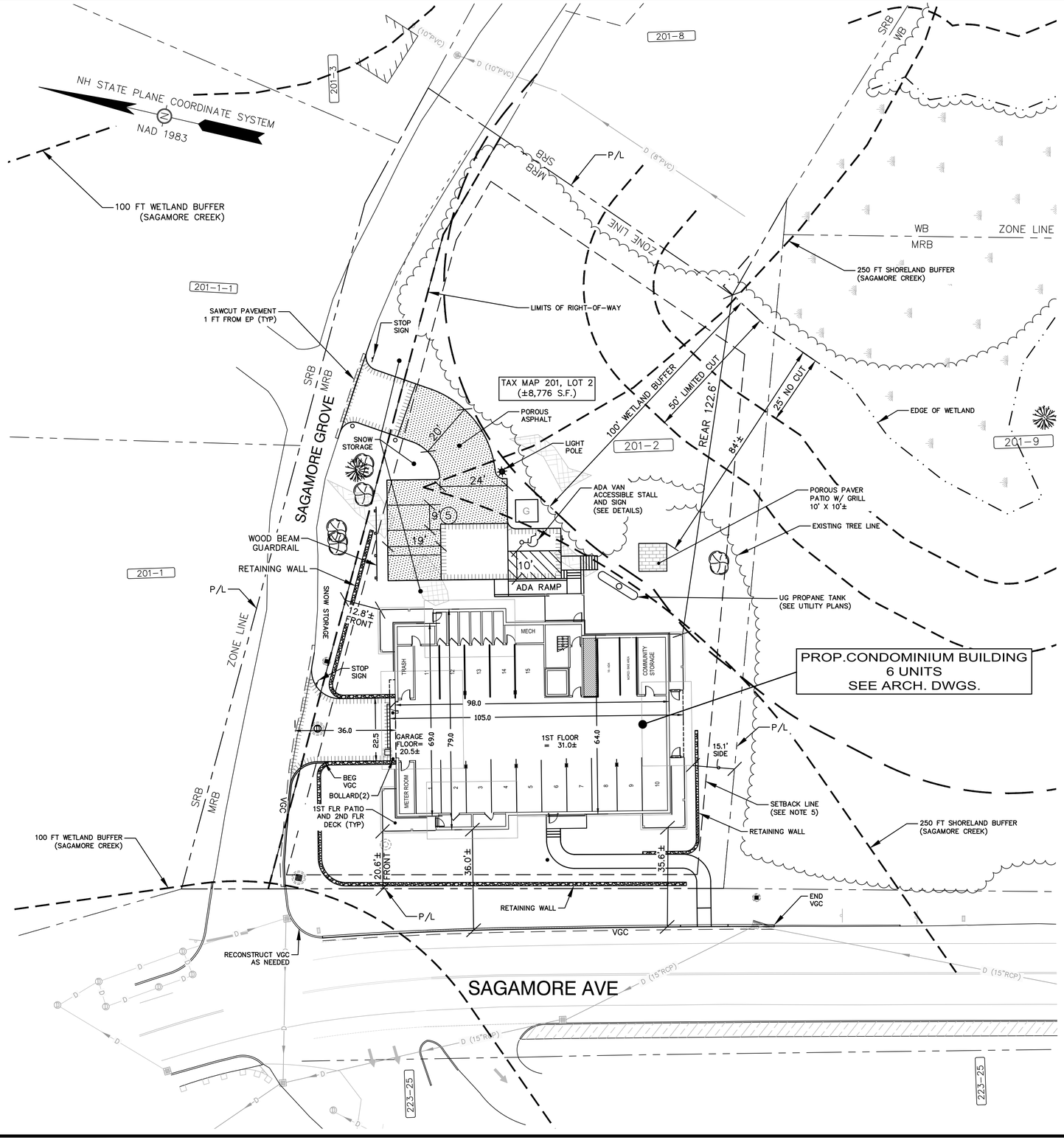
TITLE:

DEMOLITION PLAN

SHEET NUMBER:

C-1

P5079



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

NOTES

1. DESIGN INTENT – THIS PLAN IS INTENDED TO DEPICT A CONCEPTUAL MULTI-FAMILY RESIDENTIAL BUILDING TOGETHER WITH ASSOCIATED PARKING AND ACCESSWAYS.
2. THE BASE PLAN USED HERE WAS DEVELOPED FROM "EXISTING CONDITIONS PLAN, SAGAMORE AVENUE, SAGAMORE GROVE & WENTWORTH HOUSE ROAD, PORTSMOUTH, N.H., ASSESSOR'S PARCELS 201–2, 201–9, 201–10 & 209–11" BY JAMES VERRA AND ASSOCIATES, INC., DATED NOVEMBER 22, 2021.
3. *WETLANDS DELINEATION 12/2015 & 11/2019 BY MICHAEL CUOMO, NHCWS# 4, 6 YORK POND RD, YORK, ME 03909.*
4. ZONES: MRB (MIXED RESIDENTIAL BUSINESS)
5. PROJECT PARCEL: TAX MAP 201 LOT 2 42,930 S.F. (±0.99 AC.)
6. DIMENSIONAL REQUIREMENTS:

	MRB	PROVIDED
MIN. LOT AREA:	7,500 S.F. (0.17 AC.)	42,929 S.F.
LOT AREA PER DWELLING:	7,500 S.F.	±7,155 S.F.
MIN. STREET FRONTAGE:	100'	±194'
MIN. LOT DEPTH:	80'	±212'
FRONT SETBACK:	5' (±17' EXISTING)	±20.6'/±12.8'
SIDE SETBACK:	10' (±21' EXISTING)	±15.1'
REAR SETBACK:	15' (±111' EXISTING)	±122.6'
MAX. BUILDING HEIGHT:	30' (FLAT ROOF) (±22' – EXISTING TWO STORIES)	28.85'
MULTI-FAM. BLDG. LENGTH:	160' (MAX)	±105'
MAX. BUILDING COVERAGE:	40% (±12.2% EXISTING)	±17.9%
DWELLING UNITS PER BLDG:	8 (MAX)	6
MIN. OPEN SPACE:	25% (±45.4% EXISTING)	±55.0%
WETLAND BUFFER:	100' (80' EXISTING)	84±'
WETLAND LIMITED CUT:	50'	50'
WETLAND NO-CUT:	25'	25'
DRIVEWAY/RD/PARKING/BLDG:	±52.2% (EXISTING)	±42.2%

7. ZONING – THE FOLLOWING TWO VARIANCES WERE GRANTED ON SEPTEMBER 21, 2021.
   - SECTION 10.1114.31 –TO ALLOW TWO (2) DRIVEWAYS WHERE ONE (1) IS PERMITTED.
   - ZONING SECTION 10.521 – TO ALLOW A DENSITY OF SIX (6) DWELLING UNITS WHERE 5.7 ARE PERMITTED.
8. AREA OF DISTURBANCE UNDER 43,560 SF, COVERAGE UNDER EPA NPDES PHASE II CONSTRUCTION GENERAL PERMIT NOT REQUIRED.
   - LOT AREA IN WETLAND: ±400 S.F. (±0.9%)
   - LOT AREA IN WETLAND & WETLAND BUFFER: ±13,650 S.F. (±31.8%)
   - EXISTING LOT IMPERVIOUS IN WETLAND BUFFER: ±760 S.F. (±1.8%)
   - PROPOSED LOT IMPERVIOUS IN WETLAND BUFFER: 0 S.F. (0%)
9. PARKING REQUIREMENTS:

   DWELLING UNITS: 1.3 SPACES PER DWELLING UNIT
   6 UNITS x 1.3 = 7.8 SPACES REQUIRED

   TOTAL PARKING PROVIDED: 16 SPACES (INTERIOR)
   5 SPACES (EXTERIOR)
   21 SPACES TOTAL

   NO MAXIMUM REQUIREMENT

   EXISTING PARKING SPACES: 15 PAVED
   11 GRAVEL (APPROX)
   26 TOTAL
10. BICYCLE PARKING WILL BE PROVIDED IN THE BASEMENT OF THE BUILDING.
11. SNOW SHALL BE STORED AT THE EDGE OF PAVEMENT, IN UPLAND AREAS SHOWN THEREON. IF ADEQUATE ON-SITE SNOW STORAGE IS NOT AVAILABLE, THE SNOW SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED.
12. THE PROPOSED LIGHTING SHALL BE DARK SKY FRIENDLY.
13. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
14. THIS PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
15. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.

P5079

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF NEW HAMPSHIRE – CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER
11/22/2021

NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: NOVEMBER 22, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	11/02/21
1	TAC WS COMMENTS	CDB	11/22/21

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 5079-SITE.dwg

SCALE: 22"x34" 1" = 20'
11"x17" 1" = 40'

OWNER / APPLICANT:

SAGAMORE CORNER, LLC
273 CORPORATE DRIVE
PORTSMOUTH, NH 03801

PROJECT:

PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT
TAX MAP 201, LOT 2
SAGAMORE ROAD
PORTSMOUTH, NH 03801

TITLE:

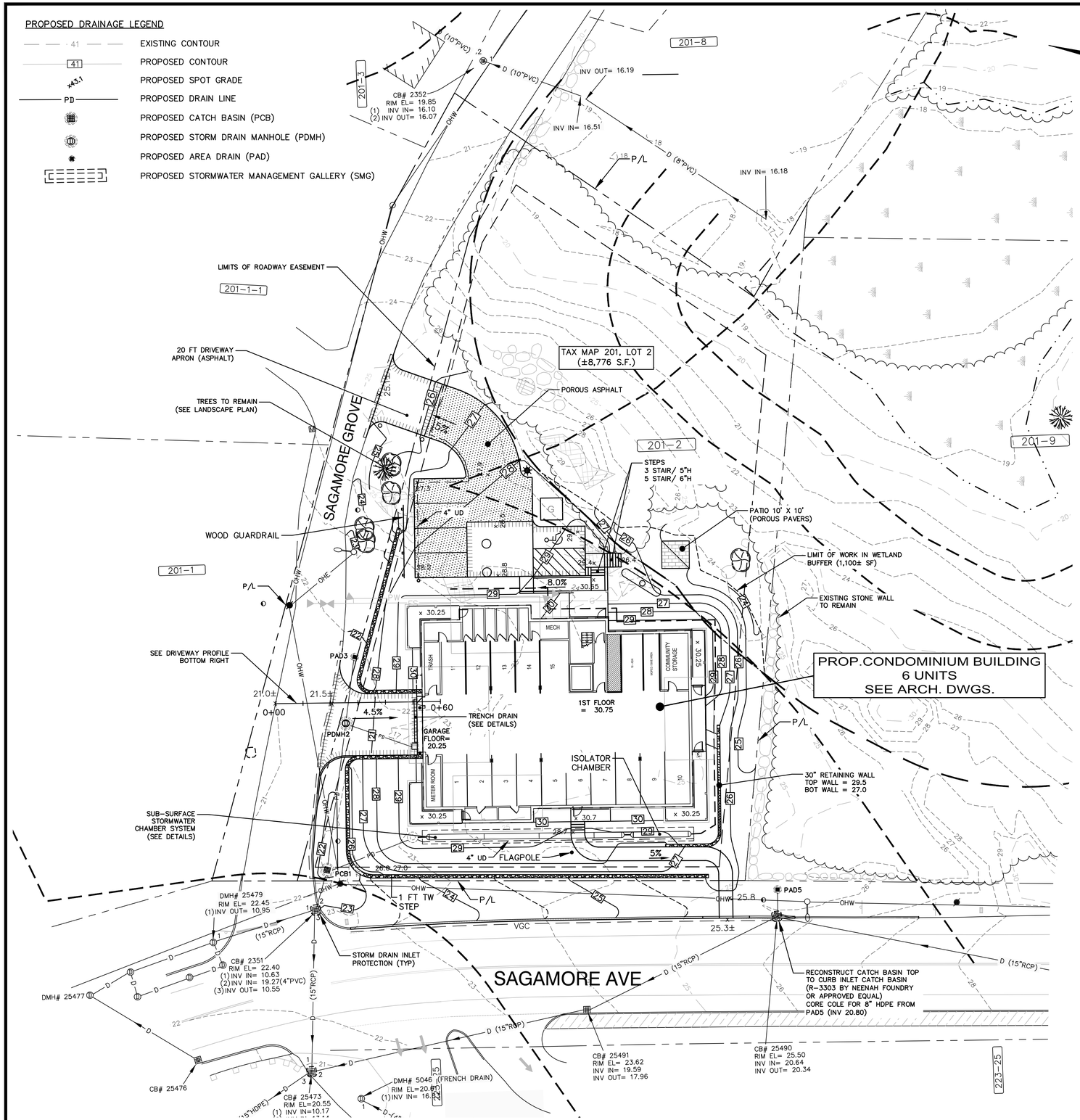
SITE PLAN

SHEET NUMBER:

C-2

PROPOSED DRAINAGE LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED SPOT GRADE
- PROPOSED DRAIN LINE
- PROPOSED CATCH BASIN (PCB)
- PROPOSED STORM DRAIN MANHOLE (PDMH)
- PROPOSED AREA DRAIN (PAD)
- PROPOSED STORMWATER MANAGEMENT GALLERY (SMG)



NH STATE PLANE COORDINATE SYSTEM
NAD 1983

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

GRADING AND DRAINAGE NOTES

1. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES SCHEDULED TO REMAIN.
2. ALL BENCHMARKS AND TOPOGRAPHY SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO INITIATING CONSTRUCTION
3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL READ AND FAMILIARIZE THEMSELVES WITH THE PROJECT GEOTECHNICAL REPORT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING ALL THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT.
4. DEWATERING ACTIVITIES SHALL BE DONE IN ACCORDANCE WITH EPA AND NHDES REGULATIONS AND GUIDELINES.
5. PROTECTION OF SUBGRADE: THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN STABLE, DEWATERED SUBGRADES FOR FOUNDATIONS, PAVEMENT AREAS, UTILITY TRENCHES AND OTHER AREAS DURING CONSTRUCTION. SUBGRADE DISTURBANCE MAY BE INFLUENCED BY EXCAVATION METHODS, MOISTURE, PRECIPITATION, GROUNDWATER CONTROL, AND CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SUBGRADE DISTURBANCE. SUCH PRECAUTIONS MAY INCLUDE DIVERTING STORMWATER RUNOFF AWAY FROM CONSTRUCTION AREAS, REDUCING TRAFFIC IN SENSITIVE AREAS, AND MAINTAINING AN EFFECTIVE DEWATERING PROGRAM. SOILS EXHIBITING HEAVING OR INSTABILITY SHALL BE OVER EXCAVATED TO MORE COMPETENT BEARING SOIL AND BEARING SOIL AND REPLACED WITH FREE DRAINING STRUCTURAL FILL IF THE EARTHWORK IS PERFORMED DURING FREEZING WEATHER, EXPOSED SUBGRADES AREA SUSCEPTIBLE TO FROST. NO FILL OR UTILITIES SHALL BE PLACED ON FROZEN SOIL CRUST AT THE COMMENCEMENT OF EACH DAY'S OPERATIONS DEGREE OF INSULATION AGAINST FREEZING.
6. IF SUITABLE, EXCAVATED MATERIALS SHALL BE PLACED AS FILL WITHIN UPLAND AREAS ONLY AND SHALL NOT BE PLACED WITHIN WETLANDS. PLACEMENT OF BORROW MATERIALS SHALL BE PERFORMED IN A MANNER THAT PREVENTS LONG TERM DIFFERENTIAL SETTLEMENT. EXCESSIVELY WET MATERIALS SHALL BE STOCKPILED AND ALLOWED TO DRAIN BEFORE PLACEMENT. FROZEN MATERIAL SHALL NOT BE USED FOR CONSTRUCTION.
7. ALL STORM DRAIN PIPE SHALL BE ADS N-12 OR EQUAL AND APPROVED BY THE ENGINEER.
8. ALL CATCH BASIN, GATE VALVE COVERS, AND MANHOLE RIMS SHALL BE SET FLUSH WITH OR NO LESS THAN 0.1' BELOW FINISHED GRADE. ANY RIM OR VALVE COVER ABOVE SURROUNDING FINISHED GRADE WILL NOT BE ACCEPTED.
9. ALL CATCH BASINS SHALL BE PRECAST, H-20 LOADING AND BE EQUIPPED WITH 4-FOOT DEEP MIN SEDIMENTATION SUMPS AND GREASE HOODS. (SEE DETAILS)
10. ALL SPOT GRADES ARE AT THE FINISH GRADE AND BOTTOM OF CURB WHERE APPLICABLE.
11. UNLESS OTHERWISE SPECIFIED, RETAINING WALL AND BUILDING PERIMETER DRAINS SHALL BE DIRECTED TO THE NEAREST DRAINAGE STRUCTURE. IF DEEMED APPROPRIATE, CONTRACTOR SHALL PROVIDE ADDITIONAL UNDERDRAINS AT THE DIRECTION OF THE ENGINEER.
12. MODULAR BLOCK RETAINING WALL FINISH TO BE SELECTED BY OWNER.
13. ALL INTERNAL FLOOR DRAINS SHALL BE EVAPORATIVE AND SHALL NOT TIE INTO EXTERNAL STORM DRAIN SYSTEM.
14. CONTRACTOR SHALL PROTECT ALL RAINGARDENS FROM CONSTRUCTION STORMWATER RUNOFF. TEMPORARY SEDIMENT BASINS SHALL BE CONSTRUCTED DURING CONSTRUCTION. STORMWATER SHALL NOT BE DIRECTED TO THE RAINGARDENS UNTIL THE WATERSHED ARE HAS BEEN STABILIZED.

DRAINAGE STRUCTURES

CB1
RIM = 21.50
12" INV. IN = 16.50 (PDMH2)
12" INV. IN = 16.50 (OS1)
12" INV. OUT = 16.40

PDMH2
RIM = 21.30
8" INV. IN = 16.90 (TRENCH DRAIN)
12" INV. IN = 16.90 (PAD3)
12" INV. OUT = 16.80

PAD3
RIM = 21.00
12" INV. OUT = 17.00

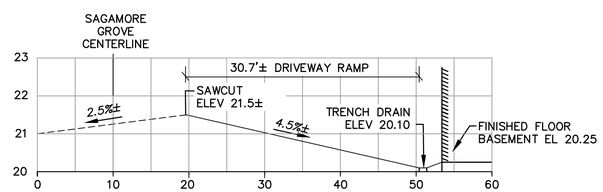
TRENCH DRAIN
ELEV = 20.10
8" INV. OUT = 17.10

PAD5
RIM = 25.30
8" INV. OUT = 21.3

STORMWATER PRACTICES

STORMWATER GALLERY A
24" DIA PERF PIPE
1 ROW / 90 FT LENGTH
(20 FT ISOLATION CHAMBER)
PIPE INV = 24.50
ROCK BOTTOM = 24.00

OUTLET STRUCTURE
RIM = 29.50
(SEE CONTROL PLATE DTL, SHT C-6)
6" UD IN = 23.60
12" INV IN – 23.75
12" INV. OUT = 23.50



DRIVEWAY PROFILE
SCALE: 1" = 10' HORIZONTAL
1" = 2' VERTICAL (5X)

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)

P5079

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE
11/22/2021

NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: NOVEMBER 22, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	11/02/21
1	TAC WS COMMENTS	CDB	11/22/21

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 5079-SITE.dwg

SCALE: 22"x34" 1" = 20'
11"x17" 1" = 40'

OWNER / APPLICANT:

SAGAMORE CORNER, LLC
273 CORPORATE DRIVE
PORTSMOUTH, NH 03801

PROJECT:

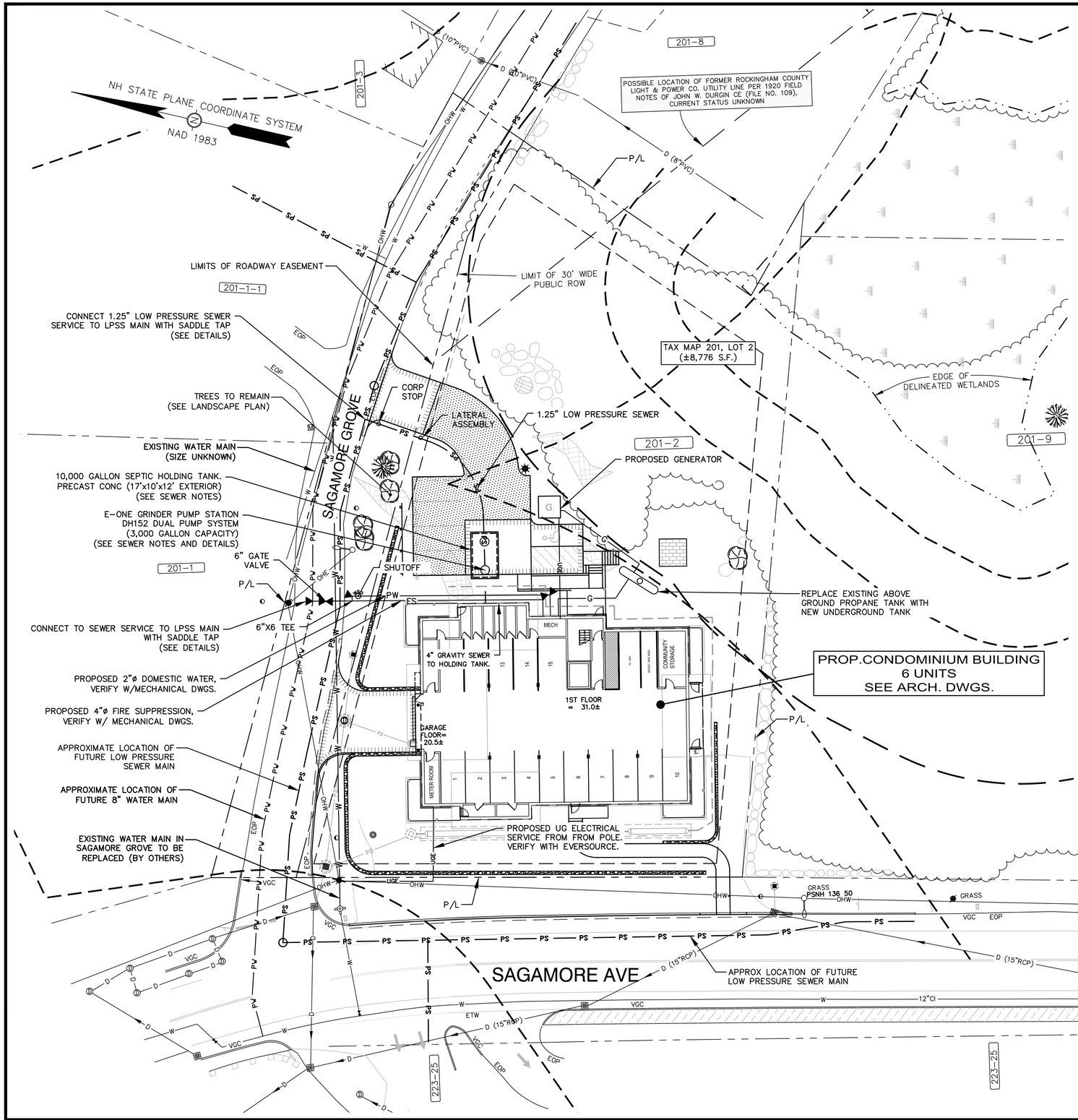
PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT
TAX MAP 201, LOT 2
SAGAMORE ROAD
PORTSMOUTH, NH 03801

TITLE:

GRADING AND DRAINAGE PLAN

SHEET NUMBER:

C-3



APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

UTILITY NOTES

1. ALL ROAD/LANE CLOSURES OR OTHER TRAFFIC INTERRUPTIONS ON CITY ROADS SHALL BE COORDINATED WITH THE PORTSMOUTH POLICE DEPARTMENT AND/OR PORTSMOUTH DPW.
2. DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE, LOCAL, AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH ALL PERMIT CONDITIONS AND REQUIREMENTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POSTING OF ALL BONDS AND PAYMENT OF ALL TAP, TIE-IN AND CONNECTION FEES.
4. ALL WATER MAIN INSTALLATIONS AND SERVICE CONNECTIONS SHALL CONFORM TO PORTSMOUTH WATER DEPARTMENT STANDARDS. WATER MAIN SHALL BE WRAPPED WITH A WATER TIGHT POLYETHYLENE WRAPPING. ALL JOINTS SHALL HAVE THREE (3) WEDGES PER JOINT.
5. THE WATER MAIN IN SAGAMORE GROVE WILL BE REPLACED AT THE SAME TIME AS THE LOW PRESSURE SEWER INSTALLATION. THE NEW WATER SERVICE SHALL CONNECT TO ACTIVE MAIN LINE SAGAMORE GROVE. COORDINATE WITH CITY OF PORTSMOUTH WATER DEPARTMENT.
6. FIRE ALARM PANEL SHALL MONITORED THROUGH A THIRD-PARTY SECURITY COMPANY. CONTRACTOR SHALL COORDINATE ALL PANEL LOCATIONS AND INTERCONNECTIONS WITH FIRE DEPARTMENT.
7. THE APPLICANT SHALL HAVE A SITE SURVEY CONDUCTED BY A RADIO COMMUNICATIONS CARRIER APPROVED BY THE CITY'S COMMUNICATION DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE POLICE AND RADIO CONFIGURATION. IF THE SITE SURVEY INDICATES IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE APPLICANT SHALL BE REQUIRED TO PAY FOR THE SITE SURVEY WHETHER OR NOT THE SURVEY INDICATES A REPEATER IS NECESSARY. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR THE CITY. THE SURVEY SHALL BE COMPLETED AND THE REPEATER, IF DETERMINED IT IS REQUIRED, SHALL BE INSTALLED PRIOR TO THE ISSUANCE OF CERTIFICATE OF OCCUPANCY.
8. ALL TRENCHING, PIPE LAYING AND BACKFILLING SHALL CONFORM TO FEDERAL OSHA AND CITY REGULATIONS.
9. SITEWORK CONTRACTOR SHALL COORDINATE ALL WORK WITH MECHANICAL DRAWINGS.
10. SEE ARCHITECTURAL/MECHANICAL DRAWINGS FOR EXACT LOCATIONS & ELEVATIONS OF UTILITY CONNECTIONS AT BUILDINGS. COORDINATE ALL WORK WITHIN FIVE (5) FEET OF BUILDINGS WITH BUILDING CONTRACTOR AND ARCHITECTURAL/MECHANICAL DRAWINGS. ALL CONFLICTS AND DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY AND PRIOR TO COMMENCING RELATED WORK.
11. FINAL UTILITY LOCATIONS TO BE COORDINATED BETWEEN THE CONTRACTOR, ALL APPROPRIATE UTILITY COMPANIES AND THE ARCHITECT.
12. CONTRACTOR SHALL COORDINATE ALL TELECOMMUNICATIONS INSTALLATIONS WITH CONSOLIDATED COMMUNICATIONS.
13. CONTRACTOR SHALL COORDINATE ALL CABLE INSTALLATIONS WITH COMCAST.
14. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL INSTALLATIONS WITH EVERSOURCE. ALL ELECTRIC CONDUIT INSTALLATION SHALL BE INSPECTED BY EVERSOURCE PRIOR TO BACKFILL, 48-HOUR MINIMUM NOTICE REQUIRED.
15. DETECTABLE WARNING TAPE SHALL BE PLACED OVER THE ENTIRE LENGTH OF ALL BURIED UTILITIES, COLORS PER THE RESPECTIVE UTILITY PROVIDERS.

SEWER NOTES

1. THE PROJECT HAS TWO OPTIONS FOR SEWER SERVICE. THE CITY OF PORTSMOUTH INTENDS TO INSTALL A NEW LOW PRESSURE SEWER FORCE MAIN ALONG SAGAMORE GROVE AS AN AGREEMENT TO THE CONSENT DECREE WITH USEPA. IF THE SEWER CONSTRUCTION IS ESTIMATED TO BE COMPLETED IN NOVEMBER OF 2022, PENDING ALLOWABLE FUNDING.
   - 1.1. IF THE LOW PRESSURE SEWER MAIN IS COMPLETE, THE PROJECT WILL INSTALL AN E-ONE GRINDER PUMP STATION AND DISCHARGE TO THE 2" LOW PRESSURE SEER IN SAGAMORE GROVE.
   - 1.2. IF THE LOW PRESSURE SEWER IN SAGAMORE GROVE IS NOT COMPLETE, THE PROJECT WILL INSALL A 10,000 GALLON TEMPORARY HOLDING TANK. WHEN THE LPSS IS COMPLETED, THE HOLDING TANK WILL WILL B USED TO HOUSE THE NEW E-ONE PUMP STATION.
2. ALL SEWER INSTALLATIONS AND SERVICE CONNECTIONS SHALL CONFORM TO PORTSMOUTH WATER AND SEWER DEPARTMENT STANDARDS. CONTRACTOR SHALL CONTACT CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS AT 603-427-1530 TO COORDINATE INSPECTION OF SEWER AND WATER WORK.
3. DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE, LOCAL, AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH ALL PERMIT CONDITIONS AND REQUIREMENTS.
4. ELEVATOR SUMP TO BE CONSTRUCTED MONOLITHICALLY AND SEALED TO BE WATER TIGHT. ELEVATOR TO OPERATE ON BELT SYSTEM, NOT HYDRAULICS. EMERGENCY PUMP IN ELEVATOR SUMP TO TIE INTO SEWER.
5. THE PROPOSED SEWER DESIGN FLOW IS 1,260 GPD, BASED ON 70 GPD PER PERSON AND 3 OCCUPANTS PER UNIT.
   THE EXISTING SITE SEPTIC IS PERMITTED AT 1,430 GPD CAPACITY BASED ON METERED FLOW.
   REFERENCE "SUBSURFACE SEWERAGE DISPOSAL SYSTEM" FOR THE GOLDEN EGG, GOSSELIN LIVING TRUST, 960 SAGAMORE AVE, PORTSMOUTH, NH 03801, BY THE WRIGHT CHOICE, 10/22/2011.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

P5079

ALTUS ENGINEERING, INC.

133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF NEW HAMPSHIRE - CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER
11/22/2021

NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: NOVEMBER 22, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	11/02/21
1	TAC WS COMMENTS	CDB	11/22/21

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 5079-SITE.dwg

SCALE: 22"x34" 1" = 20'
11"x17" 1" = 40'

OWNER / APPLICANT:

SAGAMORE CORNER, LLC
273 CORPORATE DRIVE
PORTSMOUTH, NH 03801

PROJECT:

PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT
TAX MAP 201, LOT 2
SAGAMORE ROAD
PORTSMOUTH, NH 03801

TITLE:

UTILITIES PLAN

SHEET NUMBER:

C-4

SEDIMENT AND EROSION CONTROL NOTES

PROJECT NAME AND LOCATION

Owner:

SAGAMORE CORNER, LLC
273 CORPORATE DRIVE
PORTSMOUTH, NH 03801

DESCRIPTION

The project consists of the redevelopment of a commercial retail property on Sagamore Road. The existing building will be razed and replaced with a modern 2–story residential building containing six (6) new residential units, underground parking, and site amenities. Stormwater will be managed and treated with sub–surface chambers and porous pavement. Site improvements include underground utilities, landscaping and associated site improvements.

DISTURBED AREA

The total area to be disturbed on the parcel and for the building, driveway, parking area, drainage, and utility construction is approximately 26,500 SF± (less than 1–acre). The combined disturbed area does NOT exceed 43,560 SF (1 acre), thus a SWPPP will NOT be required for compliance with the USEPA–NPDES Construction General Permit. All local requirements for stormwater adn erosion control during constyruction are still required.

NPDES CONSTRUCTION GENERAL PERMIT– exempt

Contractor shall is NOT required to prepare a Stormwater Pollution Prevention Plan (SWPPP) or file an NOI (Notice of Intent) in accordance with federal storm water permit requirements under the USEPA–NPDES Construction General Permit.

SEQUENCE OF MAJOR ACTIVITIES

1. Hold a pre–construction meeting with City & stake holders.
2. Install temporary erosion control measures, including drain inlet protection, silt fences, and stabilized construction exit/entrance.
3. Remove existing bulding, disconnect and remove utilities.
4. Clear and Grub vegetated areas per plan; Strip and stockpile loam. Stockpiles shall be temporarily stabilized with hay bales, mulch and surrounded by a hay bale or silt fence barrier until material is removed and final grading is complete. Remove debris. Remove pavement and structures intended to be removed within the initial work limits.
5. Construct utility infrastructure. Rough grade lot to prepare for site development. Stabilize swales prior to directing flow to them.
6. Construct Foundations and underground garage parking. install temporary septic holding tank.
7. Construct building. Construct pavement & driveway access.
8. Construct stormwater treatment chambers.
9. Loam and seed disturbed areas.
10. When all construction activity is complete and site is stabilized, remove all silt fences and temporary structures and sediment that has been trapped by these devices.

NAME OF RECEIVING WATER

The site drainage discharges into a municipal closed drainage system outletting to Sagamore Creek.

TEMPORARY EROSION & SEDIMENT CONTROL AND STABILIZATION PRACTICES

All work shall be in accordance with state and local permits. Work shall conform to the practices described in the "New Hampshire Stormwater Manual, Volumes 1 – 3", issued December 2008, as amended. As indicated in the sequence of Major Activities, the silt fences shall be installed prior to commencing any clearing or grading of the site. Structural controls shall be installed concurrently with the applicable activity. Once construction activity ceases permanently in an area, silt fences and any earth/dikes will be removed once permanent measures are established.

During construction, runoff will be diverted around the site with stabilized channels where possible. Sheet runoff from the site shall be filtered through hay bale barriers, stone check dams, and silt fences. All storm drain inlets shall be provided with hay bale filters or stone check dams. Stone rip rap shall be provided at the outlets of drain pipes and culverts where shown on the drawings.

Stabilize all ditches, swales, stormwater ponds, level spreaders and their contributing areas prior to directing flow to them.

Temporary and permanent vegetation and mulching is an integral component of the erosion and sedimentation control plan. All areas shall be inspected and maintained until vegetative cover is established. These control measures are essential to erosion prevention and also reduce costly rework of graded and shaped areas.

Temporary vegetation shall be maintained in these areas until permanent seeding is applied. Additionally, erosion and sediment control measures shall be maintained until permanent vegetation is established.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES

A. GENERAL

These are general inspection and maintenance practices that shall be used to implement the plan:

1. The smallest practical portion of the site shall be denuded at one time, but in no case shall it exceed 5 acres at one time.
2. All control measures shall be inspected at least once each week and following any storm event of 0.25 inches or greater.
3. All measures shall be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours.
4. Built–up sediment shall be removed from silt fence or other barriers when it has reached one–third the height of the fence or bale, or when "bulges" occur.
5. All diversion dikes shall be inspected and any breaches promptly repaired.
6. Temporary seeding and planting shall be inspected for bare spots, washouts, and unhealthy growth.
7. The owner's authorized engineer shall inspect the site on a periodic basis to review compliance with the Plans.
8. All roadways and parking lots shall be stabilized within 72 hours of achieving finished grade.
9. All cut and fill slopes shall be seeded/loamed within 72 hours of achieving finished grade.
10. An area shall be considered stable if one of the following has occurred:
    a. Base coarse gravels have been installed in areas to be paved;
    b. A minimum of 85% vegetated growth as been established;
    c. A minimum of 3 inches of non–erosive material such as stone of riprap has been installed;

    – or –

    d. Erosion control blankets have been properly installed.
11. The length of time of exposure of area disturbed during construction shall not exceed 45 days.

B. MULCHING

Mulch shall be used on highly erodible soils, on critically eroding areas, on areas where conservation of moisture will facilitate plant establishment, and where shown on the plans.

1. Timing – In order for mulch to be effective, it must be in place prior to major storm events. There are two (2) types of standards which shall be used to assure this:
    a. Apply mulch prior to any storm event. This is applicable when working within 100 feet of wetlands. It will be necessary to closely monitor weather predictions, usually by contacting the National Weather Service in Concord, to have adequate warning of significant storms.
    b. Required Mulching within a specified time period. The time period can range from 21 to 28 days of inactivity on a area, the length of time varying with site conditions. Professional judgment shall be used to evaluate the interaction of site conditions (soil erodibility, season of year, extent of disturbance, proximity to sensitive resources, etc.) and the potential impact of erosion on adjacent areas to choose an appropriate time restriction.

INSTALLATION, MAINTENANCE AND INSPECTION PROCEDURES FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES (CON'T)

2. Guidelines for Winter Mulch Application –

Type	Rate per 1,000 s.f.	Use and Comments
Hay or Straw	70 to 90 lbs.	Must be dry and free from mold. May be used with plantings.
Wood Chips or Bark Mulch	460 to 920 lbs.	Used mostly with trees and shrub plantings.
Jute and Fibrous Matting (Erosion Blanket	As per manufacturer Specifications	Used in slope areas, water courses and other Control areas.
Crushed Stone 1/4" to 1–1/2" dia.	Spread more than 1/2" thick	Effective in controlling wind and water erosion.
Erosion Control Mix	2" thick (min)	* The organic matter content is between 80 and 100%, dry weight basis. * Particle size by weight is 100% passing a 6" screen and a minimum of 70 %, maximum of 85%, passing a 0.75" screen. * The organic portion needs to be fibrous and elongated. * Large portions of silts, clays or fine sands are not acceptable in the mix. * Soluble salts content is less than 4.0 mmhos/cm. * The pH should fall between 5.0 and 8.0.

3. Maintenance – All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied.

C. TEMPORARY GRASS COVER

1. Seedbed Preparation –
   Apply fertilizer at the rate of 600 pounds per acre of 10–10–10. Apply limestone (equivalent to 50 percent calcium plus magnesium oxide) at a rate of three (3) tons per acre.
2. Seeding –
   a. Utilize annual rye grass at a rate of 40 lbs/acre.
   b. Where the soil has been compacted by construction operations, loosen soil to a depth of two (2) inches before applying fertilizer, lime and seed.
   c. Apply seed uniformly by hand, cyclone seeder, or hydroseeder (slurry including seed and fertilizer). Hydroseedings, which include mulch, may be left on soil surface. Seeding rates must be increased 10% when hydroseeding.
3. Maintenance –
   Temporary seedings shall be periodically inspected. At a minimum, 95% of the soil surface should be covered by vegetation. If any evidence of erosion or sedimentation is apparent, repairs shall be made and other temporary measures used in the interim (mulch, filter barriers, check dams, etc.).

D. FILTERS

1. Tubular Sediment Barrier
   a. See detail.
   b. Install per manufacturer's requirements.
2. Silt Fence (if used)
   a. Synthetic filter fabric shall be a pervious sheet of propylene, nylon, polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming to the following requirements:

Physical Property	Test	Requirements
Filtering Efficiency	VTM–51	75% minimum
Tensile Strength at 20% Maximum Elongation*	VTM–52	Extra Strength 50 lb/lin in (min) Standard Strength 30 lb/lin in (min)
Flow Rate	VTM–51	0.3 gal/sf/min (min)

* Requirements reduced by 50 percent after six (6) months of installation.

Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizer to provide a minimum of six (6) months of expected usable construction life at a temperature range of 0 degrees F to 120° F.

   b. Posts shall be spaced a maximum of ten (10) feet apart at the barrier location or as recommended by the manufacturer and driven securely into the ground (minimum of 16 inches).
   c. A trench shall be excavated approximately six (6) inches wide and eight (8) inches deep along the line of posts and upslope from the barrier.
   d. When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least one (1) inch long, tie wires or hog rings. The wire shall extend no more than 36 inches above the original ground surfaces.
   e. The "standard strength" filter fabric shall be stapled or wired to the fence, and eight (8) inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.
   f. When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of item (g) applying.
   g. The trench shall be backfilled and the soil compacted over the filter fabric.
   h. Silt fences shall be removed when they have served their useful purpose but not before the upslope areas has been permanently stabilized.
3. Sequence of Installation –
   Sediment barriers shall be installed prior to any soil disturbance of the contributing upslope drainage area.
4. Maintenance –
   a. Silt fence barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. They shall be repaired if there are any signs of erosion or sedimentation below them. Any required repairs shall be made immediately. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water, the sediment barriers shall be replaced with a temporary stone check dam.
   b. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier still is necessary, the fabric shall be replaced promptly.
   c. Sediment deposits must be removed when deposits reach approximately one–third (1/3) the height of the barrier.
   d. Any sediment deposits remaining in place after the silt fence or other barrier is no longer required shall be removed. The area shall be prepared and seeded.
   e. Additional stone may have to be added to the construction entrance, rock barrier and riprap lined swales, etc., periodically to maintain proper function of the erosion control structure.

E. PERMANENT SEEDING –

1. Bedding – stones larger than 1½", trash, roots, and other debris that will interfere with seeding and future maintenance of the area should be removed. Where feasible, the soil should be tilled to a depth of 5" to prepare a seedbed and mix fertilizer into the soil.
2. Fertilizer – lime and fertilizer should be applied evenly over the area prior to or at the time of seeding and incorporated into the soil. Kinds and amounts of lime and fertilizer should be based on an evaluation of soil tests. When a soil test is not available, the following minimum amounts should be applied:

   Agricultural Limestone @ 100 lbs. per 1,000 s.f.
   10–20–20 fertilizer @ 12 lbs. per 1,000 s.f.

3. Seed Mixture (See Landscape Drawings for additional information):

3.1. Lawn seed mix shall be a fresh, clean new seed crop. The Contractor shall furnish a dealer's guaranteed statement of the composition of the mixture and the percentage of purity and germination of each variety.
3.2. Seed mixture shall consist of
   a. 1/3 Kentucky blue,
   b. 1/3 perennial rye, and
   c. 1/3 fine fescue.
3.1. Turf type tall fescue is unacceptable.

4. Sodding – sodding is done where it is desirable to rapidly establish cover on a disturbed area. Sodding an area may be substituted for permanent seeding procedures anywhere on site. Bed preparation, fertilizing, and placement of sod shall be performed according to the S.C.S. Handbook. Sodding is recommended for steep sloped areas, areas immediately adjacent to sensitive water courses, easily erodible soils (fine sand/silt), etc.

WINTER CONSTRUCTION NOTES

1. All proposed vegetated areas which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and elsewhere seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting. The installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or on frozen ground and shall be completed in advance of thaw or spring melt events;
2. All ditches or swales which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions; and
3. After November 15th, incomplete road or parking surfaces where work has stopped for the winter season shall be protected with a minimum of 3 inches of crushed gravel per NHDOT Item 304.3.

WINTER CONSTRUCTION NOTES

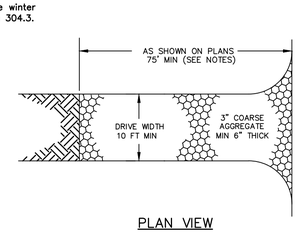
1. All proposed vegetated areas which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and elsewhere seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting. The installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or on frozen ground and shall be completed in advance of thaw or spring melt events;
2. All ditches or swales which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions; and
3. After November 15th, incomplete road or parking surfaces where work has stopped for the winter season shall be protected with a minimum of 3 inches of crushed gravel per NHDOT Item 304.3.

Long Term Inspection & Maintenance Schedule

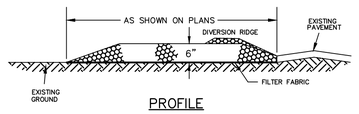
	Spring	Fall or Yearly	After Major Storm	Every 2–5 Years
Vegetated Areas				
Inspect all slopes and embankments	x		x	
Replant bare areas or areas with sparse growth	x		x	
Armor areas with rill erosion with an appropriate lining or divert the erosive flows to on-site areas able to withstand concentrated flows.	x		x	
Stormwater Channels				
Inspect ditches, swales and other open stormwater channels	x	x	x	
Remove any obstructions and accumulated sediments or debris	x	x		
Control vegetated growth and woody vegetation		x		
Repair any erosion of the ditch lining		x		
Mow vegetated ditches		x		
Remove woody vegetation growing through riprap		x		
Repair any slumping side slopes		x		
Replace riprap where underlying filter fabric or underdrain gravel is exposed or where stones have been dislodged		x		
Culverts				
Remove accumulated sediments and debris at inlet, outlet and within the conduit	x	x	x	
Repair any erosion damage at the culvert's inlet and outlet	x	x	x	
Remove woody vegetation growing through riprap		x		
Roadways and Parking Surfaces				
Remove accumulated winter sand along roadways	x			
Sweep pavement to remove sediment	x			
Grade road shoulders and remove excess sand either manually or by a front–end loader	x			
Grade gravel roads and gravel shoulders	x			
Clean out sediment contained in water bars or open–top culverts	x			
Ensure that stormwater is not impeded by accumulations of material or false ditches in the roadway shoulder	x			
Runoff Infiltration Facilities				
Remove dead vegetation and any accumulated sediment (normally at the entrance to the garden) to allow for new growth	x			
Weed; add additional hardwood mulch to suppress weeds	x	x		
Mow turf three (3) times a growing season				
Aerate area with deep tines, if water ponds on the surface for more than 24 hours during the first year or for a length of 72 hours		x		
Vegetative Swale				
Mow grass swales monthly				
Inspect swale following significant rainfall event	x	x	x	
Control vegetated growth and woody vegetation	x	x		
Repair any erosion of the ditch	x	x		
Remove debris and liter as necessary				

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE



PLAN VIEW



PROFILE

CONSTRUCTION SPECIFICATIONS

1. REFERENCE NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3 (LATEST EDITION), SECTION 4.2 "TEMPORARY CONSTRUCTION EXIT" REQUIREMENTS AND BMP DETAIL.
2. STONE SIZE – 3" COARSE AGGREGATE
3. THICKNESS – SIX (6) INCHES (MINIMUM).
4. LENGTH – 75 FOOT MINIMUM, OR 50 FOOT ALLOWED WHEN DIVERSION RIDGE IS PROVIDED.
5. WIDTH – 1/2 OF DRIVEWAY (10 FOOT MINIMUM).
6. FILTER FABRIC – MIRAFI 600X OR APPROVED EQUAL.
7. SURFACE WATER CONTROL – ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
8. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS–OF–WAY MUST BE REMOVED IMMEDIATELY.
9. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

STABILIZED CONSTRUCTION EXIT NOT TO SCALE

NOTE:
ALL FACILITIES SHOULD BE INSPECTED ON AN ANNUAL BASIS AT A MINIMUM. IN ADDITION, ALL FACILITIES SHOULD BE INSPECTED AFTER A SIGNIFICANT PRECIPITATION EVENT TO ENSURE THE FACILITY IS DRAINING APPROPRIATELY AND TO IDENTIFY ANY DAMAGE THAT OCCURRED AS A RESULT OF THE INCREASED RUNOFF. FOR THE PURPOSE OF THIS STORMWATER MANAGEMENT PROGRAM, A SIGNIFICANT RAINFALL EVENT IS CONSIDERED AN EVENT OF THREE (3) INCHES IN A 24–HOUR PERIOD OR 0.25 INCHES IN A ONE–HOUR PERIOD. IT IS ANTICIPATED THAT A SHORT, INTENSE EVENT IS LIKELY TO HAVE A HIGHER POTENTIAL OF EROSION FOR THIS SITE THAN A LONGER, HIGH VOLUME EVENT.

P5079

ALTUS ENGINEERING, INC.

133 COURT STREET PORTSMOUTH, NH 03801
(603) 433–2335 www.ALTUS–ENG.com

NOT FOR CONSTRUCTION

ISSUED FOR:
PLANNING BOARD

ISSUE DATE:
NOVEMBER 22, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	11/02/21
1	TAC WS COMMENTS	CDB	11/22/21

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 5079–SITE.dwg

SCALE: 22"x34" 1" = 20'
11"x17" 1" = 40'

OWNER / APPLICANT:

SAGAMORE CORNER, LLC
273 CORPORATE DRIVE
PORTSMOUTH, NH 03801

PROJECT:

PROPOSED MULTI–FAMILY RESIDENTIAL DEVELOPMENT
TAX MAP 201, LOT 2
SAGAMORE ROAD
PORTSMOUTH, NH 03801

TITLE:

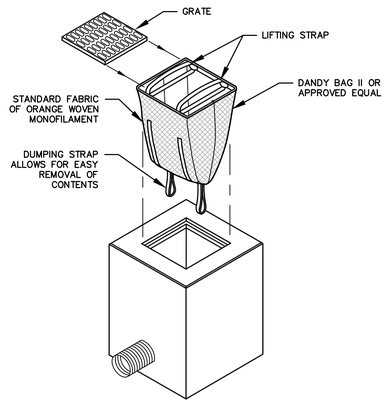
EROSION CONTROL NOTES AND DETAILS

SHEET NUMBER:

C-5

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE



INSTALLATION AND MAINTENANCE:

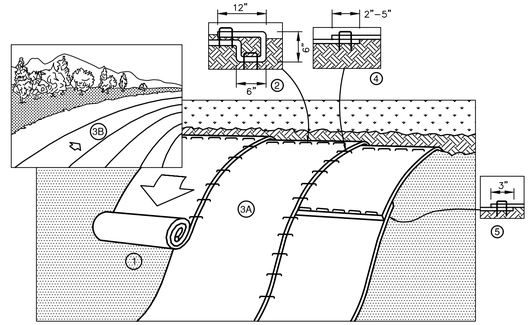
INSTALLATION: REMOVE THE GRATE FROM CATCH BASIN. IF USING OPTIONAL OIL ABSORBENTS; PLACE ABSORBENT PILLOW IN UNIT. STAND GRATE ON END. MOVE THE TOP LIFTING STRAPS OUT OF THE WAY AND PLACE THE GRATE INTO CATCH BASIN INSERT SO THE GRATE IS BELOW THE TOP STRAPS AND ABOVE THE LOWER STRAPS. HOLDING THE LIFTING DEVICES, INSERT THE GRATE INTO THE INLET.

MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM VICINITY OF THE UNIT AFTER EACH STORM EVENT. AFTER EACH STORM EVENT AND AT REGULAR INTERVALS, LOOK INTO THE CATCH BASIN INSERT. IF THE CONTAINMENT AREA IS MORE THAN 1/3 FULL OF SEDIMENT, THE UNIT MUST BE EMPTIED. TO EMPTY THE UNIT, LIFT THE UNIT OUT OF THE INLET USING THE LIFTING STRAPS AND REMOVE THE GRATE. IF USING OPTIONAL ABSORBENTS; REPLACE ABSORBENT WHEN NEAR SATURATION.

UNACCEPTABLE INLET PROTECTION METHOD:

A SIMPLE SHEET OF GEOTEXTILE UNDER THE GRATE IS NOT ACCEPTABLE.

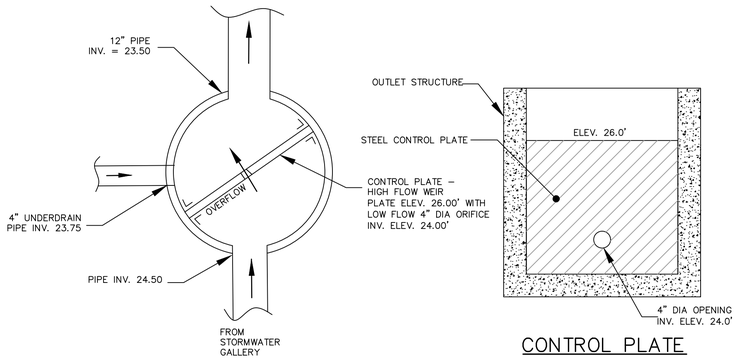
STORM DRAIN INLET PROTECTION NOT TO SCALE



NOTES

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

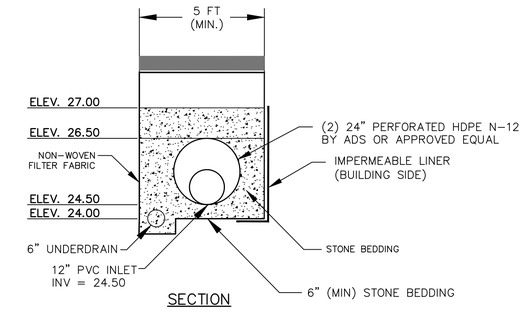
EROSION CONTROL BLANKET - SLOPE NOT TO SCALE



CONTROL PLATE

NOT TO SCALE

OUTLET CONTROL STRUCTURE

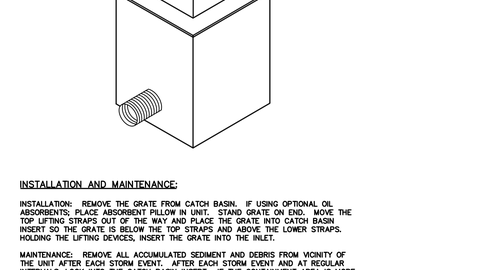


SECTION

NOTE: PERFERATED PIPES TO BE LAYED FLAT.
6" MINIMUM THICKNESS OF ROCK ABOVE AND BELOW PIPE

STORMWATER MANAGEMENT GALLERY

NOT TO SCALE



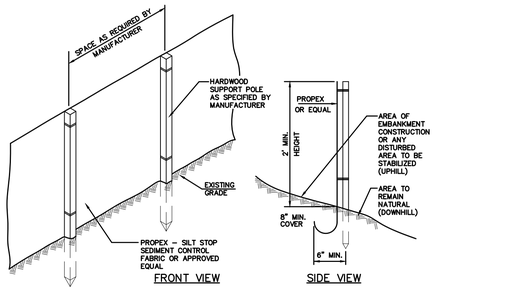
PLAN

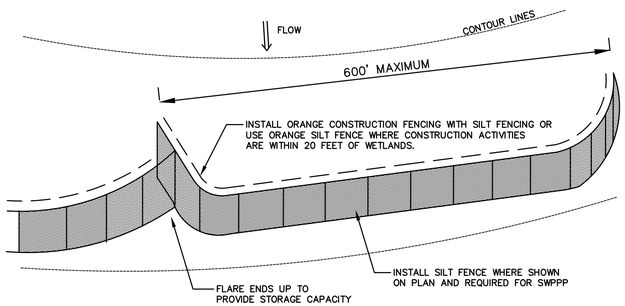
SECTION

NOTES

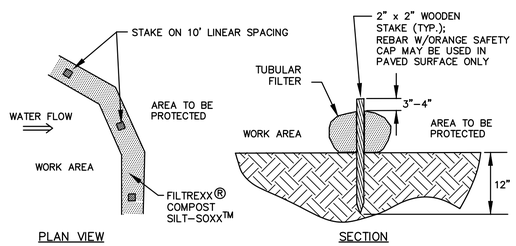
1. MACHINE CUT EXISTING PAVEMENT.
2. ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.
3. DIAMOND PATCHES, SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY. DIAMOND PATCHES SHALL MEET NHDOT REQUIREMENTS.

TYPICAL TRENCH PATCH NOT TO SCALE





SILT AND ORANGE CONSTRUCTION FENCE DETAIL NOT TO SCALE



NOTES:
1. SILTSOXX OR APPROVED EQUAL SHALL BE USED FOR TUBULAR SEDIMENT BARRIERS.
2. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
3. COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIREMENTS OF THE SPECIFIC APPLICATION.
4. ALL SEDIMENT TRAPPED BY BARRIER SHALL BE DISPOSED OF PROPERLY.

TUBULAR SEDIMENT BARRIER DETAIL NOT TO SCALE

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE
11/22/2021

NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: NOVEMBER 22, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	11/02/21
1	TAC WS COMMENTS	CDB	11/22/21

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 5079-SITE.dwg

SCALE: 22"x34" 1" = 20'
11"x17" 1" = 40'

OWNER / APPLICANT:

SAGAMORE CORNER, LLC
273 CORPORATE DRIVE
PORTSMOUTH, NH 03801

PROJECT:

PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT
TAX MAP 201, LOT 2
SAGAMORE ROAD
PORTSMOUTH, NH 03801

TITLE:

CONSTRUCTION DETAILS

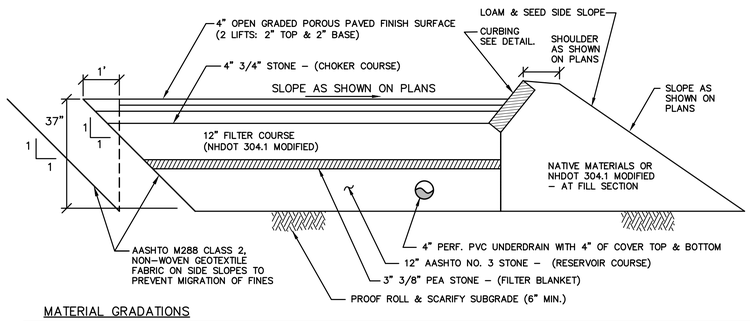
SHEET NUMBER:

C-6

P5079

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE



NOTES:

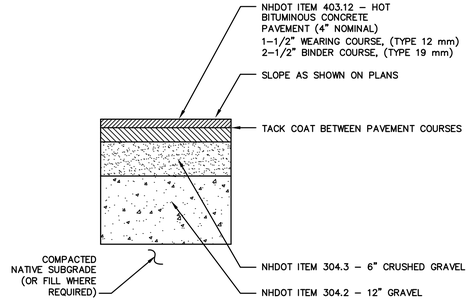
1. DESIGN OF POROUS PAVEMENT SHALL BE IN ACCORDANCE WITH UNHSC DESIGN SPECIFICATIONS FOR POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS.
2. CONTRACTOR TO REMOVE ANY EXISTING BURIED LAYERS OF LOAM OR UNSUITABLE MATERIAL DURING THE EXCAVATION OF THE PARKING AREA AND/OR WHENEVER ENCOUNTERED IN TRENCHES.
3. A PROFESSIONAL ENGINEER SHALL INSPECT SITE PREPARATION AND INSTALLATION OF POROUS PAVEMENT.
4. THE TOP LAYER (WEARING COURSE) SHALL BE PRE–BLENDED PG 76–28 MODIFIED WITH SBS. THE BASE COURSE SHOULD BE, AT A MINIMUM, PG 64–28 WITH 5 POUNDS OF FIBER PER TON ASPHALT MIX. IF SUFFICIENT STAGING OR USE OF THE BASE COURSE SECTION WILL BE REQUIRED PRIOR TO THE APPLICATION OF THE WEARING COURSE, THE ENGINEER MAY DECIDE TO USE PRE–BLENDED PG 64V–28 MODIFIED WITH SBS ON BOTH COURSES.
5. CONTRACTOR SHALL PROVIDE SUBMITTALS FOR POROUS PAVEMENT & SUBGRADE MATERIALS AS NOTED IN THE ABOVE SPECIFICATION A MINIMUM OF 14–DAYS PRIOR TO COMMENCING CONSTRUCTION.
6. THE CONSTRUCTION OF THE POROUS PAVEMENT SHALL BE IN ACCORDANCE WITH THE UNHSC DESIGN SPECIFICATIONS FOR POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS.

MATERIAL GRADATIONS

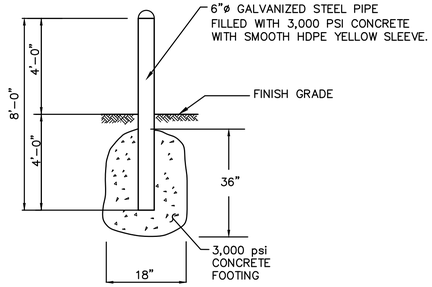
RESERVOIR COURSE		CHOKER COURSE STONE		GRAVEL FILTER COURSE (NHDOT 304.1 MODIFIED)		3/8" PEA STONE	
SIEVE SIZE	% PASSING BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
2–1/2"	100	1–1/2"	100	6"	100	1/2"	100
2"	90 – 100	1"	95 – 100	# 4	70 – 100	3/8"	85 – 100
1–1/2"	35 – 70	1/2"	25 – 60	# 200	0 – 6	# 4	10 – 30
1"	0 – 15	# 4	0 – 10			# 8	0 – 10
1/2"	0 – 5	# 8	0 – 5			# 16	0 – 15

POROUS PAVEMENT CROSS SECTION

NOT TO SCALE

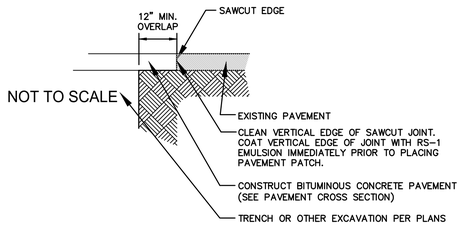


PENDING GEOTECH REPORT PAVEMENT CROSS SECTION



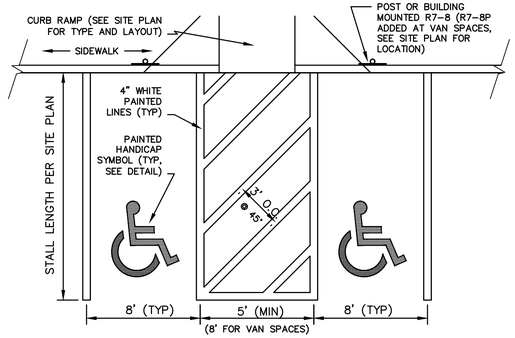
BOLLARD

NOT TO SCALE



TYPICAL PAVEMENT SAWCUT

NOT TO SCALE



PARKING STALL LAYOUT

NOT TO SCALE

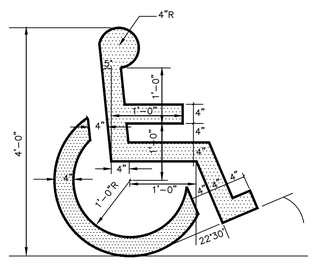
NOTES

1. SEE PLANS FOR CURB LOCATION.
2. SEE PLANS FOR PAVEMENT CROSS SECTION.
3. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
4. MINIMUM LENGTH OF CURB STONES = 4'.
5. MAXIMUM LENGTH OF CURB STONES = 10'.
6. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES – SEE CHART.
7. CURB ENDS TO ROUNDED AND BATTERED FACES TO BE CUT WHEN CALL FOR ON THE PLANS.
8. CURB SHALL BE INSTALLED PRIOR TO PLACEMENT OF TOP PAVEMENT COURSE.
9. JOINTS BETWEEN CURB STONES SHALL BE MORTARED.

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

VERTICAL GRANITE CURB

NOT TO SCALE

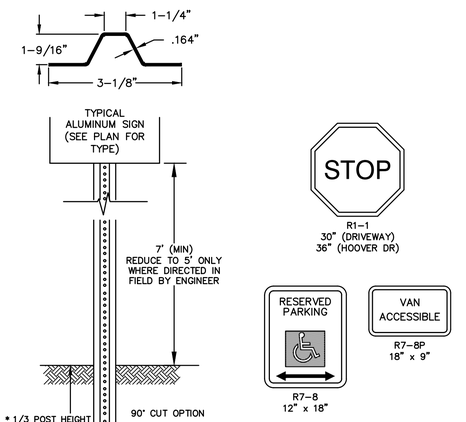


NOTES

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

PAINTED ADA SYMBOL

NOT TO SCALE



NOTES

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

LENGTH: AS REQUIRED

WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)

HOLES: 3/8" DIAMETER, 1" C–C FULL LENGTH

STEEL: SHALL CONFORM TO ASTM A–499 (GRADE 60) OR ASTM A–576 (GRADE 1070 – 1080)

SIGN DETAILS

NOT TO SCALE

ALTUS ENGINEERING, INC.

133 COURT STREET PORTSMOUTH, NH 03801
(603) 433–2335 www.ALTUS–ENG.com

CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE

11/22/2021

NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: NOVEMBER 22, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	11/02/21
1	TAC WS COMMENTS	CDB	11/22/21

DRAWN BY: CDB

APPROVED BY: EDW

DRAWING FILE: 5079–SITE.dwg

SCALE: 22"x34" 1" = 20'
11"x17" 1" = 40'

OWNER / APPLICANT:

SAGAMORE CORNER, LLC
273 CORPORATE DRIVE
PORTSMOUTH, NH 03801

PROJECT:

PROPOSED MULTI–FAMILY RESIDENTIAL DEVELOPMENT
TAX MAP 201, LOT 2

SAGAMORE ROAD
PORTSMOUTH, NH 03801

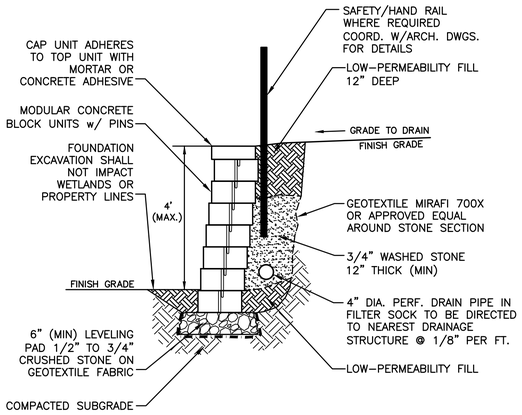
TITLE:

CONSTRUCTION DETAILS

SHEET NUMBER:

C-7

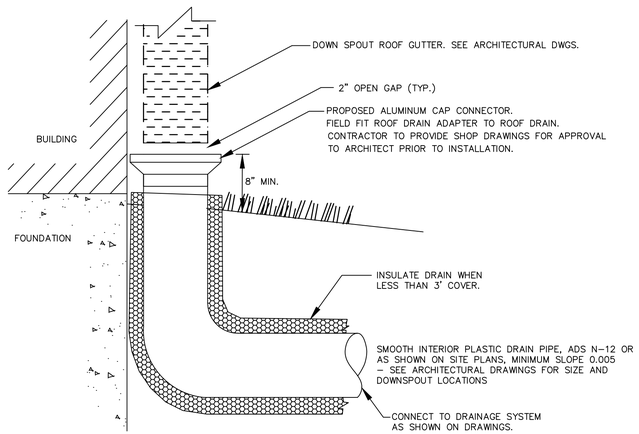
P5079



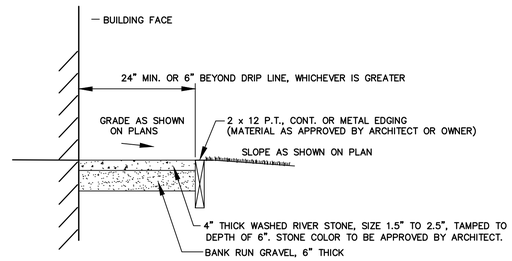
NOTES:

1. MODULAR BLOCK WALLS SHALL BE "DIAMOND PRO" RETAINING WALL SYSTEMS WITH CONCRETE BLOCKS MEASURING APPROXIMATELY 8"x18"x12" WITH WALL CAP. USE OF A DIFFERENT MODULAR BLOCK SYSTEM SHALL BE APPROVED BY BOTH THE OWNER AND ENGINEER.
2. WALL SHALL BE INSTALLED PER THE REQUIREMENTS OF THE MANUFACTURER.
3. WALL HEIGHT SHALL NOT EXCEED 4' WITHOUT DESIGN DRAWINGS STAMPED BY A PROFESSIONAL STRUCTURAL ENGINEER. WALLS EXCEEDING 4 FT IN HEIGHT WILL REQUIRE GEOSYNTHETIC REINFORCING OR ANCHORPLEX RETRAINING WALL SYSTEMS.
4. LOCKING PINS MAY OR MAY NOT BE REQUIRED BASED ON THE WALL MANUFACTURER APPROVED BY THE ENGINEER.
5. WALL SHALL BE EMBEDDED BELOW EXISTING GRADE THE DEPTH OF AT LEAST ONE BLOCK UNLESS OTHERWISE SPECIFIED BY THE WALL MANUFACTURER.
6. WALL BATTER SHALL BE PER THE MANUFACTURER'S SPECIFICATIONS.
7. BLOCK FINISH SHALL BE AT THE DISCRETION OF THE OWNER.

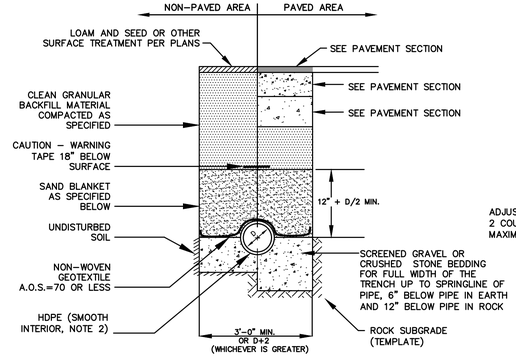
MODULAR BLOCK RETAINING WALL NOT TO SCALE



ROOF DRAIN NOT TO SCALE



DRIP EDGE DETAIL NOT TO SCALE



NOTES:

1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
2. ALL PIPE SHALL BE HDPE WITH SMOOTH INTERIOR AND CORRUGATED EXTERIOR, ADS TYPE N-12 OR APPROVED EQUAL.

SAND BLANKET/BARRIER

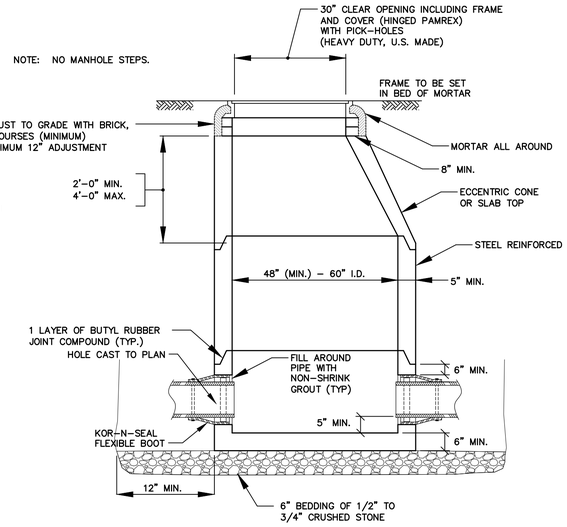
SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 - 100
200	0 - 15

SCREENED GRAVEL OR CRUSHED STONE BEDDING*

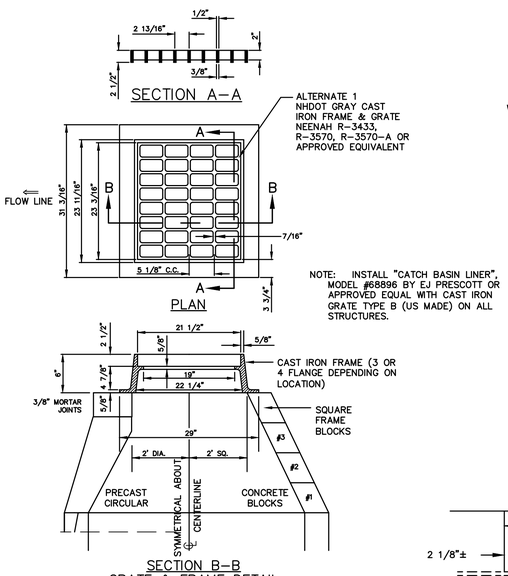
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90 - 100
3/8"	20 - 55
# 4	0 - 10
# 8	0 - 5

* EQUIVALENT TO STANDARD STONE SIZE #67 - SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

STORM DRAIN TRENCH NOT TO SCALE



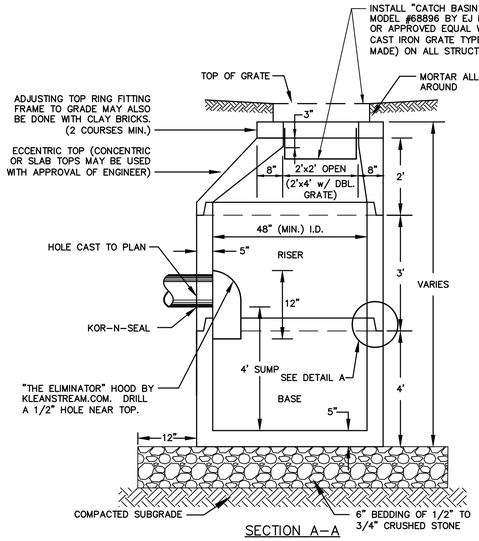
DRAIN MANHOLE DETAIL NOT TO SCALE

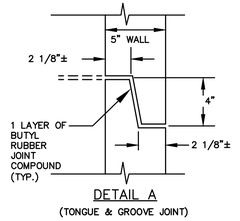


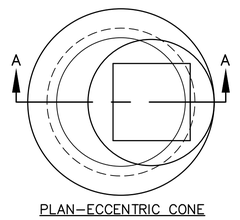
NOTES

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

DEEP SUMP CATCH BASIN NOT TO SCALE







APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

STATE OF NEW HAMPSHIRE - CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER
11/22/2021

NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: NOVEMBER 22, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	11/02/21
1	TAC WS COMMENTS	CDB	11/22/21

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 5079-SITE.dwg

SCALE: 22"x34" 1" = 20'
11"x17" 1" = 40'

OWNER / APPLICANT:

SAGAMORE CORNER, LLC
273 CORPORATE DRIVE
PORTSMOUTH, NH 03801

PROJECT:

PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT
TAX MAP 201, LOT 2
SAGAMORE ROAD
PORTSMOUTH, NH 03801

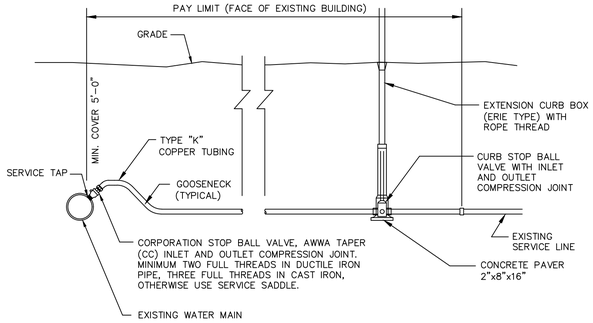
TITLE:

CONSTRUCTION DETAILS

SHEET NUMBER:

C-8

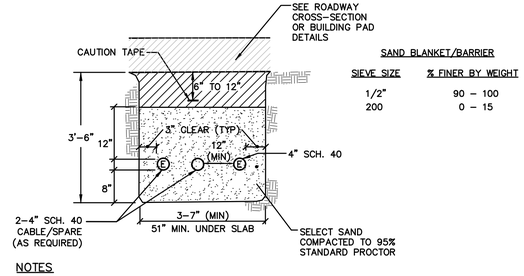
P5079



NOTES

1. PROVIDE NEW LINE USING CONTINUOUS LENGTHS OF COPPER. NO COUPLING ALLOWED IN ROADWAY WITHOUT APPROVAL OF ENGINEER.
2. TAPS TO BE MADE AT APPROXIMATELY 2:00 & 10:00
3. PROVIDE FOR SERVICE LINE CONTRACTION AND EXPANSION BY INSTALLING "S" IN SERVICE LINE NEAR MAIN.
4. IF SERVICE IS INSTALLED WITH LESS THAN 5' COVER, INSULATE OVER LINE.
5. REMOVE EXISTING CURB STOP.
6. CONNECT CURB STOP TO EXISTING SERVICE LINE AT PROPERTY LINE OR AT LOCATION APPROVED BY THE ENGINEER (NO COUPLING WITHOUT APPROVAL OF ENGINEER) AFTER PRESSURE TESTING AND DISINFECTION.
7. SHUT OFF EXISTING CORPORATION AND REMOVE OR ABANDON EXISTING SERVICE LINE.
8. CURB BOX SHALL BE SET IN THE GRASS/LANDSCAPE AREA BETWEEN CURB AND SIDEWALK UNLESS DIRECTED OTHERWISE.
9. 2" OR LARGER SERVICE CONNECTIONS SHALL USE A STAINLESS STEEL SERVICE SADDLE.

SERVICE CONNECTION DETAIL NOT TO SCALE



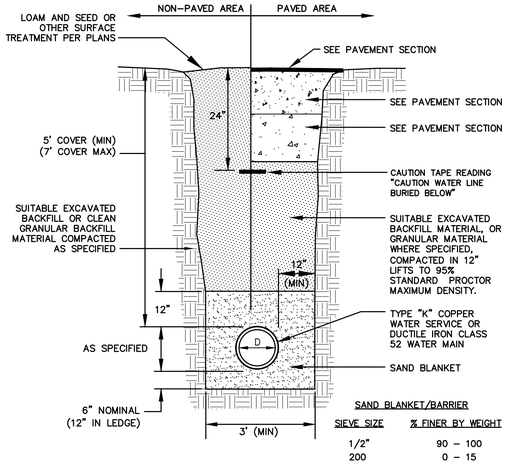
SAND BLANKET/BARRIER

SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

NOTES

1. ALL CONDUIT IS TO BE SCHEDULE 40 PVC, ELECTRICAL GRADE, GRAY IN COLOR AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. A 10-FOOT HORIZONTAL SECTION OF RIGID GALVANIZED STEEL CONDUIT WILL BE REQUIRED AT EACH SWEEP, UNLESS IN THE OPINION OF THE SERVICE PROVIDER DESIGNER, THE SWEEP-PVC JOINT IS NOT SUBJECT TO FAILURE DURING PULLING OF THE CABLE. ALL JOINTS ARE TO BE WATERTIGHT.
2. ALL 90 DEGREE SWEEPS WILL BE MADE WITH RIGID GALVANIZED STEEL WITH A MINIMUM RADIUS OF 36 INCHES FOR PRIMARY CABLES AND 24 INCHES FOR SECONDARY CABLES.
3. BACKFILL MAY BE MADE WITH EXCAVATED MATERIAL OR COMPARABLE, UNLESS MATERIAL IS DEEMED UNSUITABLE BY SERVICE PROVIDER. BACKFILL SHALL BE FREE OF FROZEN LUMPS, ROCKS, DEBRIS, AND RUBBISH. ORGANIC MATERIAL SHALL NOT BE USED AS BACKFILL. BACKFILL SHALL BE IN 6-INCH LAYERS AND THOROUGHLY COMPACTED.
4. A SUITABLE PULLING STRING, CAPABLE OF 300 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE SERVICE PROVIDER IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT. A MINIMUM OF TWENTY-FOUR (24") INCHES OF ROPE SLACK SHALL REMAIN AT THE END OF EACH DUCT. PULL ROPE SHALL BE INSTALLED IN ALL CONDUIT FOR FUTURE PULLS. PULL ROPE SHALL BE NYLON ROPE HAVING A MINIMUM TENSILE STRENGTH OF THREE HUNDRED (300#) LBS.
5. SERVICE PROVIDER SHALL BE GIVEN THE OPPORTUNITY TO INSPECT ALL CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD SERVICE PROVIDER BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. TYPICAL CONDUIT SIZES ARE 3-INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4-INCH FOR THREE PHASE SECONDARY, AND 5-INCH FOR THREE PHASE PRIMARY. HOWEVER, SERVICE PROVIDERS MAY REQUIRE DIFFERENT NUMBERS, TYPES AND SIZES OF CONDUIT THAN THOSE SHOWN HERE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL CONDUIT SIZES, TYPES AND NUMBERS WITH EACH SERVICE PROVIDER PRIOR TO ORDERING THEM.
7. ROUTING OF CONDUIT, LOCATION OF MANHOLES, TRANSFORMERS, CABINETS, HANDHOLES, ETC., SHALL BE DETERMINED BY SERVICE PROVIDER DESIGN PERSONNEL. THE CONTRACTOR SHALL COORDINATE WITH ALL SERVICE PROVIDERS PRIOR TO THE INSTALLATION OF ANY CONDUIT.
8. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE. WHERE REQUIRED BY UTILITY PROVIDER, CONDUIT SHALL BE SUPPORTED IN PLACE USING PIPE STANCHIONS PLACED EVERY FIVE (5') FEET ALONG THE CONDUIT RUN.
9. UNDER A BUILDING SLAB THE CONDUIT SHALL BE ENCASED IN 8" OF CONCRETE ON ALL SIDES.
10. ALL CONDUIT TERMINATIONS SHALL BE CAPPED TO PREVENT DEBRIS FROM ENTERING CONDUIT.

ELECTRIC / COMMUNICATION TRENCH NOT TO SCALE



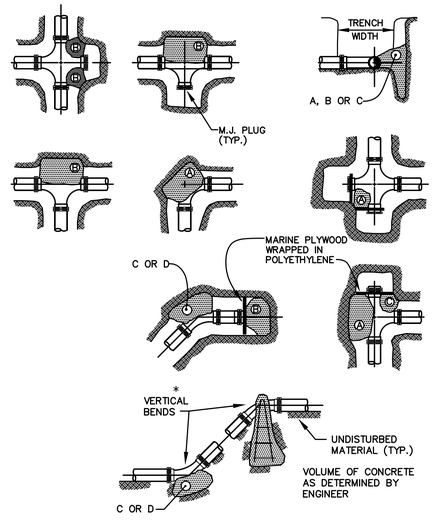
SAND BLANKET/BARRIER

SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

NOTES

1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
2. WATER MAINS SHALL BE POLY WRAPPED.
3. WATER MAINS SHALL HAVE 3 WEDGES PER JOINT.

WATER TRENCH NOT TO SCALE

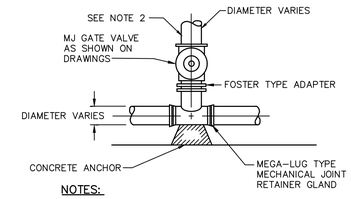


TEST PRESSURE = 150 psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL					
	REACTION TYPE	PIPE SIZE 4"	6"	8"	10"	12"
	A 90°	0.89	2.19	3.82	11.14	17.24
	B 180°	0.65	1.55	2.78	8.38	12.00
	C 45°	0.48	1.19	2.12	6.02	9.32
	D 22-1/2°	0.25	0.60	1.06	3.08	4.74
	E 11-1/4°	0.13	0.30	0.54	1.54	2.38

NOTES:

1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
4. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
5. POLYETHYLENE (6 MIL) SHALL BE PLACED AROUND FITTINGS PRIOR TO CONCRETE PLACEMENT.

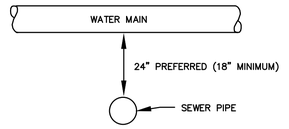
THRUST BLOCKING DETAIL NOT TO SCALE



NOTES:

1. GATE VALVES SHALL OPEN RIGHT, PER CITY STANDARDS.
2. BRANCH PIPING SHALL BE MECHANICALLY RESTRAINED AS NOTED UNDER THRUST BLOCK DETAIL REQUIREMENTS.

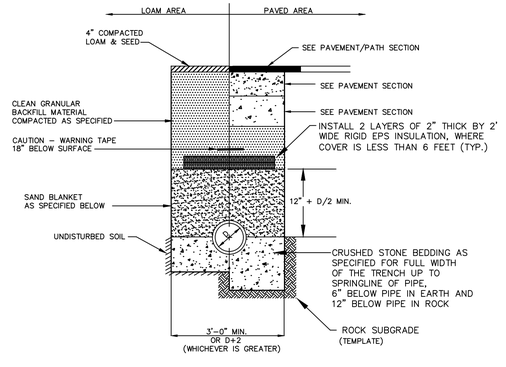
TEE & GATE VALVE ASSEMBLY DETAIL NOT TO SCALE



NOTES

1. A MINIMUM HORIZONTAL DISTANCE OF 10 FEET SHALL BE MAINTAINED BETWEEN WATER AND SEWER MAINS. A MINIMUM VERTICAL DISTANCE WITH WATER ABOVE SEWER SHALL BE MAINTAINED.
2. SEWER PIPE JOINTS SHALL BE LOCATED A MINIMUM OF 6 FEET HORIZONTALLY FROM WATER MAIN.
3. IF THE REQUIRED CONFIGURATION CANNOT BE MET, THE SEWER MAIN SHALL BE CONSTRUCTED TO MEET THE NHDES REQUIREMENTS FOR FORCE MAIN CONSTRUCTION.

WATER / SEWER CROSSING NOT TO SCALE



BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.

SAND BLANKET

SIEVE SIZE	% FINER BY WEIGHT
1/2"	90 – 100
200	0 – 15

CRUSHED STONE BEDDING *

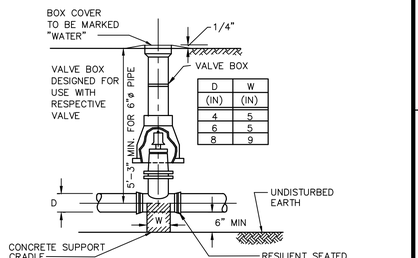
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90 – 100
3/8"	20 – 55
# 4	0 – 10
# 8	0 – 5

* EQUIVALENT TO STANDARD STONE SIZE #67 – SECTION 703 OF NHDOT STANDARD SPECIFICATIONS

SEWER TRENCH SECTION NOT TO SCALE

STANDARD TRENCH NOTES:

1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE: BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN OF THE DRAWING.
2. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33, STONE SIZE NO. 67.
   100% PASSING 1 INCH SCREEN
   90 – 100% PASSING 3/4 INCH SCREEN
   20 – 55% PASSING 3/8 INCH SCREEN
   0–10% PASSING #4 SIEVE
   0–5% PASSING #8 SIEVE
   WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1–1/2 INCH TO 1/2 INCH SHALL BE USED.
3. SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 90 – 100% PASSES 1/2 INCH SIEVE AND NOT MORE THAN 15% WILL PASS A #200 SIEVE. BLANKET MAY BE OMITTED FOR CAST-IRON, DUCTILE IRON, AND REINFORCED CONCRETE PIPE PROVIDED HOWEVER, THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE.
4. SUITABLE MATERIAL: IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS; PIECES OF PAVEMENT; ORGANIC MATTER; TOP SOIL; ALL WET OR SOFT MUCK, PEAT, OR CLAY; ALL EXCAVATED LEDGE MATERIAL; ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION; AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.
5. BASE COURSE AND PAVEMENT SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES – DIVISIONS 300 AND 400 RESPECTIVELY.
6. SHEETING, IF REQUIRED: WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION 1 FOOT ABOVE THE TOP OF PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAT 1 FOOT ABOVE THE TOP OF THE PIPE.
7. W = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.) ALSO, W SHALL BE THE PAYMENT WIDTH FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE.
8. FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
9. CONCRETE FOR ENCASEMENT SHALL CONFORM TO THE NEW HAMPSHIRE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS STANDARD SPECIFICATION REQUIREMENTS FOR CLASS A (3000#) CONCRETE AS FOLLOWS:
   CEMENT: 6.0 BAGS PER CUBIC YARD WATER: 5.75 GALLONS PER BAG CEMENT MAXIMUM SIZE OF AGGREGATE: 1 INCH CONCRETE ENCASEMENT IS NOT ALLOWED FOR PVC PIPE.
10. CONCRETE FULL ENCASEMENT: IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MINIMUM). BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.
11. NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES DESIGN STANDARDS REQUIRE TEN FEET (10') SEPARATION BETWEEN WATER AND SEWER. REFER TO CITY'S STANDARD SPECIFICATIONS FOR METHODS OF PROTECTION IN AREAS THAT CANNOT MEET THESE REQUIREMENTS.



SECTION

WATER VALVE DETAIL NOT TO SCALE

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE
11/22/2021

NOT FOR CONSTRUCTION

ISSUED FOR: PLANNING BOARD

ISSUE DATE: NOVEMBER 22, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	11/02/21
1	TAC WS COMMENTS	CDB	11/22/21

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 5079-SITE.dwg

SCALE: 22"x34" 1" = 20'
11"x17" 1" = 40'

OWNER / APPLICANT:

SAGAMORE CORNER, LLC
273 CORPORATE DRIVE
PORTSMOUTH, NH 03801

PROJECT:

PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT
TAX MAP 201, LOT 2
SAGAMORE ROAD
PORTSMOUTH, NH 03801

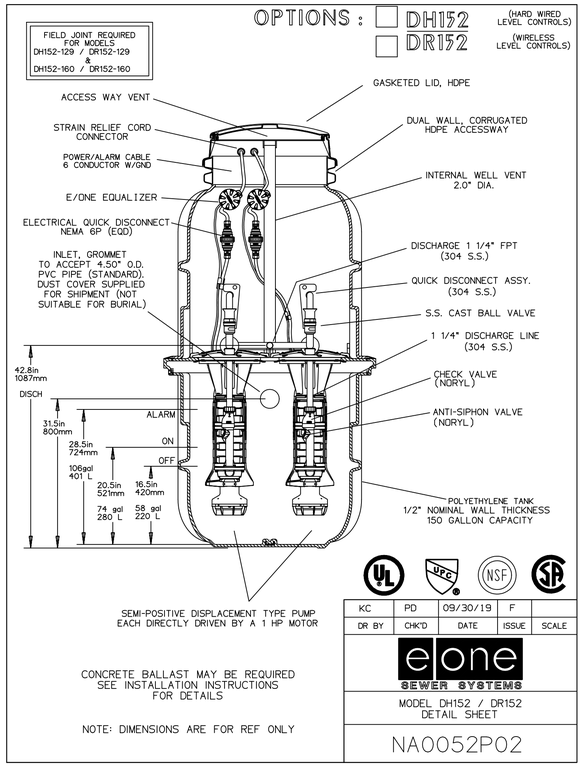
TITLE:

CONSTRUCTION DETAILS

SHEET NUMBER:

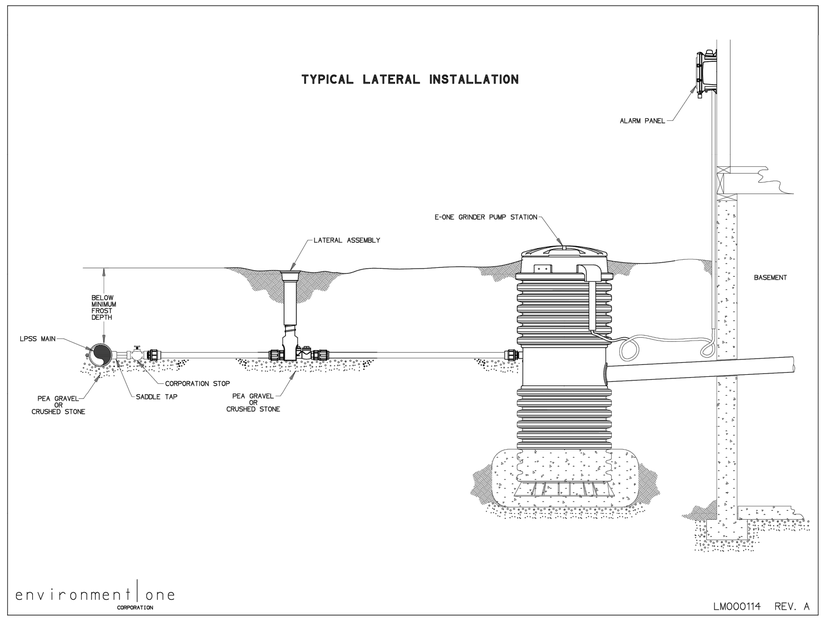
C-9

P5079



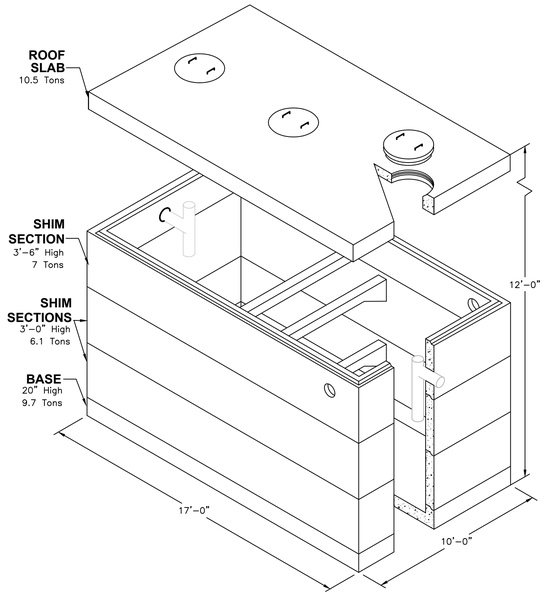
E-ONE GRINDER PUMP DETAIL

NOT TO SCALE



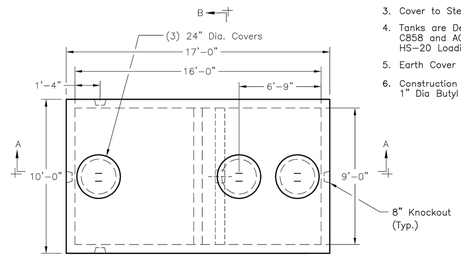
E-ONE TYPICAL SEWER SERVICE INSTALLATION

NOT TO SCALE

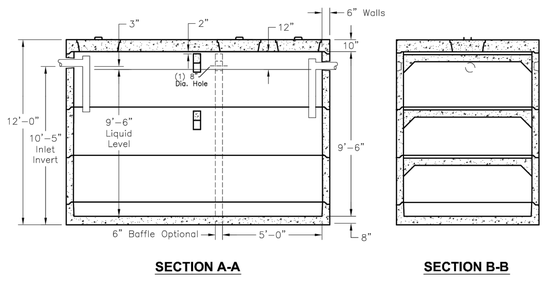


NOTES:

1. Concrete : 5,000 P.S.I Minimum Strength @ 28 Days
2. Steel Reinforcing– ASTM A–615, Grade 60.
3. Cover to Steel–1" Minimum
4. Tanks are Designed to Meet ASTM C858 and ACI 318 with AASHTO HS–20 Loading
5. Earth Cover –0 to 2 Feet Max.
6. Construction Joint–Sealed with 1" Dia Butyl Rubber or Equivalent



PLAN VIEW



SECTION A-A

SECTION B-B

Septic Tank - 10,000 Gallon Capacity
9'-0" x 16'-0" x 10'-6" I.D.
Oldcastle Precast® *(OR APPROVED EQUAL)*

SEPTIC HOLDING TANK DETAIL (10,000 GALLON CAPACITY)

NOT TO SCALE

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
11/22/2021

NOT FOR CONSTRUCTION

ISSUED FOR: TAC

ISSUE DATE: NOVEMBER 22, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	11/22/21

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 5079-SITE.dwg

SCALE: 22"x34" 1" = 10'
11"x17" 1" = 20'

OWNER / APPLICANT:

SAGAMORE CORNER, LLC
273 CORPORATE DRIVE
PORTSMOUTH, NH 03801

PROJECT:

PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT
TAX MAP 201, LOT 2

960 SAGAMORE ROAD
PORTSMOUTH, NH 03801

TITLE:

CONSTRUCTION DETAILS

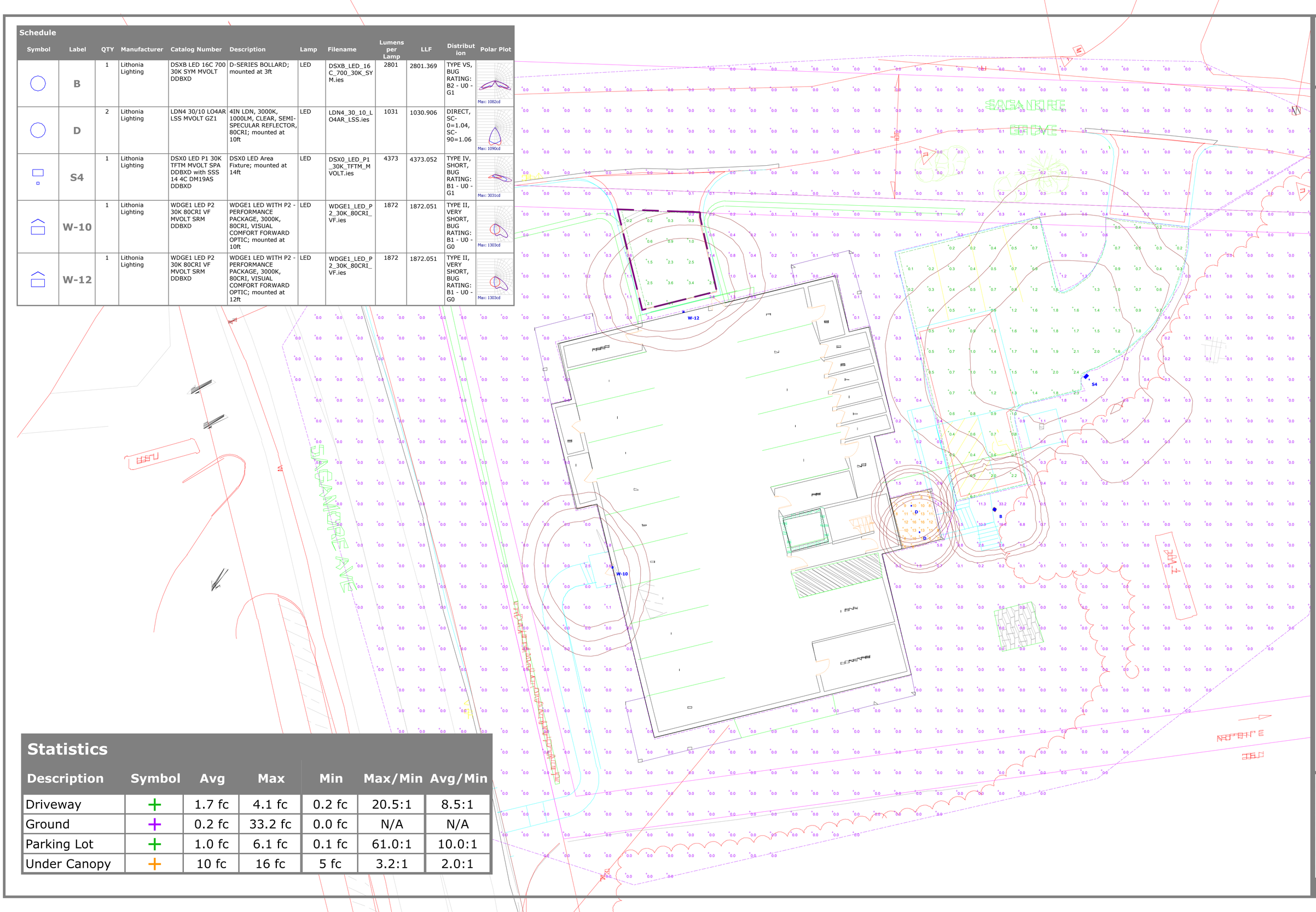
SHEET NUMBER:

C-10

P5079

Schedule

Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Filename	Lumens per Lamp	LLF	Distribution	Polar Plot
	B	1	Lithonia Lighting	DSXB LED 16C 700 30K SYM MVOLT DDBXD	D-SERIES BOLLARD; mounted at 3ft	LED	DSXB_LED_16C_700_30K_SYM.ies	2801	2801.369	TYPE VS, BUG RATING: B2 - U0 - G1	Max: 1082cd
	D	2	Lithonia Lighting	LDN4 30/10 LO4AR LSS MVOLT GZ1	4IN LDN, 3000K, 1000LM, CLEAR, SEMI-SPECULAR REFLECTOR, 80CRI; mounted at 10ft	LED	LDN4_30_10_LO4AR_LSS.ies	1031	1030.906	DIRECT, SC-0=1.04, SC-90=1.06	Max: 1090cd
	S4	1	Lithonia Lighting	DSX0 LED P1 30K TFTM MVOLT SPA DDBXD with SSS 14 4C DM19AS DDBXD	DSX0 LED Area Fixture; mounted at 14ft	LED	DSX0_LED_P1_30K_TFTM_MVOLT.ies	4373	4373.052	TYPE IV, SHORT, BUG RATING: B1 - U0 - G1	Max: 3031cd
	W-10	1	Lithonia Lighting	WDGE1 LED P2 30K 80CRI VF MVOLT SRM DDBXD	WDGE1 LED WITH P2 - PERFORMANCE PACKAGE, 3000K, 80CRI, VISUAL COMFORT FORWARD OPTIC; mounted at 10ft	LED	WDGE1_LED_P2_30K_80CRI_VF.ies	1872	1872.051	TYPE II, VERY SHORT, BUG RATING: B1 - U0 - G0	Max: 1303cd
	W-12	1	Lithonia Lighting	WDGE1 LED P2 30K 80CRI VF MVOLT SRM DDBXD	WDGE1 LED WITH P2 - PERFORMANCE PACKAGE, 3000K, 80CRI, VISUAL COMFORT FORWARD OPTIC; mounted at 12ft	LED	WDGE1_LED_P2_30K_80CRI_VF.ies	1872	1872.051	TYPE II, VERY SHORT, BUG RATING: B1 - U0 - G0	Max: 1303cd



Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Driveway	+	1.7 fc	4.1 fc	0.2 fc	20.5:1	8.5:1
Ground	+	0.2 fc	33.2 fc	0.0 fc	N/A	N/A
Parking Lot	+	1.0 fc	6.1 fc	0.1 fc	61.0:1	10.0:1
Under Canopy	+	10 fc	16 fc	5 fc	3.2:1	2.0:1

VISUAL

960 SAGAMORE AVE
Site Lighting Layout

Designer
Heidi G. Connors
Visible Light, Inc.
24 Stickney
Terrace
Suite 6
Hampton, NH
03842

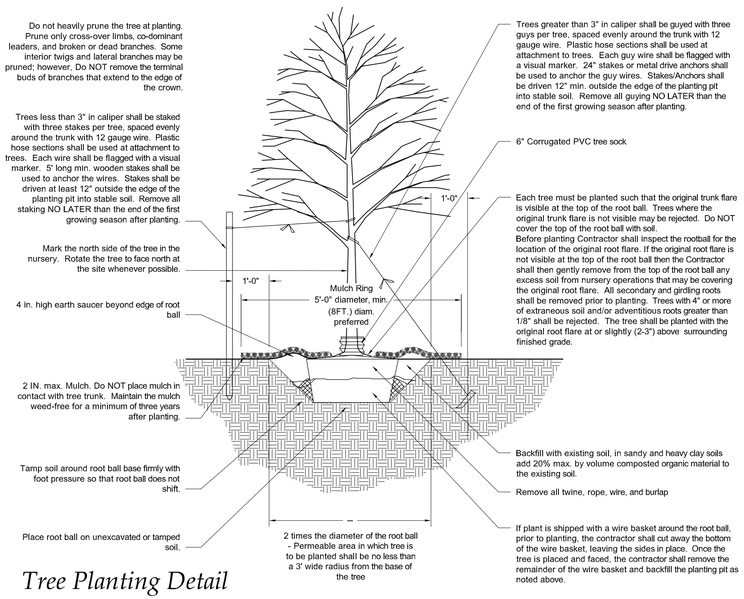
Date
11/15/2021

Scale
1"=10'

Drawing No.

Summary

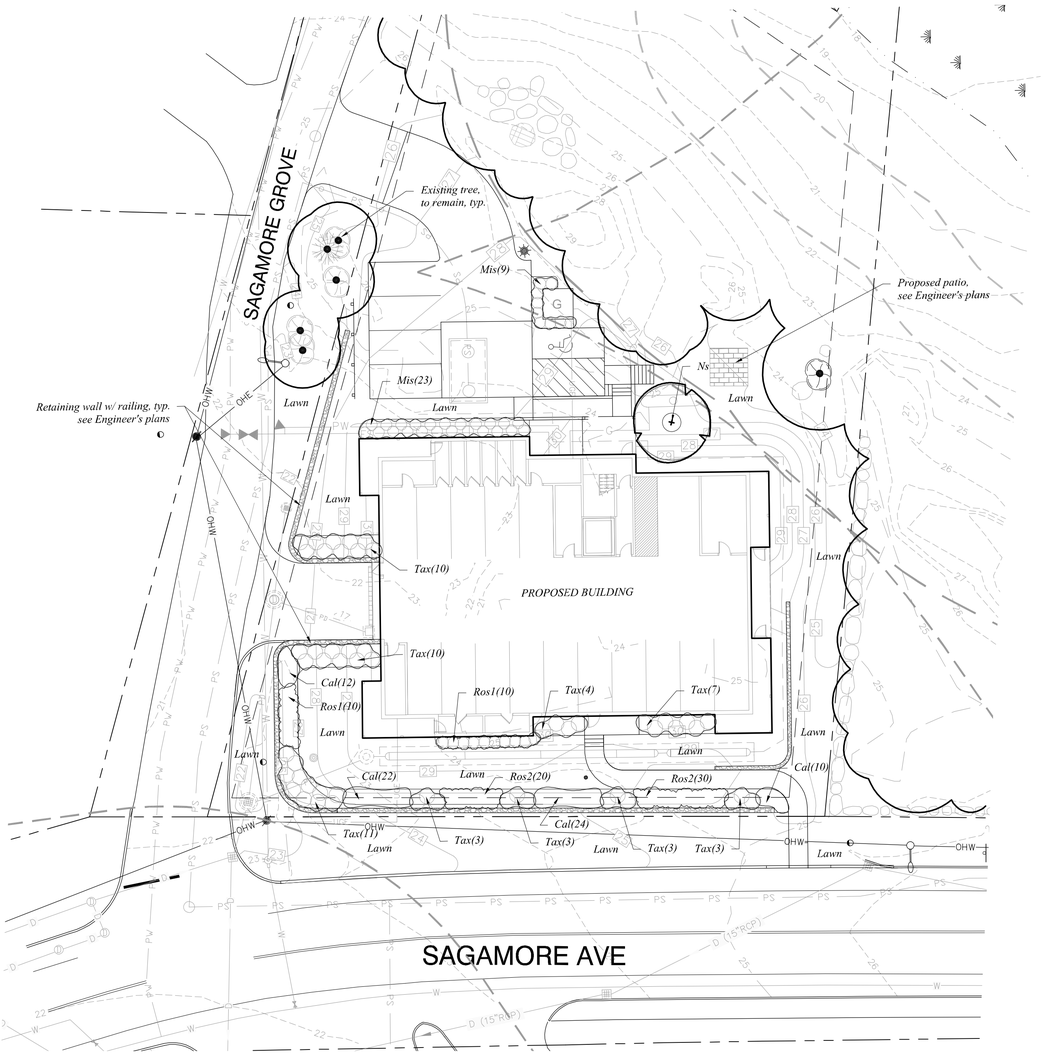
S-1



Tree Planting Detail

Landscape Notes

1. Design is based on drawings by Altus Engineering received 11/15/2021 and may require adjustment due to actual field conditions.
2. The contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
3. Erosion Control shall be in place prior to construction.
4. Erosion Control to consist of Hay Bales and Erosion Control Fabric shall be staked in place between the work and Water bodies, Wetlands and/or drainage ways prior to any construction.
5. The Contractor shall verify layout and grades and inform the Landscape Architect or Client's Representative of any discrepancies or changes in layout and/or grade relationships prior to construction.
6. It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawing is incorrect, the landscape architect will provide a set of drawings at the correct scale, at the request of the contractor.
7. Trees to Remain within the construction zone shall be protected from damage for the duration of the project by snow fence or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Snow fence shall be located at the drip line at a minimum and shall include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots. In order to protect the integrity of the roots, branches, trunk and bark of the tree(s) no vehicles or construction equipment shall drive or park in or on the area within the drip line(s) of the tree(s). Do not store any refuse or construction materials or portalets within the tree protection area.
8. Location, support, protection, and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor.
9. The Contractor shall verify exact location and elevation of all utilities with the respective utility owners prior to construction. Call DIGSAFE at 1-888-344-7233.
10. The Contractor shall procure any required permits prior to construction.
11. Prior to any landscape construction activities Contractor shall test all existing loam and loam from off-site intended to be used for lawns and plant beds using a thorough sampling throughout the supply. Soil testing shall indicate levels of pH, nitrates, macro and micro nutrients, texture, soluble salts, and organic matter. Contractor shall provide Landscape Architect with test results and recommendations from the testing facility along with soil amendment plans as necessary for the proposed plantings to thrive. All loam to be used on site shall be amended as approved by the Landscape Architect prior to placement.
12. Contractor shall notify landscape architect or owner's representative immediately if at any point during demolition or construction a site condition is discovered which may negatively impact the completed project. This includes, but is not limited to, unforeseen drainage problems, unknown subsurface conditions, and discrepancies between the plan and the site. If a contractor is aware of a potential issue, and does not bring it to the attention of the landscape architect or owner's representative immediately, they may be responsible for the labor and materials associated with correcting the problem.
13. The Contractor shall furnish and plant all plants shown on the drawings and listed thereon. All plants shall be nursery-grown under climatic conditions similar to those in the locality of the project. Plants shall conform to the botanical names and standards of size, culture, and quality for the highest grades and standards as adopted by the American Association of Nurserymen, Inc. in the American Standard of Nursery Stock, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
14. A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
15. All plants shall be legibly tagged with proper botanical name.
16. The Contractor shall guarantee all plants for not less than one year from time of acceptance.
17. Owner or Owner's Representative will inspect plants upon delivery for conformity to Specification requirements. Such approval shall not affect the right of inspection and rejection during or after the progress of the work. The Owner reserves the right to inspect and/or select all trees at the place of growth and reserves the right to approve a representative sample of each type of shrub, herbaceous perennial, annual, and ground cover at the place of growth. Such sample will serve as a minimum standard for all plants of the same species used in this work.
18. No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any reason.
19. All landscaping shall be provided with the following:
    a. Outside hose attachments spaced a maximum of 150 feet apart, and
    b. An underground irrigation system, or
    c. A temporary irrigation system designed for a two-year period of plant establishment.
20. If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas.
21. The contractor is responsible for all plant material from the time their work commences until final acceptance. This includes but is not limited to maintaining all plants in good condition, the security of the plant material once delivered to the site, and watering of plants. Plants shall be appropriately watered prior to, during and after planting. It is the contractor's responsibility to provide clean water suitable for plant health from off site, should it not be available on site.
22. All disturbed areas will be dressed with 6" of topsoil and planted as noted on the plans or seeded except plant beds. Plant beds shall be prepared to a depth of 12" with 75% loam and 25% compost.
23. Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded native bark not longer than 4" in length and ½" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 5' diameter min. saucer. Color of mulch shall be black.
24. In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously applied mulch) over the root ball of any plant.
25. Secondary lateral branches of deciduous trees overhanging vehicular and pedestrian travel ways shall be pruned up to a height of 6' to allow clear and safe passage of vehicles and pedestrians under tree canopy. Within the sight distance triangles at vehicle intersections the canopies shall be raised to 8' min.
26. Snow shall be stored a minimum of 5' from shrubs and trunks of trees.
27. Landscape Architect is not responsible for the means and methods of the contractor.



Plant List

0 5 10 20 40

TREES

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Ns	*Nyssa Sylvatica*	Black Tupelo	1	2.5-3" Cal	B&B

SHRUBS

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Ros1	*Rosa 'Sunny Knockout'*	Sunny Knockout Rose	20	5 gal	
Ros2	*Rosa 'Apricot Drift'*	Apricot Drift Rose	50	3 gal	
Tax	*Taxus media 'Greenwave'*	Greenwave Yew	54	5 gal	

PERENNIALS, GROUNDCOVERS, VINES and ANNUALS

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Cal	*Calamagrostis acutifolia 'Karl Foerster'*	Feather Reed Grass	68	2 gal	
Mis	*Miscanthus sinensis 'Morning Light'*	Morning Light Maiden Grass	32	2 gal	

City of Portsmouth Notes

A. The property owner and all future property owners shall be responsible for the maintenance, repair and replacement of all required screening and landscape materials.
B. All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary, and kept free of refuse and debris. All required fences and walls shall be maintained in good repair.
C. The property owner shall be responsible to remove and replace dead or diseased plant materials immediately with the same type, size and quantity of plant materials as originally installed, unless alternative plantings are requested, justified and approved by the Planning Board or Planning Director.

woodburn & company
LANDSCAPE ARCHITECTURE
103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949

Sagamore Corner, LLC

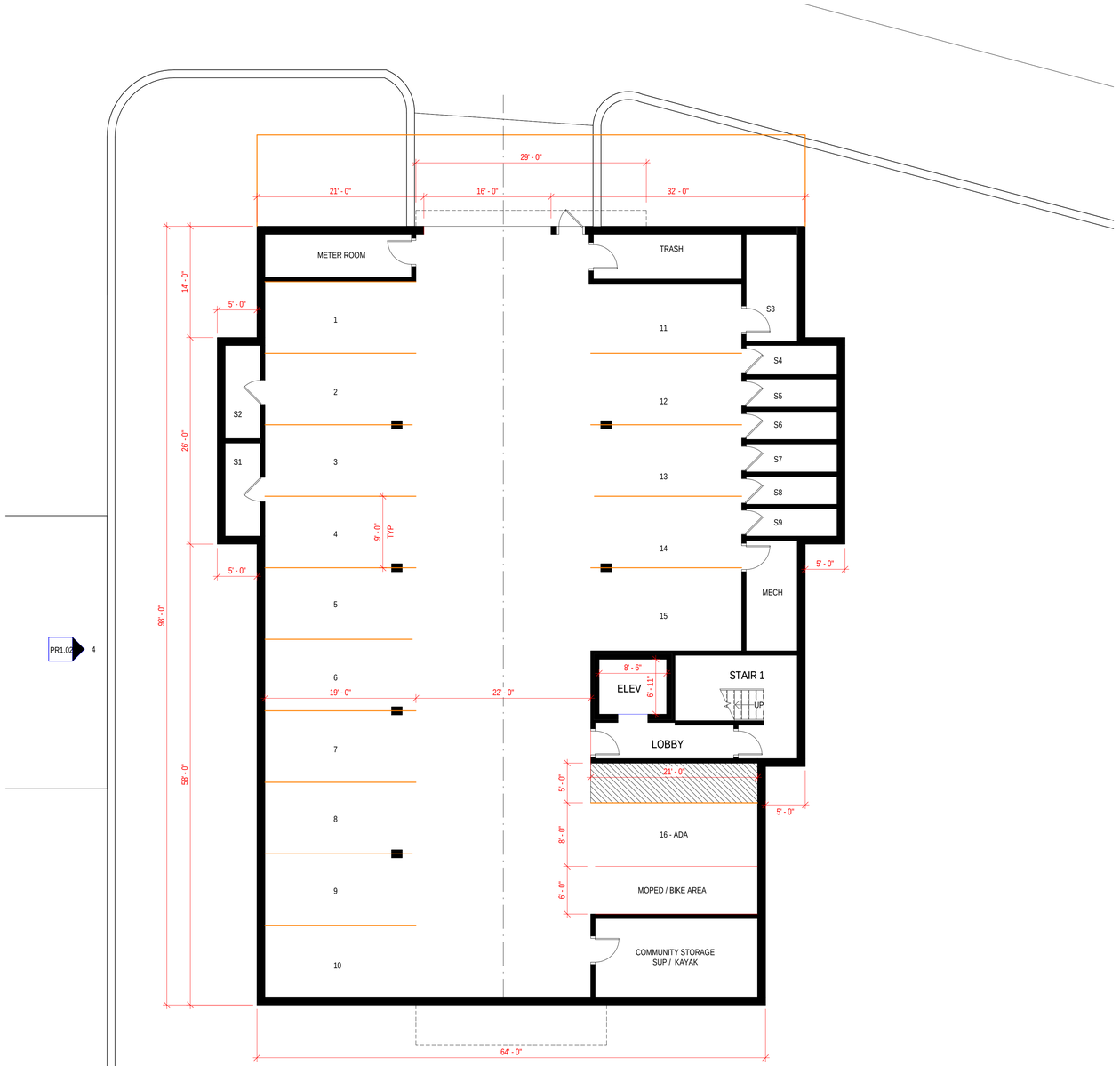
LANDSCAPE PLAN

Sagamore Road Portsmouth, New Hampshire

Drawn By: VM
Checked By: RW
Scale: 1" = 20' - 0"
Date: November 22, 2021
Revisions:

L-1

Sheet 1 of 1



GARAGE LEVEL PLAN

1/8" = 1'-0"
10/4/2021

JSA
ARCHITECTS
INTERIORS
PLANNERS

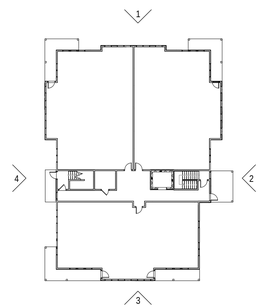
1 Elevation 6 - a
1/8" = 1'-0"

2 Elevation 7 - a
1/8" = 1'-0"

3 Elevation 8 - a
1/8" = 1'-0"

4 Elevation 9 - a
1/8" = 1'-0"

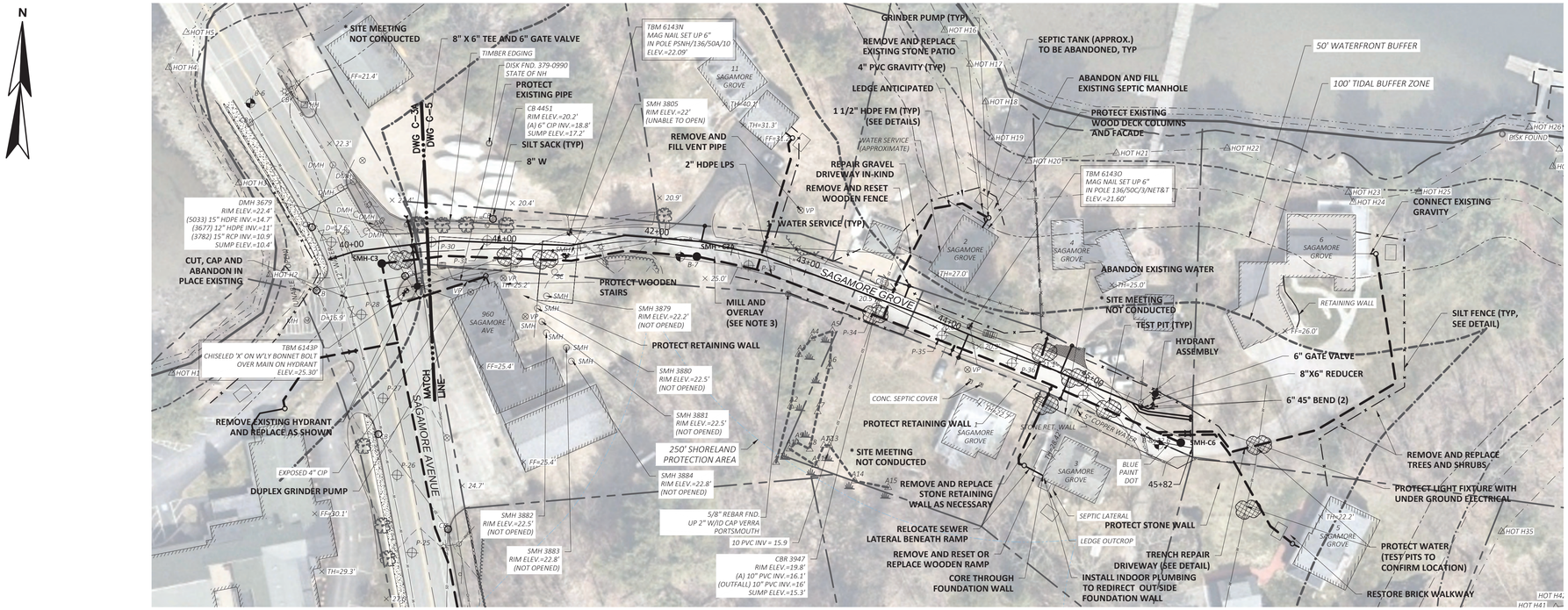
GROSS FLOOR AREAS:
Basement = 6872 (PARKING, UTILITIES, STORAGE)
1ST FLOOR = 7097 (RESIDENTIAL)
2ND FLOOR = 7097 (RESIDENTIAL)
TOTAL - 21,066 GROSS FLOOR AREA



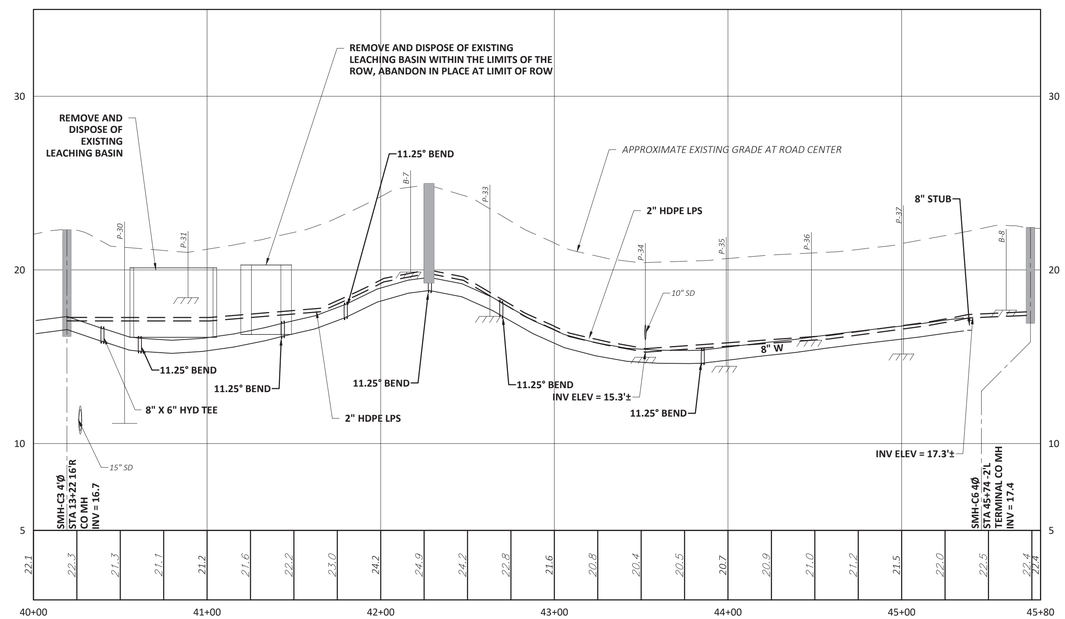
ELEVATIONS

As indicated
10/4/2021

JSA
ARCHITECTS
INTERIORS
PLANNERS



PLAN
SCALE: 1"=40'
0 40 80



PROFILE
SCALES
VERT:1"=4'
HORIZ:1"=40'

NOTES:

1. WORK OUTSIDE CITY OWNED EASEMENTS AND RIGHTS OF WAY ARE NOT AUTHORIZED UNTIL HOMEOWNER AND CITY SIGN OFFS ARE EXECUTED.
2. ALL AREAS (EXCEPT GRAVEL DRIVEWAYS) THAT ARE EXCAVATED, FILLED OR OTHERWISE DISTURBED BY THE CONTRACTOR AND ARE NOT TO BE PAVED OR FILLED WITH GRAVEL OR RIPRAP SHALL BE LOAMED, GRADED, FERTILIZED, SEEDED AND MULCHED. ALL AREAS ARE TO RECEIVE A MINIMUM OF 6" OF TOPSOIL. REFER TO SPECIFICATION SECTION 02480.
3. SEE DETAIL SHEETS FOR PAVING RECOMMENDATIONS.

DRAFT

NO	SUBMISSIONS/REVISIONS	APP'D	DATE
1	90% SUBMITTAL	K.GAR	03-21

DESIGNED BY: J.LOC
CAD COORD.: J.MIC
CAD: D.FUD
CHECKED BY: K.OBE
DATE: 03-21
APPROVED BY: K.GAR
DATE: 03-21
PROJECT NO.: 11304C

WRIGHT-PIERCE
Engineering a Better Environment
888.621.8156 | www.wright-pierce.com

CITY OF PORTSMOUTH, NH
SAGAMORE AVENUE SEWER EXTENSION PROJECT

PLAN AND PROFILE: SAGAMORE GROVE (STA 40+00 TO STA 45+80)

DRAWING
C-5

ALTUS
ENGINEERING, INC.

"Green" Statement
MULTI-FAMILY RESIDENTIAL DEVELOPMENT
Assessor's Map 201, Lot 2
960 Sagamore Avenue
Altus Project 5079

Pursuant to Section 2.5.3.1(a) of the Site Plan Review Regulations, Altus Engineering, Inc. respectfully submits the following list of the project's "green" components for the redevelopment of the former Golden Egg restaurant site to construct a new 6-Unit multi-family residential building at 960 Sagamore Avenue:

- The existing impervious areas will be decreased by over 6,600 square feet and over 8,400 square feet including the porous pavement area. This will reduce the heat island effect, reduce runoff, and improve the surface water quality.
- The existing site has approximately 26 exterior surface parking stalls to accommodate a restaurant, retail store, and apartment. The proposed development will have all resident parking in the basement garage and only 5 exterior surface visitor parking stalls. This reduces the site impervious and improves stormwater runoff quality.
- The proposed site lighting will have LED fixtures. The light will be mounted at a maximum height of 14-feet. The lights will be dark sky friendly and will exceed the minimum City requirements.
- The existing wetland buffer will have approximately 750 sf of gravel parking area removed. There will be no new impervious surfaces in the 100 ft wetland buffer.
- The existing mature trees along Sagamore Grove will be preserved where possible.
- A robust planting plan and increased green space is proposed to reduce heat island effects.
- The proposed development will have an interior bicycle rack and moped storage area.
- The existing site was constructed prior to stormwater treatment or detention design considerations. Runoff from the site currently discharge directly into the closed drainage system that discharges to Sagamore Creek, or the wetland in the rear of the property. The proposed stormwater management design will treat the runoff with a sub-surface chamber system and porous pavement to reduce the peak rates of runoff to improve the stormwater quality discharge.

- Low Impact Development (LID) has been used for the proposed site development by incorporating basement level parking, porous pavement surfaces, and stormwater retentions and treatment facilities. The impervious areas are reduced by over 8,400 square feet and peak storm runoff for the 10 year storm event is reduced by 29% for the developed area of the parcel.
- The obsolete building will be replaced with a new building code compliant building with components that will meet or exceed all applicable energy codes.
- The new building will meet or exceed all applicable current energy codes.
- Electric vehicle charging stations will be provided in the garage basement for the residents of the new building.

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
207 363 4532
mcuomosoil@gmail.com

Eric Weinrieb, P.E.
Altus Engineering, Inc.
133 Court Street
Portsmouth, NH 03801-4413

3 December 2019

Dear Mr. Weinrieb;

This letter is in reference to three vacant parcels on Wentworth House Road in Portsmouth, NH, identified as tax map 201, lots 9, 10, and 11. On 14 November 2019 I conducted a wetland delineation to assist you in planning the development of this property.

The City of Portsmouth defines wetlands as follows:
"An area that is inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include, but are not limited to, swamps, marshes, bogs, vernal pools, and similar areas. The following are specifically included in the definition of wetland:

Created wetland: An area that has been transformed from upland to wetland where the upland was not created by human activity such as filling or water diversion.

Inland wetland: A wetland that is not subject to periodic inundation by tidal waters.

Tidal wetland: A wetland whose vegetation, hydrology or

soils are influenced by periodic inundation of tidal waters."

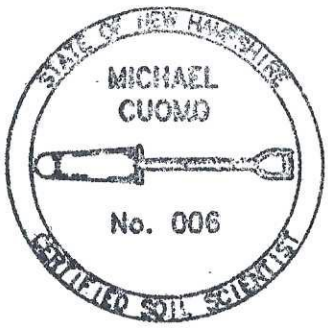
Wetland characteristics were identified using the technical criteria in the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Northcentral and Northeast Region.* The soil component was classified using the *Field Indicators of Hydric Soils in the United States* and the *Field Indicators for Identifying Hydric Soils in New England.* The wetland status of plants were determined using the *National List of Plant Species that Occur in Wetlands: Northeast (Region 1).* This is the standard used by State and Federal regulators.

A single freshwater wetland was identified along the common boundary of lots 9 and 10. The wetland-upland boundary was marked with 24 sequentially numbered blue flags. This isolated freshwater 'inland' wetland ends along the rear property line of parcel 201/8.

Please contact me if you have questions regarding this work.

Sincerely,

Michael Cuomo
NH Wetland Scientist #004
NH Soil Scientist #006



Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
(207) 363-4532
mcuomosoil@gmail.com

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
(207) 363-4532
mcuomosoil@gmail.com

WETLAND AND BUFFER EVALUATION
using the
Highway Methodology Workbook Supplement

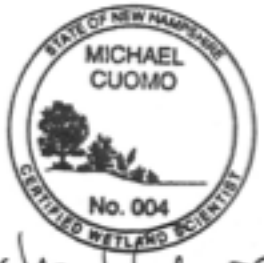
960 Sagamore Road
and
Wentworth Road

Tax map 201, Lot 9

Prepared for:

Altus Engineering, Inc.
133 Court Street
Portsmouth, NH

Prepared by:



27 December 2016

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
(207) 363-4532
mcuomosoil@gmail.com

PURPOSE

This report uses *The Highway Methodology Workbook Supplement* (hereafter referred to as the 'Highway Method') to assess the wetlands and buffers at this site. This information is required by City of Portsmouth zoning as part of the Conditional Use Permit application for impact within the wetland buffer. No direct wetland impact is proposed.

SITE

The 'Sagamore Studios' project site is located at the intersection of Wentworth and Sagamore Roads in Portsmouth, NH. This wooded 1.44 acre lot is vacant. A portion of the existing conditions plan is attached at the rear of this report for reference.

WETLAND in the LANDSCAPE

One wetland exists on this site and continues off site to the east. The entire wetland, including the portion off-site, is estimated to be 1/2 acre (about 20,000 square feet) in size. This wetland is regulated by the City because it is greater than 10,000 square feet. It requires a 100 foot buffer, per local zoning.

The wetland receives water from natural subsurface and surface flows, including rain water and snow melt. It is supplemented by flow from a culvert under Wentworth Road. The wetland is not associated with any natural surface water body. Water ponds to shallow depth and for medium duration in this wetland. The wetland does not have the physical characteristics associated with a vernal pool.

The wetland probably extended further to the north and east but was filled at some time in the past when the area was developed. This is inferred by the straight wetland-upland boundaries along these margins of the wetland. The wetland may have flowed north in a small channel to Sagamore Creek prior to development of the Sagamore Grove neighborhood. This is inferred by the presence of a 8" diameter culvert pipe which now flows from the wetland, beneath

map 201, lots 8 and 3. Two catch basins on these abutting lots identify the apparent route of this pipe.

The wetland has been modified by human activity as described above. The long lasting evidence of this disturbance is reflected in the significant population of non-native invasive plant species which are displacing native plants. Native wildlife is adapted to native plants, so invasive plants generally have reduced wildlife habitat value and disrupt native ecosystems. Invasive shrubs are also found in the uplands on this site. Invasive plants are noted below with an asterisk (*).

VEGETATION AND SOIL
Common plant species in the wetland are listed below by strata.
Trees:
- American elm *(Ulmus americana)*
- red maple *(Acer rubrum)*
- American ash *(Fraxinus americana)*

Shrubs:
- glossy buckthorn *(Rhamnus frangula)**
- common winterberry holly *(Ilex verticillata)*
- American cranberrybush *(Viburnum trilobum)*
- northern arrow-wood (*Viburnum recognitum*)
- multiflora rose *(Rosa multiflora)**

Herbs:
- broad-leaf cattail (*Typha latifolia*)
- purple loose-strife (*Lythrum salicaria*)*
- sensitive fern (*Onoclea sensibilis*)
- fireweed *(Epilobium sp.)*
- buttercup *(Ranunculus sp.)*
- soft rush *(Juncus effusus)*

* Invasive plants

The soils in the wetland are poorly drained fine textured sediments of glacio-marine origin. This is the Scitico soil series. The soil is typically saturated to the surface for less

than 9 months of the average year. The soils have increasing clay content with depth and absorb water slowly. Though deep to bedrock, these soils have shallow effective rooting depth.

Using the *Classification of Wetlands and Deepwater Habitats of the United States*, developed by Cowardin and others, this wetland is labeled 'PEM1' with a 'PFO1' fringe. This indicates the core of the wetland is a freshwater marsh with persistent emergent plants. The edge is a forested freshwater swamp dominated by deciduous trees.

Additional invasive plants noted in the uplands are bittersweet (*Celastrus scandens*), honeysuckle (*Lonicera sp.*), barberry (*Berberis sp.*), Japanese knotweed (*Polygonum cuspidatum*), and burning bush (*Euonymus atropurpureus*).

The soils in the upland are dominated by shallow and moderately deep to bedrock medium textured glacial till. This would be the Chatfield and Hollis soil series. There are a number of bedrock outcroppings at the surface.

HIGHWAY METHOD

The wetland and buffer were evaluated using the Highway Method on 8 December 2016 by Michael Cuomo, NH Wetland Scientist #4. The results are summarized on the worksheet attached at the rear of this report and described in detail below.

The Highway Method was developed to rapidly evaluate and compare a series of wetlands, primarily for the purpose of selecting the highway corridor with the least environmental impact from among alternative routes. For the purpose of this work, it provides an evaluation framework for drawing attention to the most important functions the wetland serves. The Highway Method does not produce a numerical score. It provides guidance and a framework for the professional judgment of the evaluator, who selects which functions occur and determines the Principal Function(s). The Highway Method evaluates the entire wetland and buffer, including

those areas which are off-site and can not be controlled by the applicant.

SUMMARY OF HIGHWAY METHOD RESULTS

The Principal Function served by the wetland is Nutrient Removal. Nutrient Removal is defined in the Highway Method as "...the effectiveness of the wetland as a trap for nutrients in the runoff water from surrounding uplands or contiguous wetlands and the ability of the wetland to process these nutrients into other forms or trophic levels...to prevent ill effects of nutrients entering aquifers or surface waters ..." This wetland performs Nutrient Removal relatively well because of it's ability to trap sediments, the fine textured soil, dense emergent vegetation, and it's cyclical wetting and drying.

The second most important wetland function is Sediment/Toxicant Retention, which "...reduces or prevents degradation of water quality." This wetland performs Sediment/Toxicant Retention relatively well because of it's ability to trap sediments, dense emergent vegetation, and the constricted outlet.

The third most important wetland function is Wildlife Habitat "...the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge." In this case the function is related to the density of wetland vegetation and the wetland as a refuge for small animals in an otherwise developed area along Sagamore Creek.

The wetland performs the Floodflow Alteration function to a limited degree. "This function considers the effectiveness of the wetland in reducing flood damage by water retention for prolonged periods following precipitation events and the gradual release of flood waters." Positive indicators of this function are dense vegetation, constricted outlet, and topography.

Production Export is "...the effectiveness of the wetland to

produce food or usable products for humans or other living organisms." Wetlands closely associated with waterbodies perform this function best. There is no waterbody associated with this wetland so the function is performed to a limited degree.

Fish and Shellfish Habitat is "...the effectiveness of wetlands, embayments, tidal flats, vegetated shallows, and other environments in supporting marine resources such as fish, shellfish, marine mammals, and sea turtles." The wetland does not support this function because it lacks aquatic habitat.

Sediment/Shoreline Stabilization is "...the effectiveness of a wetland to stabilize streambanks and shorelines against erosion." The wetland is not associated with a waterbody so does not perform this function.

Visual Quality/Aesthetics "...considers the visual and aesthetic quality or usefulness of a wetland." This wetland has no exceptional visual features and is not easily accessible or visible from public places, so the function is performed to a very limited degree.

Recreation "...considers the suitability of the wetland and associated watercourses to provide recreational opportunities such as hiking, canoeing, boating, fishing, hunting, and other active or passive recreational activities." Because of the small size, lack of public access, lack of a waterbody, and surrounding development, this wetland does not provide recreational opportunities.

Educational/Scientific Value is "...the suitability of the wetland as a site for an outdoor classroom or as a location for scientific study or research." The disturbed nature, lack of public access, and lack of wetland diversity mean this wetland performs this function to a very limited degree.

Uniqueness/Heritage "...may include archeological sites, critical

habitat for endangered species, overall health and appearance, it's role in the ecosystem of the area..." The disturbed nature of the wetland and the common occurrence of this wetland type in the area means the wetland does not perform this function. Inquiry to NH Natural Heritage Bureau revealed no endangered species habitat.

Endangered Species Habitat "...considers the suitability of the wetland to support threatened or endangered species." The disturbed nature of the wetland and the common occurrence of this wetland type in the area means the wetland does not perform this function. Inquiry to NH Natural Heritage Bureau revealed no endangered species habitat.

Groundwater Recharge/Discharge is "...the potential for the wetland to serve as a groundwater recharge and/or discharge area...the fundamental interaction between wetlands and aquifers...." Very slow soil permeability and soil transmissivity indicate the wetland does not perform this function.

CONCLUSIONS

All wetlands have value, even those such as this one that are degraded. There is widespread agreement among professionals that degraded wetlands in urban environments can have higher importance than may be reflected in wetland evaluation methods because they offer refuge for small wildlife, provide screening and green space, and are remnant wetlands in urban environments where many wetlands have historically been filled. This degraded wetland also has increased value due to it's physical proximity to Sagamore Creek.

Using the Highway Method as a framework for the functional assessment of this wetland, Nutrient Removal is the principle wetland function.

The wetland performs three other functions: Sediment/Toxicant Retention, Wildlife Habitat, and Floodflow Alteration.

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
(207) 363-4532
mcuomosoil@gmail.com

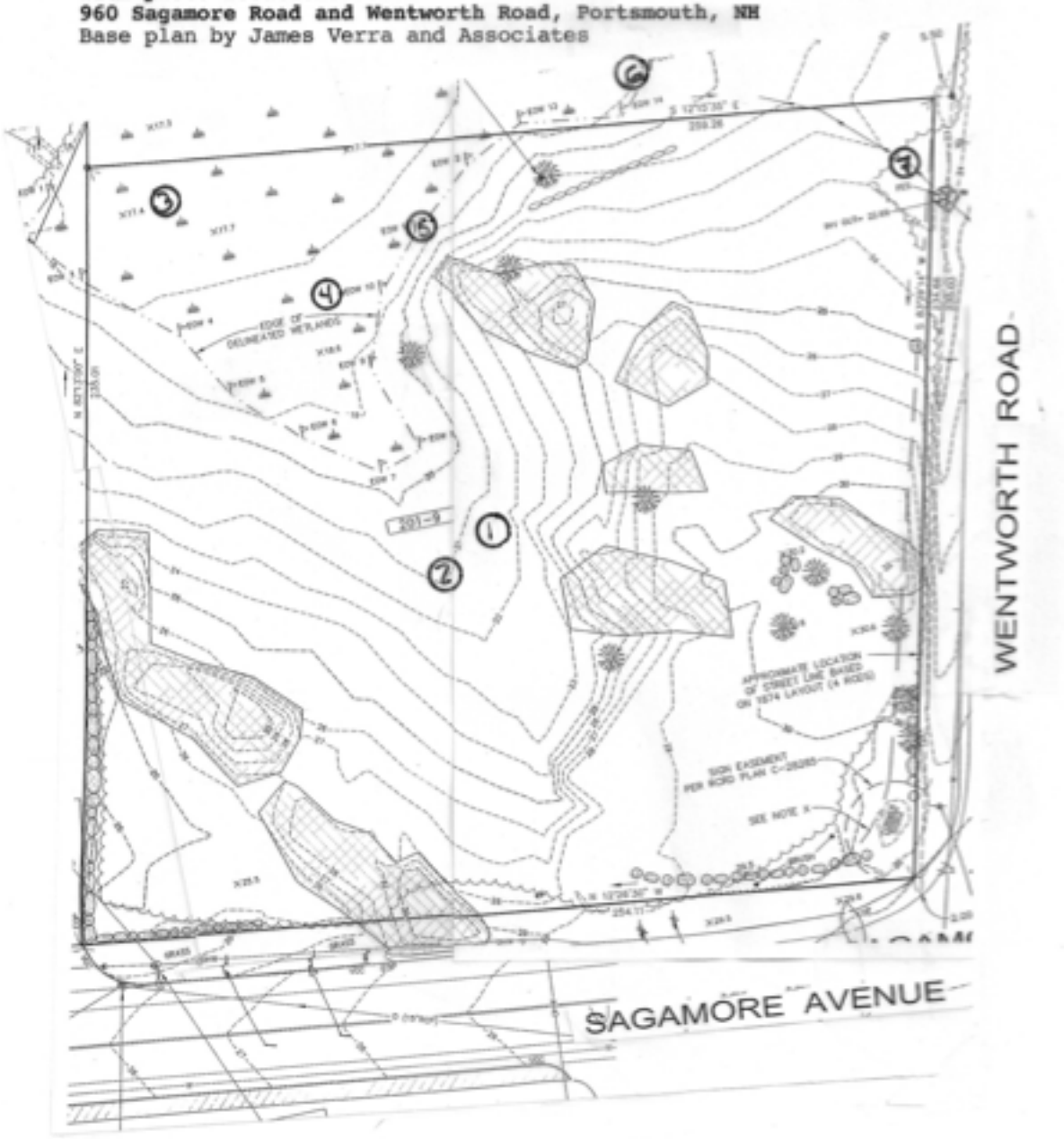
The wetland does not perform, or performs to a very limited degree the remaining functions the Highway Method considers: Groundwater Recharge/Discharge, Sediment/Shoreline Stabilization, Production Export, Fish & Shellfish Habitat, Endangered Species Habitat, Visual Quality/Aesthetics, Education/Scientific Value, Recreation, and Uniqueness/Heritage.

The wetland has been partially degraded by historical filling of part of the wetland off the subject property. What may be the historical outflow has been culverted and now runs under the yards of abutting properties and under Sagamore Grove in a system of pipes and receives untreated stormwater through catch-basins. The wetland has a number of undesirable invasive plants, a sign of past disturbance, human induced nutrient enrichment, and sediment deposition. Surrounding land uses, medium density residential and commercial development, partially degrade the 100 foot buffer around the wetlands. Much of the off-site wetland buffer contains structures, parking pavement and lawns. The on-site buffer contains invasive shrubs as well as native plants.

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
(207) 363-4532
mcuomosoil@gmail.com

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
(207) 363-4532
mcuomosoil@gmail.com

Portion of PRELIMINARY EXISTING CONDITIONS PLAN
with photo locations added
960 Sagamore Road and Wentworth Road, Portsmouth, NH
Base plan by James Verra and Associates



Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
(207) 363-4532
mcuomosoil@gmail.com

Sagamore Studios photo 1: Bittersweet on buckthorn

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
(207) 363-4532
mcuomosoil@gmail.com

Sagamore Studios photo 2: Multiflora rose and bittersweet

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
(207) 363-4532
mcuomosoil@gmail.com

Sagamore Studios photo 3: Purple loose-strife

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
(207) 363-4532
mcuomosoil@gmail.com

Sagamore Studios photo 4: Forested wetland edge

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
(207) 363-4532
mcuomosoil@gmail.com

Sagamore Studios photo 5: Buckthorn along wetland-upland boundary

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
(207) 363-4532
mcuomosoil@gmail.com

Sagamore Studios photo 6: View of wetland

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
(207) 363-4532
mcuomosoil@gmail.com

Sagamore Studios photo 7: Upland near culvert discharge alongside Wentworth Road

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
(207) 363-4532
mcuomosoil@gmail.com

NEW HAMPSHIRE NATURAL HERITAGE BUREAU
NHB DATACHECK RESULTS LETTER

To: Michael Cuomo
6 York Pond Road
York, ME 03909

From: NH Natural Heritage Bureau

Date: 12/20/2016 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau of request submitted 12/13/2016

NHB File ID: NHB16-3737 **Applicant:** Eric Wiereib

Location: Portsmouth
Tax Maps: 201/9

Project Description: Commercial bldg proposed for vacant lot. No wetland impact. Wetland buffer (City requirement) impact

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 12/13/2016, and cannot be used for any other project.

Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

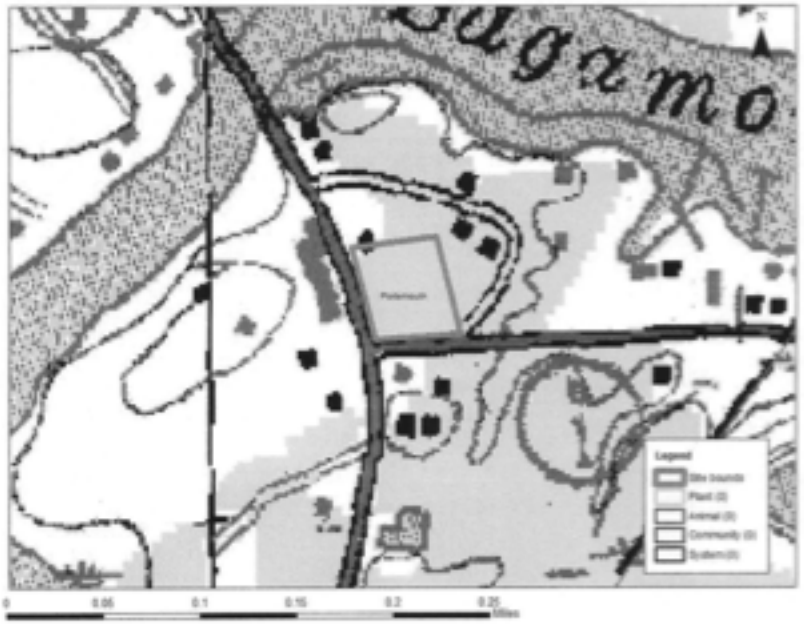
DRED/NHB
172 Pembroke Rd.
Concord, NH 03301

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
(207) 363-4532
mcuomosoil@gmail.com

NEW HAMPSHIRE NATURAL HERITAGE BUREAU
NHB DATACHECK RESULTS LETTER

MAP OF PROJECT BOUNDARIES FOR: **NHB16-3737**

NHB16-3737



Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
172 Pembroke Rd.
Concord, NH 03301

Michael Cuomo, Soil Scientist
6 York Pond Road, York, Maine 03909
(207) 363-4532
mcuomosoil@gmail.com

WETLAND FUNCTION-VALUE ASSESSMENT

WETLAND I.D. 1 of 1

ROJECT NAME: SAGAMORE STUDIOS

ROJECT LOCATION: WENTWORTH RD. + SAGAMORE AV. PREPARED BY: M CUOMO DATE: 8 DEC 16 No SNOW

OTAL APPROXIMATE AREA OF WETLAND: 1/2 ACRE IS WETLAND PART OF A WILDLIFE CORRIDOR? N OR A "HABITAT ISLAND"? Y

DJACENT LAND USE? RESIDENTIAL/COMMERCIAL MAN MADE? N DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT 50 FT

OMINANT WETLAND SYSTEMS PRESENT: PEM1 AND PFO1 CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT? NO

THE WETLAND A SEPARATE HYDRAULIC SYSTEM? Y IF NOT, WHERE DOES THE WETLAND LIE IN THE DRAINAGE BASIN? ISOLATED

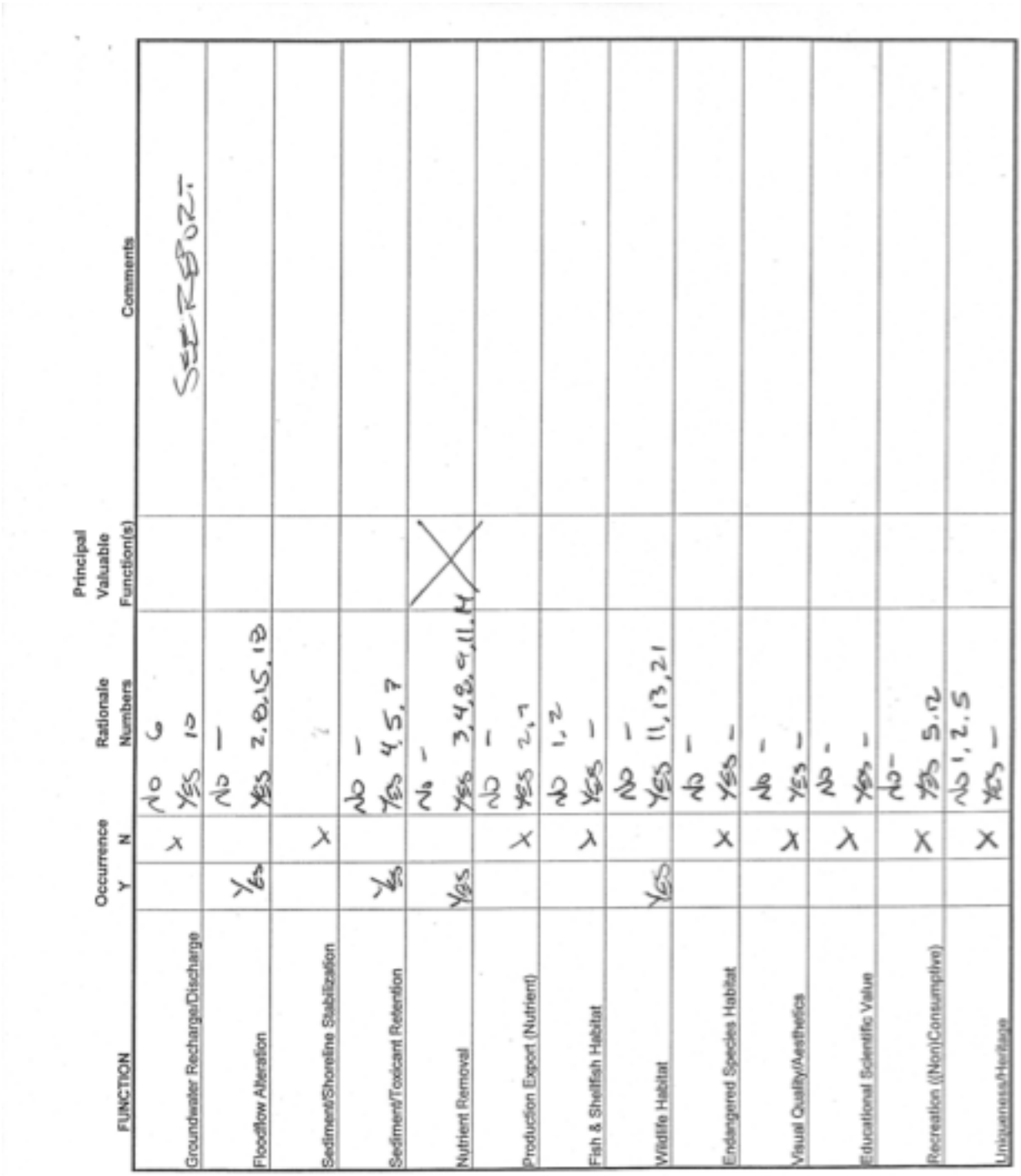
OF TRIBUTARIES INTO THE WETLAND? 0 AQUATIC DIVERSITY/ABUNDANCE NONE VEGETATIVE DIVERSITY/ABUNDANCE MODERATE

ILDLIFE DIVERSITY/ABUNDANCE LOW ANTICIPATED IMPACTS BUFFER ONLY WETLAND AREA IMPACTED: 0

TREES	SHRUBS	HERBS	WILDLIFE	COMMENTS
ULMUS AMERICANA ACER RUBRUM FRAXINUS AMERICANA	RHAMNUS FRANGULA ILEX VERTICILLATA VIBURNUM TRILOBUM VIBURNUM RECOGNITUM	ONOCLEA SENSIBILIS LYTHRUM SALICARIA TYPHA LATIFOLIA EQUISETUM SP. RANUNCULUS SP.		

Michael Cuomo, Soil Scientist

6 York Pond Road, York, Maine 03909
(207) 363-4532
mcuomosoil@gmail.com



FUNCTION	Occurrence Y	Occurrence N	Rationale Numbers	Principal Valuable Function(s)	Comments
Groundwater Recharge/Discharge		X	NO 6 YES 10		SEE REPORT
Floodflow Alteration	YES		NO – YES 2,8,15,18		
Sediment/Shoreline Stabilization		X			
Sediment/Toxicant Retention	YES		NO – YES 4,5,7		
Nutrient Removal	YES		NO – YES 3,4,8,9,11,14	X	
Production Export (Nutrient)		X	NO – YES 2,7		
Fish & Shellfish Habitat		X	NO 1,2 YES –		
Wildlife Habitat	YES		NO – YES 11,13,21		
Endangered Species Habitat		X	NO – YES –		
Visual Quality/Aesthetics		X	NO – YES –		
Educational Scientific Value		X	NO – YES –		
Recreation ((Non)Consumptive)		X	NO – YES 5,12		
Uniqueness/Heritage		X	NO 1,2,5 YES –		

New Hampshire Natural Heritage Bureau
NHB DataCheck Results Letter

To: Michael Cuomo
6 York Pond Road
York, ME 03909

From: NH Natural Heritage Bureau

Date: 12/20/2016 (valid for one year from this date)

Re: Review by NH Natural Heritage Bureau of request submitted 12/13/2016

NHB File ID: NHB16-3737 **Applicant:** Eric Wiereib

Location: Portsmouth
Tax Maps: 201/9

Project Description: Commercial bldg proposed for vacant lot. No wetland impact. Wetland buffer (City requirement) impact

The NH Natural Heritage database has been checked by staff of the NH Natural Heritage Bureau and/or the NH Nongame and Endangered Species Program for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government.

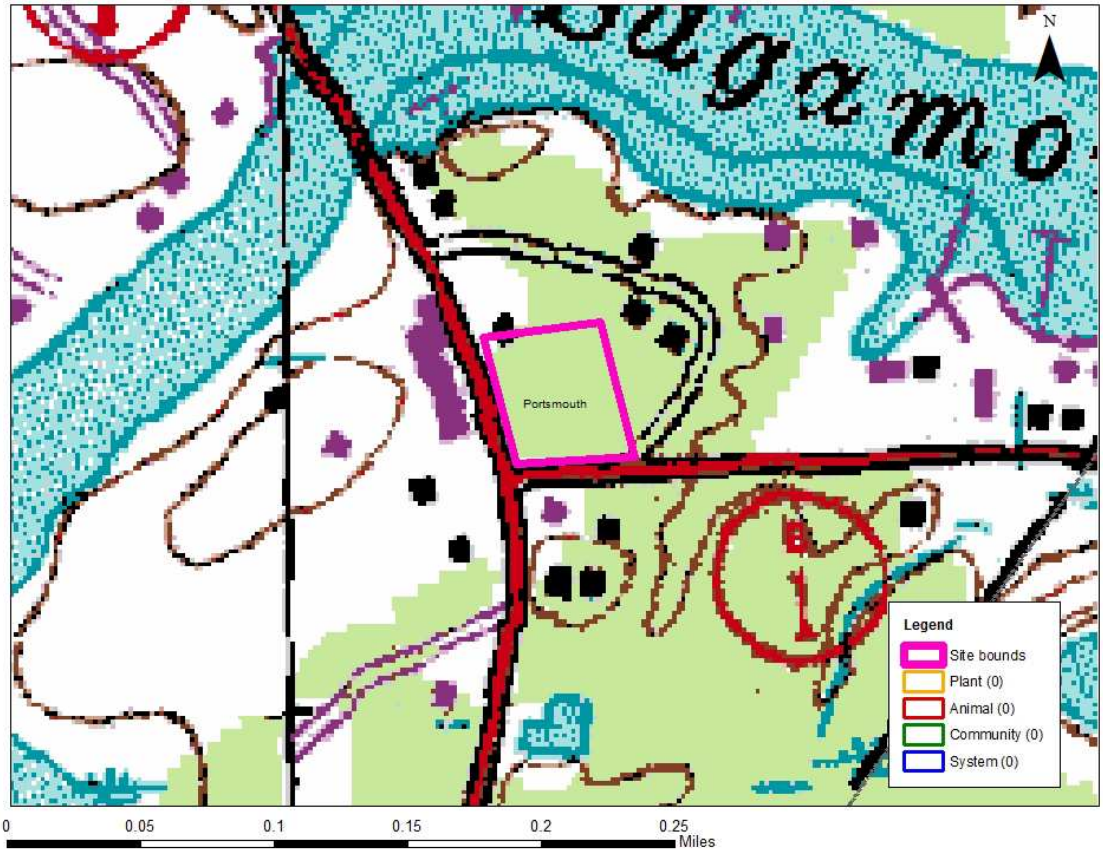
It was determined that, although there was a NHB record (e.g., rare wildlife, plant, and/or natural community) present in the vicinity, we do not expect that it will be impacted by the proposed project. This determination was made based on the project information submitted via the NHB Datacheck Tool on 12/13/2016, and cannot be used for any other project.

Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
172 Pembroke Rd.
Concord, NH 03301

MAP OF PROJECT BOUNDARIES FOR: **NHB16-3737**

NHB16-3737



Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
172 Pembroke Rd.
Concord, NH 03301

PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT

960 Sagamore Avenue
Portsmouth, NH
Assessor's Parcel 201-02

DRAINAGE REPORT

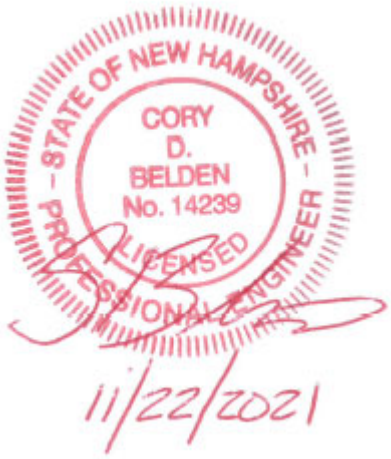
November 2021

Prepared for:

Sagamore Corner, LLC
273 Corporate Drive
Portsmouth, NH 03801

Prepared By:

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



960 Sagamore Avenue
Portsmouth, NH
Assessor's Parcel 201-02

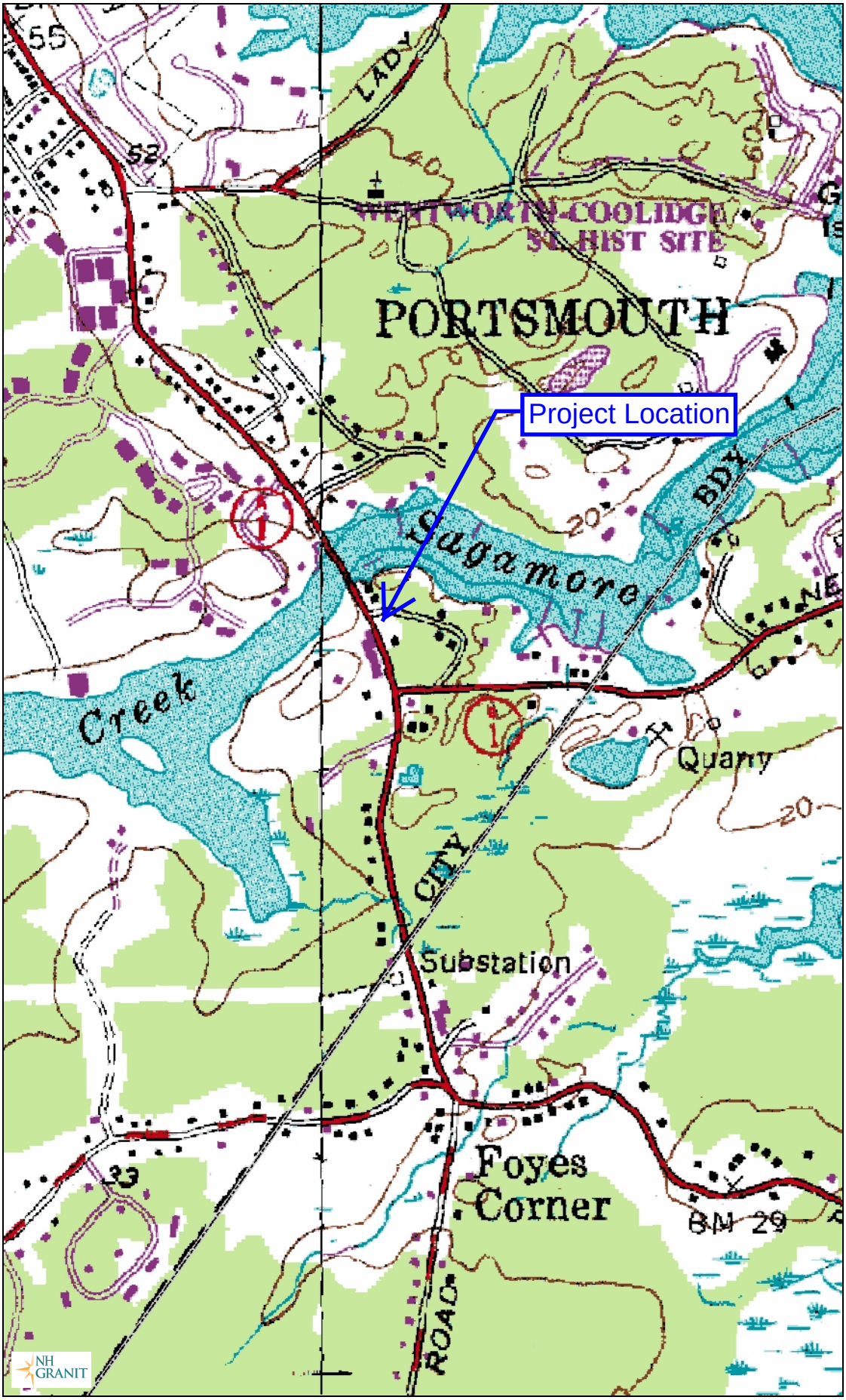
TABLE OF CONTENTS

1) USGS Site Location Map
2) Project Narrative
3) FEMA Flood Map
4) Aerial Image
5) BMP Worksheets
6) Soil Data
   - Web Soil Survey
   - Ksat Soil Values
7) Drainage Analysis
   - Extreme Precipitation Tables
   - Pre-Development
   - Post Development
8) Inspection and Maintenance Manual *(Separate Attachment)*

Appendix: Plans: DA-1: Pre-Development Drainage Plan *(11" x 17")*
DA-2: Post-Development Drainage Plan *(11" x 17")*

Project Plans *(22" x 34") (project plans under separate attachment)*

960 Sagamore Avenue, Portsmouth, NH



Legend

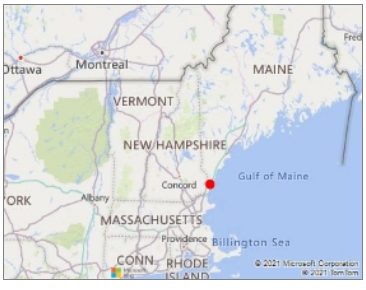
- State
- County
- City/Town

Map Scale

1: 10,000

Map Generated: 11/15/2021

Notes



Drainage Report

960 Sagamore Avenue
Portsmouth, NH
Assessor's Parcel 201-02
Altus Project P5079

PROJECT DESCRIPTION

Sagamore Corner, LLC is proposing to re-develop the site located at 960 Sagamore Avenue (Assessor's Map 201, Lot 02) to construct a new multi-family building that will provide six (6) housing units. The property is currently the current home to the former Golden Egg restaurant, a single unit apartment, and a retail store. The Property is identified as Tax Map 201-Lot 2 and is approximately 42,930 square feet (sf) in size and is located in the City's Mixed Residential Business (MRB) zoning district.

The proposed project will demolish the existing buildings and ancillary site features, including the paved parking, gravel parking, and site utilities. The new 6-Unit residential building will be constructed completely outside of the 100 foot wetland buffer, that extends onto the lot. The existing site was constructed in 1970 (according to City assessor data), prior to stormwater regulations, and does not have stormwater treatment on site for the buildings, pavement, and gravel parking lot areas, which total approximately 25,000 square feet, including the paved parking in the Sagamore Avenue right of way. The front of the lot that contains the majority of the developed site drains to the municipal storm drain system in Sagamore Avenue and discharges to Sagamore Creek without treatment or retention. The rear portion of the lot drains to the wetland located in the southeast corner of the property. The proposed project will provide treatment through the use of a sub-surface chamber systems for the roof runoff and porous asphalt for the exterior parking area. The project will minimize site impervious area by constructing covered parking in the basement level of the building. The current site discharges approximately 2,400 square feet of untreated impervious (roof and gravel parking areas) to the wetlands in the rear of the property. The proposed project will remove all gravel parking lot areas draining to the wetlands and collect all of the roof runoff for retention and treatment before discharging to the front of the lot. The proposed project will reduce the total impervious area by over 8,400 sf (1,780 sf of porous pavement) compared to the existing conditions.

The site is located within the *Coastal and Great Bay Regional Communities*, so the rainfall precipitation results obtained from the Northeast Regional Climate Center (NRCC) have been increased by 15% for the hydrologic analysis. The stormwater management system proposed for the site will reduce peak flows and treat site runoff prior to discharging back to the storm drain systems.

Pre-Development (Existing Conditions)

The pre-development site conditions reflect the existing conditions of the site, which include the existing restaurant, apartment, retail store and associated paved and gravel parking areas. The current site primarily discharges to the municipal storm drain system in Sagamore Avenue through a catch basin located at corner of Sagamore Avenue and Sagamore Grove (CB #2351) identified as the Point of Analysis #1 (POA1) on the drainage area plans. The existing parking lot and majority of the existing building drain to the catch basin in this area as untreated sheet flow. Point of Analysis #2 (POA2) is the existing wetland in the rear of the property and includes portions of the roof and gravel parking lot that drain to the wetlands untreated, as well as the undeveloped wooded area in the buffer.

The Pre-Development analysis models the existing conditions for the two points of analysis. The points of analysis are the same for the pre and post development models for comparison of flows prior to construction and after the site is development as shown on the plans. The grades and elevations shown on the plans are based on the site survey completed by James Verra and Associates, dated November 22, 2021 and included in the plan set (3 sheets).

Post-Development (Proposed Site Design)

The Proposed development will construct a new six (6) unit building and a five (5) exterior stall visitor parking lot to serve the new building. Parking for the residents will be located on the garage level of the building. The existing paved parking lot along Sagamore Avenue will be removed and access will be provided from Sagamore Grove. This will eliminate the head-in parking from Sagamore Avenue. The visitor entrance will be from the visitor parking area and an ADA accessible stall and ramp will be provided. The majority of the new parking lot and driveway will be constructed with porous pavement to infiltrate the surface water from the lot and a sub-surface treatment system will be constructed to treat and manage the stormwater from the roof.

The proposed stormwater system is depicted on the Grading and Drainage Plan in the project plans and the attached Post-Development Drainage Plan. For the post development analysis, the site was divided into eight (8) watershed areas to depict the post-development conditions. The same points of analysis that were used in the Pre-Development model were used for comparison of the Pre and Post development conditions. The "Post-Development Drainage Plan" illustrates the proposed stormwater management system. Site topography, existing features, proposed site improvements, proposed grading, drainage and erosion control measures are shown on the accompanying plans. Recommended erosion control facilites are based on the "New Hampshire Stormwater Manual Volumes 1 through 3" prepared by NHDES and Comprehensive Environmental, Inc. as amended.

Drainage Analysis

A complete summary of the drainage model is included in the appendix of this report. The following table compares pre- and post-development peak rates at the two Points of Analysis identified on the plans for the 2, 10, 25, and 50 year storm events:

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

*Rainfall Intensities reflect 15% Increase per AOT	2-Yr Storm (4.12 inch)	10-Yr Storm (5.60 inch)	25-Yr Storm (8.20 inch)	50-Yr Storm (9.91 inch)
POA #1				
Pre	0.70	1.35	2.65	3.56
Post	0.53	1.12	2.35	3.22
Net Change	**-0.17 (24.3%)**	**-0.23 (17.0%)**	**-0.30 (11.3%)**	**-0.34 (9.6%)**
POA #2				
Pre	3.09	4.40	6.67	8.14
Post	1.63	3.12	4.86	6.14
Net Change	**-1.46 (47.2%)**	**-1.28 (29.1%)**	**-1.81 (27.1%)**	**-2.00 (24.6%)**

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

Effective Impervious Area

The existing lot is 42,930 square feet that consists of a restaurant, retail store, residential apartment unit, and associated driveways and parking. The existing site effective impervious area is all of the impervious areas on the lot, which total 23,000 square feet, or 53.6% of the lot (not including impervious in Sagamore Ave right of way). The proposed project will construct a new 6-Unit residential building and associated parking and walkways. The exterior parking lot will be reduced to five parking stalls and walkways will be added for access and emergency egress. The total impervious area will be reduced by over 6,000 sf. The proposed improvements will provide stormwater treatment to the new development area, which will reduced the effective impervious area to 6,250 sf (14.6%), a reduction of approximately 16,750 sf or (39% of the site).

CONCLUSION

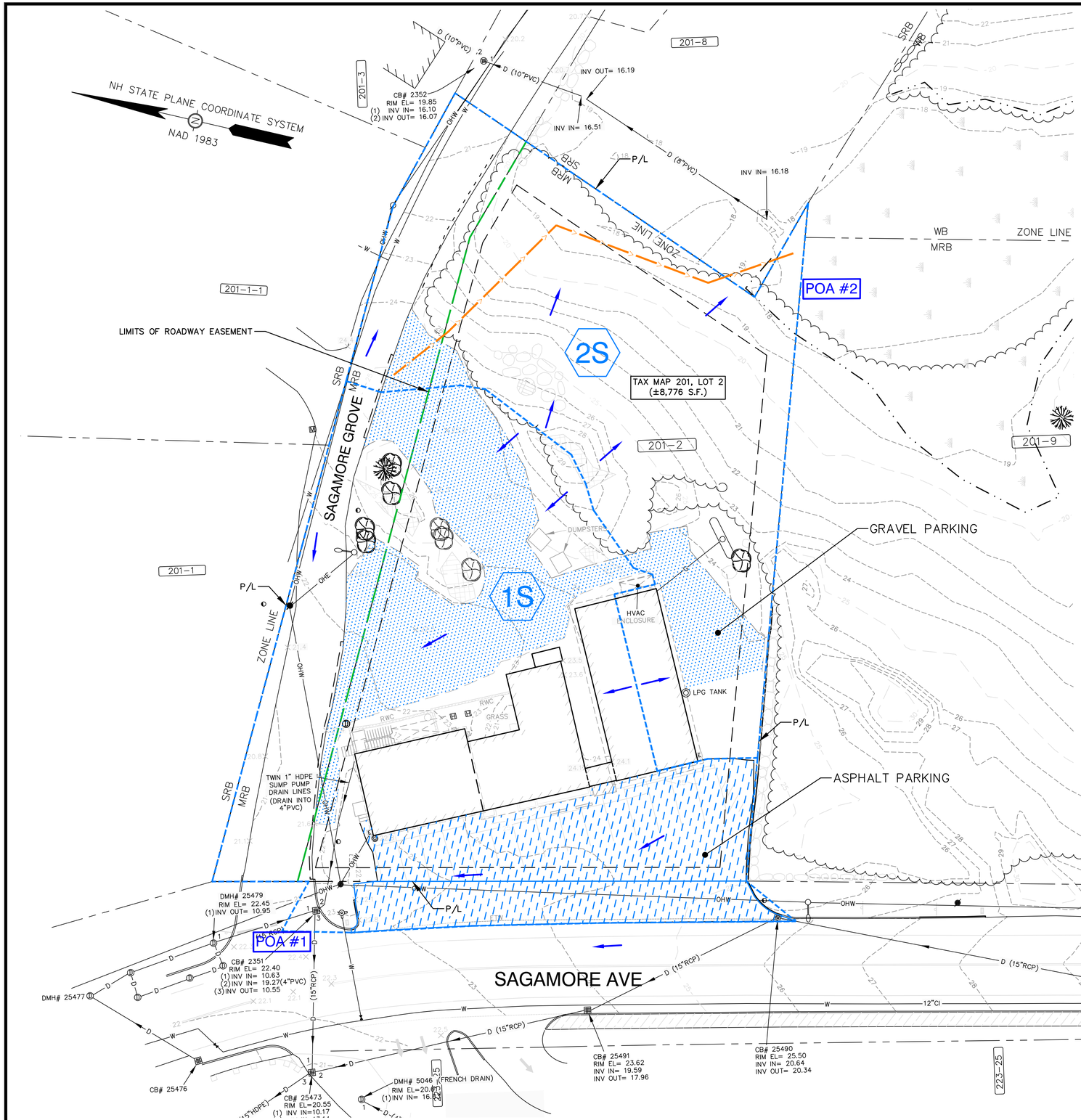
The proposed six (6) unit residential development will not have an adverse effect on abutting properties and infrastructure as a result of stormwater runoff. The existing site was developed in the 1970's and has no designed stormwater treatment facilities. The proposed improvements will reduce the total impervious area by approximately 8,400 square feet and the effective impervious area will be reduced by 16,750 sf, which is a reduction of 39% (from 53.6% to 14.6%) compared to the existing conditions. The new development will provide stormwater treatment and retention to the new building, parking and walkways with the construction of a stormwater drainage system consisting of porous pavement and a subsurface chamber system. The analysis of the site utilized a 15% increase to the rainfall intensities for seacoast communities, as is recommended by NHDES and the peak runoff rates for the site will be reduced for the all analyzed storm events (2, 10, 25, and 50 year). Appropriate steps will be taken during construction to properly mitigate erosion and sedimentation through the use of Best Management Practices for sediment and erosion control.

CALCULATION METHODS

The project lies with the ***Coastal and Great Bay Regional Communities*** as identified in Section 6 – One-Stop AoT Screening Layers Results. As a result, the rainfall precipitation results obtained from the Northeast Regional Climate Center for the project site have been increased by 15% for the hydrologic analysis. The drainage study was completed using the USDA SCS TR-20 Method within the HydroCAD Stormwater Modeling System. Reservoir routing was performed with the Dynamic Storage Indication method which automates the calculation of Tailwater conditions. A Type III 24-hour rainfall distribution was utilized in analyzing the data for the 2, 10, 25, and 50 Year - 24-hour storm events using rainfall data provided by Northeast Regional Climate Center – Extreme Precipitation Tables.

Disclaimer

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



LEGEND

- PROPERTY LINE
- WETLAND/SOILS BOUNDARY
- EXISTING CONTOUR
- PROPOSED CONTOUR
- WATERSHED BOUNDARY
- Tc PATH
- EXISTING GROUND SLOPE DIRECTION
- SUBCATCHMENT/POND/REACH
- POA — POINT OF ANALYSIS

SOILS:

SERIES	DESRIPTION	HSG
140B	CHATFIELD–HOLLIS–CANTON	B
699	URBAN LAND	B

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

P5079

ALTUS ENGINEERING, INC.

133 COURT STREET PORTSMOUTH, NH 03801
(603) 433–2335 www.ALTUS–ENG.com

NOT FOR CONSTRUCTION

ISSUED FOR: DRAINAGE REPORT

ISSUE DATE: NOVEMBER 22, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	11/22/21

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 5079–SITE.dwg

SCALE: 22"x34" 1" = 20'
11"x17" 1" = 40'

OWNER / APPLICANT:

SAGAMORE CORNER, LLC
273 CORPORATE DRIVE
PORTSMOUTH, NH 03801

PROJECT:

PROPOSED MULTI–FAMILY RESIDENTIAL DEVELOPMENT
TAX MAP 201, LOT 2

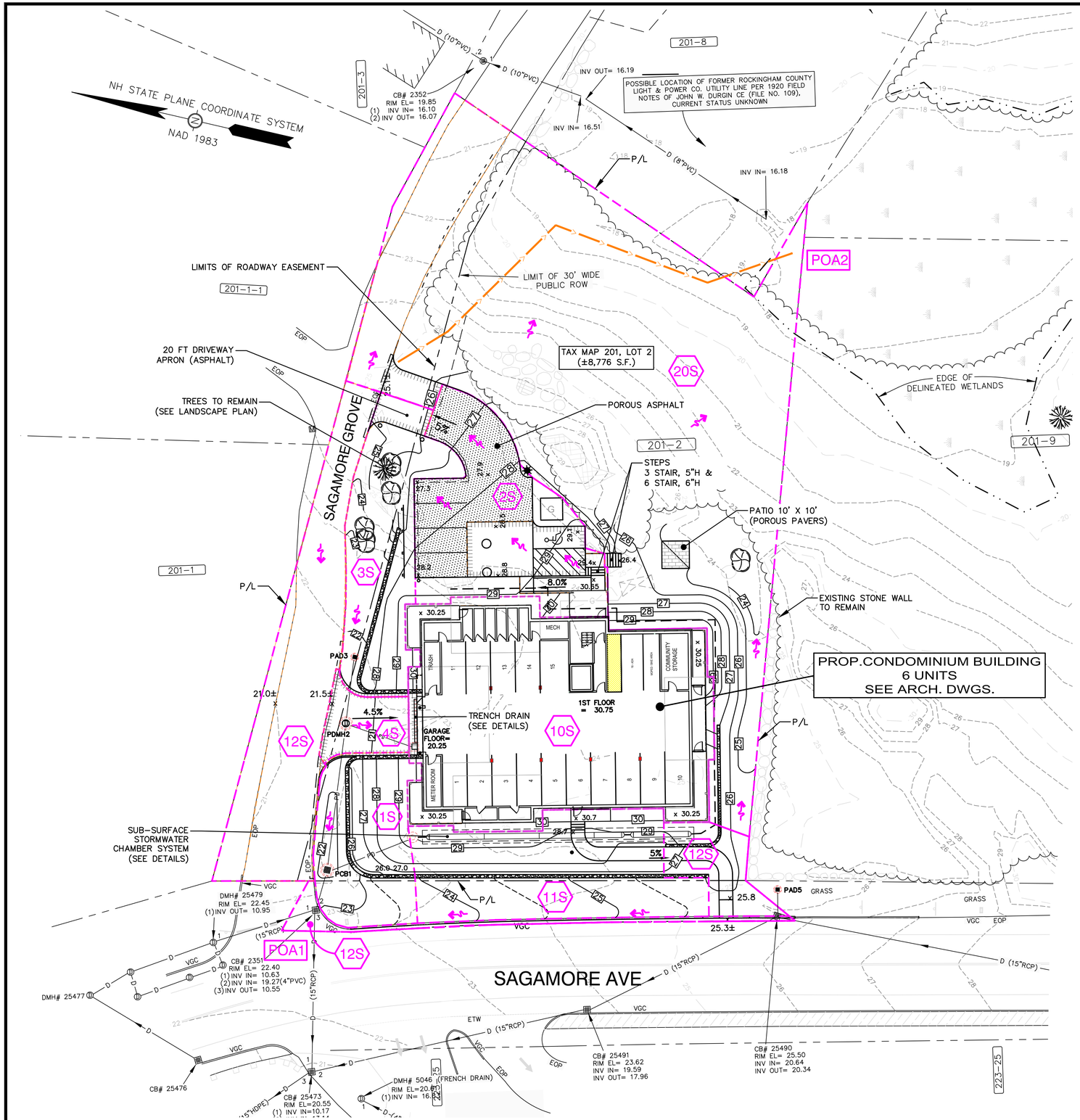
SAGAMORE ROAD
PORTSMOUTH, NH 03801

TITLE:

PRE-DEVELOPMENT DRAINAGE PLAN

SHEET NUMBER:

DA-1



LEGEND

- PROPERTY LINE
- WETLAND/SOILS BOUNDARY
- EXISTING CONTOUR
- PROPOSED CONTOUR
- WATERSHED BOUNDARY
- Tc PATH
- PROPOSED GROUND SLOPE DIRECTION
- SUBCATCHMENT/POND/REACH
- POINT OF ANALYSIS

SOILS:

SERIES	DESRIPTION	HSG
140B	CHATFIELD-HOLLIS-CANTON	B
699	URBAN LAND	B

DRAINAGE STRUCTURES

CB1
RIM = 21.50
12" INV. IN = 16.50 (PDMH2)
12" INV. IN = 16.50 (OS1)
12" INV. OUT = 16.40

PDMH2
RIM = 21.30
8" INV. IN = 16.90 (TRENCH DRAIN)
12" INV. IN = 16.90 (PAD3)
12" INV. OUT = 16.80

PAD3
RIM = 21.00
12" INV. OUT = 17.00

TRENCH DRAIN
ELEV = 20.10
8" INV. OUT = 17.10

STORMWATER PRACTICES

STORMWATER GALLERY A
24" DIA PERF PIPE
1 ROW / 90 FT LENGTH
(20 FT ISOLATION CHAMBER)
PIPE INV = 24.50
ROCK BOTTOM = 24.00

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)

ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
(603) 433-2335 www.ALTUS-ENG.com

NOT FOR CONSTRUCTION

ISSUED FOR: DRAINAGE REPORT

ISSUE DATE: NOVEMBER 22, 2021

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMITTAL	CDB	11/22/21

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 5079-SITE.dwg

SCALE: 22"x34" 1" = 20'
11"x17" 1" = 40'

OWNER / APPLICANT:

SAGAMORE CORNER, LLC
273 CORPORATE DRIVE
PORTSMOUTH, NH 03801

PROJECT:

PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT
TAX MAP 201, LOT 2

SAGAMORE ROAD
PORTSMOUTH, NH 03801

TITLE:

POST-DEVELOPMENT DRAINAGE PLAN

SHEET NUMBER:

DA-2

P5079