K0076-038
May 24, 2022

Ms. Beverly M. Zendt, Planning Director
City of Portsmouth Planning Department
1 Junkins Avenue
Portsmouth, New Hampshire 03801

Re: **Site Plan Review & Wetlands Conditional Use Permit Applications**
Proposed 2-story Building, 230 Commerce Way, Portsmouth, NH

Dear Beverly:

On behalf of 230 Commerce Way, LLC (owner/applicant), we are pleased to submit via the City of Portsmouth online permitting system the following information to support a request for a Site Plan Review and Wetland Conditional Use Permit for the above referenced project:

- One (1) full size & one (1) half size copy of the Site Plan Set last, dated May 24, 2022;
- Site Review Checklist dated, May 24, 2022;
- Drainage Analysis Memorandum, dated May 24, 2022;
- Long-Term Operation & Maintenance Plan, dated May 24, 2022;
- Fire Truck Turning Exhibit dated, May 24, 2022;
- Trip Generation Analysis Memorandum, dated May 24, 2022;
- Eversource Will Service Letter dated, May 24, 2022;
- Unitil Will Service Letter dated, May 12, 2022;
- 100' Wetland Buffer Impact Exhibit dated May 24, 2022;
- Green Building Statement, dated May 24, 2022;
- Application fee calculation form for the Site Review and Wetland Conditional Use Permit application fees;
- Cheek in the amount of $6,240.00 for the Site Plan Review & Wetland Conditional Use Permit application fee

The proposed project is located at 230 Commerce Way on the corner of Portsmouth Boulevard and Commerce way, on property identified as Map 216 Lot 1-5 on the City of Portsmouth Tax Maps. The existing site currently consists of a 3-story office building with a large associated parking lot. The proposed project consists of a new 2-story building for veterinary care uses within the limits of the existing parking lot, modifications to the parking lot, and associated site improvements. The associated site improvements include the site lighting, underground utilities, stormwater treatment/management system, and wetland buffer enhancements.

Land Use Permit Applications

Site Plan Review Permit

The project will require a Site Plan Review Permit for the site improvements described above in the project summary. The project has previously been before the Planning Board for Conceptual Consultation, and Conservation Commission and the Technical Advisory Committee for work sessions.

Wetland Conditional Use Permit

A portion of the proposed work is located in the 100-foot wetland buffer thus requiring a Conditional Use Permit per Section 10.1017 of the Zoning Ordinance. As a result of the project there is going to be a reduction of existing impervious area within the wetland buffer of approximately 5,070 SF. The project is also proposing 9,250 SF of buffer enhancement area.

Conditional Use Permit Criteria

Based on the above described and enclosed materials, the following addresses how the proposed project warrants the granting of a Wetland Conditional Use Permit by satisfying the following six (6) criteria for approval in Section 10.1017.50 of the Zoning Ordinance:

(1) The land is reasonably suited to the use, activity or alteration.

The land is currently a previously disturbed site which consists of an office building and parking lot and is suited for enhancement. The proposed project site lies partially within a previously wetland buffer area. The proposed project will result in impervious surface reduction in the buffer and buffer enhancement. Advanced stormwater treatment is also part of the proposed project which will improve the quality of the runoff to the wetland from the project site.

(2) There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.

The placement of the proposed building is limited by the 75-foot side yard setbacks that are required in the Office Research (OR) zone. The proposed project design reduces the impervious surface within the 100' buffer and proposes to replace existing pavement and lawn areas with wetland buffer seed mix and plant native shrubs and trees.

(3) There will be no adverse impact on the wetland functional values of the site or surrounding properties;

There will be no adverse impact on the wetland functional values of the site as the existing condition is previously disturbed and consists of building, parking area and no existing stormwater treatment. The proposed project designs site and landscape plans enhance the previously disturbed buffer area given the existing condition and provide treatment of stormwater runoff where none currently exists.

(4) Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals; and

The proposed project design proposes no alteration to any natural woodland or wetlands area. The area impacted consists of mainly of impervious surfaces. Any temporary disturbances of the wetland buffer for construction of the stormwater outlet and removal of existing pavement will be restored following construction.

(5) The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this Section.

The proposed project design is not an adverse impact to the site as it would enhance the buffer by reducing overall impervious surface on the site and improve water quality through stormwater treatment. Impervious surfaces have been reduced from the existing condition. The proposed project will reduce the impervious area within the 100-foot wetland buffer.

(6) Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.

The proposed project design within the vegetated buffer strip is limited to construction of the stormwater outlet from the stormwater collection and treatment system. The existing property has no stormwater treatment measures. The proposed project will collect and treat the onsite impervious surfaces prior to discharging to the on-site wetland. Implementing these treatment measures will help improve the water quality runoff discharging to the wetland. In order for this system to work, disturbances with the buffer strip are necessary. Areas temporarily disturbed for the construction of the outlet will be restored following construction. The landscape plan proposes restoring the disturbed areas within the foot wetland buffer with a wetland buffer seed mix, and the addition of several native trees and shrubs.

We respectfully request to be placed on the TAC meeting agenda for June 7, 2022. If you have any questions or need any additional information, please contact Neil Hansen by phone at (603) 294-9213 or by email at nahansen@tighebond.com.

Sincerely,

TIGHE & BOND, INC.

Neil A. Hansen, PE
Project Manager

Patrick M. Crimmins, PE
Vice President

CC: 230 Commerce Way, LLC
Nelson Architecture & Interior, Inc.
City of Portsmouth Technical Advisory Committee
City of Portsmouth Conservation Commission

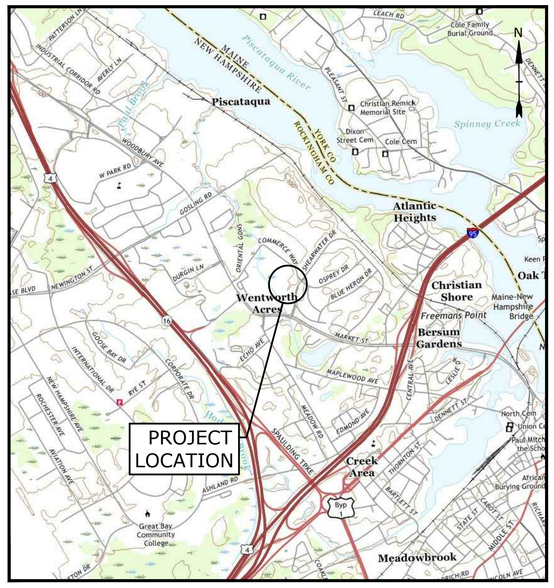
j:\k\k0076 the kane company - general proposals\0076-038 portsmouth blvd\report_evaluation\applications\city of portsmouth\20220524_tac\cover letter.docx

PROPOSED 2-STORY BUILDING

230 COMMERCE WAY
PORTSMOUTH, NEW HAMPSHIRE
MAY 24, 2022

LIST OF DRAWINGS		
SHEET NO.	SHEET TITLE	LAST REVISED
	COVER SHEET	05/24/2022
1 OF 5	TOPOGRAPHIC PLAN	04/19/2022
2 OF 5	TOPOGRAPHIC PLAN	04/19/2022
3 OF 5	TOPOGRAPHIC PLAN	04/19/2022
4 OF 5	TOPOGRAPHIC PLAN	04/19/2022
5 OF 5	TOPOGRAPHIC PLAN	04/19/2022
C-101	DEMOLITION PLAN	05/24/2022
C-102	SITE PLAN	05/24/2022
C-103	GRADING, DRAINAGE & EROSION CONTROL PLAN	05/24/2022
C-104	UTILITY PLAN	05/24/2022
C-105	LANDSCAPE PLAN	05/24/2022
C-501	EROSION CONTROL NOTES & DETAILS SHEET	05/24/2022
C-502	DETAILS SHEET	05/24/2022
C-503	DETAILS SHEET	05/24/2022
C-504	DETAILS SHEET	05/24/2022
C-505	DETAILS SHEET	05/24/2022
C-506	DETAILS SHEET	05/24/2022
C-701	PHOTOMETRICS PLAN	05/24/2022
A-200	ELEVATIONS	05/23/2022
A-201	ELEVATIONS	05/23/2022

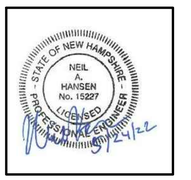
LIST OF PERMITS		
FEDERAL	STATUS	DATE
CONSTRUCTION GENERAL PERMIT	PENDING	
LOCAL		
SITE PLAN REVIEW PERMIT	PENDING	



LOCATION MAP
SCALE: 1" = 2,000'

CONSTRUCTION NOTES:
1. THE CONTRACTOR SHALL NOT RELY ON SCALED DIMENSIONS AND SHALL CONTACT THE ENGINEER FOR CLARIFICATION IF A REQUIRED DIMENSION IS NOT PROVIDED ON THE PLANS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS, AND FOR SITE CONDITIONS THROUGHOUT CONSTRUCTION. NEITHER THE PLANS NOR THE SEAL OF THE ENGINEER AFFIXED HEREON EXTEND TO OR INCLUDE SYSTEMS REQUIRED FOR THE SAFETY OF THE CONTRACTOR, THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND IMPLEMENTING SAFETY PROCEDURES AND SYSTEMS AS REQUIRED BY THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AND ANY STATE OR LOCAL SAFETY REGULATIONS.
3. TIGHE & BOND. ASSUMES NO RESPONSIBILITY FOR ANY ISSUES LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION OF TIGHE & BOND.

PREPARED BY:
Tighe&Bond
177 Corporate Drive
Portsmouth New Hampshire, 03801
603.433.8818



APPLICANT / OWNER:
230 Commerce Way, LLC
210 Commerce Way, Suite 300
Portsmouth, NH 03801
603.559.9666

SURVEY CONSULTANT:
DOUCET SURVEY INC
Serving Your Professional Surveying & Mapping Needs
102 Kent Place, Newmarket, NH 03857 (603) 659-6560
2 Commerce Drive (Suite 202) Bedford, NH 03110 (603) 644-4060
10 Storer Street (Riverview Suite) Kennebunk, ME (207) 502-7005
http://www.doucetsurvey.com

ARCHITECT (OWNER):
Nelson Worldwide, LLC
99 Chauncy St 10th Floor
Boston, MA 02111
617.751.5886

WETLAND CONSULTANT:
Gove Environmental Services, INC
8 Continental Dr Bldg 2 Unit H
Exeter, NH 03833
603.778.0644

ARCHITECT (TENANT):
Capone Architecture
18 Shipyard Dr #2a
Hingham, MA 02043
617.875.0786

TAC SUBMISSION SET
COMPLETE SET 20 SHEETS

811 DigSafe MA-ME-NH-RI-VT

Last Save Date: May 24, 2022 10:15 AM By: CML
Plot Date: Tuesday, May 24, 2022 10:16 AM By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings, Figures\AutoCAD\Sheet\K0076-038_CS.dwg Layout Tab: T&B_CS_22x34

DOUCET SURVEY, LLC
NHSPC (NAD83 / 2011)

ABUTTERS

TAX MAP 216, LOT 1–2
COMMERCE CENTER AT PORTSMOUTH
273 CORPORATE DRIVE, SUITE 150
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 3507, PAGE 2405

TAX MAP 216, LOT 1–8
195 COMMERCE WAY LLC
210 COMMERCE WAY, SUITE 300
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 5418, PAGE 1358

TAX MAP 216, LOT 1–8A
BEACON HARBOR TRUST LLC
210 COMMERCE WAY, SUITE 300
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 5877, PAGE 2905

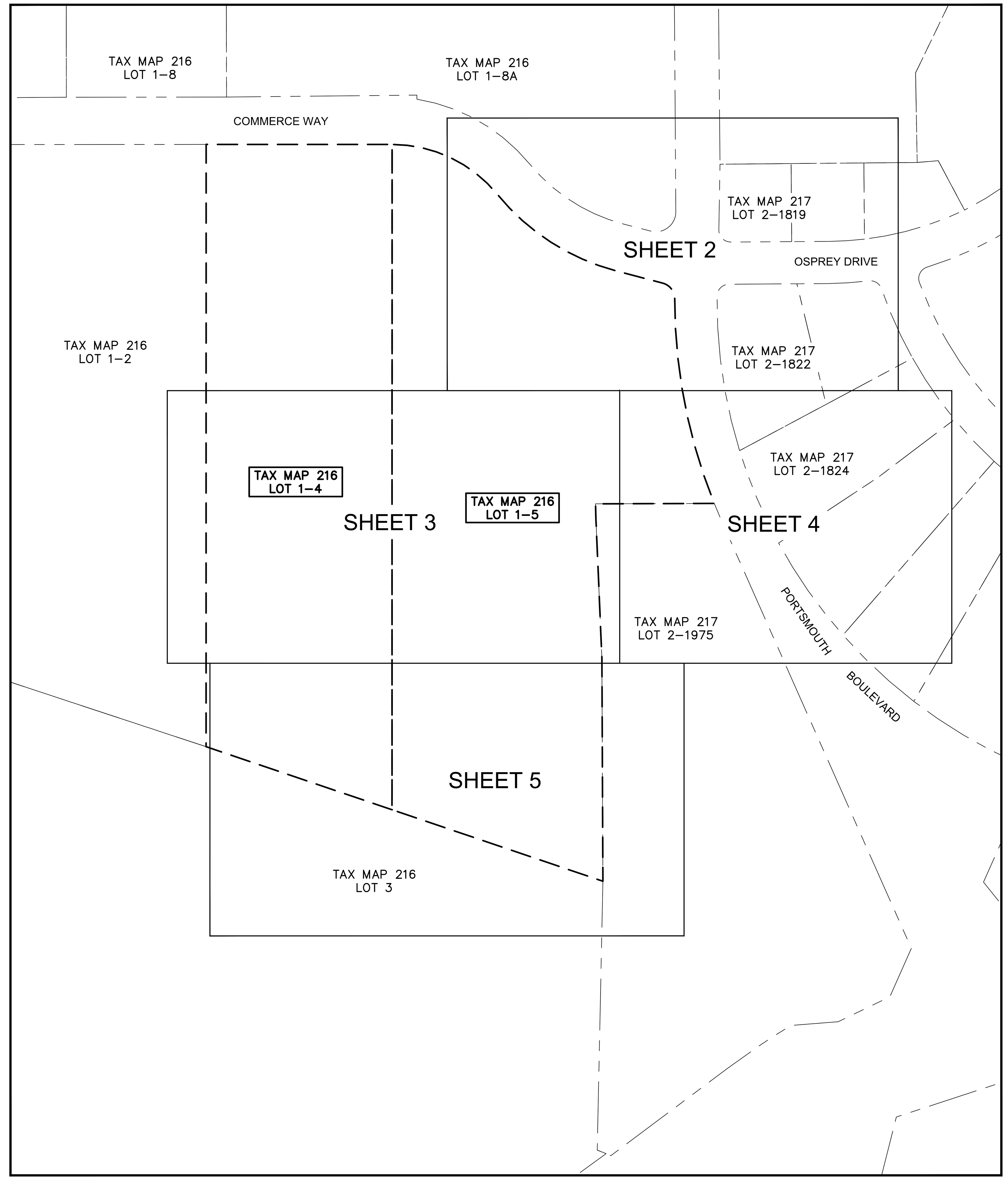
TAX MAP 216, LOT 3
BROMLEY PORTSMOUTH LLC
C/O QUINCY & CO. INC.
57 DEDHAM AVENUE
NEEDHAM, MA 02492
R.C.R.D. BOOK 4486, PAGE 2167

TAX MAP 217, LOT 2–1819
BRORA LLC
210 COMMERCE WAY, SUITE 300
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 3474, PAGE 866

TAX MAP 217, LOT 2–1822
MARTIN A. TORRES REV. TRUST
MARTIN A. TORRES, TRUSTEE
2 OSPREY DRIVE
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 3543, PAGE 89

TAX MAP 217, LOT 2–1824
JAMES J. MCGOVERN IRREVOCABLE TRUST
19 SANDERLING WAY
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 4895, PAGE 2707

TAX MAP 217, LOT 2–1975
BRORA LLC
210 COMMERCE WAY, SUITE 300
PORTSMOUTH, NH 03801
R.C.R.D. BOOK 3507, PAGE 118



KEY MAP

LOCATION MAP (n.t.s.)

LEGEND

- APPROXIMATE LOT LINE
- APPROXIMATE ABUTTERS LOT LINE
- STONE WALL
- CHAIN LINK FENCE
- GUARDRAIL
- OHW — OVERHEAD WIRE
- SS — SEWER LINE
- SD — DRAIN LINE
- XS — SEWER LINE (PER CITY GIS)
- XD — DRAIN LINE (PER CITY GIS)
- E — UNDERGROUND ELECTRIC LINE
- 100 — MAJOR CONTOUR LINE
- 98 — MINOR CONTOUR LINE
- TREE LINE
- SHRUB LINE
- EDGE OF WETLAND
- EDGE OF WATER
- WETLAND AREA
- CONCRETE
- LANDSCAPED AREA
- CRUSHED STONE
- BRICK
- UTILITY POLE & GUY WIRE
- UTILITY POLE W/LIGHT
- LIGHT POLE W/ARM
- LIGHT POLE (MULTI–ARMS)
- SIGN
- BOLLARD
- HYD — FIRE HYDRANT
- WV — WATER GATE VALVE
- WSO — WATER SHUTOFF VALVE
- GR — GAS REGULATOR
- VP — VENT PIPE

- T — PAD MOUNTED TRANSFORMER
- E — ELECTRIC BOX
- U — UTILITY BOX
- CATCH BASIN
- D — DRAIN MANHOLE
- E — ELECTRIC MANHOLE
- T — TELEPHONE MANHOLE
- S — SEWER MANHOLE
- CO — CLEANOUT
- CONIFEROUS TREE
- DECIDUOUS TREE
- CONIFEROUS SHRUB
- DECIDUOUS BUSH
- BORING LOCATION
- ACCESSIBLE PARKING SPACE
- TYP. — TYPICAL
- CONC. — CONCRETE
- HDWL — HEADWALL
- TH — THRESHOLD ELEVATION
- EP — EDGE OF PAVEMENT
- VGC — VERTICAL GRANITE CURB
- SGC — SLOPED GRANITE CURB
- SWL — SINGLE WHITE LINE
- SYL — SINGLE YELLOW LINE
- DYL — DOUBLE YELLOW LINE
- GM — GAS METER
- "HP" — HANDICAP PARKING SIGN
- "NP" — NO PARKING SIGN
- "R" — RESERVED PARKING SIGN
- • A–1 — WETLAND FLAG

100 0 100 200
SCALE: 1 INCH = 100 FT.

TOPOGRAPHIC PLAN
FOR
RW NORFOLK HOLDING, LLC
PROPERTIES OF
210 COMMERCE WAY LLC
(TAX MAP 216, LOT 1-4)
&
230 COMMERCE WAY LLC
(TAX MAP 216, LOT 1-5)
COMMERCE WAY
PORTSMOUTH, NEW HAMPSHIRE

NOTES:

1. REFERENCE:
   TAX MAP 216, LOT 1–4
   210 COMMERCE WAY LLC
   210 COMMERCE WAY, SUITE 300
   PORTSMOUTH, NH 03801
   R.C.R.D. BOOK 5418, PAGE 1360
   D.S. PROJECT NO. 5864

   TAX MAP 216, LOT 1–5
   230 COMMERCE WAY LLC
   210 COMMERCE WAY, SUITE 300
   PORTSMOUTH, NH 03801
   R.C.R.D. BOOK 5418, PAGE 1364

2. FIELD SURVEY PERFORMED BY DOUCET SURVEY DURING FEBRUARY 2022 USING A TRIMBLE S7 TOTAL STATION WITH A TRIMBLE TSC3 DATA COLLECTOR AND A SOKKIA B21 AUTO LEVEL. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS.
3. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE(2800) NAD83(2011) DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.
4. VERTICAL DATUM IS BASED ON APPROXIMATE NAVD88(GEOID12A) (±.2') DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.
5. PROPER FIELD PROCEDURES WERE FOLLOWED IN ORDER TO GENERATE CONTOURS AT 2' INTERVALS. ANY MODIFICATION OF THIS INTERVAL WILL DIMINISH THE INTEGRITY OF THE DATA, AND DOUCET SURVEY, INC. WILL NOT BE RESPONSIBLE FOR ANY SUCH ALTERATION PERFORMED BY THE USER.
6. WETLANDS WERE NOT DELINEATED ON SITE. ANY FLAGS LOCATED WERE FROM A PREVIOUS DELINEATION.
7. THE ACCURACY OF MEASURED UTILITY INVERTS AND PIPE SIZES/TYPES IS SUBJECT TO NUMEROUS FIELD CONDITIONS, INCLUDING; THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS, MANHOLE CONFIGURATION, ETC.
8. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON OBSERVED PHYSICAL EVIDENCE AND PAINT MARKS FOUND ON–SITE.
9. ALL UNDERGROUND UTILITIES (ELECTRIC, GAS, TEL. WATER, SEWER DRAIN SERVICES) ARE SHOWN IN SCHEMATIC FASHION, THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG–SAFE AT 1–888–DIG–SAFE.
10. OVERALL PARCEL BOUNDARIES AS SHOWN HEREON ARE BASED ON NEW HAMPSHIRE'S GRANIT GIS DATA AND ARE IN THEIR ORIGINAL LOCATION. THE PARCEL BOUNDARIES HAVE NOT BEEN ADJUSTED TO MATCH FOUND PROPERTY MONUMENTS OR THE EDGE OF RIGHT OF WAY AS DETERMINED BY THE SURVEYOR.

NO.	DATE	DESCRIPTION	BY
1	04/19/22	ADDITIONAL TOPOGRAPHY (SPRING)	P.C.L

DRAWN BY: P.C.L.	DATE: FEBRUARY 23, 2022
CHECKED BY: M.W.F.	DRAWING NO. 5864A
JOB NO. 5896	SHEET 1 OF 5

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102 Kent Place, Newmarket, NH 03857 (603) 659-6560
Offices in Bedford & Keene, NH and Kennebunk, ME
http://www.doucetsurvey.com

FILE NAME: C:\CIVIL 3D FILES\temp\AcPublish_12960\5864A 2022–04–19.dwg LAYOUT NAME: T1 PLOTTED: Tuesday, April 19, 2022 – 4:29pm


TBM 6864A
NAIL FND. UP 12"
IN POLE PSNH 316/6 W/COND.
ELEV.=67.19'
CB 3130
RIM ELEV.=59.2'
(2201) 12" RCP INV.=56.0'
SUMP=55.9'
SMH 2154
RIM ELEV.=58.3'
(A) 8" VCP TOP=53.3'
(B) 8" VCP INV.=52.7'
(3127) 8" VCP INV.=52.7'
(2630) 8" VCP INV.=52.6'
CB 2928
RIM ELEV.=58.4'
(2267) 12" RCP INV.=56.1'
SUMP=52.8'
CB 2201
RIM ELEV.=59.2'
(3130) 12" RCP INV.=55.8'
(2184) 12" RCP INV.=55.6'
NO OUTLET /NP
DMH 2184
RIM ELEV.=58.4'
(2201) 12" RCP INV.=55.0'
(2187) 12" RCP INV.=55.0'
(2196) 12" RCP INV.=54.9'
SMH 3127
RIM ELEV.=58.4'
(A) 6" VCP INV.=53.6'
(2185) 8" VCP INV.=53.3'
(2154) 8" VCP INV.=53.2'
CB 2187
RIM ELEV.=58.4'
FILLED WITH ICE
SMH 2185
RIM ELEV.=64.7'
(A) 4" PVC INV.=59.9'
(B) 4" PVC INV.=58.0'
(C) 4" PVC OBSTRUCTED
(D) 8" VCP INV.=55.9'
(3127) 8" VCP INV.=55.5'
CB 1915
RIM ELEV.=59.5'
OUT OF SCOPE
COMMERCE WAY
CB 1867
RIM ELEV.=60.4'
(1866) 12" RCP RECESSED
SUMP=53.9'
CB 1866
RIM ELEV.=59.7'
(1867) 12" RCP INV.=57.0'
(2267) 12" RCP INV.=56.9'
SUMP=53.8'
MAYBE PULL? FILLED W/ICE
OSPREY DRIVE
CB 2187
RIM ELEV.=58.4'
OUT OF SCOPE
CB 2196
RIM ELEV.=57.7'
(2184) 12" RCP INV.=53.9'
(2387) 12" RCP INV.=53.9'
SUMP=50.9'
CB 2267
RIM ELEV.=57.7'
(2928) 12" RCP INV.=55.4'
(1866) 12" RCP RECESSED
(2343) UNK. RECESSED
SUMP=55.5'
TBM 5864B
X-CUT IN BOLT
OVER MAIN OF HYDRANT
ELEV.=58.38'
PORTSMOUTH
BOULEVARD
BUILDING
SHEET 2
SHEET 3
SHEET 2
SHEET 4
DOUCET SURVEY, LLC
NHSPC(NAD83 / 2011)

20 0 20 40

SCALE: 1 INCH = 20 FT.

TOPOGRAPHIC PLAN
FOR
RW NORFOLK HOLDING, LLC
PROPERTIES OF
210 COMMERCE WAY LLC
(TAX MAP 216, LOT 1-4)
&
230 COMMERCE WAY LLC
(TAX MAP 216, LOT 1-5)
COMMERCE WAY
PORTSMOUTH, NEW HAMPSHIRE

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1	04/19/22	ADDITIONAL TOPOGRAPHY (SPRING)	P.C.L

DRAWN BY:	P.C.L.	DATE:	FEBRUARY 23, 2022
CHECKED BY:	M.W.F.	DRAWING NO.	5864A
JOB NO.	5896	SHEET 2 OF	5

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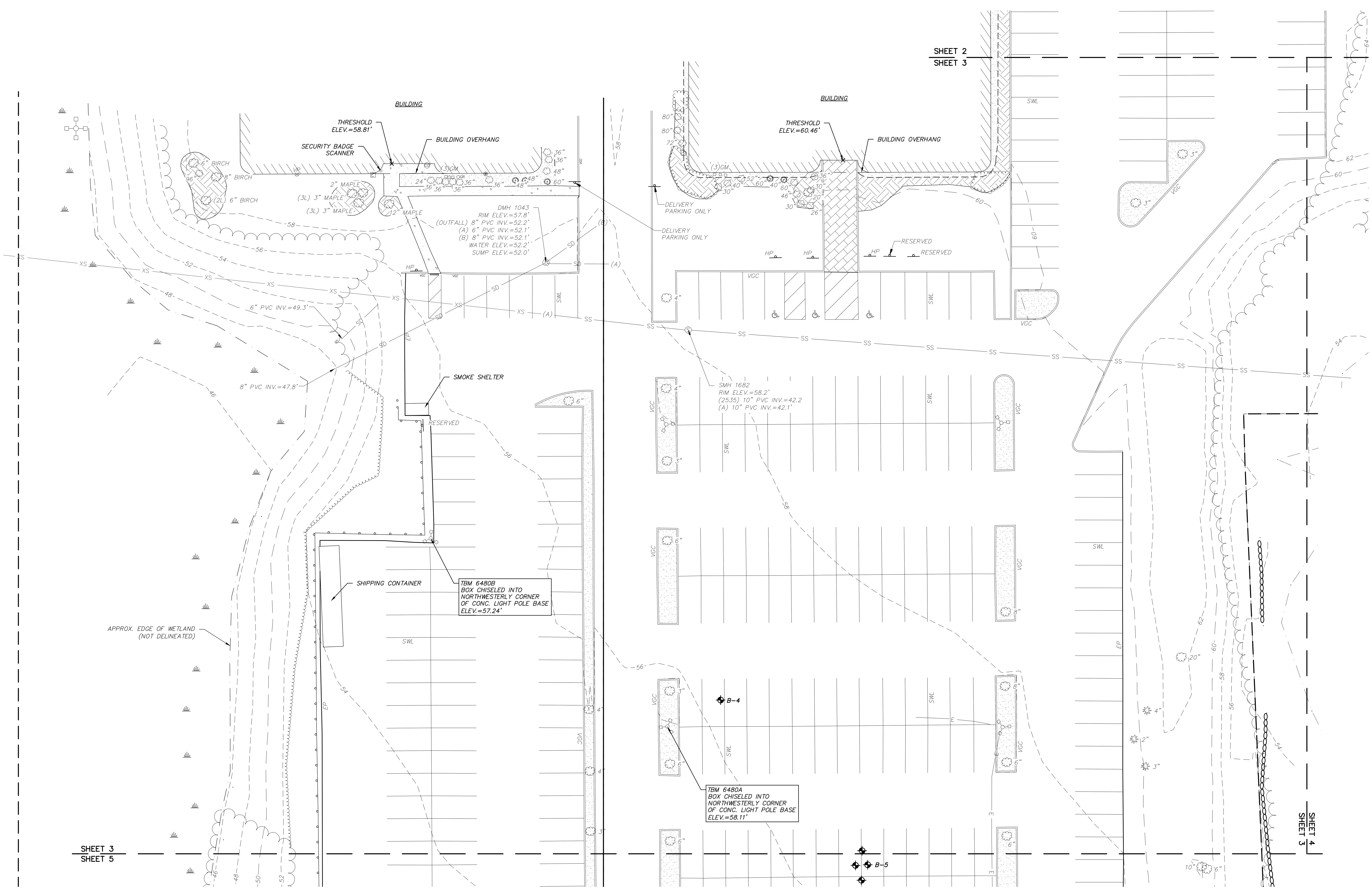

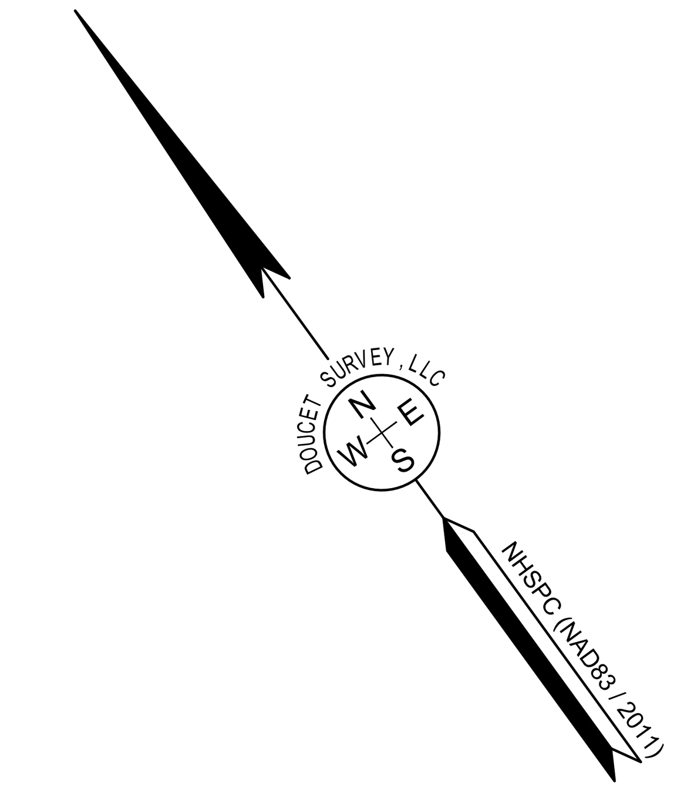

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SCALE: 1 INCH = 20 FT.

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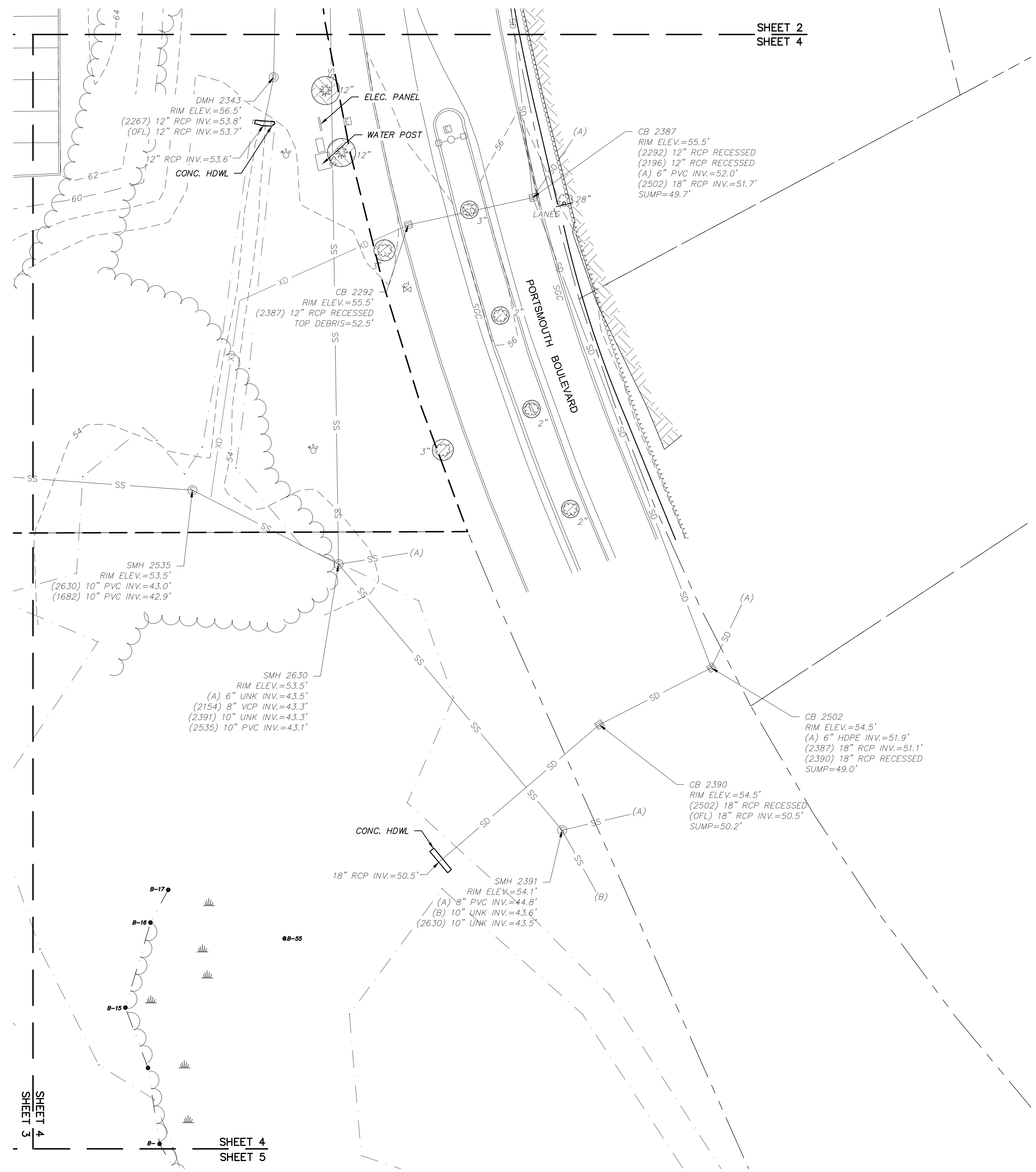

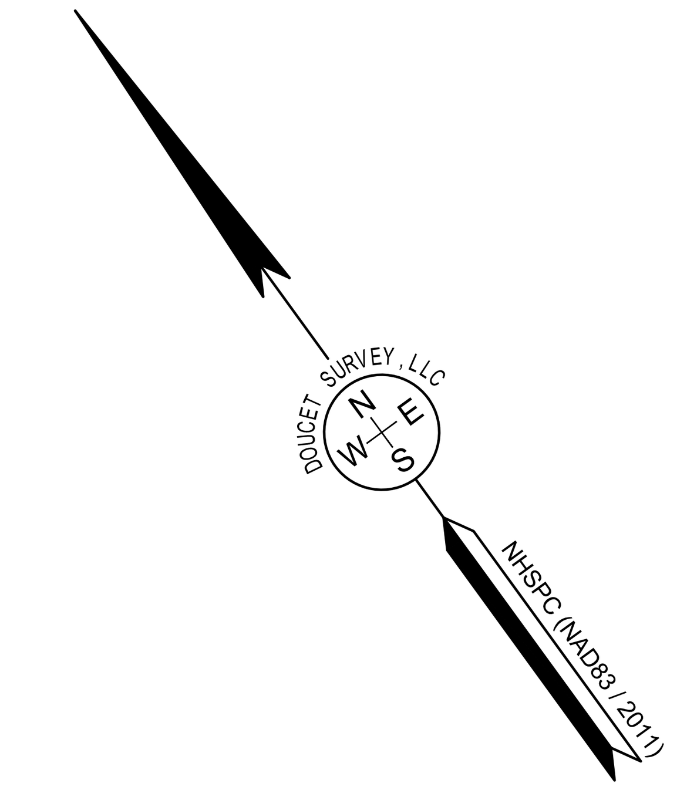

20 0 20 40

SCALE: 1 INCH = 20 FT.

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PROPERTIES OF
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&
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COMMERCE WAY
PORTSMOUTH, NEW HAMPSHIRE

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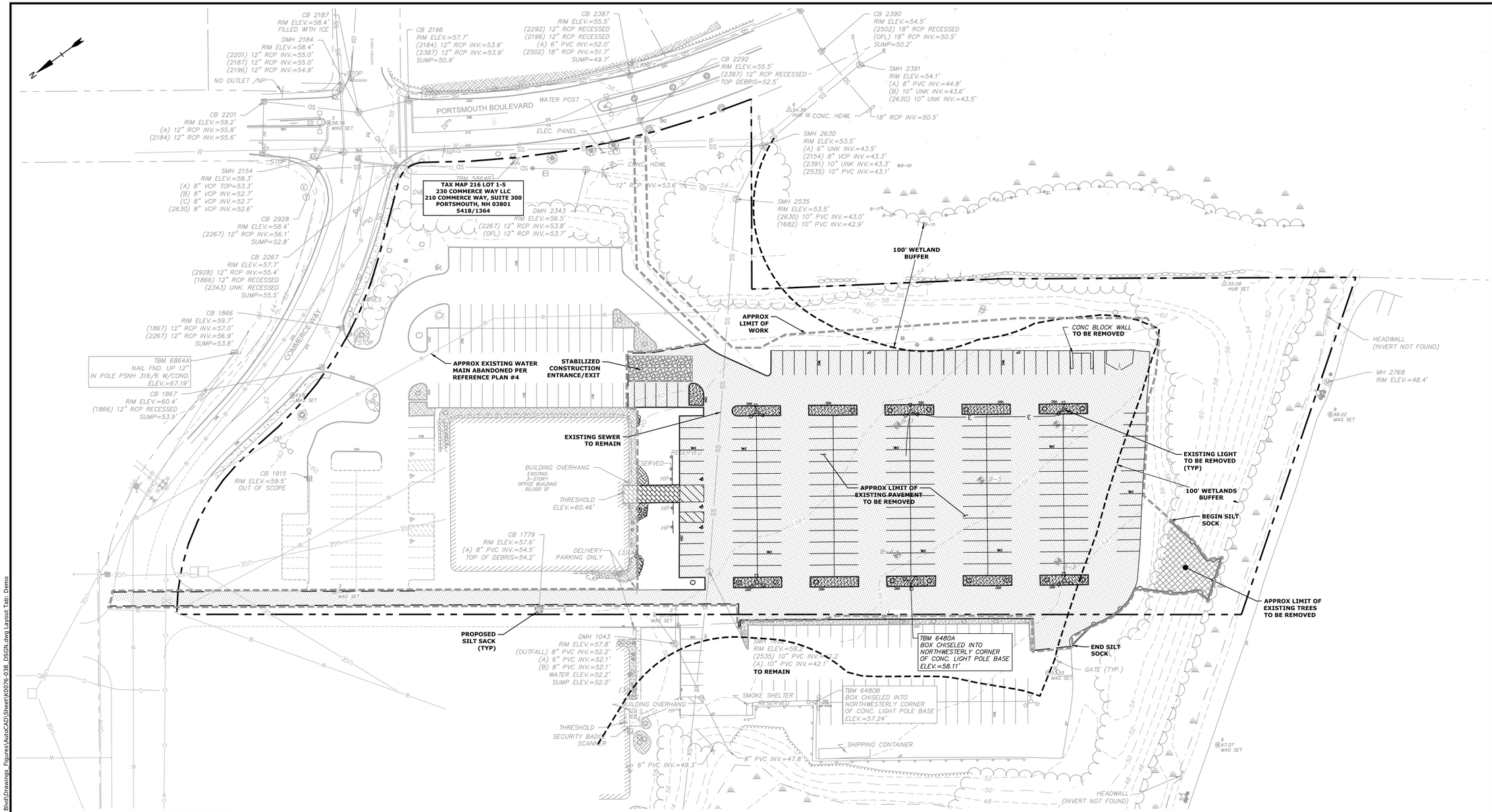
FILE NAME: C:\CIVIL 3D FILES\temp\AcPublish_12960\5864A 2022-04-19.dwg LAYOUT NAME: L5 PLOTTED: Tuesday, April 19, 2022 - 4:29pm



Tighe&Bond

PATRICK M. CUMMINS No. 12377 LICENSED PROFESSIONAL ENGINEER
5-24-22

NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER
5/24/22

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

DEMOLITION NOTES:

1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK.
2. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES. CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.
3. ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES.
4. COORDINATE REMOVAL, RELOCATION, DISPOSAL OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.
5. ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO MATCH ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
6. SAW CUT AND REMOVE PAVEMENT ONE (1) FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN ALL AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL OF THE PERMIT APPROVALS.
8. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK, EXCEPT FOR WORK NOTED TO BE COMPLETED BY OTHERS.
10. UTILITIES SHALL BE TERMINATED AT THE MAIN LINE PER UTILITY COMPANY STANDARDS. THE CONTRACTOR SHALL REMOVE ALL ABANDONED UTILITIES LOCATED WITHIN THE LIMITS OF WORK.
11. CONTRACTOR SHALL VERIFY ORIGIN OF ALL DRAINS AND UTILITIES PRIOR TO REMOVAL/TERMINATION TO DETERMINE IF DRAINS OR UTILITY IS ACTIVE, AND SERVICES ANY ON OR OFF-SITE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY OF ANY SUCH UTILITY FOUND AND SHALL MAINTAIN THESE UTILITIES UNTIL PERMANENT SOLUTION IS IN PLACE.
12. PAVEMENT REMOVAL LIMITS ARE SHOWN FOR CONTRACTOR'S CONVENIENCE. ADDITIONAL PAVEMENT REMOVAL MAY BE REQUIRED DEPENDING ON THE CONTRACTOR'S OPERATION. CONTRACTOR TO VERIFY FULL LIMITS OF PAVEMENT REMOVAL PRIOR TO BID.
13. ALL ITEMS WITHIN THE LIMIT OF WORK ARE TO REMAIN UNLESS SPECIFICALLY IDENTIFIED TO BE REMOVED OR OTHERWISE ALTERED BY THE CONTRACTOR. ITEMS TO BE REMOVED INCLUDE, BUT ARE NOT LIMITED TO: CONCRETE, PAVEMENT, MANHOLES, CATCH BASINS, UNDERGROUND PIPING & UTILITIES, POLES, STAIRS, STRUCTURES, FENCES, RAMPS, BUILDING FOUNDATIONS, TREES, AND LANDSCAPING. THE CONTRACTOR SHALL CONFIRM WITH THE ENGINEER IF THE TREATMENT OF CERTAIN ITEMS IS UNCLEAR.
14. COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
15. REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL STUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
16. CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED BY THE CONTRACTOR, THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED SURVEYOR TO REPLACE DISTURBED MONUMENTS.
17. PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS/CURB INLETS WITHIN CONSTRUCTION LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. INLET PROTECTION BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE "HIGH FLOW SILT SACK" BY ACF ENVIRONMENTAL OR EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN EVENT OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED OR SEDIMENT HAS ACCUMULATED TO 1/3 THE DESIGN DEPTH OF THE BARRIER.
18. THE CONTRACTOR SHALL PHASE DEMOLITION AND CONSTRUCTION AS REQUIRED TO PROVIDE CONTINUOUS SERVICE TO EXISTING BUSINESSES AND HOMES THROUGHOUT THE CONSTRUCTION PERIOD. EXISTING BUSINESS AND HOME SERVICES INCLUDE, BUT ARE NOT LIMITED TO ELECTRICAL, COMMUNICATION, FIRE PROTECTION, DOMESTIC WATER AND SEWER SERVICES. TEMPORARY SERVICES, IF REQUIRED, SHALL COMPLY WITH ALL FEDERAL, STATE, LOCAL AND UTILITY COMPANY STANDARDS. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION SCHEDULE TO OWNER PRIOR TO ANY DEMOLITION/CONSTRUCTION ACTIVITIES AND SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
19. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.
20. THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFETY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.
21. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL UTILITIES TO BE REMOVED AND PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
22. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.

LEGEND

- APPROXIMATE LOT LINE
- APPROXIMATE ABUTTERS LOT LINE
- STONE WALL
- CHAIN LINK FENCE
- GUARDRAIL
- OHW — OVERHEAD WIRE
- SS — SEWER LINE
- SD — DRAIN LINE
- XS — SEWER LINE (PER CITY GIS)
- XD — DRAIN LINE (PER CITY GIS)
- E — UNDERGROUND ELECTRIC LINE
- 100 — MAJOR CONTOUR LINE
- 98 — MINOR CONTOUR LINE
- TREE LINE
- SHRUB LINE
- EDGE OF WETLAND
- EDGE OF WATER
- WETLAND AREA
- CONCRETE
- LANDSCAPED AREA
- CRUSHED STONE
- BRICK
- UTILITY POLE & GUY WIRE
- UTILITY POLE W/LIGHT
- LIGHT POLE W/ARM
- LIGHT POLE (MULTI-ARMS)
- SIGN
- BOLLARD
- FIRE HYDRANT
- WATER GATE VALVE
- WATER SHUTOFF VALVE
- GAS REGULATOR
- VENT PIPE
- PAD MOUNTED TRANSFORMER
- ELECTRIC BOX
- UTILITY BOX
- CATCH BASIN
- DRAIN MANHOLE
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE
- SEWER MANHOLE
- CLEANOUT
- CONIFEROUS TREE
- DECIDUOUS TREE
- CONIFEROUS SHRUB
- DECIDUOUS BUSH
- BORING LOCATION
- ACCESSIBLE PARKING SPACE
- TYP. TYPICAL
- CONC. CONCRETE
- HDWL HEADWALL
- TH THRESHOLD ELEVATION
- EP EDGE OF PAVEMENT
- VGC VERTICAL GRANITE CURB
- SGC SLOPED GRANITE CURB
- SWL SINGLE WHITE LINE
- SYL SINGLE YELLOW LINE
- DYL DOUBLE YELLOW LINE
- GM GAS METER
- "HP" HANDICAP PARKING SIGN
- "NP" NO PARKING SIGN
- "R" RESERVED PARKING SIGN
- A-1 WETLAND FLAG

DEMOLITION LEGEND

- APPROXIMATE LIMIT OF WORK
- APPROXIMATE LIMIT OF SAW CUT
- EXISTING CURB TO BE REMOVED
- APPROXIMATE LIMIT OF PAVEMENT TO BE REMOVED
- APPROXIMATE LIMIT OF CLEARING
- TBR TO BE REMOVED
- APPROX APPROXIMATE

EXISTING CONDITIONS PLAN & WETLANDS NOTES:

1. EXISTING CONDITIONS ARE BASED ON A FIELD SURVEY BY DOUCET SURVEY, DATED FEBRUARY.
2. JAMES GOVE, CERTIFIED WETLAND SCIENTIST #51, OF GOVE ENVIRONMENTAL CONSULTANTS, INC. OF EXETER, NH, PERFORMED THE WETLAND MAPPING FOR FLAGS A-1 THROUGH A-58 AND B-1 THROUGH B-18 ON SEPTEMBER 23, 2020 ACCORDING TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012, US ARMY CORPS OF ENGINEERS.

REFERENCE PLANS:

1. "CONDITIONAL USE PLAN" PREPARED BY ERIC C. MITCHELL & ASSOC. INC., DATED DECEMBER 18, 2020.
2. "LOT LINE ADJUSTMENT PLAN TAX MAP R-17, LOT 2-1975 SHEARWATER DRIVE / DOVECKIE WAY / MARKET STREET PORTSMOUTH, NH SCALE: 1"=40' DATE: AUG. 1999" PREPARED BY CLD CONSULTING ENGINEERS, MANCHESTER, NH R.C.R.D. PLAN #D-28384.
3. "TOPOGRAPHIC PLAN", SHEETS 1 THRU 5, PREPARED BY DOUCET SURVEY, DATED APRIL 19, 2022.
4. "PROPOSED ROADWAY IMPROVEMENTS", PREPARED BY TIGHE & BOND, DATED MARCH 21, 2014.

MARK	DATE	DESCRIPTION
A	5/24/2022	TAC Submission

PROJECT NO:	K0076-038
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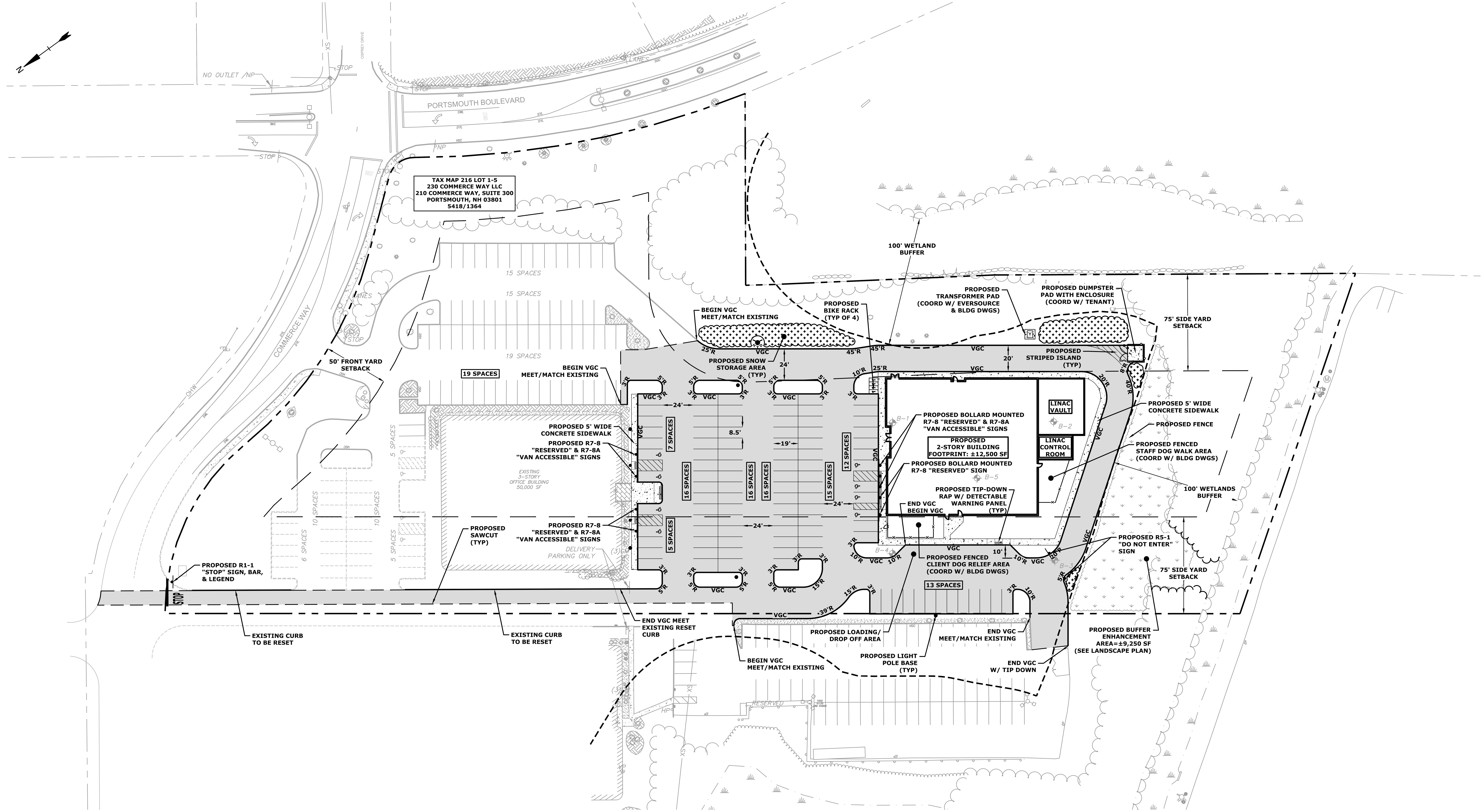
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DEMOLITION PLAN

SCALE: AS SHOWN

C-101

Last Save Date: May 24, 2022 10:25 AM By: CML
Plot Date: May 24, 2022 10:25 AM By: Christine M. Langton
T&B File Location: J:\K\K0076 The Kane Company_General Proposals\0076-038 Portsmouth Blvd\Drawings_Figures\AutoCAD\Sheet\K0076-038_DSGN.dwg Layout Tab: Demo



SITE NOTES:

1. STRIPE PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, ADA SYMBOLS, PAINTED ISLANDS, CROSS WALKS, ARROWS, LEGENDS AND CENTERLINES SHALL BE THERMOPLASTIC MATERIAL. THERMOPLASTIC MATERIAL SHALL MEET THE REQUIREMENTS OF AASHTO AASHTO M249. (ALL MARKINGS EXCEPT CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING WHITE TRAFFIC PAINT. CENTERLINE AND MEDIAN ISLANDS TO BE CONSTRUCTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL MEET THE REQUIREMENTS OF AASHTO M248 TYPE "F").
2. ALL PAVEMENT MARKINGS AND SIGNS TO CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", AND THE AMERICANS WITH DISABILITIES ACT REQUIREMENTS, LATEST EDITIONS.
3. SEE DETAILS FOR PARKING STALL MARKINGS, ADA SYMBOLS, SIGNS AND SIGN POSTS.
4. CENTERLINES SHALL BE FOUR (4) INCH WIDE YELLOW LINES. STOP BARS SHALL BE EIGHTEEN (18) INCHES WIDE.
5. PAINTED ISLANDS SHALL BE FOUR (4) INCH WIDE DIAGONAL LINES AT 3'-0" O.C. BORDERED BY FOUR (4) INCH WIDE LINES.
6. THE CONTRACTOR SHALL EMPLOY A NEW HAMPSHIRE LICENSED LAND SURVEYOR TO DETERMINE ALL LINES AND GRADES.
7. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAW CUT LINE WITH RS-1 EMULSION IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
8. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES & SPECIFICATIONS.
9. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAY WITH THE CITY OF PORTSMOUTH.
10. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
11. SEE BUILDING DRAWINGS FOR ALL CONCRETE PADS & SIDEWALKS ADJACENT TO BUILDING.
12. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS.
13. CONTRACTOR TO PROVIDE BACKFILL AND COMPACTION AT CURB LINE AFTER CONCRETE FORMS FOR SIDEWALKS AND PADS HAVE BEEN STRIPPED. COORDINATE WITH BUILDING CONTRACTOR.
14. COORDINATE ALL WORK ADJACENT TO BUILDING WITH BUILDING CONTRACTOR.
15. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
16. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
17. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
18. THE APPLICANT SHALL HAVE A SITE SURVEY CONDUCTED BY A RADIO COMMUNICATIONS CARRIER APPROVED BY THE CITY'S COMMUNICATIONS DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE POLICE AND RADIO CONFIGURATION. IF THE SITE SURVEY INDICATES THAT 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 OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR THE CITY.
19. ALL TREES TO BE PLANTED ARE TO BE INSTALLED UNDER THE SUPERVISION OF THE CITY OF PORTSMOUTH DPW USING STANDARD INSTALLATION METHODS.
20. THE APPLICATION SHALL PREPARE A CONSTRUCTION MITIGATION AND MANAGEMENT PLAN (CMMP) FOR REVIEW AND APPROVAL BY THE CITY'S LEGAL AND PLANNING DEPARTMENTS.

SITE DATA:

LOCATION:TAX MAP 216, LOT 5
230 COMMERCE WAY
PORTSMOUTH, NEW HAMPSHIRE

ZONING DISTRICT: OFFICE RESEARCH
WETLANDS OVERLAY
ALLOWED USE: PROFESSIONAL / BUSINESS OFFICE
VETERINARY CARE(1)

DIMENSIONAL REQUIREMENTS:	REQUIRED	PROVIDED
MINIMUM LOT AREA:	3 ACRES	±5.6 ACRES
MINIMUM STREET FRONTAGE:	300 FT	±675 FT
MAXIMUM BUILDING COVERAGE:	30%	±10%
MINIMUM OPEN SPACE:	30%	±52%
PROPOSED BUILDING MINIMUM SETBACKS:		
• FRONT:	50 FT	±412 FT
• SIDE:	75 FT	±76 FT
• REAR:	50 FT	±172 FT
PROPOSED BUILDING MAXIMUM HEIGHT:	60 FT	<60 FT

(1) - SPECIAL EXCEPTION FROM SECTION 10.440 FOR VETERINARY CARE USE GRANTED ON FEBRUARY 28, 2022.

PARKING REQUIREMENTS:	REQUIRED	PROVIDED
PARKING STALL LAYOUT:		
• STANDARD 90°	8.5' X 19'	8.5' X 19'
DRIVE AISLE WIDTH:		
• 90° (2-WAY TRAFFIC)	24 FT	24 FT
• 1-WAY TRAFFIC	14 FT	20 FT
PARKING SPACE REQUIREMENTS:	REQUIRED	PROVIDED
OFFICE: 1 / 350 SF		
= 50,000 SF / 350 SF/SPACE =	143 SPACES	
VETERINARY CARE: 1 / 500 SF		
= 25,000 SF / 500 SF/SPACE =	50 SPACES	
MINIMUM REQUIRED PARKING:	193 SPACES	
MAXIMUM PARKING (120% OF MINIMUM):	232 SPACES	204 SPACES(1)

(1) - INCLUDES 12 ADA PARKING SPACES

LEGEND

	PROPOSED EDGE OF PAVEMENT
	PROPOSED CURB
	PROPOSED BUILDING
	PROPOSED PAVEMENT SECTION
	PROPOSED CONCRETE
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
30'R	PROPOSED CURB RADIUS
VGC	PROPOSED VERTICAL GRANITE CURB
SGC	PROPOSED SLOPED GRANITE CURB

Last Save Date: May 24, 2022 10:25 AM By: CML
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Tighe&Bond

STATE OF NEW HAMPSHIRE — PATRICK M. CRIMMINS No. 12378 — LICENSED PROFESSIONAL ENGINEER — 5-24-22

STATE OF NEW HAMPSHIRE — NEIL A. HANSEN No. 15227 — LICENSED PROFESSIONAL ENGINEER — 5/24/22

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

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A	5/24/2022	TAC Submission

PROJECT NO:	K0076-038
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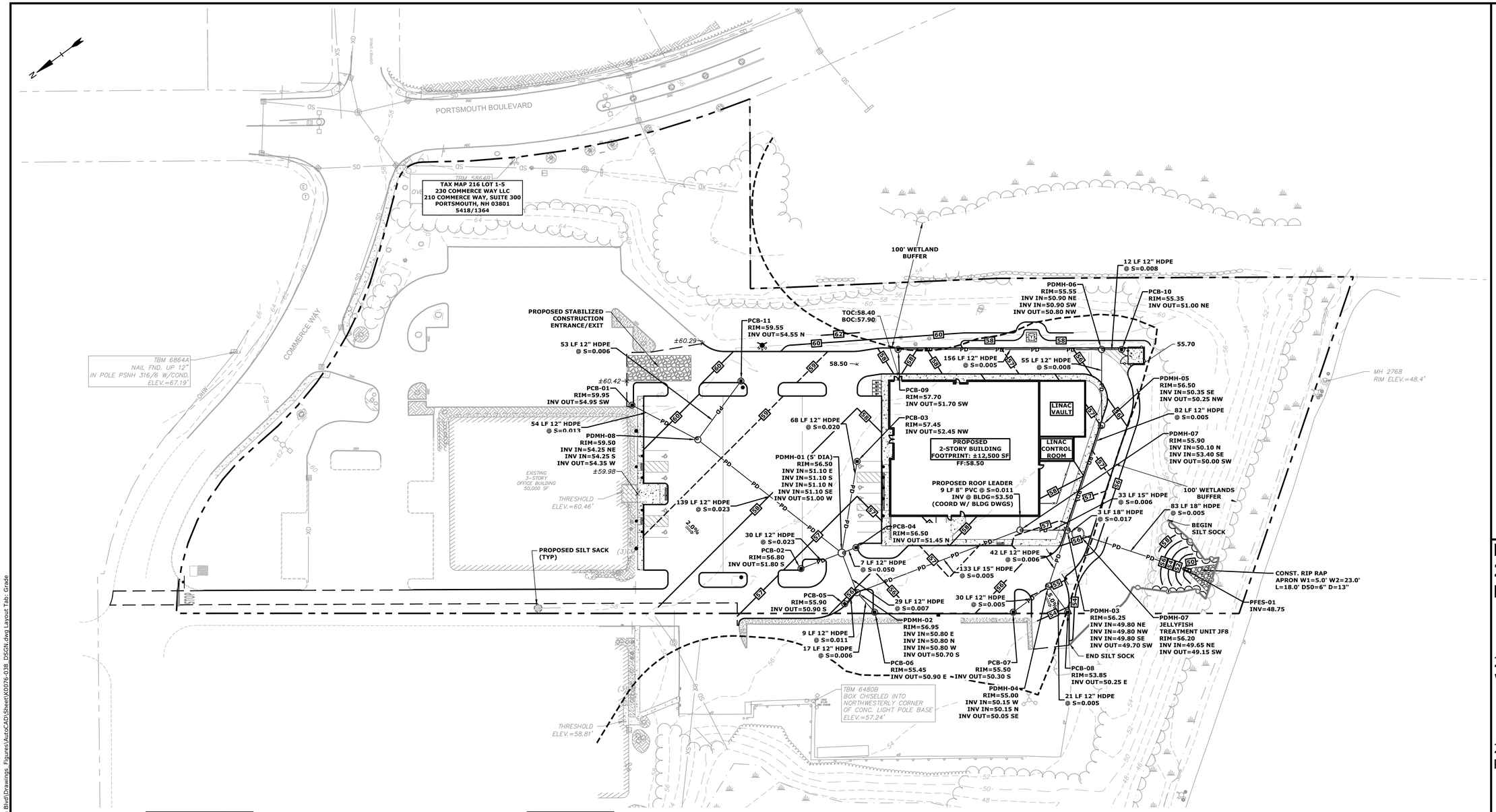
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

SITE PLAN

SCALE: AS SHOWN

C-102



GRADING AND DRAINAGE NOTES:

1. COMPACTION REQUIREMENTS:
   - BELOW PAVED OR CONCRETE AREAS 95%
   - TRENCH BEDDING MATERIAL AND SAND BLANKET BACKFILL 95%
   - BELOW LOAM AND SEED AREAS 90%
   - * ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D-1557, METHOD C FIELD DENSITY TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM D-1556 OR ASTM-2922.
2. ALL STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HANCOR HI-Q, ADS N-12 OR EQUAL), UNLESS OTHERWISE SPECIFIED.
3. SEE UTILITY PLAN FOR ALL SITE UTILITY INFORMATION.
4. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
5. CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE AND LAWN AREAS FREE OF LOW SPOTS AND PONDING AREAS. CRITICAL AREAS INCLUDE BUILDING ENTRANCES, EXITS, RAMPS AND LOADING DOCK AREAS ADJACENT TO THE BUILDING.
6. CONTRACTOR SHALL THOROUGHLY CLEAN ALL CATCH BASINS AND DRAIN LINES, WITHIN THE LIMIT OF WORK, OF SEDIMENT IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
7. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
8. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED FERTILIZER AND MULCH.
9. ALL STORM DRAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NHDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, LATEST EDITION.
10. ALL PROPOSED CATCH BASINS SHALL BE EQUIPPED WITH OIL/GAS SEPARATOR HOODS AND 4' SUMPS.
11. ALL WORK SHALL CONFORM TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS, STANDARD SPECIFICATIONS AND WITH THE STATE OF NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS OF ROAD AND BRIDGE CONSTRUCTION", CURRENT EDITION.
12. CONTRACTOR TO SUBMIT AS-BUILT PLANS IN DIGITAL FORMAT (.DWG AND .PDF FILES) ON DISK TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR.
13. SEE EXISTING CONDITIONS PLAN FOR BENCH MARK INFORMATION.
14. AREAS DISTURBED WITHIN THE 25' VEGETATED BUFFER BY HEADWALLS AND CULVERT CONSTRUCTION SHALL BE LOAMED, SEEDED WITH NEW ENGLAND WILDLIFE AND CONSERVATION SEED MIX AND STABILIZED WITH JUTE MESH.

EROSION CONTROL NOTES:

1. INSTALL EROSION CONTROL BARRIERS AS SHOWN AS FIRST ORDER OF WORK.
2. SEE GENERAL EROSION CONTROL NOTES ON "EROSION CONTROL NOTES & DETAILS SHEET".
3. PROVIDE INLET PROTECTION AROUND ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AS WELL AS CATCH BASINS/CURB INLETS THAT RECEIVE RUNOFF FROM CONSTRUCTION ACTIVITIES. MAINTAIN FOR THE DURATION OF THE PROJECT.
4. INSTALL STABILIZED CONSTRUCTION EXIT(S).
5. INSPECT INLET PROTECTION AND PERIMETER EROSION CONTROL MEASURES DAILY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
6. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, SEED, FERTILIZER AND MULCH.
7. CONSTRUCT EROSION CONTROL BLANKET ON ALL SLOPES STEEPER THAN 3:1.
8. PRIOR TO ANY WORK OR SOIL DISTURBANCE COMMENCING ON THE SUBJECT PROPERTY, INCLUDING MOVING OF EARTH, THE APPLICANT SHALL INSTALL ALL EROSION AND SILTATION MITIGATION AND CONTROL MEASURES AS REQUIRED BY STATE AND LOCAL PERMITS AND APPROVALS.
9. CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST AND WIND EROSION THROUGHOUT THE CONSTRUCTION PERIOD. DUST CONTROL MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, SPRINKLING WATER ON UNSTABLE SOILS SUBJECT TO ARID CONDITIONS.
10. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
11. ALL CATCH BASIN SUMPS AND PIPING SHALL BE THOROUGHLY CLEANED TO REMOVE ALL SEDIMENT AND DEBRIS AFTER THE PROJECT HAS BEEN FULLY PAVED.
12. TEMPORARY SOIL STOCKPILE SHALL BE SURROUNDED WITH PERIMETER CONTROLS AND SHALL BE STABILIZED BY TEMPORARY EROSION CONTROL SEEDING. STOCKPILE AREAS TO BE LOCATED AS FAR AS POSSIBLE FROM THE DELINEATED EDGE OF WETLANDS.
13. SAFETY FENCING SHALL BE PROVIDED AROUND STOCKPILES OVER 10 FT.
14. CONCRETE TRUCKS WILL BE REQUIRED TO WASH OUT (IF NECESSARY) SHOOTS ONLY WITHIN AREAS WHERE CONCRETE HAS BEEN PLACED. NO OTHER WASH OUT WILL BE ALLOWED.
15. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.

LEGEND

- 50 — PROPOSED CONTOUR LINE
- 51 — PROPOSED CONTOUR LINE
- PD PD — PROPOSED DRAIN LINE
- PROPOSED SILT SOCK
- INLET PROTECTION SILT SACK
- PROPOSED CATCHBASIN
- PROPOSED DRAIN MANHOLE

Tighe&Bond

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CHECKED:	NAH
APPROVED:	PMC

GRADING, DRAINAGE & EROSION CONTROL PLAN

SCALE: AS SHOWN

C-103

Last Save Date: May 24, 2022 10:25 AM By: CML
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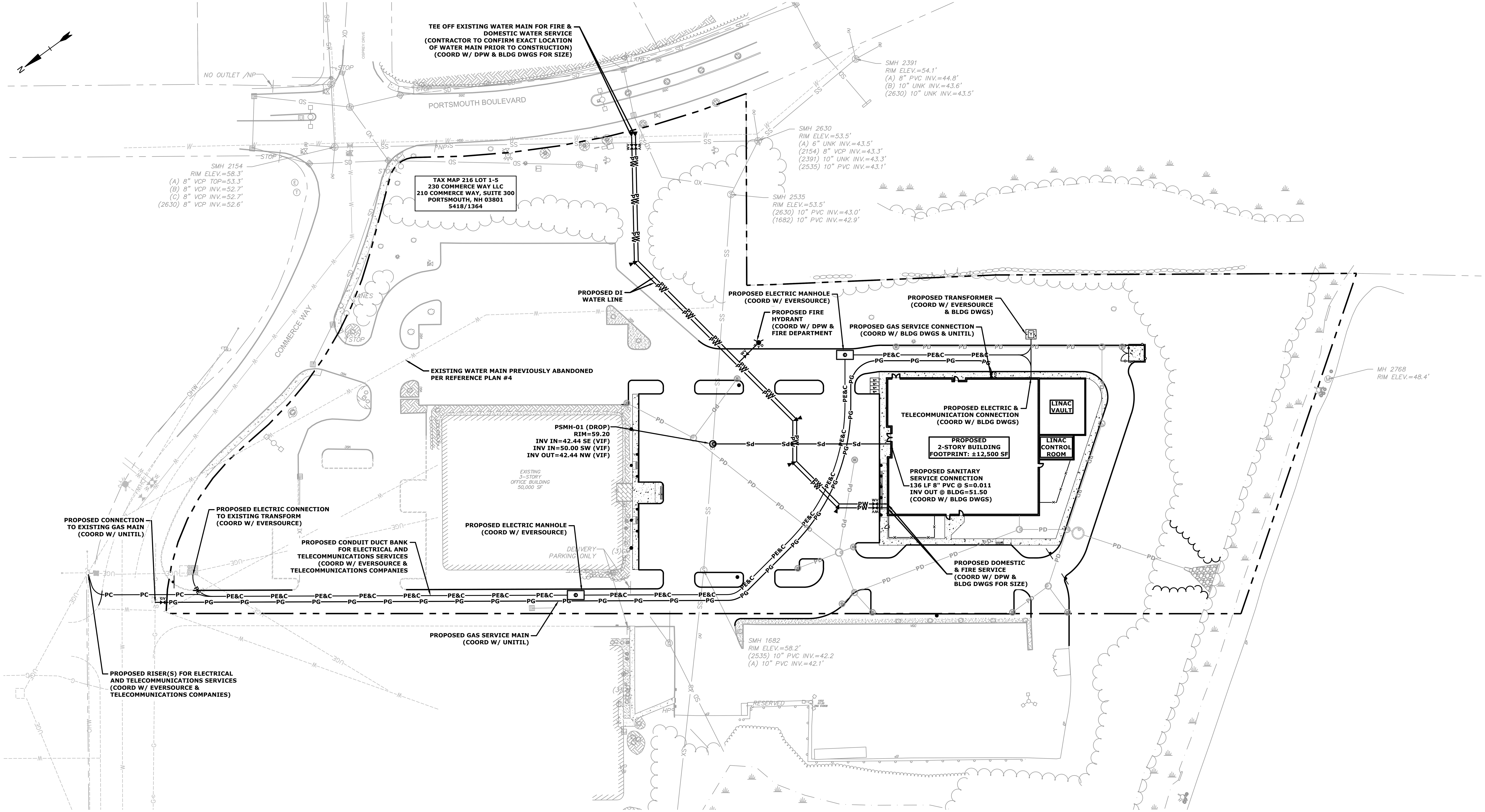
T&B File Location: J:\K\K0076 The Kane Company\ General Proposals\0076-038 Portsmouth Blvd\Drawings_Figures\AutoCAD\Sheet\K0076-038_DSGN.dwg Layout Tab: Grade



Last Save Date: May 24, 2022 10:25 AM By: CML
Plot Date: Tuesday, May 24, 2022 Plotted By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings_Figures\AutoCAD\Sheet\K0076-038_DSGN.dwg Layout Tab: Util

UTILITY NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES, ANTICIPATE CONFLICTS, REPAIR EXISTING UTILITIES, AND RELOCATE EXISTING UTILITIES REQUIRED TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
2. COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY COMPANY.
   - NATURAL GAS - UNITIL
   - WATER/SEWER - CITY OF PORTSMOUTH
   - ELECTRIC - EVERSOURCE
   - COMMUNICATIONS - CONSOLIDATED COMMUNICATIONS & COMCAST
3. SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
4. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
5. THE APPLICANT SHALL COORDINATE WITH THE CITY'S CONSULTANT TO COMPLETE A WATER CAPACITY ANALYSIS USING THE CITY'S CAPACITY MODELING AND SHALL MODIFY THE WATER SERVICE DESIGN AS REQUIRED. THE PRIVATE WATER LINE THAT CURRENTLY FEEDS THE DEVELOPMENT LOT SHALL BE EITHER REPLACED OR ABANDONED DEPENDING ON THE OUTCOME OF THE STUDY. ALL MODIFICATIONS SHALL BE REVIEWED AND APPROVED BY THE DPW AND THE FIRE DEPARTMENT.
6. PROPOSED WATER MAIN WILL REMAIN PRIVATE AND A PRIVATE WATER MAIN MAINTENANCE AGREEMENT WITH THE CITY IS REQUIRED.
7. ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, CEMENT LINED DUCTILE IRON PIPE.
8. ALL WATER MAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION PRIOR TO ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE CHLORINATION AND TESTING WITH THE CITY OF PORTSMOUTH WATER DEPARTMENT.
9. ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
10. COORDINATE ALL WORK WITHIN PUBLIC RIGHT OF WAYS WITH THE CITY OF PORTSMOUTH.
11. CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
12. CONNECTION TO EXISTING WATER MAIN SHALL BE CONSTRUCTED TO CITY OF PORTSMOUTH STANDARDS.
13. EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE DEPARTMENT OF PUBLIC WORKS STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
14. ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
15. THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH THE BUILDING DRAWINGS AND THE APPLICABLE UTILITY COMPANIES.
16. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
17. ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
18. THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATES TO THE OWNER PRIOR TO THE COMPLETION OF THIS PROJECT.
19. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
20. CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
21. A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS.
22. THE CONTRACTOR SHALL CONTACT "DIG-SAFE" 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL HAVE THE "DIG-SAFE" NUMBER ON SITE AT ALL TIMES.
23. CONTRACTOR TO SUBMIT AS-BUILT PLANS ON REPRODUCIBLE MYLARS AND IN DIGITAL FORMAT (.DWG FILES) TO THE OWNER AND ENGINEER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A NEW HAMPSHIRE LICENSED LAND SURVEYOR OR PROFESSIONAL ENGINEER.
24. SAW CUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN
25. HYDRANTS, GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
26. COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.
27. ALL SEWER PIPE WITH LESS THAN 6' OF COVER IN PAVED AREAS OR LESS THAT 4' OF COVER IN UNPAVED AREAS SHALL BE INSULATED.
28. CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
29. CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH THE UTILITY COMPANY AND AFFECTED ABUTTER.
30. SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER.
31. CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
32. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.

LEGEND

—PS—PS—PS—	PROPOSED SANITARY SEWER
—PW—PW—PW—	PROPOSED WATER
—PG—PG—PG—	PROPOSED GAS
—PE&C—PE&C—	PROPOSED UNDERGROUND ELECTRIC & COMMUNICATIONS
(S)	PROPOSED SEWER MANHOLE
WV	PROPOSED WATER VALVE
HYD	PROPOSED HYDRANT
GV	PROPOSED GAS VALVE
(E)	PROPOSED ELECTRIC MANHOLE
●	PROPOSED LIGHT POLE BASE
BLDG	BUILDING
TYP	TYPICAL
COORD	COORDINATE
VIF	VERIFY IN FIELD

Tighe&Bond

STATE OF NEW HAMPSHIRE
PATRICK M. CRIMMINS
No. 1237
LICENSED PROFESSIONAL ENGINEER
5-24-22

STATE OF NEW HAMPSHIRE
NEIL A. HANSEN
No. 15227
LICENSED PROFESSIONAL ENGINEER
5/24/22

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

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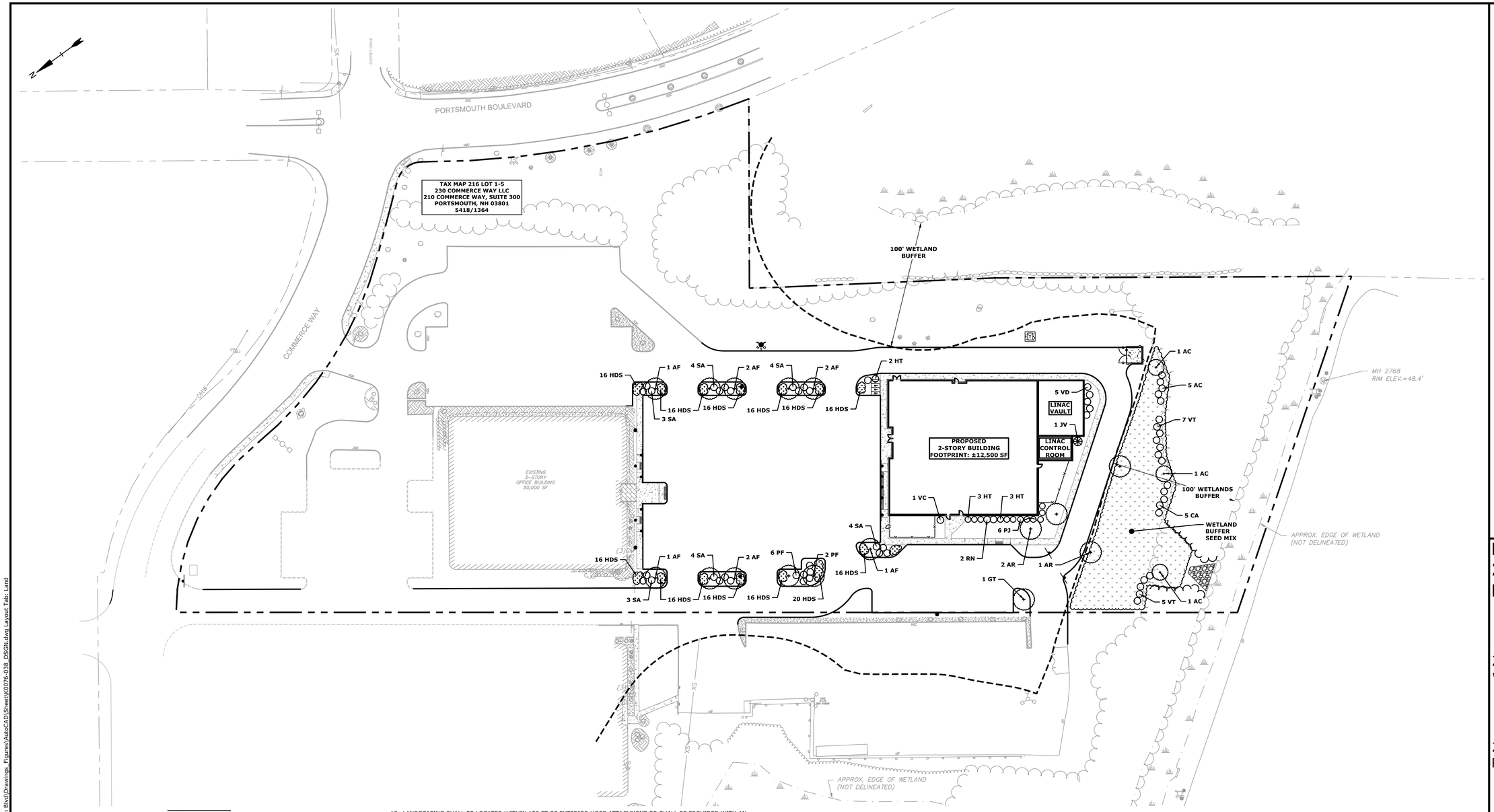
UTILITY PLAN

SCALE: AS SHOWN

C-104



LANDSCAPE NOTES:

1. THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR, AND REPLACEMENT OF ALL REQUIRED SCREENING AND LANDSCAPE MATERIALS.
2. ALL REQUIRED PLANT MATERIALS SHALL BE 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.
3. 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.
4. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THIS PLAN. NO SUBSTITUTIONS WILL BE PERMITTED UNLESS APPROVED BY OWNER. ALL PLANTS SHALL BE NURSERY GROWN.
5. ALL PLANTS SHALL BE NURSERY GROWN AND PLANTS AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS, INCLUDING BUT NOT LIMITED TO SIZE, HEALTH, SHAPE, ETC., AND SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO ARRIVAL ON-SITE AND AFTER PLANTING.
6. PLANT STOCK SHALL BE GROWN WITHIN THE HARDINESS ZONES 4 THRU 7 ESTABLISHED BY THE PLANT HARDINESS ZONE MAP, MISCELLANEOUS PUBLICATIONS NO. 814, AGRICULTURAL RESEARCH SERVICE, UNITED STATES DEPARTMENT AGRICULTURE, LATEST REVISION.
7. PLANT MATERIAL SHALL BARE THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
8. THE NUMBER OF EACH INDIVIDUAL PLANT TYPE AND SIZE PROVIDED IN THE PLANT LIST OR ON THE PLAN IS FOR THE CONTRACTOR'S CONVENIENCE ONLY. IF A DISCREPANCY EXISTS BETWEEN THE NUMBER OF PLANTS ON THE LABEL AND THE NUMBER OF SYMBOLS SHOWN ON THE DRAWINGS, THE GREATER NUMBER SHALL APPLY.
9. NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
10. THE CONTRACTOR SHALL LOCATE, VERIFY AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWN WORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN PLANTING AND UTILITIES SHALL IMMEDIATELY BE REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
11. ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, SHALL RECEIVE 6" OF LOAM AND SEED. NO FILL SHALL BE PLACED IN ANY WETLAND AREA.
12. THREE INCHES (3") OF BARK MULCH IS TO BE USED AROUND THE TREE AND SHRUB PLANTING AS SPECIFIED IN THE DETAILS. WHERE BARK MULCH IS TO BE USED IN A CURBED ISLAND THE BARK MULCH SHALL MEET THE TOP INSIDE EDGE OF THE CURB. ALL OTHER AREAS SHALL RECEIVE 6" INCHES OF LOAM AND SEED.
13. LANDSCAPING SHALL BE LOCATED WITHIN 150 FT OF EXTERIOR HOSE ATTACHMENT OR SHALL BE PROVIDED WITH AN IRRIGATION SYSTEM.
14. SEE PLANTING DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
15. TREE STAKES SHALL REMAIN IN PLACE FOR NO LESS THAN 6 MONTHS AND NO MORE THAN 1 YEAR.
16. PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 1ST. NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT.
17. PARKING AREA PLANTED ISLANDS TO HAVE MINIMUM OF 1'-0" TOPSOIL PLACED TO WITHIN 3 INCHES OF THE TOP OF CURB ELEVATION. REMOVE ALL CONSTRUCTION DEBRIS BEFORE PLACING TOPSOIL.
18. TREES SHALL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 'TREES, SHRUBS AND OTHER WOOD PLANT MAINTENANCE STANDARD PRACTICES.
19. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN, IF NECESSARY DURING THE FIRST GROWING SEASON. LANDSCAPE CONTRACTOR SHALL COORDINATE WATERING SCHEDULE WITH OWNER DURING THE ONE (1) YEAR GUARANTEE PERIOD.
20. EXISTING TREES AND SHRUBS SHOWN ON THE PLAN ARE TO REMAIN UNDISTURBED. ALL EXISTING TREES AND SHRUBS SHOWN TO REMAIN ARE TO BE PROTECTED WITH A 4-FOOT SNOW FENCE PLACED AT THE DRIP LINE OF THE BRANCHES OR AT 8 FEET MINIMUM FROM THE TREE TRUNK. ANY EXISTING TREE OR SHRUB SHOWN TO REMAIN, WHICH IS REMOVED DURING CONSTRUCTION, SHALL BE REPLACED BY A TREE OF COMPARABLE SIZE AND SPECIES TREE OR SHRUB.
21. THE CONTRACTOR SHALL GUARANTEE ALL PLANTINGS TO BE IN GOOD HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF ONE (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE OF SUBSTANTIAL COMPLETION. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE LANDSCAPE ARCHITECT, SHOW LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE YEAR PERIOD SHALL BE REPLACED BY THE CONTRACTOR.
22. UPON EXPIRATION OF THE CONTRACTOR'S ONE YEAR GUARANTEE PERIOD, THE OWNER SHALL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS OF DROUGHT
23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLANTING AND LAWNS AGAINST DAMAGE FROM ONGOING CONSTRUCTION. THIS PROTECTION SHALL BEGIN AT THE TIME THE PLANT IS INSTALLED AND CONTINUE UNTIL THE FORMAL ACCEPTANCE OF ALL THE PLANTINGS.
24. PRE-PURCHASE PLANT MATERIAL AND ARRANGE FOR DELIVERY TO MEET PROJECT SCHEDULE AS REQUIRED IT MAY BE NECESSARY TO PRE-DIG CERTAIN SPECIES WELL IN ADVANCE OF ACTUAL PLANTING DATES.

PLANT SCHEDULE				
CODE	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES				
AC	AMELANCHIER CANADENSIS	SERVICEBERRY	5' - 6'	B & B
AF	ACER FREEMANII	AUTUM BLAZE MAPLE	2-1/2" - 3"	CALIPER
GT	GLEDITSIA TRIACANTHOS 'SHADEMASTER'	SHADEMASTER HONEY LOCUST	2.5" - 3"	CALIPER
JV	JUNIPERUS VIRGINIANA 'EMERALD SENTINEL'	EMERALD SENTINEL RED CEDAR	6' - 7'	B & B
SHRUBS				
SA	SPIREA 'ANTHONY WATERER'	ANTHONY WATERER SPIREA	3 GAL	
PF	POTENTILLA FRUTICOSA 'PRIMROSE BEAUTY'	PRIMROSE BEAUTY CINQUEFOIL	3 GAL	
CA	CORNUS AMMOMUM	SILKY DOGWOOD	3 GAL	
VT	VIBURNUM TRILOBUM	AMERICAN CRANBERRY	5 GAL	
VC	VIBURNUM CARLESII 'CAYUGA'	CAYUGA MAYFLOWER	5 GAL	
HT	HYDRANGEA 'TWIST & SHOUT'	TWIST & SHOUT HYDRANGEA	3 GAL	
RN	RHODODENDRON 'NOVA ZEMBLA'	NOVA ZEMBLA RHODODENDRON	2' - 2.5'	B & B
RP	RHODODENDRON 'PJM PINK'	PINK PJM RHODODENDRON	2' - 2.5'	B & B
VD	VIBURNUM DENTATUM	ARROWOOD VIBURNUM	4' - 4.5'	B & B
HSD	HEMEROCALIS 'STELA D'ORO'	STELA D'ORO DAYLILY	1 GAL	18" OC

LEGEND

- PROPOSED DECIDUOUS TREE (W/ BARK MULCH)
- PROPOSED DECICUOUS TREE (W/O BARK MULCH)
- PROPOSED SHRUBS (W/ BARK MULCH)
- PROPOSED SHRUBS (W/O BARK MULCH)
- PROPOSED GROUND COVER
- PROPOSED EVERGREEN TREE
- PROPOSED EVERGREEN SHRUB

WETLAND BUFFER SEED MI: NEW ENGLAND CONSERVATION/WILDLIFE MIX AS PROVIDED BY NEW ENGLAND PLANTS, AMHERST MA (NEWP.COM) SEEDED @ 25 LB/AC

Tighe&Bond

STATE OF NEW HAMPSHIRE – PATRICK M. CUMMINS No. 12377 LICENSED PROFESSIONAL ENGINEER – 5-24-22

STATE OF NEW HAMPSHIRE – NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER – 5/24/22

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
A	5/24/2022	TAC Submission

PROJECT NO:	K0076-038
DATE:	5/24/2022
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DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

LANDSCAPE PLAN

SCALE: AS SHOWN

C-105

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GENERAL PROJECT INFORMATION

PROJECT OWNER:	230 COMMERCE WAY, LLC 210 COMMERCE WAY PORTSMOUTH, NEW HAMPSHIRE 03801
PROJECT NAME:	PROPOSED 2-STORY BUILDING
PROJECT ADDRESS:	230 COMMERCE WAY PORTSMOUTH, NEW HAMPSHIRE 03801
PROJECT LATITUDE:	43°-08'-14"N
PROJECT LONGITUDE:	70°-56'-22"W

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF 2 STORY BUILDING WITH ASSOCIATED SITE IMPROVEMENTS THE WORK IS ANTICIPATED TO START IN FALL OF 2022, AND BE COMPLETED BY SUMMER OF 2024.

DISTURBED AREA

THE TOTAL AREA TO BE DISTURBED IS APPROXIMATELY 2.25 ACRES.

SOIL CHARACTERISTICS

BASED ON THE NRCS WEB SOIL SURVEY FOR THE SOILS ON SITE CONSIST OF CHATFIELD-HOLLIS-CANTON COMPLEX AND URBAN LAND SOILS WHICH ARE MODERATELY DRAINED SOILS.

NAME OF RECEIVING WATERS

THE STORM WATER RUNOFF WILL ULTIMATELY DISCHARGE INTO AN UNNAMED WETLAND. PRIOR TO DISCHARGING TO THE WETLAND, STORMWATER RUNOFF WILL BE COLLECTED AND TREATED BY VARIOUS TREATMENT SWALES, SEDIMENTATION BASINS AND A GRAVEL WETLAND.

CONSTRUCTION SEQUENCE OF MAJOR ACTIVITIES:

1. CUT AND CLEAR TREES.
2. CONSTRUCT TEMPORARY AND PERMANENT SEDIMENT, EROSION AND DETENTION CONTROL FACILITIES. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH MOVING OPERATIONS THAT WILL INFLUENCE STORMWATER RUNOFF SUCH AS:
    - CONTROL OF DUST
    - NEARNESS OF CONSTRUCTION SITE TO RECEIVING WATERS
    - CONSTRUCTION DURING LATE WINTER AND EARLY SPRING
3. CLEAR AND DISPOSE OF DEBRIS.
4. CONSTRUCT TEMPORARY CULVERTS AND DIVERSION CHANNELS AS REQUIRED.
3. ALL PERMANENT DITCHES, SWALES, DETENTION, RETENTION AND SEDIMENTATION BASINS TO BE STABILIZED USING THE VEGETATIVE AND NON-STRUCTURAL BMPS PRIOR TO DIRECTING RUNOFF TO THEM.
4. GRADE AND GRAVEL ROADWAYS AND PARKING AREAS - ALL ROADS AND PARKING AREA SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
5. BEGIN PERMANENT AND TEMPORARY SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED AND MULCHED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
6. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, PERIMETER EROSION CONTROL MEASURES, SEDIMENT TRAPS, ETC., MULCH AND SEED AS REQUIRED.
7. FINISH PAVING ALL ROADWAYS AND PARKING LOTS.
8. INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES.
9. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
10. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES.

SPECIAL CONSTRUCTION NOTES:

1. THE CONSTRUCTION SEQUENCE MUST LIMIT THE DURATION AND AREA OF DISTURBANCE.
2. THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

EROSION CONTROL NOTES:

1. ALL EROSION CONTROL MEASURES AND PRACTICES SHALL CONFORM TO THE "NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3: EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION" PREPARED BY THE NHDES.
2. PRIOR TO ANY WORK OR SOIL DISTURBANCE, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR EROSION CONTROL MEASURES AS REQUIRED IN THE PROJECT MANUAL.
3. CONTRACTOR SHALL INSTALL TEMPORARY EROSION CONTROL BARRIERS, INCLUDING HAY BALES, SILT FENCES, MULCH BERMS, SILT SACKS AND SILT SOCKS AS SHOWN IN THESE DRAWINGS AS THE FIRST ORDER OF WORK.
4. SILT SACK INLET PROTECTION SHALL BE INSTALLED IN ALL EXISTING AND PROPOSED CATCH BASIN INLETS WITHIN THE WORK LIMITS AND BE MAINTAINED FOR THE DURATION OF THE PROJECT.
5. PERIMETER CONTROLS INCLUDING SILT FENCES, MULCH BERM, SILT SOCK, AND/OR HAY BALE BARRIERS SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT UNTIL NON-PAVED AREAS HAVE BEEN STABILIZED.
6. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF CONSTRUCTION.
7. ALL DISTURBED AREAS NOT OTHERWISE BEING TREATED SHALL RECEIVE 6" LOAM, SEED AND FERTILIZER.
8. INSPECT ALL INLET PROTECTION AND PERIMETER CONTROLS WEEKLY AND AFTER EACH RAIN STORM OF 0.25 INCH OR GREATER. REPAIR/MODIFY PROTECTION AS NECESSARY TO MAXIMIZE EFFICIENCY OF FILTER. REPLACE ALL FILTERS WHEN SEDIMENT IS 1/3 THE FILTER HEIGHT.
9. CONSTRUCT EROSION CONTROL BLANKETS ON ALL SLOPES STEEPER THAN 3:1.

STABILIZATION:

1. AN AREA SHALL BE CONSIDERED STABLE WHEN ONE OF THE FOLLOWING HAS OCCURRED:
    A. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
    B. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
    C. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED;
    D. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.;
    E. IN AREAS TO BE PAVED, "STABLE" MEANS THAT BASE COURSE GRAVELS MEETING THE REQUIREMENTS OF NHDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION, 2016, ITEM 304.2 HAVE BEEN INSTALLED.
2. WINTER STABILIZATION PRACTICES:
    A. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS;
    B. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS;
    C. AFTER NOVEMBER 15, 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, OR IF CONSTRUCTION IS TO CONTINUE THROUGH THE WINTER SEASON BE CLEARED OF ANY ACCUMULATED SNOW AFTER EACH STORM EVENT;
3. STABILIZATION SHALL BE INITIATED ON ALL LOAM STOCKPILES, AND DISTURBED AREAS, WHERE CONSTRUCTION ACTIVITY SHALL NOT OCCUR FOR MORE THAN TWENTY-ONE (21) CALENDAR DAYS BY THE FOURTEENTH (14TH) DAY AFTER CONSTRUCTION ACTIVITY HAS PERMANENTLY OR TEMPORARILY CEASED IN THAT AREA. STABILIZATION MEASURES TO BE USED INCLUDE:
    A. TEMPORARY SEEDING;
    B. MULCHING.
4. WHEN CONSTRUCTION ACTIVITY PERMANENTLY OR TEMPORARILY CEASES WITHIN 100 FEET OF NEARBY SURFACE WATERS OR DELINEATED WETLANDS, THE AREA SHALL BE STABILIZED WITHIN SEVEN (7) DAYS OR PRIOR TO A RAIN EVENT. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN THESE AREAS, SILT FENCES, MULCH BERMS, HAY BALE BARRIERS AND ANY EARTH/DIKES SHALL BE REMOVED ONCE PERMANENT MEASURES ARE ESTABLISHED.
5. DURING CONSTRUCTION, RUNOFF WILL BE DIVERTED AROUND THE SITE WITH EARTH DIKES, PIPING OR STABILIZED CHANNELS WHERE POSSIBLE. SHEET RUNOFF FROM THE SITE WILL BE FILTERED THROUGH SILT FENCES, MULCH BERMS, HAY BALE BARRIERS, OR SILT SOCKS. ALL STORM DRAIN BASIN INLETS SHALL BE PROVIDED WITH FLARED END SECTIONS AND TRASH RACKS. THE SITE SHALL BE STABILIZED FOR THE WINTER BY NOVEMBER 15.

DUST CONTROL:

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTROL DUST THROUGHOUT THE CONSTRUCTION PERIOD.
2. DUST CONTROL METHODS SHALL INCLUDE, BUT BE NOT LIMITED TO SPRINKLING WATER ON EXPOSED AREAS, COVERING LOADED DUMP TRUCKS LEAVING THE SITE, AND TEMPORARY MULCHING.
3. DUST CONTROL MEASURES SHALL BE UTILIZED SO AS TO PREVENT THE MIGRATION OF DUST FROM THE SITE TO ABUTTING AREAS.

STOCKPILES:

1. LOCATE STOCKPILES A MINIMUM OF 50 FEET AWAY FROM CATCH BASINS, SWALES, AND CULVERTS.
2. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY EROSION CONTROL MEASURES PRIOR TO THE ONSET OF PRECIPITATION.
3. PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIALS FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.
4. PROTECT ALL STOCKPILES FROM STORMWATER RUN-OFF USING TEMPORARY EROSION CONTROL MEASURES SUCH AS BERMS, SILT SOCK, OR OTHER APPROVED PRACTICE TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILES.

OFF SITE VEHICLE TRACKING:

1. THE CONTRACTOR SHALL CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE(S) PRIOR TO ANY EXCAVATION ACTIVITIES.

VEGETATION:

1. TEMPORARY GRASS COVER:
    A. SEEDBED PREPARATION:
        a. 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;
    B. 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;
    C. MAINTENANCE:
        a. TEMPORARY SEEDING 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.).
2. VEGETATIVE PRACTICE:
    A. FOR PERMANENT MEASURES AND PLANTINGS:
        a. LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF THREE (3) TONS PER ACRE IN ORDER TO PROVIDE A PH VALUE OF 5.5 TO 6.5;
        b. FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 800 POUNDS PER ACRE OF 10-20-20 FERTILIZER;
        c. SOIL CONDITIONERS AND FERTILIZER SHALL BE APPLIED AT THE RECOMMENDED RATES AND SHALL BE THOROUGHLY WORKED INTO THE LOAM. LOAM SHALL BE RAKED UNTIL THE SURFACE IS FINELY PULVERIZED, SMOOTH AND EVEN, AND THEN COMPACTED TO AN EVEN SURFACE CONFORMING TO THE REQUIRED LINES AND GRADES WITH APPROVED ROLLERS WEIGHING BETWEEN 4-1/2 POUNDS AND 5-1/2 POUNDS PER INCH OF WIDTH;
        d. SEED SHALL BE SOWN AT THE RATE SHOWN BELOW. SOWING SHALL BE DONE ON A CALM, DRY DAY, PREFERABLY BY MACHINE, BUT IF BY HAND, ONLY BY EXPERIENCED WORKMEN. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH;
        e. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AS INDICATED ABOVE;
        f. THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED WITH GRASS SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED;
        g. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE SEEDED AREAS UNTIL ACCEPTED;
        h. A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE APPLIED AT THE INDICATED RATE:

SEED MIX	APPLICATION RATE
CREEPING RED FESCUE	50 LBS/ACRE
KENTUCKY BLUEGRASS	100 LBS/ACRE
PERENNIAL RY GRASS	50 LBS/ACRE

IN NO CASE SHALL THE WEED CONTENT EXCEED ONE (1) PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH STATE AND FEDERAL SEED LAWS. SEEDING SHALL BE DONE NO LATER THAN SEPTEMBER 15. IN NO CASE SHALL SEEDING TAKE PLACE OVER SNOW.

3. DORMANT SEEDING (SEPTEMBER 15 TO FIRST SNOWFALL):
    A. FOLLOW PERMANENT MEASURES SLOPE, LIME, FERTILIZER AND GRADING REQUIREMENTS. APPLY SEED MIXTURE AT TWICE THE INDICATED RATE. APPLY MULCH AS INDICATED FOR PERMANENT MEASURES.

CONCRETE WASHOUT AREA:

1. THE FOLLOWING ARE THE ONLY NON-STORMWATER DISCHARGES ALLOWED. ALL OTHER NON-STORMWATER DISCHARGES ARE PROHIBITED ON SITE:
    A. THE CONCRETE DELIVERY TRUCKS SHALL, WHENEVER POSSIBLE, USE WASHOUT FACILITIES AT THEIR OWN PLANT OR DISPATCH FACILITY;
    B. IF IT IS NECESSARY, SITE CONTRACTOR SHALL DESIGNATE SPECIFIC WASHOUT AREAS AND DESIGN FACILITIES TO HANDLE ANTICIPATED WASHOUT WATER;
    C. CONTRACTOR SHALL LOCATE WASHOUT AREAS AT LEAST 150 FEET AWAY FROM STORM DRAINS, SWALES AND SURFACE WATERS OR DELINEATED WETLANDS;
    D. INSPECT WASHOUT FACILITIES DAILY TO DETECT LEAKS OR TEARS AND TO IDENTIFY WHEN MATERIALS NEED TO BE REMOVED.

ALLOWABLE NON-STORMWATER DISCHARGES:

1. FIRE-FIGHTING ACTIVITIES;
2. FIRE HYDRANT FLUSHING;
3. WATERS USED TO WASH VEHICLES WHERE DETERGENTS ARE NOT USED;
4. WATER USED TO CONTROL DUST;
5. POTABLE WATER INCLUDING UNCONTAMINATED WATER LINE FLUSHING;
6. ROUTINE EXTERNAL BUILDING WASH DOWN WHERE DETERGENTS ARE NOT USED;
7. PAVEMENT WASH WATERS WHERE DETERGENTS ARE NOT USED;
8. UNCONTAMINATED AIR CONDITIONING/COMPRESSOR CONDENSATION;
9. UNCONTAMINATED GROUND WATER OR SPRING WATER;
10. FOUNDATION OR FOOTING DRAINS WHICH ARE UNCONTAMINATED;
11. UNCONTAMINATED EXCAVATION DEWATERING;
12. LANDSCAPE IRRIGATION.

WASTE DISPOSAL:

1. WASTE MATERIAL:
    A. ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER;
    B. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE;
    C. ALL PERSONNEL SHALL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE SUPERINTENDENT.
2. HAZARDOUS WASTE:
    A. ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER;
    B. SITE PERSONNEL SHALL BE INSTRUCTED IN THESE PRACTICES BY THE SUPERINTENDENT.
3. SANITARY WASTE:
    A. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

SPILL PREVENTION:

1. CONTRACTOR SHALL BE FAMILIAR WITH SPILL PREVENTION MEASURES REQUIRED BY LOCAL, STATE AND FEDERAL AGENCIES. AT A MINIMUM, CONTRACTOR SHALL FOLLOW THE BEST MANAGEMENT SPILL PREVENTION PRACTICES OUTLINED BELOW.
2. THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES DURING CONSTRUCTION TO STORMWATER RUNOFF:
    A. GOOD HOUSEKEEPING - THE FOLLOWING GOOD HOUSEKEEPING PRACTICE SHALL BE FOLLOWED ON SITE DURING CONSTRUCTION:
        a. ONLY SUFFICIENT AMOUNTS OF PRODUCTS TO DO THE JOB SHALL BE STORED ON SITE;
        b. ALL MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE;
        c. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED;
        d. THE SITE SUPERINTENDENT SHALL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS;
        e. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER;
        f. WHENEVER POSSIBLE ALL OF A PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
    B. HAZARDOUS PRODUCTS - THE FOLLOWING PRACTICES SHALL BE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS:
        g. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE;
        h. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED FOR IMPORTANT PRODUCT INFORMATION;
        i. SURPLUS PRODUCT THAT MUST BE DISPOSED OF SHALL BE DISCARDED ACCORDING TO THE MANUFACTURER'S RECOMMENDED METHODS OF DISPOSAL.
    C. PRODUCT SPECIFIC PRACTICES - THE FOLLOWING PRODUCT SPECIFIC PRACTICES SHALL BE FOLLOWED ON SITE:
        a. PETROLEUM PRODUCTS:
            - ALL ON SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE LEAKAGE;
            - PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT BASED SUBSTANCES USED ON SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
        b. FERTILIZERS:
            - FERTILIZERS USED SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS DIRECTED BY THE SPECIFICATIONS;
            - ONCE APPLIED FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER;
            - STORAGE SHALL BE IN A COVERED SHED OR ENCLOSED TRAILERS. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.
        c. PAINTS:
            - ALL CONTAINERS SHALL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE;
            - EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM;
            - EXCESS PAINT SHALL BE DISPOSED OF PROPERLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.
    D. SPILL CONTROL PRACTICES - IN ADDITION TO GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTION, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:
        a. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND SITE PERSONNEL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES;
        b. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE. EQUIPMENT AND MATERIALS SHALL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE;
        c. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY;
        d. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE;
        e. SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATE LOCAL, STATE OR FEDERAL AGENCIES AS REQUIRED;
        f. THE SITE SUPERINTENDENT RESPONSIBLE FOR DAY-TO-DAY SITE OPERATIONS SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.
    E. VEHICLE FUELING AND MAINTENANCE PRACTICE:
        a. CONTRACTOR SHALL MAKE AN EFFORT TO PERFORM EQUIPTMENT/VEHICAL FUELING AND MAINTENANCE AT AN OFF-SITE FACILITY;
        b. CONTRACTOR SHALL PROVIDE AN ON-SITE FUELING AND MAINTENANCE AREA THAT IS CLEAN AND DRY;
        c. IF POSSIBLE THE CONTRACTOR SHALL KEEP AREA COVERED;
        d. CONTRACTOR SHALL KEEP A SPILL KIT AT THE FUELING AND MAINTENANCE AREA;
        e. CONTRACTOR SHALL REGULARLY INSPECT VEHICLES FOR LEAKS AND DAMAGE;
        f. CONTRACTOR SHALL USE DRIP PANS, DRIP CLOTHS, OR ABSORBENT PADS WHEN REPLACING SPENT FLUID.

EROSION CONTROL OBSERVATIONS AND MAINTENANCE PRACTICES

THIS PROJECT EXCEEDS ONE (1) ACRE OF DISTURBANCE AND THUS REQUIRES A SWPPP. THE SWPPP SHALL BE PREPARED BY THE ENGINEER. THE CONTRACTOR SHALL BE FAMILIAR WITH THE SWPPP AND KEEP AN UPDATED COPY OF THE SWPPP ONSITE AT ALL TIMES.

THE FOLLOWING REPRESENTS THE GENERAL OBSERVATION AND REPORTING PRACTICES THAT SHALL BE FOLLOWED AS PART OF THIS PROJECT:

1. OBSERVATIONS OF THE PROJECT FOR COMPLIANCE WITH THE SWPPP SHALL BE MADE BY THE CONTRACTOR AT LEAST ONCE A WEEK OR WITHIN 24 HOURS OF A STORM 0.25 INCHES OR GREATER;
2. AN OBSERVATION REPORT SHALL BE MADE AFTER EACH OBSERVATION AND DISTRIBUTED TO THE ENGINEER, THE OWNER, AND THE CONTRACTOR;
3. A REPRESENTATIVE OF THE SITE CONTRACTOR, SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR ACTIVITIES;
4. IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 24 HOURS OF REPORT.

BLASTING NOTES:

1. IF MORE THAN 5000 CUBIC YARDS ARE TO BE BLASTED A BLASTING PLAN SHALL BE PROVIDED. THE BLASTING PLAN SHALL INCLUDE:
    A. LOCATION AND IDENTIFICATION OF DRINKING WATER WELLS LOCATED WITHIN 2000 FEET OF THE PROPOSED BLASTING ACTIVITIES;
    B. A GROUNDWATER QUALITY SAMPLING PROGRAM, APPROVED BY NHDES PRIOR TO INITIATING BLASTING, TO MONITOR FOR NITRATE AND NITRITE EITHER IN THE DRINKING WATER SUPPLY WELLS OR IN OTHER WELLS THAT ARE REPRESENTATIVE OF THE DRINKING WATER SUPPLY WELLS IN THE AREA.
        a. THE GROUNDWATER SAMPLING PROGRAM MUST BE IMPLEMENTED ONCE APPROVED BY NHDES.
2. THE FOLLOWING BEST MANAGEMENT PROCEDURES FOR BLASTING SHALL BE COMPLIED WITH:
    A. LOADING PRACTICES - THE FOLLOWING BLASTHOLE LOADING PRACTICES TO MINIMIZE ENVIRONMENTAL EFFECTS SHALL BE FOLLOWED:
        a. DRILLING LOGS SHALL BE MAINTAINED BY THE DRILLER AND COMMUNICATED DIRECTLY TO THE BLASTER. THE LOGS SHALL INDICATE DEPTHS AND LENGTHS OF VOIDS, CAVITIES, AND FAULT ZONES OR OTHER WEAK ZONES ENCOUNTERED AS WELL AS GROUNDWATER CONDITIONS;
        b. EXPLOSIVE PRODUCTS SHALL BE MANAGED ON-SITE SO THAT THEY ARE EITHER USED IN THE BOREHOLE, RETURNED TO THE DELIVERY VEHICLE, OR PLACED IN SECURE CONTAINERS FOR OFF-SITE DISPOSAL;
        c. SPILLAGE AROUND THE BOREHOLE SHALL EITHER BE PLACED IN THE BOREHOLE OR CLEANED UP AND RETURNED TO AN APPROPRIATE VEHICLE FOR HANDLING OR PLACEMENT IN SECURED CONTAINERS FOR OFF-SITE DISPOSAL;
        d. LOADED EXPLOSIVES SHALL BE DETONATED AS SOON AS POSSIBLE AND SHALL NOT BE LEFT IN THE BLASTHOLES OVERNIGHT, UNLESS WEATHER OR OTHER SAFETY CONCERNS REASONABLY DICTATE THAT DETONATION SHOULD BE POSTPONED;
        e. LOADING EQUIPMENT SHALL BE CLEANED IN AN AREA WHERE WASTEWATER CAN BE PROPERLY CONTAINED AND HANDLED IN A MANNER THAT PREVENTS RELEASE OF CONTAMINANTS TO THE ENVIRONMENT;
        f. EXPLOSIVES SHALL BE LOADED TO MAINTAIN GOOD CONTINUITY IN THE COLUMN LOAD TO PROMOTE COMPLETE DETONATION. INDUSTRY ACCEPTED LOADING PRACTICES FOR PRIMING, STEMMING, DECKING AND COLUMN RISE NEED TO BE ATTENDED TO.
    B. EXPLOSIVE SELECTION - THE FOLLOWING BMPS SHALL BE FOLLOWED TO REDUCE THE POTENTIAL FOR GROUNDWATER CONTAMINATION WHEN EXPLOSIVES ARE USED:
        a. EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT ARE APPROPRIATE FOR SITE CONDITIONS AND SAFE BLAST EXECUTION;
        b. EXPLOSIVE PRODUCTS SHALL BE SELECTED THAT HAVE THE APPROPRIATE WATER RESISTANCE FOR THE SITE CONDITIONS PRESENT TO MINIMIZE THE POTENTIAL FOR HAZARDOUS EFFECT OF THE PRODUCT UPON GROUNDWATER
    C. PREVENTION OF MISFIRES. APPROPRIATE PRACTICES SHALL BE DEVELOPED AND IMPLEMENTED TO PREVENT MISFIRES.
    D. MUCK PILES MANAGEMENT - MUCK PILES (THE BLASTED PIECES OF ROCK) AND ROCK PILES SHALL BE MANAGED IN A MANNER TO REDUCE THE POTENTIAL FOR CONTAMINATION BY IMPLEMENTING THE FOLLOWING MEASURES:
        c. REMOVE THE MUCK PILE FROM THE BLAST AREA AS SOON AS REASONABLY POSSIBLE;
        d. MANAGE THE INTERACTION OF BLASTED ROCK PILES AND STORMWATER TO PREVENT CONTAMINATION OF WATER SUPPLY WELLS OR SURFACE WATER.
    E. SPILL PREVENTION MEASURES AND SPILL MITIGATION - SPILL PREVENTION AND SPILL MITIGATION MEASURES SHALL BE IMPLEMENTED TO PREVENT THE RELEASE OF FUEL AND OTHER RELATED SUBSTANCES TO THE ENVIRONMENT. THE MEASURES SHALL INCLUDE AT A MINIMUM:
        a. THE FUEL STORAGE REQUIREMENTS SHALL INCLUDE:
            - STORAGE OF REGULATED SUBSTANCES ON AN IMPERVIOUS SURFACE;
            - SECURE STORAGE AREAS AGAINST UNAUTHORIZED ENTRY;
            - LABEL REGULATED CONTAINERS CLEARLY AND VISIBLY;
            - INSPECT STORAGE AREAS WEEKLY;
            - COVER REGULATED CONTAINERS IN OUTSIDE STORAGE AREAS;
            - WHEREVER POSSIBLE, KEEP REGULATED CONTAINERS THAT ARE STORED OUTSIDE MORE THAN 50 FEET FROM SURFACE WATER AND STORM DRAINS, 75 FEET FROM PRIVATE WELLS, AND 400 FEET FROM PUBLIC WELLS;
            - SECONDARY CONTAINMENT IS REQUIRED FOR CONTAINERS CONTAINING REGULATED SUBSTANCES STORED OUTSIDE, EXCEPT FOR ON PREMISE USE HEATING FUEL TANKS, OR ABOVEGROUND OR UNDERGROUND STORAGE TANKS OTHERWISE REGULATED.
        b. THE FUEL HANDLING REQUIREMENTS SHALL INCLUDE:
            - EXCEPT WHEN IN USE, KEEP CONTAINERS CONTAINING REGULATED SUBSTANCES CLOSED AND SEALED;
            - PLACE DRIP PANS UNDER SPIGOTS, VALVES, AND PUMPS;
            - HAVE SPILL CONTROL AND CONTAINMENT EQUIPMENT READILY AVAILABLE IN ALL WORK AREAS;
            - USE FUNNELS AND DRIP PANS WHEN TRANSFERRING REGULATED SUBSTANCES;
            - PERFORM TRANSFERS OF REGULATED SUBSTANCES OVER AN IMPERVIOUS SURFACE.
        c. THE TRAINING OF ON-SITE EMPLOYEES AND THE ON-SITE POSTING OF RELEASE RESPONSE INFORMATION DESCRIBING WHAT TO DO IN THE EVENT OF A SPILL OF REGULATED SUBSTANCES.
        d. FUELING AND MAINTENANCE OF EXCAVATION, EARTHMOVING AND OTHER CONSTRUCTION RELATED EQUIPMENT SHALL COMPLY WITH THE REGULATIONS OF THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES THESE REQUIREMENTS ARE SUMMARIZED IN WD-DWGB-22-6 BEST MANAGEMENT PRACTICES FOR FUELING AND MAINTENANCE OF EXCAVATION AND EARTHMOVING EQUIPMENT, OR ITS SUCCESSOR DOCUMENT. HTTPS://WWW.DES.NH.GOV/ORGANIZATION/COMMISSIONER/PIP/FACTSHEETS/DWGB/DOCUMENTS/DWGB-22-6.PDF

NOTES:
1. SILT SOCK SHALL BE SILT SOXX BY FILTREXX OR EQUAL
2. INSTALL SILT SOCK IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS.

SILT SOCK

NO SCALE

NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF SEDIMENT FROM THE SITE. WHEN WASHING IS REQUIRED, IT SHALL BE DONE SO RUNOFF DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS

STABILIZED CONSTRUCTION EXIT

NO SCALE

SILT SACK

NO SCALE

Tighe&Bond

PATRICK M. CRIMMINS No. 1237[illegible]
5-24-22

NEIL A. HANSEN No. 15227
5/24/22

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
A	5/25/2022	Planning Board Submission

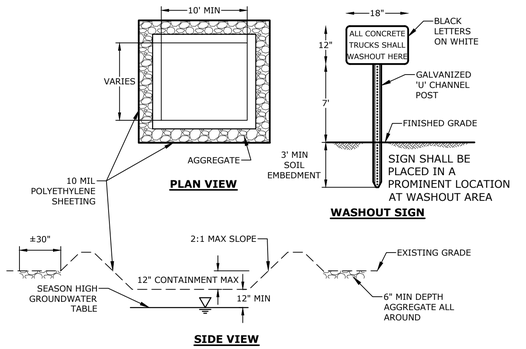
PROJECT NO:	K0076-038
DATE:	5/25/2022
FILE:	K0076-038_DTLS.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

ERROSION CONTROL NOTES & DETAILS SHEET

SCALE: AS SHOWN

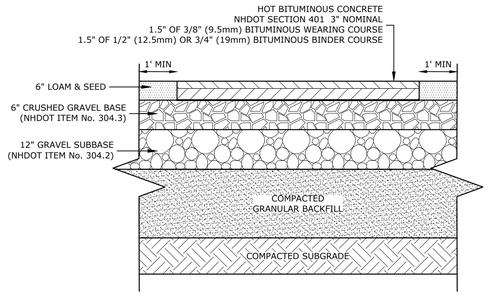
C-501

Last Save Date: May 24, 2022 9:40 AM By: CML
Plot Date: Tuesday, May 24, 2022 Plotted By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings_Figures\AutoCAD\Sheet\K0076-038_DTLS.dwg Layout Tab: C-501



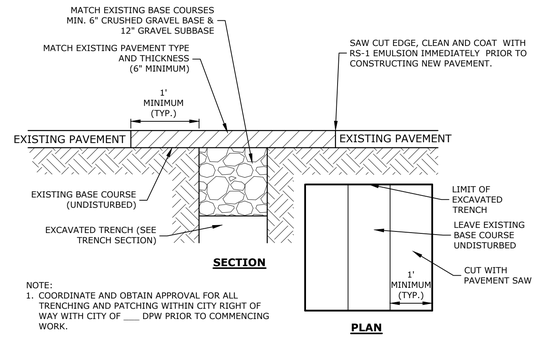
NOTES:
1. CONTAINMENT SHALL BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT SHALL BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
4. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS
5. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.
6. AT LEAST WEEKLY, REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

CONCRETE WASHOUT AREA
NO SCALE



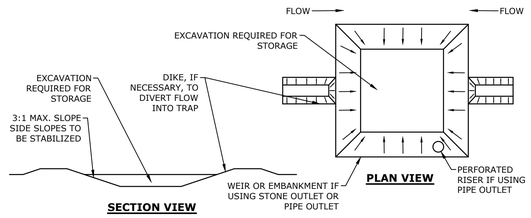
NOTES:
1. SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
2. SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
3. A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.

TYPICAL PAVEMENT SECTION
NO SCALE



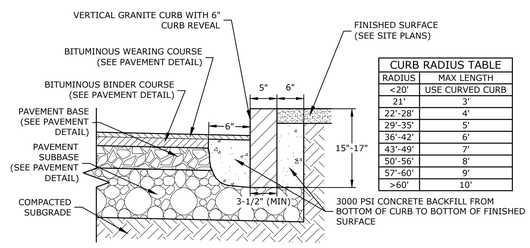
NOTE:
1. COORDINATE AND OBTAIN APPROVAL FOR ALL TRENCHING AND PATCHING WITHIN CITY RIGHT OF WAY WITH CITY OF ___ DPW PRIOR TO COMMENCING WORK.

ROADWAY TRENCH PATCH
NO SCALE



NOTES:
1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA AS POSSIBLE.
2. THE MAXIMUM CONTRIBUTING AREA TO A SINGLE TRAP SHALL BE LESS THAN 5 ACRES.
3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
4. TRAP OUTLET SHALL BE MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP.
5. TRAP SHALL DISCHARGE TO A STABILIZED AREA.
6. TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
7. MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.
8. SEDIMENT TRAPS MUST BE USED AS NEEDED TO CONTAIN RUNOFF UNTIL SOILS ARE STABILIZED.

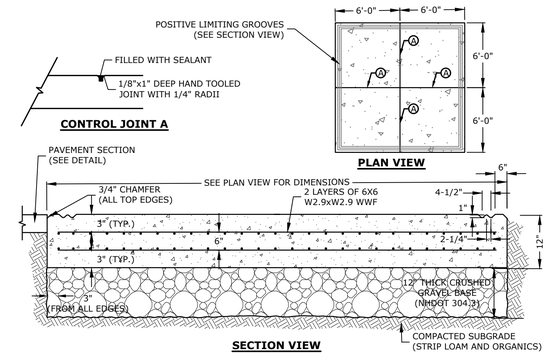
SEDIMENT TRAP
NO SCALE



CURB RADIUS TABLE	
RADIUS	MAX LENGTH
<20'	USE CURVED CURB
21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
>60'	10'

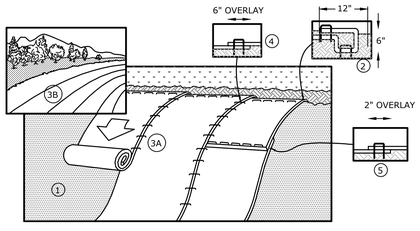
NOTES:
1. SEE SITE PLAN(S) FOR LIMITS OF VERTICAL GRANITE CURB (VGC).
2. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
3. MINIMUM LENGTH OF STRAIGHT CURB STONES = 3'
4. MAXIMUM LENGTH OF STRAIGHT CURB STONES = 10'
5. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES (SEE TABLE).
6. ALL RADII 20 FEET AND SMALLER SHALL BE CONSTRUCTED USING CURVED SECTIONS.
7. JOINTS BETWEEN STONES SHALL HAVE A MAXIMUM SPACING OF 1/2" AND SHALL BE MORTARED.

VERTICAL GRANITE CURB
NO SCALE



NOTES:
1. CONCRETE TO BE 4500 PSI, 7% AIR ENTRAINED
2. STANDARD BROOM FINISH.

DUMPSTER PAD
NO 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, 36" OVER THE GRADE BREAK, BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UPSLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES 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 SPACED 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS DOWN THE SLOPE. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SOIL SURFACE BY PLACING STAPLES IN APPROPRIATE LOCATIONS AS SHOWN ON THE STAPLE PATTERN GUIDE.
4. STAPLE LENGTHS SHALL BE A MINIMUM OF 8 INCHES.
5. EROSION CONTROL BLANKET SHALL BE 'EAST COAST EROSION CONTROL ECC-2B™' OR APPROVED EQUAL.

STABILIZATION BLANKET
NO SCALE

Tighe&Bond

PATRICK M. CUMMINS No. 12377 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 5/24/22

NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 5/24/22

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
A	5/25/2022	Planning Board Submission

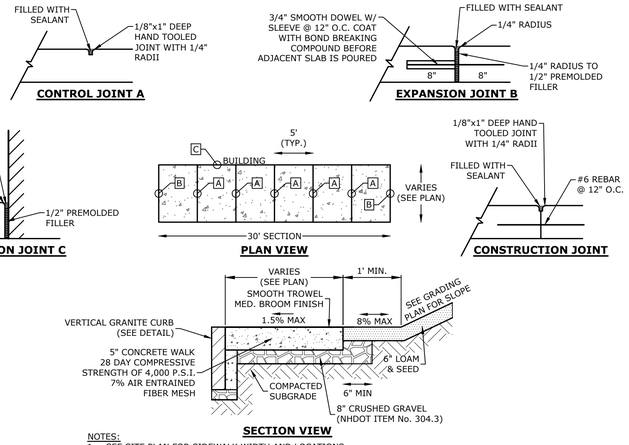
PROJECT NO:	K0076-038
DATE:	5/25/2022
FILE:	K0076-038_DTLS.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

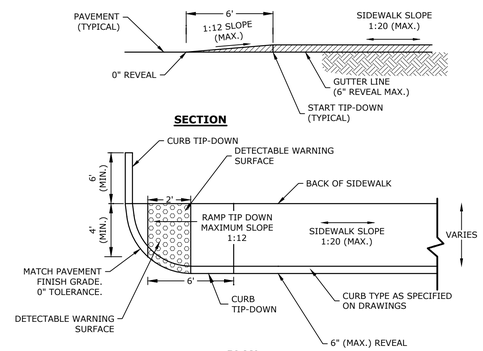
C-502

Last Save Date: May 24, 2022 9:40 AM By: CML
Plot Date: Wednesday, May 25, 2022 Plotted By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings, Figures\AutoCAD\Sheet\K0076-038_DTLS.dwg Layout Tab: C-502



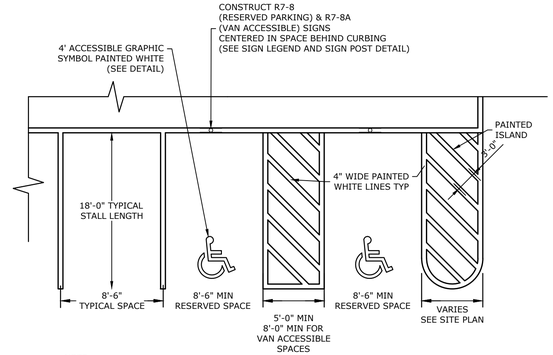
NOTES:
1. SEE SITE PLAN FOR SIDEWALK WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE & EROSION CONTROL PLAN FOR WALK AND SIDE SLOPE GRADES.
3. ISOLATION JOINTS ADJACENT TO BUILDING SHALL BE COORDINATED WITH BUILDING DRAWINGS.

CONCRETE SIDEWALK WITH GRANITE CURB
NO SCALE



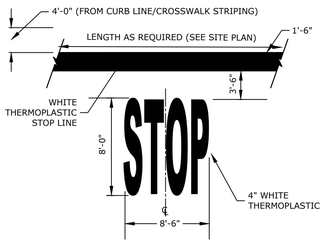
NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
2. PROVIDE 8" COMPACTED CRUSHED GRAVEL BASE BENEATH RAMPS.
3. DETECTABLE WARNING STRIP SHALL BE ADA SOLUTIONS, INC. CAST IN PLACE RAMP. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

CONCRETE SIDEWALK TIP-DOWN RAMP WITH DETECTABLE WARNING PANEL
NO SCALE



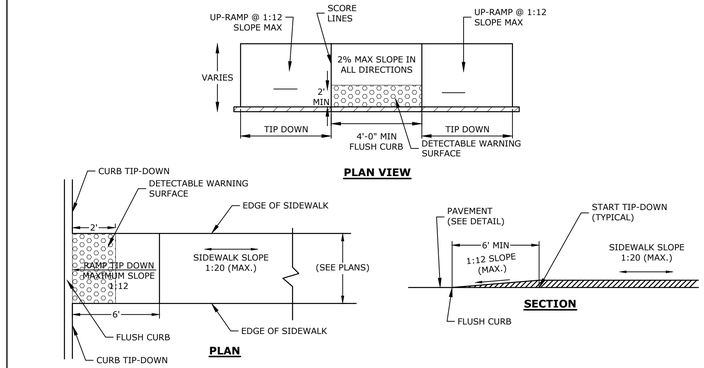
NOTE:
1. ALL PAINT SHALL BE FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOLS & PARKING STALLS SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
3. FINISH PAVEMENT GRADES AT ALL HANDICAP ACCESSIBLE STALLS AND PAINTED ACCESS AISLES SHALL NOT EXCEED 2% IN ANY DIRECTION.

PARKING SPACE STRIPING
NO SCALE



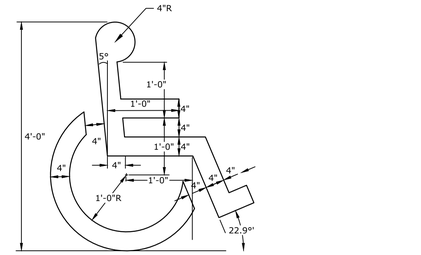
NOTE:
1. PAVEMENT MARKINGS TO BE INSTALLED IN LOCATIONS AS SHOWN ON SITE PLAN.
2. STRIPING SHALL BE CONSTRUCTED USING WHITE THERMO PLASTIC, REFLECTERIZED PAVEMENT MARKING MATERIAL MEETING THE REQUIREMENTS OF ASTM D 4505

STOP BAR & LEGEND
NO SCALE



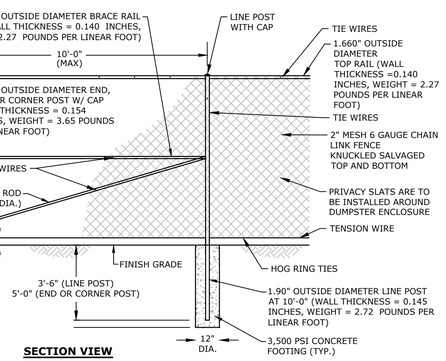
NOTES:
1. RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT AND LOCAL AND STATE REQUIREMENTS.
2. A 8" COMPACTED CRUSHED GRAVEL BASE (NHDOT ITEM No. 304.3) SHALL BE PROVIDED BENEATH RAMPS.
3. DETECTABLE WARNING PANEL SHALL BE CAST IRON WITH BLACK COATING

CONCRETE SIDEWALK TIP-DOWN RAMP WITH DETECTABLE WARNING PANEL
NO SCALE



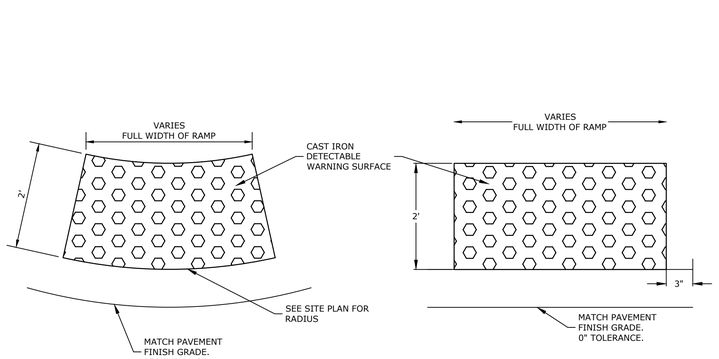
NOTES:
1. SYMBOL SHALL BE CONSTRUCTED IN ALL ACCESSIBLE SPACES USING FAST DRYING TRAFFIC PAINT, MEETING THE REQUIREMENTS OF AASHTO M248-TYPE F. PAINT SHALL BE APPLIED AS SPECIFIED BY MANUFACTURER.
2. SYMBOL SHALL BE CONSTRUCTED TO THE LATEST ADA, STATE AND LOCAL REQUIREMENTS.

ACCESSIBLE SYMBOL
NO SCALE



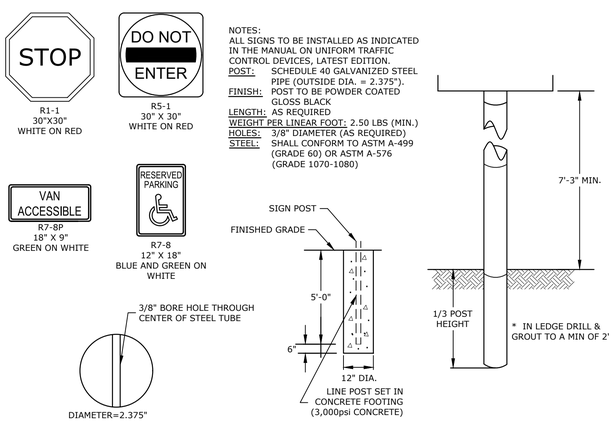
NOTES:
1. CORNER POSTS SHALL BE USED AT SHARP BREAKS IN GRADE AND CHANGES IN HORIZONTAL ALIGNMENT OF 30° OR MORE.
2. POSTS, RAILS & BRACES SHALL BE TYPE I, SCHEDULE 40 PIPE.
3. FABRIC TO BE TOP SELVAGE AND BOTTOM SELVAGE TWISTED TIGHT.
4. TIE WIRE:
   4.1. SHALL BE 6 GAUGE GALVANIZED STEEL WIRE @ 14" O.C. MAXIMUM FOR ATTACHMENT OF FABRIC TO LINE POSTS.
   4.2. TIE WIRES SHALL BE 13 GAUGE GALVANIZED STEEL WIRE @ 24" O.C. MAXIMUM FOR ATTACHMENT OF FABRIC TO RAILS AND BRACES.
5. HOG RING TIES SHALL BE 12- 1/2 GAUGE GALVANIZED STEEL WIRE @ 24" O.C. MAXIMUM FOR ATTACHMENT OF FABRIC TO TENSION WIRE.
6. PRIVACY SLATS SHALL BE VINYL, COLOR TO BE BLACK.

TYPICAL FENCE / ENCLOSURE
NO SCALE



NOTES:
1. DETECTABLE WARNING SURFACE SHALL BE 2' X 3' CAST IRON PANEL SET IN CONCRETE.
2. DETECTABLE WARNING SURFACE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

CAST IRON DETECTABLE WARNING SURFACE
NO SCALE



SIGN LEGEND & POST
NO SCALE

Tighe&Bond

PATRICK M. CUMMINS No. 12377 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 5-24-22

NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 5/24/22

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

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PROJECT NO:	K0076-038
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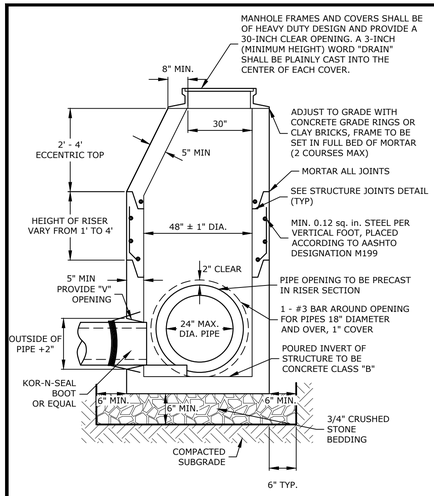
FILE:	K0076-038_DTLS.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

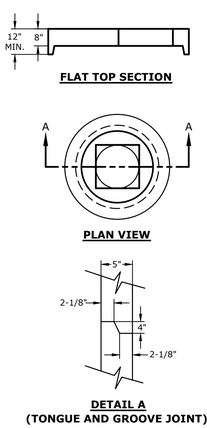
C-503

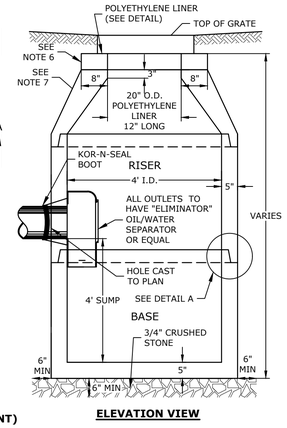
Last Save Date: May 24, 2022 9:40 AM By: CML
Plot Date: Tuesday, May 24, 2022 9:40 AM By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings_Figures\AutoCAD\Sheet\K0076-038_DTLS.dwg Layout Tab: C-503



NOTES:
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE.
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQUARE INCHES PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQUARE INCHES PER LINEAR FOOT.
4. THE STRUCTURES SHALL BE DESIGNED FOR H20 LOADING.
5. CONSTRUCT CRUSHED STONE BEDDING AND BACKFILL UNDER (6" MINIMUM THICKNESS)
6. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
7. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
8. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
9. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
10. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF INSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZNTAL CROSS SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.

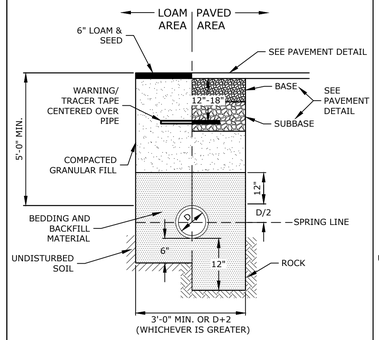
4' DIAMETER DRAIN MANHOLE
NO SCALE





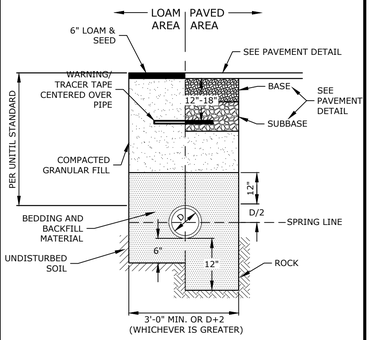
NOTES:
1. ALL SECTIONS SHALL BE CONCRETE CLASS AA(4000 psi).
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
3. THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 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. FITTING FRAME TO GRADE MAY BE DONE WITH PREFABRICATED ADJUSTMENT RINGS OR CLAY BRICKS (2 COURSES MAX.).
7. CONE SECTIONS MAY BE EITHER CONCENTRIC OR ECCENTRIC, OR FLAT SLAB TOPS MAY BE USED WHERE PIPE WOULD OTHERWISE ENTER INTO THE CONE SECTION OF THE STRUCTURE AND WHERE PERMITTED.
8. PIPE ELEVATIONS SHOWN ON PLANS SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
9. OUTSIDE EDGES OF PIPES SHALL PROJECT NO MORE THAN 3" BEYOND INSIDE WALL OF STRUCTURE.
10. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4" HIGH AT AN 11° ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING AN APPROVED FLEXIBLE SEALANT IN JOINTS.
11. THE TONGUE AND GROOVE JOINT SHALL BE SEALED WITH ONE STRIP OF BUTYL RUBBER SEALANT.
12. "ELIMINATOR" OIL/WATER SEPARATOR SHALL BE INSTALLED TIGHT TO INSIDE OF CATCHBASIN.

4' DIAMETER CATCH BASIN
NO SCALE



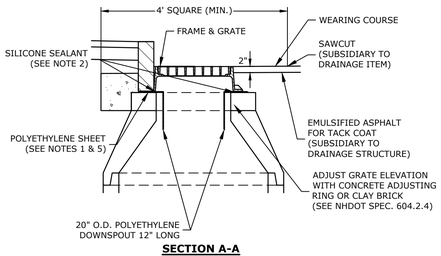
NOTES:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. WATER MAIN SHALL BE INSTALLED PER CITY OF PORTSMOUTH STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

TYPICAL WATER TRENCH
NO SCALE

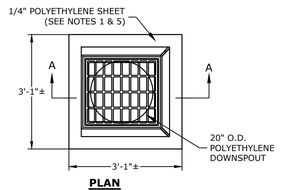


NOTE:
1. SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
2. GAS SHALL BE INSTALLED PER UNITIL STANDARDS. COORDINATE ALL INSTALLATIONS WITH UNITIL AND THE CITY OF PORTSMOUTH.

TYPICAL GAS TRENCH
NO SCALE



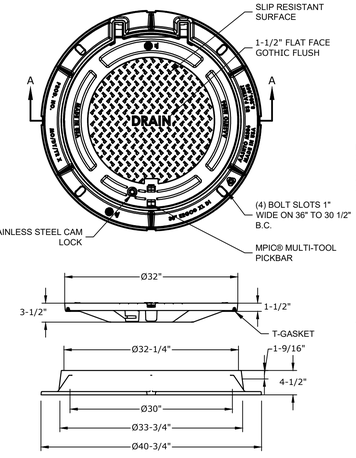
SECTION A-A



PLAN

NOTES:
1. POLYETHYLENE LINER (ITEM 604.0007) SHALL BE FABRICATED AT THE SHOP. DOWNSPOUT SHALL BE EXTRUSION FILLET WELDED TO THE POLYETHYLENE SHEET.
2. PLACE A CONTINUOUS BEAD OF AN APPROVED SILICONE SEALANT (SUBSIDIARY TO ITEM 604.0007) BETWEEN FRAME AND POLYETHYLENE SHEET.
3. PLACE CLASS AA CONCRETE TO 2" BELOW THE TOP OF THE GRATE ELEVATION (SUBSIDIARY TO DRAINAGE STRUCTURE).
4. USE ON DRAINAGE STRUCTURES 4' MIN. DIAMETER ONLY.
5. TRIM POLYETHYLENE SHEET A MAXIMUM OF 4" OUTSIDE THE FLANGE ON THE FRAME FOR THE CATCH BASIN BEFORE PLACING CONCRETE (EXCEPT AS SHOWN WHEN USED WITH 3-FLANGE FRAME AND CURB).
6. THE CENTER OF THE GRATE & FRAME MAY BE SHIFTED A MAXIMUM OF 6" FROM THE CENTER OF THE DOWNSPOUT IN ANY DIRECTION.
7. PLACED ONLY IN DRAINAGE STRUCTURES IN PAVEMENT.
8. SEE NHDOT DR-04, "DI-DB, UNDERDRAIN FLUSHING BASIN AND POLYETHYLENE LINER DETAILS", FOR ADDITIONAL INFORMATION.
9. CATCHBASINS WITHIN CITY RIGHT OF WAY SHALL HAVE A POLYETHYLENE LINER

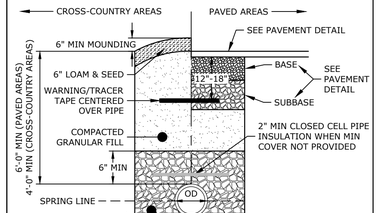
POLYETHYLENE LINER
NO SCALE



SECTION A-A

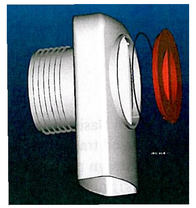
NOTES:
1. MANHOLE FRAME AND COVER SHALL BE 32" HINGED ERGO XL BY EJ CO.
2. ALL DIMENSIONS ARE NOMINAL.
3. FRAMES USING NARROWER DIMENSIONS FOR THICKNESS ARE ALLOWED PROVIDED:
   A. THE FRAMES MEET OR EXCEED THE SPECIFIED LOAD RATING.
   B. THE INTERIOR PERIMETER (SEAT AREA) DIMENSIONS OF THE FRAMES REMAIN THE SAME TO ALLOW CONTINUED USE OF EXISTING GRATES/COVERS AS THE EXISTING FRAMES ALLOW, WITHOUT SHIMS OR OTHER MODIFICATIONS OR ACCOMMODATIONS.
   C. ALL OTHER PERTINENT REQUIREMENTS OF THE SPECIFICATIONS ARE MET.
4. LABEL TYPE OF MANHOLE WITH 3" HIGH LETTERS IN HE CENTER OF THE COVER.

DRAIN MANHOLE FRAME & COVER
NO SCALE



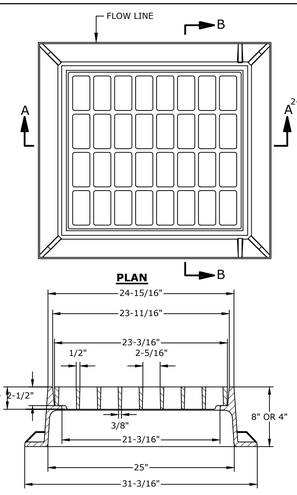
NOTES:
1. 3/4" CRUSHED STONE BEDDING AND BACKFILL MATERIAL FOR FULL WIDTH OF THE TRENCH FROM MINIMUM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO MINIMUM OF 6" OVER THE TOP OF THE PIPE.
2. SANITARY SEWER SHALL BE INSTALLED PER THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARDS. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

TYPICAL SEWER TRENCH
NO SCALE



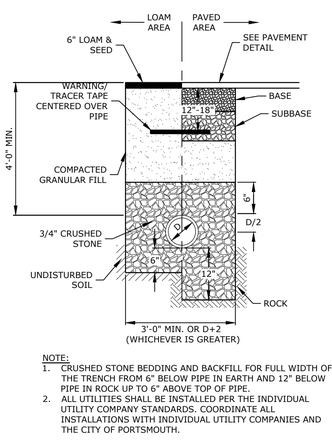
NOTES:
1. ALL CATCH BASIN OUTLETS TO HAVE "ELIMINATOR" OIL AND FLOATING DEBRIS TRAP MANUFACTURED BY KLEANSTREAM (NO EQUAL)
2. INSTALL DEBRIS TRAP TIGHT TO INSIDE OF STRUCTURE.
3. 1/4" HOLE SHALL BE DRILLED IN TOP OF DEBRIS TRAP

"ELIMINATOR" OIL FLOATING DEBRIS TRAP
NO SCALE



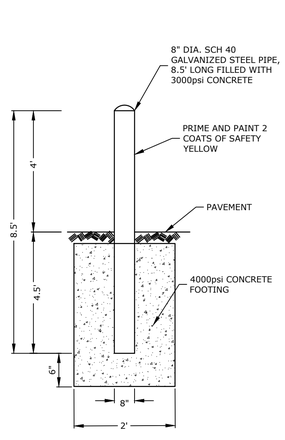
NOTES:
1. ALL DIMENSIONS ARE NOMINAL
2. FRAMES USING NARROWER DIMENSIONS FOR THICKNESS ARE ALLOWED PROVIDED:
   2.1. THE FRAMES MEET OR EXCEED THE SPECIFIED LOAD RATING.
   2.2. THE INTERIOR PERIMETER (SEAT AREA) DIMENSIONS OF THE FRAMES REMAIN THE SAME TO ALLOW CONTINUED USE OF EXISTING GRATES/COVERS AS THE EXISTING FRAMES ALLOW, WITHOUT SHIMS OR OTHER MODIFICATIONS OR ACCOMMODATIONS.
   2.3. ALL OTHER PERTINENT REQUIREMENTS OF THE SPECIFICATIONS ARE MET.
3. FRAME AVAILABLE IN 4" OR 8" HEIGHTS
4. FREE OPEN AREA = 2.55 SQ. FT.
5. USE 3-FLANGE FRAME IF INSTALLED ADJACENT TO GRANITE CURB.

CATCH BASIN FRAME & GRATE
NO SCALE

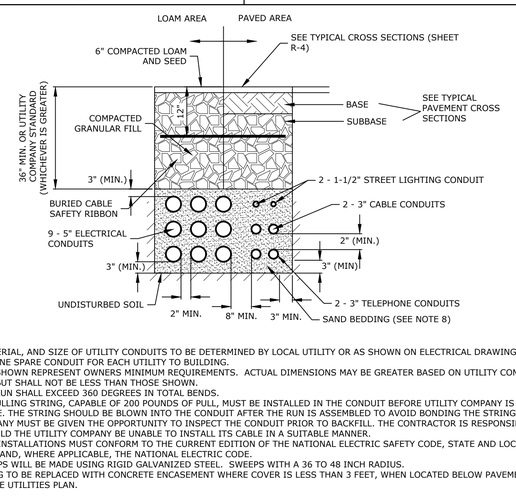


NOTE:
1. CRUSHED STONE BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 6" ABOVE TOP OF PIPE.
2. ALL UTILITIES SHALL BE INSTALLED PER THE INDIVIDUAL UTILITY COMPANY STANDARDS. COORDINATE ALL INSTALLATIONS WITH INDIVIDUAL UTILITY COMPANIES AND THE CITY OF PORTSMOUTH.

STORM DRAIN TRENCH
NO SCALE



TYPICAL BOLLARD
NO SCALE



NOTES:
1. NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL UTILITY OR AS SHOWN ON ELECTRICAL DRAWINGS. CONTRACTOR TO PROVIDE ONE SPARE CONDUIT FOR EACH UTILITY TO BUILDING.
2. DIMENSIONS SHOWN REPRESENT OWNERS MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT SHALL NOT BE LESS THAN THOSE SHOWN.
3. NO CONDUIT RUN SHALL EXCEED 360 DEGREES IN TOTAL BENDS.
4. A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE CONDUIT BEFORE UTILITY COMPANY 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.
5. UTILITY COMPANY MUST BE GIVEN THE OPPORTUNITY TO INSPECT THE CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD THE UTILITY COMPANY BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.
6. 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.
7. ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL. SWEEPS WITH A 36 TO 48 INCH RADIUS.
8. SAND BEDDING TO BE REPLACED WITH CONCRETE ENCASEMENT WHERE COVER IS LESS THAN 3 FEET, WHEN LOCATED BELOW PAVEMENT, OR WHERE SHOWN ON THE UTILITIES PLAN.

TYPICAL ELECTRICAL AND COMMUNICATION CONDUIT
NO SCALE

Tighe&Bond

PATRICK W. CUMMINS No. 12377 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 5-24-22

NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 5/24/22

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

A	5/25/2022	Planning Board Submission
MARK	DATE	DESCRIPTION

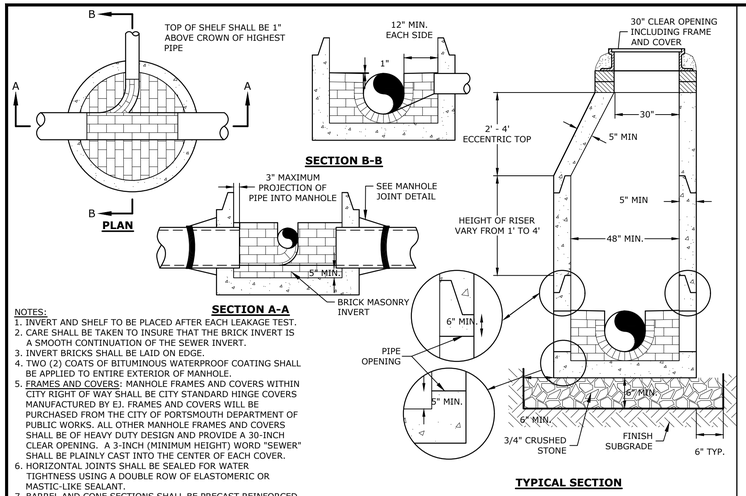
PROJECT NO:	K0076-038
DATE:	5/25/2022
FILE:	K0076-038_DTLS.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

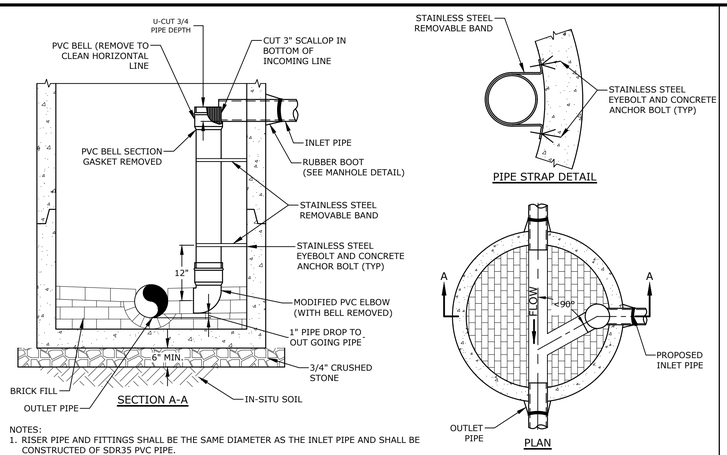
C-504

Last Save Date: May 24, 2022 9:40 AM By: CML
Plot Date: Tuesday, May 24, 2022 9:42 AM By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings_Figures\AutoCAD\Sheet\K0076-038_DTLS.dwg Layout Tab: C-504



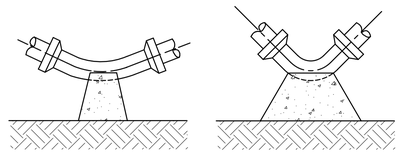
NOTES:
1. INVERT AND SHELF TO BE PLACED AFTER EACH LEAKAGE TEST.
2. CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT.
3. INVERT BRICKS SHALL BE LAID ON EDGE.
4. TWO (2) COATS OF BITUMINOUS WATERPROOF COATING SHALL BE APPLIED TO ENTIRE EXTERIOR OF MANHOLE.
5. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS WITHIN CITY RIGHT OF WAY SHALL BE CITY STANDARD HINGE COVERS MANUFACTURED BY EJ. FRAMES AND COVERS WILL BE PURCHASED FROM THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS. ALL OTHER MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A 3-INCH (MINIMUM HEIGHT) WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER.
6. HORIZONTAL JOINTS SHALL BE SEALED FOR WATER TIGHTNESS USING A DOUBLE ROW OF ELASTOMERIC OR MASTIC-LIKE SEALANT.
7. BARREL AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE DESIGNED FOR H20 LOADING, AND CONFORMING TO ASTM C478-06.

SEWER MANHOLE
NO SCALE

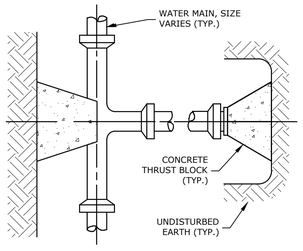


NOTES:
1. RISER PIPE AND FITTINGS SHALL BE THE SAME DIAMETER AS THE INLET PIPE AND SHALL BE CONSTRUCTED OF SDR35 PVC PIPE.
2. SANITARY SEWER SHALL BE INSTALLED PER THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARDS.
3. COORDINATE ALL INSTALLATIONS WITH THE CITY OF PORTSMOUTH.

INSIDE DROP SEWER MANHOLE
NO SCALE

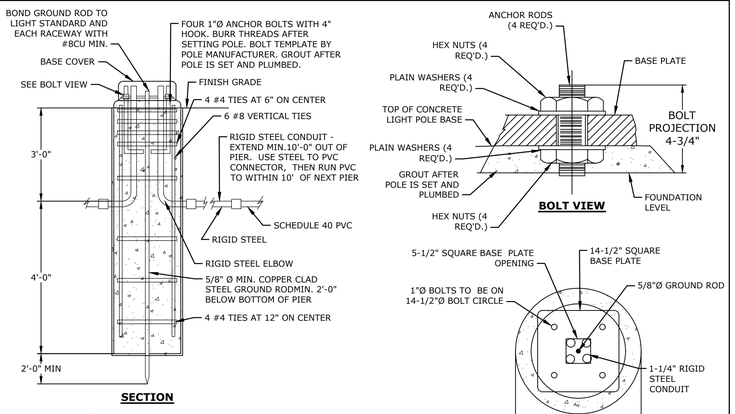


TEST PRESSURE = 200psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL					
	REACTION TYPE	PIPE SIZE				
		4"	6"	8"	10"	12"
	A 90°	0.89	2.19	3.82	11.14	17.24
	B 180°	0.65	1.55	2.78	8.38	12.00
	C 45°	0.48	1.19	2.12	6.02	9.32
	D 22-1/2°	0.25	0.60	1.06	3.08	4.74
	E 11-1/4°	0.13	0.30	0.54	1.54	2.38



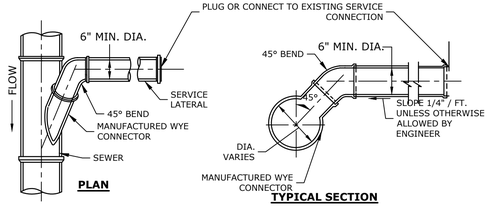
NOTES:
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT 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. INSTALLATION AND STANDARD DIMENSIONAL REQUIREMENTS SHALL BE WITH CITY OF PORTSMOUTH WATER DEPARTMENT STANDARDS.

THRUST BLOCKING
NO SCALE

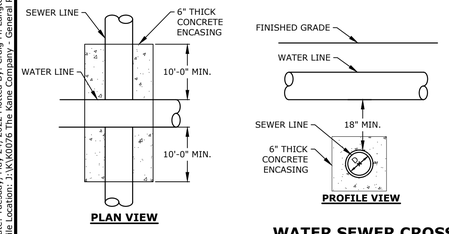


NOTES:
1. PAINT BASE SAFETY YELLOW (UNLESS PROTECTED BY CURBED ISLAND).
2. CONCRETE TO BE CLASS A, 4000 PSI, AIR ENTRAINED STEEL TO BE 60 KSI
3. REFER TO ELECTRICAL PLANS FOR WIRING DETAILS.

TYPICAL LIGHT POLE BASE
NO SCALE

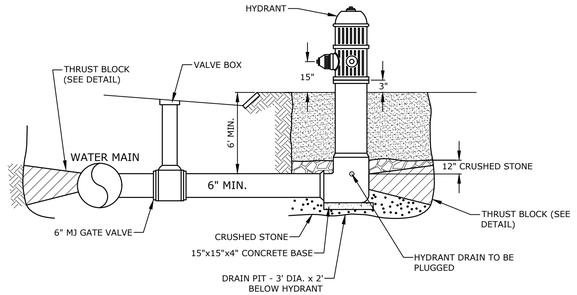


STANDARD SERVICE LATERAL CONNECTION
NO SCALE



NOTES:
1. A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED FROM ANY EXISTING OR PROPOSED WATER LINE.
2. AN 18" MINIMUM EDGE TO EDGE VERTICAL SEPARATION SHALL BE PROVIDED, WITH WATER ABOVE SEWER, AT ALL CROSSINGS.
3. SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN.
4. WHERE AN 18" VERTICAL SEPARATION CANNOT BE PROVIDED, SEWER PIPE SHALL BE CONSTRUCTED USING A SDR 26 PVC PIPE OR ENCASED CONCRETE FOR A MINIMUM DISTANCE OF 10 FEET ON BOTH SIDES OF THE LINE BEING CROSSED, AS SHOWN ABOVE.
5. CROSSINGS SHALL CONFORM TO THE CITY PORTSMOUTH DPW STANDARDS AND SPECIFICATIONS.

WATER SEWER CROSSING
NO SCALE



NOTE:
1. HYDRANT TO BE KENNEDY TYPE K-81, RIGHT OPEN (NO EQUAL). COORDINATE WITH CITY OF PORTSMOUTH WATER DEPARTMENT AND CITY OF PORTSMOUTH FIRE DEPARTMENT.
2. PAINT HYDRANT IN ACCORDANCE WITH CITY STANDARD SPECIFICATIONS AFTER INSTALLATION AND TESTING.

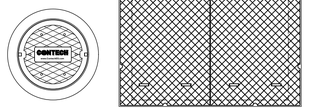
FIRE HYDRANT
NO SCALE

JELLYFISH DESIGN NOTES

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN. Ø96" MANHOLE JELLYFISH PEAK TREATMENT CAPACITY IS 1.96 CFS. IF THE SITE CONDITIONS EXCEED 1.96 CFS AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION

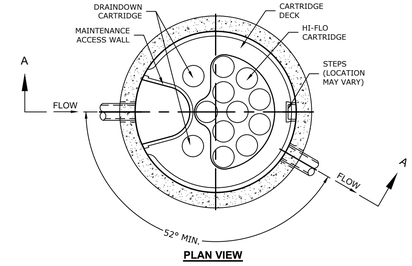
CARTRIDGE DEPTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-5"	5'-3"	4'-2"	3'-2"
FLOW RATE HIGH-FLO / DRAINDOWN (cfs) (per cart)	0.18 / 0.09	0.13 / 0.065	0.09 / 0.045	0.05 / 0.025
MAX. CARTS HIGH-FLO / DRAINDOWN	10 / 2			

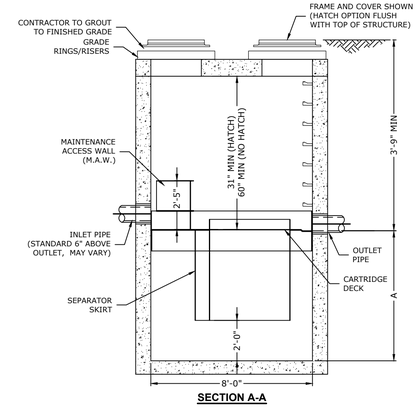


FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

HATCH
(72" x 72" CAST INTO SLAB)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS	
STRUCTURE ID	8'
WATER QUALITY FLOW RATE (cfs)	1.74
PEAK FLOW RATE (cfs)	18.0
RETURN PERIOD OF PEAK FLOW (yrs)	50
# OF CARTRIDGES REQUIRED (HF / DD)	10 / 2
CARTRIDGE SIZE	54"





GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 3', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED)
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
D. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
E. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION AT (866) 740-3318.

JELLYFISH (JF8) TREATMENT UNIT
NO SCALE

Tighe&Bond

PATRICK M. CUMMINS No. 12377 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 5-24-22

NEIL A. HANSEN No. 15227 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE 5/24/22

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
A	5/25/2022	Planning Board Submission

PROJECT NO:	K0076-038
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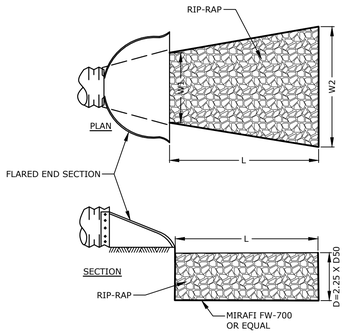
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

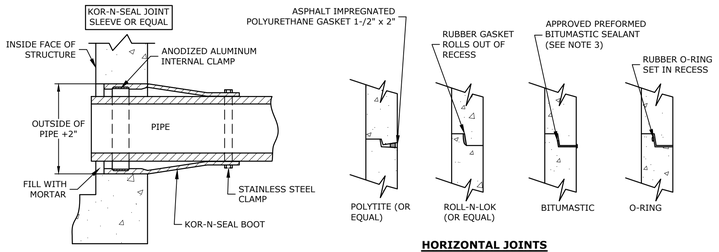
C-505

Last Save Date: May 24, 2022 9:40 AM By: CML
Plot Date: May 24, 2022 9:40 AM By: Philip M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings, Figures\AutoCAD\Sheet\K0076-038_DTLS.dwg Layout Tab: C-505



NOTES:
1. STONE SIZE AND MAT DIMENSIONS DETAILED ON PLANS.
2. STONE SHALL CONSIST OF SUB-ANGULAR FIELD STONE OR ROUGH UNHEWN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. FLAT OR ROUND ROCKS ARE NOT ACCEPTABLE. THE STONE SHALL BE HARD AND OF SUCH QUALITY THAT IT WILL NOT DISINTEGRATE ON EXPOSURE TO WATER OR WEATHERING, BE CHEMICALLY STABLE AND IT SHALL BE SUITABLE IN ALL OTHER RESPECTS FOR THE PURPOSE INTENDED. THE BULK SPECIFIC GRAVITY (SATURATED SURFACE-DRY BASIS) OF THE INDIVIDUAL STONES SHALL BE AT LEAST 2.5.
3. THE STONE SHALL BE COMPOSED OF A WELL-GRADED MIXTURE DOWN TO THE ONE-INCH SIZE PARTICLE SUCH THAT 50 PERCENT OF THE MIXTURE BY WEIGHT SHALL BE LARGER THAN THE D50 SIZE SPECIFIED. A WELL-GRADED MIXTURE IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF THE LARGER STONE SIZE BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE PROGRESSIVELY SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE SIZE IN SUCH A MIXTURE SHALL BE 1.5 TIMES THE D50 SIZE.

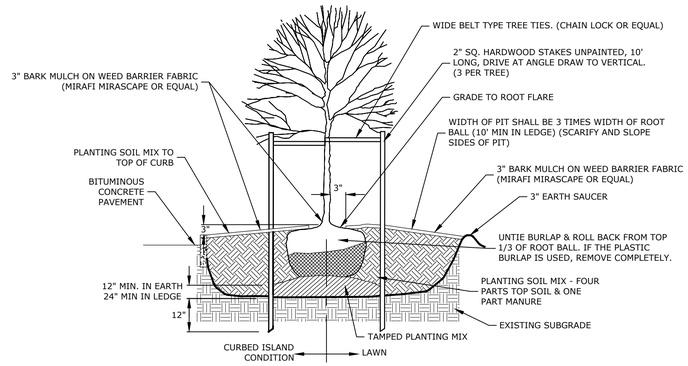
RIP-RAP APRON
NO SCALE



PIPE JOINTS **HORIZONTAL JOINTS**

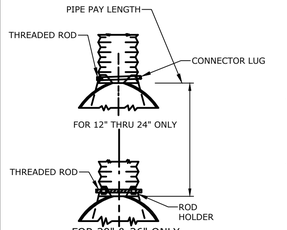
NOTES:
1. HORIZONTAL JOINTS BETWEEN THE SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE PER CITY OF PORTSMOUTH DPW STANDARD AND SHALL BE SEALED FOR WATERTIGHTNESS USING A DOUBLE ROW ELASTOMERIC OR MASTIC-LIKE GASKET.
2. PIPE TO MANHOLE JOINTS SHALL BE PER CITY OF PORTSMOUTH STANDARD.
3. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
4. ALL GASKETS, SEALANTS, MORTAR, ETC. SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

STRUCTURE JOINTS
NO SCALE



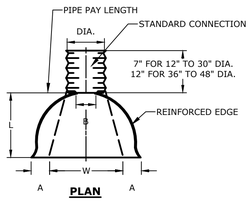
NOTES:
1. PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED, OR WITHIN 2" ABOVE.

DECIDUOUS TREE PLANTING
NO SCALE

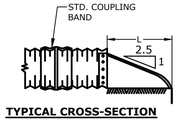


ALTERNATE CONNECTIONS

ELEVATION



PLAN

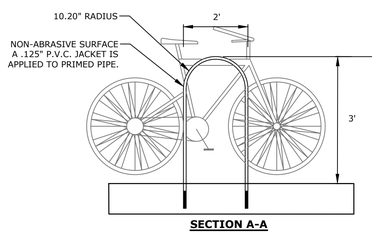


TYPICAL CROSS-SECTION

PIPE Ø	METAL GAGE	DIMENSIONS				
		A(1" TOL.)	B MAX	H(1" TOL.)	L(1" TOL.)	W(2" TOL.)
12"	16	6"	6"	6"	21"	24"
15"	16	7"	8"	6"	26"	30"
18"	16	8"	13"	6"	31"	36"
24"	16	10"	16"	6"	41"	48"
30"	14	12"	16"	8"	51"	60"
36"	14	14"	19"	9"	60"	72"
42"	12	16"	22"	11"	69"	84"
48"	12	18"	27"	12"	78"	90"

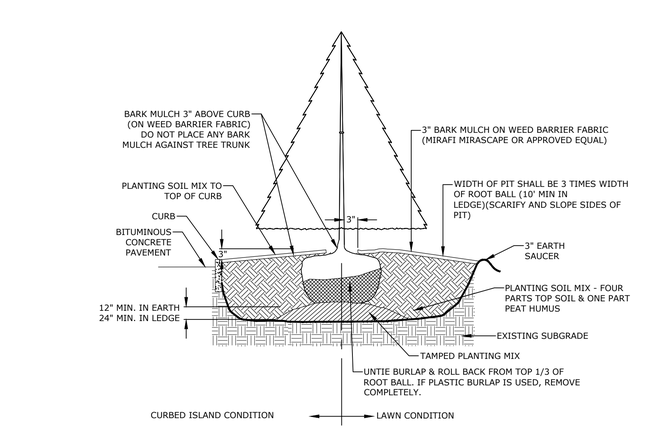
NOTES:
1. END SECTION FOR 12" TO 30" DIA. PIPE IN ONE PIECE, FOR 36" TO 48" DIA. PIPE TO BE MADE FROM TWO SHEETS JOINED BY RIVETING OR BOLTING ON CENTER LINE.
2. CONNECTOR SECTION, CORNER PLATE AND TOE PLATE TO BE SAME THICKNESS AS END SECTION AND EACH TO BE GALVANIZED.

METAL FLARED END SECTION
NO SCALE



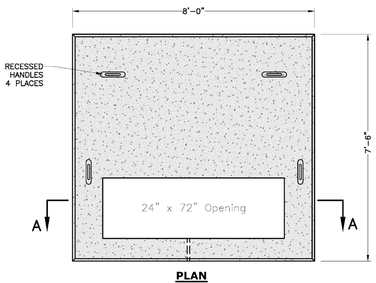
SECTION A-A **PLAN**

BIKE RACK
NO SCALE

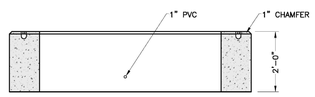


NOTE: PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED IN NURSERY, OR WITHIN 2" ABOVE.

EVERGREEN TREE PLANTING
NO SCALE



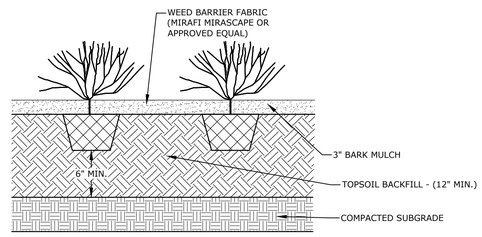
PLAN



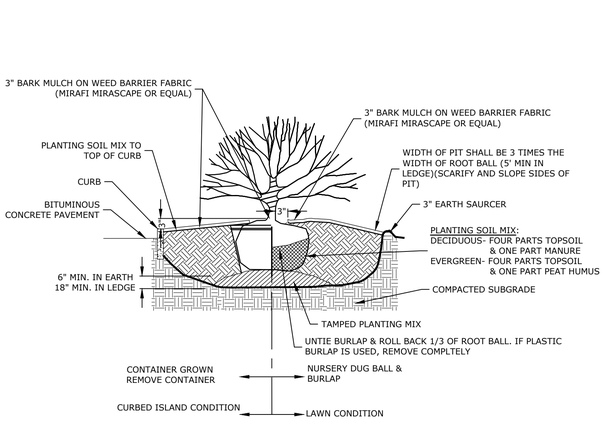
SECTION A-A

NOTES:
1. DIMENSIONS SHOWN REPRESENT TYPICAL REQUIREMENTS. MANHOLE LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED WITH EVERSOURCE PRIOR TO CONSTRUCTION
2. CONCRETE MINIMUM STRENGTH - 4,000 PSI @ 28 DAYS
3. STEEL REINFORCEMENT - ASTM A615, GRADE 60
4. PAD MEETS OR EXCEEDS EVERSOURCE SPECIFICATIONS

3-PHASE TRANSFORMER PAD
NO SCALE



PERENNIAL PLANTING
NO SCALE



NOTES:
1. PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED, OR WITHIN 2" ABOVE.

SHRUB PLANTING
NO SCALE

Tighe&Bond

PATRICK M. CUMMINS No. 12377 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE - 5-24-22

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230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
A	5/25/2022	Planning Board Submission

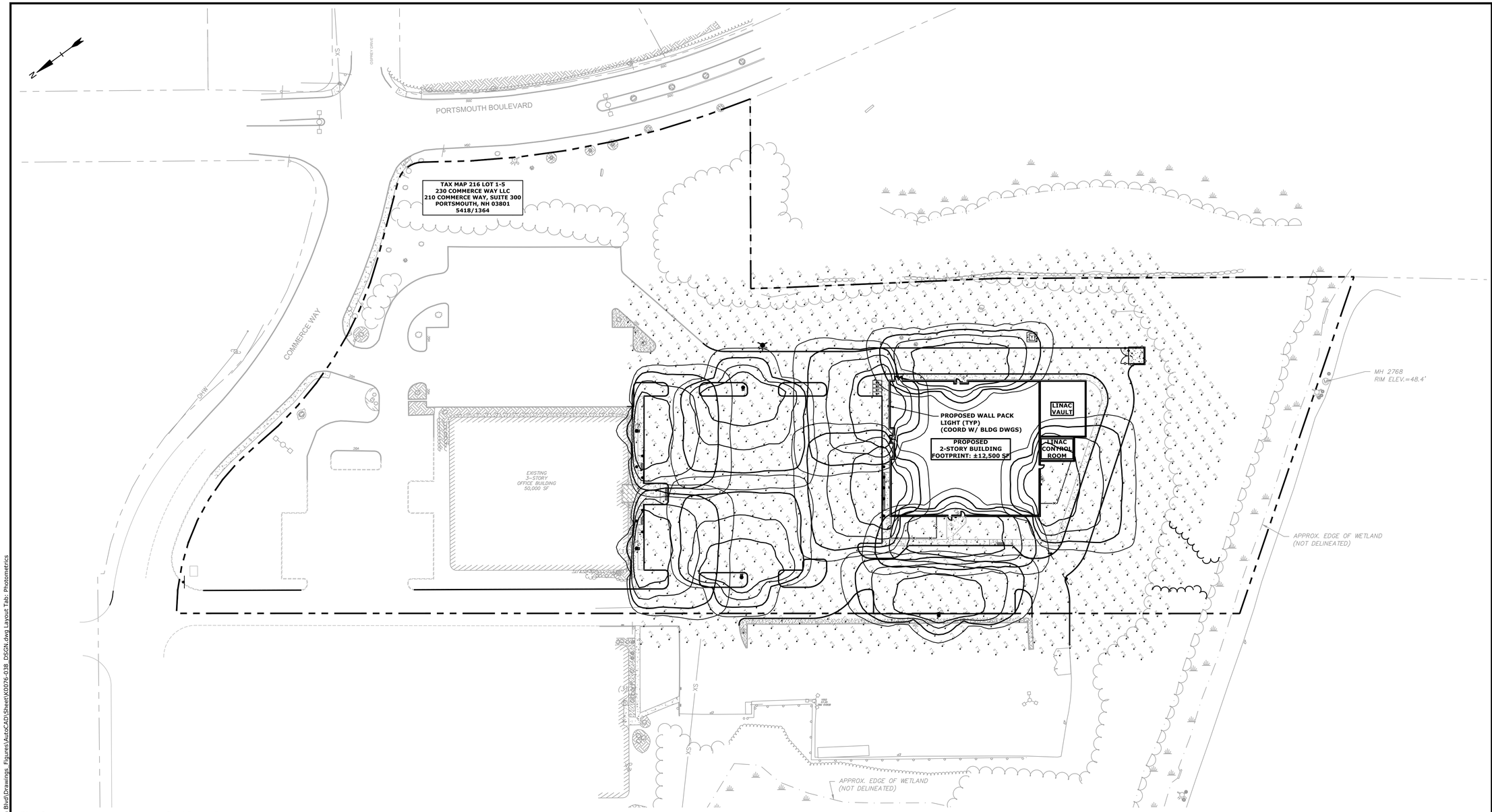
PROJECT NO:	K0076-038
DATE:	5/25/2022
FILE:	K0076-038_DTLS.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

DETAILS SHEET

SCALE: AS SHOWN

C-506

Last Save Date: May 24, 2022 3:40 AM By: CML
Plot Date: May 24, 2022 3:40 AM By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings_Figures\AutoCAD\Sheet\K0076-038_DTLS.dwg Layout Tab: C-506



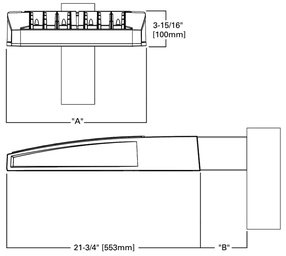
StatArea_1
MAIN PARKING LOT
Illuminance (Fc)
Average = 1.95
Maximum = 5.4
Minimum = 0.6
Avg/Min Ratio = 3.25
Max/Min Ratio = 9.00

StatArea_2
SIDE PARKING LOT AREA
Illuminance (Fc)
Average = 2.33
Maximum = 7.5
Minimum = 0.6
Avg/Min Ratio = 3.88
Max/Min Ratio = 12.50

Luminaire Schedule				
Symbol	Qty	Label	Arrangement	Description
	1	S3	Single	GLEON-SA2C-740-U-SL3 / SSS4A20SFN1 (20' AFG)
	2	S4	Single	GLEON-SA2C-740-U-T4FT / SSS4A20SFN1 (20' AFG)
	2	S4-HS	Single	GLEON-SA2C-740-U-T4FT-HSS/ SSS4A20SFN1 (20' AFG)
	2	W3	Single	GWC-SA2C-740-U-SL3 / WALL MTD 18' AFG
	3	W4	Single	GWC-SA2C-740-U-T4FT / WALL MTD 18' AFG

NOTE:
1. PROPOSED LIGHT FIXTURES SHALL BE DARK SKY FRIENDLY.

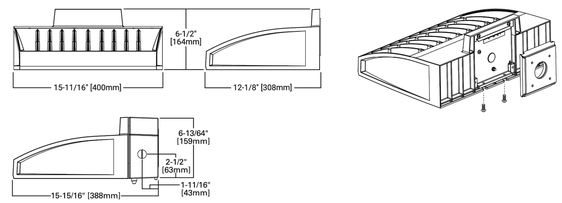
Dimensional Details



Number of Light Squares	"A" Width	"B" Standard Arm Length	"B" Extended Arm Length [1]	"B" Quick Mount Arm Length	"B" Quick Mount Extended Arm Length
1-4	15-1/2"	7"	10"	10-5/8"	16-9/16"
5-6	21-5/8"	7"	10"	10-5/8"	16-9/16"
7-8	27-5/8"	7"	13"	10-5/8"	--
9-10	33-3/4"	7"	16"	--	--

NOTES:
For arm selection requirements and additional line art, see Mounting Details section.

Dimensional Details



Tighe&Bond

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
A	5/24/2022	TAC Submission

PROJECT NO:	K0076-038
DATE:	5/24/2022
FILE:	K0076-038_DSGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

PHOTOMETRICS PLAN

SCALE: AS SHOWN

C-701

Last Save Date: May 24, 2022 10:25 AM By: CML
Plot Date: May 24, 2022 10:26 AM By: Chris M. Langton
T&B File Location: J:\K\K0076 The Kane Company\General Proposals\0076-038 Portsmouth Blvd\Drawings, Figures\AutoCAD\Sheet\K0076-038_DSGN.dwg Layout Tab: Photometrics

1 / A-200 East Elevation
3/16" = 1'-0"

2 / A-200 West Elevation
3/16" = 1'-0"

5/23/2022 1:47:34 PM C:\Users\jnovak\Revit_Locals\2021\215 Commerce Way_jnovakYPHR7.rvt

NELSON
Nelson Architecture & Interiors, Inc.

198 Tremont Street, Suite 439
Boston, MA. 02116
Phone: (617) 778-7229
WWW.NELSONWORLDWIDE.COM

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25 PORTSMOUTH
BOULEVARD

PORTSMOUTH, NH 03801

Issue: No: Date:

ELEVATIONS

Proj #: 20.0003391 Reviewed By: Checker

A-200

NELSON
Nelson Architecture & Interiors, Inc.

198 Tremont Street, Suite 439
Boston, MA. 02116
Phone: (617) 778-7229
WWW.NELSONWORLDWIDE.COM

1 A-201 South Elevation
3/16" = 1'-0"

2 A-201 North Elevation
3/16" = 1'-0"

25 PORTSMOUTH BOULEVARD
PORTSMOUTH, NH 03801

Issue: No: Date:

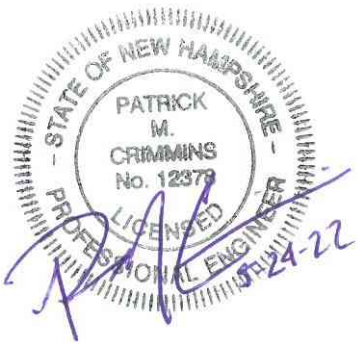
ELEVATIONS

Proj #: 20.0003391 Reviewed By: Checker

A-201

5/23/2022 1:48:58 PM C:\Users\jnovak\Revit_Locals\2021\215 Commerce Way_jnovakYPHR7.rvt

Drainage Analysis



TO: City of Portsmouth Technical Advisory Committee (TAC)

FROM: Neil A. Hansen, PE
Patrick M. Crimmins, PE
Craig Langton, PE

COPY: 230 Commerce Way, LLC

DATE: May 24, 222

1.0 Project Description

The proposed project is located at 230 Commerce Way. The existing parcels includes a three (3) story office building with a footprint of approximately 16,650 SF with associated surface parking. The site is bound to the southeast by Portsmouth Boulevard, and two (2) commercial properties to the southwest and northwest. The topography of the site has high points along Commerce Way and slopes to the rear, southwest, portion of the site.

Runoff generated by the existing site flows to one (1) discharge point identified as Point of Analysis 1 (PA-1) on the enclosed Pre-Development Watershed Plan. PA-1 is an existing wetland complex in the rear of the site that collects the drainage from the existing commercial uses adjacent to the site.

The proposed project consists of the constructing of an additional 2-story building that has an overall footprint of approximately 12,500 SF with associated site improvements within the area of the rear parking lot of the existing site. The proposed site improvements include a stormwater management system providing treatment not only to the newly redeveloped areas but also to portions of the existing impervious areas on site.

Portions of the proposed project are location within the local wetland buffer setback, and as part of the redevelopment there will be a decrease of impervious area of approximately 5,070 SF within the buffer as well as an overall decrease of impervious area to the overall site.

2.0 Drainage Analysis

2.1 Calculation Methods

The parcels on-site watersheds were analyzed under this section. The design storms analyzed in this study are the 2-year, 10-year, 25-year and 50-year 24-hour duration storm as per NHDES AoT Regulations (Env-Wq 1500). The stormwater modeling system, HydroCAD 10.0 was utilized to predict the peak runoff rates from these storm events. A Type III storm pattern was used in the model. The rainfall data for these storm events were obtained from the data published by the Northeast Regional Climate Center at Cornell University for the extreme precipitation estimates.

The time of concentration was computed using the TR-55 Method, which provides a means of determining the time for an entire watershed to contribute runoff to a specific location via sheet flows, shallow concentrated flow and channel flow. Runoff curve numbers were calculated by estimating the coverage areas and then summing the curve number for the coverage area as a percent of the entire watershed.

References:

1. HydroCAD Stormwater Modeling System, by HydroCAD Software Solutions LLC, Chocorua, New Hampshire.

2. New Hampshire Stormwater Management Manual, Volume 2, Post-Construction Best Management Practices Selection and Design, December 2008.

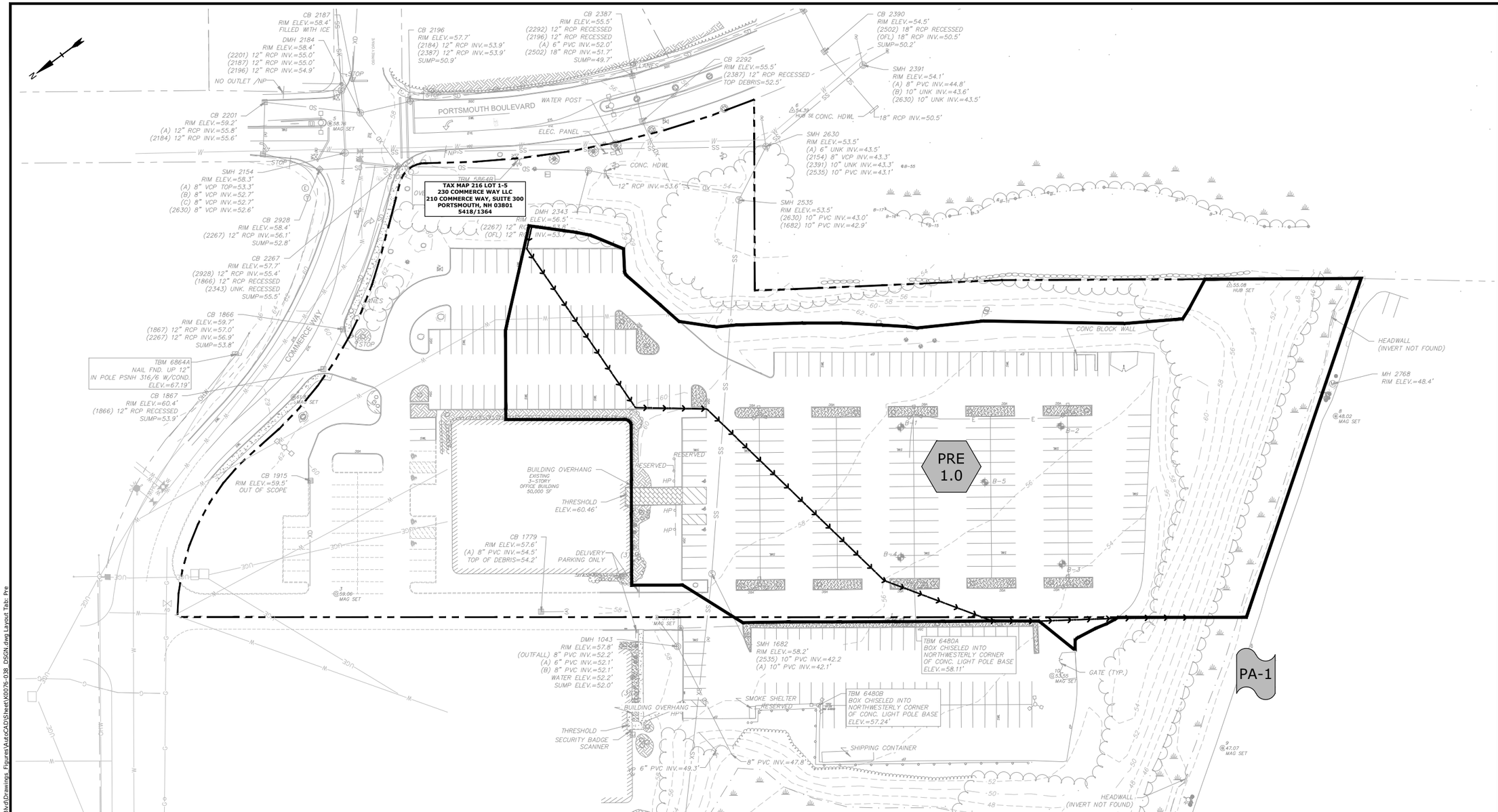
3. "Extreme Precipitation in New York & New England." Extreme Precipitation in New York & New England by Northeast Regional Climate Center (NRCC), 26 June 2012.

2.2 Pre-Development Calculations

As stated above the stromwater runoff characteristics of the site were analyzed at one distinct point of analysis. This point of analysis being the existing wetland complex in the rear of the site identified as PA-1. The limits of the contributing watershed area (Pre-1.0) of the pre-development condition studied in this analysis are depicted the enclosed plan entitled "Pre-Development Watershed Plan", Sheet C-801.

2.2.1 Pre-Development Calculations

2.2.2 Pre-Development Watershed Plan



LEGEND

- PRE-DEVELOPMENT WATERSHED BOUNDARY
- NRCS WEB SOIL SURVEY BOUNDARIES
- LONGEST FLOW PATH
- PRE 1.0 — PRE DEVELOPMENT WATERSHED AREA DESIGNATION
- PA-1 — POINT OF ANALYSIS

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
A	5/24/2022	TAC Submission

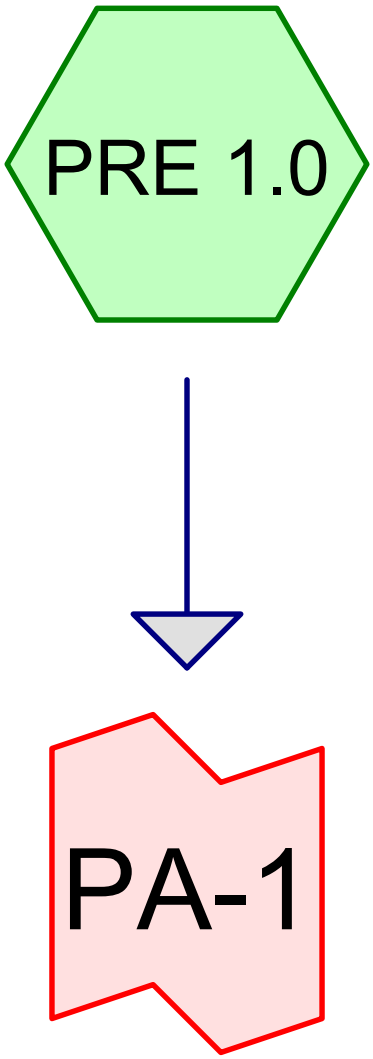
PROJECT NO:	K0076-038
DATE:	5/24/2022
FILE:	K0076-038_DSGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

PRE-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-801

Last Save Date: May 23, 2022 5:03 PM By: CML
Plot Date: May 23, 2022 5:03 PM By: Chris M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings, Figures\AutoCAD\Sheet\K0076-038_DSGN.dwg Layout Tab: Pre



Subcat Reach Pond Link

Routing Diagram for K0076-038_PRE
Prepared by Tighe & Bond, Printed 5/17/2022

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
25,735	61	>75% Grass cover, Good, HSG B (PRE 1.0)
6,305	80	>75% Grass cover, Good, HSG D (PRE 1.0)
86,704	98	Paved parking, HSG B (PRE 1.0)
17,987	55	Woods, Good, HSG B (PRE 1.0)
136,731	**85**	**TOTAL AREA**

Summary for Subcatchment PRE 1.0:

Runoff = 6.67 cfs @ 12.07 hrs, Volume= 20,027 cf, Depth= 1.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2yr Rainfall=3.20"

Area (sf)	CN	Description
86,704	98	Paved parking, HSG B
6,305	80	>75% Grass cover, Good, HSG D
17,987	55	Woods, Good, HSG B
25,735	61	>75% Grass cover, Good, HSG B
136,731	85	Weighted Average
50,027		36.59% Pervious Area
86,704		63.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	100	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.5	500	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	56	0.1439	5.69		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
4.4	656	Total			

Summary for Link PA-1:

Inflow Area = 136,731 sf, 63.41% Impervious, Inflow Depth = 1.76" for 2yr event
Inflow = 6.67 cfs @ 12.07 hrs, Volume= 20,027 cf
Primary = 6.67 cfs @ 12.07 hrs, Volume= 20,027 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Subcatchment PRE 1.0:

Runoff = 12.16 cfs @ 12.07 hrs, Volume= 36,800 cf, Depth= 3.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10yr Rainfall=4.85"

Area (sf)	CN	Description
86,704	98	Paved parking, HSG B
6,305	80	>75% Grass cover, Good, HSG D
17,987	55	Woods, Good, HSG B
25,735	61	>75% Grass cover, Good, HSG B
136,731	85	Weighted Average
50,027		36.59% Pervious Area
86,704		63.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	100	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.5	500	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	56	0.1439	5.69		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
4.4	656	Total			

Summary for Link PA-1:

Inflow Area = 136,731 sf, 63.41% Impervious, Inflow Depth = 3.23" for 10yr event
Inflow = 12.16 cfs @ 12.07 hrs, Volume= 36,800 cf
Primary = 12.16 cfs @ 12.07 hrs, Volume= 36,800 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Subcatchment PRE 1.0:

Runoff = 16.54 cfs @ 12.06 hrs, Volume= 50,638 cf, Depth= 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25yr Rainfall=6.15"

Area (sf)	CN	Description
86,704	98	Paved parking, HSG B
6,305	80	>75% Grass cover, Good, HSG D
17,987	55	Woods, Good, HSG B
25,735	61	>75% Grass cover, Good, HSG B
136,731	85	Weighted Average
50,027		36.59% Pervious Area
86,704		63.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	100	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.5	500	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	56	0.1439	5.69		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
4.4	656	Total			

Summary for Link PA-1:

Inflow Area = 136,731 sf, 63.41% Impervious, Inflow Depth = 4.44" for 25yr event
Inflow = 16.54 cfs @ 12.06 hrs, Volume= 50,638 cf
Primary = 16.54 cfs @ 12.06 hrs, Volume= 50,638 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Subcatchment PRE 1.0:

Runoff = 20.61 cfs @ 12.06 hrs, Volume= 63,778 cf, Depth= 5.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50yr Rainfall=7.36"

Area (sf)	CN	Description
86,704	98	Paved parking, HSG B
6,305	80	>75% Grass cover, Good, HSG D
17,987	55	Woods, Good, HSG B
25,735	61	>75% Grass cover, Good, HSG B
136,731	85	Weighted Average
50,027		36.59% Pervious Area
86,704		63.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	100	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.5	500	0.0140	2.40		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	56	0.1439	5.69		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
4.4	656	Total			

Summary for Link PA-1:

Inflow Area = 136,731 sf, 63.41% Impervious, Inflow Depth = 5.60" for 50yr event
Inflow = 20.61 cfs @ 12.06 hrs, Volume= 63,778 cf
Primary = 20.61 cfs @ 12.06 hrs, Volume= 63,778 cf, Atten= 0%, Lag= 0.0 min

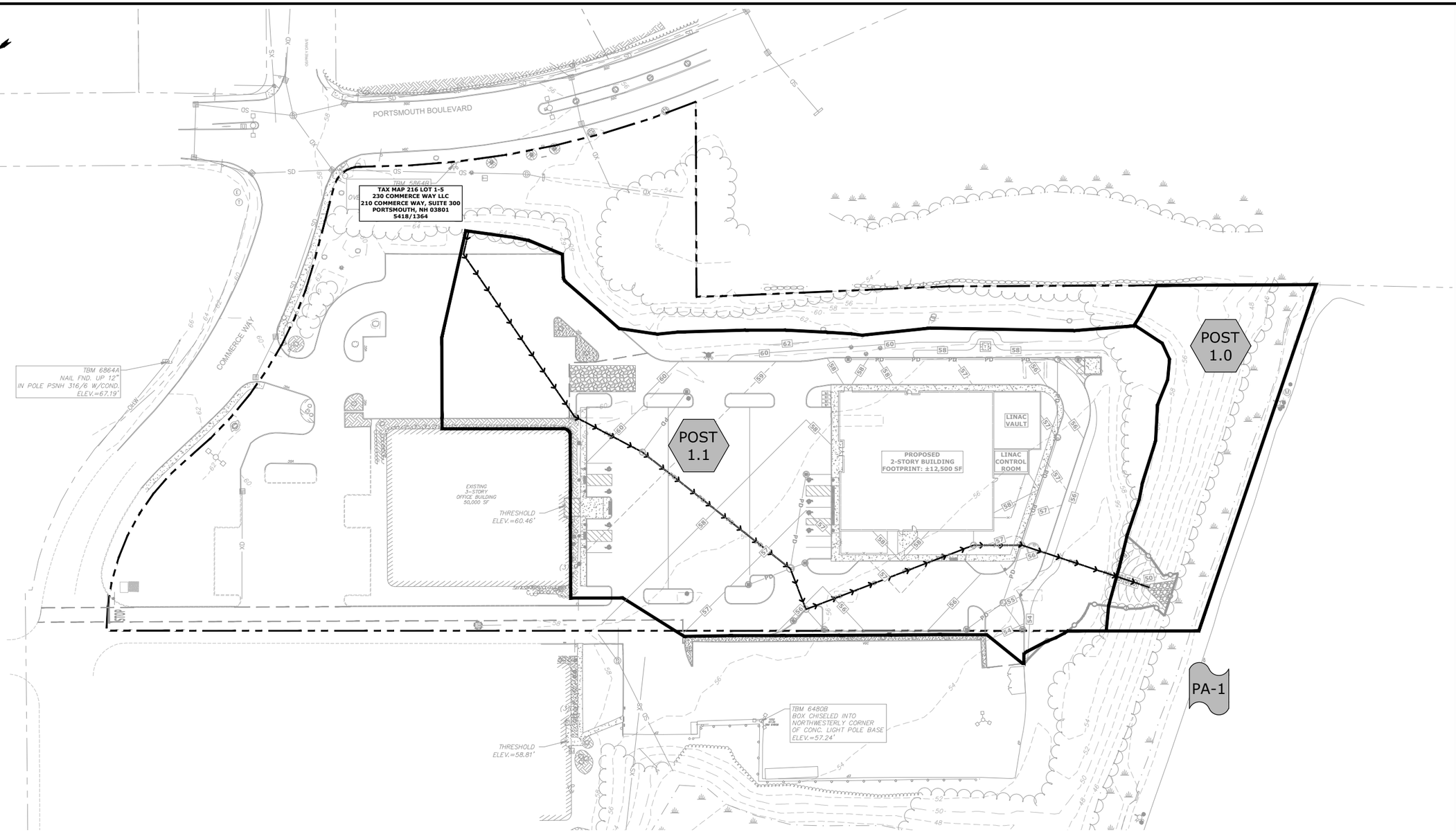
Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

2.3 Post-Development Calculations

The stromwater runoff characteristics of the pre-development conditions were analyzed at same distinct point of analysis (PA-1). However, in the post-development condition the overall contributing watershed was split into two (2) sub watershed areas (Post-1.0 & Post-1.1). Though the two (2) post-development watershed areas ultimately drain to the same point of analysis (PA-1), the proposed drainage system was designed to capture runoff from the contributing impervious areas (Post-1.1) and direct the flow through a proprietary stormwater treatment unit prior to discharging the runoff to PA-1. Post-development watershed areas (Post-1.0 & Post-1.1) of the post-development condition are depicted the enclosed plan entitled "Post-Development Watershed Plan", Sheet C-802.

2.3.1 Post-Development Calculations

2.3.2 Post-Development Watershed Plan



LEGEND

- POST-DEVELOPMENT WATERSHED BOUNDARY
- NRCS WEB SOIL SURVEY BOUNDARIES
- LONGEST FLOW PATH
- POST 1.0 — PRE DEVELOPMENT WATERSHED AREA DESIGNATION
- PA-1 — POINT OF ANALYSIS

Tighe&Bond

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
A	5/24/2022	TAC Submission

PROJECT NO:	K0076-038
DATE:	5/24/2022
FILE:	K0076-038_DSGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

POST-DEVELOPMENT WATERSHED PLAN

SCALE: AS SHOWN

C-802

Last Save Date: May 23, 2022, 5:03 PM By: CML
Plot Date: Monday, May 23, 2022 Plotted By: Craig M. Langton
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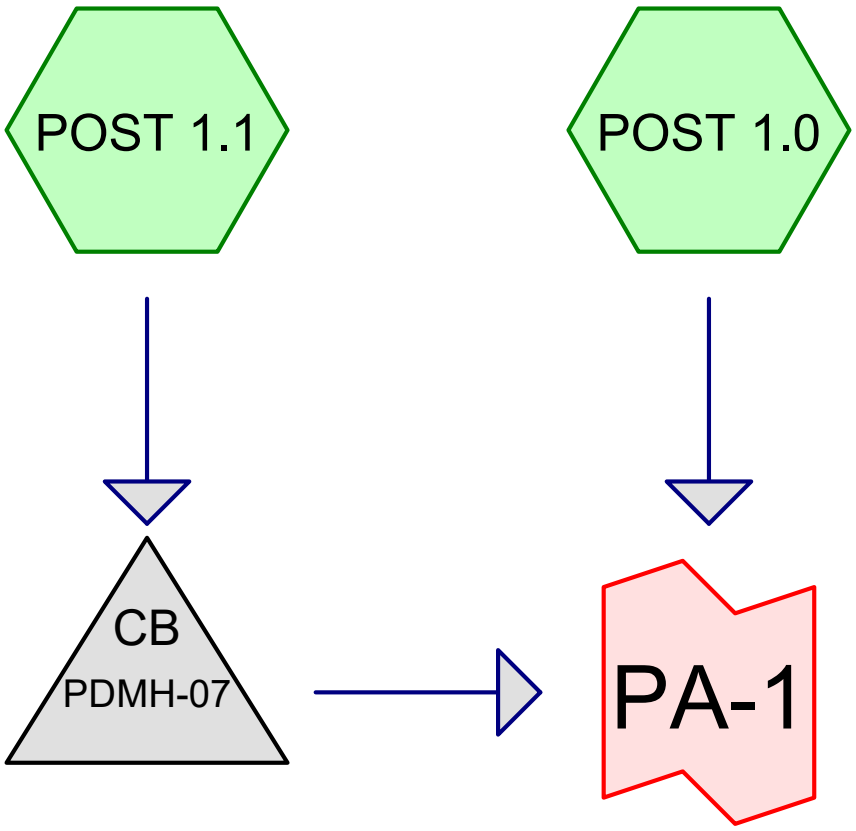

JELLYFISH JF8

Subcat Reach Pond Link

Routing Diagram for K0076-038_POST
Prepared by Tighe & Bond, Printed 5/17/2022

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
33,121	61	>75% Grass cover, Good, HSG B (POST 1.0, POST 1.1)
6,305	80	>75% Grass cover, Good, HSG D (POST 1.0)
66,420	98	Paved parking, HSG B (POST 1.1)
14,617	98	Roofs, HSG B (POST 1.1)
16,268	55	Woods, Good, HSG B (POST 1.0, POST 1.1)
136,731	**83**	**TOTAL AREA**

Summary for Subcatchment POST 1.0:

Runoff = 0.22 cfs @ 12.09 hrs, Volume= 924 cf, Depth= 0.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2yr Rainfall=3.20"

Area (sf)	CN	Description
0	98	Paved parking, HSG B
0	98	Roofs, HSG B
6,305	80	>75% Grass cover, Good, HSG D
13,316	55	Woods, Good, HSG B
1,719	61	>75% Grass cover, Good, HSG B
21,340	63	Weighted Average
21,340		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	50	0.3333	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment POST 1.1:

Runoff = 6.16 cfs @ 12.07 hrs, Volume= 18,413 cf, Depth= 1.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 2yr Rainfall=3.20"

Area (sf)	CN	Description
66,420	98	Paved parking, HSG B
14,617	98	Roofs, HSG B
0	80	>75% Grass cover, Good, HSG D
2,952	55	Woods, Good, HSG B
31,402	61	>75% Grass cover, Good, HSG B
115,391	87	Weighted Average
34,354		29.77% Pervious Area
81,037		70.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	19	0.0815	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.1	151	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	194	0.0200	6.42	5.04	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.2	34	0.0060	3.51	2.76	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.7	166	0.0050	3.72	4.57	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.0	13	0.0080	5.32	9.40	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.3	75	0.0050	4.20	7.43	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
4.3	652	Total			

Summary for Pond PDMH-07: JELLYFISH JF8

Inflow Area = 115,391 sf, 70.23% Impervious, Inflow Depth = 1.91" for 2yr event
Inflow = 6.16 cfs @ 12.07 hrs, Volume= 18,413 cf
Outflow = 6.16 cfs @ 12.07 hrs, Volume= 18,413 cf, Atten= 0%, Lag= 0.0 min
Primary = 6.16 cfs @ 12.07 hrs, Volume= 18,413 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 50.61' @ 12.07 hrs
Flood Elev= 55.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.10'	**18.0" Round Culvert** L= 74.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 49.10' / 48.75' S= 0.0047 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=5.93 cfs @ 12.07 hrs HW=50.57' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 5.93 cfs @ 4.25 fps)

Summary for Link PA-1:

Inflow Area = 136,731 sf, 59.27% Impervious, Inflow Depth = 1.70" for 2yr event
Inflow = 6.37 cfs @ 12.07 hrs, Volume= 19,337 cf
Primary = 6.37 cfs @ 12.07 hrs, Volume= 19,337 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Subcatchment POST 1.0:

Runoff = 0.79 cfs @ 12.07 hrs, Volume= 2,516 cf, Depth= 1.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10yr Rainfall=4.85"

Area (sf)	CN	Description
0	98	Paved parking, HSG B
0	98	Roofs, HSG B
6,305	80	>75% Grass cover, Good, HSG D
13,316	55	Woods, Good, HSG B
1,719	61	>75% Grass cover, Good, HSG B
21,340	63	Weighted Average
21,340		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	50	0.3333	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment POST 1.1:

Runoff = 10.85 cfs @ 12.06 hrs, Volume= 32,946 cf, Depth= 3.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 10yr Rainfall=4.85"

Area (sf)	CN	Description
66,420	98	Paved parking, HSG B
14,617	98	Roofs, HSG B
0	80	>75% Grass cover, Good, HSG D
2,952	55	Woods, Good, HSG B
31,402	61	>75% Grass cover, Good, HSG B
115,391	87	Weighted Average
34,354		29.77% Pervious Area
81,037		70.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	19	0.0815	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.1	151	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	194	0.0200	6.42	5.04	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.2	34	0.0060	3.51	2.76	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.7	166	0.0050	3.72	4.57	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.0	13	0.0080	5.32	9.40	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.3	75	0.0050	4.20	7.43	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
4.3	652	Total			

Summary for Pond PDMH-07: JELLYFISH JF8

Inflow Area = 115,391 sf, 70.23% Impervious, Inflow Depth = 3.43" for 10yr event
Inflow = 10.85 cfs @ 12.06 hrs, Volume= 32,946 cf
Outflow = 10.85 cfs @ 12.06 hrs, Volume= 32,946 cf, Atten= 0%, Lag= 0.0 min
Primary = 10.85 cfs @ 12.06 hrs, Volume= 32,946 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 51.92' @ 12.06 hrs
Flood Elev= 55.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.10'	**18.0" Round Culvert** L= 74.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 49.10' / 48.75' S= 0.0047 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=10.48 cfs @ 12.06 hrs HW=51.81' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Barrel Controls 10.48 cfs @ 5.93 fps)

Summary for Link PA-1:

Inflow Area = 136,731 sf, 59.27% Impervious, Inflow Depth = 3.11" for 10yr event
Inflow = 11.63 cfs @ 12.06 hrs, Volume= 35,462 cf
Primary = 11.63 cfs @ 12.06 hrs, Volume= 35,462 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Subcatchment POST 1.0:

Runoff = 1.33 cfs @ 12.07 hrs, Volume= 4,058 cf, Depth= 2.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25yr Rainfall=6.15"

Area (sf)	CN	Description
0	98	Paved parking, HSG B
0	98	Roofs, HSG B
6,305	80	>75% Grass cover, Good, HSG D
13,316	55	Woods, Good, HSG B
1,719	61	>75% Grass cover, Good, HSG B
21,340	63	Weighted Average
21,340		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	50	0.3333	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment POST 1.1:

Runoff = 14.56 cfs @ 12.06 hrs, Volume= 44,819 cf, Depth= 4.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 25yr Rainfall=6.15"

Area (sf)	CN	Description
66,420	98	Paved parking, HSG B
14,617	98	Roofs, HSG B
0	80	>75% Grass cover, Good, HSG D
2,952	55	Woods, Good, HSG B
31,402	61	>75% Grass cover, Good, HSG B
115,391	87	Weighted Average
34,354		29.77% Pervious Area
81,037		70.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	19	0.0815	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.1	151	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	194	0.0200	6.42	5.04	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.2	34	0.0060	3.51	2.76	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.7	166	0.0050	3.72	4.57	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.0	13	0.0080	5.32	9.40	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.3	75	0.0050	4.20	7.43	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
4.3	652	Total			

Summary for Pond PDMH-07: JELLYFISH JF8

Inflow Area = 115,391 sf, 70.23% Impervious, Inflow Depth = 4.66" for 25yr event
Inflow = 14.56 cfs @ 12.06 hrs, Volume= 44,819 cf
Outflow = 14.56 cfs @ 12.06 hrs, Volume= 44,819 cf, Atten= 0%, Lag= 0.0 min
Primary = 14.56 cfs @ 12.06 hrs, Volume= 44,819 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 53.24' @ 12.06 hrs
Flood Elev= 55.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.10'	**18.0" Round Culvert** L= 74.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 49.10' / 48.75' S= 0.0047 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=14.08 cfs @ 12.06 hrs HW=53.06' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 14.08 cfs @ 7.97 fps)

Summary for Link PA-1:

Inflow Area = 136,731 sf, 59.27% Impervious, Inflow Depth = 4.29" for 25yr event
Inflow = 15.89 cfs @ 12.06 hrs, Volume= 48,876 cf
Primary = 15.89 cfs @ 12.06 hrs, Volume= 48,876 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

Summary for Subcatchment POST 1.0:

Runoff = 1.89 cfs @ 12.07 hrs, Volume= 5,642 cf, Depth= 3.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50yr Rainfall=7.36"

Area (sf)	CN	Description
0	98	Paved parking, HSG B
0	98	Roofs, HSG B
6,305	80	>75% Grass cover, Good, HSG D
13,316	55	Woods, Good, HSG B
1,719	61	>75% Grass cover, Good, HSG B
21,340	63	Weighted Average
21,340		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	50	0.3333	0.21		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment POST 1.1:

Runoff = 18.00 cfs @ 12.06 hrs, Volume= 56,040 cf, Depth= 5.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type III 24-hr 50yr Rainfall=7.36"

Area (sf)	CN	Description
66,420	98	Paved parking, HSG B
14,617	98	Roofs, HSG B
0	80	>75% Grass cover, Good, HSG D
2,952	55	Woods, Good, HSG B
31,402	61	>75% Grass cover, Good, HSG B
115,391	87	Weighted Average
34,354		29.77% Pervious Area
81,037		70.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	19	0.0815	0.21		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.1	151	0.0120	2.22		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.5	194	0.0200	6.42	5.04	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.2	34	0.0060	3.51	2.76	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.7	166	0.0050	3.72	4.57	**Pipe Channel,** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.013 Corrugated PE, smooth interior
0.0	13	0.0080	5.32	9.40	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
0.3	75	0.0050	4.20	7.43	**Pipe Channel,** 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.013 Corrugated PE, smooth interior
4.3	652	Total			

Summary for Pond PDMH-07: JELLYFISH JF8

Inflow Area = 115,391 sf, 70.23% Impervious, Inflow Depth = 5.83" for 50yr event
Inflow = 18.00 cfs @ 12.06 hrs, Volume= 56,040 cf
Outflow = 18.00 cfs @ 12.06 hrs, Volume= 56,040 cf, Atten= 0%, Lag= 0.0 min
Primary = 18.00 cfs @ 12.06 hrs, Volume= 56,040 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 54.82' @ 12.06 hrs
Flood Elev= 55.15'

Device	Routing	Invert	Outlet Devices
#1	Primary	49.10'	**18.0" Round Culvert** L= 74.0' CMP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 49.10' / 48.75' S= 0.0047 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=17.42 cfs @ 12.06 hrs HW=54.55' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 17.42 cfs @ 9.86 fps)

Summary for Link PA-1:

Inflow Area = 136,731 sf, 59.27% Impervious, Inflow Depth = 5.41" for 50yr event
Inflow = 19.89 cfs @ 12.06 hrs, Volume= 61,683 cf
Primary = 19.89 cfs @ 12.06 hrs, Volume= 61,683 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs

2.4 Peak Rate Comparisons

The following table summarizes and compares the pre- and post-development peak runoff rates for the 2-year, 10-year, 25-year and 50-year storm events at each point of analysis.

Table 2.4.1 - Comparison of Pre- and Post-Development flows (cfs)

	2-Year Storm	10-Year Storm	25-Year Storm	50-Year Storm
Pre-Development Watershed				
PA-1	6.67	12.16	16.54	20.61
Post-Development Watershed				
PA-1	6.37	11.63	15.89	19.89

2.5 Stormwater Treatment

The stormwater management system has been designed to provide stormwater treatment as required by the City of Portsmouth Site Review Regulations and the NHDES AoT Regulations (Env-Wq 1500).

Runoff generated from impervious areas will be treated by a Contech Jellyfish (JF8) stormwater treatment system. The surface parking area will receive pre-treatment via deep sump catch basins prior to discharging to the Jellyfish unit. Roof runoff is to be discharged directly in the proposed closed drainage system prior to being directed to the Contech stromwater treatment unit.

The Contech stormwater treatment unit was sized to treat the one (1) inch storm per the NHDES AoT Regulations for water quality flow (WQF), as shown on the enclosed NHDES WQF worksheet.

3.0 Conclusion

The proposed project will result in a reduction in post-development peak runoff rates from the pre-development condition. The impervious area resulting from the proposed project will be treated by the proposed stormwater treatment system.

GENERAL CALCULATIONS - WQV and WQF
(optional worksheet)

This worksheet may be useful when designing a BMP **that does not fit into one of the specific worksheets already provided** (i.e. for a technology which is not a stormwater wetland, infiltration practice, etc.)

Water Quality Volume (WQV)

2.65	ac	A = Area draining to the practice
1.86	ac	A_I = Impervious area draining to the practice
0.70	decimal	I = Percent impervious area draining to the practice, in decimal form
0.68	unitless	Rv = Runoff coefficient = 0.05 + (0.9 x I)
1.81	ac-in	WQV= 1" x Rv x A
6,559	cf	WQV conversion (ac-in x 43,560 sf/ac x 1ft/12")

Water Quality Flow (WQF)

1	inches	P = Amount of rainfall. For WQF in NH, P = 1".
0.68	inches	Q = Water quality depth. Q = WQV/A
97	unitless	CN = Unit peak discharge curve number. CN =1000/(10+5P+10Q–10*[Q^2 + 1.25*Q*P] $^{0.5}$)
0.3	inches	S = Potential maximum retention. S = (1000/CN) - 10
0.068	inches	Ia = Initial abstraction. Ia = 0.2S
4.3	minutes	T_c = Time of Concentration
615.0	cfs/mi^2/in	q_u is the unit peak discharge. Obtain this value from TR-55 exhibits 4-II and 4-III.
1.736	cfs	WQF = q_u x WQV. Conversion: to convert "cfs/mi^2/in * ac-in" to "cfs" multiply by 1mi^2/640ac.

Designer's Notes:

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.786 degrees West
Latitude	43.089 degrees North
Elevation	0 feet
Date/Time	Wed, 11 May 2022 10:39:24 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.04	**1yr**	0.70	0.98	1.21	1.56	2.02	2.65	2.91	**1yr**	2.35	2.80	3.20	3.93	4.53	**1yr**
2yr	0.32	0.50	0.62	0.81	1.02	1.30	**2yr**	0.88	1.18	1.51	1.93	2.48	3.20	3.56	**2yr**	2.83	3.42	3.92	4.66	5.31	**2yr**
5yr	0.37	0.58	0.73	0.97	1.24	1.60	**5yr**	1.07	1.46	1.88	2.42	3.13	4.05	4.56	**5yr**	3.59	4.38	5.02	5.91	6.68	**5yr**
10yr	0.41	0.64	0.81	1.11	1.44	1.88	**10yr**	1.24	1.72	2.22	2.88	3.73	4.85	5.51	**10yr**	4.29	5.30	6.05	7.08	7.95	**10yr**
25yr	0.47	0.75	0.96	1.32	1.76	2.32	**25yr**	1.52	2.13	2.76	3.61	4.71	6.15	7.07	**25yr**	5.44	6.80	7.75	8.98	10.01	**25yr**
50yr	0.53	0.85	1.09	1.52	2.05	2.73	**50yr**	1.77	2.51	3.26	4.29	5.63	7.36	8.55	**50yr**	6.51	8.22	9.36	10.76	11.93	**50yr**
100yr	0.59	0.95	1.23	1.75	2.39	3.22	**100yr**	2.06	2.95	3.87	5.12	6.73	8.82	10.33	**100yr**	7.80	9.94	11.30	12.89	14.22	**100yr**
200yr	0.67	1.09	1.41	2.02	2.79	3.79	**200yr**	2.41	3.49	4.57	6.08	8.03	10.57	12.50	**200yr**	9.35	12.02	13.64	15.45	16.96	**200yr**
500yr	0.79	1.29	1.69	2.45	3.43	4.70	**500yr**	2.96	4.34	5.70	7.63	10.15	13.43	16.08	**500yr**	11.88	15.46	17.52	19.65	21.42	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.73	0.89	**1yr**	0.63	0.87	0.92	1.32	1.67	2.22	2.49	**1yr**	1.96	2.39	2.84	3.16	3.87	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.36	1.82	2.34	3.05	3.44	**2yr**	2.70	3.31	3.81	4.53	5.05	**2yr**
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.12	2.74	3.78	4.18	**5yr**	3.34	4.02	4.69	5.51	6.22	**5yr**
10yr	0.38	0.59	0.73	1.02	1.32	1.60	**10yr**	1.14	1.56	1.81	2.40	3.07	4.36	4.85	**10yr**	3.86	4.66	5.42	6.38	7.17	**10yr**
25yr	0.44	0.67	0.83	1.18	1.56	1.90	**25yr**	1.34	1.86	2.10	2.77	3.56	4.67	5.88	**25yr**	4.14	5.65	6.61	7.76	8.65	**25yr**
50yr	0.48	0.73	0.91	1.31	1.76	2.17	**50yr**	1.52	2.12	2.35	3.10	3.96	5.28	6.79	**50yr**	4.67	6.53	7.69	9.00	9.98	**50yr**
100yr	0.53	0.81	1.01	1.46	2.00	2.47	**100yr**	1.73	2.41	2.62	3.45	4.39	5.92	7.84	**100yr**	5.24	7.54	8.93	10.45	11.51	**100yr**
200yr	0.59	0.89	1.12	1.63	2.27	2.82	**200yr**	1.96	2.75	2.93	3.83	4.85	6.63	9.05	**200yr**	5.86	8.70	10.37	12.15	13.30	**200yr**
500yr	0.68	1.02	1.31	1.90	2.70	3.37	**500yr**	2.33	3.29	3.40	4.38	5.54	7.69	10.93	**500yr**	6.81	10.51	12.63	14.85	16.08	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.08	**1yr**	0.76	1.06	1.25	1.75	2.21	2.99	3.14	**1yr**	2.64	3.02	3.57	4.37	5.03	**1yr**
2yr	0.33	0.52	0.64	0.86	1.06	1.26	**2yr**	0.92	1.24	1.48	1.96	2.51	3.42	3.68	**2yr**	3.02	3.54	4.07	4.82	5.62	**2yr**
5yr	0.40	0.61	0.76	1.04	1.33	1.61	**5yr**	1.15	1.58	1.88	2.53	3.24	4.32	4.94	**5yr**	3.83	4.75	5.35	6.34	7.12	**5yr**
10yr	0.46	0.71	0.89	1.24	1.60	1.96	**10yr**	1.38	1.92	2.27	3.10	3.94	5.32	6.17	**10yr**	4.71	5.93	6.77	7.80	8.71	**10yr**
25yr	0.57	0.87	1.08	1.54	2.03	2.55	**25yr**	1.75	2.49	2.94	4.05	5.12	7.77	8.29	**25yr**	6.87	7.97	9.07	10.28	11.35	**25yr**
50yr	0.66	1.01	1.26	1.81	2.44	3.10	**50yr**	2.10	3.03	3.58	4.97	6.26	9.73	10.39	**50yr**	8.61	9.99	11.33	12.65	13.89	**50yr**
100yr	0.78	1.18	1.48	2.13	2.92	3.77	**100yr**	2.52	3.68	4.35	6.12	7.68	12.17	13.01	**100yr**	10.77	12.51	14.16	15.60	17.01	**100yr**
200yr	0.91	1.37	1.74	2.51	3.50	4.59	**200yr**	3.02	4.49	5.30	7.53	9.41	15.28	16.32	**200yr**	13.52	15.70	17.71	19.22	20.82	**200yr**
500yr	1.13	1.68	2.16	3.13	4.45	5.95	**500yr**	3.84	5.82	6.87	9.93	12.35	20.64	22.03	**500yr**	18.27	21.19	23.82	25.34	27.23	**500yr**

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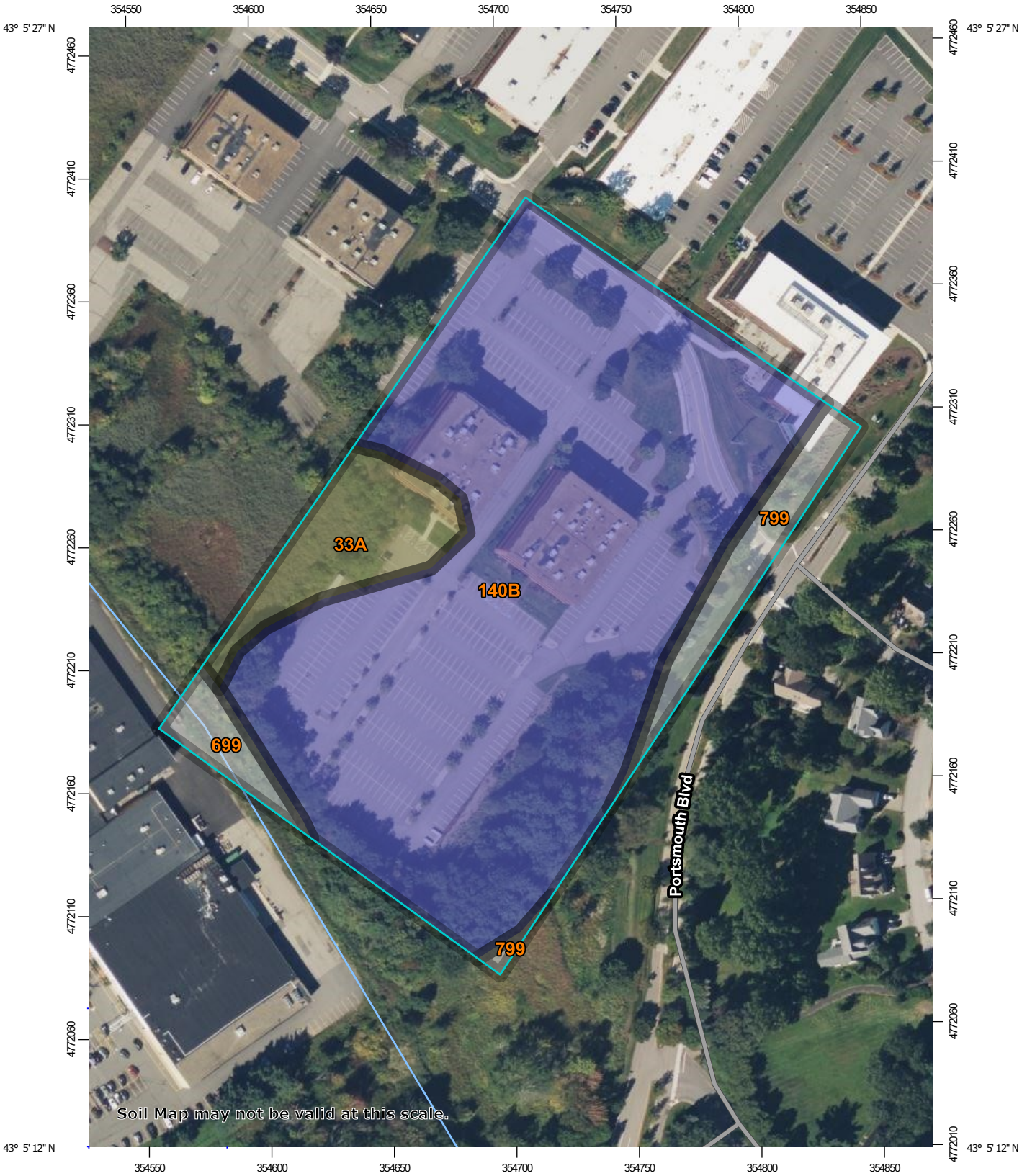
Northeast Regional Climate Center



Map Scale: 1:2,220 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 30 60 120 180

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

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

Soil Rating Lines

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

Soil Rating Points

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

Water Features

Streams and Canals

Transportation

Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background

Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Rockingham County, New Hampshire
Survey Area Data: Version 24, Aug 31, 2021

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

Date(s) aerial images were photographed: Sep 19, 2021—Nov 1, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
33A	Scitico silt loam, 0 to 5 percent slopes	C/D	0.9	8.3%
140B	Chatfield-Hollis-Canton complex, 0 to 8 percent slopes, rocky	B	9.2	82.8%
699	Urban land		0.3	2.8%
799	Urban land-Canton complex, 3 to 15 percent slopes		0.7	6.0%
Totals for Area of Interest			**11.1**	**100.0%**

Description

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

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

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

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

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

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

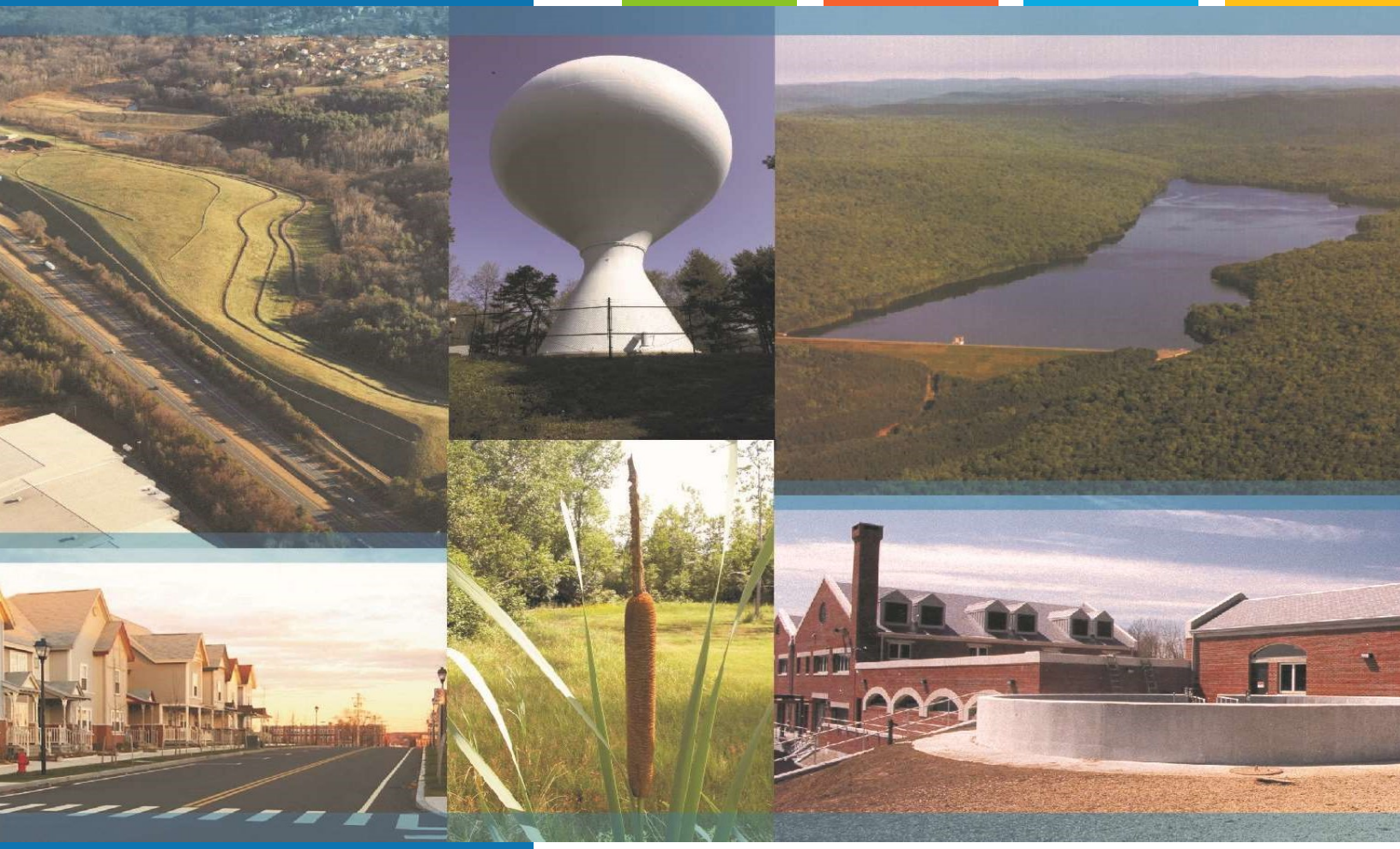
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



Proposed 2-Story Building

Portsmouth, NH

Long Term Operation & Maintenance Plan

Prepared For:

230 Commerce Way LLC
210 Commerce Way, Suite 300
Portsmouth, NH 03801

May 24, 2022

Table of Contents

Tighe&Bond

Section 1
Long-Term Operation & Maintenance Plan

It is the intent of this Operation and Maintenance Plan to identify the areas of this site that need special attention and consideration, as well as implementing a plan to assure routine maintenance. By identifying the areas of concern as well as implementing a frequent and routine maintenance schedule the site will maintain a high-quality stormwater runoff.

1.1 Contact/Responsible Party

Kelsey Kraus, Director of Property Management
The Kane Company, Inc.
210 Commerce Way, Suite 300
Portsmouth, NH 03801
603-559-9666

(Note: The contact information for the Contact/Responsible Party shall be kept current. If ownership changes, the Operation and Maintenance Plan must be transferred to the new party.)

1.2 Maintenance Items

Maintenance of the following items shall be recorded:

- Litter/Debris Removal
- Landscaping
- Catch Basin
- Pavement Sweeping
- ADS Water Quality Unit

The following maintenance items and schedule represent the minimum action required. Periodic site inspections shall be conducted, and all measures must be maintained in effective operating condition. The following items shall be observed during site inspection and maintenance:

- Inspect vegetated areas, particularly slopes and embankments for areas of erosion. Replant and restore as necessary
- Inspect catch basins for sediment buildup
- Inspect site for trash and debris

1.3 Overall Site Operation & Maintenance Schedule

Maintenance Item	Frequency of Maintenance
Litter/Debris Removal	Weekly
Pavement Sweeping - Sweep impervious areas to remove sand and litter.	Annually
Landscaping - Landscaped islands to be maintained and mulched.	Maintained as required and mulched each Spring
Catch Basin (CB) Cleaning - CBs to be cleaned of solids and oils.	Bi-Annually
Jellyfish Treatment Unit - Visual observation of sediment levels within system - Cleaned (pumped and pressure washed) - Per manufacture recommendations	- Quarterly and after major storm events. - Annually - See manufactures Jellyfish Treatment Unit Inspection and Maintenance Guide, enclosed

1.3.1 Disposal Requirements

Disposal of debris, trash, sediment, and other waste material should be done at suitable disposal/recycling sites and in compliance with all applicable local, state and federal waste regulations.

1.4 Jellyfish Treatment Unit Maintenance Requirements

1.5 Snow & Ice Management for Standard Asphalt and Walkways

Snow storage areas shall be located such that no direct untreated discharges are possible to receiving waters from the storage site (snow storage areas have been shown on the Site Plan).

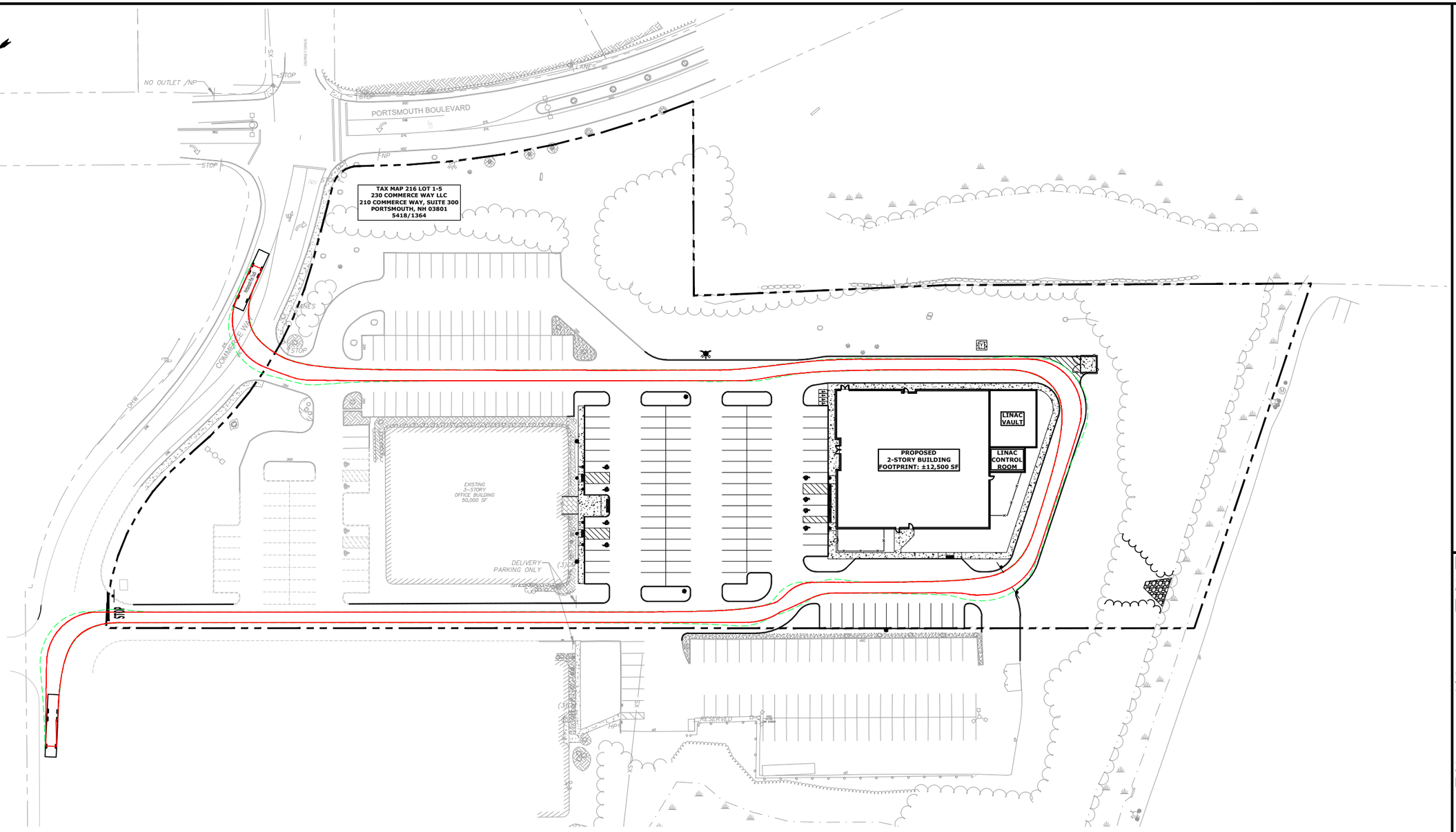
Section 2
Annual Updates and Log Requirements

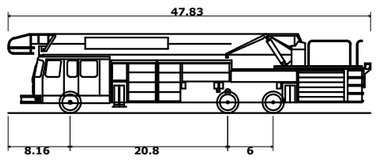
The Owner and/or Contact/Responsible Party shall review this Operation and Maintenance Plan once per year for its effectiveness and adjust the plan and deed as necessary.

A log of all preventative and corrective measures for the stormwater system shall be kept on-site and be made available upon request by any public entity with administrative, health environmental or safety authority over the site.

Copies of the Stormwater Maintenance report shall be submitted to the City of Portsmouth DPW on an annual basis.

Stormwater Management Report						
Proposed Hampton Street Hangars		**Proposed 2-Story Building – Portsmouth NH 03801**				
BMP Description	**Date of Inspection**	**Inspector**	**BMP Installed and Operating Properly?**	**Cleaning / Corrective Action Needed**	**Date of Cleaning / Repair**	**Performed By**
Deep Sump CB's			❑Yes ❑No			
Jellyfish Treatment Unit			❑Yes ❑No			





Portsmouth Fire Truck	
Overall Length	47.830ft
Overall Width	8.500ft
Overall Body Height	10.432ft
Min Body Ground Clearance	0.862ft
Track Width	8.000ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	38.00°

LEGEND

- VEHICLE OVERHANG
- VEHICLE WHEEL BASE

Tighe&Bond

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
A	5/24/2022	TAC Submission

PROJECT NO:	K0076-038
DATE:	5/24/2022
FILE:	K0076-038_DSGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

FIRE TRUCK TURNING EXHIBIT

SCALE: AS SHOWN

1 OF 1

Last Save Date: May 23, 2022 4:17 PM By: CML
Last Plot Date: Monday, May 23, 2022 4:17 PM By: Craig M. Langton
T&B File Location : J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings_Figures\Auto\cAD\Sheet\K0076-038_DSGN.dwg Layout Tab: Fire Truck

K0076-038
May 24, 2022

Mr. Eric Eby, City Traffic Engineer
City of Portsmouth
Department of Public Works
680 Peverly Hill Road
Portsmouth New Hampshire

Re: **Trip Generation Analysis**
Proposed 2-Story Building, 230 Commerce Way, Portsmouth, NH

Dear Eric:

Tighe & Bond has performed a trip generation analysis related to the construction of a proposed two-story 25,000 SF (GFA) building that will consist of a Veterinary Care use located at 230 Commerce Way in Portsmouth, NH. Port City Veterinary Referral Hospital ("Port City") will be relocating from its current 15,000 SF facility located at 215 Commerce Way.

This analysis was performed utilizing Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. For the purposes of analysis, we have calculated the trip generation for the the veterinary use utilizing the average peak AM and PM hour rates for ITE Land Use Code 640 – Animal Hospital/Veterinary Clinic, which are 3.64 and 3.53 per 1,000 SF, respectively.

	Veterinary Care (ITE LUC 640)
Weekday AM Peak Hour	
Trips Entering (67%)	61
Trips Exiting (33%)	30
Total Vehicle Trips	**91**
Weekday PM Peak Hour	
Trips Entering (40%)	35
Trips Exiting (60%)	53
Total Vehicle Trips	**88**

As depicted above, the proposed Veterinary Care use will result in approximately 1.5 additional vehicle trips every minute during the Weekday AM and PM peak hours which is anticipated to have minimal impact to the surrounding roadway network during these peak times.

In addition to the above trip generation calculations, the subject site has previously been reviewed through the City of Portsmouth Site Review process with respect to traffic-related impacts.

- In the September 1999, CLD Consulting Engineers, Inc. (CLD) prepared a *Traffic Impact Evaluation* for full build out of the Portsmouth Office Park with 244,000 square feet of Office use.

- In October 2005, AMES MSC prepared a *Traffic Impact Evaluation* as part of the Homewood Suites project located on Portsmouth Boulevard. This evaluation replaced 19,000 square feet of the Office use that was evaluated in the 1999 CLD *Traffic Impact Evaluation* with a 108-room hotel. With this evaluation, there was 225,000 SF of Office use remaining from the prior CLD study that was not yet constructed.

- In June 2015, Tighe & Bond prepared a *Traffic Evaluation* as part of an Office Building project located 75 Portsmouth Boulevard. This evaluation reviewed impacts associated with the construction of 112,000 SF of Office use at 75 Portsmouth Boulevard. This memorandum evaluated the proposed 112,000 SF of office to be built plus the 113,000 SF of remaining office use from the CLD study for the full build out of Portsmouth Office Park. **It should be noted that only 67,000 SF of the proposed 112,000 SF was ultimately built.**

- The proposed 25,000 SF Veterinary Care use has a peak hour generator that is approximately the equivalent of a 60,000 SF Office use. Thus, the peak hour trip generation associated with the Veterinary Care use is already accounted in the 2015 Tighe & Bond *Traffic Evaluation* described above.
    - With only 67,000 SF of the approved 112,000 SF of Office use being constructed at 75 Portsmouth Boulevard, a 45,000 SF balance of Office use previously anticipated to be constructed remains from the 2015 Tighe & Bond evaluation.
    - Applying this 45,000 SF balance to the Veterinary use equivalent of 60,000 SF leaves a surplus of 15,000 SF of Office use. This 15,000 SF surplus would then be subtracted from the 113,000 SF of Office use remaining for the full build out of Portsmouth Office Park as described above. In summary, a balance of 98,000 SF of Office use accounted for in the June 2015 Traffic Evaluation still remains not yet constructed for the full buildout of Portsmouth Office Park.

Please feel free to contact us if you have any questions or need any additional information.

Sincerely,

TIGHE & BOND, INC.

Neil A. Hansen, PE
Project Manager

Patrick M. Crimmins, PE
Vice President

EVERSOURCE ENERGY

May 24, 2022

1700 Lafayette Road
Portsmouth, NH 03801

Michael J Busby
603-436-7708 x555-5678
michael.busby@eversource.com

Craig Langton, PE
Tighe & Bond
177 Corporate Drive
Portsmouth NH, 03801

Dear Craig:

I am responding to your request to confirm the availability of electric service for the proposed 230 Commerce Way project being constructed for/by 230 Commerce Way, LLC.

The proposed project consists of a 2-story building with 0 residential units approximately 25,000 s/f of Veterinary Care space. The proposed development will be constructed along Commerce Way and Portsmouth Boulevard.

The developer will be responsible for the installation of all underground facilities and infrastructure required to service the new building. The service will be as shown on attached marked up Utility Plan C-104. The proposed building service will be fed from Commerce Way, to be determined by Eversource Engineering as depicted on utility plan C-104. The developer will work with Eversource to obtain all necessary easements and licenses for the proposed overhead facilities listed above.

This letter serves as confirmation that Eversource has sufficient capacity in the area to provide service to this proposed development. The cost of extending service to the aforementioned location and any associated infrastructure improvements necessary to provide service will be borne by the developer unless otherwise agreed upon.

The attached drawing titled "Utility Plan" dated May 24, 2022, shows transformer locations to service your proposed project.

Eversource approves the locations shown; assuming the final installed locations meet all clearances, physical protection, and access requirements as outlined in Eversource's "Information & Requirements For Electric Supply" (https://www.eversource.com/content/docs/default-source/pdfs/requirements-for-electric-service-connections.pdf?sfvrsn=2).

If you require additional information or I can be of further assistance please do not hesitate to contact me at our Portsmouth Office, 603-436-7708 Ext. 555-5678

Respectfully.

Michael J. Busby, PE
NH Eastern Regional Engineering and Design Manager, Eversource

cc: (via e-mail)
Thomas Boulter, Eastern Region Operations Manager, Eversource
Nickolai Kosko, Field Supervisor, Electric Design, Eversource

Unitil
Northern Utilities, Inc.

May 12th, 2022

Craig Langton, PE
Project Engineer
Tighe & Bond
177 Corporate Drive, Portsmouth, NH, 03801

Natural Gas to 230 Commerce Way Portsmouth, NH

Hi Craig,

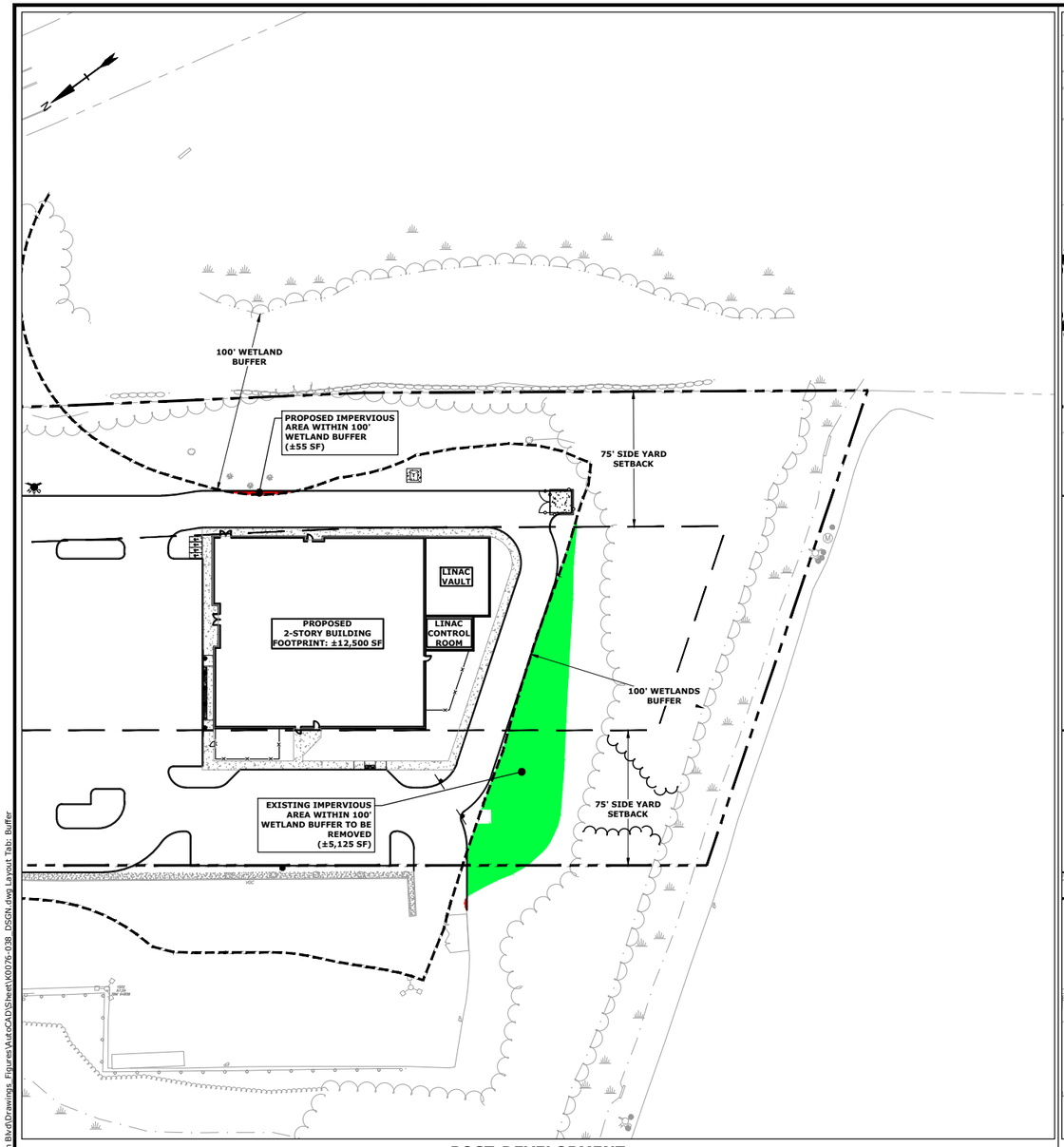
Unitil/Northern Utilities Natural Gas Division has reviewed the requested site for natural gas service:

Unitil hereby confirms that natural gas is available for the proposed two-story commercial building at 230 Commerce Way, Portsmouth, NH.

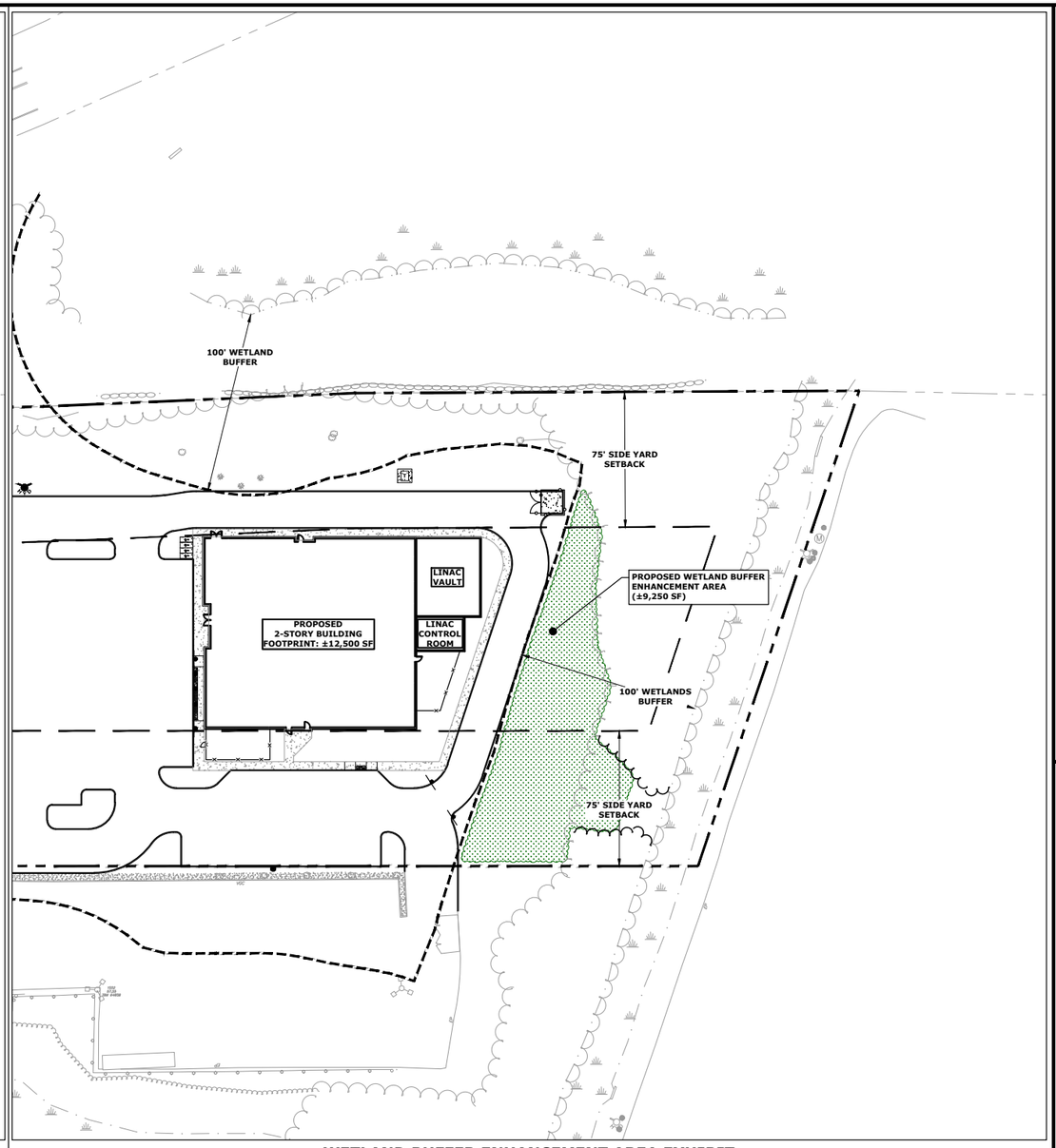
If you have any questions, please contact me at 603-534-2379.

Sincerely,

Dave MacLean
Senior Business Development Rep
Unitil
T 603.294.5261 **M** 603.534.2379 **F** 603.294.5264
Email macleand@unitil.com



POST-DEVELOPMENT
IMPERVIOUS AREA REDUCTION EXHIBIT



WETLAND BUFFER ENHANCEMENT AREA EXHIBIT

Tighe&Bond

SCALE IN FEET
0 40' 80'
GRAPHIC SCALE

Proposed 2-Story Building

230 Commerce Way, LLC

230 Commerce Way
Portsmouth, NH

MARK	DATE	DESCRIPTION
A	5/24/2022	TAC Submission

PROJECT NO:	K0076-038
DATE:	5/24/2022
FILE:	K0076-038_DSGN.DWG
DRAWN BY:	CML
CHECKED:	NAH
APPROVED:	PMC

100' WETLAND BUFFER IMPACT EXHIBIT

SCALE: AS SHOWN

1 OF 1

Last Save Date: May 23, 2022 4:17 PM By: CML
Plot Date: Monday, May 23, 2022 Plotted By: Craig M. Langton
T&B File Location: J:\K\K0076 The Kane Company - General Proposals\0076-038 Portsmouth Blvd\Drawings_Figures\AutoCAD\Sheet\K0076-038_DSGN.dwg Layout Tab: Buffer

May 24, 2022

Sustainability Narrative for Planning Board

Proposed Office/Animal Clinic Building

25 Portsmouth Boulevard, Portsmouth NH

Introduction

25 Portsmouth Boulevard is a core and shell construction project located in Portsmouth that will accommodate office and animal clinic program components. It will follow the U.S. Green Building Council under the LEED v4 Building Design + Construction for Core & Shell. The project team expects the project shows sufficient potential to reach a minimum of Certified level LEED certification. This shall be accomplished through various qualities attributed to both the project context, as well as its design merits, and client (and tenant) initiatives described in the following sections.

Integrative Design

Integrative Process

During the preliminary design phases, the team studied site conditions, basic envelope attributes, energy-related systems, and water-related systems to identify potential synergies across disciplines and building systems.

Location and Transportation

Sensitive Land Protection

The project site is not located on prime farmland, not parkland, not on previously undeveloped land, not designated as habitat for endangered species, and not in proximity to wetlands or water bodies. The project site is in a previously developed parking lot area surrounded by other similar scale office properties

Access to Quality Transit

The planned project is 100 feet from Portsmouth Avenue and Shearwater COAST #2 bus stop. The site is also a 6 minute drive to Portsmouth International Airport.

Bicycle Facilities

The project will provide numerous bicycle racks for short-term storage outside of the project building for occupants' and visitors' use. Additionally, if the tenant choses to provide, the building will contain shower and locker/changing facilities for its regular occupants.

Green Vehicles

Hybrid vehicle preferred parking spaces and charging stations designated for use by plug-in electric vehicles are being explored.

Sustainable Sites

Construction Activity Pollution Prevention

A project-specific erosion and sedimentation control plan will be created with the objective of preventing loss of soil during construction, sedimentation of storm sewers, and pollution of the air with dust and particulate matter. The contractor shall be required to document compliance with the ESC throughout the construction process.

Site Assessment

A site assessment including topography, hydrology, climate, vegetation, soils, human uses, and human health effects will be performed and will inform the design of the project as appropriate.

Site Development –Protect or Restore Habitat

The project is built on a site with no greenfield area. Greenspace with a variety of native or adaptive vegetation, trees, and soil restoration will be provided.

Open Space

The project will provide some open space within the site area. The outdoor space will be physically accessible and includes pet and pedestrian-oriented paving with physical site elements that accommodate outdoor social activities.

Rainwater Management

The proposed stormwater management system will be designed to comply with the City of Portsmouth standards.

Heat Island Reduction

The solar reflectance index on the light-colored and reflective low sloped roofing, which will cover more than 75% of the overall building roof surface

Light Pollution Reduction

All exterior lighting shall automatically turn off when sufficient daylight is available. All building façade/landscape lighting shall be automatically shut off between midnight/business closing, and 6am/business opening.

Tenant Design and Construction Guidelines

Tenant design and construction guidelines will be issued to the building tenant to educate about implementing sustainable design and construction features in their tenant improvement fit-out. These guidelines will encourage building tenants to earn LEED ID+C v4 Certification for their interior fit-out.

Water Efficiency

Outdoor Water Use Reduction

Plant selection and an efficient irrigation system will reduce the potable water used for irrigation by at least 75% from a calculated midsummer baseline case as delineated under Option 2 for Reduced Irrigation.

Indoor Water Use Reduction

Water-efficient plumbing fixtures will reduce domestic water below the LEED water use baseline, shown through the usage-based calculations
· All toilets will utilize 1.1 gpf low flush valves
· All urinals will utilize 0.125 gpf ultra low flow flush valves
· All lavatories will utilize 0.35 gpm with metering tempering faucets
· All showers will utilize 1.5 gpm low flow shower heads
· All kitchen sinks will utilize 1.5 gpm faucets

Building – Level Water Metering & Water Metering

Permanent water meters will be installed which will measure the total potable water use for the building and its associated grounds.

Energy and Atmosphere

Fundamental Commissioning And Verification & Enhanced Commissioning

A third-party Commissioning Agent may be engaged before the end of the design development phase, and will review and comment on the project Owner's Project Requirements (OPR), Basis of Design, draft Design Development & Construction Documents. Additionally, he/she will develop and implement a Commissioning Plan for the building HVAC, plumbing, lighting systems and envelope, review construction submittals, and then issue a summary Commissioning Report. Finally, the CxA will participate in training for the building operational staff.

In addition to the Fundamental scope listed above, the CxA verifies the following for mechanical, electrical, plumbing, energy systems, and building envelope; these tasks shall be included in the OPR and BOD:

- Review contractor submittals.
- Verify Inclusion of systems manuals and operator training requirements in the construction documents
- Verify systems manual updates and delivery
- Verify operator and occupant training delivery and effectiveness
- Verify seasonal testing
- Review building operations 10 months after substantial completion.
- Develop an on-going commissioning plan

Minimum Energy Performance & Optimize Energy Performance

An energy model will be developed to describe how an energy-efficient building envelope and base building mechanical systems will reduce the building design performance rating to below the baseline building performance rating. This will continue to evolve through the design phase and align with the project design and any additional energy savings we are able to confirm as the design further develops.

Building-Level Energy Metering

Permanently installed meters will measure total building energy consumption

Fundamental Refrigerant Management & Enhanced Refrigerant Management

Building refrigerants will be selected to minimize the emission of compounds that contribute to ozone depletion and global climate change. Building refrigerants will not exceed maximum threshold allowances for contributions to ozone depletion and global warming potential. Our core and shell project will likely not include all HVAC associated with anticipated work by the tenant.

Green Power and Carbon Offsets

The Kane Company *is investigating options* to engage in a contract to purchase building's energy from green power, carbon offsets, or renewable energy certificates for a minimum of five years.

Materials and Resources

Storage and Collection of Recyclables

A Recycling Staging Room at the building loading area will support a building-wide recycling program for paper, corrugated cardboard, glass, plastic, and metal.

Construction and Demolition Waste Management Planning

A construction and demolition waste management plan will be developed prior to the start of construction which will identify at least five materials targeted for diversion, whether these materials will be separated or comingled, and will approximate a percentage of the overall project waste that these will represent, at least 50% of the construction and demolition debris and a minimum of four material streams will be diverted from landfill and incineration facilities and redirected instead for recycling to the manufacturing process and reusable materials to appropriate sites.

Building Product Disclosure and Optimization Environmental Product Declarations, Sourcing of Raw Materials, and Material Ingredients

The design team shall proactively seek and track materials and products that comprehensively address these material and resource concerns during the design phase. Priority will be given to those items that comprise a high percentage of the project's overall material cost, and Low-Emitting Materials.

Minimum Indoor Air Quality Performance

Building HVAC systems will meet the minimum requirements of Sections 4 through 7 of ASHRAE Standard 62.1-2010 - Ventilation for Acceptable Indoor Air Quality, based on anticipated future tenant requirements.

Environmental Tobacco Smoke (ETS) Control

Smoking will be prohibited inside the building and within 25 feet of the entire building perimeter.

Enhanced Indoor Air Quality Strategies

To promote a healthy indoor air quality, permanent entryway systems or appropriate roll-up mats will be installed at all regularly used building entrances; any room with hazardous gases or chemicals will be negatively pressured to contain such elements. MERV 13 or higher filters will be provided in all ventilation systems providing outdoor air to occupied spaces.

Low-Emitting Materials

The design team shall proactively seek and track products that comply with the low-emitting requirements during the design phase

Construction IAQ Management Plan

An indoor air quality plan during construction will require the builder to follow industry best-practices such as SMACNA IAQ Guidelines for Occupied Buildings Under Construction, protecting absorptive materials stored on site from moisture

Daylight

The project will provide window shading devices, and prioritize daylighting strategies for regularly occupied spaces.

Quality Views

The design of the building envelope and floor plan is exploring prioritizing quality view strategies that would allow tenants to design their fit-out with a direct line of sight to the outdoors in at least 75% of all regularly occupied areas.

Innovation

Innovation

The project will target this category by pursuing and combination of Innovation and Pilot Credits recognized by USGBC. The strategies listed below are currently being considered:

· Innovation: Purchasing – Lamps – The based building lighting shall be selected to focus on low- or no mercury-containing lamps. A purchasing plan will be implemented for both indoor and outdoor fixtures.

· Innovation: Green Education. The project will consider utilizing the building's sustainable feature as an opportunity to educate tenants and visitors on the value of green building.

LEED Accredited Professional

The project team includes several LEED Accredited Professionals

Regional Priority Credits

Regional Priority Credits

The project currently anticipates potentially earning points for the Regional Priority category

Sincerely,

Sr. VP/Managing Director, Boston

NELSON

Site Plan Review & Wetlands Conditional Use Application Fees

Project: 230 Commerce Way **Map/Lot:** 216/1-5

Applicant: 230 Commerce Way, LLC c/o The Kane Company

Site Plan Review Fee

All development

Base fee $500			$500.00
Plus $5.00 per $1,000 of site costs			
Site costs	$750,000	+	$3,750.00
Plus $10.00 per 1,000 S.F. of site development area			
Site development area	99,000 S.F.	+	$990.00
		Subtotal Fee	**$5,240.00**

Maximum fee: $15,000.00

Wetlands Conditional Use Application Fee

Area of disturbance in wetland or wetland buffer:

Up to 250 sq. ft. ($100.00)		$0.00
Up to 1,000 sq. ft. ($500.00)		$0.00
Greater than 1,000 sq. ft. ($1,000.00)		$1,000.00
	Subtotal Fee	**$1,000.00**
	Total Fee	**$6,240.00**