AMBIT ENGINEERING, INC. CIVIL ENGINEERS AND LAND SURVEYORS

200 Griffin Road, Unit 3, Portsmouth, NH 03801
Phone (603) 430-9282 Fax 436-2315

18 October 2022

Peter Stith, TAC Committee Chair
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

RE: Request for Site Plan Approval at 1 Congress Street, Proposed Site Development

Dear Mr. Stith and TAC Members:

On behalf of Mark McNabb and One Market Square, LLC we are pleased to submit the attached plan set for **Site Plan** review for the above-mentioned project and request that we be placed on the agenda for your **November 1, 2022** TAC Meeting. The project includes the re-use of the existing commercial buildings at 1 and 3 Congress Street, some existing building demolition, and proposed new construction of a 3 Story Structure with Attic Hip Top Mansard Roof to the rear of the existing buildings with the associated and required site improvements. The area behind the existing building is currently a surface parking lot. The surface parking will be lowered to below street level and be included with the new construction.

The plans show the elimination of raised curbs in High Street, similar to what was accomplished on Chestnut Street. The developer also recognizes that the project will require utility and drainage infrastructure improvements on High Street. The Haven Court / Alley to Fleet Street corridor is also shown as being improved at the developer's expense. The use of this corridor as a pedestrian walkway is a benefit to both the city and the developer; and the developer is willing to include all of the improvements as a part of this site plan proposal.

The following plans are included in our submission:

- Cover Sheet – This shows the Development Team, Legend, Site Location, and Site Zoning.
- Standard Boundary Survey Plan – This plan shows the existing property boundaries. The survey was performed before the lot merger; the lots have been officially merged. The site is still bifurcated by a Zoning District boundary line along the old property line.
- Existing Conditions Plan C1 – This plan shows the existing site conditions in detail.
- Demolition Plan C2 – This plan shows portions of the existing buildings and other site features which will be removed.
- Project Site Plan C3 – This plan shows the site development and proposed building placement. The plan shows contemplated changes to High Street. High Street currently has a width that does not allow for sufficient sidewalks on both sides. The project proposes to eliminate parking, lower the curbs, and create pedestrian friendly wide sidewalks.
- Architectural Plans – These are Floor Plans, Roof Plan, Building Elevations and Rendered Views of the proposed building.

- Landscape Plans – These plans shows proposed features for the public spaces both high street and the pedestrian alley; with lighting and details.
- Utility Plan C4 – This plan shows proposed site utilities. High Street is contemplated to have new utilities constructed since there will be a complete street makeover.
- Grading Plan C5 – This plan shows proposed site grading. High Street is shown as being brought all to one surface level similar to Chestnut Street. The Haven Court alley is graded as it is today.
- Parking Level Plan C6 – This plan shows the layout of the parking (basement) level with required parking calculations.
- Offsite Utility Plan - Alley C7 – This plan shows a proposed off-site gas utility connection.
- Offsite Grading - Alley C8 – This plan shows grading on Haven Court.
- Detail Sheets D1 – D6 – These plans show site details.

Also please find attached the following in support of the Application:

- Letter of Authorization
- Site Plan Checklist
- Construction Cost Estimate
- Dimensional Conformance Tables
- Building Area Summary
- Green Building Statement
- Parking Summary
- Proposed Planting List
- Gas Service Will Serve Letter
- Complete Drainage Analysis

We look forward to the review of this submission and Staff / City Department input on this project.

Sincerely,

John Chagnon

John R. Chagnon, PE
CC: Mark McNabb, Tracy Kozak, Terrance Parker, FX Bruton

McNabb Properties Ltd.
Construction | Development | Management

December 27, 2021

AUTHORIZATION
One Market Square, LLC
One Congress Street, Portsmouth New Hampshire 03801

I, Mark A. McNabb, manager and member of One Market Square, LLC, as owner of two parcels of land located in the City of Portsmouth on Tax Assessor Map U117 Lot 14 and Lot 15, hereby authorize Tracy Kozak from Arcove, LLC., as project architect, and John Chagnon from Ambit Engineering, to represent our interests before land use boards of the City of Portsmouth and any State of New Hampshire or federal agency necessary to obtain regulatory approvals and permits and to submit any applications and materials related to the above referenced property on our behalf.

_____ Date: December 27, 2021
Mark A. McNabb, Manager & Member

City of Portsmouth, New Hampshire

Site Plan Application Checklist

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

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

Name of Applicant: One Market Square, LLC Date Submitted: 10/18/2022

Application # (in City's online permitting): LU-22-12

Site Address: 1 Congress Street Map: 117 Lot: 14 & 15

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
☐	Complete application form submitted via the City's web-based permitting program (2.5.2.1**(2.5.2.3A)**	Online	N/A
☐	All application documents, plans, supporting documentation and other materials uploaded to the application form in viewpoint in digital Portable Document Format (PDF). One hard copy of all plans and materials shall be submitted to the Planning Department by the published deadline. **(2.5.2.8)**	Online	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Statement that lists and describes "green" building components and systems. **(2.5.3.1B)**	See Letter	
☐	Existing and proposed gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. **(2.5.3.1C)**	Sheet C3	N/A
☐	Tax map and lot number, and current zoning of all parcels under Site Plan Review. **(2.5.3.1D)**	Cover Sheet	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. **(2.5.3.1E)**	Cover Sheet	N/A
☐	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. **(2.5.3.1F)**	Boundary Survey	N/A
☐	Names, addresses and telephone numbers of all professionals involved in the site plan design. **(2.5.3.1G)**	Cover Sheet	N/A
☐	List of reference plans. **(2.5.3.1H)**	Boundary Survey	N/A
☐	List of names and contact information of all public or private utilities servicing the site. **(2.5.3.1I)**	Cover Sheet	N/A

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

Site Plan Specifications – Required Exhibits and Data			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	**1. Existing Conditions: (2.5.4.3A)** • Surveyed plan of site showing existing natural and built features; • Existing building footprints and gross floor area; • Existing parking areas and number of parking spaces provided; • Zoning district boundaries; • Existing, required, and proposed dimensional zoning requirements including building and open space coverage, yards and/or setbacks, and dwelling units per acre; • Existing impervious and disturbed areas; • Limits and type of existing vegetation; • Wetland delineation, wetland function and value assessment (including vernal pools); • SFHA, 100-year flood elevation line and BFE data, as required.	Sheet C1	
☐	**2. Buildings and Structures: (2.5.4.3B)** • Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation; • Elevations: Height, massing, placement, materials, lighting, façade treatments; • Total Floor Area; • Number of Usable Floors; • Gross floor area by floor and use.	Sheet C3 & Architects Plans	
☐	**3. Access and Circulation: (2.5.4.3C)** • Location/width of access ways within site; • Location of curbing, right of ways, edge of pavement and sidewalks; • Location, type, size and design of traffic signing (pavement markings); • Names/layout of existing abutting streets; • Driveway curb cuts for abutting prop. and public roads; • If subdivision; Names of all roads, right of way lines and easements noted; • AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	Sheet C3	
☐	**4. Parking and Loading: (2.5.4.3D)** • Location of off street parking/loading areas, landscaped areas/buffers; • Parking Calculations (# required and the # provided).	Sheet C6	
☐	**5. Water Infrastructure: (2.5.4.3E)** • Size, type and location of water mains, shut-offs, hydrants & Engineering data; • Location of wells and monitoring wells (include protective radii).	Sheet C4	
☐	**6. Sewer Infrastructure: (2.5.4.3F)** • Size, type and location of sanitary sewage facilities & Engineering data, including any onsite temporary facilities during construction period.	Sheet C4	

☐	**7. Utilities: (2.5.4.3G)** • The size, type and location of all above & below ground utilities; • Size type and location of generator pads, transformers and other fixtures.	Sheet C4	
☐	**8. Solid Waste Facilities: (2.5.4.3H)**		
	• The size, type and location of solid waste facilities.	Sheet C6	
☐	**9. Storm water Management: (2.5.4.3I)** • The location, elevation and layout of all storm-water drainage. • The location of onsite snow storage areas and/or proposed off-site snow removal provisions. • Location and containment measures for any salt storage facilities • Location of proposed temporary and permanent material storage locations and distance from wetlands, water bodies, and stormwater structures.	Sheet C5	
☐	**10. Outdoor Lighting: (2.5.4.3J)** • Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and photometric plan.	Sheet C3	
☐	**11.** Indicate where dark sky friendly lighting measures have been implemented. **(10.1)**	N/A	
☐	**12. Landscaping: (2.5.4.3K)** • Identify all undisturbed area, existing vegetation and that which is to be retained; • Location of any irrigation system and water source.	Landscape Plans	
☐	**13. Contours and Elevation: (2.5.4.3L)** • Existing/Proposed contours (2 foot minimum) and finished grade elevations.	Sheet C5	
☐	**14. Open Space: (2.5.4.3M)** • Type, extent and location of all existing/proposed open space.	Sheet C3	
☐	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**	Boundary Survey Plan	
☐	**16. Character/Civic District (All following information shall be included): (2.5.4.3P)** • Applicable Building Height (10.5A21.20 & 10.5A43.30); • Applicable Special Requirements (10.5A21.30); • Proposed building form/type (10.5A43); • Proposed community space (10.5A46).	Sheet C3	
☐	**17. Special Flood Hazard Areas (2.5.4.3Q)** • The proposed development is consistent with the need to minimize flood damage; • All public utilities and facilities are located and construction to minimize or eliminate flood damage; • Adequate drainage is provided so as to reduce exposure to flood hazards.	N/A	

Other Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Traffic Impact Study or Trip Generation Report, as required. **(3.2.1-2)**	Report on file	
☐	Indicate where Low Impact Development Design practices have been incorporated. **(7.1)**	Drain Study	
☐	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. **(7.3.1)**	N/A	
☐	Stormwater Management and Erosion Control Plan. **(7.4)**	Sheet D1	
☐	Inspection and Maintenance Plan **(7.6.5)**	Drain Study	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	All local approvals, permits, easements and licenses required, including but not limited to: • Waivers; • Driveway permits; • Special exceptions; • Variances granted; • Easements; • Licenses. **(2.5.3.2A)**	Cover Sheet	
☐	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: • Calculations relating to stormwater runoff; • Information on composition and quantity of water demand and wastewater generated; • Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; • Estimates of traffic generation and counts pre- and post-construction; • Estimates of noise generation; • A Stormwater Management and Erosion Control Plan; • Endangered species and archaeological / historical studies; • Wetland and water body (coastal and inland) delineations; • Environmental impact studies. **(2.5.3.2B)**	Drainage Analysis Other submitted studies	
☐	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. **(2.5.3.2D)**	To be provided	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	A list of any required state and federal permit applications required for the project and the status of same. **(2.5.3.2E)**	Cover Sheet	
☐	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." **(2.5.4.2E)**	Cover Sheet & C3	N/A
☐	For site plans that involve land designated as "Special Flood Hazard Areas" (SFHA) by the National Flood Insurance Program (NFIP) confirmation that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. **(2.5.4.2F)**	N/A	
☐	Plan sheets submitted for recording shall include the following notes: a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "All improvements shown on this Site Plan shall be constructed and maintained in accordance with the Plan by the property owner and all future property owners. No changes shall be made to this Site Plan without the express approval of the Portsmouth Planning Director." **(2.13.3)**	Sheet C3	N/A

Applicant's Signature: John Chagnon **Date:** 10-18-2022

Construction Cost Estimate

Ambit Engineering

Date: October 18, 2022

Project: McNabb Properties, Ltd - 1 Congress ST Job No: 3406

Location: 1 Congress Street, Portsmouth, NH

Scope: **Site Cost Estimate**

ITEM NO	DESCRIPTION	UNIT	AMOUNT	UNIT COST	TOTAL
Demolition					
1	Building Demolition / Temporary Shoring	LS	1	$50,000.00	$50,000.00
2	Site Demolition	LS	1	$10,000.00	$10,000.00
Foundation Prep					
3	Common Excavation	CY	4000	$25.00	$100,000.00
4	Foundation Base Preparation	CY	186	$25.00	$4,650.00
5	Shoring	LF	310	$100.00	$31,000.00
Sidewalk & Street					
6	Congress Street Sidewalk Redo	SY	160	$96.00	$15,360.00
7	Brick Sidewalk	SY	307	$150.00	$46,050.00
8	Street Pavers	SY	758	$225.00	$170,550.00
9	Back Alley Brick	SY	138	$150.00	$20,700.00
10	Re-Set Curbing	LF	610	$25.00	$15,250.00
11	Re-Set Tip Down	LS	2	$3,000.00	$6,000.00
12	Landscape Areas	LS	1	$10,000.00	$10,000.00
Utilities					
13	Underground Electric / Conduit	LF	486	$55.00	$26,730.00
14	Light Pole	EA	3	$6,000.00	$18,000.00
15	Sewer Manhole	EA	2	$6,500.00	$13,000.00
16	Water Main and Services	LF	240	$180.00	$43,200.00
17	Communication Service	LF	80	$55.00	$4,400.00
18	Sewer Main and Service	LF	270	$120.00	$32,400.00
19	Gas Service	LF	212	$85.00	$18,020.00
20	Grease Trap	LS	1	$9,000.00	$9,000.00
Drainage					
21	Drain Lines	LF	132	$80.00	$10,560.00
22	Erosion Control	LS	1	$2,500.00	$2,500.00
23	Catch Basin	EA	3	$6,500.00	$19,500.00
	TOTAL				**$676,870**

Note: This is an estimate of construction costs based upon various sources

ZONING DEVELOPMENT STANDARD

CD4 (CD-4, DOD, HDC): CHARACTER DISTRICT 4

	REQUIRED	EXISTING	PROPOSED
Height	2 stories with short 3rd = 35'	**n/a**	**40' - 7 3/4"**
Penthouses	may exceed bldg height by 2'	**n/a**	**n/a**
Roof appurtenance	may exceed bldg height by 10'	**n/a**	**7' - 5 3/4"**
Façade Types	shopfront	**n/a**	**yes**
Building Types	commercial, live-work, mixed use, flex space & community.	n/a	**mixed use (retail, office, apartments)**
Setbacks (ft) *	* 10.5A42.12 Yards may be increased above the max permitted for truncated corners or other subtractive massing techniques, alleys, vehicular accessways, increased sidewalk width or community spaces.		
Front (principle) max	10	n/a	0'-0"
Front (secondary) max	15	n/a	2'-4"
Side	NR	n/a	n/a
Rear, min	>of: 5' from rear line or 10' from cl alley	n/a	11' 2"
Front lotline buildout	50% min	n/a	100.00%
Lot area (sf)	NR		8,840
LOT area per dwelling	NR	0	n/a
Coverage, maximum	90%	0	65.6%
Footprint, max* 10.5a43.40	15,000	**0**	**5,686**
*10.5A43.43 increase for indoor parking if >50% gr.floor parking & 30% lot is community space	30,000 ground (20,000 upper)		0
Ground floor area per use, max	15,000		**5,686**
Open space, minimum	10%		34.4%
Permitted uses (cd4 & cd5)	multifamily, live/work, office, retail, restaurant (<500occ)	surface parking lot	commercial retail
Block length, max (ft)	200	n/a	**168' - 0 3/4"**
Façade modulation length, max (ft)	80	n/a	**77' - 3 7/8"**
Entrance spacing, max (ft)	50	n/a	**39' - 10 3/8"**
Floor height above sidewalk, max	36"	n/a	**16"**
Ground floor height, min	12'	n/a	**13' 5 5/8"**
Second floor height, min	10'	n/a	**11'-3"**
Glazing, shopfront, min	70%	n/a	**70%**
Glazing, other	20%-50%	n/a	**25%**
Roof types(pitch)	flat, gable (6:12-12:12), hip(>3:12), gambrel/mansard(6:12-30:12)	n/a	**hipped mansard**
Parking, off-street; DOD*	when >20 spaces, max spaces = 120% min required. 10.1112.60 mixed used - some shared spaces allowed.	19	**12**
Residential (dwellings)	UNIT<500SF=.5 space/unit; 500-750sf=1 space/unit; >750sf=1.3 space/unit. (+ 1 visitor space/5 units)	N/A	**10**
Professional office	NA in DOD	N/A	N/A

* see CD-5 zoning chart for remainder of parking spaces

ZONING DEVELOPMENT STANDARD

CD5 (CD-5, DOD, HDC): CHARACTER DISTRICT 5

	REQUIRED	EXISTING	PROPOSED
Height	2-3 stories with short 4th = 45'	**45' - 5 1/4"**	**40' - 7 3/4"**
Penthouses	may exceed bldg height by 2'	**n/a**	**n/a**
Roof appurtenance	may exceed bldg height by 10'	**8' 0 3/4"**	**7' - 5 3/4"**
Façade Types	shop front	**yes**	**yes**
Building Types	commercial, live-work, mixed use, flex space & community.	**mixed use (retail, restaurant, office, apartments)**	**mixed use (retail, office, apartments)**
Setbacks (ft) *	* 10.5A42.12 Yards may be increased above the max permitted for truncated corners or other subtractive massing techniques, alleys, vehicular accessways, increased sidewalk width or community spaces.		
Front (principle) max	5	0'-0"	0'-0"
Front (secondary) max	5	0'-0"	1'-6"
Side	NR	0'-0"	N/R
Rear, min	>of: 5' from rear line or 10' from cl alley	0'-3'	0.00
Front lotline buildout	80% min	100%	100%
Lot area (sf)	NR	7,266	8,840
LOT area per dwelling	NR	n/a	n/a
Coverage, maximum	95%	37.52%	89.1%
Footprint, max* 10.5a43.40	20,000	**2,726**	**3,701**
*10.5A43.43 increase for indoor parking if >50% gr.floor parking & 30% lot is community space	50,000 ground (30,000 upper)	0	0
Ground floor area per use, max	15,000	2,726	3,701
Open space, minimum	5%	62.48%	10.9%
Permitted uses (cd4 & cd5)	commercial, live/work, mixed-use, flex space, community, office, retail, restaurant (<500occ)	commercial, mixed use, office, retail & restaurant	COMMERCIAL (retail, restaurant, hotel lobby)
Block length, max (ft)	225	**168' - 0 3/4"**	**168' - 0 3/4"**
Façade modulation length, max (ft)	100	**62' - 1 1/8"**	**22' - 11 1/8"**
Entrance spacing, max (ft)	50	**49' - 7 1/4"**	**31' - 6 1/4"**
Floor height above sidewalk, max	36"	**4"**	**4"**
Ground floor height, min	12'	**12' - 8 3/8"**	**13' 5 5/8"**
Second floor height, min	10'	**11'-3"**	**11'-3"**
Glazing, shopfront, min	70%	**31%**	**53%**
Glazing, other	20%-50%	**20%**	**24%**
Roof types(pitch)	flat, gable (6:12-12:12), hip(>3:12), gambrel/mansard(6:12-30:12)	**hipped mansard and gable**	**hipped mansard**
Parking, off-street; DOD*	when >20 spaces, max spaces = 120% min required. 10.1112.60 mixed used - some shared spaces allowed.	0	**11**
Residential (dwellings)	UNIT<500SF=.5 space/unit; 500-750sf=1 space/unit; >750sf=1.3 space/unit. (+ 1 visitor space/5 units)	**5**	**8**
Professional office	NA in DOD	N/A	N/A
* see CD-4 zoning chart for remainder of parking spaces			

Schematic Area Summary

10/18/2022

	gsf	use	use
new construction	**total new**	**existing**	**proposed**
4th floor	7,812	n/a	residential
3rd floor	9,355	n/a	residential
2nd floor	9,355	n/a	office
1st floor (footprint)	**9,355**	**n/a**	**retail/restaurant**
basement	9,581	n/a	parking & support
total new	**45,458**		
existing to remain and be renovated		**existing**	**proposed**
4th floor - 1&3 Congress St	2,422	residential	residential
3rd floor - 1&3 Congress St	2,725	residential	residential
2nd floor - 1&3 Congress St	2,725	office	office
1st floor - 1&3 Congress St (footprint)	**2,725**	office&retail	restaurant&retail
basement - 1&3 Congress	2,725	storage/mech	storage/support
total renovation	**13,322**		
TOTAL FOOTPRINT new + reno	12,080		
TOTAL BUILDING new + reno	**58,780**		
roof decks	**889**		

wv engineering associates, pa. www.wvengineering.com
11 king court, keene, new hampshire 03431 t: 603.352.7007

October 14, 2022

Ms. Lynn Kramer
McNabb Properties, LTD.
3 Pleasant Street, Suite 400
Portsmouth, NH 03801

Re: **Market Square**
One Congress Street
Portsmouth, New Hampshire
WVA Project No. 21208

Dear Lynn:

We offer the following energy efficiency design standards as part of the 1 Congress Street Green Building Standard:

Plumbing

- Utilize low flow EPA Water Sense rated plumbing fixtures.
- Utilize 2018 International Energy Conservation Code (IECC) domestic hot water recirculation and piping insulation.
- Utilize condensing gas efficiency domestic hot water heaters at centralized domestic hot water plant for commercial and residential tenants.

Mechanical

- Utilize centralized commercial 3-phase VRF heat recovery air source heat pumps.
- Utilize minimum 65% efficiency energy recovery ventilators to provide 2018 International Mechanical Code required ventilation and exhaust to commercial and residential tenants.
- Utilized high supply/low return air distribution where possible to maximize ventilation efficiency.

Electrical

- Utilize Energy Star or Design Light Consortium rated LED light fixtures.
- Utilize 2018 IECC day light dimming, occupancy and vacancy sensors to minimize lighting energy use.

Sincerely,

WV Engineering Associates, PA

Richard A. Parks, III, PE

cc: Tracy Kozak ARCove Architects

1 Congress Street
One Market Square LLC

Schematic Area Summary

10/18/2022

	gsf	use	use
new construction	**total new**	**existing**	**proposed**
4th floor	7,812	n/a	residential
3rd floor	9,355	n/a	residential
2nd floor	9,355	n/a	office
1st floor (footprint)	**9,355**	**n/a**	**retail/restaurant**
basement	9,581	n/a	parking & support
total new	**45,458**		
existing to remain and be renovated		**existing**	**proposed**
4th floor - 1&3 Congress St	2,422	residential	residential
3rd floor - 1&3 Congress St	2,725	residential	residential
2nd floor - 1&3 Congress St	2,725	office	office
1st floor - 1&3 Congress St (footprint)	**2,725**	office&retail	restaurant&retail
basement - 1&3 Congress	2,725	storage/mech	storage/support
total renovation	**13,322**		
TOTAL FOOTPRINT new + reno	12,080		
TOTAL BUILDING new + reno	**58,780**		
roof decks	**889**		

existing to be demolished (& replaced by new construction)		**existing**	**proposed**
4th floor	0	n/a	n/a
3rd floor	0	n/a	n/a
2nd floor	2,094	storage	n/a
1st floor	3,502	restaurant & kitchen	n/a
basement	3,502	storage	n/a
total to be demo'd & replaced	**9,098**		

Residential Vehicular Parking	**Qty**	**parking per unit**	**parking required**	**parking available**
units > 750 sf	16	1.30	20.80	
units 500-750 sf	1	1.00	1.00	
Units <500 sf	1	0.50	0.50	
resident units total	**18**		**22.30**	
DOD deduct			-4.00	
1 visitor space for every 5 units			3.6	
TOTAL			**21.90**	**23.00**

Unit NO.	**BR's**	**SF**	**parking/unit**	**parking available**
301	2	1,067	1.3	
302	1	885	1.3	
303	1	925	1.3	
304	1	574	1.0	
305	1	1,014	1.3	
306	1	986	1.3	
307	1	982	1.3	
308	1	913	1.3	
309	2	1,324	1.3	
401	2	946	1.3	
402	1	851	1.3	
403	1	894	1.3	
404	st	343	0.5	
405	1	1,023	1.3	
406	1	838	1.3	
407	1	894	1.3	
408	1	906	1.3	
409	2	1,200	1.3	
resident units total		16,565	22.3	
DOD deduct			-4.0	
1 visitor space for every 5 units			3.6	
TOTAL parking			**21.90**	**23**

Bicycle Parking		
One space for every 5 units	3.6	
TOTAL required, rounded up	**4**	

Groundcovers, Grasses, and Ferns

Sym	Qty	Common Name / Botanical Name	Root	Size	Remark
AU	15	Arctostaphylos uva-ursi / Bearberry	Cont.	1 Gal.	30” OC
ABV	7	Astilbe ‘Bridal Veil’ / Late White Astilbe	Cont.	2 QT	24” OC
BC	5	Bergenia cordifolia / Bergenia	Cont.	2 QT	
CPX	25	Carex pensylvanica / Pennsylvania Sedge	Cont.	1 Gal.	15” OC
DWF	20	Dryopteris championii / Champion’s Wood Fern	Cont.	2 QT	24” OC
GO	32	Galium odoratum / Sweet Woodruff	Cont.	1 QT	12” OC
GMB	24	Geranium macrorrhizum ‘Bevans’s Variety’ / Cranesbill	Cont.	2 Qt..	24” OC
HAD	6	Heuchera a. ‘Dale's Variety’ / Native Coral Bells	Cont.	1 QT	
HCH	6	Heuchera 'Chatterbox / Pink Coral Bells	Cont.	1 QT	
HMA	3	Hosta m. ‘Aureomarginata’ / Aureomarginata Hosta	Cont.	2 QT	24” OC
ONT	12	Oenothera fruticosa / Evening Primrose	Cont.	2 QT	
PX	22	Polystichum acrostichoides / Christmas fern	Cont.	2 QT	18” OC
PRD	14	Pulmonaria 'Roy Davidson' / Speckled Lungwort	Cont.	1 QT	
SSX	25	Sedum 'sexangulare', / Stonecrop	Cont.	2 QT	Mix
SSK	20	Sedum 'kamtshaticum ' / Stonecrop	Cont.	2 QT	Mix
SJC	25	Sedum 'John Creech'/ Stonecrop	Cont.	2 QT	Mix
SRA	11	Sedum reflexum ‘Anagelina’/ Stonecrop	Cont.	2 QT	Mix
TIA	18	Tiarella cordifolia / Foamflower	Cont.	1 QT	12” OC
VIO	12	Viola labradorica / Perennial Violet	Cont.	2 QT	
WAL	16	Waldsteinia ternata / Siberian Barren Strawberry	Cont.	2 QT	24” OC

DRAINAGE ANALYSIS

COMMERCIAL DEVELOPMENT

1 CONGRESS STREET
PORTSMOUTH, NH

PREPARED FOR
ONE MARKET SQUARE, LLC

18 OCTOBER 2022

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road, Unit 3
Portsmouth, NH 03801
Phone: 603.430.9282; Fax: 603.436.2315
E-mail: jrc@ambitengineering.com
(Ambit Job Number 3406)

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This drainage analysis examines the pre-development (existing) and post-development (proposed) stormwater drainage patterns for the Commercial Development at the property known as 1 Congress Street in Portsmouth, NH. The site is shown on the City of Portsmouth Assessor's Tax Map 117 as Lots 14 and 15. The total size of the associated drainage area is 15,377± square-feet (0.353 acres). The total size of the lot is 16,106± square-feet (0.353 acres). The total redevelopment area of the project is 24,218± square-feet (0.556 acres). The City of Portsmouth specifies a 15,000 square-foot disturbed area and 40% impervious existing area threshold that would qualify the proposed site as a Redevelopment project, creating additional treatment requirements for the proposed structure.

The development will provide for a new commercial building. The development has the potential to increase stormwater pollutants to City infrastructure, and therefore must be designed in a manner to prevent that occurrence. This will be done primarily by capturing stormwater runoff and routing it through appropriate stormwater facilities, designed to ensure that there will be no increase in pollutants from the site as a result of this project.

The hydrologic modeling utilized for this analysis uses the "Extreme Precipitation" values for rainfall from The Northeast Regional Climate Center (Cornell University), with a 15% increase to comply with local ordinance.

INTRODUCTION / PROJECT DESCRIPTION

This drainage report is designed to assist the owner, contractor, regulatory reviewer, and others in understanding the impact of the proposed development project on local surface water runoff and quality. The project site is shown on the City of Portsmouth, NH Assessor's Tax Map 117 as Lots 14 and 15. Bounding the site to the north is Haven Court. Bounding the site to the east is High Street. Bounding the site to the South is Congress Street. Bounding the site to the west are multi-story commercial buildings. A vicinity map is included in the Appendix to this report.

The proposed development will include a commercial building with utilities. This report includes information about the existing site and the proposed expansion necessary to analyze stormwater runoff and to design any required mitigation. The report includes maps of pre-development and post-development watersheds, subcatchment areas and calculations of runoff. The report will provide a narrative of the stormwater runoff and describe numerically and graphically the surface water runoff patterns for this site. Proposed stormwater management methods will also be described, as well as erosion and sediment control practices. To fully understand the proposed site development the reader should also review a complete site plan set in addition to this report.

METHODOLOGY

"Extreme Precipitation" values from The Northeast Regional Climate Center (Cornell University) have been used for modeling purposes. These values have been used in this analysis, with a 15% addition to comply with local ordinances. The unadjusted table is appended to this report.

This report uses the US Soil Conservation Service (SCS) Method for estimating stormwater runoff. The SCS method is published in The National Engineering Handbook (NEH), Section 4 "Hydrology" and includes the Technical Release No. 20, (TR-20) "Computer Program for Project Formulation Hydrology", and Technical Release No. 55 (TR-55) "Urban Hydrology for Small Watersheds" methods. This report uses the HydroCAD version 10.20 program, written by HydroCAD Software Solutions LLC, Chocorua, N.H., to apply these methods for

the calculation of runoff and for pond modeling. Rainfall data and runoff curve numbers are taken from "The Stormwater Management and Erosion Control Handbook for Urban and Developing Areas in New Hampshire."

Time of Concentration (Tc) is calculated by entering measured flow path data such as flow path type, length, slope and surface characteristics into the HydroCAD program. For the purposes of this report, a minimum time of concentration of 5 minutes is used.

The storm events used for the calculations in this report are the 2-year, 10-year, 25-year, and 50-year (24-hour) storms. Watershed basin boundaries have been delineated using topographic maps prepared by Ambit Engineering and field observations to confirm.

SITE SPECIFIC INFORMATION

Based on the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), Soil Survey of Rockingham County, New Hampshire the site is made up of one soil type:

Soil Symbol	Soil Name and Slopes
699	Urban Land

Urban Land does not have any recorded geological features, including depth to bedrock or depth to water table. The Hydraulic Soil Grade is assumed to be type D.

The physical characteristics of the site not containing buildings consist of gently sloped (0-8%) grades that generally slope from the west of the lot to the east. Elevations on the site range from 27 to 32 feet above sea level. The existing site is developed with multi-story commercial buildings and associated parking.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) number 33015C0259F (effective date January 29, 2021), the proposed development is located in Zone X and is determined to be outside of the 0.2% annual chance floodplain. A copy of the FIRM map is included in the Appendix.

PRE-DEVELOPMENT DRAINAGE

In the pre-development condition, the site has been analyzed as two subcatchment basins (E1 and E1a) based on localized topography and discharge location. Subcatchment E1 contains the entirety of the lot as well as part of the runoff from adjacent roads, and flows to the north to discharge point DP1, represented as Catch Basin 1 (CB1) on the plan set. Subcatchment E1a contains the flow from an adjacent alleyway (Haven Court) and flows to a trench drain, before flowing to DP1.

Table 1: Pre-Development Watershed Basin Summary

Watershed Basin ID	Basin Area (SF)	Tc (MIN)	CN	10-Year Runoff (CFS)	50-Year Runoff (CFS)	To Design Point
E1	13,745	5.0	97	2.53	3.85	DP1
E1a	1,632	5.0	98	0.30	0.46	DP1

POST-DEVELOPMENT DRAINAGE

The proposed development has been designed to match the pre-development drainage patterns to the greatest extent feasible. In the post-development condition, the site has been analyzed as one subcatchment basin, (P1). The subcatchment matches the combined area of subcatchments E1 and E1a, and drain to Discharge Point DP1. Subcatchment P1 contains the new development and drains in part through a roof drain filter and then to DP1.

Table 2: Post-Development Watershed Basin Summary

Watershed Basin ID	Basin Area (SF)	Tc (MIN)	CN	10-Year Runoff (CFS)	50-Year Runoff (CFS)	Design Point
P1	15,377	5.0	98	2.84	4.32	DP1

The overall impervious coverage of the subcatchment areas analyzed in this report **increases** from 0.337 acres (95.50%) in the pre-development condition to 0.353 acres

(100.00%) in the post-development condition. The City of Portsmouth specifies that 30% of existing impervious cover in addition to 100% of additional proposed impervious cover is treated in a Redevelopment project. These conditions are exceeded by treating the proposed 9,400 sf rooftop with the roof drain filter.
(100%)(692 sf pervious) + (30%)(14,685 sf impervious) = 5,098 sf required treatment
Table 3 shows a summary of the comparison between pre-developed flows and post-developed flows for the design point. The comparison shows approximately equivalent flows between the existing and proposed conditions, with a minimal increase of 0.02 cfs resultant from the minor increase in impervious surfaces on the site.

Table 3: Pre-Development to Post-Development Comparison

	Q2 (CFS)		**Q10 (CFS)**		**Q50 (CFS)**		
Design Point	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**	**Description**
DP1	1.84	1.86	2.83	2.84	4.31	4.32	Catch Basin 1

Note that all post-development peak discharges are either equivalent or less than the existing peak discharges.

OFFSITE INFRASTRUCTURE CAPACITY

Due to slight increase of impervious surfaces in the proposed plan, the impacts to the local infrastructure receptors were measured. The receiving catch basin was estimated to be designed for a 10-year storm event, neglecting the 15% increase in rainfall specified in current regulations. By the original design standard, there would be a depth increase of 0.03 feet in the receiving catch basin, but would not overflow. Using the updated standard, the catch basin in the existing condition overflows during the 10-year storm.

EROSION AND SEDIMENT CONTROL PRACTICES

The erosion potential for this site as it exists is moderate due to the presence of existing impervious surfaces. During construction, the major potential for erosion is wind and stormwater runoff. The contractor will be required to inspect and maintain all necessary erosion control measures, as well as installing any additional measures as required. All erosion control practices shall conform to "The Stormwater Management and Erosion Control Handbook for Urban and Developing Areas in New Hampshire." Some examples of erosion and sediment control measures to be utilized for this project during construction may include:

- Catch basin filter baskets
- Stabilized construction entrance at access point to the site (FODS)
- Temporary mulching and seeding for disturbed areas
- Spraying water over disturbed areas to minimize wind erosion

After construction, permanent stabilization will be accomplished by surfacing the access drives and walkways as shown on the plans.

CONCLUSION

The proposed development has been designed to match the pre-development drainage patterns to the greatest extent feasible. With the design of the roof drain filter, the post-development runoff is treated sufficiently. Erosion and sediment control practices will be implemented for both the temporary condition during construction and for final stabilization after construction. Therefore, there are no negative impacts to downstream receptors or adjacent properties anticipated as a result of this project.

REFERENCES

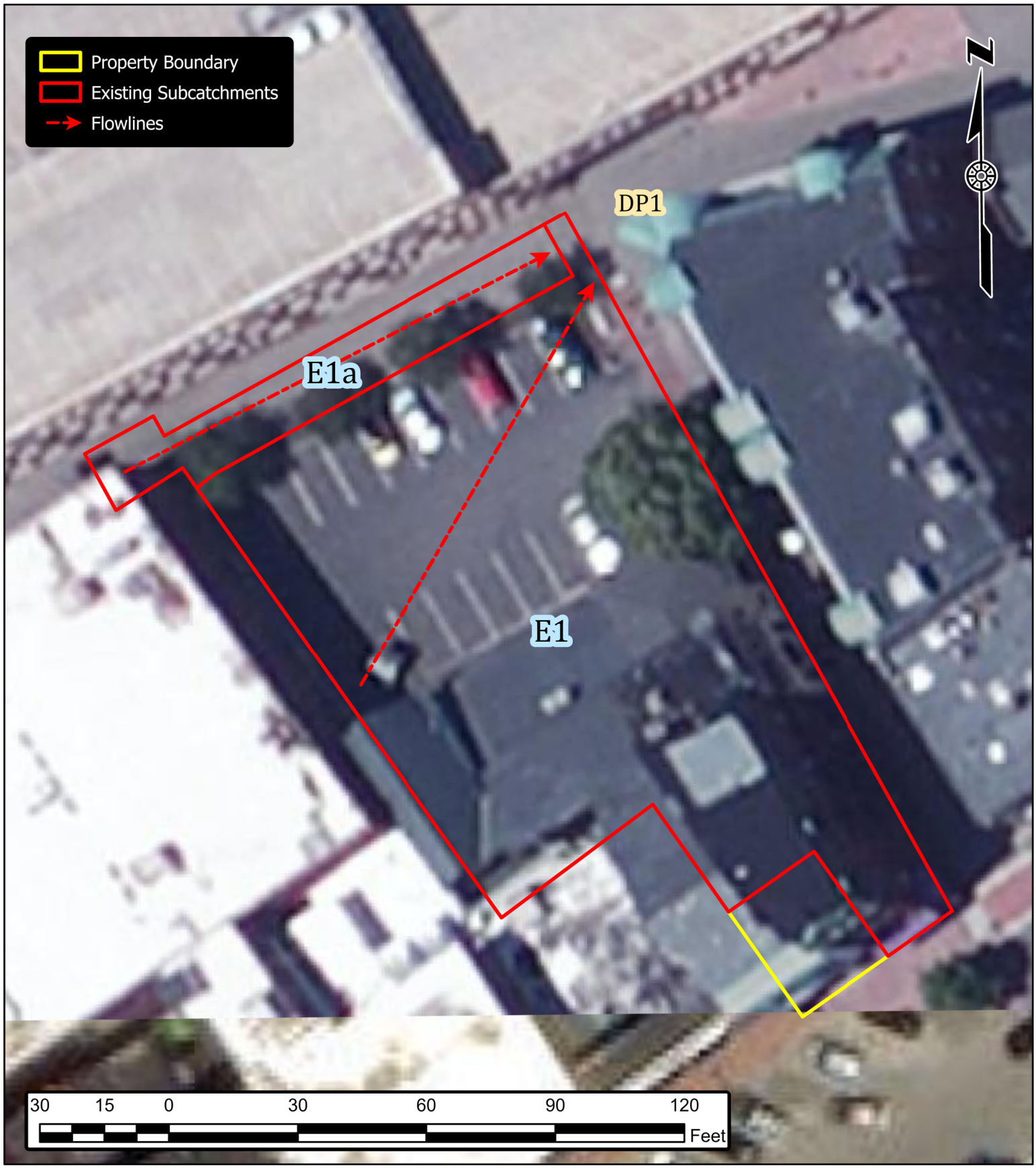
1. Comprehensive Environmental Inc. and New Hampshire Department of Environmental Services. *New Hampshire Stormwater Manual (Volumes 1, 2 and 3)*, December 2008 (Revision 1.0).
2. Minnick, E.L. and H.T. Marshall. *Stormwater Management and Erosion and Sediment Control Handbook for Urban and Developing Areas in New Hampshire*, prepared by Rockingham County Conservation District, prepared for New Hampshire Department of Environmental Services, in cooperation with USDA Soil Conservation Service, August 1992.
3. HydroCAD Software Solution, LLC. *HydroCAD Stormwater Modeling System Version 10.20* copyright 2013.

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors

Existing Subcatchments

COMMERCIAL DEVELOPMENT
1 CONGRESS STREET
PORTSMOUTH, NEW HAMPSHIRE

JOB NUMBER: 3406
SCALE: 1" = 30'
SUBMITTED: 10-18-2022



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Proposed Subcatchments

COMMERCIAL DEVELOPMENT
1 CONGRESS STREET
PORTSMOUTH, NEW HAMPSHIRE

JOB NUMBER: 3406
SCALE: 1" = 50'
SUBMITTED: 10-18-2022

APPENDIX A

VICINITY (TAX) MAP

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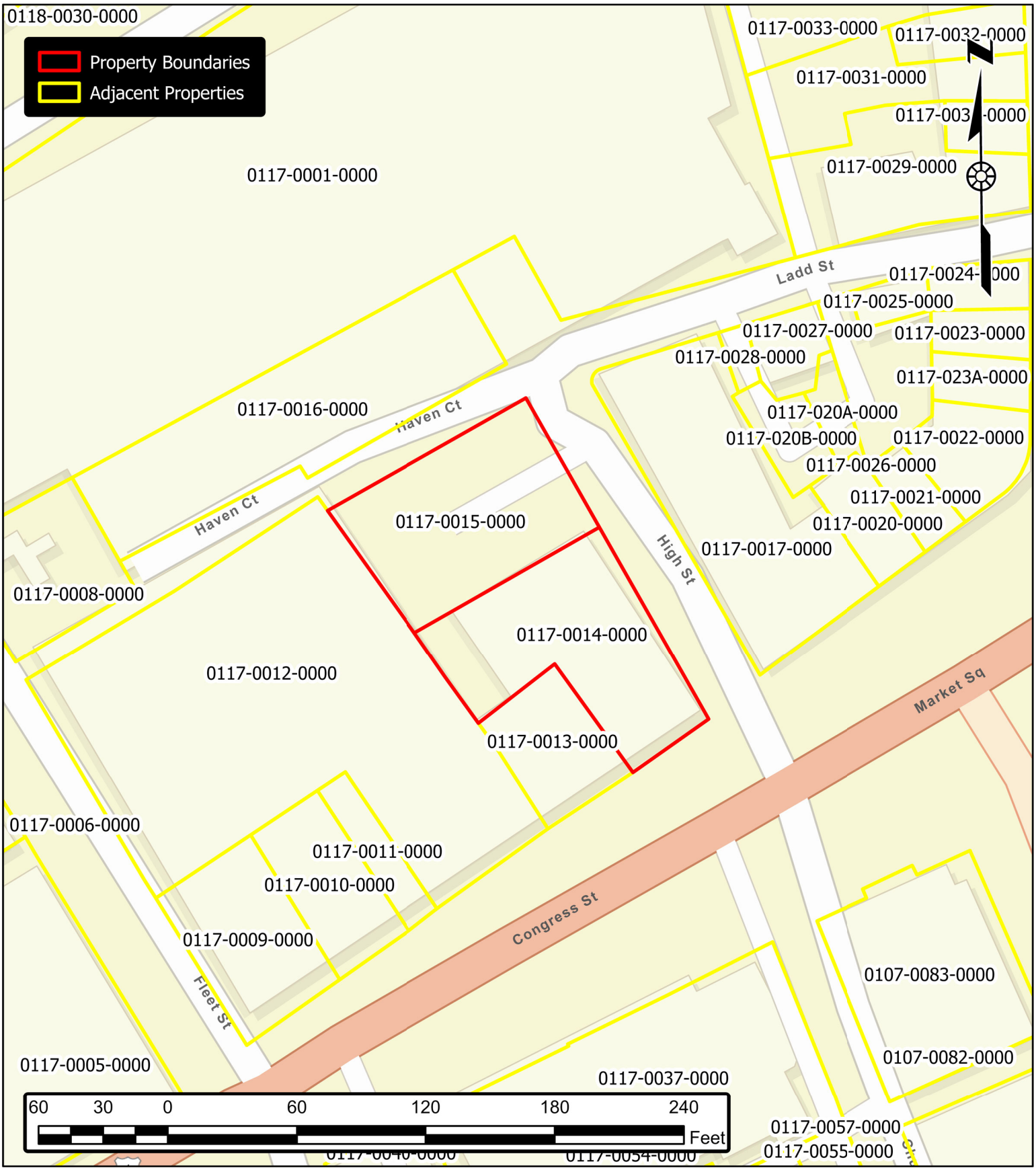
Vicinity Map

COMMERCIAL DEVELOPMENT
1 CONGRESS STREET
PORTSMOUTH, NEW HAMPSHIRE

JOB NUMBER: 3406
SCALE: 1" = 60'
SUBMITTED: 10-18-2022



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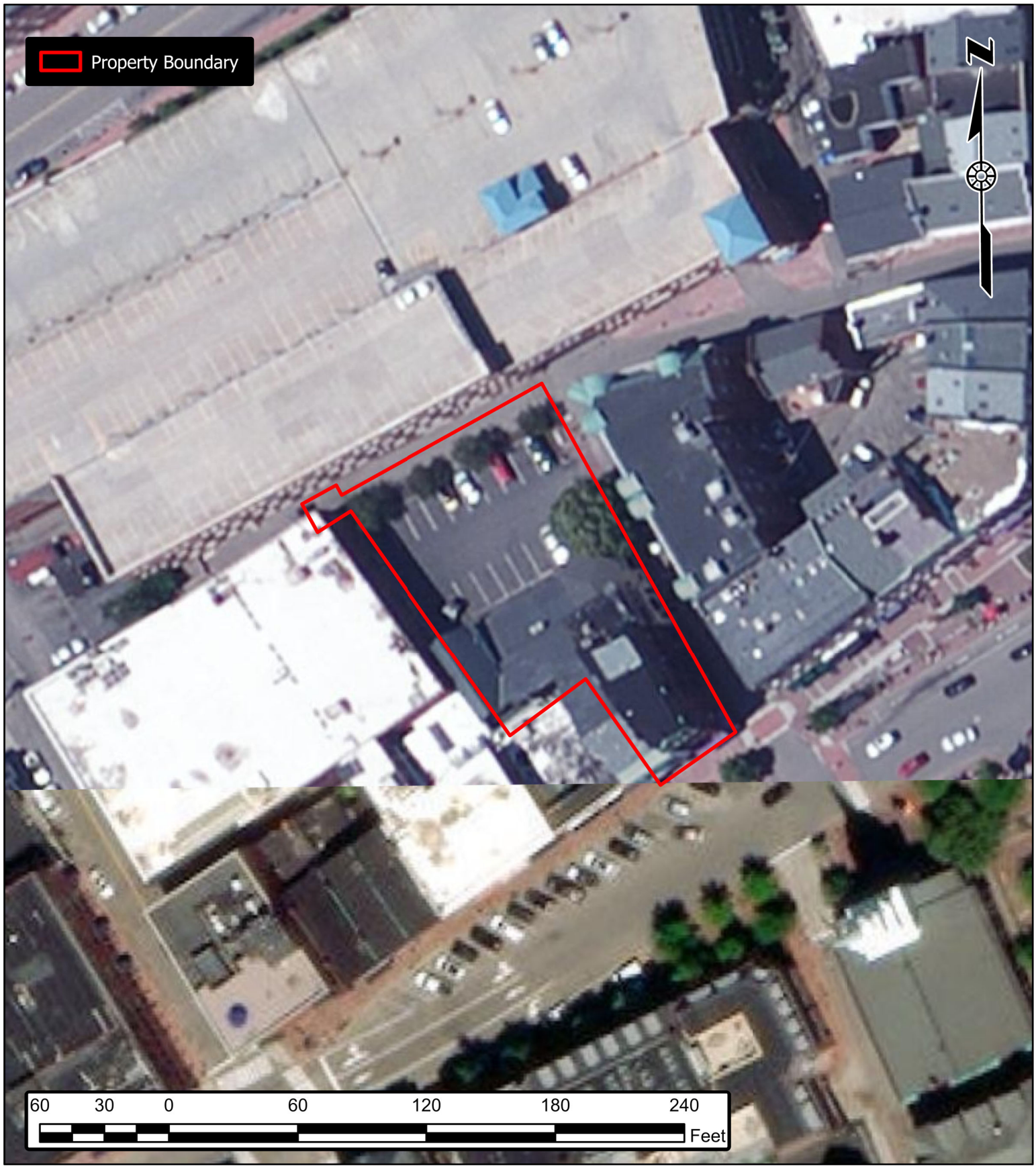
Aerial Photography

COMMERCIAL DEVELOPMENT
1 CONGRESS STREET
PORTSMOUTH, NEW HAMPSHIRE

JOB NUMBER: 3406
SCALE: 1" = 60'
SUBMITTED: 10-18-2022



APPENDIX B

TABLES, CHARTS, ETC.

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	70.758 degrees West
Latitude	43.077 degrees North
Elevation	0 feet
Date/Time	Tue, 01 Feb 2022 09:49:16 -0500

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	2.03	2.65	2.92	**1yr**	2.35	2.81	3.22	3.94	4.54	**1yr**
2yr	0.32	0.50	0.62	0.81	1.02	1.30	**2yr**	0.88	1.18	1.52	1.94	2.48	3.20	3.57	**2yr**	2.84	3.43	3.93	4.67	5.32	**2yr**
5yr	0.37	0.58	0.73	0.97	1.25	1.61	**5yr**	1.08	1.47	1.89	2.43	3.14	4.06	4.57	**5yr**	3.59	4.40	5.03	5.93	6.69	**5yr**
10yr	0.41	0.65	0.82	1.11	1.45	1.89	**10yr**	1.25	1.73	2.23	2.89	3.74	4.86	5.52	**10yr**	4.30	5.31	6.07	7.09	7.96	**10yr**
25yr	0.48	0.76	0.97	1.34	1.77	2.34	**25yr**	1.53	2.14	2.78	3.63	4.73	6.16	7.09	**25yr**	5.45	6.81	7.79	9.00	10.03	**25yr**
50yr	0.54	0.86	1.10	1.54	2.07	2.76	**50yr**	1.79	2.53	3.29	4.32	5.65	7.37	8.57	**50yr**	6.52	8.24	9.40	10.79	11.95	**50yr**
100yr	0.60	0.97	1.25	1.77	2.42	3.26	**100yr**	2.09	2.98	3.90	5.15	6.76	8.83	10.36	**100yr**	7.81	9.96	11.35	12.93	14.24	**100yr**
200yr	0.67	1.10	1.43	2.05	2.82	3.83	**200yr**	2.44	3.51	4.61	6.12	8.07	10.58	12.52	**200yr**	9.36	12.04	13.72	15.50	16.97	**200yr**
500yr	0.80	1.31	1.71	2.48	3.48	4.76	**500yr**	3.00	4.38	5.76	7.70	10.20	13.44	16.10	**500yr**	11.90	15.48	17.62	19.72	21.43	**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	0.88	**1yr**	0.63	0.86	0.93	1.33	1.68	2.23	2.47	**1yr**	1.98	2.38	2.86	3.19	3.89	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.37	1.82	2.34	3.05	3.44	**2yr**	2.70	3.31	3.82	4.54	5.08	**2yr**
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.12	2.73	3.78	4.17	**5yr**	3.34	4.01	4.71	5.52	6.22	**5yr**
10yr	0.38	0.59	0.73	1.02	1.32	1.60	**10yr**	1.14	1.56	1.80	2.39	3.06	4.36	4.84	**10yr**	3.86	4.65	5.42	6.39	7.17	**10yr**
25yr	0.44	0.67	0.83	1.18	1.56	1.90	**25yr**	1.35	1.86	2.10	2.75	3.53	4.71	5.86	**25yr**	4.17	5.63	6.61	7.75	8.64	**25yr**
50yr	0.48	0.73	0.91	1.31	1.76	2.16	**50yr**	1.52	2.12	2.34	3.07	3.92	5.32	6.75	**50yr**	4.71	6.50	7.67	8.99	9.97	**50yr**
100yr	0.53	0.81	1.01	1.46	2.00	2.47	**100yr**	1.73	2.41	2.62	3.41	4.34	5.98	7.79	**100yr**	5.30	7.49	8.89	10.43	11.50	**100yr**
200yr	0.59	0.89	1.12	1.63	2.27	2.81	**200yr**	1.96	2.75	2.93	3.78	4.78	6.71	8.97	**200yr**	5.93	8.63	10.30	12.13	13.29	**200yr**
500yr	0.68	1.01	1.31	1.90	2.70	3.36	**500yr**	2.33	3.28	3.41	4.31	5.43	7.80	10.82	**500yr**	6.90	10.41	12.52	14.82	16.09	**500yr**

Upper Confidence Limits

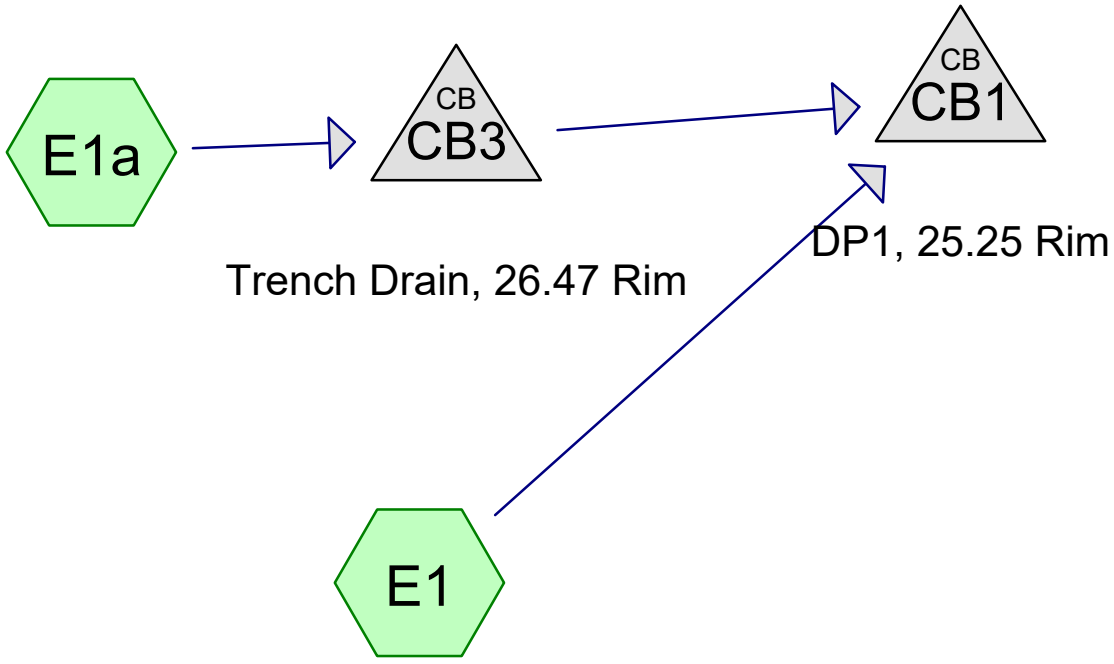
	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.08	**1yr**	0.77	1.06	1.26	1.74	2.20	2.98	3.16	**1yr**	2.63	3.04	3.57	4.37	5.03	**1yr**
2yr	0.34	0.52	0.64	0.86	1.07	1.27	**2yr**	0.92	1.24	1.48	1.96	2.52	3.42	3.70	**2yr**	3.02	3.56	4.09	4.84	5.62	**2yr**
5yr	0.40	0.62	0.76	1.05	1.34	1.62	**5yr**	1.15	1.58	1.88	2.54	3.25	4.33	4.96	**5yr**	3.84	4.77	5.37	6.37	7.15	**5yr**
10yr	0.47	0.72	0.89	1.24	1.61	1.98	**10yr**	1.39	1.93	2.28	3.11	3.96	5.33	6.21	**10yr**	4.72	5.97	6.83	7.84	8.75	**10yr**
25yr	0.58	0.88	1.09	1.56	2.05	2.57	**25yr**	1.77	2.51	2.96	4.07	5.16	7.76	8.35	**25yr**	6.87	8.03	9.17	10.34	11.41	**25yr**
50yr	0.67	1.02	1.27	1.83	2.46	3.13	**50yr**	2.12	3.06	3.60	5.00	6.33	9.71	10.48	**50yr**	8.60	10.08	11.48	12.73	13.97	**50yr**
100yr	0.79	1.19	1.50	2.16	2.96	3.81	**100yr**	2.56	3.73	4.38	6.16	7.78	12.15	13.14	**100yr**	10.75	12.64	14.37	15.71	17.10	**100yr**
200yr	0.92	1.39	1.76	2.55	3.56	4.65	**200yr**	3.07	4.55	5.34	7.59	9.56	15.24	16.50	**200yr**	13.49	15.86	18.02	19.37	20.93	**200yr**
500yr	1.15	1.71	2.20	3.19	4.54	6.04	**500yr**	3.92	5.90	6.94	10.03	12.60	20.59	22.29	**500yr**	18.23	21.44	24.31	25.55	27.36	**500yr**

Powered by ACIS Northeast Regional Climate Center

APPENDIX C

HYDROCAD DRAINAGE

ANALYSIS CALCULATIONS



Subcat Reach Pond Link

Routing Diagram for 2022-02-01 Existing Conditions David T
Prepared by Ambit Engineering, Printed 2022-10-14

Project Notes

Defined 5 rainfall events from output (32) IDF

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type II 24-hr		Default	24.00	1	3.68	2
2	10-yr	Type II 24-hr		Default	24.00	1	5.59	2
3	25-yr	Type II 24-hr		Default	24.00	1	7.08	2
4	50-yr	Type II 24-hr		Default	24.00	1	8.48	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.016	80	>75% Grass cover, Good, HSG D (E1)
0.196	98	Paved parking, HSG D (E1, E1a)
0.141	98	Roofs, HSG D (E1)
0.353	**97**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.353	HSG D	E1, E1a
0.000	Other	
0.353		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.016	0.000	0.016	>75% Grass cover, Good	E1
0.000	0.000	0.000	0.196	0.000	0.196	Paved parking	E1, E1a
0.000	0.000	0.000	0.141	0.000	0.141	Roofs	E1
0.000	**0.000**	**0.000**	**0.353**	**0.000**	**0.353**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	CB1	22.75	22.10	17.2	0.0378	0.013	0.0	8.0	0.0
2	CB3	25.30	23.10	38.4	0.0573	0.013	0.0	6.0	0.0

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Runoff Area=13,745 sf 94.97% Impervious Runoff Depth>3.10"
Tc=5.0 min CN=97 Runoff=1.65 cfs 0.081 af

Subcatchment E1a: Runoff Area=1,632 sf 100.00% Impervious Runoff Depth>3.18"
Tc=5.0 min CN=98 Runoff=0.20 cfs 0.010 af

Pond CB1: DP1, 25.25 Rim Peak Elev=24.29' Inflow=1.84 cfs 0.091 af
8.0" Round Culvert n=0.013 L=17.2' S=0.0378 '/' Outflow=1.84 cfs 0.091 af

Pond CB3: Trench Drain, 26.47 Rim Peak Elev=25.57' Inflow=0.20 cfs 0.010 af
6.0" Round Culvert n=0.013 L=38.4' S=0.0573 '/' Outflow=0.20 cfs 0.010 af

Total Runoff Area = 0.353 ac Runoff Volume = 0.091 af Average Runoff Depth = 3.11"
4.50% Pervious = 0.016 ac 95.50% Impervious = 0.337 ac

Summary for Subcatchment E1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.65 cfs @ 11.95 hrs, Volume= 0.081 af, Depth> 3.10"
Routed to Pond CB1 : DP1, 25.25 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.68"

Area (sf)	CN	Description
6,899	98	Paved parking, HSG D
1,018	98	Roofs, HSG D
628	98	Roofs, HSG D
2,672	98	Roofs, HSG D
1,210	98	Roofs, HSG D
615	80	>75% Grass cover, Good, HSG D
77	80	>75% Grass cover, Good, HSG D
626	98	Roofs, HSG D
13,745	97	Weighted Average
692		5.03% Pervious Area
13,053		94.97% Impervious Area

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

Summary for Subcatchment E1a:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.20 cfs @ 11.95 hrs, Volume= 0.010 af, Depth> 3.18"
Routed to Pond CB3 : Trench Drain, 26.47 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.68"

Area (sf)	CN	Description
1,632	98	Paved parking, HSG D
1,632		100.00% Impervious Area

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

Summary for Pond CB1: DP1, 25.25 Rim

[82] Warning: Early inflow requires earlier time span
[57] Hint: Peaked at 24.29' (Flood elevation advised)
[79] Warning: Submerged Pond CB3 Primary device # 1 OUTLET by 1.19'

Inflow Area = 0.353 ac, 95.50% Impervious, Inflow Depth > 3.11" for 2-yr event
Inflow = 1.84 cfs @ 11.95 hrs, Volume= 0.091 af
Outflow = 1.84 cfs @ 11.95 hrs, Volume= 0.091 af, Atten= 0%, Lag= 0.0 min
Primary = 1.84 cfs @ 11.95 hrs, Volume= 0.091 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 24.29' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	22.75'	**8.0" Round Culvert** L= 17.2' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 22.75' / 22.10' S= 0.0378 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=1.84 cfs @ 11.95 hrs HW=24.28' (Free Discharge)
1=Culvert (Inlet Controls 1.84 cfs @ 5.28 fps)

Summary for Pond CB3: Trench Drain, 26.47 Rim

[82] Warning: Early inflow requires earlier time span
[57] Hint: Peaked at 25.57' (Flood elevation advised)

Inflow Area = 0.037 ac,100.00% Impervious, Inflow Depth > 3.18" for 2-yr event
Inflow = 0.20 cfs @ 11.95 hrs, Volume= 0.010 af
Outflow = 0.20 cfs @ 11.95 hrs, Volume= 0.010 af, Atten= 0%, Lag= 0.0 min
Primary = 0.20 cfs @ 11.95 hrs, Volume= 0.010 af
Routed to Pond CB1 : DP1, 25.25 Rim

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 25.57' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.30'	**6.0" Round Culvert** L= 38.4' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.30' / 23.10' S= 0.0573 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.20 cfs @ 11.95 hrs HW=25.57' (Free Discharge)
1=Culvert (Inlet Controls 0.20 cfs @ 1.79 fps)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Runoff Area=13,745 sf 94.97% Impervious Runoff Depth>4.83"
Tc=5.0 min CN=97 Runoff=2.53 cfs 0.127 af

Subcatchment E1a: Runoff Area=1,632 sf 100.00% Impervious Runoff Depth>4.90"
Tc=5.0 min CN=98 Runoff=0.30 cfs 0.015 af

Pond CB1: DP1, 25.25 Rim Peak Elev=25.92' Inflow=2.83 cfs 0.142 af
8.0" Round Culvert n=0.013 L=17.2' S=0.0378 '/' Outflow=2.83 cfs 0.142 af

Pond CB3: Trench Drain, 26.47 Rim Peak Elev=25.65' Inflow=0.30 cfs 0.015 af
6.0" Round Culvert n=0.013 L=38.4' S=0.0573 '/' Outflow=0.30 cfs 0.015 af

Total Runoff Area = 0.353 ac Runoff Volume = 0.142 af Average Runoff Depth = 4.84"
4.50% Pervious = 0.016 ac 95.50% Impervious = 0.337 ac

Summary for Subcatchment E1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 2.53 cfs @ 11.95 hrs, Volume= 0.127 af, Depth> 4.83"
Routed to Pond CB1 : DP1, 25.25 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=5.59"

Area (sf)	CN	Description
6,899	98	Paved parking, HSG D
1,018	98	Roofs, HSG D
628	98	Roofs, HSG D
2,672	98	Roofs, HSG D
1,210	98	Roofs, HSG D
615	80	>75% Grass cover, Good, HSG D
77	80	>75% Grass cover, Good, HSG D
626	98	Roofs, HSG D
13,745	97	Weighted Average
692		5.03% Pervious Area
13,053		94.97% Impervious Area

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

Summary for Subcatchment E1a:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.30 cfs @ 11.95 hrs, Volume= 0.015 af, Depth> 4.90"
Routed to Pond CB3 : Trench Drain, 26.47 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=5.59"

Area (sf)	CN	Description
1,632	98	Paved parking, HSG D
1,632		100.00% Impervious Area

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

Summary for Pond CB1: DP1, 25.25 Rim

[82] Warning: Early inflow requires earlier time span
[57] Hint: Peaked at 25.92' (Flood elevation advised)
[81] Warning: Exceeded Pond CB3 by 0.26' @ 11.95 hrs

Inflow Area = 0.353 ac, 95.50% Impervious, Inflow Depth > 4.84" for 10-yr event
Inflow = 2.83 cfs @ 11.95 hrs, Volume= 0.142 af
Outflow = 2.83 cfs @ 11.95 hrs, Volume= 0.142 af, Atten= 0%, Lag= 0.0 min
Primary = 2.83 cfs @ 11.95 hrs, Volume= 0.142 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 25.92' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	22.75'	**8.0" Round Culvert** L= 17.2' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 22.75' / 22.10' S= 0.0378 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=2.83 cfs @ 11.95 hrs HW=25.92' (Free Discharge)
1=Culvert (Inlet Controls 2.83 cfs @ 8.10 fps)

Summary for Pond CB3: Trench Drain, 26.47 Rim

[82] Warning: Early inflow requires earlier time span
[57] Hint: Peaked at 25.65' (Flood elevation advised)

Inflow Area = 0.037 ac,100.00% Impervious, Inflow Depth > 4.90" for 10-yr event
Inflow = 0.30 cfs @ 11.95 hrs, Volume= 0.015 af
Outflow = 0.30 cfs @ 11.95 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.0 min
Primary = 0.30 cfs @ 11.95 hrs, Volume= 0.015 af
Routed to Pond CB1 : DP1, 25.25 Rim

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 25.65' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.30'	**6.0" Round Culvert** L= 38.4' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.30' / 23.10' S= 0.0573 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.30 cfs @ 11.95 hrs HW=25.65' (Free Discharge)
1=Culvert (Inlet Controls 0.30 cfs @ 2.03 fps)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Runoff Area=13,745 sf 94.97% Impervious Runoff Depth>6.17"
Tc=5.0 min CN=97 Runoff=3.21 cfs 0.162 af

Subcatchment E1a: Runoff Area=1,632 sf 100.00% Impervious Runoff Depth>6.24"
Tc=5.0 min CN=98 Runoff=0.38 cfs 0.019 af

Pond CB1: DP1, 25.25 Rim Peak Elev=27.66' Inflow=3.59 cfs 0.182 af
8.0" Round Culvert n=0.013 L=17.2' S=0.0378 '/' Outflow=3.59 cfs 0.182 af

Pond CB3: Trench Drain, 26.47 Rim Peak Elev=25.72' Inflow=0.38 cfs 0.019 af
6.0" Round Culvert n=0.013 L=38.4' S=0.0573 '/' Outflow=0.38 cfs 0.019 af

Total Runoff Area = 0.353 ac Runoff Volume = 0.182 af Average Runoff Depth = 6.18"
4.50% Pervious = 0.016 ac 95.50% Impervious = 0.337 ac

Summary for Subcatchment E1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 3.21 cfs @ 11.95 hrs, Volume= 0.162 af, Depth> 6.17"
Routed to Pond CB1 : DP1, 25.25 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=7.08"

Area (sf)	CN	Description
6,899	98	Paved parking, HSG D
1,018	98	Roofs, HSG D
628	98	Roofs, HSG D
2,672	98	Roofs, HSG D
1,210	98	Roofs, HSG D
615	80	>75% Grass cover, Good, HSG D
77	80	>75% Grass cover, Good, HSG D
626	98	Roofs, HSG D
13,745	97	Weighted Average
692		5.03% Pervious Area
13,053		94.97% Impervious Area

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

Summary for Subcatchment E1a:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.38 cfs @ 11.95 hrs, Volume= 0.019 af, Depth> 6.24"
Routed to Pond CB3 : Trench Drain, 26.47 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=7.08"

Area (sf)	CN	Description
1,632	98	Paved parking, HSG D
1,632		100.00% Impervious Area

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

Summary for Pond CB1: DP1, 25.25 Rim

[82] Warning: Early inflow requires earlier time span
[57] Hint: Peaked at 27.66' (Flood elevation advised)
[81] Warning: Exceeded Pond CB3 by 1.94' @ 11.95 hrs

Inflow Area = 0.353 ac, 95.50% Impervious, Inflow Depth > 6.18" for 25-yr event
Inflow = 3.59 cfs @ 11.95 hrs, Volume= 0.182 af
Outflow = 3.59 cfs @ 11.95 hrs, Volume= 0.182 af, Atten= 0%, Lag= 0.0 min
Primary = 3.59 cfs @ 11.95 hrs, Volume= 0.182 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 27.66' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	22.75'	**8.0" Round Culvert** L= 17.2' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 22.75' / 22.10' S= 0.0378 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=3.59 cfs @ 11.95 hrs HW=27.66' (Free Discharge)
1=Culvert (Inlet Controls 3.59 cfs @ 10.30 fps)

Summary for Pond CB3: Trench Drain, 26.47 Rim

[82] Warning: Early inflow requires earlier time span
[57] Hint: Peaked at 25.72' (Flood elevation advised)

Inflow Area = 0.037 ac,100.00% Impervious, Inflow Depth > 6.24" for 25-yr event
Inflow = 0.38 cfs @ 11.95 hrs, Volume= 0.019 af
Outflow = 0.38 cfs @ 11.95 hrs, Volume= 0.019 af, Atten= 0%, Lag= 0.0 min
Primary = 0.38 cfs @ 11.95 hrs, Volume= 0.019 af
Routed to Pond CB1 : DP1, 25.25 Rim

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 25.72' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.30'	**6.0" Round Culvert** L= 38.4' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.30' / 23.10' S= 0.0573 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.38 cfs @ 11.95 hrs HW=25.72' (Free Discharge)
1=Culvert (Inlet Controls 0.38 cfs @ 2.19 fps)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment E1: Runoff Area=13,745 sf 94.97% Impervious Runoff Depth>7.43"
Tc=5.0 min CN=97 Runoff=3.85 cfs 0.195 af

Subcatchment E1a: Runoff Area=1,632 sf 100.00% Impervious Runoff Depth>7.49"
Tc=5.0 min CN=98 Runoff=0.46 cfs 0.023 af

Pond CB1: DP1, 25.25 Rim Peak Elev=29.67' Inflow=4.31 cfs 0.219 af
8.0" Round Culvert n=0.013 L=17.2' S=0.0378 '/' Outflow=4.31 cfs 0.219 af

Pond CB3: Trench Drain, 26.47 Rim Peak Elev=25.78' Inflow=0.46 cfs 0.023 af
6.0" Round Culvert n=0.013 L=38.4' S=0.0573 '/' Outflow=0.46 cfs 0.023 af

Total Runoff Area = 0.353 ac Runoff Volume = 0.219 af Average Runoff Depth = 7.44"
4.50% Pervious = 0.016 ac 95.50% Impervious = 0.337 ac

Summary for Subcatchment E1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 3.85 cfs @ 11.95 hrs, Volume= 0.195 af, Depth> 7.43"
Routed to Pond CB1 : DP1, 25.25 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=8.48"

Area (sf)	CN	Description
6,899	98	Paved parking, HSG D
1,018	98	Roofs, HSG D
628	98	Roofs, HSG D
2,672	98	Roofs, HSG D
1,210	98	Roofs, HSG D
615	80	>75% Grass cover, Good, HSG D
77	80	>75% Grass cover, Good, HSG D
626	98	Roofs, HSG D
13,745	97	Weighted Average
692		5.03% Pervious Area
13,053		94.97% Impervious Area

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

Summary for Subcatchment E1a:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.46 cfs @ 11.95 hrs, Volume= 0.023 af, Depth> 7.49"
Routed to Pond CB3 : Trench Drain, 26.47 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=8.48"

Area (sf)	CN	Description
1,632	98	Paved parking, HSG D
1,632		100.00% Impervious Area

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

Summary for Pond CB1: DP1, 25.25 Rim

[82] Warning: Early inflow requires earlier time span
[57] Hint: Peaked at 29.67' (Flood elevation advised)
[81] Warning: Exceeded Pond CB3 by 3.88' @ 11.95 hrs

Inflow Area = 0.353 ac, 95.50% Impervious, Inflow Depth > 7.44" for 50-yr event
Inflow = 4.31 cfs @ 11.95 hrs, Volume= 0.219 af
Outflow = 4.31 cfs @ 11.95 hrs, Volume= 0.219 af, Atten= 0%, Lag= 0.0 min
Primary = 4.31 cfs @ 11.95 hrs, Volume= 0.219 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 29.67' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	22.75'	**8.0" Round Culvert** L= 17.2' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 22.75' / 22.10' S= 0.0378 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=4.31 cfs @ 11.95 hrs HW=29.66' (Free Discharge)
1=Culvert (Inlet Controls 4.31 cfs @ 12.35 fps)

Summary for Pond CB3: Trench Drain, 26.47 Rim

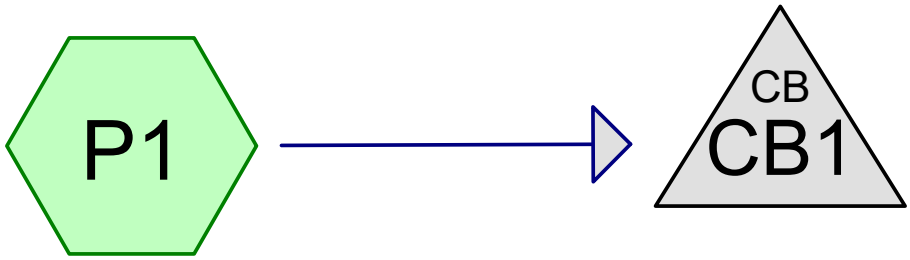
[82] Warning: Early inflow requires earlier time span
[57] Hint: Peaked at 25.78' (Flood elevation advised)

Inflow Area = 0.037 ac,100.00% Impervious, Inflow Depth > 7.49" for 50-yr event
Inflow = 0.46 cfs @ 11.95 hrs, Volume= 0.023 af
Outflow = 0.46 cfs @ 11.95 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.0 min
Primary = 0.46 cfs @ 11.95 hrs, Volume= 0.023 af
Routed to Pond CB1 : DP1, 25.25 Rim

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 25.78' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	25.30'	**6.0" Round Culvert** L= 38.4' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 25.30' / 23.10' S= 0.0573 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.20 sf

Primary OutFlow Max=0.46 cfs @ 11.95 hrs HW=25.78' (Free Discharge)
1=Culvert (Inlet Controls 0.46 cfs @ 2.36 fps)



DP1, 25.25 Rim

Subcat Reach Pond Link

Routing Diagram for 2022-10-14 Proposed Conditions David T
Prepared by Ambit Engineering, Printed 2022-10-14

Project Notes

Defined 5 rainfall events from output (32) IDF

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type II 24-hr		Default	24.00	1	3.68	2
2	10-yr	Type II 24-hr		Default	24.00	1	5.59	2
3	25-yr	Type II 24-hr		Default	24.00	1	7.08	2
4	50-yr	Type II 24-hr		Default	24.00	1	8.48	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.196	98	Paved parking, HSG D (P1)
0.157	98	Roofs, HSG D (P1)
0.353	**98**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.353	HSG D	P1
0.000	Other	
0.353		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.196	0.000	0.196	Paved parking	P1
0.000	0.000	0.000	0.157	0.000	0.157	Roofs	P1
0.000	**0.000**	**0.000**	**0.353**	**0.000**	**0.353**	**TOTAL AREA**	

Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)
1	CB1	22.75	22.10	17.2	0.0378	0.013	0.0	8.0	0.0

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: Runoff Area=15,377 sf 100.00% Impervious Runoff Depth>3.18"
Tc=5.0 min CN=98 Runoff=1.86 cfs 0.094 af

Pond CB1: DP1, 25.25 Rim Peak Elev=24.31' Inflow=1.86 cfs 0.094 af
8.0" Round Culvert n=0.013 L=17.2' S=0.0378 '/' Outflow=1.86 cfs 0.094 af

Total Runoff Area = 0.353 ac Runoff Volume = 0.094 af Average Runoff Depth = 3.18"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.353 ac

Summary for Subcatchment P1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.86 cfs @ 11.95 hrs, Volume= 0.094 af, Depth> 3.18"
Routed to Pond CB1 : DP1, 25.25 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.68"

Area (sf)	CN	Description
6,899	98	Paved parking, HSG D
1,018	98	Roofs, HSG D
628	98	Roofs, HSG D
2,672	98	Roofs, HSG D
1,210	98	Roofs, HSG D
615	98	Roofs, HSG D
77	98	Roofs, HSG D
626	98	Roofs, HSG D
1,632	98	Paved parking, HSG D
15,377	98	Weighted Average
15,377		100.00% Impervious Area

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

Summary for Pond CB1: DP1, 25.25 Rim

[82] Warning: Early inflow requires earlier time span
[57] Hint: Peaked at 24.31' (Flood elevation advised)

Inflow Area = 0.353 ac,100.00% Impervious, Inflow Depth > 3.18" for 2-yr event
Inflow = 1.86 cfs @ 11.95 hrs, Volume= 0.094 af
Outflow = 1.86 cfs @ 11.95 hrs, Volume= 0.094 af, Atten= 0%, Lag= 0.0 min
Primary = 1.86 cfs @ 11.95 hrs, Volume= 0.094 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 24.31' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	22.75'	**8.0" Round Culvert** L= 17.2' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 22.75' / 22.10' S= 0.0378 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=1.86 cfs @ 11.95 hrs HW=24.31' (Free Discharge)
1=Culvert (Inlet Controls 1.86 cfs @ 5.33 fps)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: Runoff Area=15,377 sf 100.00% Impervious Runoff Depth>4.90"
Tc=5.0 min CN=98 Runoff=2.84 cfs 0.144 af

Pond CB1: DP1, 25.25 Rim Peak Elev=25.94' Inflow=2.84 cfs 0.144 af
8.0" Round Culvert n=0.013 L=17.2' S=0.0378 '/' Outflow=2.84 cfs 0.144 af

Total Runoff Area = 0.353 ac Runoff Volume = 0.144 af Average Runoff Depth = 4.90"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.353 ac

Summary for Subcatchment P1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 2.84 cfs @ 11.95 hrs, Volume= 0.144 af, Depth> 4.90"
Routed to Pond CB1 : DP1, 25.25 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=5.59"

Area (sf)	CN	Description
6,899	98	Paved parking, HSG D
1,018	98	Roofs, HSG D
628	98	Roofs, HSG D
2,672	98	Roofs, HSG D
1,210	98	Roofs, HSG D
615	98	Roofs, HSG D
77	98	Roofs, HSG D
626	98	Roofs, HSG D
1,632	98	Paved parking, HSG D
15,377	98	Weighted Average
15,377		100.00% Impervious Area

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

Summary for Pond CB1: DP1, 25.25 Rim

[82] Warning: Early inflow requires earlier time span
[57] Hint: Peaked at 25.94' (Flood elevation advised)

Inflow Area = 0.353 ac,100.00% Impervious, Inflow Depth > 4.90" for 10-yr event
Inflow = 2.84 cfs @ 11.95 hrs, Volume= 0.144 af
Outflow = 2.84 cfs @ 11.95 hrs, Volume= 0.144 af, Atten= 0%, Lag= 0.0 min
Primary = 2.84 cfs @ 11.95 hrs, Volume= 0.144 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 25.94' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	22.75'	**8.0" Round Culvert** L= 17.2' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 22.75' / 22.10' S= 0.0378 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=2.84 cfs @ 11.95 hrs HW=25.94' (Free Discharge)
1=Culvert (Inlet Controls 2.84 cfs @ 8.14 fps)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: Runoff Area=15,377 sf 100.00% Impervious Runoff Depth>6.24"
Tc=5.0 min CN=98 Runoff=3.60 cfs 0.183 af

Pond CB1: DP1, 25.25 Rim Peak Elev=27.68' Inflow=3.60 cfs 0.183 af
8.0" Round Culvert n=0.013 L=17.2' S=0.0378 '/' Outflow=3.60 cfs 0.183 af

Total Runoff Area = 0.353 ac Runoff Volume = 0.183 af Average Runoff Depth = 6.24"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.353 ac

Summary for Subcatchment P1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 3.60 cfs @ 11.95 hrs, Volume= 0.183 af, Depth> 6.24"
Routed to Pond CB1 : DP1, 25.25 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=7.08"

Area (sf)	CN	Description
6,899	98	Paved parking, HSG D
1,018	98	Roofs, HSG D
628	98	Roofs, HSG D
2,672	98	Roofs, HSG D
1,210	98	Roofs, HSG D
615	98	Roofs, HSG D
77	98	Roofs, HSG D
626	98	Roofs, HSG D
1,632	98	Paved parking, HSG D
15,377	98	Weighted Average
15,377		100.00% Impervious Area

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

Summary for Pond CB1: DP1, 25.25 Rim

[82] Warning: Early inflow requires earlier time span
[57] Hint: Peaked at 27.68' (Flood elevation advised)

Inflow Area = 0.353 ac,100.00% Impervious, Inflow Depth > 6.24" for 25-yr event
Inflow = 3.60 cfs @ 11.95 hrs, Volume= 0.183 af
Outflow = 3.60 cfs @ 11.95 hrs, Volume= 0.183 af, Atten= 0%, Lag= 0.0 min
Primary = 3.60 cfs @ 11.95 hrs, Volume= 0.183 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 27.68' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	22.75'	**8.0" Round Culvert** L= 17.2' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 22.75' / 22.10' S= 0.0378 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=3.60 cfs @ 11.95 hrs HW=27.68' (Free Discharge)
1=Culvert (Inlet Controls 3.60 cfs @ 10.32 fps)

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: Runoff Area=15,377 sf 100.00% Impervious Runoff Depth>7.49"
Tc=5.0 min CN=98 Runoff=4.32 cfs 0.220 af

Pond CB1: DP1, 25.25 Rim Peak Elev=29.69' Inflow=4.32 cfs 0.220 af
8.0" Round Culvert n=0.013 L=17.2' S=0.0378 '/' Outflow=4.32 cfs 0.220 af

Total Runoff Area = 0.353 ac Runoff Volume = 0.220 af Average Runoff Depth = 7.49"
0.00% Pervious = 0.000 ac 100.00% Impervious = 0.353 ac

Summary for Subcatchment P1:

[49] Hint: Tc<2dt may require smaller dt

Runoff = 4.32 cfs @ 11.95 hrs, Volume= 0.220 af, Depth> 7.49"
Routed to Pond CB1 : DP1, 25.25 Rim

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 50-yr Rainfall=8.48"

Area (sf)	CN	Description
6,899	98	Paved parking, HSG D
1,018	98	Roofs, HSG D
628	98	Roofs, HSG D
2,672	98	Roofs, HSG D
1,210	98	Roofs, HSG D
615	98	Roofs, HSG D
77	98	Roofs, HSG D
626	98	Roofs, HSG D
1,632	98	Paved parking, HSG D
15,377	98	Weighted Average
15,377		100.00% Impervious Area

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

Summary for Pond CB1: DP1, 25.25 Rim

[82] Warning: Early inflow requires earlier time span
[57] Hint: Peaked at 29.69' (Flood elevation advised)

Inflow Area = 0.353 ac,100.00% Impervious, Inflow Depth > 7.49" for 50-yr event
Inflow = 4.32 cfs @ 11.95 hrs, Volume= 0.220 af
Outflow = 4.32 cfs @ 11.95 hrs, Volume= 0.220 af, Atten= 0%, Lag= 0.0 min
Primary = 4.32 cfs @ 11.95 hrs, Volume= 0.220 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 29.69' @ 11.95 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	22.75'	**8.0" Round Culvert** L= 17.2' CMP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 22.75' / 22.10' S= 0.0378 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=4.32 cfs @ 11.95 hrs HW=29.69' (Free Discharge)
1=Culvert (Inlet Controls 4.32 cfs @ 12.37 fps)

APPENDIX D

SOIL SURVEY INFORMATION

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Rockingham County, New Hampshire

February 1, 2022

Map Scale: 1:483 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 5 10 20 30

Feet
0 20 40 80 120

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 Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

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: Dec 31, 2009—Sep 9, 2017

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
699	Urban land	0.4	100.0%
Totals for Area of Interest		**0.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Rockingham County, New Hampshire

699—Urban land

Map Unit Composition

Urban land: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Minor Components

Not named

Percent of map unit: 15 percent
Hydric soil rating: No

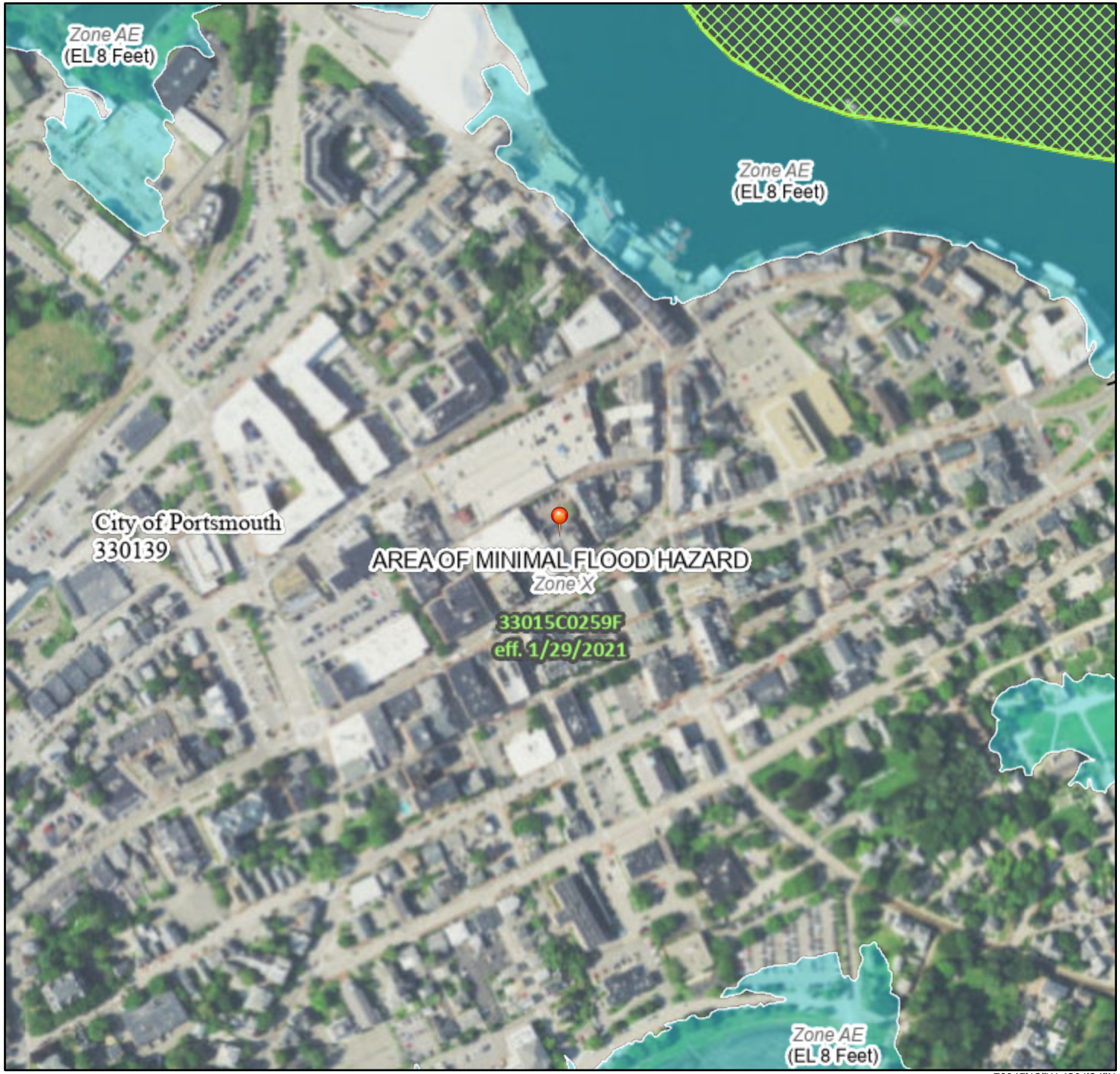
APPENDIX E

FEMA FIRM MAP

National Flood Hazard Layer FIRMette

FEMA

70°45'49"W 43°4'51"N



70°45'12"W 43°4'24"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/25/2022 at 1:29 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX F

INSPECTION & LONG TERM

MAINTENANCE PLAN

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors

INSPECTION & LONG-TERM MAINTENANCE PLAN
FOR
COMMERCIAL DEVELOPMENT

1 CONGRESS STREET
PORTSMOUTH, NH

Introduction

The intent of this plan is to provide the One Market Square, LLC (herein referred to as "owner") with a list of procedures that document the inspection and maintenance requirements of the stormwater management system for this development. Specifically, the proposed roof drain filter (collectively referred to as the "Stormwater Management System"). The contact information for the owner shall be kept current, and if there is a change of ownership of the property this plan must be transferred to the new owner.

The following inspection and maintenance program is necessary to keep the stormwater management system functioning properly and will help in maintaining a high quality of stormwater runoff to minimize potential environmental impacts. By following the enclosed procedures, the owner will be able to maintain the functional design of the stormwater management system and maximize its ability to remove sediment and other contaminants from site generated stormwater runoff.

Annual Report

The owner shall prepare an annual Inspection & Maintenance Report. The report shall include a summary of the system's maintenance and repair by transmission of the Inspection & Maintenance Log and other information as required. A copy of the report shall be delivered annually to the Portsmouth DPW, if required.

Inspection & Maintenance Checklist/Log

The following pages contain the Stormwater Management System Inspection & Maintenance Requirements and a blank copy of the Stormwater Management System Inspection & Maintenance Log. These forms are provided to the owner as a guideline for performing the inspection and maintenance of the Stormwater Management System. This is a guideline and should be periodically reviewed for conformance with current practice and standards.

Stormwater Management System Components

The Stormwater Management System is designed to mitigate the quality of site-generated stormwater runoff. As a result, the design includes the following elements:

Non-Structural BMPs

Non-Structural best management practices (BMP's) include temporary and permanent measures that typically require less labor and capital inputs and are intended to provide protection against erosion of soils. Examples of non-structural BMP's on this project may include but are not limited to:

- Dust control
- Sediment barriers
- Stabilized construction entrance
- Catch basin basket
- Dewatering control

Structural BMPs

Structural BMPs are more labor and capital-intensive structures or installations that require more specialized personnel to install. Examples on this project include but are not limited to:

- Bio Clean Downspout Filter
- Closed Drainage System

Inspection and Maintenance Requirements

The following summarizes the inspection and maintenance requirements for the various BMP's that may be found on this project.

1. **Bio Clean Downspout Filter:** Refer to the manufacturer's Operation and Maintenance manual for guidance, included herewith.
2. **Storm Drains:** Monitor accumulation of debris in drainage structures monthly or after significant rain events. Remove sediments when they accumulate within the outlet pipe. During construction, maintain inlet protection until all areas have been stabilized. Prior to the end of construction, inspect the drains and basins for accumulations and remove and clean by jet-vacuuming.

Pollution Prevention

The following pollution prevention activities shall be undertaken to minimize potential impacts on stormwater runoff quality. The Contractor is responsible for all activities during construction. The Owner is responsible thereafter.

Spill Procedures

Any discharge of waste oil or other pollutant shall be reported immediately to the New Hampshire Department of Environmental Services (NHDES). The Contractor/Owner will be responsible for any incident of groundwater contamination resulting from the improper discharge of pollutants to the stormwater system, and may be required by NHDES to remediate incidents that may impact groundwater quality. If the property ownership is transferred, the new owner will be informed of the legal responsibilities associated with operation of the stormwater system, as indicated above.

Sanitary Facilities

Sanitary facilities shall be provided during all phases of construction.

Material Storage

No on site trash facility is provided until homes are constructed. The contractors are required to remove trash from the site. Hazardous material storage is prohibited.

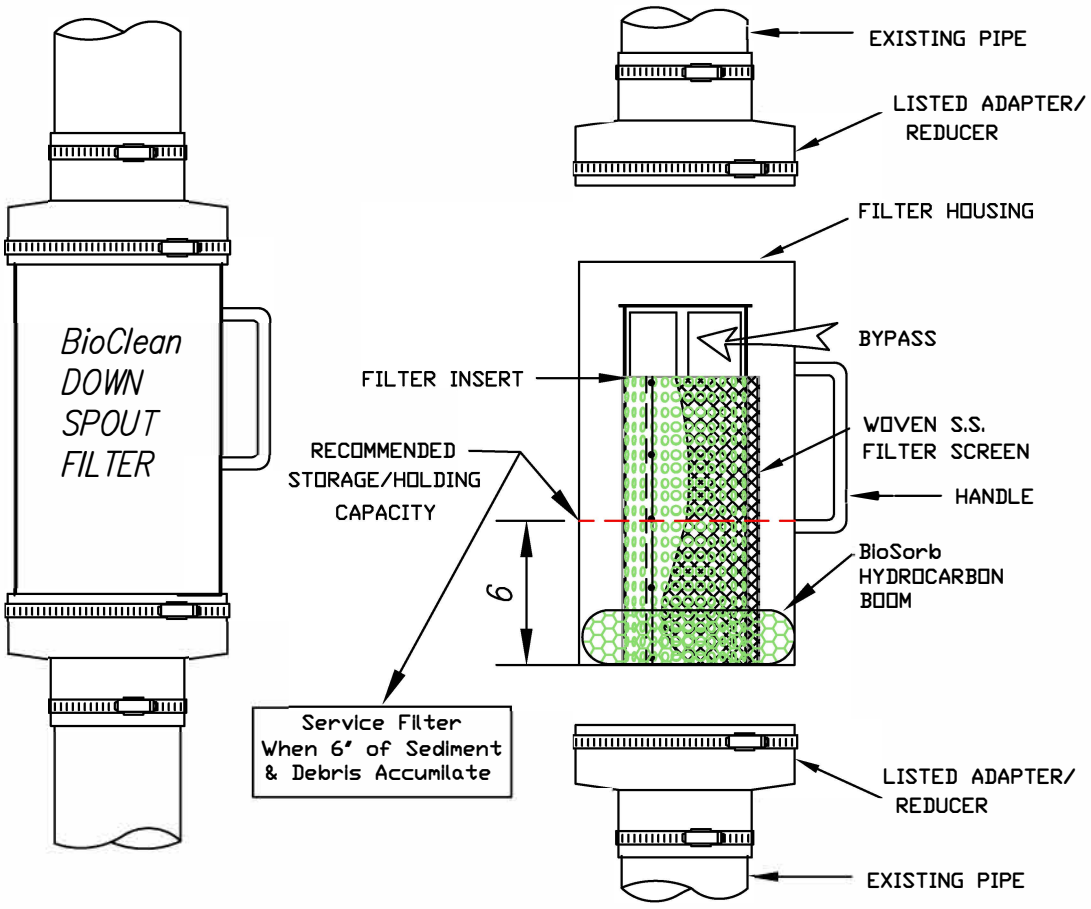
Material Disposal

All waste material, trash, sediment, and debris shall be removed from the site and disposed of in accordance with applicable local, state, and federal guidelines and regulations. Removed sediments shall be if necessary dewatered prior to disposal.

SERVICE MANUAL

(Cleaning Procedures)

Bio Clean DOWNSPOUT FILTER
Screen Type With Hydrocarbon Boom



DETAIL OF PARTS

TOOLS AND EQUIPMENT NEEDED:

1. Medium size flat scred driver
2. BioSorb hydrocarbon boom. 25-1/2" X 2" dia.
   (Call Bio Clean to order)
3. Trash container or bag
4. Wooden dowel approx. 3' x 1/2' dia.

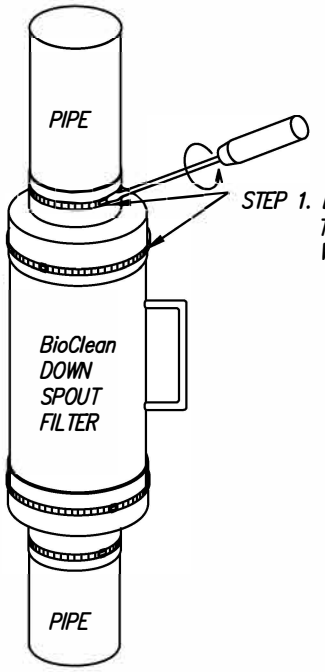
Bio Clean
A Forterra Company

P.O. BOX 869, Oceanside, Ca. 92049
(760) 433-7640 Fax (760) 433-3176
www.biocleanenvironmental.net

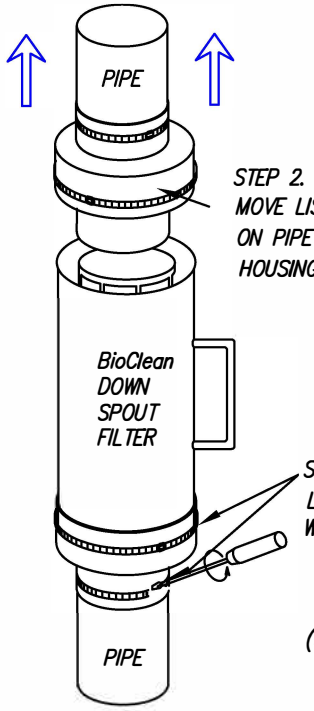
Bio Clean
A Forterra Company

P.O. BOX 869, Oceanside, Ca. 92049
(760) 433-7640 Fax (760) 433-3176
www.bioclean environmental.net

REMOVING FILTER



STEP 1. LOOSEN BOTH TOP CLAMPS WITH SCREW DRIVER.

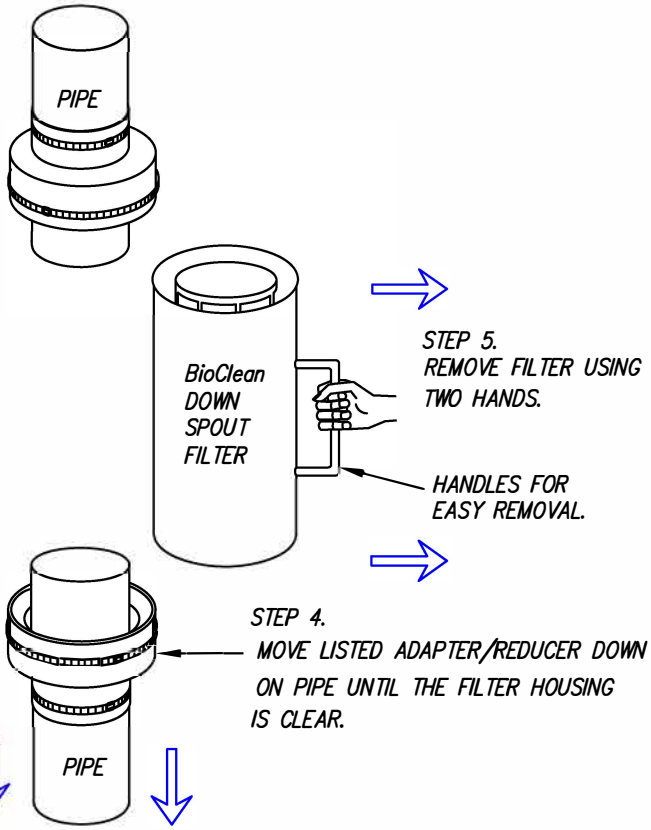


STEP 2.
MOVE LISTED ADAPTER/REDUCER UP ON PIPE UNTIL THE FILTER HOUSING IS CLEAR TO REMOVE.

STEP 3.
LOOSEN BOTH BOTTOM CLAMPS WITH SCREW DRIVER.

(STEP 4. AT BOTTOM LEFT OF PAGE)

CLEANING FILTER

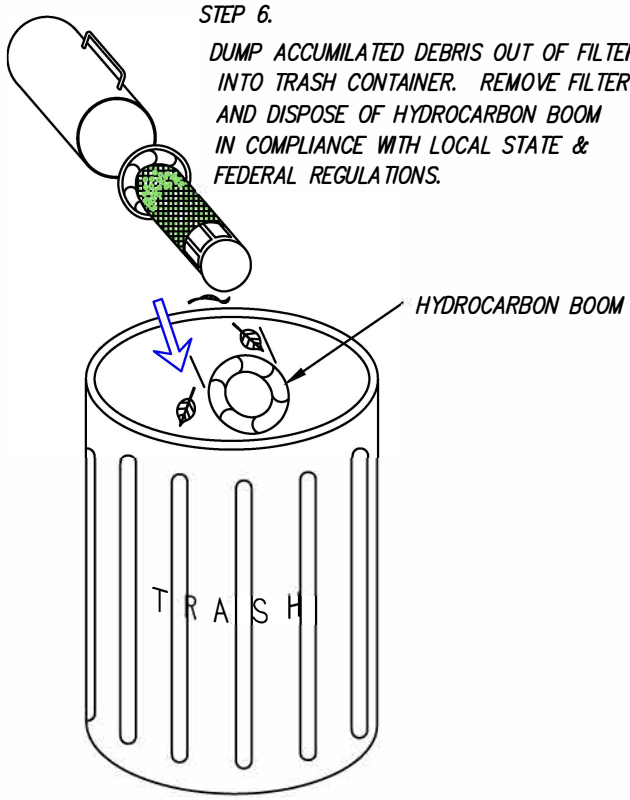


STEP 5.
REMOVE FILTER USING TWO HANDS.

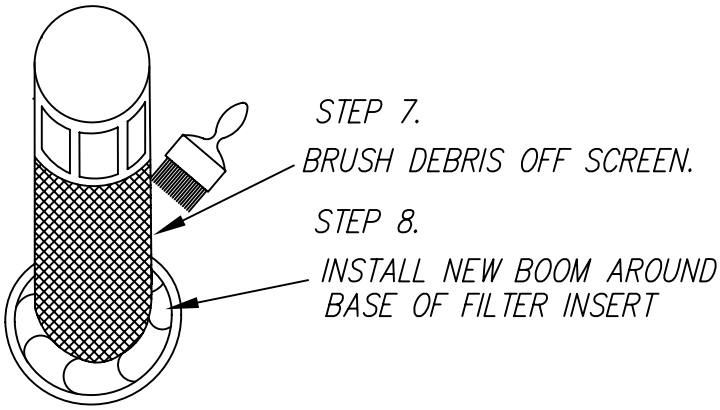
HANDLES FOR EASY REMOVAL.

STEP 4.
MOVE LISTED ADAPTER/REDUCER DOWN ON PIPE UNTIL THE FILTER HOUSING IS CLEAR.

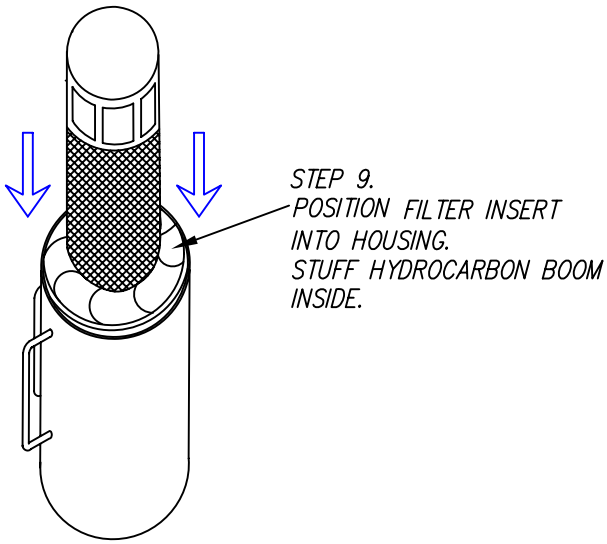
STEP 6.
DUMP ACCUMILATED DEBRIS OUT OF FILTER INTO TRASH CONTAINER. REMOVE FILTER INSERT AND DISPOSE OF HYDROCARBON BOOM IN COMPLIANCE WITH LOCAL STATE & FEDERAL REGULATIONS.

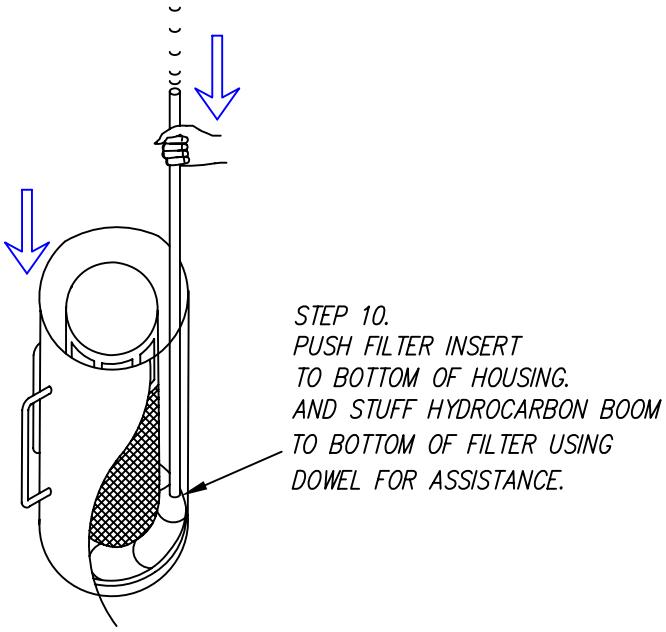


Bio Clean
A Forterra Company
P.O. BOX 869, Oceanside, Ca. 92049
(760) 433-7640 Fax (760) 433-3176
www.biocleanenvironmental.net



REPLACING FILTER INSERT





REPLACING FILTER

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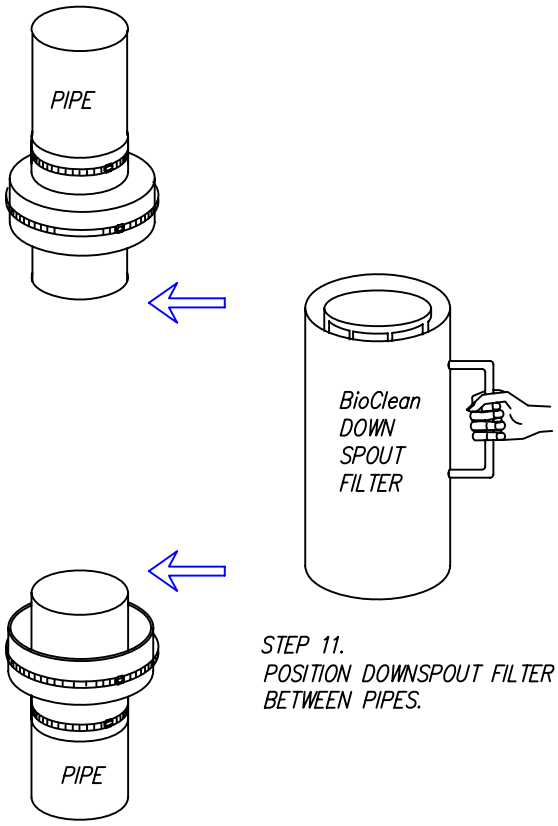
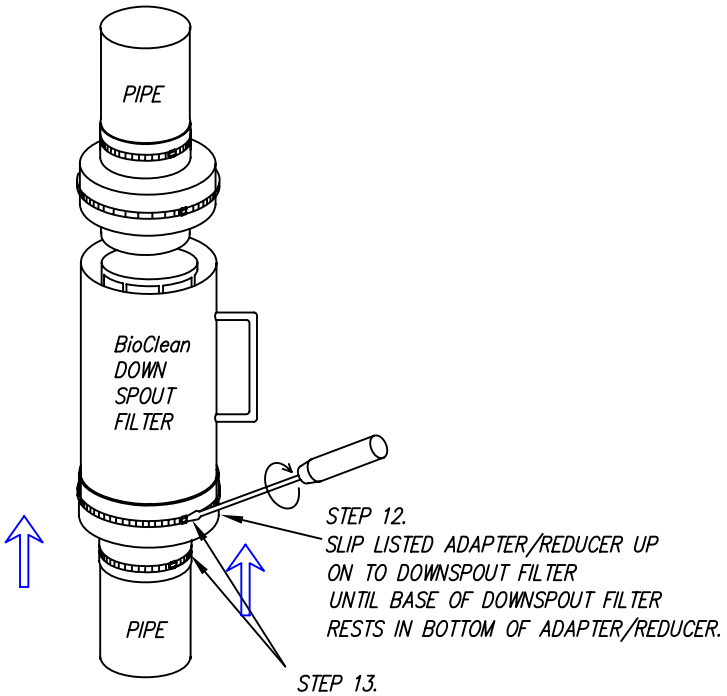
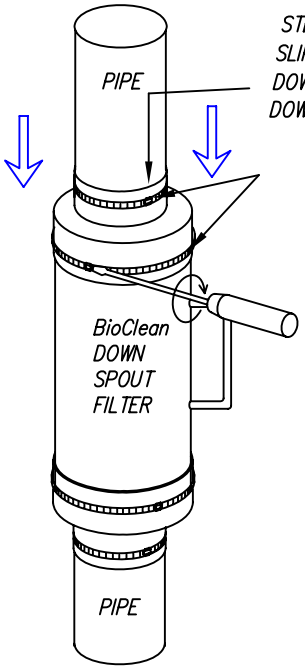


STEP 11.
POSITION DOWNSPOUT FILTER
BETWEEN PIPES.



STEP 12.
SLIP LISTED ADAPTER/REDUCER UP
ON TO DOWNSPOUT FILTER
UNTIL BASE OF DOWNSPOUT FILTER
RESTS IN BOTTOM OF ADAPTER/REDUCER.

STEP 13.
SECURE BY TIGHTENING
BOTH CLAMPS.



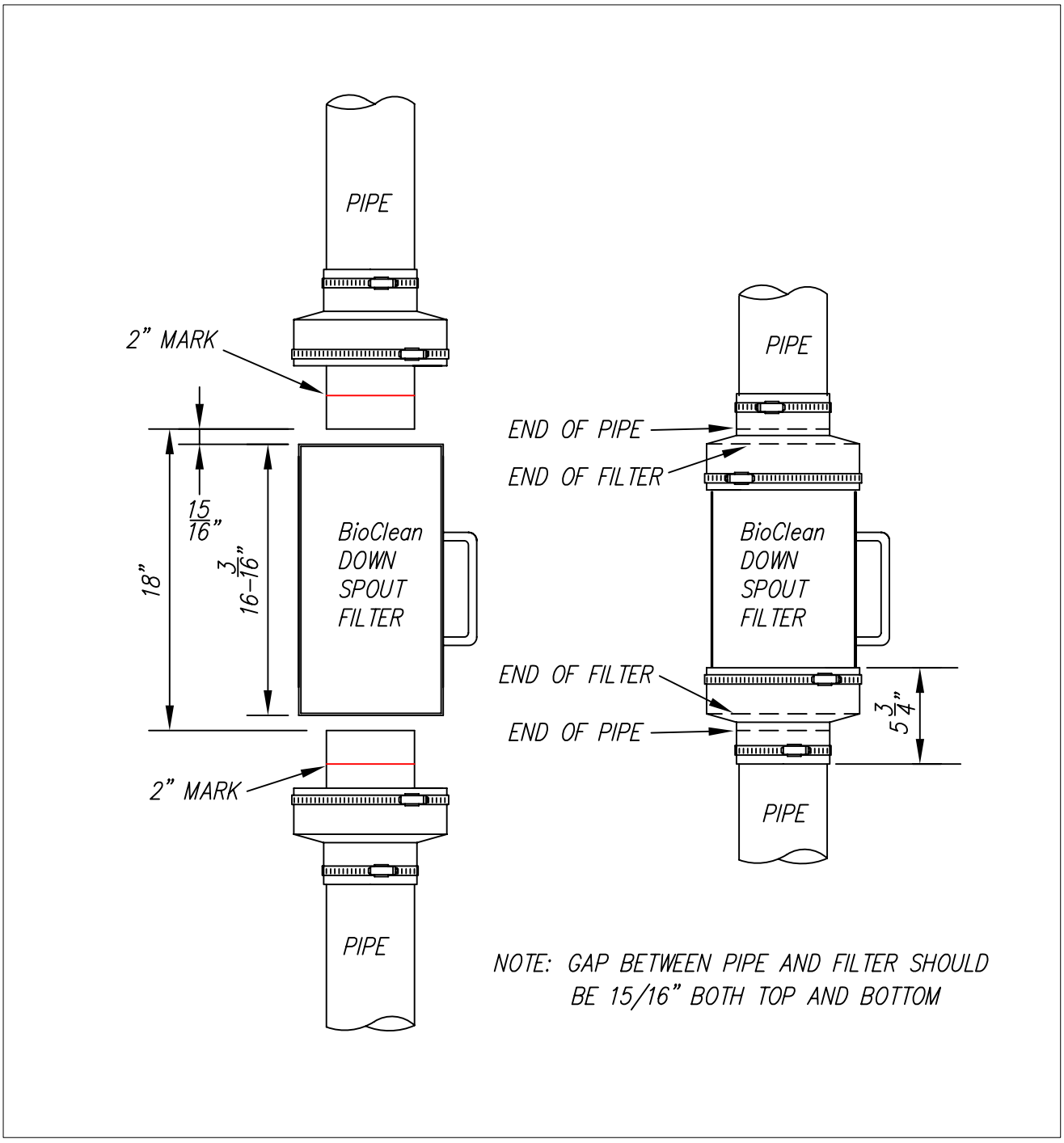
STEP 14.
SLIP LISTED ADAPTER/REDUCER
DOWNWARD ON TO
DOWNSPOUT FILTER.

STEP 15.
SECURE BY TIGHTENING
BOTH CLAMPS
WITH SCREWDRIVER.

ENSURE CLAMPS
ARE PROPERLY TIGHTENED.
SERVICE COMLPLETE.

APPROPRIATE INSTALLATION

FILTER CENTERED BETWEEN PIPES WITH EVEN GAPS ON TOP AND BOTTOM



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CATCH BASIN BASKET CONSTRUCTION MAINTENANCE SHEET

INSPECTION REQUIREMENTS		
ACTION TAKEN	**FREQUENCY**	**MAINTENANCE REQUIREMENTS**
-Check for damage to basket -Remove sediment from basket	Within 24 hours of rainfall, Daily during extended rainfall	*-Repair basket as necessary to prevent particles from reaching drainage system, or to prevent flooding.* *-Empty basket after every storm, or if clogged.*

MAINTENANCE LOG	
PROJECT NAME	
INSPECTOR NAME	**INSPECTOR CONTACT INFO**
DATE OF INSPECTION	**REASON FOR INSPECTION** ☐LARGE STORM EVENT ☐PERIODIC CHECK-IN
IS CORRECTIVE ACTION NEEDED? ☐YES ☐NO	**DESCRIBE ANY PROBLEMS, NEEDED MAINTENANCE**
DATE OF MAINTENANCE	**PERFORMED BY**
NOTES	

CLOSED DRAINAGE STRUCTURE LONG-TERM MAINTENANCE SHEET

INSPECTION REQUIREMENTS		
ACTION TAKEN	**FREQUENCY**	**MAINTENANCE REQUIREMENTS**
-Outlet Control Structures *-Drain Manholes* *-Catch Basins*	Every other Month	*Check for erosion or short-circuiting* *Check for sediment accumulation* *Check for floatable contaminants*
-Drainage Pipes	1 time per 2 years	*Check for sediment accumulation/clogging, or soiled runoff.* *Check for erosion at outlets.*

MAINTENANCE LOG	
PROJECT NAME	
INSPECTOR NAME	**INSPECTOR CONTACT INFO**
DATE OF INSPECTION	**REASON FOR INSPECTION** ☐LARGE STORM EVENT ☐PERIODIC CHECK-IN
IS CORRECTIVE ACTION NEEDED? ☐YES ☐NO	**DESCRIBE ANY PROBLEMS, NEEDED MAINTENANCE**
DATE OF MAINTENANCE	**PERFORMED BY**
NOTES	

STABILIZED CONSTRUCTION ENTRANCE CONSTRUCTION MAINTENANCE SHEET

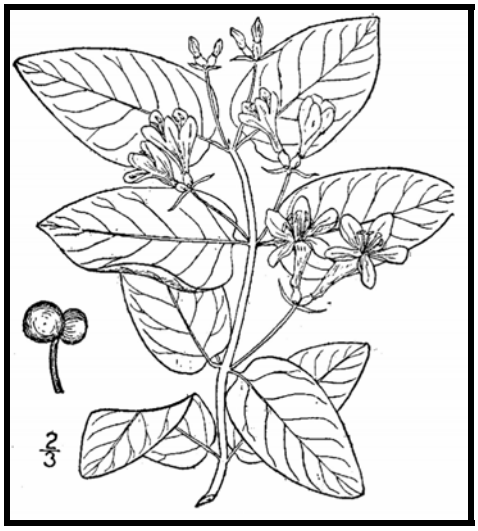
INSPECTION REQUIREMENTS		
ACTION TAKEN	**FREQUENCY**	**MAINTENANCE REQUIREMENTS**
ENTRANCE SURFACE *-Check for sediment accumulation/clogging of stone* *-Check Vegetative filter strips*	After heavy rains, as necessary	*-Top dress pad with new stone.* *-Replace stone completely if completely clogged.* *-Maintain vigorous stand of vegetation.*
WASHING FACILITIES (if applicable) *-Monitor Sediment Accumulation*	As often as necessary	*-Remove Sediments from traps.*

MAINTENANCE LOG	
PROJECT NAME	
INSPECTOR NAME	**INSPECTOR CONTACT INFO**
DATE OF INSPECTION	**REASON FOR INSPECTION** ☐LARGE STORM EVENT ☐PERIODIC CHECK-IN
IS CORRECTIVE ACTION NEEDED? ☐YES ☐NO	**DESCRIBE ANY PROBLEMS, NEEDED MAINTENANCE**
DATE OF MAINTENANCE	**PERFORMED BY**
NOTES	

University of New Hampshire Cooperative Extension

Methods for Disposing Non-Native Invasive Plants

Prepared by the Invasives Species Outreach Group, volunteers interested in helping people control invasive plants. Assistance provided by the Piscataquog Land Conservancy and the NH Invasives Species Committee. Edited by Karen Bennett, Extension Forestry Professor and Specialist.



Tatarian honeysuckle
Lonicera tatarica
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 3: 282.

Non-native invasive plants crowd out natives in natural and managed landscapes. They cost taxpayers billions of dollars each year from lost agricultural and forest crops, decreased biodiversity, impacts to natural resources and the environment, and the cost to control and eradicate them.

Invasive plants grow well even in less than desirable conditions such as sandy soils along roadsides, shaded wooded areas, and in wetlands. In ideal conditions, they grow and spread even faster. There are many ways to remove these non-native invasives, but once removed, care is needed to dispose the removed plant material so the plants don't grow where disposed.

Knowing how a particular plant reproduces indicates its method of spread and helps determine the appropriate disposal method. Most are spread by seed and are dispersed by wind, water, animals, or people. Some reproduce by vegetative means from pieces of stems or roots forming new plants. Others spread through both seed and vegetative means.

Because movement and disposal of viable plant parts is restricted (see NH Regulations), viable invasive parts can't be brought to most transfer stations in the state. Check with your transfer station to see if there is an approved, designated area for invasives disposal. This fact sheet gives recommendations for rendering plant parts non-viable.

Control of invasives is beyond the scope of this fact sheet. For information about control visit www.nhinvasives.org or contact your UNH Cooperative Extension office.

New Hampshire Regulations

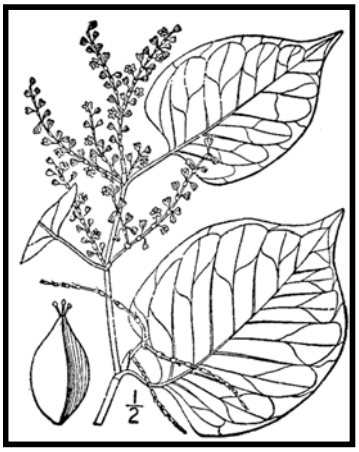
Prohibited invasive species shall only be disposed of in a manner that renders them nonliving and nonviable. (Agr. 3802.04)

No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1 of the New Hampshire prohibited invasive species list. (Agr 3802.01)

How and When to Dispose of Invasives?

To prevent seed from spreading remove invasive plants before seeds are set (produced). Some plants continue to grow, flower and set seed even after pulling or cutting. Seeds can remain viable in the ground for many years. If the plant has flowers or seeds, place the flowers and seeds in a heavy plastic bag "head first" at the weeding site and transport to the disposal site. The following are general descriptions of disposal methods. See the chart for recommendations by species.

Burning: Large woody branches and trunks can be used as firewood or burned in piles. For outside burning, a written fire permit from the local forest fire warden is required unless the ground is covered in snow. Brush larger than 5 inches in diameter can't be burned. Invasive plants with easily airborne seeds like black swallow-wort with mature seed pods (indicated by their brown color) shouldn't be burned as the seeds may disperse by the hot air created by the fire.



Japanese knotweed
Polygonum cuspidatum
USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *An illustrated flora of the northern United States, Canada and the British Possessions*. Vol. 1: 676.

Bagging (solarization): Use this technique with softer-tissue plants. Use heavy black or clear plastic bags (contractor grade), making sure that no parts of the plants poke through. Allow the bags to sit in the sun for several weeks and on dark pavement for the best effect.

Tarping and Drying: Pile material on a sheet of plastic and cover with a tarp, fastening the tarp to the ground and monitoring it for escapes. Let the material dry for several weeks, or until it is clearly nonviable.

Chipping: Use this method for woody plants that don't reproduce vegetatively.

Burying: This is risky, but can be done with watchful diligence. Lay thick plastic in a deep pit before placing the cut up plant material in the hole. Place the material away from the edge of the plastic before covering it with more heavy plastic. Eliminate as much air as possible and toss in soil to weight down the material in the pit. Note that the top of the buried material should be at least three feet underground. Japanese knotweed should be at least 5 feet underground!

Drowning: Fill a large barrel with water and place soft-tissue plants in the water. Check after a few weeks and look for rotted plant material (roots, stems, leaves, flowers). Well-rotted plant material may be composted. A word of caution- seeds may still be viable after using this method. Do this before seeds are set. This method isn't used often. Be prepared for an awful stink!

Composting: Invasive plants can take root in compost. Don't compost any invasives unless you know there is no viable (living) plant material left. Use one of the above techniques (bagging, tarping, drying, chipping, or drowning) to render the plants nonviable before composting. Closely examine the plant before composting and avoid composting seeds.

Be diligent looking for seedlings for *years* in areas where removal and disposal took place.

Suggested Disposal Methods for Non-Native Invasive Plants

This table provides information concerning the disposal of removed invasive plant material. If the infestation is treated with herbicide and left in place, these guidelines don't apply. Don't bring invasives to a local transfer station, unless there is a designated area for their disposal, or they have been rendered non-viable. This listing includes wetland and upland plants from the New Hampshire Prohibited Invasive Species List. The disposal of aquatic plants isn't addressed.

<table>
<tr><th>Woody Plants</th><th>Method of Reproducing</th><th>Methods of Disposal</th></tr>
<tr><td rowspan="2">Norway maple
(Acer platanoides)
European barberry
(Berberis vulgaris)
Japanese barberry
(Berberis thunbergii)
autumn olive
(Elaeagnus umbellata)
burning bush
(Euonymus alatus)
Morrow's honeysuckle
(Lonicera morrowii)
Tatarian honeysuckle
(Lonicera tatarica)
showy bush honeysuckle
(Lonicera x bella)
common buckthorn
(Rhamnus cathartica)
glossy buckthorn
(Frangula alnus)</td><td rowspan="2">Fruit and Seeds
  </td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Use as firewood.
▪ Make a brush pile.
▪ Chip.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip once all fruit has dropped from branches.
▪ Leave resulting chips on site and monitor.</td></tr>
<tr><td rowspan="2">oriental bittersweet
(Celastrus orbiculatus)
multiflora rose
(Rosa multiflora)</td><td rowspan="2">Fruits, Seeds, Plant Fragments
  </td><td>Prior to fruit/seed ripening
Seedlings and small plants
▪ Pull or cut and leave on site with roots exposed. No special care needed.
Larger plants
▪ Make a brush pile.
▪ Burn.</td></tr>
<tr><td>After fruit/seed is ripe
Don't remove from site.
▪ Burn.
▪ Make a covered brush pile.
▪ Chip – only after material has fully dried (1 year) and all fruit has dropped from branches. Leave resulting chips on site and monitor.</td></tr>
</table>

Non-Woody Plants	Method of Reproducing	Methods of Disposal
garlic mustard *(Alliaria petiolata)* spotted knapweed *(Centaurea maculosa)* ▪ Sap of related knapweed can cause skin irritation and tumors. Wear gloves when handling. black swallow-wort *(Cynanchum nigrum)* ▪ May cause skin rash. Wear gloves and long sleeves when handling. pale swallow-wort *(Cynanchum rossicum)* giant hogweed *(Heracleum mantegazzianum)* ▪ Can cause major skin rash. Wear gloves and long sleeves when handling. dame's rocket *(Hesperis matronalis)* perennial pepperweed *(Lepidium latifolium)* purple loosestrife *(Lythrum salicaria)* Japanese stilt grass *(Microstegium vimineum)* mile-a-minute weed *(Polygonum perfoliatum)*	**Fruits and Seeds** 	**Prior to flowering** Depends on scale of infestation Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile. (You can pile onto or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material. **During and following flowering** Do nothing until the following year or remove flowering heads and bag and let rot. Small infestation ▪ Pull or cut plant and leave on site with roots exposed. Large infestation ▪ Pull or cut plant and pile remaining material. (You can pile onto plastic or cover with plastic sheeting). ▪ Monitor. Remove any re-sprouting material.
common reed (*Phragmites australis*) Japanese knotweed *(Polygonum cuspidatum)* Bohemian knotweed *(Polygonum x bohemicum)*	**Fruits, Seeds, Plant Fragments** Primary means of spread in these species is by plant parts. Although all care should be given to preventing the dispersal of seed during control activities, the presence of seed doesn't materially influence disposal activities.	**Small infestation** ▪ Bag all plant material and let rot. ▪ Never pile and use resulting material as compost. ▪ Burn. **Large infestation** ▪ Remove material to unsuitable habitat (dry, hot and sunny or dry and shaded location) and scatter or pile. ▪ Monitor and remove any sprouting material. ▪ Pile, let dry, and burn.

January 2010

Unitil
Northern Utilities, Inc.

October 18th, 2022

John Chagnon, PE, LLS
Ambit Engineering
200 Griffin Road
Unit 3
Portsmouth, NH 03801

Natural Gas to 1 Congress Street Portsmouth, NH

Hi John,

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 building at 1 Congress Street, 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

COMMERCIAL DEVELOPMENT

1 CONGRESS STREET
PORTSMOUTH, NEW HAMPSHIRE
SITE PERMIT PLANS

OWNER:
ONE MARKET SQUARE LLC
3 PLEASANT STREET
SUITE #400
PORTSMOUTH, NH 03801
TEL. (603) 427–0725

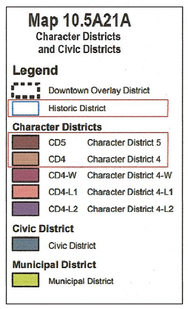
LAND SURVEYOR & CIVIL ENGINEER:
AMBIT ENGINEERING, INC.
200 GRIFFIN ROAD, UNIT 3
PORTSMOUTH, N.H. 03801
Tel. (603) 430–9282
Fax (603) 436–2315

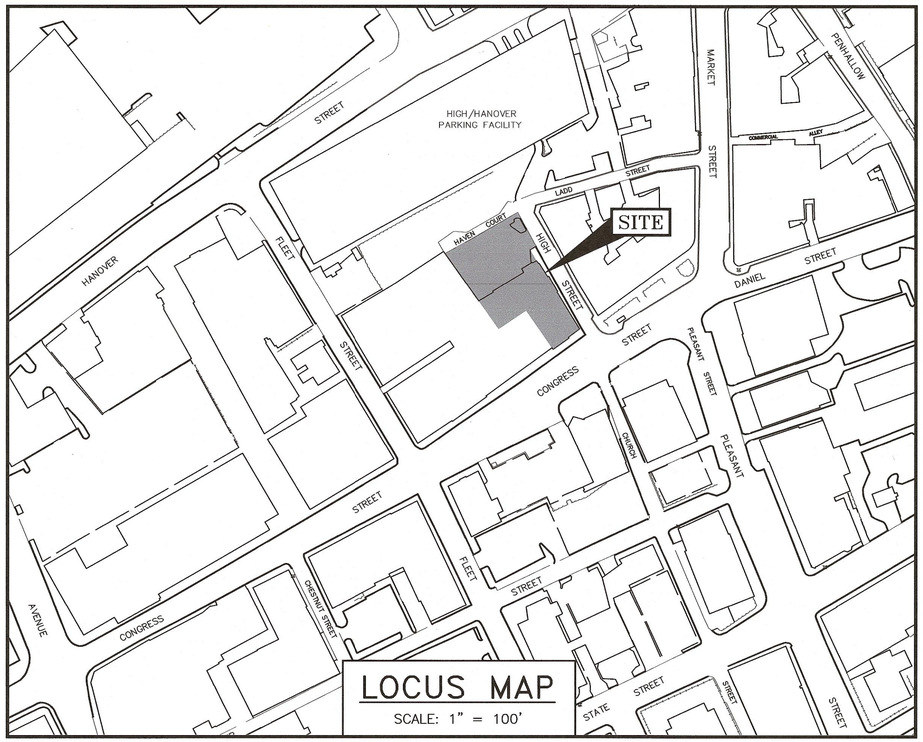
ARCHITECT:
ARCOVE LLC
3 CONGRESS STREET
SUITE 1
PORTSMOUTH, NH 03801
TEL. (603) 731–5187

LANDSCAPE ARCHITECT:
TERRA FIRMA LANDSCAPE ARCHITECTURE
163A COURT STREET
PORTSMOUTH, NH 03801
TEL. (603) 430–8388

GEOTECHNICAL:
GEOTECHNICAL SERVICES INC.
18 COTE AVENUE, UNIT 11
GOFFSTOWN, N.H. 03045
Tel. (603) 624–2722

LAND USE ATTORNEY:
BRUTON & BERUBE, PLLC
601 CENTRAL AVENUE
DOVER, N.H. 03820
Tel. (603) 749–4529





LOCUS MAP
SCALE: 1" = 100'

PORTSMOUTH APPROVAL CONDITIONS NOTE:
ALL CONDITIONS ON THIS PLAN SET SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE CITY OF PORTSMOUTH SITE PLAN REVIEW REGULATIONS.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

INDEX OF SHEETS

UTILITY CONTACTS

ELECTRIC:
EVERSOURCE
1700 LAFAYETTE ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 436–7708, Ext. 555.5678
ATTN: MICHAEL BUSBY, P.E. (MANAGER)

NATURAL GAS:
UNITIL
325 WEST ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 294–5144
ATTN: DAVE BEAULIEU

CABLE:
COMCAST
155 COMMERCE WAY
PORTSMOUTH, N.H. 03801
Tel. (603) 679–5695 (X1037)
ATTN: MIKE COLLINS

SEWER & WATER:
PORTSMOUTH DEPARTMENT OF PUBLIC WORKS
680 PEVERLY HILL ROAD
PORTSMOUTH, N.H. 03801
Tel. (603) 427–1530
ATTN: JIM TOW

COMMUNICATIONS:
FAIRPOINT COMMUNICATIONS
JOE CONSIDINE
1575 GREENLAND ROAD
GREENLAND, N.H. 03840
Tel. (603) 427–5525

PERMIT LIST:
NHDES SEWER DISCHARGE PERMIT: TO BE SUBMITTED
PORTSMOUTH HDC: PENDING
PORTSMOUTH SITE PLAN: PENDING

LEGEND:

EXISTING	PROPOSED	
		PROPERTY LINE
		SETBACK
S	S	SEWER PIPE
SL	SL	SEWER LATERAL
G	G	GAS LINE
D	D	STORM DRAIN
W	W	WATER LINE
WS	WS	WATER SERVICE
UGE	UGE	UNDERGROUND ELECTRIC
OHW	OHW	OVERHEAD ELECTRIC/WIRES
	UD	FOUNDATION DRAIN
		EDGE OF PAVEMENT (EP)
100	100	CONTOUR
97x3	98x0	SPOT ELEVATION
		UTILITY POLE
		WALL MOUNTED EXTERIOR LIGHTS
		TRANSFORMER ON CONCRETE PAD
		ELECTRIC HANDHOLD
		SHUT OFFS (WATER/GAS)
	GV	GATE VALVE
	HYD	HYDRANT
CB	CB	CATCH BASIN
	SMH	SEWER MANHOLE
	DMH	DRAIN MANHOLE
	TMH	TELEPHONE MANHOLE
14	14	PARKING SPACE COUNT
PM		PARKING METER
LSA		LANDSCAPED AREA
TBD	TBD	TO BE DETERMINED
CI	CI	CAST IRON PIPE
COP	COP	COPPER PIPE
DI	DI	DUCTILE IRON PIPE
PVC	PVC	POLYVINYL CHLORIDE PIPE
RCP	RCP	REINFORCED CONCRETE PIPE
AC	–	ASBESTOS CEMENT PIPE
VC	VC	VITRIFIED CLAY PIPE
EP	EP	EDGE OF PAVEMENT
EL.	EL.	ELEVATION
FF	FF	FINISHED FLOOR
INV	INV	INVERT
S =	S =	SLOPE FT/FT
TBM	TBM	TEMPORARY BENCH MARK
TYP	TYP	TYPICAL

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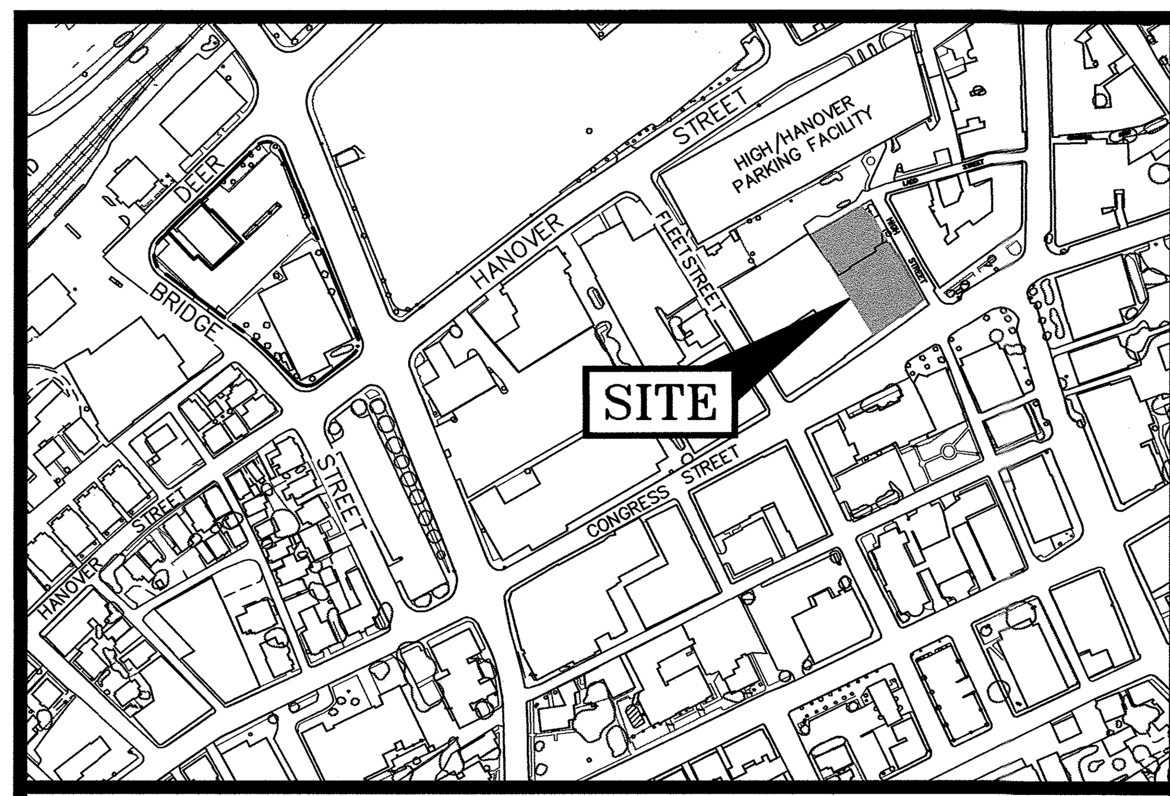
SITE PERMIT PLANS
COMMERCIAL DEVELOPMENT
1 CONGRESS STREET
PORTSMOUTH, N.H.

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801–7114
Tel (603) 430–9282
Fax (603) 436–2315

PLAN SET SUBMITTAL DATE: 18 OCTOBER 2022

3406



LOCATION MAP SCALE: 1" = 300'

PLAN REFERENCES:

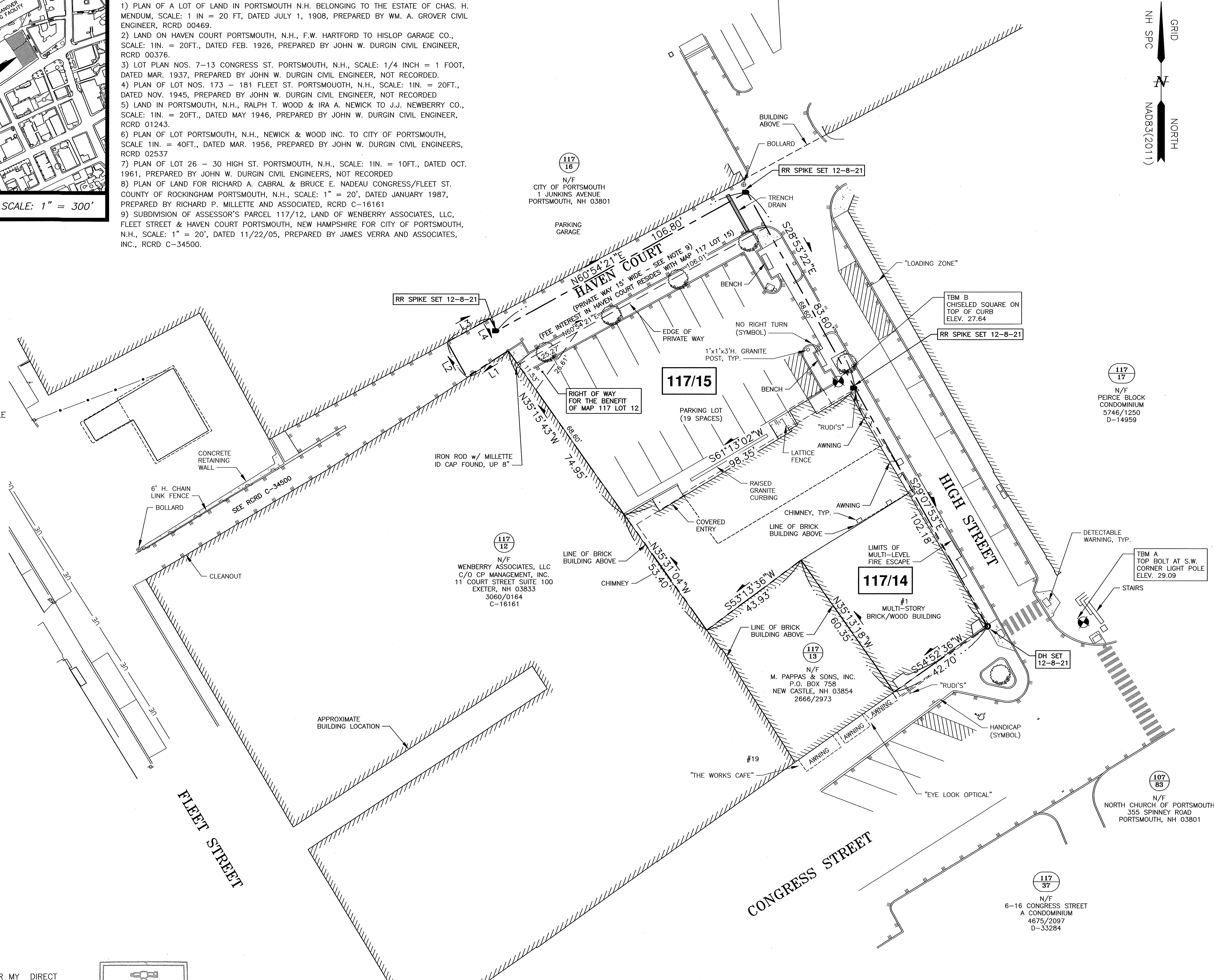
1) PLAN OF A LOT OF LAND IN PORTSMOUTH N.H. BELONGING TO THE ESTATE OF CHAS. H. MENDUM, SCALE: 1 IN = 20 FT, DATED JULY 1, 1908, PREPARED BY WM. A. GROVER CIVIL ENGINEER, RCRD 00469.
2) LAND ON HAVEN COURT PORTSMOUTH, N.H., F.W. HARTFORD TO HISLOP GARAGE CO., SCALE: 1IN. = 20FT., DATED FEB. 1926, PREPARED BY JOHN W. DURGIN CIVIL ENGINEER, RCRD 00376.
3) LOT PLAN NOS. 7-13 CONGRESS ST. PORTSMOUTH, N.H., SCALE: 1/4 INCH = 1 FOOT, DATED MAR. 1937, PREPARED BY JOHN W. DURGIN CIVIL ENGINEER, NOT RECORDED.
4) PLAN OF LOT NOS. 173 - 181 FLEET ST. PORTSMOUOTH, N.H., SCALE: 1IN. = 20FT., DATED NOV. 1945, PREPARED BY JOHN W. DURGIN CIVIL ENGINEER, NOT RECORDED
5) LAND IN PORTSMOUTH, N.H., RALPH T. WOOD & IRA A. NEWICK TO J.J. NEWBERRY CO., SCALE: 1IN. = 20FT., DATED MAY 1946, PREPARED BY JOHN W. DURGIN CIVIL ENGINEER, RCRD 01243.
6) PLAN OF LOT PORTSMOUTH, N.H., NEWICK & WOOD INC. TO CITY OF PORTSMOUTH, SCALE 1IN. = 40FT., DATED MAR. 1956, PREPARED BY JOHN W. DURGIN CIVIL ENGINEERS, RCRD 02537
7) PLAN OF LOT 26 - 30 HIGH ST. PORTSMOUTH, N.H., SCALE: 1IN. = 10FT., DATED OCT. 1961, PREPARED BY JOHN W. DURGIN CIVIL ENGINEERS, NOT RECORDED
8) PLAN OF LAND FOR RICHARD A. CABRAL & BRUCE E. NADEAU CONGRESS/FLEET ST. COUNTY OF ROCKINGHAM PORTSMOUTH, N.H., SCALE: 1" = 20', DATED JANUARY 1987, PREPARED BY RICHARD P. MILLETTE AND ASSOCIATED, RCRD C-16161
9) SUBDIVISION OF ASSESSOR'S PARCEL 117/12, LAND OF WENBERRY ASSOCIATES, LLC, FLEET STREET & HAVEN COURT PORTSMOUTH, NEW HAMPSHIRE FOR CITY OF PORTSMOUTH, N.H., SCALE: 1" = 20', DATED 11/22/05, PREPARED BY JAMES VERRA AND ASSOCIATES, INC., RCRD C-34500.

LEGEND:

N/F	NOW OR FORMERLY
RP	RECORD OF PROBATE
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
RR SPK	RAILROAD SPIKE
(11/21)	MAP 11/LOT 21
IR FND	IRON ROD FOUND
IP FND	IRON PIPE FOUND
IR SET	IRON ROD SET
DH FND	DRILL HOLE FOUND
DH SET	DRILL HOLE SET
NHHB	NHDOT BOUND FOUND
TB	TOWN BOUND
BND w/DH	BOUND WITH DRILL HOLE
ST BND w/DH	STONE BOUND WITH DRILL HOLE

LENGTH TABLE

LINE	BEARING	DISTANCE
L1	S57°27'42"W	18.36'
L2	N28°53'22"W	15.00'
L3	N61°07'46"E	18.19'
L4	S29°05'39"E	5.28'



I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000.

JOHN R. CHAGNON, LLS 738

1·26·22
DATE

STATE OF NEW HAMPSHIRE JOHN R. CHAGNON No. 738 LICENSED LAND SURVEYOR

GRAPHIC SCALE
10 0 20 40 60 80 FEET
5 0 5 10 15 20 25 METERS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) PARCELS ARE SHOWN ON THE CITY OF PORTSMOUTH ASSESSORS MAP 117 AS LOTS 14 AND 15.

2) OWNER OF RECORD:
ONE MARKET SQUARE, LLC
3 PLEASANT STREET, SUITE 400
PORTSMOUTH, NH 03801
6363/31 PARCEL 1 & PARCEL 2

3) PARCEL IS LOCATED IN THE CHARACTER DISTRICT 4 AND CHARACTER DISTRICT 5.

4) DIMENSIONAL REQUIREMENTS: SEE PORTSMOUTH ORDINANCE FOR REQUIREMENTS.

5) LOT AREAS:

MAP 117 LOT 14	MAP 117 LOT 15
7,266 S.F.	8,840 S.F.
0.1668 ACRES	0.2029 ACRES

COMBINED LOT AREA:
16,106 S.F.
0.3697 ACRES

6) PARCELS ARE NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259F, EFFECTIVE JANUARY 29, 2021

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE RESULTS OF A STANDARD BOUNDARY SURVEY ON TAX MAP 117, LOTS 14 AND 15 IN PORTSMOUTH, NH.

8) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBS.

9) HAVEN COURT IS A PRIVATE WAY 15 FEET WIDE. ALL RIGHTS, TITLE AND INTEREST UNTO SAID HAVEN COURT WERE CONVEYED WITH ASSESSOR'S MAP 117 LOT 15, AS DESCRIBED IN RCRD 983/179, SUBJECT TO RIGHTS OF OTHERS (OTHERS NOT DEFINED ON THIS SURVEY).

NO.	DESCRIPTION	DATE
1	NEW OWNER	1/26/22
0	ISSUED FOR RECORDING	12/8/21

REVISIONS

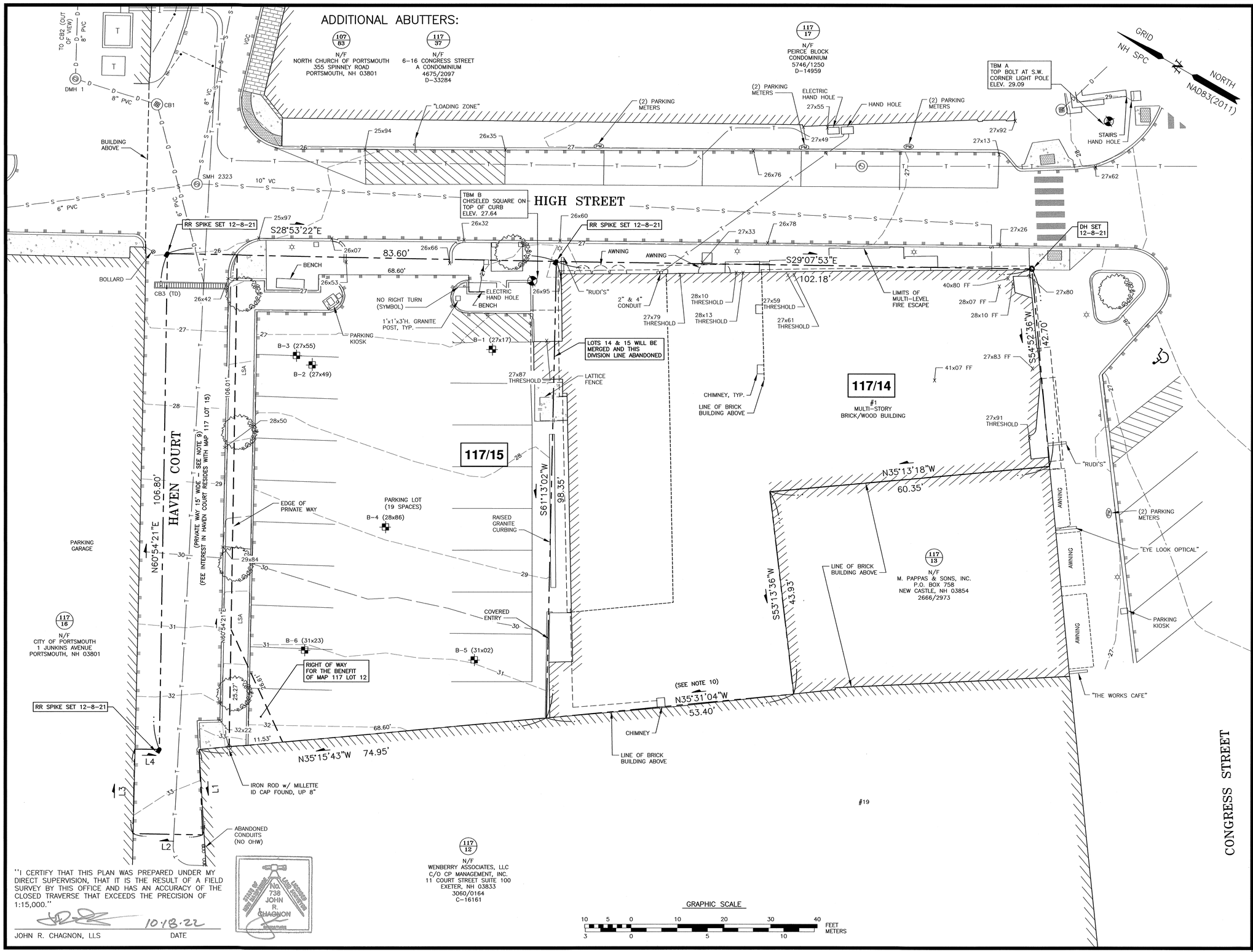
STANDARD BOUNDARY SURVEY
TAX MAP 117
LOTS 14 & 15

OWNER OF RECORD:
ONE MARKET SQUARE, LLC

PROPERTY LOCATED AT:
1 CONGRESS STREET & HIGH STREET
CITY OF PORTSMOUTH
COUNTY OF ROCKINGHAM
STATE OF NEW HAMPSHIRE

SCALE: 1" = 20' NOVEMBER 2021

FB 309 PG 15 3406



"I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000."

10.18.22

JOHN R. CHAGNON, LLS — DATE

STATE OF NEW HAMPSHIRE — LAND SURVEYOR — No. 738 JOHN R. CHAGNON — SEAL

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) PARCELS ARE SHOWN ON THE CITY OF PORTSMOUTH ASSESSORS MAP 117 AS LOTS 14 AND 15.

2) OWNER OF RECORD:
ONE MARKET SQUARE, LLC
3 PLEASANT STREET, SUITE 400
PORTSMOUTH, NH 03801
6363/31 PARCEL 1 & PARCEL 2

3) PARCEL IS LOCATED IN THE CHARACTER DISTRICT 4 AND CHARACTER DISTRICT 5.

4) DIMENSIONAL REQUIREMENTS: SEE PORTSMOUTH ORDINANCE FOR REQUIREMENTS.

5) LOT AREAS:

MAP 117 LOT 14	MAP 117 LOT 15
7,266 S.F.	8,840 S.F.
0.1668 ACRES	0.2029 ACRES

COMBINED LOT AREA:
16,106 S.F.
0.3697 ACRES

6) PARCELS ARE NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259F, EFFECTIVE JANUARY 29, 2021

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS ON TAX MAP 117, LOTS 14 AND 15 IN PORTSMOUTH, NH.

8) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBS.

COMMERCIAL DEVELOPMENT
ONE CONGRESS STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
3	ADD TELCOMM LOCATIONS	10/18/22
2	ADD TOPOGRAPHY	2/9/22
1	BORING LOCATIONS	2/7/22
0	PROPERTY LINES	1/26/22

REVISIONS

SCALE 1" = 10' — NOVEMBER 2021

EXISTING CONDITIONS PLAN — **C1**

FB 309 PG 15 — 3406

DEMOLITION NOTES

A) THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE DESIGNER. IT IS THE CONTRACTORS' RESPONSIBILITY TO LOCATE UTILITIES AND ANTICIPATE CONFLICTS. CONTRACTOR SHALL REPAIR EXISTING UTILITIES DAMAGED BY THEIR WORK AND RELOCATE EXISTING UTILITIES THAT ARE REQUIRED TO BE RELOCATED PRIOR TO COMMENCING ANY WORK IN THE IMPACTED AREA OF THE PROJECT.

B) ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTORS UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES. THE CONTRACTOR SHALL COORDINATE REMOVAL, RELOCATION, DISPOSAL, OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.

C) ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO THE ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

D) THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES AND CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.

E) SAWCUT AND REMOVE PAVEMENT ONE FOOT OFF PROPOSED EDGE OF PAVEMENT TRENCH IN AREAS WHERE PAVEMENT IS TO BE REMOVED.

F) IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL THE PERMIT APPROVALS.

G) THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL CONSTRUCTION PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR ANY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK.

H) THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE, UTILITIES, VEGETATION, PAVEMENT, AND CONTAMINATED SOIL WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ANY EXISTING DOMESTIC / IRRIGATION SERVICE WELLS IN THE PROJECT AREA IDENTIFIED DURING THE CONSTRUCTION AND NOT CALLED OUT ON THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER FOR PROPER CAPPING / RE-USE.

I) ALL WORK WITHIN THE CITY OF PORTSMOUTH RIGHT OF WAY SHALL BE COORDINATED WITH THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS (DPW).

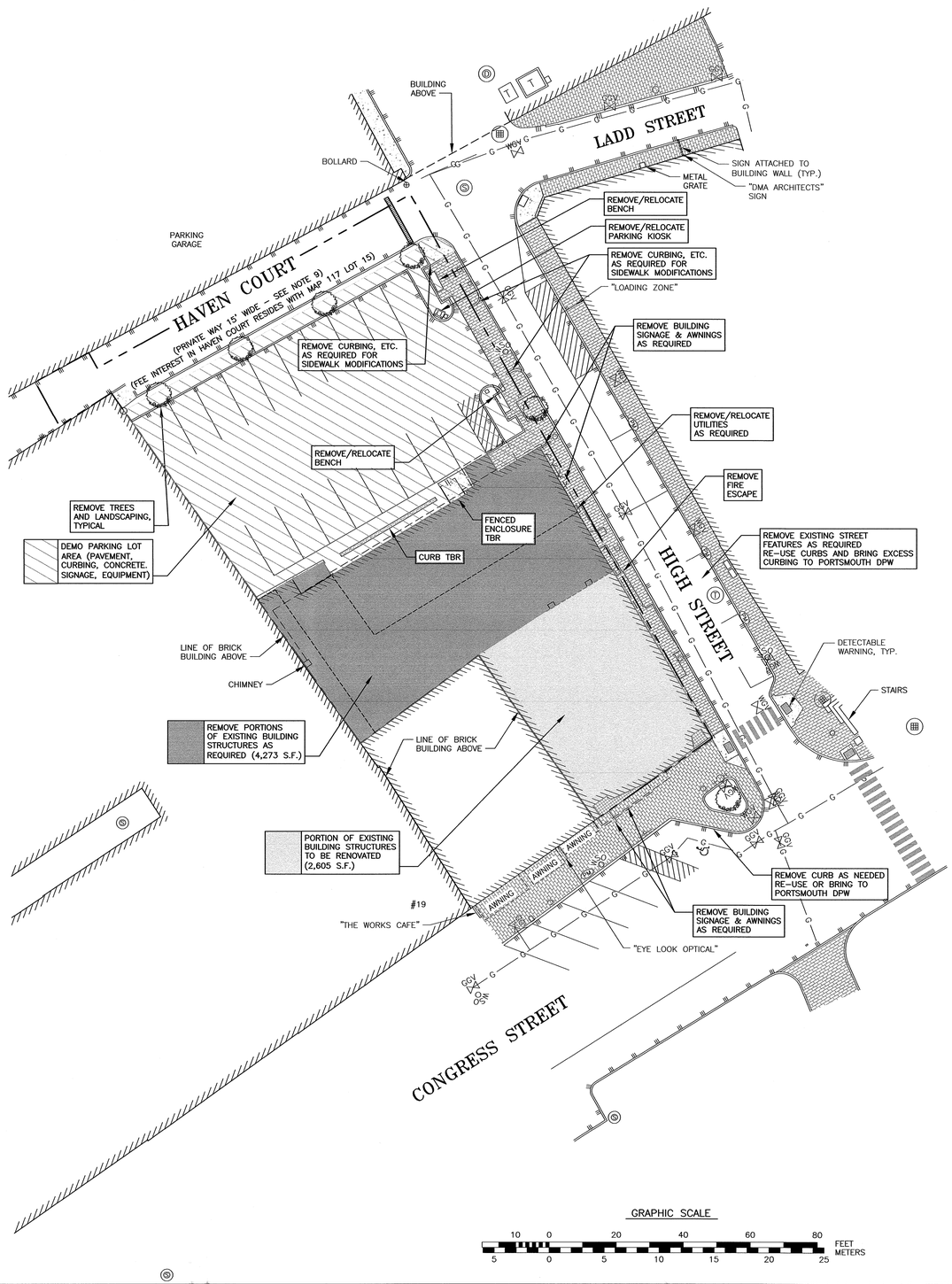
J) REMOVE TREES AND BRUSH AS REQUIRED FOR COMPLETION OF WORK. CONTRACTOR SHALL GRUB AND REMOVE ALL SLUMPS WITHIN LIMITS OF WORK AND DISPOSE OF OFF-SITE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.

K) CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED, THE CONTRACTOR SHALL EMPLOY A NH LICENSED LAND SURVEYOR TO REPLACE THEM.

L) PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS WITHIN CONSTRUCTION LIMITS AND MAINTAIN FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE HIGH FLOW SILT SACK BY ACF ENVIRONMENTAL OR APPROVED EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN 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 WARRANTED OR FABRIC BECOMES CLOGGED. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.

M) THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFELY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION SITE.

N) ANY CONTAMINATED MATERIAL REMOVED DURING THE COURSE OF THE WORK WILL REQUIRE HANDLING IN ACCORDANCE WITH NHDES REGULATIONS. CONTRACTOR SHALL HAVE A HEALTH AND SAFETY PLAN IN PLACE, AND COMPLY WITH ALL APPLICABLE PERMITS, APPROVALS, AUTHORIZATIONS, AND REGULATIONS



NH SPC GRID NORTH NAD83(2011)

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY WITHIN 100 FEET OF UNDERGROUND UTILITIES. THE EXCAVATOR IS RESPONSIBLE TO MAINTAIN MARKS. DIG SAFE TICKETS EXPIRE IN THIRTY DAYS.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

COMMERCIAL DEVELOPMENT
ONE CONGRESS STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	9/6/22

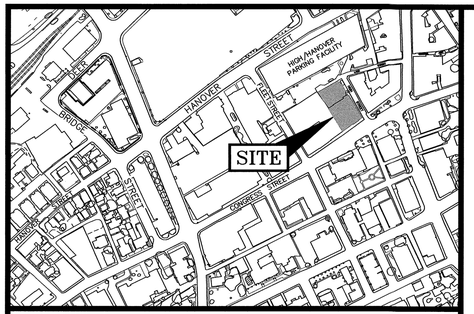
REVISIONS

STATE OF NEW HAMPSHIRE - JOHN R. CHAGNON NO. 7051 LICENSED PROFESSIONAL ENGINEER

SCALE 1" = 20' SEPTEMBER 2022

DEMOLITION PLAN C2

FB 309 PG 15 3406



LOCATION MAP SCALE: 1" = 300'

ZONING DATA: SEE SUBMISSION PACKAGE

Schematic Area Summary
10/18/2022

	gsf	use	use
new construction	**total new**	**existing**	**proposed**
4th floor	7,812	n/a	residential
3rd floor	9,355	n/a	residential
2nd floor	9,355	n/a	office
1st floor (footprint)	**9,355**	**n/a**	**retail/restaurant**
basement	9,581	n/a	parking & support
total new	**45,458**		
existing to remain and be renovated		**existing**	**proposed**
4th floor - 1&3 Congress St	2,422	residential	residential
3rd floor - 1&3 Congress St	2,725	residential	residential
2nd floor - 1&3 Congress St	2,725	office	office
1st floor - 1&3 Congress St (footprint)	**2,725**	office&retail	restaurant&retail
basement - 1&3 Congress	2,725	storage/mech	storage/support
total renovation	**13,322**		
TOTAL FOOTPRINT new + reno	12,080		
TOTAL BUILDING new + reno	**58,780**		
roof decks	**889**		

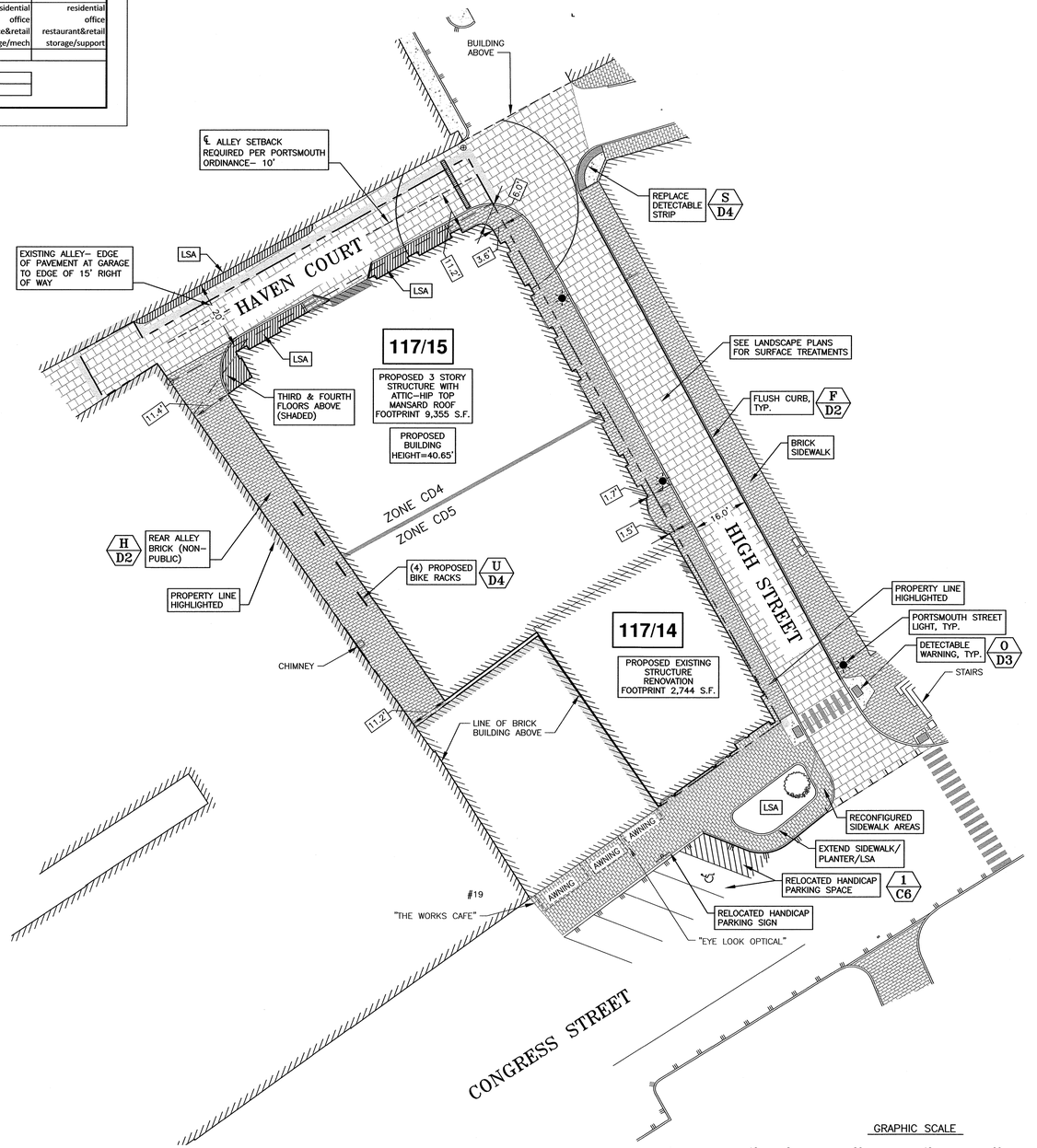
PLAN REFERENCE:

STANDARD BOUNDARY SURVEY, TAX MAP 117, LOTS 14 & 15, FOR PETER H. JARVIS & SONS, LLC. 1 CONGRESS STREET & HIGH STREET, CITY OF PORTSMOUTH, COUNTY OF ROCKINGHAM, STATE OF NEW HAMPSHIRE. PREPARED BY AMBIT ENGINEERING, INC. DATED NOVEMBER 2021, ISSUED FOR RECORDING 12/8/21. R.C.R.D. PLAN D-43095.

BUILDING DATA:

PROPOSED BUILDING:
12,099 S.F. FOOTPRINT

GRID NORTH (NH SPC NAD83(2011))



GRAPHIC SCALE
10 0 20 40 60 80 FEET
5 0 5 10 15 20 25 METERS

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.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801–7114
Tel (603) 430–9282
Fax (603) 436–2315

NOTES:

1) PARCELS ARE SHOWN ON THE CITY OF PORTSMOUTH ASSESSORS MAP 117 AS LOTS 14 AND 15.

2) OWNER OF RECORD:
ONE MARKET SQUARE, LLC
3 PLEASANT STREET, SUITE 400
PORTSMOUTH, NH 03801
6363/31 PARCEL 1 & PARCEL 2

3) PARCEL IS LOCATED IN THE CHARACTER DISTRICT 4 AND CHARACTER DISTRICT 5. SEE TABLES THIS SHEET.

4) DIMENSIONAL REQUIREMENTS: SEE PORTSMOUTH ORDINANCE FOR REQUIREMENTS.

5) LOT AREAS:

MAP 117 LOT 14	MAP 117 LOT 15
7,266 S.F.	8,840 S.F.
0.1668 ACRES	0.2029 ACRES

COMBINED LOT AREA:
16,106 S.F.
0.3697 ACRES

6) PARCELS ARE NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259F, EFFECTIVE JANUARY 29, 2021

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE PROPOSED DEVELOPMENT ON TAX MAP 117, LOTS 14 AND 15 IN PORTSMOUTH, NH.

8) VERTICAL DATUM IS NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GNSS OBS.

9) HAVEN COURT IS A PRIVATE WAY 15 FEET WIDE. ALL RIGHTS, TITLE AND INTEREST UNTO SAID HAVEN COURT WERE CONVEYED WITH ASSESSOR'S MAP 117 LOT 15, AS DESCRIBED IN RCRD 983/179, SUBJECT TO RIGHTS OF OTHERS (OTHERS NOT DEFINED ON THIS PLAN).

10) PROPOSED USE: RETAIL, OFFICE, RESIDENTIAL.
FIRST FLOOR: RETAIL.
2ND FLOOR: OFFICE.
3RD FLOOR & UP: 18 RESIDENTIAL UNITS.

COMMERCIAL DEVELOPMENT
ONE CONGRESS STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	BUILDING FOOTPRINT	10/18/22
0	ISSUED FOR COMMENT	9/6/22

REVISIONS

SCALE 1" = 20' SEPTEMBER 2022

PROJECT SITE PLAN

C3

FB 309 PG 15

3406

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ARCOVE ARCHITECTS

3 Congress St, Ste 1
PORTSMOUTH, NH 03801
T 603.731.5187
arcove.com

Ambit Engineering Inc
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200 Griffin Rd Unit 3
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(603) 430-9282
ambitengineering.com

Terra Firma Landscape
Landscape Architecture
163a Court St
Portsmouth NH 03801
(603) 531-9109
terrafirmalandarch.com

1 CONGRESS STREET

PORTSMOUTH, NH

ONE MARKET SQUARE LLC

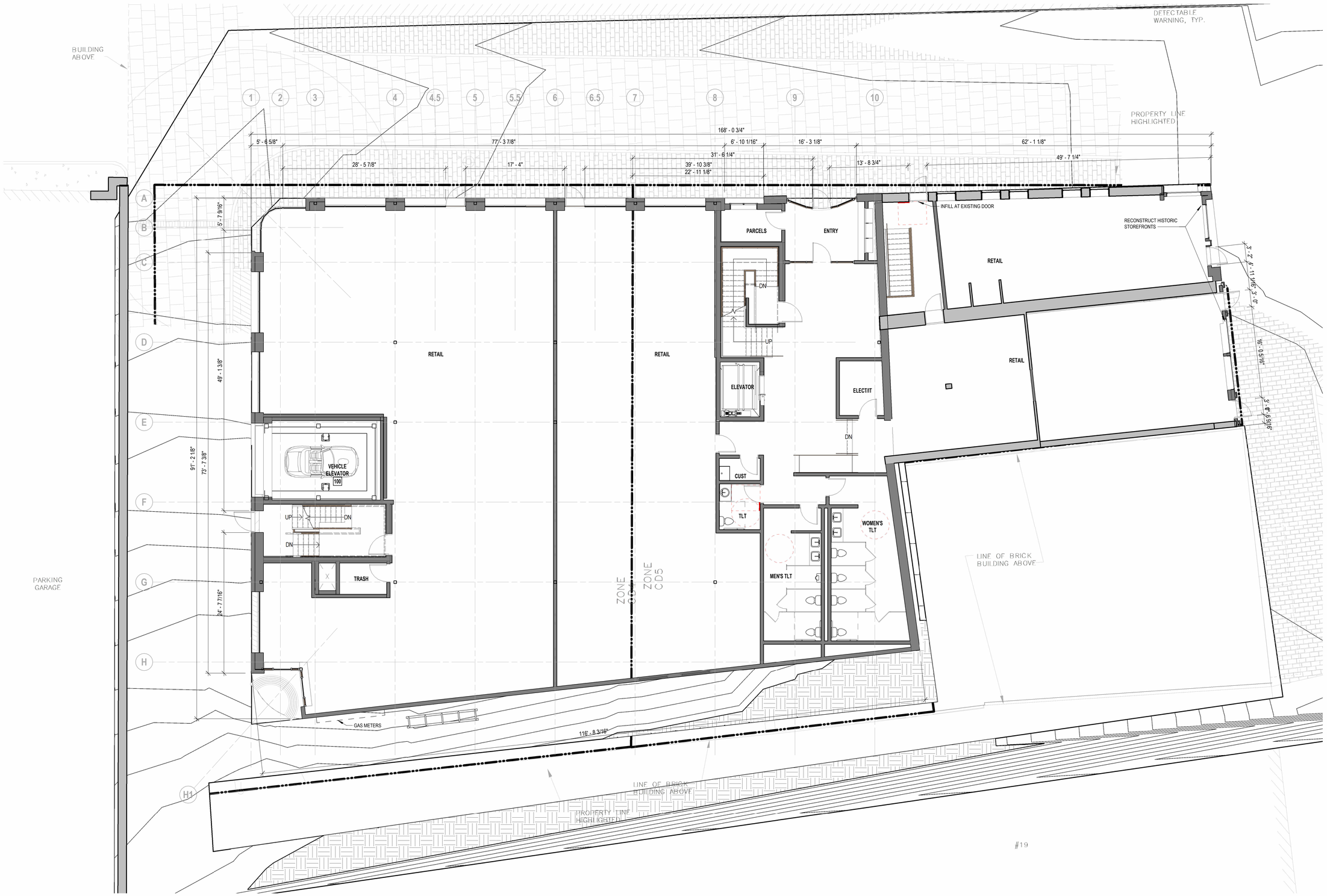
Scale: 1/8" = 1'-0"
Date: 10/18/2022
Project Number: 1002

REVISIONS		
NO.	DESCRIPTION	DATE

SITE PLAN REVIEW

BASEMENT FLOOR PLAN

PB.A0



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1 CONGRESS STREET

PORTSMOUTH, NH

ONE MARKET SQUARE LLC

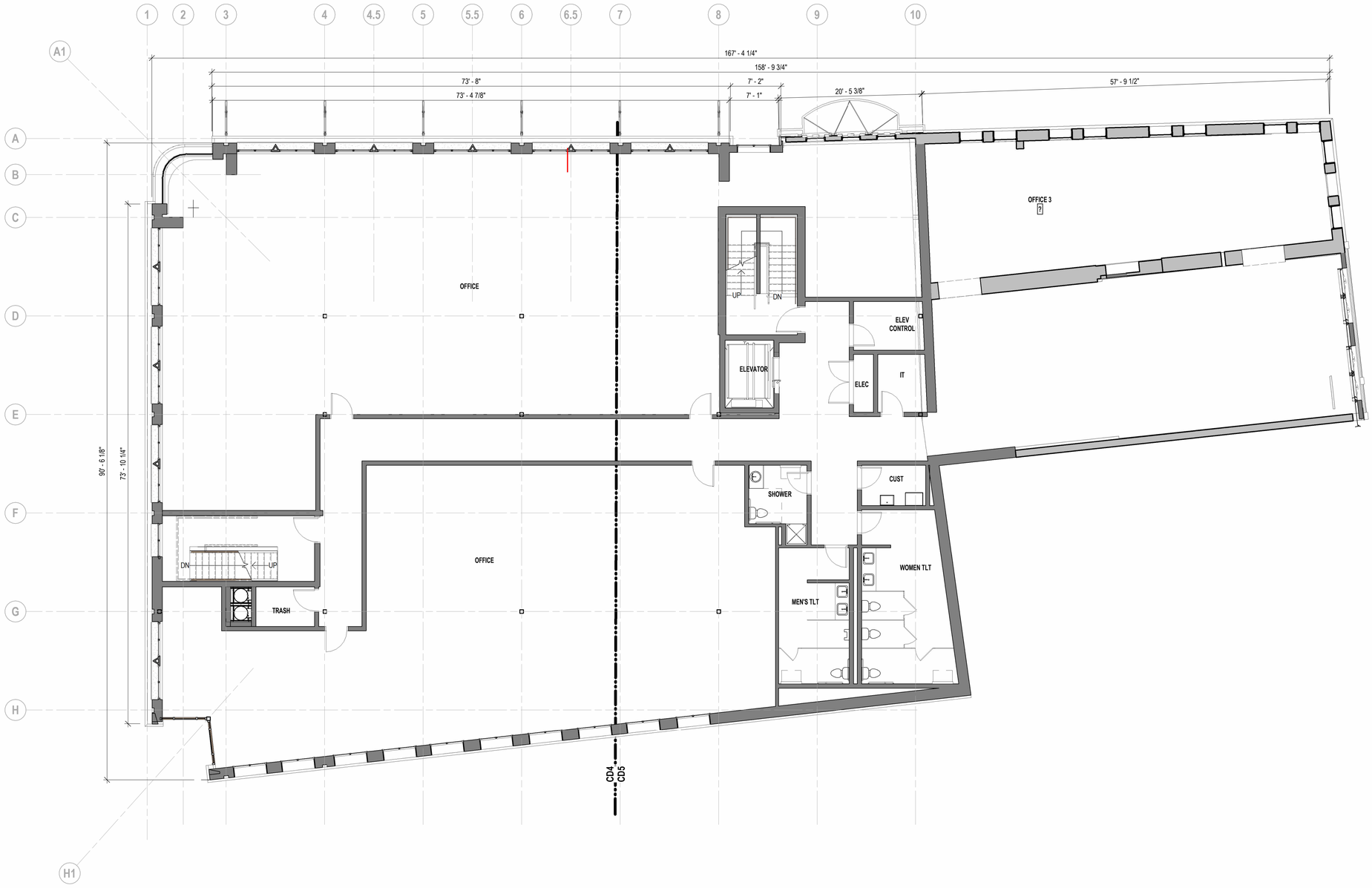
Scale:	1/8" = 1'-0"
Date:	10/18/2022
Project Number:	1002

REVISIONS		
NO.	DESCRIPTION	DATE

SITE PLAN REVIEW

FIRST FLOOR PLAN

PB.A1



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1 CONGRESS STREET

PORTSMOUTH, NH

ONE MARKET SQUARE LLC

Scale: 1/8" = 1'-0"
Date: 10/18/2022
Project Number: 1002

REVISIONS		
NO.	DESCRIPTION	DATE

SITE PLAN REVIEW

SECOND FLOOR PLAN

PB.A2

ARCOVE ARCHITECTS

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terrafirmalandarch.com

1 CONGRESS STREET

PORTSMOUTH, NH

ONE MARKET SQUARE LLC

Scale: 1/8" = 1'-0"
Date: 10/18/2022
Project Number: 1002

REVISIONS		
NO.	DESCRIPTION	DATE

SITE PLAN REVIEW

THIRD FLOOR PLAN

PB.A3

ARCOVE ARCHITECTS

3 Congress St, Ste 1
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1 CONGRESS STREET

PORTSMOUTH, NH

ONE MARKET SQUARE LLC

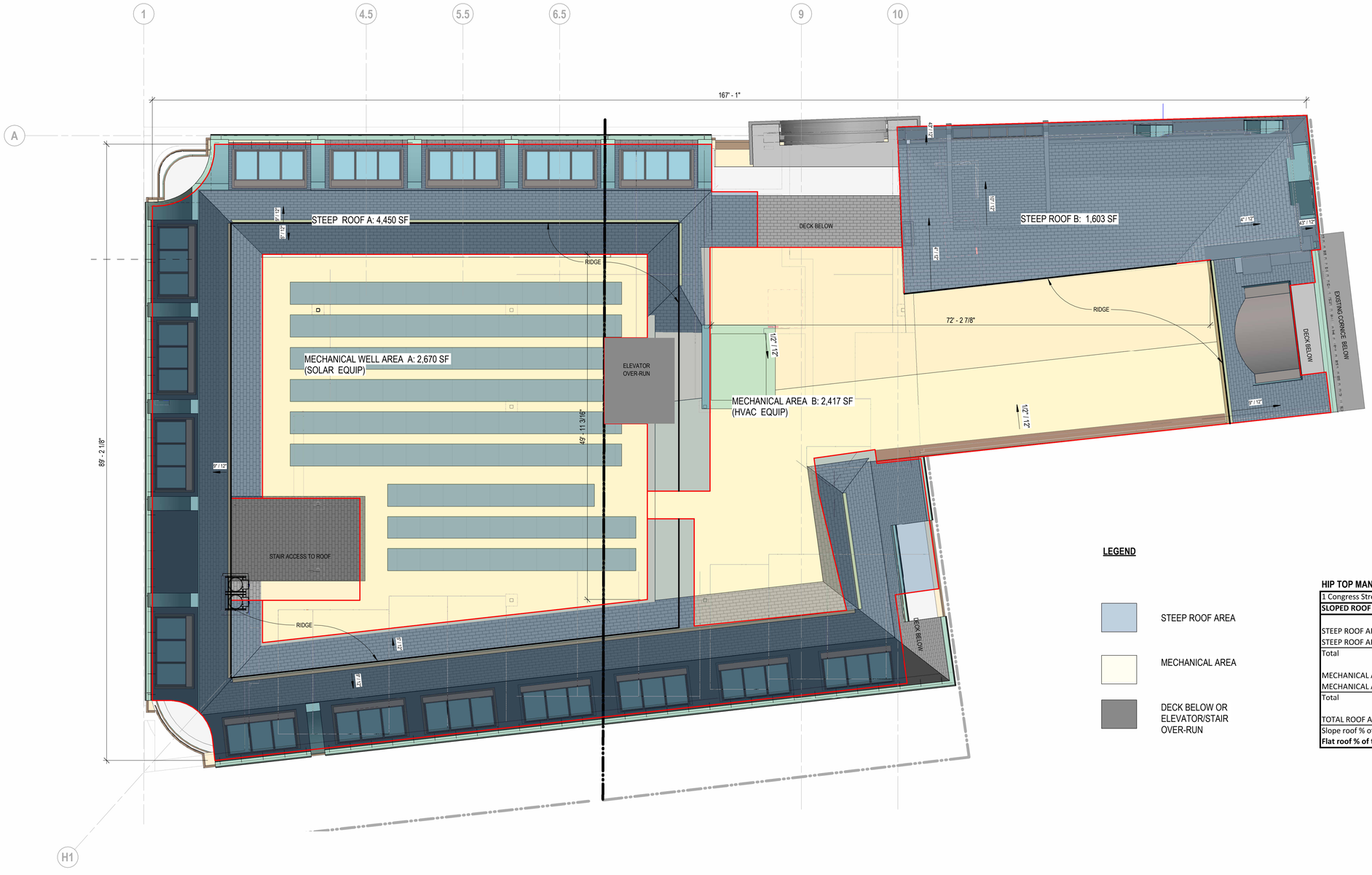
Scale: 1/8" = 1'-0"
Date: 10/18/2022
Project Number: 1002

REVISIONS		
NO.	DESCRIPTION	DATE

SITE PLAN REVIEW

FOURTH FLOOR PLAN

PB.A4



LEGEND

- STEEP ROOF AREA
- MECHANICAL AREA
- DECK BELOW OR ELEVATOR/STAIR OVER-RUN

HIP TOP MANSARD ROOF

1 Congress Street	
SLOPED ROOF AREAS	10/13/2022
STEEP ROOF AREA A	4,590
STEEP ROOF AREA B	1,603
Total	6,193
MECHANICAL AREA A	2,793
MECHANICAL AREA B	2,586
Total	5,379
TOTAL ROOF AREA	11,572
Slope roof % of total	53.52%
Flat roof % of total	**46.48%**

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1 CONGRESS STREET

PORTSMOUTH, NH

ONE MARKET SQUARE LLC

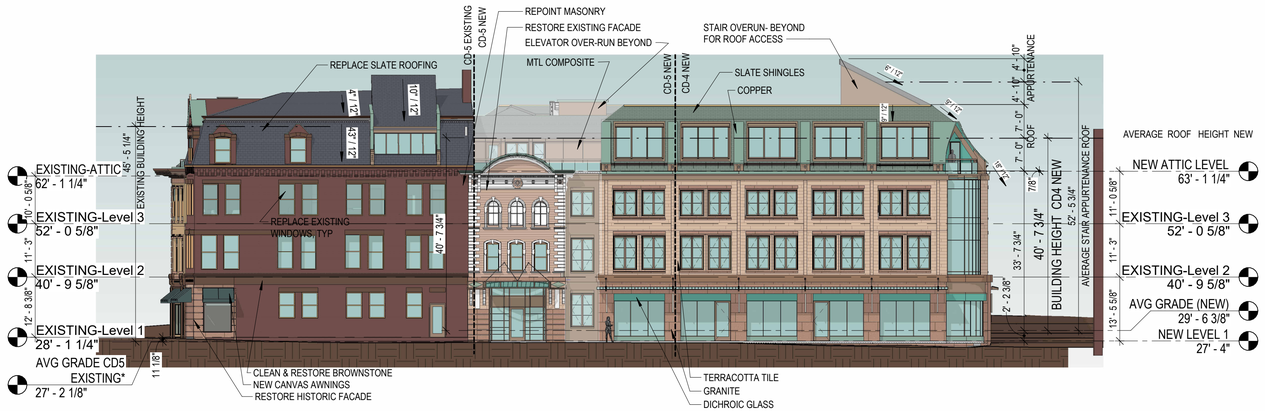
Scale: 1/8" = 1'-0"
Date: 10/18/2022
Project Number: 1002

REVISIONS		
NO.	DESCRIPTION	DATE

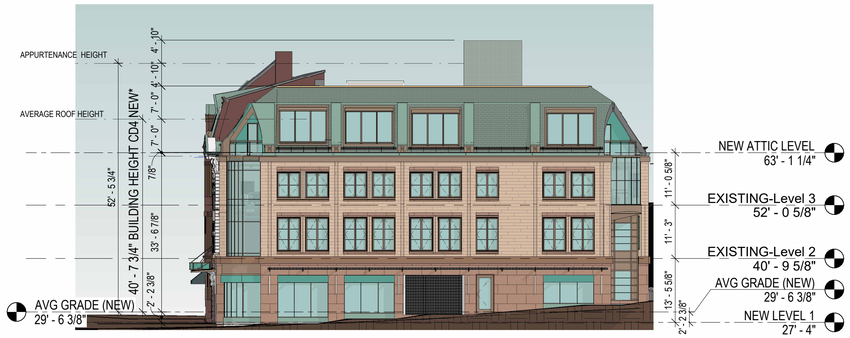
SITE PLAN REVIEW

ROOF PLAN

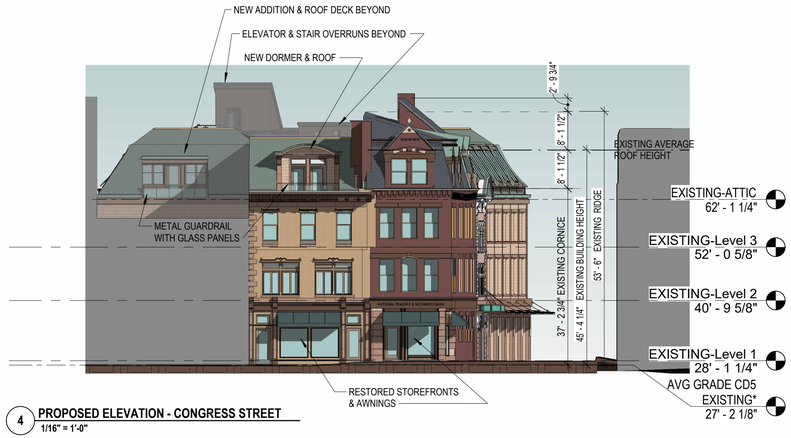
PB.A5



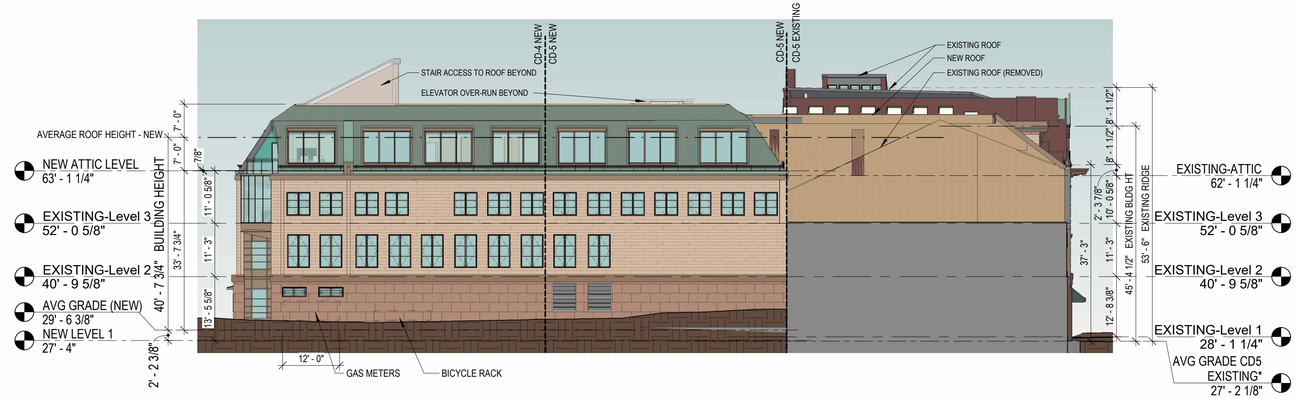
1 **PROPOSED ELEVATION - NE - HIGH STREET**
1/16" = 1'-0"



2 **PROPOSED ELEVATION - NW HAVEN COURT**
1/16" = 1'-0"



4 **PROPOSED ELEVATION - CONGRESS STREET**
1/16" = 1'-0"



3 **SW ELEVATION - REAR ALLEY PB2**
1/16" = 1'-0"

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200 Griffin Rd Unit 3
Portsmouth NH 03801
(603) 430-9282
ambitengineering.com

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Landscape Architecture
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(603) 531-9109
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1 CONGRESS STREET

PORTSMOUTH, NH

ONE MARKET SQUARE LLC

Scale: 1/16" = 1'-0"
Date: 10/18/2022
Project Number: 1002

REVISIONS		
NO.	DESCRIPTION	DATE

SITE PLAN REVIEW

ELEVATIONS

PB.A6

VIEW FROM MARKET SQUARE

VIEW FROM HIGH STREET AT LADD STREET

VIEW FROM LADD STREET

VIEW FROM HAVEN COURT AT NEWBERRY'S

ARCOVE ARCHITECTS
3 Congress St, Ste 1
PORTSMOUTH, NH 03801
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arcove.com

Ambit Engineering Inc
Civil Engineering
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1 CONGRESS STREET

PORTSMOUTH, NH

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Scale:
Date: 10/18/2022
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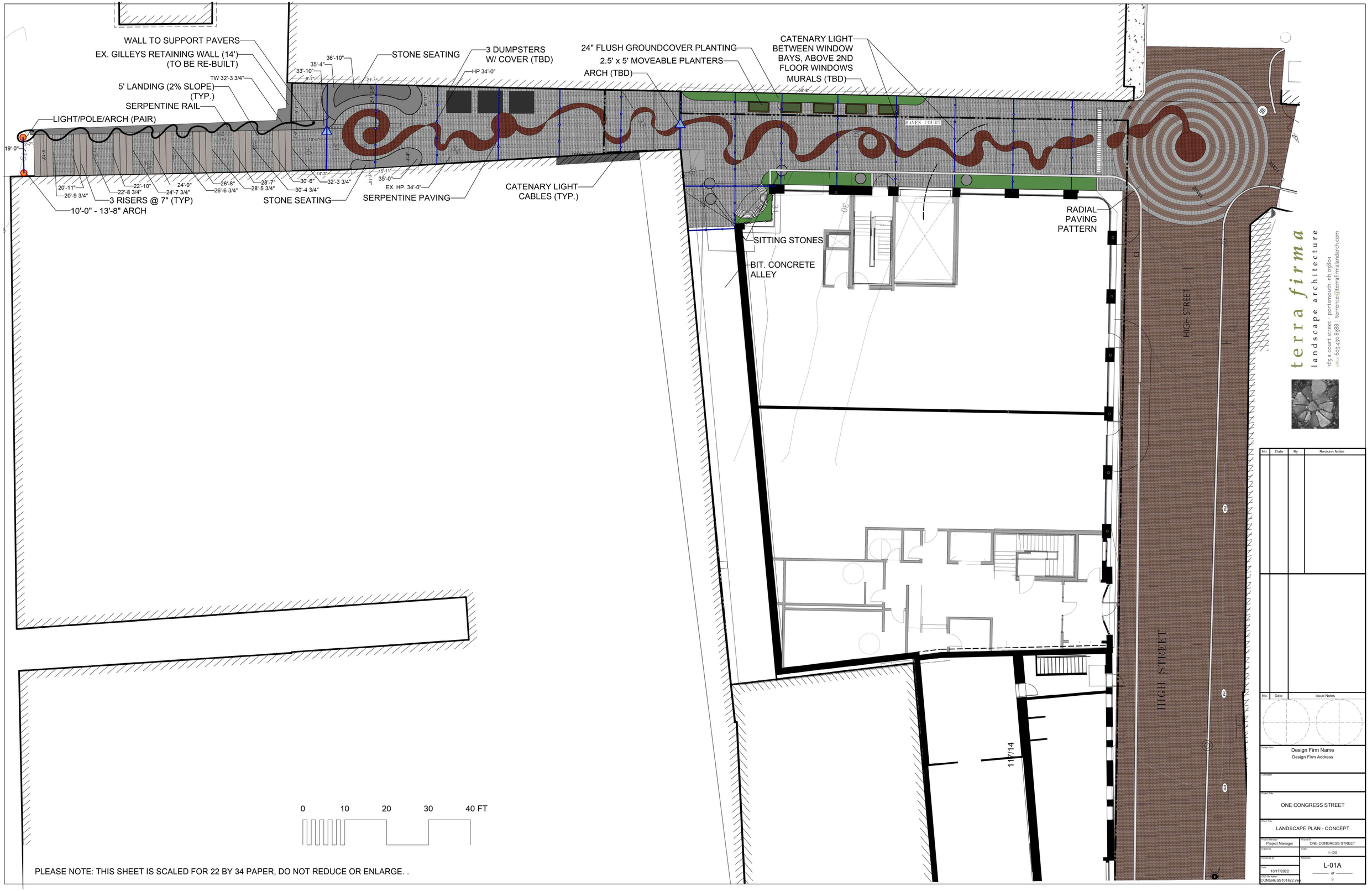
REVISIONS		
NO.	DESCRIPTION	DATE

SITE PLAN REVIEW

3D VIEWS

PB.A7



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No.	Date	By	Revision Notes

No.	Date	Issue Notes

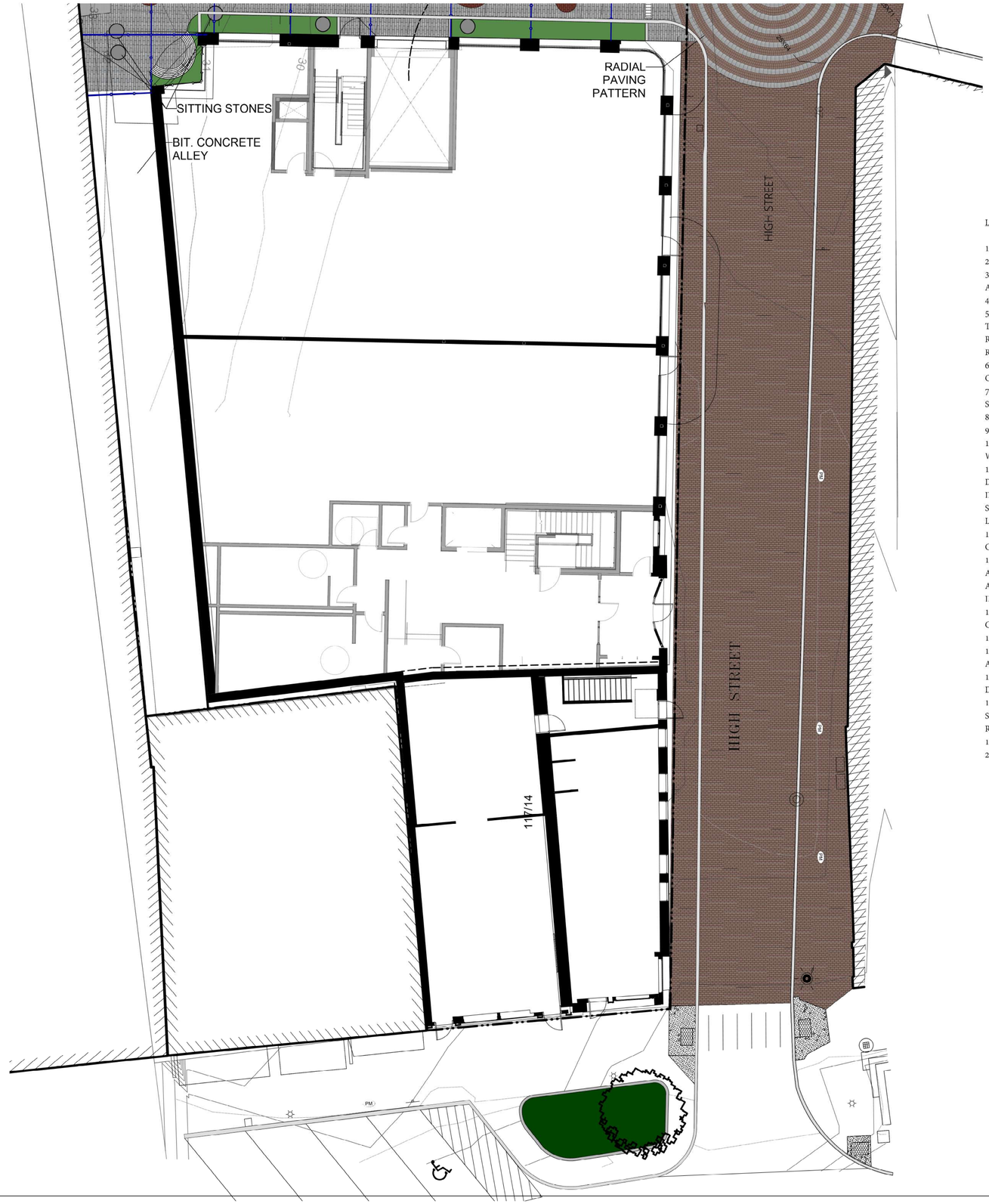
Design Firm
Design Firm Name
Design Firm Address

Consultant

Project Title
ONE CONGRESS STREET

Sheet Title
LANDSCAPE PLAN - CONCEPT

Project Manager: Project Manager	Project #: ONE CONGRESS STREET
Drawn By	Scale: 1:120
Reviewed By	Sheet No. L-01A
Date: 10/17/2022	of 9
CAD File Name: CONGRESS101422.vwx	



LANDSCAPE NOTES:

1. THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK.
2. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THE DRAWINGS.
3. ALL MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
4. ALL PLANT SUBSTITUTIONS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT.
5. ALL PLANT MATERIALS SHALL BE EXACTLY AS SPECIFIED BY THE LANDSCAPE ARCHITECT. IF PLANT SPECIES CULTIVARS ARE FOUND TO VARY FROM THAT SPECIFIED AT ANY TIME DURING THE GUARANTEE PERIOD, THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO HAVE THE CONTRACTOR REPLACE THAT PLANT MATERIAL. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANT DELIVERED TO THE SITE FOR AESTHETIC REASONS BEFORE PLANTING. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR THE QUALITY FOR ALL THE PLANTS.
6. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, UPON DELIVERY OR AT THE JOB SITE WHILE WORK IS ON-GOING TO CONFORMITY TO SPECIFIED QUALITY, SIZE AND VARIETY.
7. PLANTS FURNISHED IN CONTAINERS SHALL HAVE THE ROOTS WELL ESTABLISHED IN THE SOIL MASS AND SHALL HAVE AT LEAST ONE (1) GROWING SEASON. ROOT-BOUND PLANTS OR INADEQUATELY SIZED CONTAINERS TO SUPPORT THE PLANT MAY BE DEEMED UNACCEPTABLE.
8. NO PLANT SHALL BE PUT IN THE GROUND BEFORE GRADING HAS BEEN FINISHED AND APPROVED BY THE LANDSCAPE ARCHITECT.
9. ALL PLANTS SHALL BE INSTALLED AND DETAILED PER PROJECT SPECIFICATIONS.
10. 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.
11. ALL PLANTS SHALL BE GUARANTEED BY THE CONTRACTOR FOR NOT LESS THAN ONE FULL YEAR FROM THE TIME OF PROVISIONAL ACCEPTANCE. DURING THIS TIME, THE OWNER SHALL MAINTAIN ALL PLANT MATERIALS IN THE ABOVE MANNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE PLANTS TO ENSURE PROPER CARE. IF THE CONTRACTOR IS DISSATISFIED WITH THE CARE GIVEN, HE SHALL IMMEDIATELY, AND IN SUFFICIENT TIME TO PERMIT THE CONDITION TO BE RECTIFIED, NOTIFY THE LANDSCAPE ARCHITECT IN WRITING OR OTHERWISE FORFEIT HIS CLAIM. LANDSCAPE CONTRACTOR SHALL PRUNE PLANTINGS OF DEAD LIMBS OR TWIGS DURING THE FIRST YEAR OF GROWTH.
12. FINAL ACCEPTANCE BY THE LANDSCAPE ARCHITECT WILL BE MADE UPON THE CONTRACTOR'S REQUEST AFTER ALL CORRECTIVE WORK HAS BEEN COMPLETED.
13. LANDSCAPE CONTRACTOR SHOULD REPLACE DEAD PLANTINGS IMMEDIATELY UPON OWNER DIRECTION WITHIN THE WARRANTY PERIOD AND AGAIN AT THE END OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL HAVE REPLACED ANY PLANT MATERIAL THAT IS MISSING, NOT TRUE TO SIZE AS SPECIFIED, THAT HAVE DIED, THAT HAVE LOST THEIR NATURAL SHAPE DUE TO DEAD BRANCHES, EXCESSIVE PRUNING OR INADEQUATE OR IMPROPER CARE, OR THAT ARE, IN THE OPINION OF THE LANDSCAPE ARCHITECT, IN UNHEALTHY OR UNSIGHTLY CONDITION.
14. ALL LANDSCAPE AREAS TO BE GRASS COMMON TO REGION EXCEPT FOR INTERIOR LANDSCAPED ISLANDS OR WHERE OTHER PLANT MATERIAL IS CALLED FOR.
15. ALL TREES AND SHRUBS TO BE PLANTED IN MULCH BEDS WITH DEFINED AND CUT EDGES TO SEPARATE TURF GRASS AREAS.
16. FOR ANY LANDSCAPE AREA SO DESIGNATED TO REMAIN, WHETHER ON OR OFF-SITE, REMOVE WEEDS, ROCKS, CONSTRUCTION ITEMS, ETC., THEN APPLY GRASS SEED OR PINE BARK MULCH AS DEPICTED ON PLANS.
17. LANDSCAPE CONTRACTOR SHALL FEED AND PRUNE EX. TREES, ON OR JUST OFF SITE, THAT HAVE EXPERIENCED ROOT BASE INTRUSION OR DAMAGE DURING CONSTRUCTION IMMEDIATELY AND FOR THE DURATION OF THE WARRANTY PERIOD AT THE DIRECTION OF THE LANDSCAPE ARCHITECT.
18. EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH TEMPORARY SNOW FENCING AT THE EDGE OF THE EX. TREE CANOPY THE CONTRACTOR SHALL NOT STORE VEHICLES OR MATERIALS WITHIN THE LANDSCAPED AREAS. ANY DAMAGE TO EXISTING TREES, SHRUBS OR LAWN SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
19. ALL MULCH AREAS SHALL RECEIVE A 2" LAYER OF SHREDDED PINE BARK MULCH.
20. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH PROJECT SPECIFICATIONS.

0 10 20 30 40 FT

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No.	Date	By	Revision Notes

No.	Date	Issue Notes

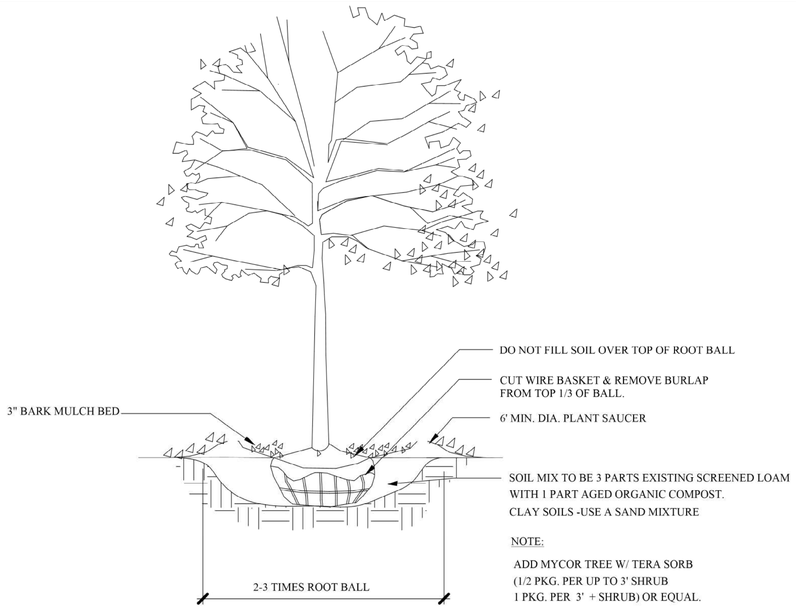
Design Firm Name
Design Firm Address

Consultant

Project Title: ONE CONGRESS STREET

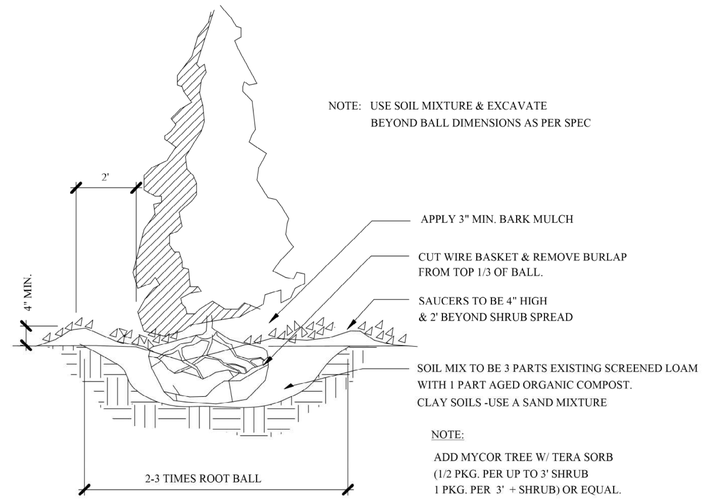
Sheet Title: LANDSCAPE PLAN - CONCEPT

Project Manager: Project Manager	Project No.: ONE CONGRESS STREET
Drawn By:	Scale: 1:120
Reviewed By:	Sheet No.: L-01B
Date: 10/18/2022	of 9
File Name: CONGRESS101422.vwx	



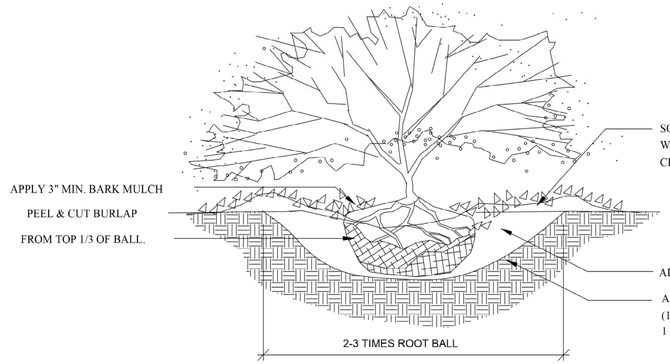
1 L-2

TREE PLANTING - 2"+ CAL.
SCALE: NTS



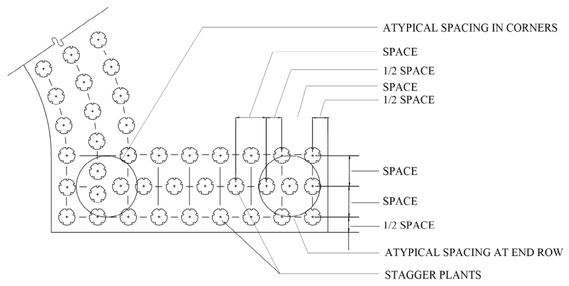
2 L-2

PYRAMIDAL EVERGREEN TREE PLANTING
SCALE: NTS



3 L-2

B&B SHRUB PLANTING
SCALE: NTS

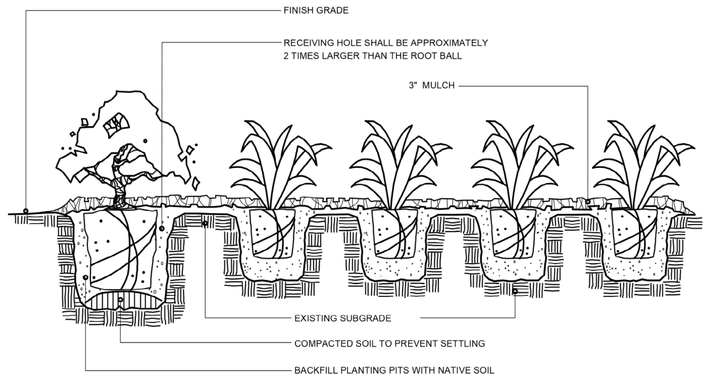


NOTES:

1. PLACE PLANTS IN BED AS SHOWN, SPACING AS SPECIFIED IN PLANT SCHEDULE.
2. GROUNDCOVER SHALL BE TRIANGULAR SPACED IN ROWS PARALLEL TO STRAIGHT EDGES AND SHALL BE EVENLY SPACED IN ROWS PARALLEL TO CURVE EDGES.

4 L-2

GROUND COVER SPACING DETAIL
SCALE: NTS



NOTE: SHRUBS SHALL BE PLANTED A MINIMUM OF 1" & NO MORE THAN 2" ABOVE FINISH GRADE, DEPENDING UPON SITE CONDITIONS.

5 L-2

SHRUB/GROUND COVER PLANTING DETAIL
SCALE: NTS

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No.	Date	By	Revision Notes

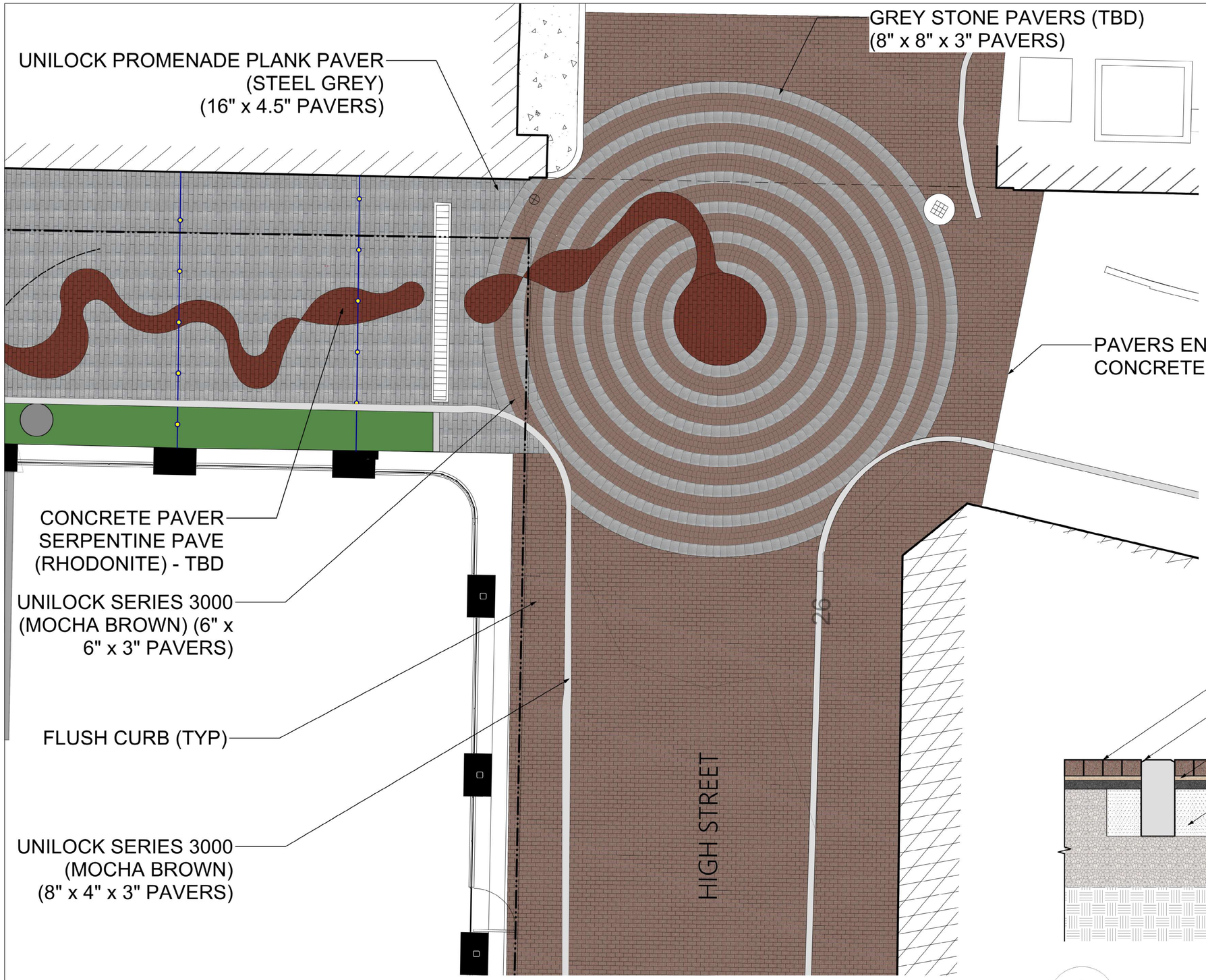
No.	Date	Issue Notes

Design Firm Name
Design Firm Address

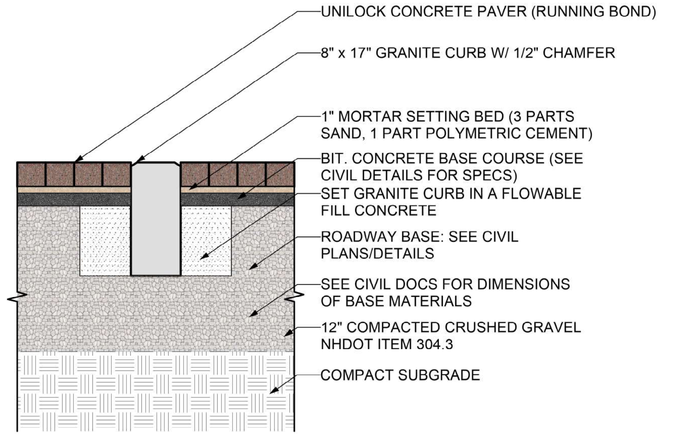
ONE CONGRESS STREET

LANDSCAPE DETAILS

Project Manager	ONE CONGRESS STREET
	1:120
	L-02 of 9
10/18/2022	
CONGRESS101422.vwx	



1 / L-3 PAVING DETAIL - PATTERN + MATERIALS
SCALE: 1/4"=1'-0"



2 / L-3 PAVING DETAIL
SCALE: 1"=1'-0"

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No.	Date	By	Revision Notes

No.	Date	Issue Notes

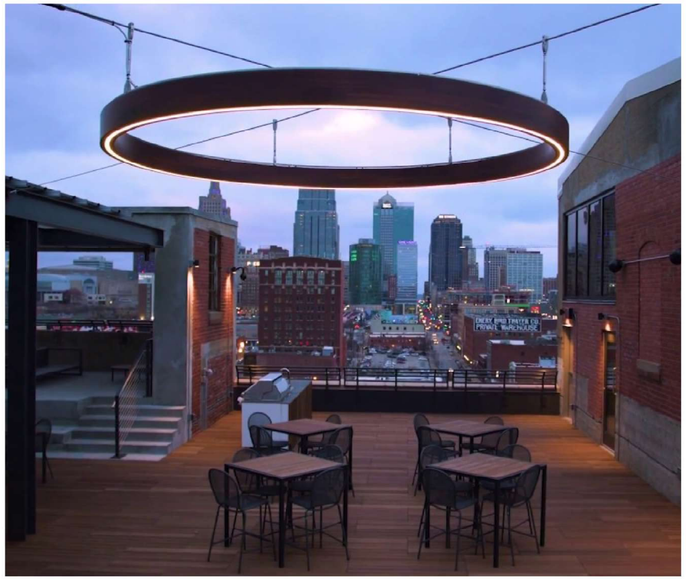
Design Firm
Design Firm Name
Design Firm Address

Consultant

Project Title
ONE CONGRESS STREET

Sheet Title
LANDSCAPE DETAILS

Project Manager: Project Manager	Project #: ONE CONGRESS STREET
Drawn By:	Scale: AS NOTED
Reviewed By:	Sheet No.: L-03
Date: 10/17/2022	of 9
CAD File Name: CONGRESS101422.vwx	



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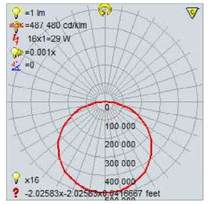
Lenexa, KS 66215
projects@structura.com
(913) 390-8787
https://structura.com/



2' DIA. SINGLE LAMP PHOTOMETRIC

Volta OR EQUAL

Catenary Cable Installation Instructions

structura

Warnings

CAUTION—risk of fire and this product must be installed in accordance with the applicable installation code by a person familiar with the construction and operation of the product and the hazards involved.

Suitable for wet locations.

Mounting orientation must have light source facing down.

Electrical service must be disconnected during installation.

Proper grounding is required to protect against shock and proper operation.

Tools Required

9/64" Allen wrench for 8-32 socket cap screws.
7/16" wrench for jam nuts and coupling nuts.
4' level

Installation

Step 1: Install exterior power supply at remote location up to 40' away.

Step 2: Place clamp assembly in the top of the ring with the carriage bolt in the built-in fixture track. Slide assembly to approximate mounting location.

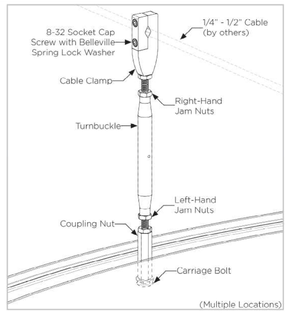
Step 3: Mount fixture to cables in approximate desired location by placing the cable clamp around the catenary cable. Position power cable from luminaire to nearest point of power supply along steel cable.

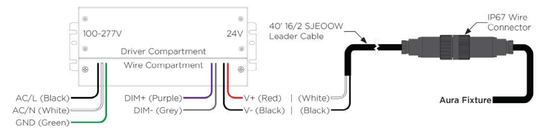
Step 4: Move fixture to final desired position. Ensure that clamp arm is perpendicular to cable and fixture. Fully tighten coupling nut and cable clamp screws to torque spec of 8ft-lbs.

Step 5: Adjust turnbuckles to level the fixture horizontally. Turnbuckles have 3" of adjustment length.

Step 6: Tighten jam nuts to secure turnbuckles using 7/16" wrench and metal pin through turnbuckle. Tighten jam nuts to 8ft-lbs.

Step 7: Connect exterior connector from fixture to wire whip. Connect whip to 24V side of power supply. Secure wire to cable with standard cable ties.





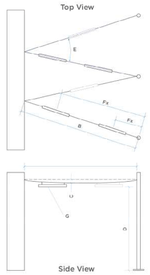
Suitable for indoor or outdoor use. Horizontal or vertical mounting. End and side knockout locations of 7/8" (1/2" trade size"). When installing multiple power supplies, separate the enclosures by at least 3" of space from edge to edge to prevent a rise of ambient temperature between the power supplies.

DESIGN INFORMATION

When designing catenary systems, each site has unique information that needs to be provided to ensure the proper sizing of the system components. The below information needs to be supplied before we can begin preliminary engineering or the quoting process.

Critical Information

- All span lengths (B)
- Cable sag (if greater than 5%) (C)
- Minimum fixture height (D)
- Cable angles (E)
- Luminaire center location from the pole (Fx)
- Spec of Structura luminaires (size/shape) (G)
- Geographic location of installation for wind and ice loading
- Any additional loading (fixtures, elevation, etc).
- AutoCAD file is preferred
- Elevation (if above ground level)
- Weight/foot of string lights



After all of the critical information is obtained by Structura:

1-2 Weeks:

- Preliminary Engineering – Approximate sizing for poles and cables without full analysis.
- Layout Drawings – Visual representation of Structura's interpretation of the critical information.
- Bill of Materials – List of what will and will not be provided by Structura.
- Budget Quote – Pricing for everything Structura will provide in the BOM as well as the Engineering Fee.

After Engineering Fee is paid or Purchase Order placed:

3-4 Weeks:

- Final Engineering – Post-analysis sizing for cables and poles. Includes reaction forces. PRICING AND SIZING ARE SUBJECT TO CHANGE UNTIL FINAL ENGINEERING IS COMPLETED!
- Final Quote – Pricing for everything Structura will provide based on Final Engineering.
- Approval Drawings – Layout, pole, and/or luminaire drawings that must be approved and reviewed prior to release.

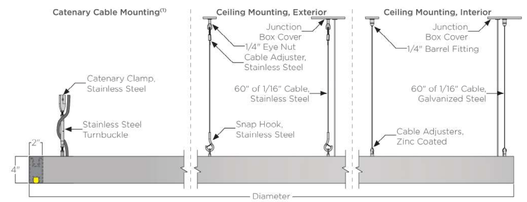
After Approval Drawings are returned and deposit (50% of order) is received:

< 1 Week:

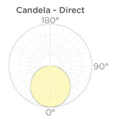
- Production – Structura can begin production for all ordered materials.
- Cables – 2-4 Weeks
- Luminaires – 8-10 Weeks
- Poles – 10+ Weeks (Depends on size, quantity, shop capacity, etc.)

Volta Ring - Direct Lighting

structura



	Standard Output		Medium Output		High Output			
Dia.	Lumens(2)	Watts	Lumens(2)	Watts	Lumens(2)	Watts	Weight(3)	EPA(3)
2'	627	9	1139	18	1593	29	16lbs.	.69ft²
4'	1299	18	2360	36	3301	60	32lbs.	1.24ft²
6'	1980	28	3597	55	5032	91	49lbs.	1.81ft²
8'	2671	37	4851	74	6787	123	64lbs.	2.36ft²



ORDERING GUIDE: EXAMPLE: VOLTA-RNG-D-6-L27MO-S4-CA-STD

VOLTA	RNG	D	2	L30	HO	JET BLACK	CA	STD
1	2	3	4	5	6	7	8	9

1	Series
VOLTA	Volta
2	Series
RNG	Ring
3	Lighting
D	Direct

4	Diameter(4)
2	2'
4	4'
6	6'
8	8'
5	CCT
L27	2700K
L30	3000K
L35	3500K
L40	4000K

6	Output
SO	Standard Output
MO	Medium Output
HO	High Output
7	Metal Finish
C*	See color options on finishes technical sheet
CSM	Custom Color

8	Mounting
CA	Catenary Cable
CE/E	Ceiling Canopy, Exterior
CE/I	Ceiling Canopy, Interior
9	Special
STD	Standard
MOD	Modified

1. Catenary cable designed and provided separately.
2. Lumen output based upon 3000K CCT.
3. Weight and EPA based off of catenary mounting option.
4. Consult factory for sizes above 8'.

Product specification sheets subject to change.

1
L-4

CATENARY LIGHT DETAIL
SCALE: NTS

NOTE: CONSULT MANUFACTURER'S DESIGN SPECIALISTS AND INSTALL ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

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No.	Date	By	Revision Notes

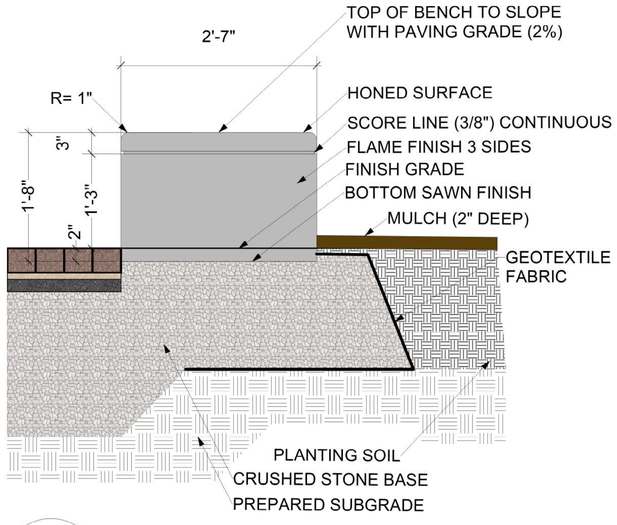
No.	Date	Issue Notes

Design Firm Name
Design Firm Address

ONE CONGRESS STREET

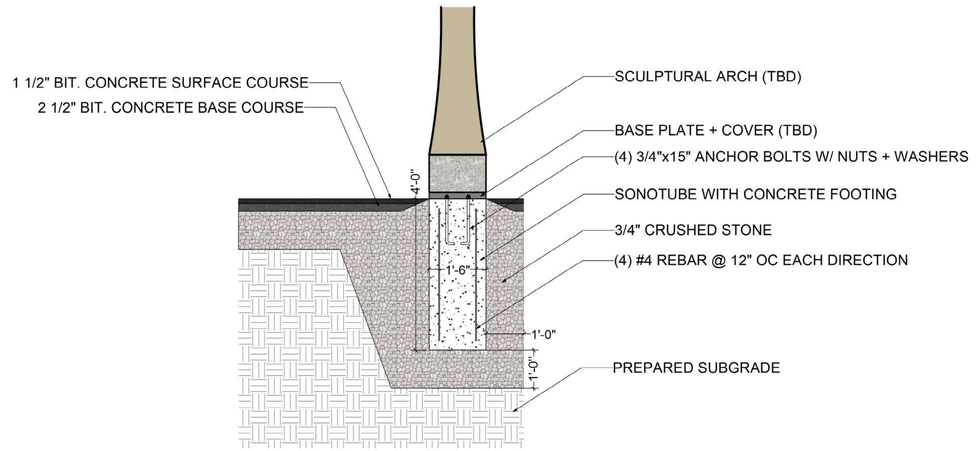
LANDSCAPE DETAILS

Project Manager: Project Manager	Project ID: ONE CONGRESS STREET
Drawn By: TC	Scale: AS NOTED
Reviewed By: TP	Sheet No: L-04 of 9
Date: 10/18/2022	
CAD File Name: CONGRESS101422.vwx	



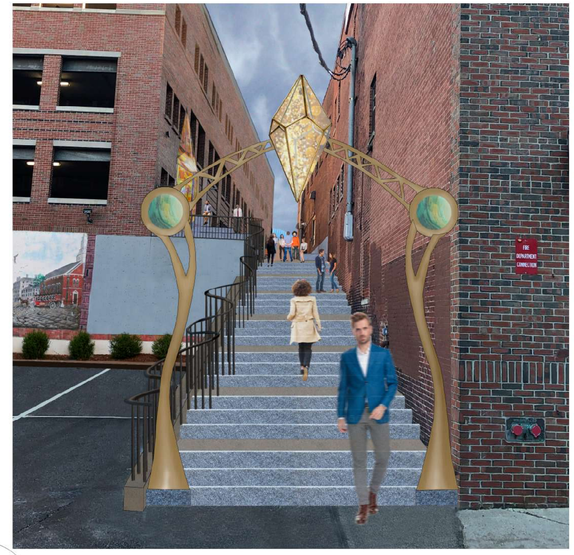
1 L-5

SITTING STONES DETAIL
SCALE: 1"=1'-0"



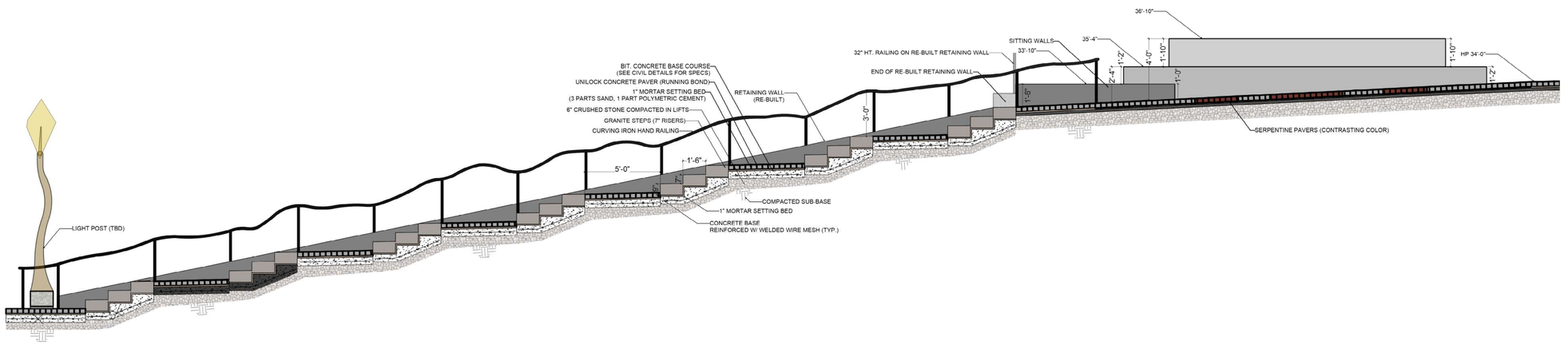
2 L-5

LIGHT POST ARCH FOOTING DETAIL
SCALE: 1/2" = 1'-0"



3 L-5

LIGHT POST ARCH CONCEPT
SCALE: NTS



4 L-5

HAVEN COURT STEP DETAIL
SCALE: 1/4"=1'-0"

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No.	Date	By	Revision Notes

No.	Date	Issue Notes
1		

Design Firm
Design Firm Name
Design Firm Address

Consultant

Project Title
ONE CONGRESS STREET

Sheet Title
LANDSCAPE DETAILS

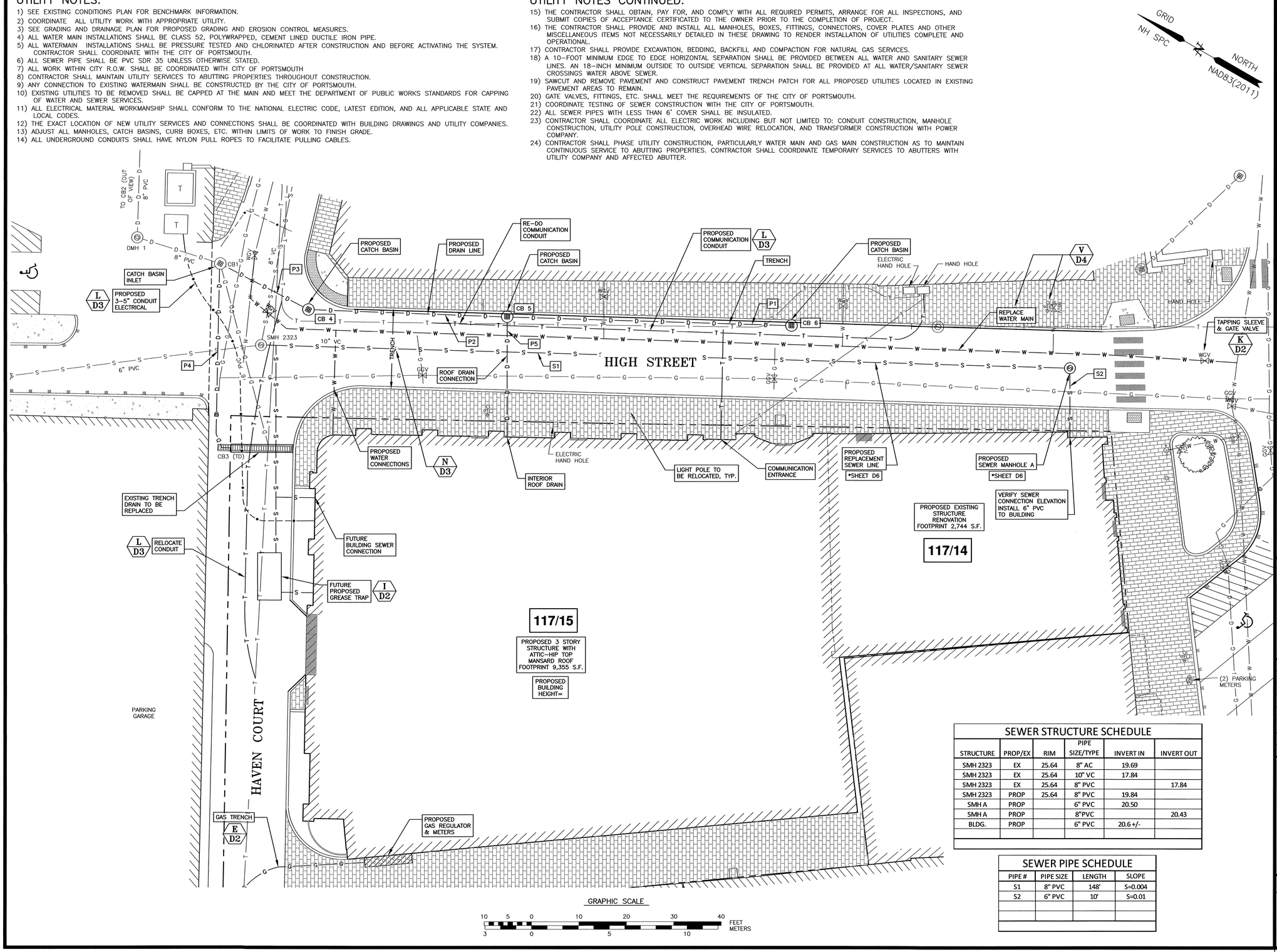
Project Manager	Project No. ONE CONGRESS STREET
Drawn By: TC	Scale: AS NOTED
Reviewed By: TP	Sheet No. L-05
Date: 10/18/2022	of 9
File Name: CONGRESS101422.vwx	

UTILITY NOTES:

1) SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
2) COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY.
3) SEE GRADING AND DRAINAGE PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
4) ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, POLYWRAPPED, CEMENT LINED DUCTILE IRON PIPE.
5) ALL WATERMAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION AND BEFORE ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE WITH THE CITY OF PORTSMOUTH.
6) ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
7) ALL WORK WITHIN CITY R.O.W. SHALL BE COORDINATED WITH CITY OF PORTSMOUTH
8) CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
9) ANY CONNECTION TO EXISTING WATERMAIN SHALL BE CONSTRUCTED BY THE CITY OF PORTSMOUTH.
10) 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.
11) ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
12) THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH BUILDING DRAWINGS AND UTILITY COMPANIES.
13) ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
14) ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.

UTILITY NOTES CONTINUED:

15) THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATED TO THE OWNER PRIOR TO THE COMPLETION OF PROJECT.
16) THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED IN THESE DRAWING TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
17) CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
18) 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 WATER ABOVE SEWER.
19) SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
20) GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
21) COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.
22) ALL SEWER PIPES WITH LESS THAN 6' COVER SHALL BE INSULATED.
23) 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.
24) 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 UTILITY COMPANY AND AFFECTED ABUTTER.



SEWER STRUCTURE SCHEDULE

STRUCTURE	PROP/EX	RIM	PIPE SIZE/TYPE	INVERT IN	INVERT OUT
SMH 2323	EX	25.64	8" AC	19.69	
SMH 2323	EX	25.64	10" VC	17.84	
SMH 2323	EX	25.64	8" PVC		17.84
SMH 2323	PROP	25.64	8" PVC	19.84	
SMH A	PROP		6" PVC	20.50	
SMH A	PROP		8"PVC		20.43
BLDG.	PROP		6" PVC	20.6 +/-	

SEWER PIPE SCHEDULE

PIPE #	PIPE SIZE	LENGTH	SLOPE
S1	8" PVC	148'	S=0.004
S2	6" PVC	10'	S=0.01

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY WITHIN 100 FEET OF UNDERGROUND UTILITIES. THE EXCAVATOR IS RESPONSIBLE TO MAINTAIN MARKS. DIG SAFE TICKETS EXPIRE IN THIRTY DAYS.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

COMMERCIAL DEVELOPMENT
ONE CONGRESS STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	BUILDING FOOTPRINT	10/18/22
0	ISSUED FOR COMMENT	9/6/22

REVISIONS

STATE OF NEW HAMPSHIRE
JOHN R. CHAGNON
No. 7651
LICENSED PROFESSIONAL ENGINEER

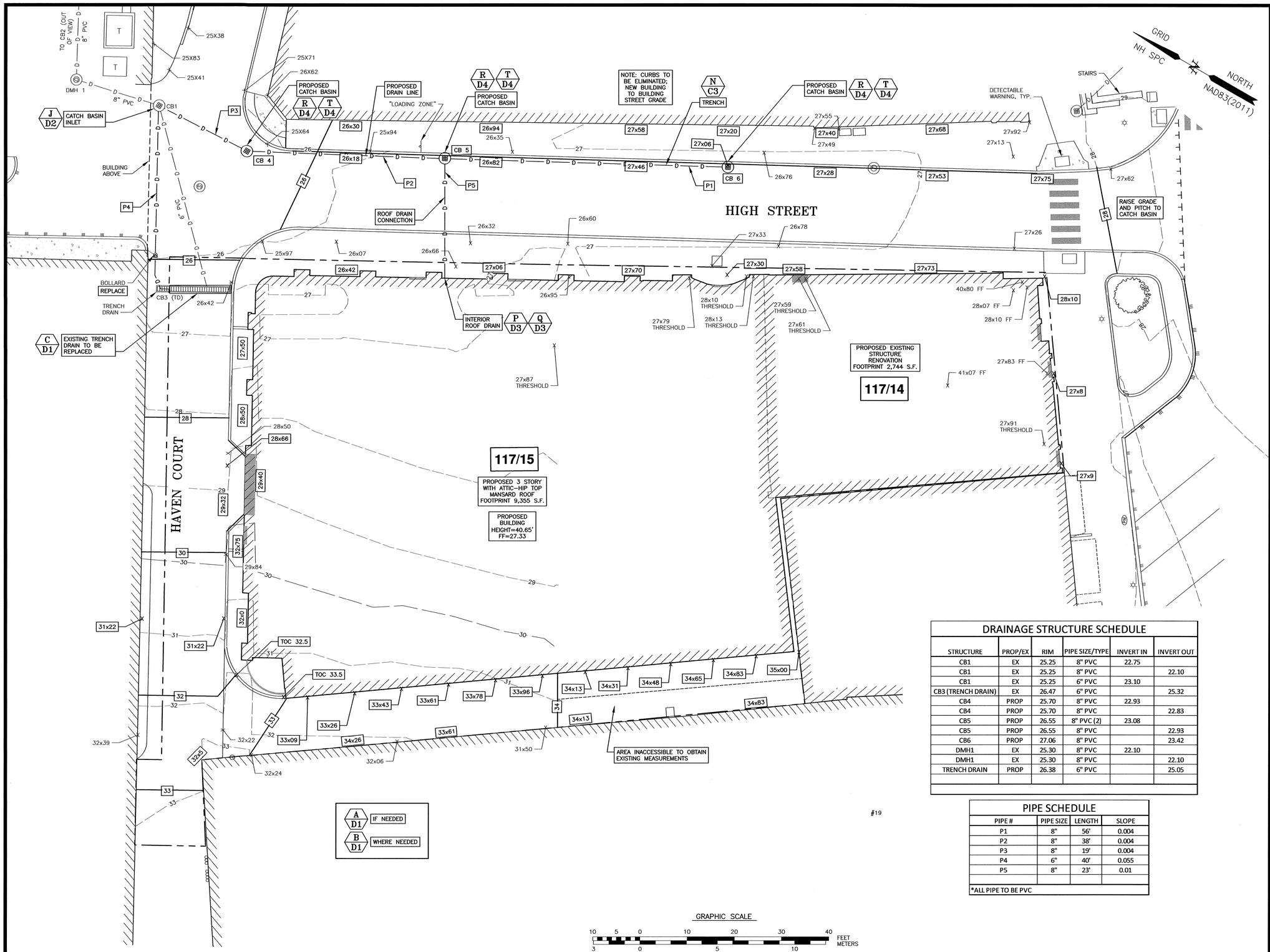
SCALE 1" = 10' SEPTEMBER 2022

UTILITY PLAN

C4

FB 309 PG 15

3406



DRAINAGE STRUCTURE SCHEDULE					
STRUCTURE	PROP/EX	RIM	PIPE SIZE/TYPE	INVERT IN	INVERT OUT
CB1	EX	25.25	8" PVC	22.75	
CB1	EX	25.25	8" PVC		22.10
CB1	EX	25.25	6" PVC	23.10	
CB3 (TRENCH DRAIN)	EX	26.47	6" PVC		25.32
CB4	PROP	25.70	8" PVC	22.93	
CB4	PROP	25.70	8" PVC		22.83
CB5	PROP	26.55	8" PVC (2)	23.08	
CB5	PROP	26.55	8" PVC		22.93
CB6	PROP	27.06	8" PVC		23.42
DMH1	EX	25.30	8" PVC	22.10	
DMH1	EX	25.30	8" PVC		22.10
TRENCH DRAIN	PROP	26.38	6" PVC		25.05

PIPE SCHEDULE			
PIPE #	PIPE SIZE	LENGTH	SLOPE
P1	8"	56'	0.004
P2	8"	38'	0.004
P3	8"	19'	0.004
P4	6"	40'	0.055
P5	8"	23'	0.01
*ALL PIPE TO BE PVC			

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NOTES:

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COMMERCIAL DEVELOPMENT
ONE CONGRESS STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	BUILDING FOOTPRINT, GRADING	10/18/22
0	ISSUED FOR COMMENT	9/6/22
	REVISIONS	

JOHN R. CHAGNON No. 7851 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

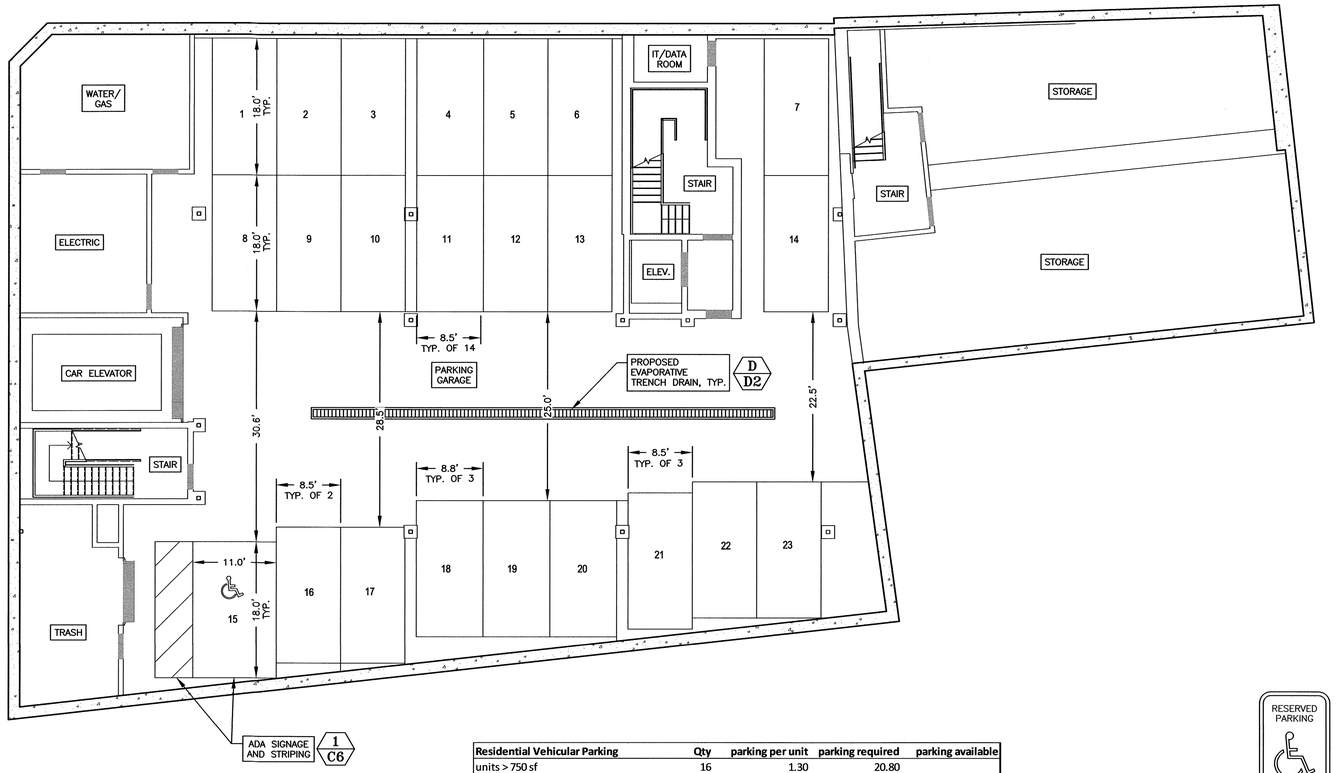
SCALE 1" = 10' SEPTEMBER 2022

GRADING PLAN

C5

FB 309 PG 15

3406



Residential Vehicular Parking	Qty	parking per unit	parking required	parking available
units > 750 sf	16	1.30	20.80	
units 500-750 sf	1	1.00	1.00	
Units <500 sf	1	0.50	0.50	
resident units total	**18**		**22.30**	
DOD deduct			-4.00	
1 visitor space for every 5 units			3.6	
TOTAL			**21.90**	**23.00**

Unit NO.	BR's	SF	parking/unit	parking available
301	2	1,067	1.3	
302	1	885	1.3	
303	1	925	1.3	
304	1	574	1.0	
305	1	1,014	1.3	
306	1	986	1.3	
307	1	982	1.3	
308	1	913	1.3	
309	2	1,324	1.3	
401	2	946	1.3	
402	1	851	1.3	
403	1	894	1.3	
404	st	343	0.5	
405	1	1,023	1.3	
406	1	838	1.3	
407	1	894	1.3	
408	1	906	1.3	
409	2	1,200	1.3	
resident units total		16,565	22.3	
DOD deduct			-4.0	
1 visitor space for every 5 units			3.6	
TOTAL parking			**21.90**	**23**

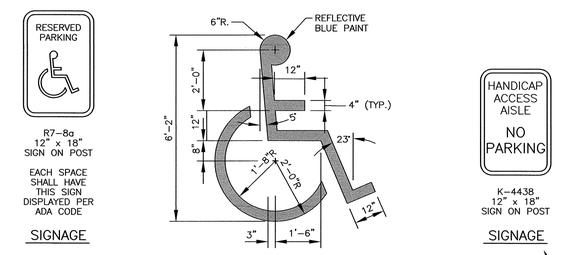
Bicycle Parking	
One space for every 5 units	3.6
TOTAL required, rounded up	**4**

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

GRAPHIC SCALE

10 5 0 10 20 30 40 FEET
3 0 5 10 METERS



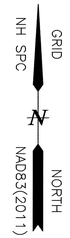
NOTES:

1) SYMBOL TO BE PAINTED IN ALL HANDICAPPED SPACES.

2) SYMBOL, PAINT AND SIGNAGE TO CONFORM TO AMERICANS WITH DISABILITIES ACT (ADA).

3) ALL VAN ACCESSIBLE SPACES SHALL HAVE "VAN ACCESSIBLE" PLATE INSTALLED ON SIGN POST BELOW HANDICAP SIGN.

1 C6 HANDICAP PARKING DETAIL
NTS



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NOTES:

1) PARCELS ARE SHOWN ON THE CITY OF PORTSMOUTH ASSESSORS MAP 117 AS LOTS 14 AND 15.

2) OWNER OF RECORD:
ONE MARKET SQUARE, LLC
3 PLEASANT STREET, SUITE 400
PORTSMOUTH, NH 03801
6363/31 PARCEL 1 & PARCEL 2

3) THE PURPOSE OF THIS PLAN IS TO SHOW THE PARKING FOR THE PROPOSED SITE DEVELOPMENT ON ASSESSORS MAP 117 AS LOTS 14 AND 15. IN THE CITY OF PORTSMOUTH.

4) REQUIRED PARKING:
PROPOSED USE: RETAIL, OFFICE, RESIDENTIAL.

FIRST FLOOR: EXEMPT FROM REQUIREMENT.
2ND FLOOR: OFFICE- NOT REQUIRED.
UPPER FLOORS: 18 RESIDENTIAL UNITS

REQUIRED PARKING: 27 (SEE TABLE).
DOD CREDIT: <4>
TOTAL REQUIRED: 23
PROVIDED: 23

COMMERCIAL DEVELOPMENT
ONE CONGRESS STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	BUILDING FOOTPRINT	10/18/22
0	ISSUED FOR COMMENT	9/6/22
	REVISIONS	

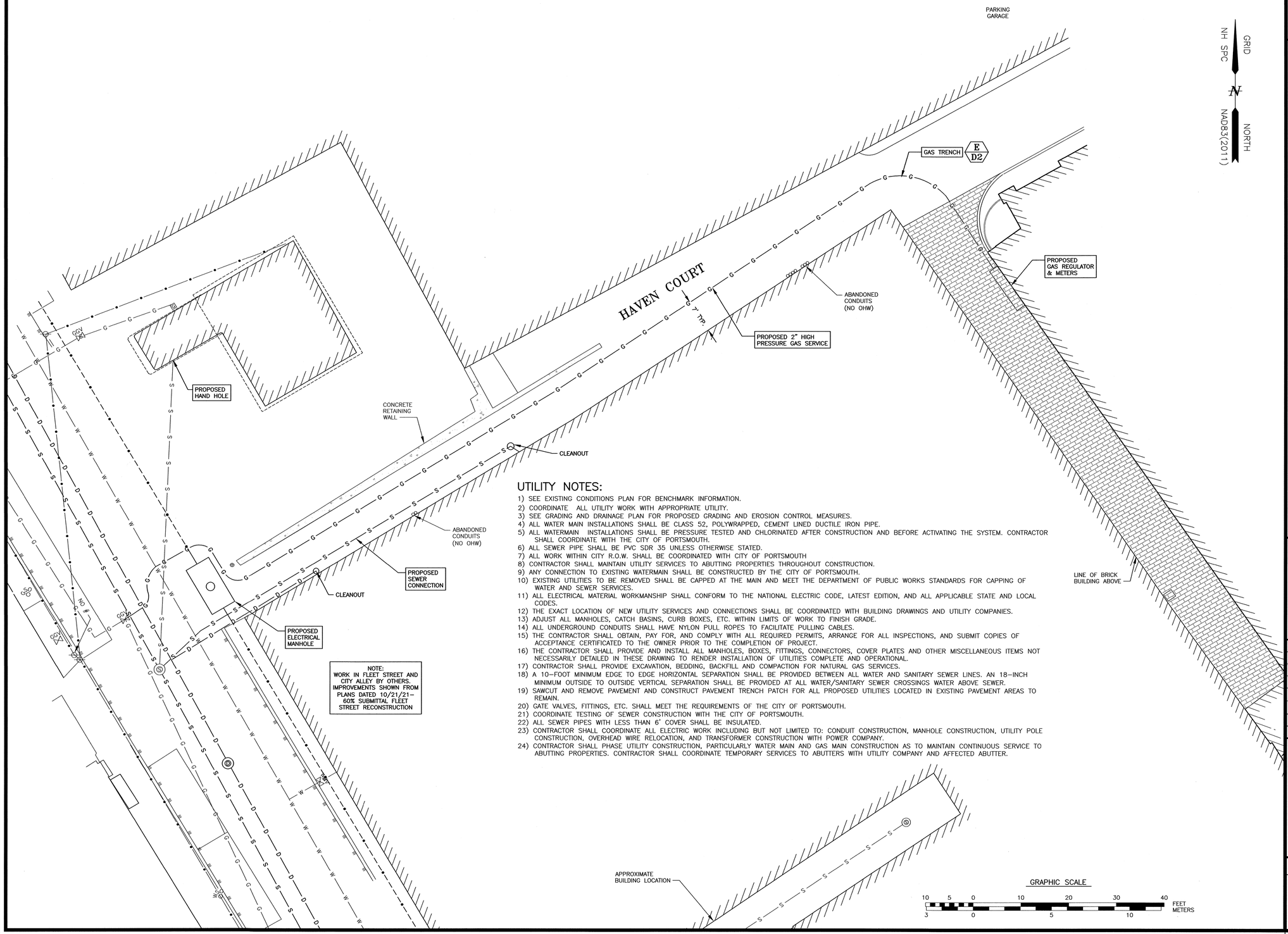
SCALE 1" = 10' SEPTEMBER 2022

PARKING LEVEL PLAN

C6

FB 309 PG 15

3406



UTILITY NOTES:

1) SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
2) COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY.
3) SEE GRADING AND DRAINAGE PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
4) ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, POLYWRAPPED, CEMENT LINED DUCTILE IRON PIPE.
5) ALL WATERMAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION AND BEFORE ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE WITH THE CITY OF PORTSMOUTH.
6) ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
7) ALL WORK WITHIN CITY R.O.W. SHALL BE COORDINATED WITH CITY OF PORTSMOUTH
8) CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
9) ANY CONNECTION TO EXISTING WATERMAIN SHALL BE CONSTRUCTED BY THE CITY OF PORTSMOUTH.
10) 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.
11) ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
12) THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH BUILDING DRAWINGS AND UTILITY COMPANIES.
13) ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
14) ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
15) THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATED TO THE OWNER PRIOR TO THE COMPLETION OF PROJECT.
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NOTES:

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4) INSTALL CATCH BASIN INLET PROTECTION ON ALL EXISTING AND PROPOSED CATCH BASINS UNTIL CONSTRUCTION IS COMPLETED AND THE SITE IS STABILIZED.

5) ALL WATER MAIN AND SANITARY SEWER WORK SHALL MEET THE STANDARDS OF THE NEW HAMPSHIRE STATE PLUMBING CODE AND CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS.

6) UTILITY AS–BUILTS SHALL BE SUBMITTED TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS UPON COMPLETION OF THE PROJECT.

7) EVERSOURCE WORK ORDER #7706719

COMMERCIAL DEVELOPMENT
ONE CONGRESS STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	PROPOSED GAS SERVICE	10/18/22
0	ISSUED FOR COMMENT	9/6/22

REVISIONS

JOHN R. CHAGNON No. 7551 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

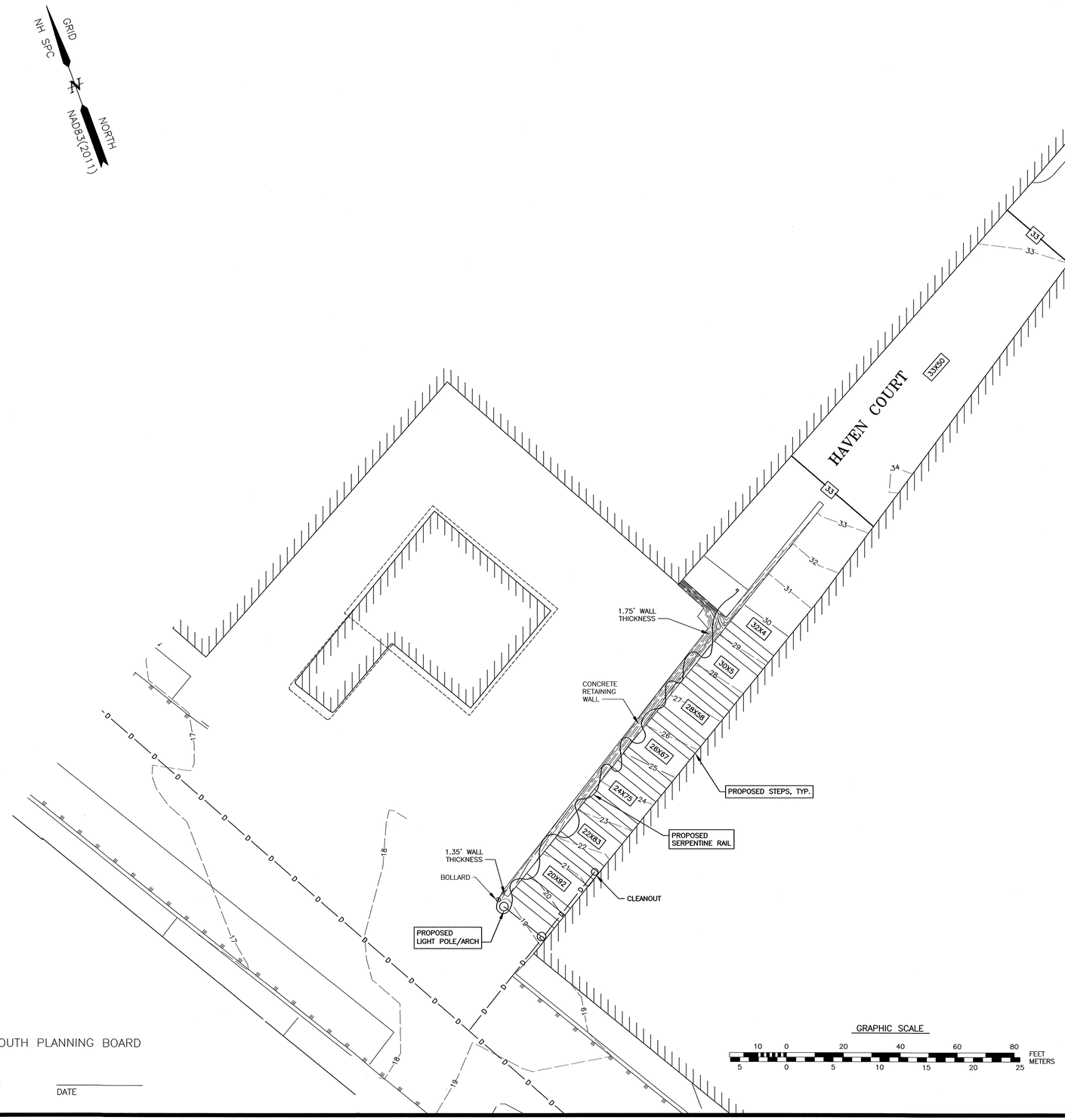
SCALE 1" = 10' SEPTEMBER 2022

OFFSITE UTILITY PLAN

C7

FB 309 PG 15

3406



APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
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Tel (603) 430-9282
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COMMERCIAL DEVELOPMENT
ONE CONGRESS STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	9/6/22

REVISIONS

STATE OF NEW HAMPSHIRE - JOHN R. CHAGNON No. 7851 LICENSED PROFESSIONAL ENGINEER

SCALE 1" = 10' SEPTEMBER 2022

OFFSITE GRADING ALLEY

C8

FB 309 PG 15

3406

EROSION CONTROL NOTES

CONSTRUCTION SEQUENCE

DO NOT BEGIN CONSTRUCTION UNTIL ALL LOCAL, STATE AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.

IF REQUIRED THE CONTRACTOR SHALL OBTAIN AN **NPDES** PHASE II STORMWATER PERMIT AND SUBMIT A NOTICE OF INTENT (N.O.I) BEFORE BEGINNING CONSTRUCTION AND SHALL HAVE ON SITE A STORMWATER POLLUTION PREVENTION PLAN (**S.W.P.P.P.**) AVAILABLE FOR INSPECTION BY THE PERMITTING AUTHORITY DURING THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CARRYING OUT THE **S.W.P.P.P.** AND INSPECTING AND MAINTAINING ALL BMP'S CALLED FOR BY THE PLAN. THE CONTRACTOR SHALL SUBMIT A NOTICE OF TERMINATION (**N.O.T.**) FORM TO THE REGIONAL EPA OFFICE WITHIN 30 DAYS OF FINAL STABILIZATION OF THE ENTIRE SITE OR TURNING OVER CONTROL OF THE SITE TO ANOTHER OPERATOR.

INSTALL PERIMETER CONTROLS, i.e., SILTSOXX AND CATCH BASIN PROTECTION AROUND THE LIMITS OF DISTURBANCE BEFORE ANY EARTH MOVING OPERATIONS. THE USE OF HAYBALES IS NOT ALLOWED.

PLACE FODS AS NEEDED.

CUT AND GRUB ALL TREES, SHRUBS, SAPLINGS, BRUSH, VINES AND REMOVE OTHER DEBRIS AND RUBBISH AS REQUIRED. DEMOLISH BUILDINGS AND FENCES AS NEEDED. REMOVE WALL AND STORE.

ROUGH GRADE SITE.

LAYOUT AND INSTALL ALL BURIED UTILITIES AND SERVICES UP TO 10' OF THE PROPOSED BUILDING FOUNDATIONS. CAP AND MARK TERMINATIONS OR LOG SWING TIES.

CONSTRUCT BUILDING.

CONNECT UTILITIES.

PLACE BINDER LAYER OF PAVEMENT FOR SIDEWALKS.

PLANT LANDSCAPING IN AREAS OUT OF WAY OF BUILDING CONSTRUCTION. PREPARE AND STABILIZE FINAL SITE GRADING BY ADDING TOPSOIL, SEED, MULCH AND FERTILIZER.

AFTER BUILDINGS ARE COMPLETED, FINISH ALL REMAINING LANDSCAPED WORK.

CONSTRUCT SIDEWALKS.

REMOVE TRAPPED SEDIMENTS FROM COLLECTION DEVICES AS APPROPRIATE, AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES UPON COMPLETION OF FINAL STABILIZATION OF THE SITE.

GENERAL CONSTRUCTION NOTES

THE EROSION CONTROL PROCEDURES SHALL CONFORM TO SECTION 645 OF THE "STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION" OF THE NHDOT, AND "STORM WATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE". 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.

DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED FOR MORE THAN 45 DAYS.

ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY, AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE MACHINE HAY MULCHED AND SEEDED WITH RYE GRASS TO PREVENT EROSION.

DUST CONTROL: IF TEMPORARY STABILIZATION PRACTICES, SUCH AS TEMPORARY VEGETATION AND MULCHING, DO NOT ADEQUATELY REDUCE DUST GENERATION, APPLICATION OF WATER OR CALCIUM CHLORIDE SHALL BE APPLIED IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES.

SILT FENCES AND SILTSOXX SHALL BE PERIODICALLY INSPECTED DURING THE LIFE OF THE PROJECT AND AFTER EACH STORM. ALL DAMAGED SILT FENCES AND SILTSOXX SHALL BE REPAIRED. SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED IN A SECURED LOCATION.

AVOID THE USE OF FUTURE OPEN SPACES (LOAM AND SEED AREAS) WHEREVER POSSIBLE DURING CONSTRUCTION. CONSTRUCTION TRAFFIC SHALL USE THE ROADBEDS OF FUTURE ACCESS DRIVES AND PARKING AREAS.

ADDITIONAL TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED IN AMOUNTS NECESSARY TO COMPLETE FINISHED GRADING OF ALL EXPOSED AREAS--CONSTRUCT SILT FENCE OR SILTSOXX AROUND TOPSOIL STOCKPILE.

AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL. STUMPS SHALL BE DISPOSED OF IN AN APPROVED FACILITY.

ALL FILLS SHALL BE PLACED AND COMPACTED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS.

ALL NON-STRUCTURAL, SITE-FILL SHALL BE PLACED AND COMPACTED TO 90% MODIFIED PROCTOR DENSITY IN LAYERS NOT EXCEEDING 18 INCHES IN THICKNESS UNLESS OTHERWISE NOTED.

FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIAL, TRASH, WOODY DEBRIS, LEAVES, BRUSH OR ANY DELETERIOUS MATTER SHALL NOT BE INCORPORATED INTO FILLS.

FILL MATERIAL SHALL NOT BE PLACED ON FROZEN FOUNDATION SUBGRADE.

DURING CONSTRUCTION AND UNTIL ALL DEVELOPED AREAS ARE FULLY STABILIZED, ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH ONE HALF INCH OF RAINFALL.

THE CONTRACTOR SHALL MODIFY OR ADD EROSION CONTROL MEASURES AS NECESSARY TO ACCOMMODATE PROJECT CONSTRUCTION.

ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
- BASE COURSE GRAVELS HAVE BEEN INSTALLED ON AREAS TO BE PAVED
- A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
- A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED
- EROSION CONTROL BLANKETS HAVE BEEN INSTALLED

VEGETATIVE PRACTICE

FOR PERMANENT MEASURES AND PLANTINGS:

LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF 2 TONS PER ACRE.

FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 500 POUNDS PER ACRE OF 10-20-20 FERTILIZER.

SEED SHALL BE SOWN AT THE RATES SHOWN IN THE TABLE BELOW. 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. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AT A RATE OF 1.5 TO 2 TONS PER ACRE, AND SHALL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE EROSION AND SEDIMENT CONTROL HANDBOOK.

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 SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED.

A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE:

GENERAL COVER	PROPORTION	SEEDING RATE
CREEPING RED FESCUE	50%	100 LBS/ACRE
KENTUCKY BLUEGRASS	50%	

SLOPE SEED (USED ON ALL SLOPES GREATER THAN OR EQUAL TO 3:1)

CREEPING RED FESCUE	42%	
TALL FESCUE	42%	48 LBS/ACRE
BIRDSFOOT TREFOIL	16%	

IN NO CASE SHALL THE WEED CONTENT EXCEED ONE PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH APPLICABLE STATE AND FEDERAL SEED LAWS.

FOR TEMPORARY PROTECTION OF DISTURBED AREAS:
MULCHING AND SEEDING SHALL BE APPLIED AT THE FOLLOWING RATES:
PERENNIAL RYE: 0.7 LBS/1,000 S.F.
MULCH: 1.5 TONS/ACRE

MAINTENANCE AND PROTECTION

THE CONTRACTOR SHALL MAINTAIN ALL LOAM & SEED AREAS UNTIL FINAL ACCEPTANCE AT THE COMPLETION OF THE CONTRACT. MAINTENANCE SHALL INCLUDE WATERING, WEEDING, REMOVAL OF STONES AND OTHER FOREIGN OBJECTS OVER 1/2 INCHES IN DIAMETER WHICH MAY APPEAR AND THE FIRST TWO (2) CUTTINGS OF GRASS NO CLOSER THEN TEN (10) DAYS APART. THE FIRST CUTTING SHALL BE ACCOMPLISHED WHEN THE GRASS IS FROM 2 1/2 TO 3 INCHES HIGH. ALL BARE AND DEAD SPOTS WHICH BECOME APPARENT SHALL BE PROPERLY PREPARED, LIMED AND FERTILIZED, AND RESEEDED BY THE CONTRACTOR AT HIS EXPENSE AS MANY TIMES AS NECESSARY TO SECURE GOOD GROWTH. THE ENTIRE AREA SHALL BE MAINTAINED, WATERED AND CUT UNTIL ACCEPTANCE OF THE LAWN BY THE OWNER'S REPRESENTATIVE.

THE CONTRACTOR SHALL TAKE WHATEVER MEASURES ARE NECESSARY TO PROTECT THE GRASS WHILE IT IS DEVELOPING.

TO BE ACCEPTABLE, SEEDED AREAS SHALL CONSIST OF A UNIFORM STAND OF AT LEAST 90 PERCENT ESTABLISHED PERMANENT GRASS SPECIES, WITH UNIFORM COUNT OF AT LEAST 100 PLANTS PER SQUARE FOOT.

SEEDED AREAS WILL BE FERTILIZED AND RESEEDED AS NECESSARY TO INSURE VEGETATIVE ESTABLISHMENT.

THE SWALES WILL BE CHECKED WEEKLY AND REPAIRED WHEN NECESSARY UNTIL ADEQUATE VEGETATION IS ESTABLISHED.

THE SILT FENCE OR SILTSOXX BARRIER SHALL BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.

SILT FENCING AND SILTSOXX SHALL BE REMOVED ONCE VEGETATION IS ESTABLISHED, AND DISTURBED AREAS RESULTING FROM SILT FENCE AND SILTSOXX REMOVAL SHALL BE PERMANENTLY SEEDED.

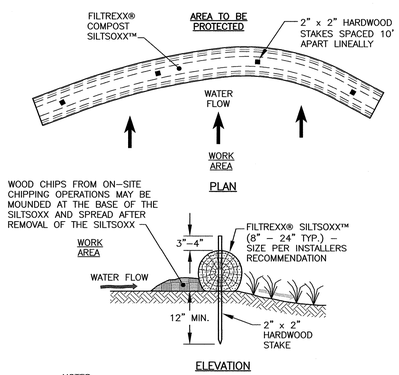
WINTER NOTES

ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.

ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.

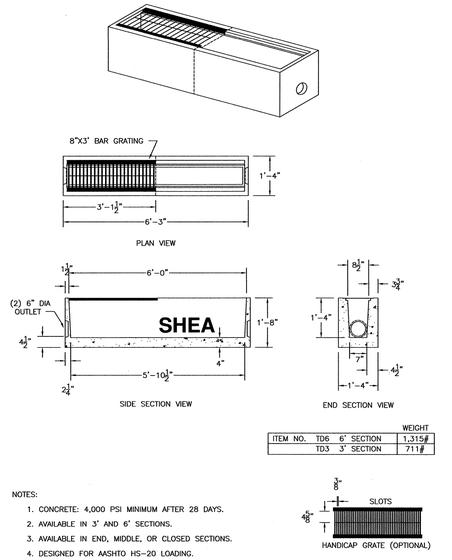
AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.

NOTE: THAT HIGH STREET SHALL BE SWEEPED DAILY DURING THE EXCAVATION PHASE OF THE BUILDING CONSTRUCTION.



NOTES:
1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
2. FILLTREXX SYSTEM SHALL BE INSTALLED BY A CERTIFIED FILTREXX INSTALLER.
3. THE CONTRACTOR SHALL MAINTAIN THE COMPOST FILTRATION SYSTEM IN A FUNCTIONAL CONDITION AT ALL TIMES. IT WILL BE ROUTINELY INSPECTED AND REPAIRED WHEN REQUIRED.
4. SILTSOXX DEPICTED IS FOR MINIMUM SLOPES, GREATER SLOPES MAY REQUIRE ADDITIONAL PLACEMENTS.
5. THE COMPOST FILTER MATERIAL WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED, AS DETERMINED BY THE ENGINEER.

A / C5 FILTREXX® SILTSOXX™ FILTRATION SYSTEM (IF NEEDED) NTS



ITEM NO.		WEIGHT
TD6	6' SECTION	1,315#
TD3	3' SECTION	711#

NOTES:
1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
2. AVAILABLE IN 3' AND 6' SECTIONS.
3. AVAILABLE IN END, MIDDLE, OR CLOSED SECTIONS.
4. DESIGNED FOR AASHTO HS-20 LOADING.

SHEA PRODUCT ID: TD3/TD6
TRENCH DRAIN 8"X16"
WEIGHT (LBS): 711#/1,315#

C / C5 TRENCH DRAIN NTS

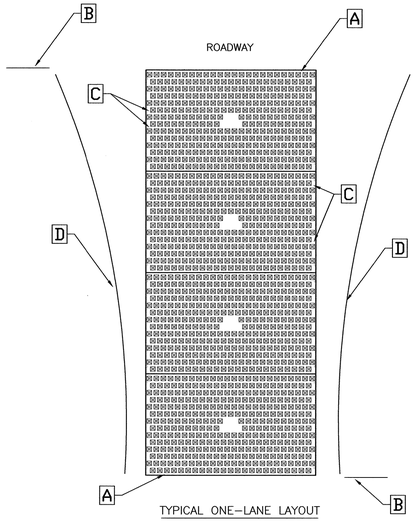
FODS TRACKOUT CONTROL SYSTEM

INSTALLATION:

THE PURPOSE AND DESIGN OF THE FODS TRACKOUT CONTROL SYSTEM IS TO EFFECTIVELY REMOVE MOST SEDIMENT FROM VEHICLE TIRES AS THEY EXIT A DISTURBED LAND AREA ONTO A PAVED STREET. THIS MANUAL IS A PLATFORM FROM WHICH TO INSTALL A FODS TRACKOUT CONTROL SYSTEM. (NOTE: THIS IS NOT A ONE SIZE FITS ALL GUIDE.) THE INSTALLATION MAY NEED TO BE MODIFIED TO MEET THE EXISTING CONDITIONS, EXPECTATIONS, OR DEMANDS OF A PARTICULAR SITE. THIS IS A GUIDELINE. ULTIMATELY THE FODS TRACKOUT CONTROL SYSTEM SHOULD BE INSTALLED SAFELY WITH PROPER ANCHORING AND SIGNS PLACED AT THE ENTRANCE AND EXIT TO CAUTION USERS AND OTHERS.

KEY NOTES:

A. FODS TRACKOUT CONTROL SYSTEM MAT.
B. FODS SAFETY SIGN.
C. ANCHOR POINT.
D. SILT OR ORANGE CONSTRUCTION FENCE.



INSTALLATION:
1. THE SITE WHERE THE FODS TRACKOUT CONTROL SYSTEM IS TO BE PLACED SHOULD CORRESPOND TO BEST MANAGEMENT PRACTICES AS MUCH AS POSSIBLE. THE SITE WHERE FODS TRACKOUT CONTROL SYSTEM IS PLACED SHOULD ALSO MEET OR EXCEED THE LOCAL JURISDICTION OR STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS.
2. CALL FOR UTILITY LOCATES 3 BUSINESS DAYS IN ADVANCE OF THE OF FODS TRACKOUT CONTROL SYSTEM INSTALLATION FOR THE MARKING OF UNDERGROUND UTILITIES. CALL THE UTILITY NOTIFICATION CENTER AT 811.
3. ONCE THE SITE IS ESTABLISHED WHERE FODS TRACKOUT CONTROL SYSTEM IS TO BE PLACED, ANY EXCESSIVE UNEVEN TERRAIN SHOULD BE LEVELED OUT OR REMOVED SUCH AS LARGE ROCKS, LANDSCAPING MATERIALS, OR SUDDEN ABRUPT CHANGES IN ELEVATION.
4. THE INDIVIDUAL MATS CAN START TO BE PLACED INTO POSITION. THE FIRST MAT SHOULD BE PLACED NEXT TO THE CLOSEST POINT OF EGRESS. THIS WILL ENSURE THAT THE VEHICLE WILL EXIT STRAIGHT FROM THE SITE ONTO THE PAVED SURFACE.
8. AFTER THE FIRST MAT IS PLACED DOWN IN THE PROPER LOCATION, MATS SHOULD BE ANCHORED TO PREVENT THE POTENTIAL MOVEMENT WHILE THE ADJOINING MATS ARE INSTALLED. ANCHORS SHOULD BE PLACED AT EVERY ANCHOR POINT (IF FEASIBLE) TO HELP MAINTAIN THE MAT IN ITS CURRENT POSITION.
9. AFTER THE FIRST MAT IS ANCHORED IN ITS PROPER PLACE, AN H BRACKET SHOULD BE PLACED AT THE END OF THE FIRST MAT BEFORE ANOTHER MAT IS PLACED ADJACENT TO THE FIRST MAT.
10. ONCE THE SECOND MAT IS PLACED ADJACENT TO THE FIRST MAT, MAKE SURE THE H BRACKET IS CORRECTLY SITUATED BETWEEN THE TWO MATS, AND SLIDE MATS TOGETHER.
11. NEXT THE CONNECTOR STRAPS SHOULD BE INSTALLED TO CONNECT THE TWO MATS TOGETHER.
12. UPON PLACEMENT OF EACH NEW MAT IN THE SYSTEM, THAT MAT SHOULD BE ANCHORED AT EVERY ANCHOR POINT TO HELP STABILIZE THE MAT AND ENSURE THE SYSTEM IS CONTINUOUS WITH NO GAPS IN BETWEEN THE MATS.
13. SUCCESSIVE MATS CAN THEN BE PLACED TO CREATE THE FODS TRACKOUT CONTROL SYSTEM REPEATING THE ABOVE STEPS.

USE AND MAINTENANCE
1. VEHICLES SHOULD TRAVEL DOWN THE LENGTH OF THE TRACKOUT CONTROL SYSTEM AND NOT CUT ACROSS THE MATS.
2. DRIVERS SHOULD TURN THE WHEEL OF THEIR VEHICLES SUCH THAT THE VEHICLE WILL MAKE A SHALLOW S-TURN ROUTE DOWN THE LENGTH OF THE FODS TRACKOUT CONTROL SYSTEM.
3. MATS SHOULD BE CLEANED ONCE THE VOIDS BETWEEN THE PYRAMIDS BECOME FULL OF SEDIMENT. TYPICALLY THIS WILL NEED TO BE PERFORMED WITHIN TWO WEEKS AFTER A STORM EVENT. BRUSHING IS THE PREFERRED METHOD OF CLEANING, EITHER MANUALLY OR MECHANICALLY.
4. THE USE OF ICE MELT, ROCK SALT, SNOW MELT, DE-ICER, ETC. SHOULD BE UTILIZED AS NECESSARY DURING THE WINTER MONTHS AND AFTER A SNOW EVENT TO PREVENT ICE BUILDUP.

REMOVAL
1. REMOVAL OF FODS TRACKOUT CONTROL SYSTEM IS REVERSE ORDER OF INSTALLATION.
2. STARTING WITH THE LAST MAT, THE MAT THAT IS PLACED AT THE INNERMOST POINT OF THE SITE OR THE MAT FURTHEST FROM THE EXIT OR PAVED SURFACE SHOULD BE REMOVED FIRST.
3. THE ANCHORS SHOULD BE REMOVED.
4. THE CONNECTOR STRAPS SHOULD BE UNBOLTED AT ALL LOCATIONS IN THE FODS TRACKOUT CONTROL SYSTEM.
5. STARTING WITH THE LAST MAT IN THE SYSTEM, EACH SUCCESSIVE MAT SHOULD THEN BE MOVED AND STACKED FOR LOADING BY FORKLIFT OR EXCAVATOR ONTO A TRUCK FOR REMOVAL FROM THE SITE.

B / C5 FODS (USE AS REQUIRED) NTS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

4) HIGH AND LADD STREETS SHALL BE SWEEPED DAILY DURING EXCAVATION PHASE OF THE BUILDING CONSTRUCTION.

COMMERCIAL DEVELOPMENT
ONE CONGRESS STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	DETAIL C	10/18/22
0	ISSUED FOR COMMENT	9/6/22

REVISIONS

STATE OF NEW HAMPSHIRE
JOHN R. CHAGNON
No. 7951
LICENSED PROFESSIONAL ENGINEER

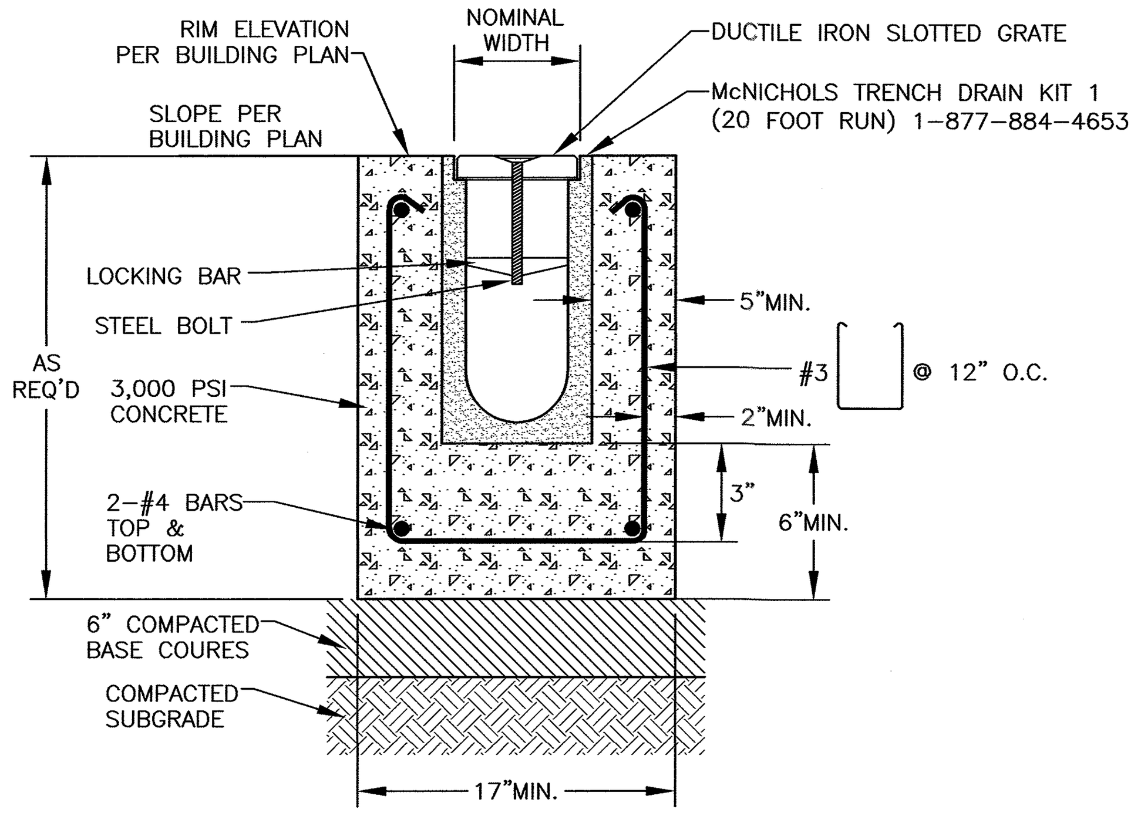
SCALE: AS SHOWN SEPTEMBER 2022

EROSION PROTECTION NOTES AND DETAILS

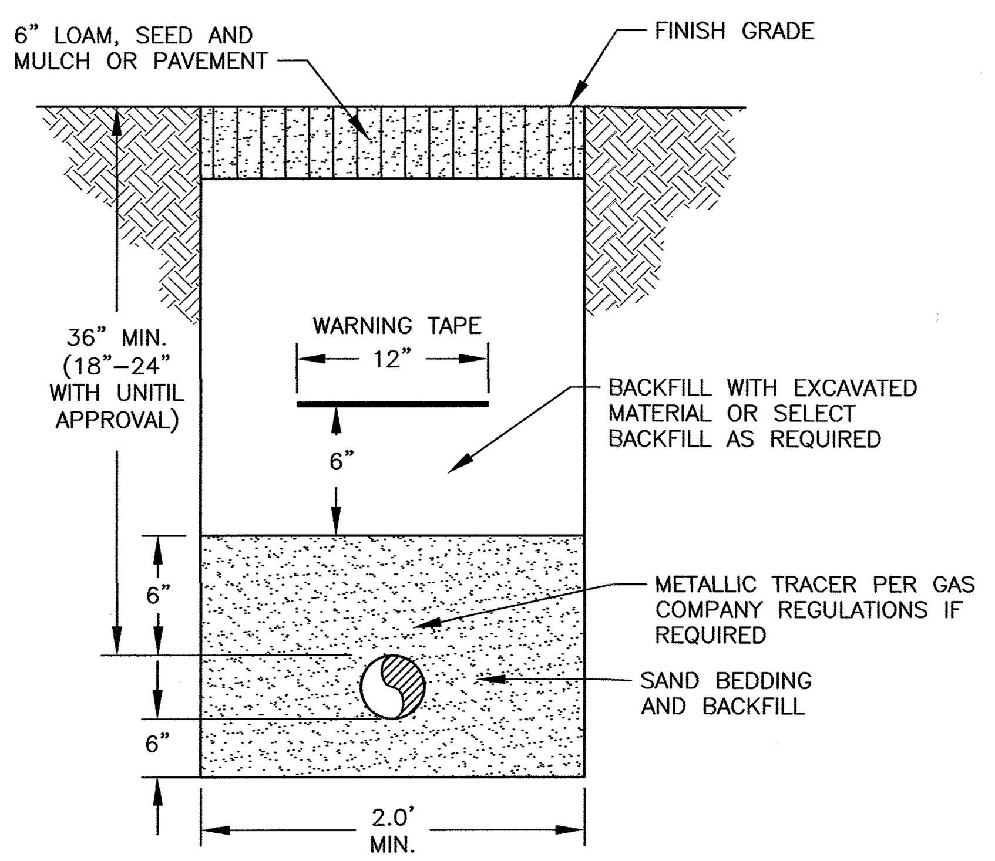
D1

FB 309 PG 15

3406



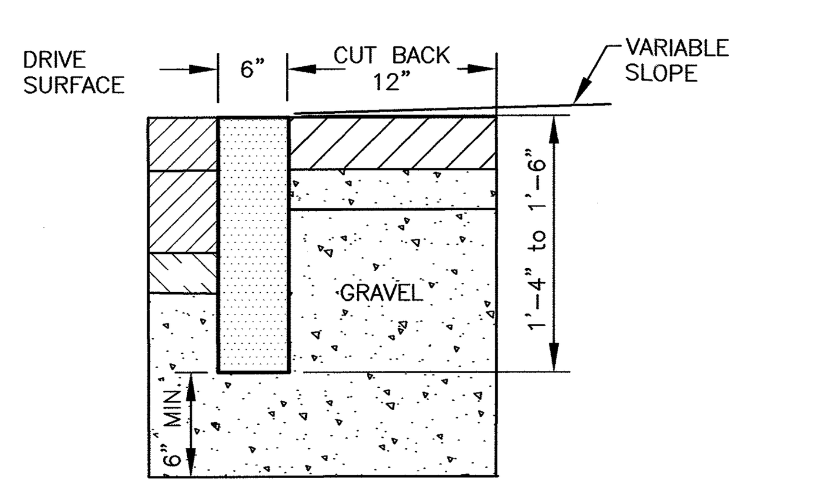
D / C6 TRENCH DRAIN DETAIL
EVAPORATIVE NTS



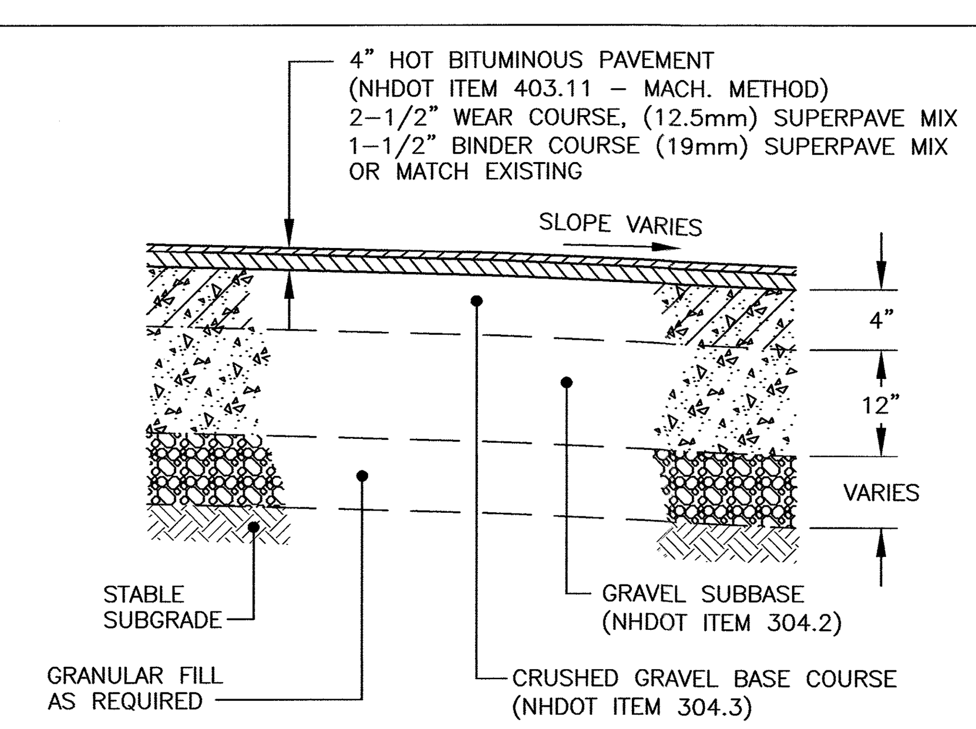
E / C4 GAS SERVICE TRENCH
NTS

MIN. LENGTH OF CURB STONES 3FT.
MAX. LENGTH OF CURB STONES 10FT.
MAX. LENGTH OF STRAIGHT CURB STONES LAID ON CURVES SEE CHART

NOTE: ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATE LENGTH.

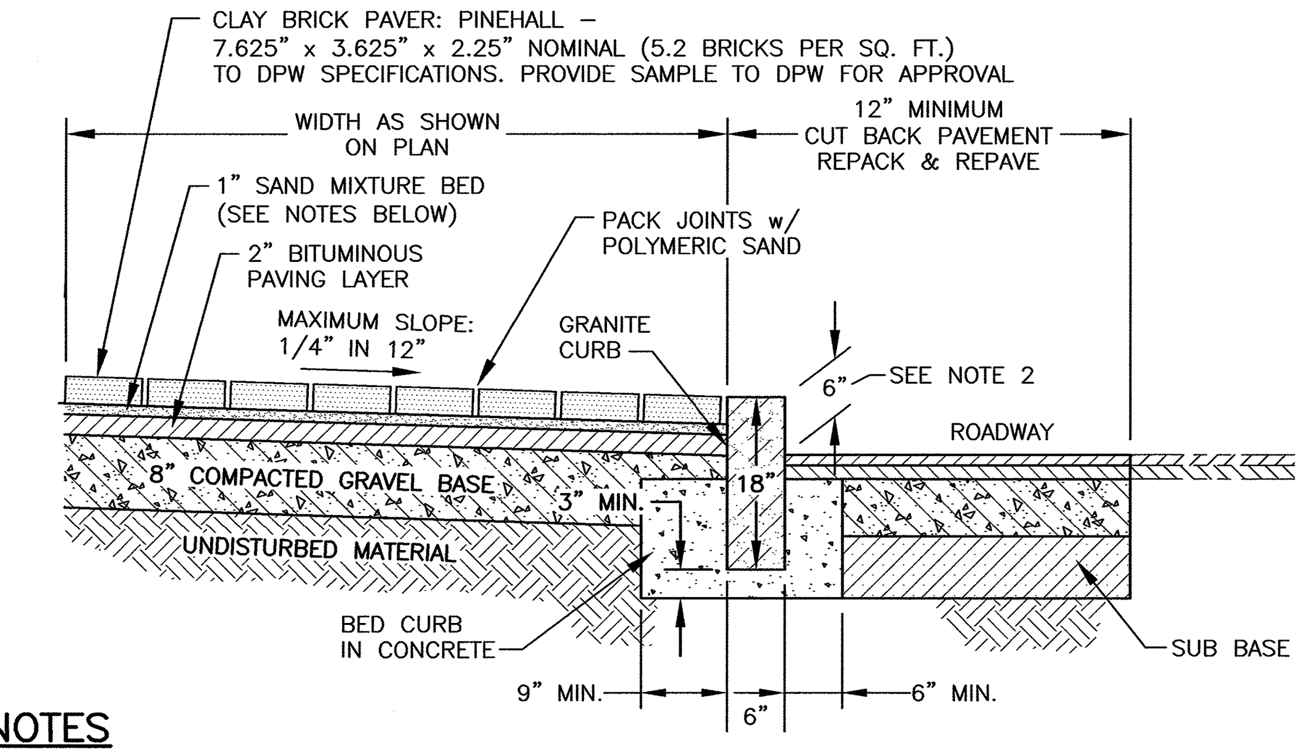


F / C3 FLUSHED GRANITE CURB
NTS



G / – TYPICAL PAVEMENT CROSS-SECTION
AS NEEDED NTS

CONSTRUCTION NOTE:
EXISTING GRANITE CURB DISTURBED BY CONSTRUCTION SHALL BE REUSED AND ANY MISSING CURB SHALL BE REPLACED WITH NEW CURB MATCHING EXISTING CURB SIZE. NO CURB LESS THAN 3' IN LENGTH WILL BE ALLOWED.



BRICK PAVEMENT NOTES

SCOPE OF WORK:

1) THE WORK SHALL CONSIST OF CONSTRUCTING/RECONSTRUCTING THE SUB-BASE AND CONSTRUCTING A NEW BRICK SIDEWALK AS DIRECTED IN THE FIELD BY THE ENGINEER.
2) REVEAL SHALL BE AS SHOWN ON PROPOSED GRADING PLAN. (COORDINATE WITH PORTSMOUTH DPW).

METHODS OF CONSTRUCTION:

A) ALL LABOR AND MATERIALS SHALL CONFORM TO THE STATE OF NEW HAMPSHIRE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 608, AND CITY OF PORTSMOUTH SPECIFICATIONS FOR NEW BRICK SIDEWALK, SECTION 6.

B) ALL BRICKS SHALL CONFORM TO THE REQUIREMENTS OF ASTM STANDARD SPECIFICATIONS FOR BUILDING BRICKS: CLASS SX, TYPE 1, APPLICATION PX. THE BRICKS SHALL BE NO. 1, WIRE CUT TYPE FOR PAVING, WITH A COMPRESSIVE STRENGTH OF NOT LESS THAN 6,000 POUNDS PER SQUARE INCH. THE BRICKS SHALL NOT BE CORED OR HAVE FROGS AND SHALL BE OF A STANDARD SIZE (2.25" X 3.625" X 7.625").

C) EXCAVATION FOR SIDEWALKS SHALL BE AT A DEPTH OF 10 INCHES BELOW FINISH GRADE. IN AREAS NOT BUTTING CURBING OR BUILDINGS, THE EXCAVATION SHALL BE 6 INCHES WIDER THAN THE FINISHED SIDEWALK WIDTH. AT ALL DRIVE CROSSINGS, THE DEPTH OF EXCAVATION SHALL BE INCREASED ACCORDINGLY. THE CONTRACTOR SHALL PROVIDE NEAT AND SQUARE CUTTING OF EXISTING ASPHALT ROAD SURFACE AS NEEDED. ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF OFF-SITE AT THE CONTRACTOR'S OWN EXPENSE.

D) THE BASE MATERIAL SHALL CONSIST OF A MIXTURE OF STONES OR ROCK FRAGMENTS AND PARTICLES WITH 100% PASSING THE 3 INCH SIEVE, 95% TO 100% PASSING THE 2 INCH SIEVE, 55% TO 85% PASSING THE 1 INCH SIEVE, AND 27% TO 52% PASSING THE NO. 4 SIEVE. AT LEAST 50% OF THE MATERIALS RETAINED ON THE 1 INCH SIEVE SHALL HAVE A FRACTURED FACE. THE BASE MATERIAL SHALL BE THOROUGHLY COMPACTED TO THE DEPTH SPECIFIED OR DIRECTED. IN THE WAY OF ALL DRIVE CROSSINGS THE BASE WILL BE INCREASED TO A COMPACTED DEPTH OF 12 INCHES. GRAVEL REQUIREMENTS FOR RECONSTRUCTION WILL BE AS DIRECTED, BASED ON SITE CONDITIONS. THE WORK INCLUDES BACKING UP ANY AND ALL CURB BEING INSTALLED BY OTHERS ON BOTH SIDES.

E) THE CLAY BRICK PAVERS SHALL BE LAID IN A 1 INCH BED OF A SAND MIXTURE COMPRISED OF: 3 PARTS SAND MIXED WITH 1 PART PORTLAND CEMENT.

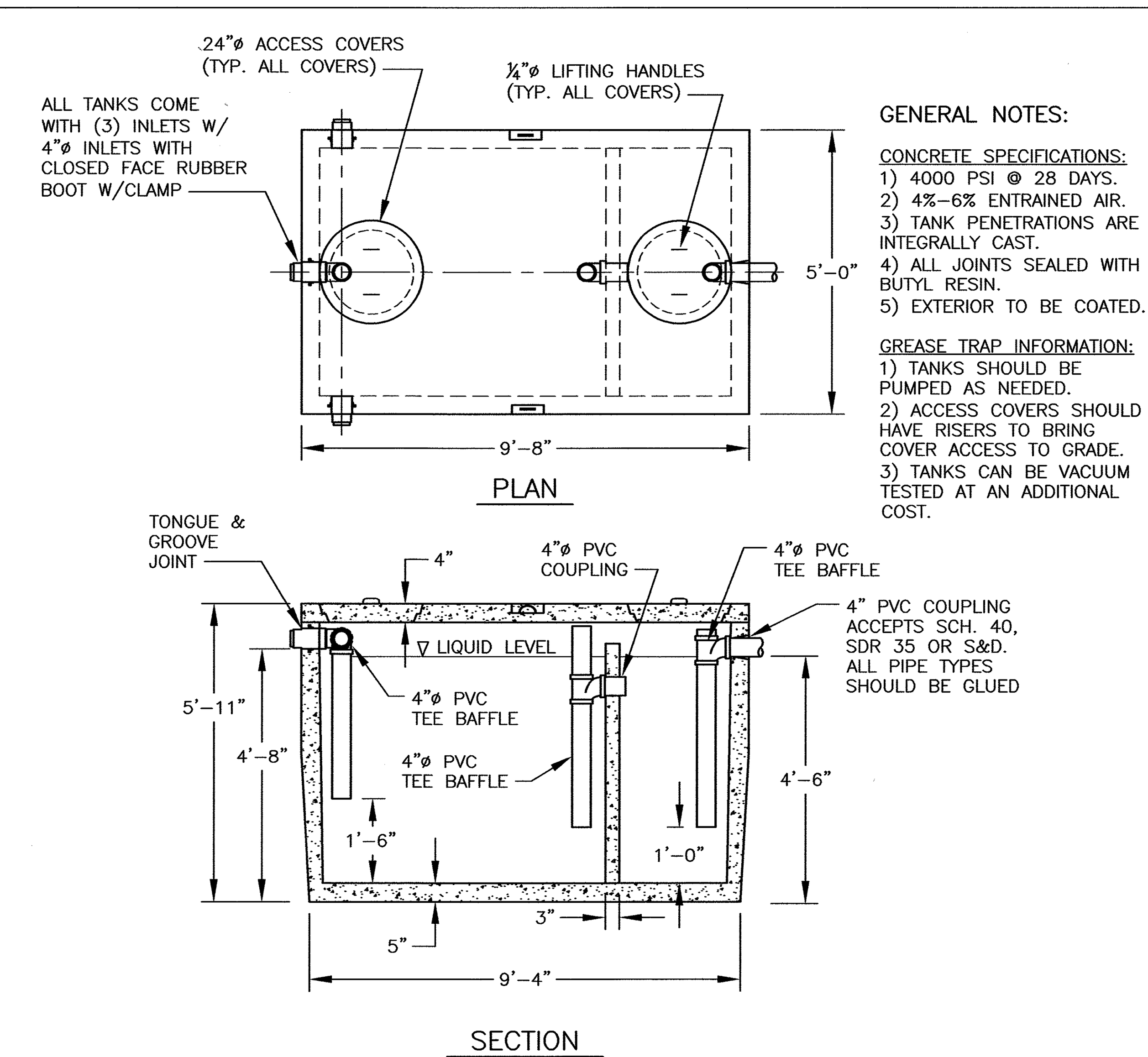
F) THE CONTRACTOR SHALL LAY THE BRICKS SO THAT APPROXIMATELY 5.2 BRICKS SHALL COVER ONE SQUARE FOOT.

G) THE SIDEWALK SHALL PITCH TOWARDS THE STREET AS SHOWN ON THE GRADING PLAN.

H) IN AREAS WHERE THE FRONT OF THE BRICK SIDEWALK IS NOT ADJACENT TO GRANITE CURBING, THE CONTRACTOR SHALL INSTALL EDGING TO HOLD THE BRICKS IN PLACE. SUCH EDGING SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

I) THE CONTRACTOR SHALL SUBMIT A SAMPLE OF THE BRICKS FOR APPROVAL BY THE CITY BEFORE BRICKS ARE INSTALLED.

H / C3 BRICK SIDEWALK w/ VERTICAL GRANITE CURB
(STONE DUST BEDDING OVER BITUMINOUS PAVING) NTS

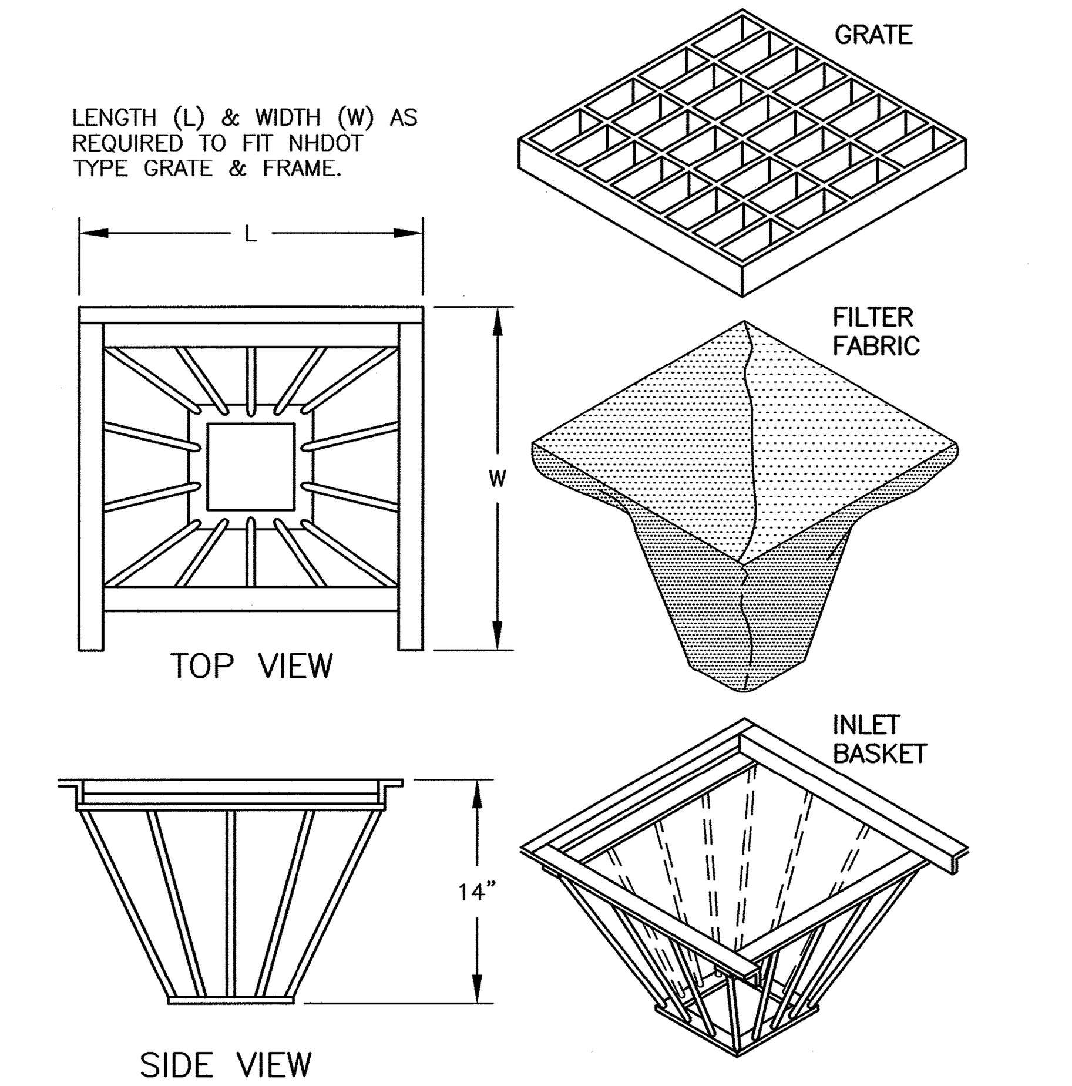


GENERAL NOTES:

CONCRETE SPECIFICATIONS:
1) 4000 PSI @ 28 DAYS.
2) 4%-6% ENTRAINED AIR.
3) TANK PENETRATIONS ARE INTEGRALLY CAST.
4) ALL JOINTS SEALED WITH BUTYL RESIN.
5) EXTERIOR TO BE COATED.

GREASE TRAP INFORMATION:
1) TANKS SHOULD BE PUMPED AS NEEDED.
2) ACCESS COVERS SHOULD HAVE RISERS TO BRING COVER ACCESS TO GRADE.
3) TANKS CAN BE VACUUM TESTED AT AN ADDITIONAL COST.

I / C4 SHEA CONCRETE
1000 GALLON 2 COMP. GREASE TRAP NTS
14,825 Lbs
ITEM # M1000H
H20 LOAD RATED



1) INLET BASKETS SHALL BE INSTALLED IMMEDIATELY AFTER CATCH BASIN CONSTRUCTION IS COMPLETE AND SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL PAVEMENT BINDER COURSE IS COMPLETE.

2) FILTER FABRIC SHALL BE PUSHED DOWN AND FORMED TO THE SHAPE OF THE BASKET. THE SHEET OF FABRIC SHALL BE LARGE ENOUGH TO BE SUPPORTED BY THE BASKET FRAME WHEN HOLDING SEDIMENT AND, SHALL EXTEND AT LEAST 6" PAST THE FRAME. THE INLET GRATE SHALL BE PLACED OVER THE BASKET/FRAME AND WILL SERVE AS THE FABRIC ANCHOR.

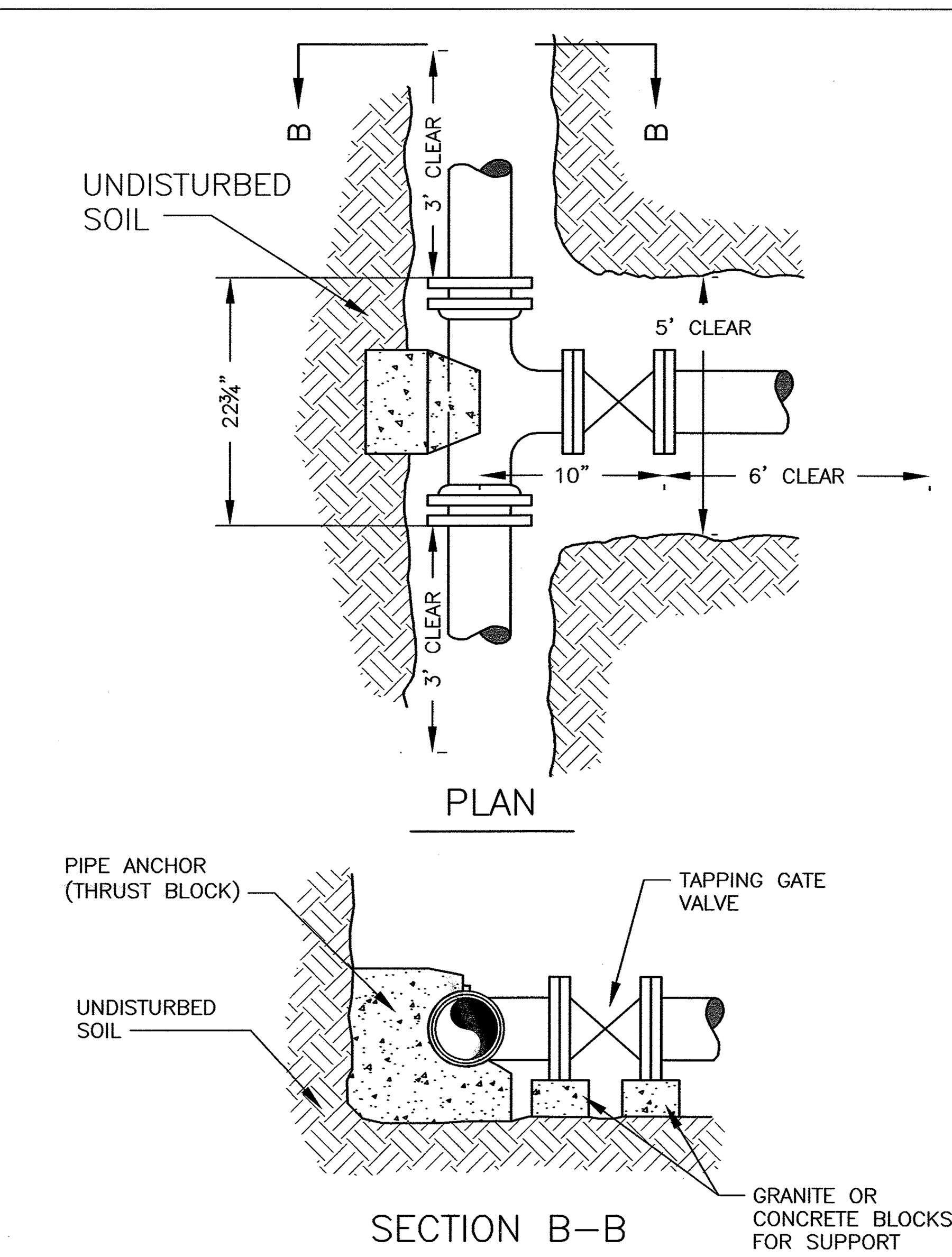
3) THE FILTER FABRIC SHALL BE A GEOTEXTILE FABRIC; POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE, OR POLYVINYLIDENE CHLORIDE MEETING THE FOLLOWING SPECIFICATIONS:
- RAB STRENGTH: 45 LB. MIN. IN ANY PRINCIPAL DIRECTION (ASTM D1682)
- MULLEN BURST STRENGTH: MIN. 60 psi (ASTM D774)

4) THE FABRIC SHALL HAVE AN OPENING NO GREATER THAN A NUMBER 20 U.S. STANDARD SIEVE AND A MINIMUM PERMEABILITY OF 120 gpm/s.f. (MULTIPLY THE PERMITTIVITY IN SEC.-1 FROM ASTM 54491-85 CONSTANT HEAD TEST USING THE CONVERSION FACTOR OF 74.)

5) THE INLET BASKET SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM REACHING THE DRAINAGE SYSTEM AND/OR CAUSING SURFACE FLOODING.

6) SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT, OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED.

J / C5 CATCH BASIN INLET BASKET
NTS



NOTES:
1) ALL MATERIALS SHALL BE APPROVED BY THE PORTSMOUTH WATER DEPARTMENT PRIOR TO INSTALLATION AND USE.
2) ALL JOINTS SHALL BE MECHANICAL.
3) "CLEAR" DIMENSIONS SHOWN ATE REQUIRED FOR WORKSPACE. NO JOINTS ON PIPE BEING TAPPED WITHIN "CLEAR" AREA.
4) FORD TYPE STAINLESS STEEL TAPPING SADDLES OR APPROVED EQUAL ARE ALSO ACCEPTABLE.

K / C4 TAPPING SLEEVE AND GATE
INSTALL PER PORTSMOUTH REQUIREMENTS NTS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

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3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

COMMERCIAL DEVELOPMENT ONE CONGRESS STREET PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	9/6/22

REVISIONS

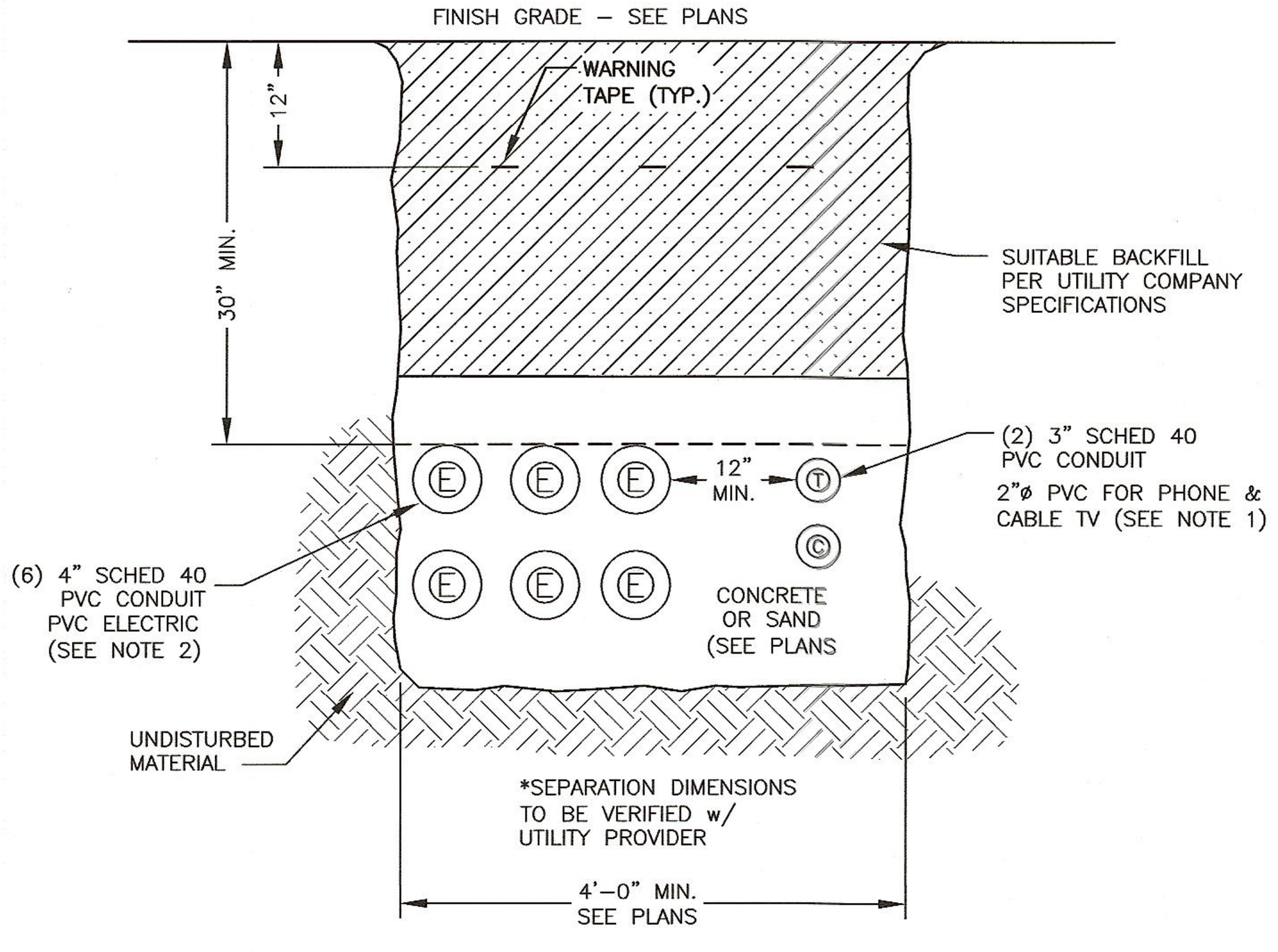
STATE OF NEW HAMPSHIRE JOHN R. CHAGNON No. 7651 LICENSED PROFESSIONAL ENGINEER

SCALE: AS SHOWN SEPTEMBER 2022

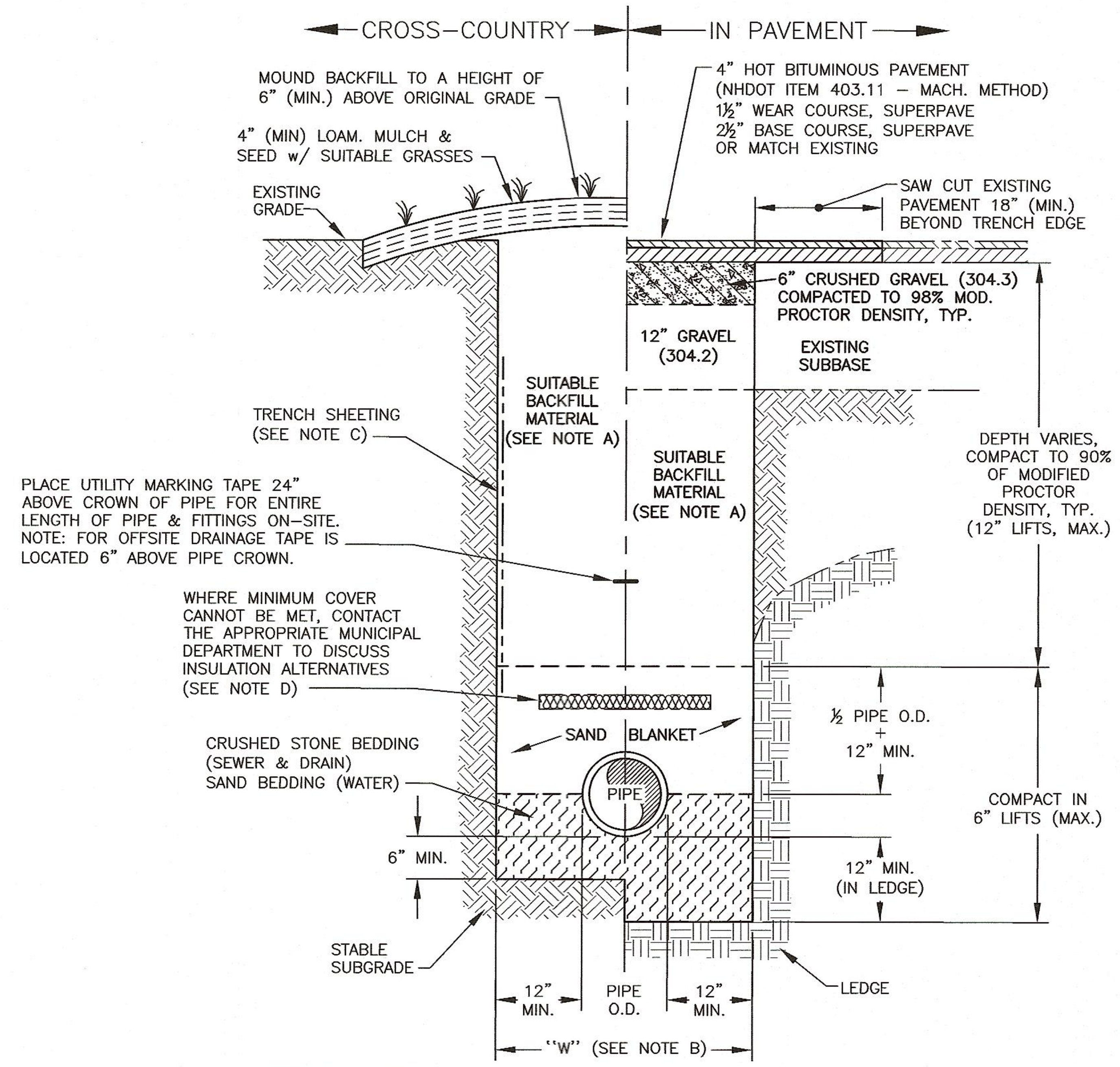
DETAILS D2

FB 309 PG 15 3406

NOTES:
1) ALL CONDUIT TO BE U.L. LISTED, SCH. 80 UNDER ALL TRAVEL WAYS, & SCHED. 40 FOR THE REMAINDER.
2) NORMAL CONDUIT SIZES FOR PSNH ARE 3 INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4 INCH FOR THREE PHASE SECONDARY, AND 5 INCH FOR THREE PHASE PRIMARY.
3) ALL WORK TO CONFORM TO THE NATIONAL ELECTRICAL CODE (LATEST REVISION)
4) INSTALL A 200# PULL ROPE FOR EACH CONDUIT
5) VERIFY ALL CONDUIT SPECIFICATIONS WITH UTILITY COMPANY'S PRIOR TO ANY CONSTRUCTION.



L / C4 BURIED ELEC/COMM CABLE
NTS



TRENCH NOTES:

A) TRENCH BACKFILL:
– IN PAVED AREAS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIALS DEEMED TO BE UNACCEPTABLE BY THE ENGINEER.

– IN CROSS–COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE.

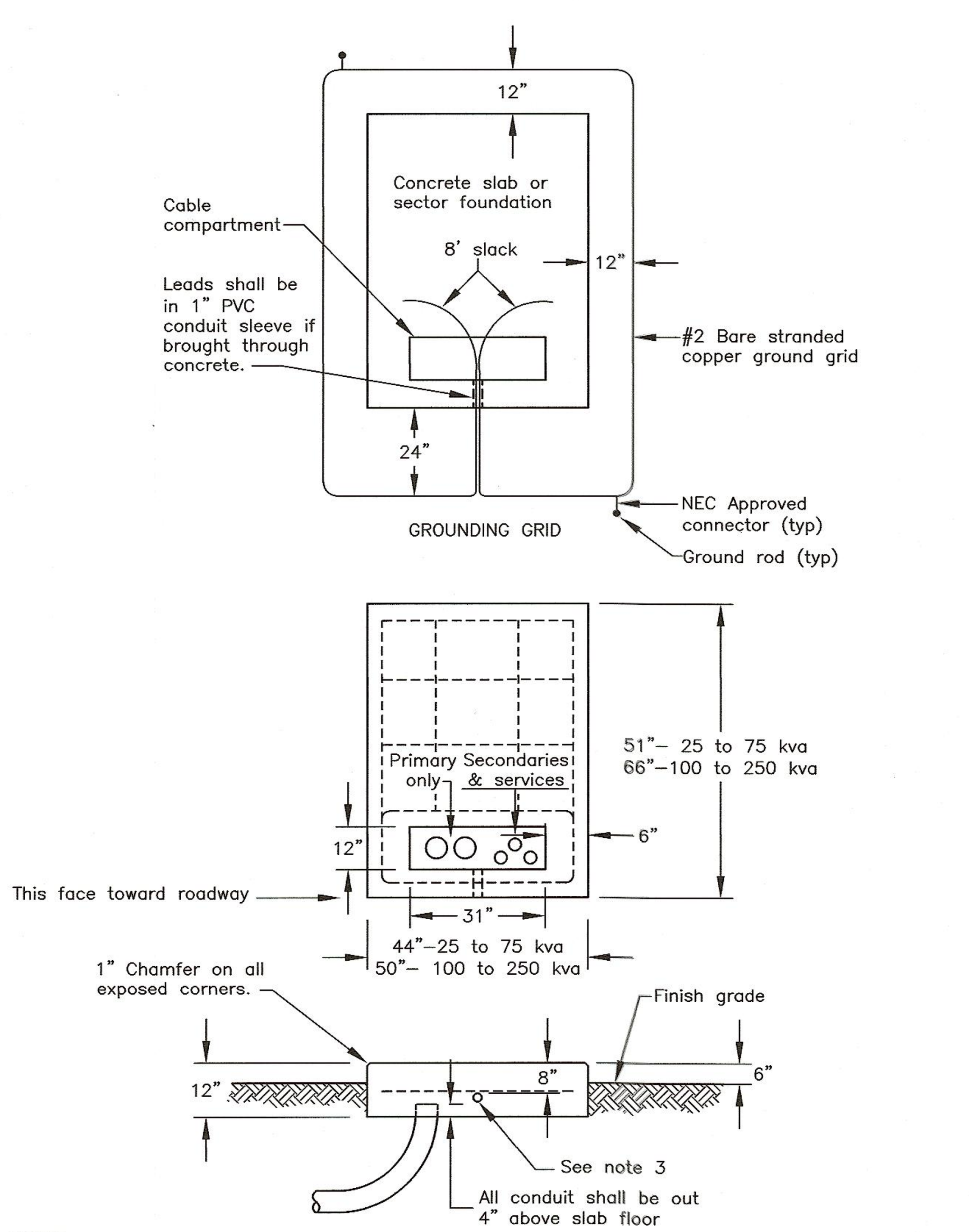
B) "W" = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D..

C) TRENCH SHEETING:
THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SAFE EXCAVATION PRACTICES.

D) MINIMUM PIPE COVER FOR UTILITY MAINS (UNLESS GOVERNED BY OTHER CODES):
5' MINIMUM FOR SEWER (IN PAVEMENT)
4' MINIMUM FOR SEWER (CROSS COUNTRY)
3' MINIMUM FOR STORMWATER DRAINS
5' MINIMUM FOR WATER MAINS

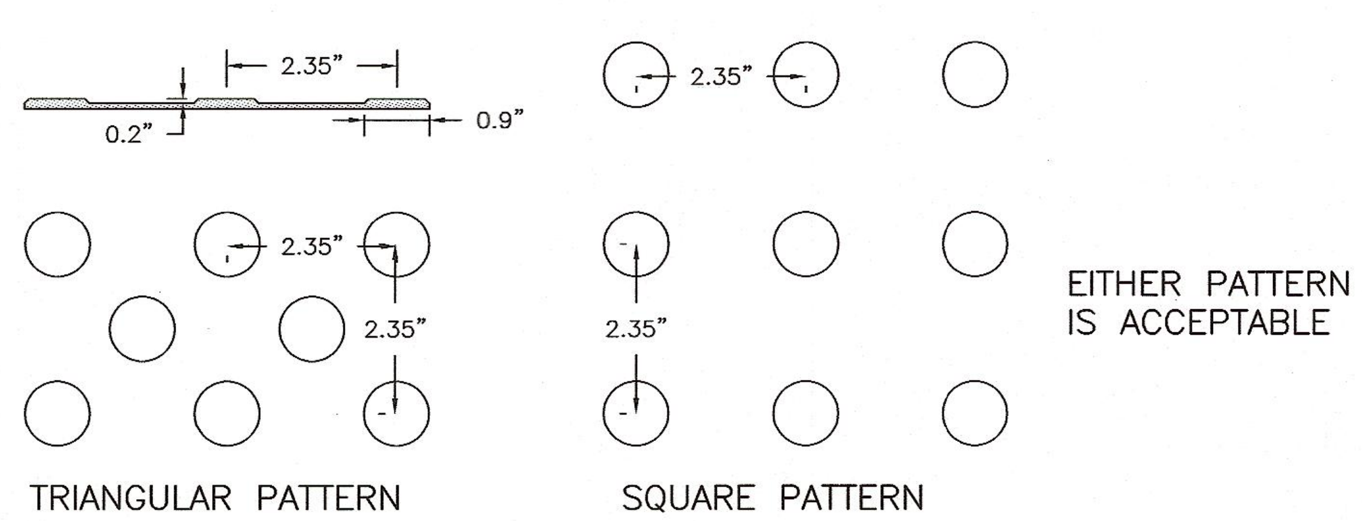
E) ALL PAVEMENT CUTS SHALL BE REPAIRED BY THE INFRARED HEAT METHOD.

N / C4, N / C5 TYPICAL PIPE TRENCH
NTS



NOTES
1. See sheet "Requirements for Padmounted Transformer Slab Details".
2. All reinforcing to be #6 bars.
3. 1" PVC conduit sleeve for ground grid leads.
4. The ground grid shall be supplied and installed by the customer and is to be buried at least 12" below grade. Eight feet of extra wire for each ground grid leg shall be left exposed in the cable compartment to allow for the connection to the transformer. the two 8' ground rods may be either galvanized steel or copperweld and they shall be connected to the grid with NEC approved connectors.

M / – TRANSFORMER PAD
IF NEEDED
NTS



NOTE:
1. CURB RAMPS MUST HAVE A DETECTABLE WARNING FEATURE EXTENDING THE FULL WIDTH OF THE RAMP, A HEIGHT OF NOMINAL 0.2", THE DETECTABLE SURFACE MUST CONSIST OF RAISED TRUNCATED SPACING OF NOMINAL 2.35". THE TEXTURE OF THE DETECTABLE WARNING FEATURE MUST CONTRAST VISUALLY WITH THE SURROUNDING SURFACES (LIGHT–ON–DARK OR DARK–ON–LIGHT).
2. DETECTABLE WARNING SURFACE SHALL BE IRON PANEL TO FILL THE SPACE SHOWN ON THE SITE PLAN.

O / C3 DETECTABLE WARNING SURFACE
NTS

OVERVIEW

The Bio Clean Downspout Filter is the industry's leading solution for treatment of roof runoff. This technology is used to treat commercial and industrial rooftops along with highrise buildings, parking structures, and residential buildings.

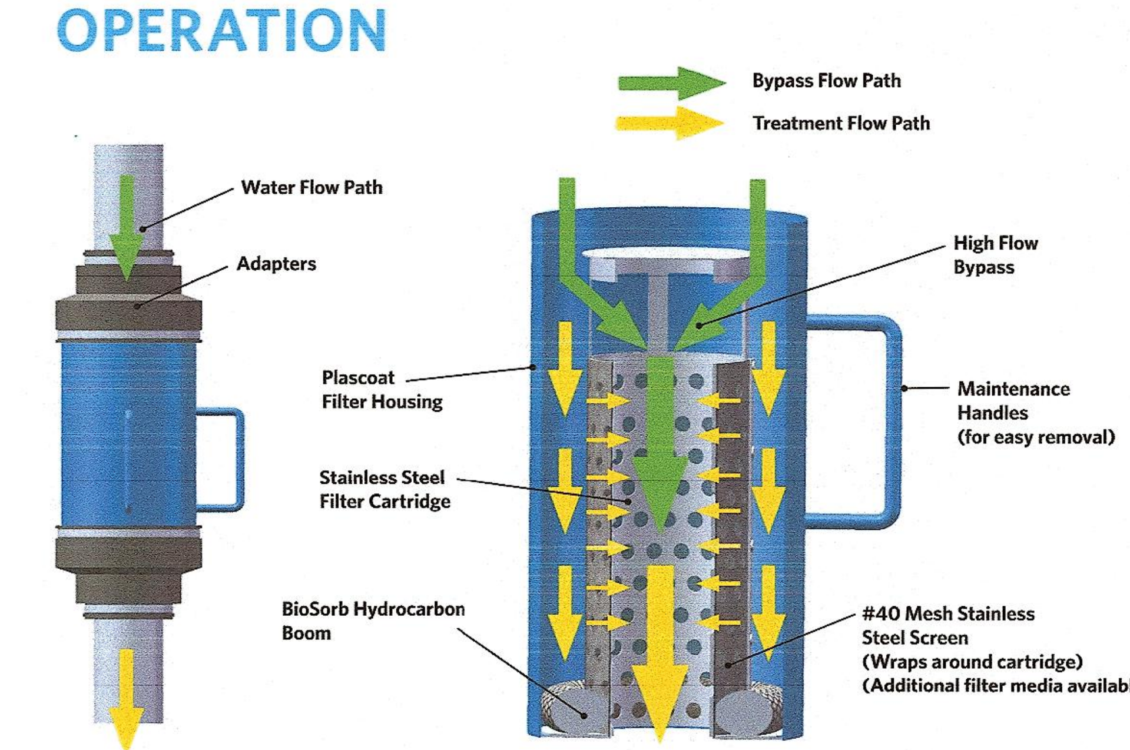
Available in 3 sizes, this filter can easily adapt to downspouts 2" to 12" in diameter. The filter comes standard with rubber boots that allow for easy installation to the downspout.

Proven since 2003, the Downspout Filter has been used on hundreds of installations throughout the United States. All internal components are constructed of stainless steel.

The sleek in-line design allows the filter to be used in tight spaces. Approved by the IAPMO, this filter can meet all your needs.

P / C5 ROOF DRAIN FILTER OVERVIEW
NTS

OPERATION



APPROVALS

IAPMO Testing & Approval Listing

SPECIFICATIONS

MODEL #	INLET ID (dia., in.)	FILTER OD (dia., in.)	STORAGE CAP. (cu. ft.)	FILTERED FLOW (gpm)	BYPASS FLOW (gpm)
BC-DF4	4	6.625	0.09	249	566
BC-DF6	6	8.625	0.21	509	1006
BC-DF8	8	8.625	0.21	509	1006
BC-DF10	10	12.75	0.77	1145	2264
BC-DF12	12	12.75	0.77	1145	2264

Q / C5 ROOF DRAIN FILTER OPERATION
NTS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801–7114
Tel (603) 430–9282
Fax (603) 436–2315

NOTES:
1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1–888–DIG–SAFE (1–888–344–7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.
2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.
3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

COMMERCIAL DEVELOPMENT ONE CONGRESS STREET PORTSMOUTH, N.H.

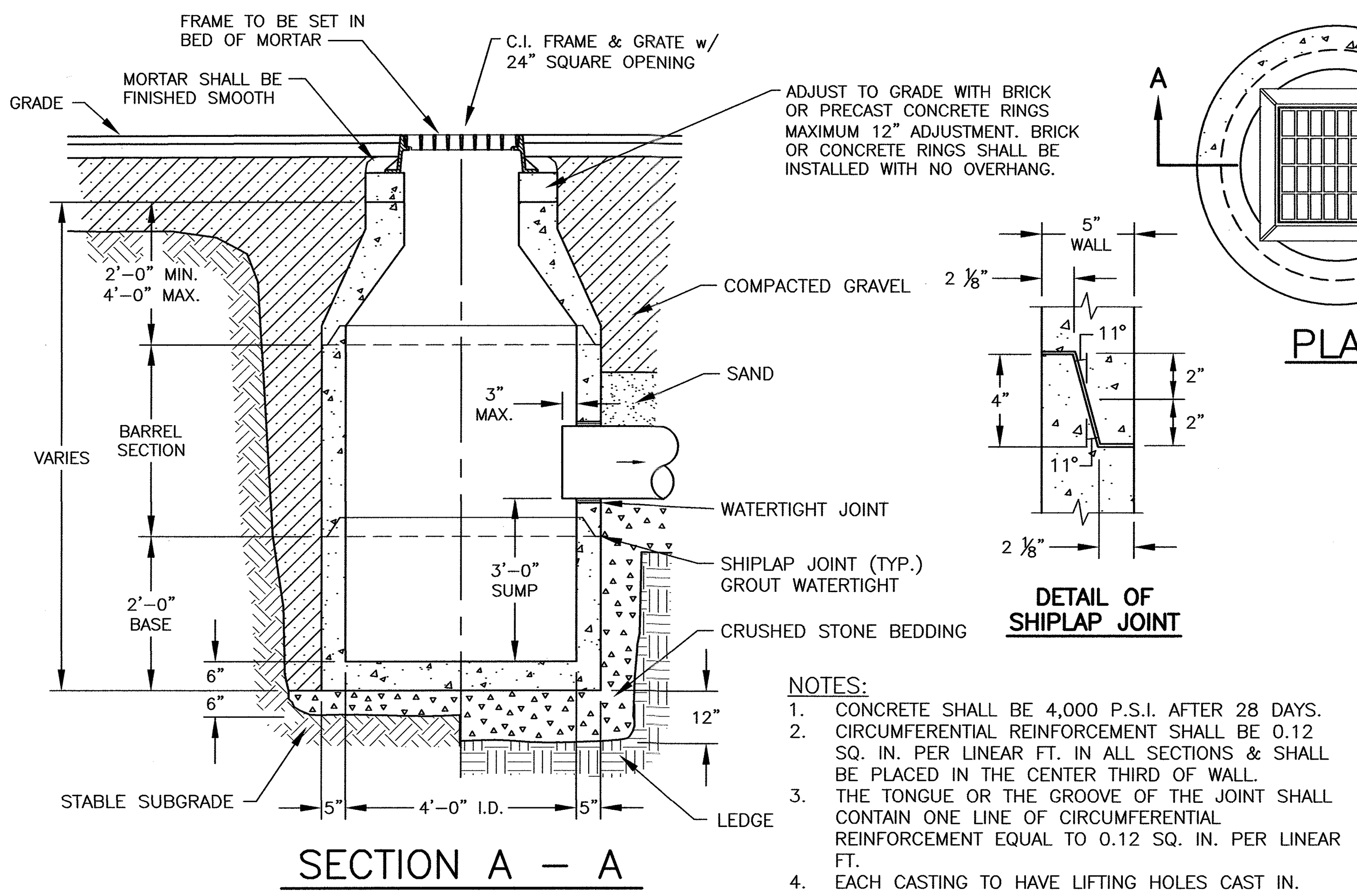
NO.	DESCRIPTION	DATE
1	DETAIL M	10/18/22
0	ISSUED FOR COMMENT	9/6/22

REVISIONS

SCALE: AS SHOWN
AUGUST 2022

DETAILS
D3

FB 309 PG 15
3406

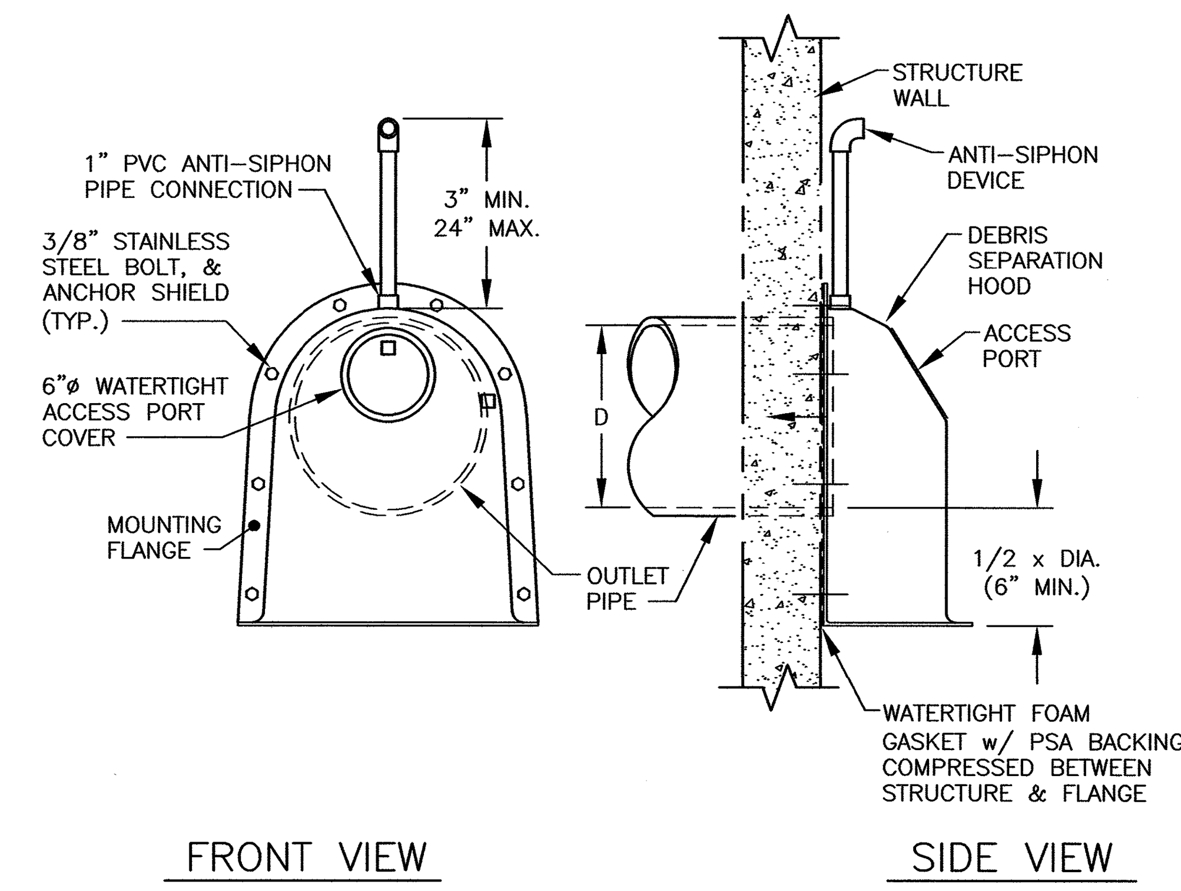


NOTES:

1. CONCRETE SHALL BE 4,000 P.S.I. AFTER 28 DAYS.
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER LINEAR FT. IN ALL SECTIONS & SHALL BE PLACED IN THE CENTER THIRD OF WALL.
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4. EACH CASTING TO HAVE LIFTING HOLES CAST IN.

R / C5 CATCH BASIN DETAIL

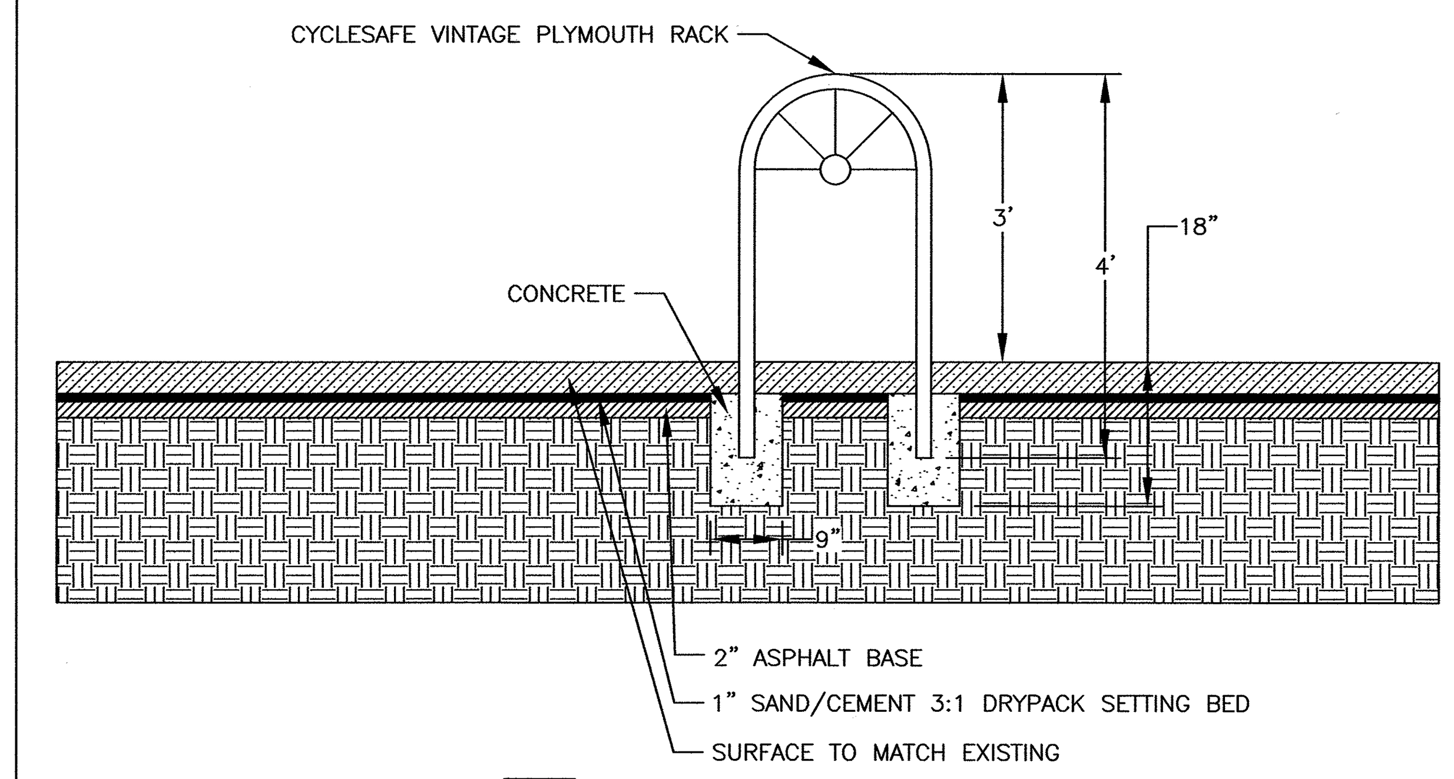
NTS



T / C5 CATCH BASIN OUTLET HOOD

THE "SNOUT"

NTS



U / C3 BIKE RACK

NTS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

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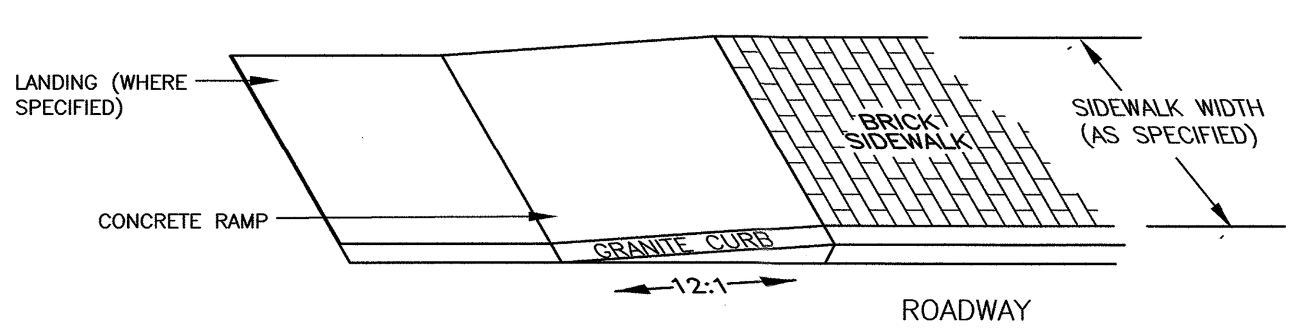
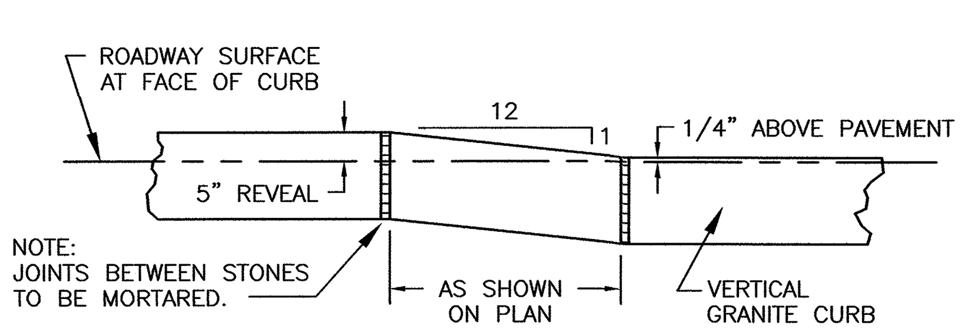


SIDEWALK TIP DOWN

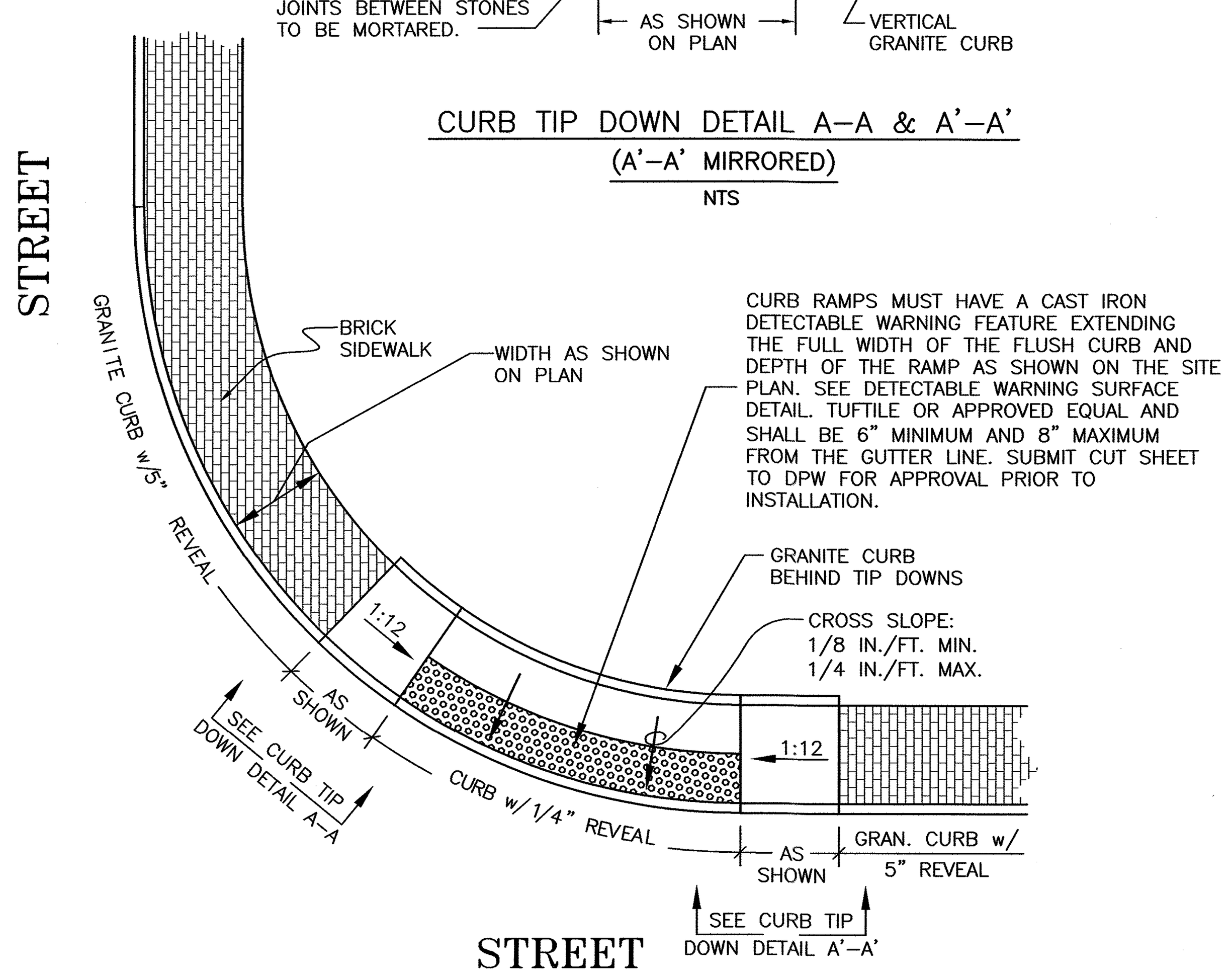
(NON INTERSECTION) NTS



CURB TIP DOWN DETAIL A-A & A'-A'

(A'-A' MIRRORED)

NTS

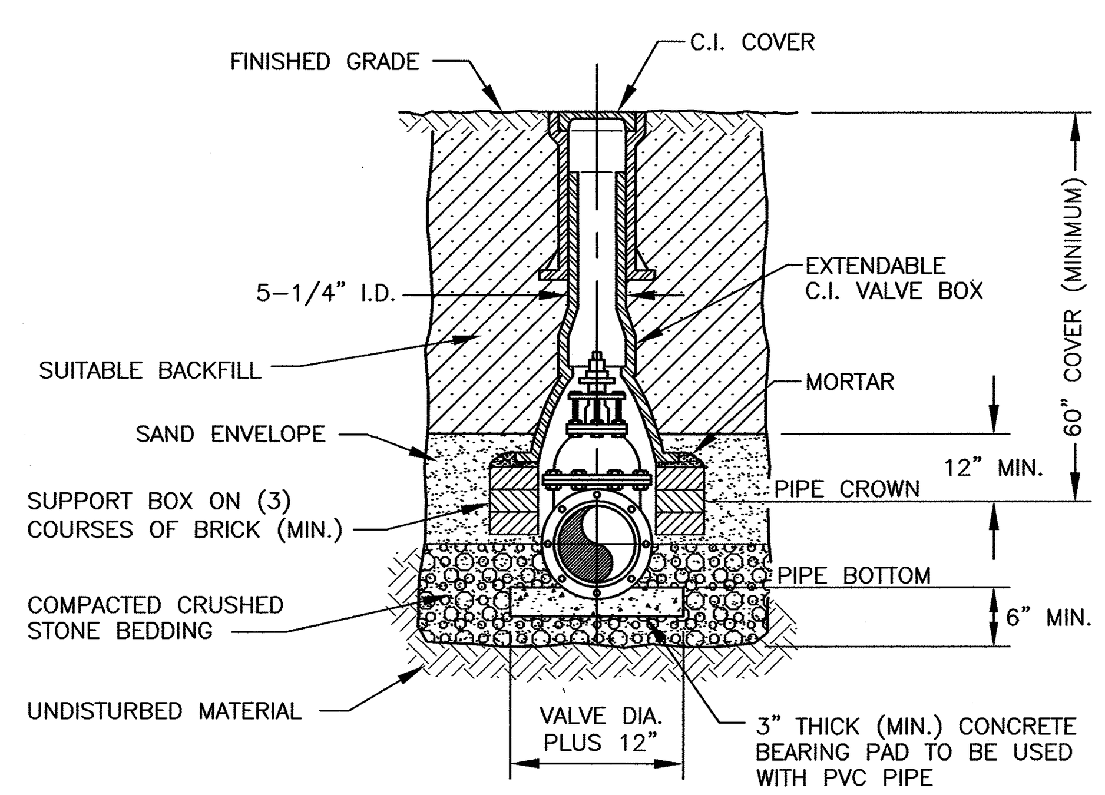


SIDEWALK TIP DOWN AT INTERSECTION

NTS

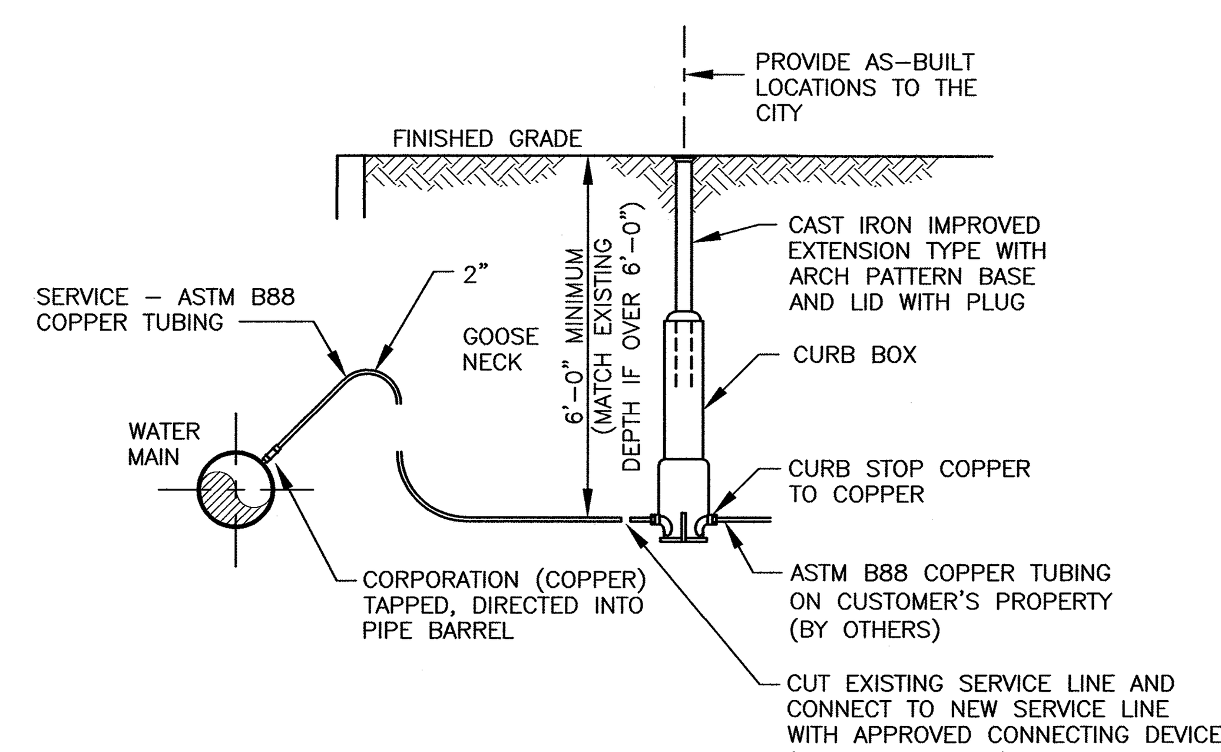
S / C3 TYPICAL SIDEWALK TIP DOWNS

WITH FLUSH CURB RAMP IS ELIMINATED



TYPICAL VALVE BOX INSTALLATION

NTS



TYPICAL WATER SERVICE CONNECTION

HORIZONTAL ANCHOR DIMENSIONS FOR PIPE INSTALLATION IN ROCK										
UP TO 150 P.S.I. WORKING PRESSURE										
PIPE SIZE	TEE OR TAP SLEEVE		90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND	
	H	L	H	L	H	L	H	L	H	L
* 4"	0'-9"	1'-0"	0'-9"	1'-0"	0'-9"	1'-0"	0'-9"	1'-0"	0'-9"	1'-0"
6"	0'-9"	1'-0"	0'-9"	1'-0"	0'-9"	1'-0"	0'-9"	1'-0"	0'-9"	1'-0"
8"	1'-2"	1'-2"	1'-2"	1'-2"	1'-0"	1'-0"	0'-9"	1'-0"	0'-9"	1'-0"
10"	1'-4"	1'-4"	1'-4"	1'-4"	1'-0"	1'-0"	0'-9"	1'-0"	0'-9"	1'-0'
12"	1'-8"	1'-8"	1'-8"	1'-8"	1'-3"	1'-3"	1'-0"	1'-0"	0'-9"	1'-0"

* – FOR 3" AND SMALLER PIPES

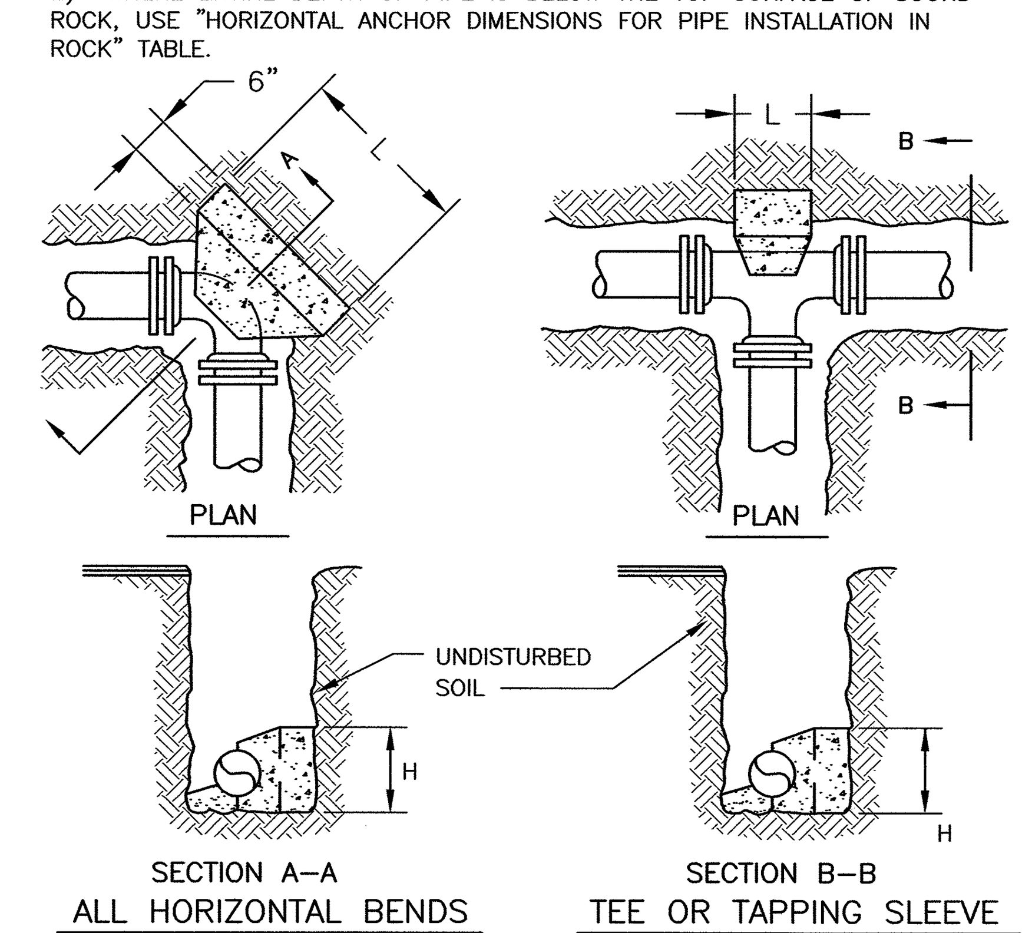
HORIZONTAL ANCHOR DIMENSIONS FOR AVERAGE SOIL CONDITIONS										
UP TO 150 P.S.I. WORKING PRESSURE										
PIPE SIZE	TEE OR TAP SLEEVE		90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND	
	H	L	H	L	H	L	H	L	H	L
* 4"	1'-0"	2'-0"	1'-0"	2'-0"	1'-0"	1'-4"	0'-9"	1'-0"	0'-6"	1'-0"
6"	1'-0"	2'-0"	1'-0"	2'-0"	1'-0"	1'-4"	0'-9"	1'-0"	0'-6"	1'-0"
8"	1'-4"	2'-8"	1'-4"	2'-8"	1'-4"	1'-6"	1'-0"	1'-0"	0'-9"	1'-0"
10"	1'-8"	3'-4"	1'-8"	3'-4"	1'-8"	2'-0"	1'-3"	1'-3"	1'-0"	1'-0'
12"	2'-0"	4'-0"	2'-0"	4'-0"	2'-0"	2'-2"	1'-6"	1'-6"	1'-3"	1'-3"

* – FOR 3" AND SMALLER PIPES

NOTES:

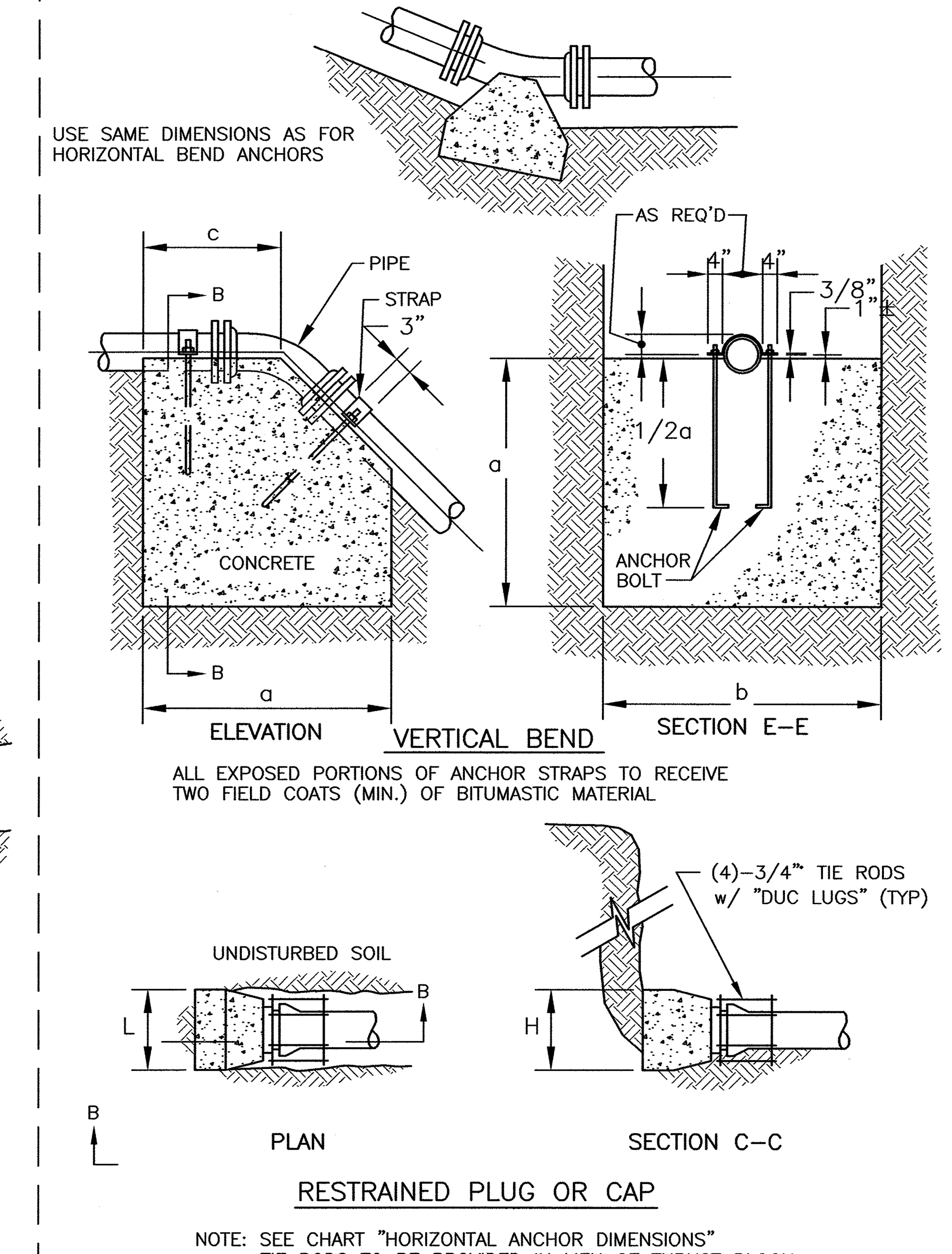
1) TABLES ARE BASED ON AN ALLOWABLE SOIL PRESSURE OF 3000 PSF ON UNDISTURBED EARTH BEHIND THE ANCHOR BLOCK. WHERE SOIL HAS BEEN DISTURBED BY ADJACENT EXCAVATIONS OR WHERE SOIL CANNOT WITHSTAND SUCH A PRESSURE, THE TABLE DOES NOT APPLY.

2) WHERE ENTIRE DEPTH OF PIPE IS BELOW THE TOP SURFACE OF SOUND ROCK, USE "HORIZONTAL ANCHOR DIMENSIONS FOR PIPE INSTALLATION IN ROCK" TABLE.



HORIZONTAL ANCHORING

VERTICAL ANCHOR DIMENSIONS												
UP TO 150 P.S.I. WORKING PRESSURE												
PIPE SIZE	45° BEND				22 1/2° BEND				11 1/4° BEND			
	DIMENSION			ROD DIA.	DIMENSION			ROD DIA.	DIMENSION			ROD DIA.
	a	b	c		a	b	c		a	b	c	
4"	3'-0"	3'-0"	2'-0"	3/4"	2'-6"	2'-3"	1'-6"	3/4"	2'-0"	2'-0"	1'-6"	
6"	3'-0"	3'-0"	2'-0"	3/4"	2'-6"	2'-3"	1'-6"	3/4"	2'-0"	2'-0"	1'-6"	3/4"
8"	3'-6"	3'-6"	2'-6"	3/4"	3'-0"	3'-0"	1'-9"	3/4"	2'-6"	2'-6"	1'-3"	3/4"
10"	4'-3"	4'-0"	3'-0"	3/4"	3'-6"	3'-3"	2'-0"	3/4"	2'-9"	2'-9"	1'-6"	3/4"
12"	4'-9"	4'-6"	3'-3"	3/4"	4'-0"	3'-9"	2'-6"	3/4"	3'-3"	3'-3"	1'-9"	3/4"



VERTICAL ANCHORING

PRESSURE PIPE ANCHORING DETAILS

INSTALL PER PORTSMOUTH REQUIREMENTS NTS

V / C4 WATER MAIN & SERVICE CONNECTION

COMMERCIAL DEVELOPMENT ONE CONGRESS STREET PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	DETAIL S	10/18/22
0	ISSUED FOR COMMENT	9/6/22

REVISIONS

STATE OF NEW HAMPSHIRE JOHN R. CHAGNON No. 7851 LICENSED PROFESSIONAL ENGINEER

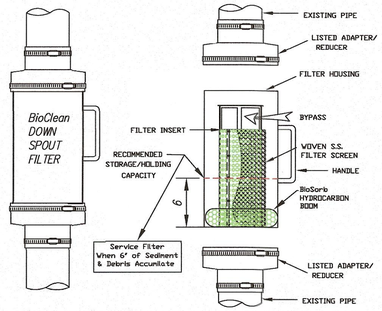
SCALE: AS SHOWN SEPTEMBER 2022

DETAILS D4

FB 309 PG 15 3406

SERVICE MANUAL
(Cleaning Procedures)

Bio Clean DOWNSPOUT FILTER
Screen Type With Hydrocarbon Boom



DETAIL OF PARTS

TOOLS AND EQUIPMENT NEEDED:

1. Medium size flat scred driver
2. BioSorb hydrocarbon boom. 25-1/2" X 2" dia. (Call Bio Clean to order)
3. Trash container or bag
4. Wooden dowel approx. 3' x 1/2' dia.

Bio Clean
A Forterra Company

P.O. BOX 869, Oceanside, Ca. 92049
(760) 433-7640 Fax (760) 433-3176
www.biocleanenvironmental.net

REMOVING FILTER

Bio Clean
A Forterra Company
P.O. BOX 869, Oceanside, Ca. 92049
(760) 433-7640 Fax (760) 433-3176
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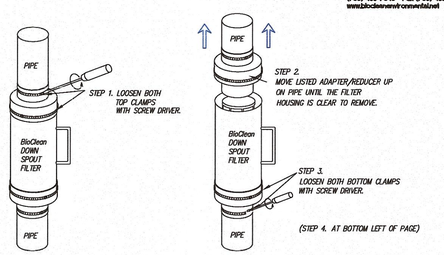
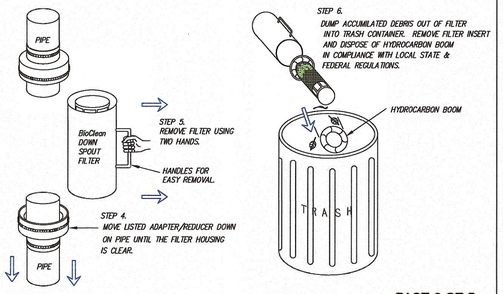


(STEP 4. AT BOTTOM LEFT OF PAGE)

CLEANING FILTER



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A Forterra Company
P.O. BOX 869, Oceanside, Ca. 92049
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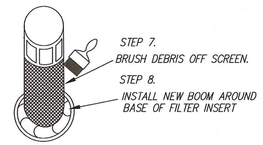
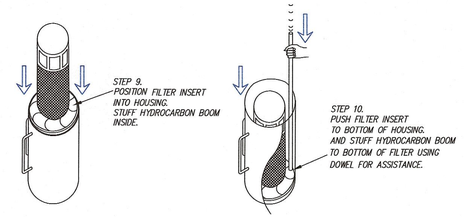


REPLACING FILTER INSERT



REPLACING FILTER

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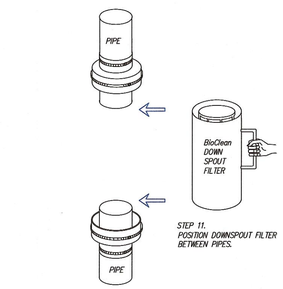
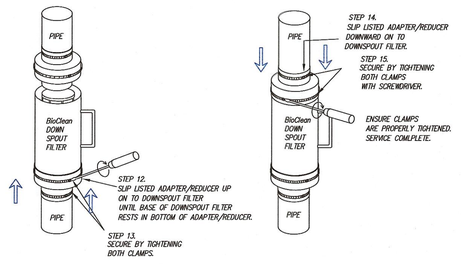
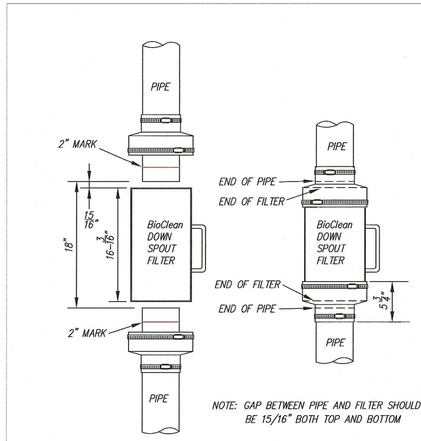




APPROPRIATE INSTALLATION

FILTER CENTERED BETWEEN PIPES WITH EVEN GAPS ON TOP AND BOTTOM



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P.O. BOX 869, Oceanside, Ca. 92049
(760) 433-7640 Fax (760) 433-3176
www.biocleanenvironmental.net

STORMWATER
TREATMENT
MAINTENANCE

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
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COMMERCIAL DEVELOPMENT
ONE CONGRESS STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	ISSUED FOR APPROVAL	10/18/22
0	ISSUED FOR COMMENT	9/6/22

REVISIONS

JOHN R. CHAGNON No. 7881 LICENSED PROFESSIONAL ENGINEER - STATE OF NEW HAMPSHIRE

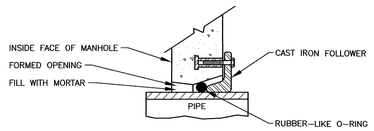
SCALE: AS SHOWN AUGUST 2022

DETAILS

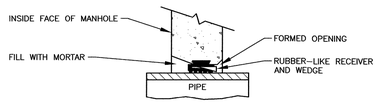
D5

FB 309 PG 15

3406



RES-SEAL
(OR ACCEPTABLE SUBSTITUTE)



PRESS-WEDGE II
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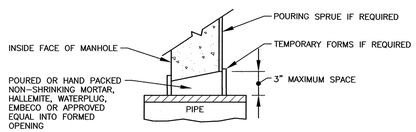
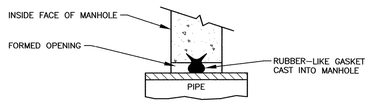
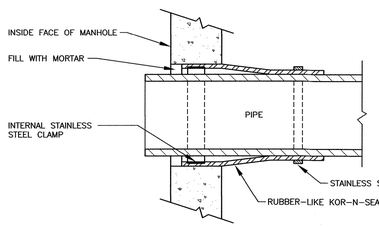


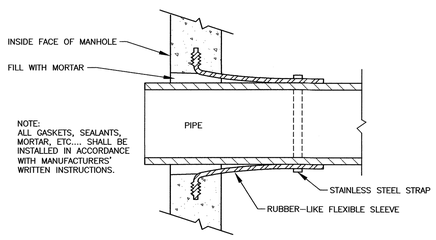
NON-SHRINKING MORTAR
(OR ACCEPTABLE SUBSTITUTE)



A-LOK
(OR ACCEPTABLE SUBSTITUTE)



KOR-N-SEAL JOINT SLEEVE
(OR ACCEPTABLE SUBSTITUTE)

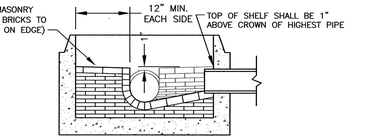


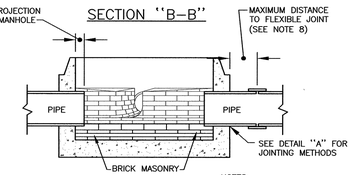
LOCK-JOINT FLEXIBLE MANHOLE SLEEVE
(OR ACCEPTABLE SUBSTITUTE)

DETAIL "A" – PIPE TO MANHOLE JOINTS

APPROVED BY THE PORTSMOUTH PLANNING BOARD

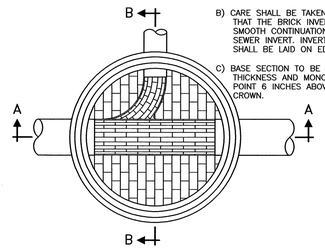
CHAIRMAN _____ DATE _____



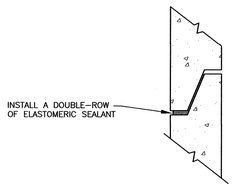


SECTION "A-A"

NOTES:
A) INVERT AND SHELF TO BE PLACED AFTER LEAKAGE TEST.
B) CARE SHALL BE TAKEN TO INSURE THAT THE BRICK INVERT IS A SMOOTH CONTINUATION OF THE SEWER INVERT. INVERT BRICKS SHALL BE LAID ON EDGE.
C) BASE SECTION TO BE FULL WALL THICKNESS AND MONOLITHIC TO A POINT 6 INCHES ABOVE THE PIPE CROWN.



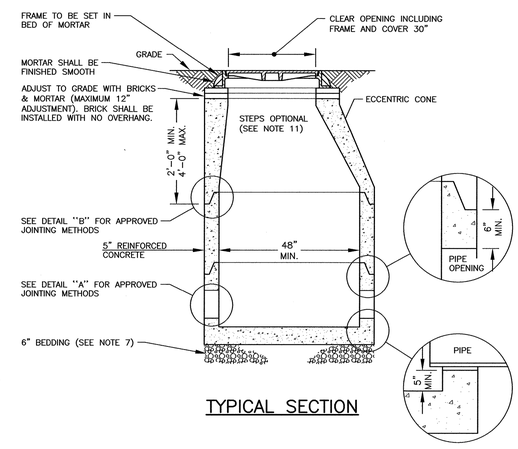
TYPICAL MANHOLE – PLAN VIEW



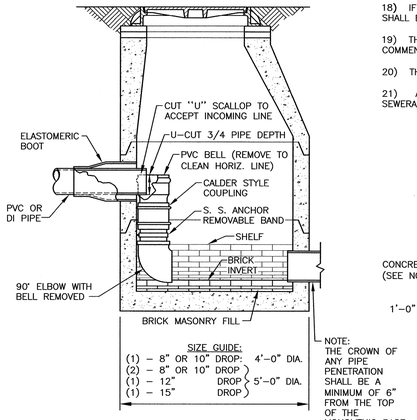
ELASTOMERIC SEALANT

NOTE:
ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

DETAIL "B" – HORIZONTAL JOINTS



TYPICAL SECTION



INSIDE DROP MANHOLE

BB P2 SEWER MANHOLE DETAILS
INSTALL PER PORTSMOUTH REQUIREMENTS NTS

GENERAL NOTES

1) IT IS THE INTENTION THAT THE MANHOLE, INCLUDING ALL COMPONENT PARTS, HAVE ADEQUATE SPACE, STRENGTH AND LEAK PROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE. SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE AS SHOWN ON THE DRAWING. MANHOLES SHALL BE AN ASSEMBLY OF PRECAST SECTIONS, WITH STEEL REINFORCEMENT, WITH ADEQUATE JOINTING, OR CONCRETE CAST MONOLITHICALLY IN PLACE WITH REINFORCEMENT. IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.

2) BARRELS AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE, OR POURED IN PLACE REINFORCED CONCRETE IF POURED AS A COMPLETE MANHOLE.

3) PRECAST CONCRETE BARREL SECTIONS, CONES AND BASES SHALL CONFORM TO ASTM C478.

4) LEAKAGE TEST MAY NOT BE FEASIBLE, BUT SHALL CONFORM TO ENV-WQ 704.17.

5) INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF THE PIPE AND FLOW. AT CHANGES IN DIRECTIONS, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE AND TANGENT TO THE CENTERLINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.

6) FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30-INCH CLEAR OPENING. A THREE INCH (MINIMUM HEIGHT) WORD "SEWER" FOR SEWERS AND "DRAIN" FOR DRAINS SHALL BE PLAINLY CAST INTO THE CENTER OF EACH COVER. CASTINGS SHALL CONFORM TO CLASS 30, ASTM A48.

7) BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE, FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 STONE SIZE NO. 67.

100% PASSING	1 INCH SCREEN
90%–100% PASSING	3/4 INCH SCREEN
20%– 55% PASSING	3/8 INCH SCREEN
0%– 10% PASSING	#4 SIEVE
0%– 5% PASSING	#8 SIEVE

WHEN ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1/2 INCH TO 1-1/2 INCH SHALL BE USED.

8) FLEXIBLE JOINT: A FLEXIBLE JOINT SHALL BE PROVIDED WITHIN THE FOLLOWING DISTANCES:
RCP & CI PIPE – ALL SIZES – 48"

9) SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER MAY BE USED HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H-20 LOADS.

10) MANHOLE STEPS MAY BE PERMITTED UPON REQUEST BY THE OWNER AS SECONDARY ADDITIONAL SAFETY FEATURE SUPPLEMENTARY TO THE PRIMARY PORTABLE LADDER ENTRY AND WHEN INSTALLED UNDER THE FOLLOWING CONDITIONS:

1. THE STEPS SHALL BE MANUFACTURED OF 5/8ths INCH ROUND STAINLESS STEEL, PLASTIC COVERED STEEL OR PLASTIC. THEY SHALL BE SHAPED SO THAT THEY CANNOT BE PULLED OUT OF THE CONCRETE WALL IN WHICH THEY ARE EMBEDDED.
2. THE STEPS SHALL BE EMBEDDED IN THE CONCRETE BY THE MANUFACTURER DURING MANUFACTURE OR IMMEDIATELY FOLLOWING REMOVAL OF FORMS. SECURING THE STEPS WITH MORTAR IN DRILLED OR CAST HOLES, WILL NOT BE ACCEPTABLE.
3. THE STEPS SHALL BE OF THE DROP TYPE WITH A DEPRESSED SECTION FOR HANDHOLD. APPROXIMATELY 14" x 10" IN DIMENSION.

11) HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE ENGINEER, WHICH TYPE SHALL, IN GENERAL, DEPEND FOR WATER TIGHTNESS UPON AN ELASTOMERIC OR MASTIC-LIKE GASKET, IN 2 ROWS.

12) PIPE TO MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE ENGINEER AND IN GENERAL, WILL DEPEND FOR WATERTIGHTNESS UPON EITHER AN APPROVED NON-SHRINKING MORTAR OR ELASTOMERIC SEALANT.

13) THE PURPOSE OF THIS PLAN IS TO SHOW STANDARDS FOR SEWER CONSTRUCTION.

14) ALL WORK SHALL BE IN COMPLIANCE WITH NHDES CODE OF ADMINISTRATIVE RULES PART ENV-WQ 704 DESIGN OF SEWERAGE.

15) BASE SECTIONS SHALL BE OF MONOLITHIC CONSTRUCTION TO A POINT AT LEAST 6 INCHES ABOVE THE CROWN OF THE LARGEST INCOMING PIPE.

GENERAL NOTES

1) MINIMUM PIPE SIZE FOR HOUSE SERVICE SHALL BE FOUR INCHES.

2) PIPE AND JOINT MATERIALS:

A. PLASTIC SEWER PIPE

1. PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

ASTM STANDARDS	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034	*PVC (SOLID WALL)	8" THROUGH 15" (SDR 35)
F679	PVC (SOLID WALL)	18" THROUGH 27" (T-1 & T-2)
F794	PVC (RIBBED WALL)	8" THROUGH 36"
AWWA C900	PVC (SOLID WALL)	8" THROUGH 18"

*PVC: POLYVINYL CHLORIDE

2. JOINT SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D-3212 AND SHALL BE PUSH-ON BELL AND SPIGOT TYPE.

3) DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.

4) JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.

5) HOUSE SEWER INSTALLATION: THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 4 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL AS SPECIFIED IN NOTE 10. BEDDING AND REFILL FOR DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH APPROPRIATE MECHANICAL DEVICES.

6) THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE FOUNDATION AT A GRADE OF NOT LESS THAN 1/4 INCH PER FOOT. PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.

7) TESTING: WHEN REQUIRED BY THE GOVERNING AUTHORITY, TESTING SHALL CONFORM TO ENV-WQ 704.09.

8) ILLEGAL CONNECTIONS: NOTHING BUT SANITARY WASTE FLOW FROM HOUSE TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR OTHER SIMILAR CONNECTIONS CARRYING RAIN WATER, DRAINAGE OR GROUND WATER SHALL NOT BE PERMITTED.

9) HOUSE WATER SERVICE SHALL NOT BE LAID IN SAME TRENCH AS SEWER SERVICE, UNLESS IT IS ON A SHELF 12" HIGHER, AND 18" APART.

10) BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE, FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 STONE SIZE NO. 67.

100% PASSING	1 INCH SCREEN
90%–100% PASSING	3/4 INCH SCREEN
20%– 55% PASSING	3/8 INCH SCREEN
0%– 10% PASSING	#4 SIEVE
0%– 5% PASSING	#8 SIEVE

WHERE ORDERED BY THE ENGINEER, OVEREXCAVATE UNSTABLE TRENCH BOTTOM AND BACKFILL WITH CRUSHED STONE.

11) LOCATION: THE LOCATION OF THE TEE OR WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE TEE OR WYE AS DESCRIBED IN THE TYPICAL "CHIMNEY" DETAIL, TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPE FINDER.

12) CAST-IN-PLACE CONCRETE: SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000 PSI) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AS FOLLOWS:

CEMENT: 6.0 BAGS PER CUBIC YARD
WATER: 5.75 GALLONS PER BAG OF CEMENT
MAXIMUM AGGREGATE SIZE: 3/4 INCH

13) BACKFILL UP TO SUBBASE GRAVEL SHALL BE WITH EXCAVATED SOIL FROM TRENCHING OPERATIONS. COMPACT IN 8" LIFTS WITH VIBRATORY PLATE COMPACTORS TO 90% OF MODIFIED PROCTOR DENSITY. IF FINE-GRAINED, COMPACT WITH POGO STICKS OR SHEEPSFOOT ROLLERS. PLACE NO LARGE ROCKS WITHIN 24" OF PIPE. TRENCHES THAT ARE NOT ADEQUATELY COMPACTED SHALL BE RE-EXCAVATED AND BACKFILLED UNDER THE SUPERVISION OF THE DESIGN ENGINEER OR GOVERNING BODY. UNSUITABLE BACKFILL MATERIAL INCLUDES CHUNKS OF PAVEMENT, TOPSOIL, ROCKS OVER 6" IN SIZE, MUCK, PEAT OR PIECES OF PAVEMENT.

14) THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB-SITE SAFETY AND COMPLIANCE WITH GOVERNING REGULATIONS.

15) ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE. REFILL WITH BEDDING MATERIAL. FOR TRENCH WIDTH SEE TRENCH DETAIL.

16) SAND BLANKET: CLEAN SAND, FREE FROM ORGANIC MATTER, SO GRADED THAT 90% – 100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 15% WILL PASS A #200 SIEVE. BLANKET MAY BE OMITTED FOR DUCTILE IRON AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2 INCHES IS IN CONTACT WITH THE PIPE.

17) BASE COURSE GRAVEL, IF ORDERED BY THE ENGINEER, SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE LATEST EDITION OF THE:

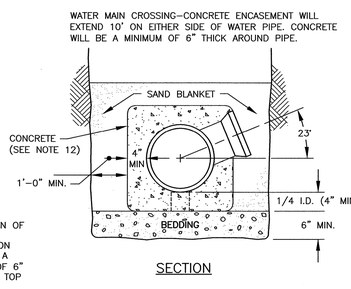
STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
OF THE STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION.

18) IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MIN.) BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.

19) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION.

20) THE PURPOSE OF THIS PLAN IS TO SHOW STANDARDS FOR SEWER CONSTRUCTION.

21) ALL WORK SHALL BE IN COMPLIANCE WITH NHDES CODE OF ADMINISTRATIVE RULES PART ENV-WQ 704 DESIGN OF SEWERAGE.



CONCRETE FULL ENCASEMENT
NOT TO SCALE

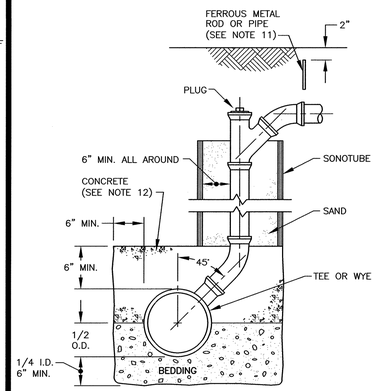
AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).



NO BACKFILLING BEFORE CONCRETE HAS TAKEN INITIAL SET (7 HRS. MIN.). BACKFILLING TO BE BROUGHT UP EVENLY ON ALL SIDES.

CHIMNEY (SEE NOTE)
NOT TO SCALE

COMMERCIAL DEVELOPMENT
ONE CONGRESS STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	TITLE	10/18/22
0	ISSUED FOR COMMENT	9/6/22

REVISIONS

JOHN R. CHAGNON 9677851 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

SCALE: AS SHOWN AUGUST 2022

SEWER DETAILS D6

FB 309 PG 15

3406