JONES&BEACH
ENGINEERS INC.
85 Portsmouth Avenue, PO Box 219, Stratham, NH 03885
603.772.4746 - JonesandBeach.com

May 12, 2022

Portsmouth Technical Advisory Committee
Attn: Peter Stith
1 Junkins Avenue, Suite 3rd Floor
Portsmouth, NH 03801

RE: Subdivision & Site Plan Application
668 Middle Street, Portsmouth, NH
Tax Map 147, Lot 18
JBE Project No. 20686

Dear Mr. Stith,

On August 23, 2021, Jones & Beach Engineers, Inc., submitted a Subdivision Application on behalf of the applicant, Tuck Realty Corporation. The intent of this application is to subdivide Tax Map 147, Lot 18 into three proposed lots. The existing property has 2 structures on the lot. There is a front building situated along Middle Street that has 3 existing units in it. There is a rear carriage house that consists of 1 dwelling. Both existing buildings are staying on the property and will be converted into 2 condominiums, one condo as a single family and one condo as a 3 family. The carriage house has an existing garage in the rear that is accessed from Chevrolet Ave. There is an existing curb cut, fence and gate on Chevrolet that provides access to the carriage house garage.

Then we are proposing 2 frontage lots to be accessed from Chevrolet Avenue. These lots are more than double the required lot size and either meet or exceed the minimum frontage. We are proposing a common private drive for access to the duplexes on each lot. We need to extend the sewer to the site to provide connections for the 2 new lots.

Then on December 20, 2021, Jones & Beach Engineers, Inc., submitted a Site Plan Application on behalf of the applicant, Tuck Realty Corporation. We have already submitted the subdivision application and received approval from the Technical Advisory Committee with conditions. At the meeting, our Subdivision TAC approval was conditioned that if we propose more than one unit per lot, we will have to submit for a Site Plan approval. Our client would like to build a two-family house on each lot with a common driveway and therefore we are submitted a Site Plan application and received conditional TAC approval on this as well.

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

Very truly yours,
JONES & BEACH ENGINEERS, INC.

Joseph A. Coronati
Vice President

cc: Michael Garrepy, Tuck Realty Corporation (via email)

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ENGINEERS INC.
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April 26, 2022

Portsmouth Planning Board
Attn: Rick Chellman
1 Junkins Avenue, Suite 3rd Floor
Portsmouth, NH 03801

RE: Response Letter – TAC Conditions of Approval
668 Middle Street, Portsmouth, NH
Tax Map 147, Lot 18
JBE Project No. 20686

Dear Mr. Chellman,

We are in receipt of comments from Beverly Mesa-Zendt, Planning Director, dated April 8, 2022. Review comments are listed below with our responses in bold.

PLANNER COMMENTS:

1. *Include easement plan in the plan set. Please identify all easements with unique identifiers corresponding to easement table listing all easements and purpose.*
RESPONSE: An easement plan has been included with the plan set.

2. *Water service material to be copper within right of way with brass curb stop.*
RESPONSE: Sheet C4 calls out 2" copper pipe.

3. *Water service to existing dwelling is corrected to show 1" pipe on plan.*
RESPONSE: This water service has been labelled as 1".

4. *Show 1" water services to the 4 new condo units on plans.*
RESPONSE: The size of the water service has been depicted as '1" (TYP.)' on Sheet C4.

5. *Sewer service to be abandoned must be abandoned and capped outside of SMH 2395.*
RESPONSE: The sewer service will be capped outside of SMH 2395, as noted on Sheet C4.

6. *Proposed sewer manhole to be located in Chevrolet roadway outside of the driveway alignment.*
RESPONSE: Proposed sewer manholes have been adjusted as discussed in the TAC meeting.

7. *Line showing the limited common area will be removed from the plan set and only described within the Home Owners Association and condominium documents.*
   RESPONSE: This sheet has been removed from the plan set.

8. *Condominium site plan will be removed from the plan set.*
   RESPONSE: The condominium site plan has been removed from the plan set.

9. *Snow Storage should be moved so as not to conflict with the blow off hydrant*
   RESPONSE: The snow storage does not conflict with the blowoff and the blowoff will be flush with the lawn.

10. *Shared driveway easement documentation needs to be provided for lots 147/18 and 147/19*
    RESPONSE: Driveway easement documents will be provided once finalized.

11. *Add drainage easement on lot 18-2 for lot 18-1.*
    RESPONSE: The drainage easement has been added to the plan set.

12. *Off-site easements (driveway and utility) must be signed and submitted to the City Council.*
    RESPONSE: The driveway and utility easement will be signed and submitted to the City Council.

13. *Mailbox must be relocated so the mail carrier can access from Chevrolet Ave.*
    RESPONSE: The mailbox has been relocated to Chevrolet Ave.

14. *Prior to construction, please include condominium documents. Site plan shows both existing buildings as condominiums and the new buildings will need documents as well. Three condominium documents in total.*
    RESPONSE: Condominium documents will be provided prior to construction.

Included with this response letter are the following:

1. One (1) Full Size Plan Set.

Very truly yours,
JONES & BEACH ENGINEERS, INC.

Joseph Coronati
Vice President

cc: Michael Garrepy, Tuck Realty Corporation (via email)
Tim Phoenix, Attorney (via email)
Wendy Welton, Art Form Architecture (via email)

City of Portsmouth, New Hampshire

Site Plan Application Checklist

This site plan application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. 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: Tuck Realty Corp. Date Submitted: 12/20/21

Application # (in City's online permitting): _____

Site Address: 668 Middle Street, Portsmouth, NH Map: 147 Lot: 18

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)**		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)**		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)**	Drainage Report & C3	
☒	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)**	Architectural Plans	N/A
☒	Tax map and lot number, and current zoning of all parcels under Site Plan Review. **(2.5.3.1D)**	C2, Note 2	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)**	LOA or Title Block	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)**	C1	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)**	C1 Plan Reference Note	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)**	C1 Note 4	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 & C2	N/A
☒	Date plans first submitted, date and explanation of revisions. **(2.5.4.2B)**	Revision Block, All Sheets	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)**	Plan Reference C1, A1 & C2	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.	Architectural Plans & 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.	Architectural Plans & C1	
☒	**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).	C2	
☒	**4. Parking and Loading: (2.5.4.3D)** • Location of off street parking/loading areas, landscaped areas/buffers; • Parking Calculations (# required and the # provided).	C2	
☒	**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).	C1 & 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.	C1 & 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.	C4	
☒	**8. Solid Waste Facilities: (2.5.4.3H)**	N/A	
	• The size, type and location of solid waste facilities.		
☒	**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.	C3 & Drainage report	
☒	**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.	L1	
☒	**11. Indicate where dark sky friendly lighting measures have been implemented. (10.1)**	L1	
☒	**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.	L2	
☒	**13. Contours and Elevation: (2.5.4.3L)** • Existing/Proposed contours (2 foot minimum) and finished grade elevations.	C3	
☒	**14. Open Space: (2.5.4.3M)** • Type, extent and location of all existing/proposed open space.	C1 Note 2/	
☒	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**	A1	
☒	**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).	C2	
☒	**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.	C1 Note 3	

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)**	N/A	
☒	Indicate where Low Impact Development Design practices have been incorporated. **(7.1)**	C3 & Drainage Report	
☒	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)**	Attached	
☒	Inspection and Maintenance Plan **(7.6.5)**	N/A	

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)**		
☐	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)**		
☐	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)**		

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)**		
☒	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)**		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)**		
☒	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)**		N/A

Applicant's Signature: Joseph Coronati **Date:** 12/20/21

City of Portsmouth, New Hampshire

Subdivision Application Checklist

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

Applicant Responsibilities (Section III.C): Applicable fees are due upon application submittal along with the Preliminary or final plat and supporting documents and studies submitted in PDF format with the online application. Please consult with Planning staff for submittal requirements.

Owner: Elizabeth B. Larsen Trust of 2012, Elizabeth Larsen Trustee Date Submitted: 8/23/21

Applicant: Tuck Realty Corporation

Phone Number: 603-944-7530 E-mail: mgarrepy@gmail.com

Site Address 1: 668 Middle Street Map: 147 Lot: 18

Site Address 2: _____ Map: _____ Lot: _____

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
☒	Completed Application form submitted via View Point (the City's web-based permitting program). **(III.C.2-3)**		N/A
☒	All application documents, plans, supporting documentation and other materials uploaded to the application form in View Point 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. **(III.C.4)**		N/A

Requirements for Preliminary/Final Plat				
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Required for Preliminary / Final Plat**	**Waiver Requested**
☒	Name and address of record owner, any option holders, descriptive name of subdivision, engineer and/or surveyor or name of person who prepared the plat. **(Section IV.1/V.1)**		☑ Preliminary Plat ☑ Final Plat	N/A

Requirements for Preliminary/Final Plat				
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Required for Preliminary / Final Plat**	**Waiver Requested**
☒	**Preliminary Plat** Names and addresses of all adjoining property owners. **(Section IV.2)** **Final Plat** Names and addresses of all abutting property owners, locations of buildings within one hundred (100) feet of the parcel, and any new house numbers within the subdivision. **(Section V.2)**		☑ Preliminary Plat ☑ Final Plat	N/A
☒	North point, date, and bar scale. **(Section IV.3/V3)**	Required on all Plan Sheets	☑ Preliminary Plat ☑ Final Plat	N/A
☒	Zoning classification and minimum yard dimensions required. **(Section IV.4/V.4)**		☑ Preliminary Plat ☑ Final Plat	N/A
☒	**Preliminary Plat** Scale (not to be smaller than one hundred (100) feet = 1 inch) and location map (at a scale of 1" = 1000'). **(Section IV.5)** **Final Plat** Scale (not to be smaller than 1"=100'), Location map (at a scale of 1"=1,000') showing the property being subdivided and its relation to the surrounding area within a radius of 2,000 feet. Said location map shall delineate all streets and other major physical features that my either affect or be affected by the proposed development. **(Section V.5)**		☑ Preliminary Plat ☑ Final Plat	N/A
☐ X	Location and approximate dimensions of all existing and proposed property lines including the entire area proposed to be subdivided, the areas of proposed lots, and any adjacent parcels in the same ownership. **(Section IV.6)**		☑ Preliminary Plat ☑ Final Plat	
☒	Dimensions and areas of all lots and any and all property to be dedicated or reserved for schools, parks, playgrounds, or other public purpose. Dimensions shall include radii and length of all arcs and calculated bearing for all straight lines. **(Section V.6/ IV.7)**		☑ Preliminary Plat ☑ Final Plat	N/A
☒	Location, names, and present widths of all adjacent streets, with a designation as to whether public or private and approximate location of existing utilities to be used. Curbs and sidewalks shall be shown. **(Section IV.8/V.7)**		☑ Preliminary Plat ☑ Final Plat	

Requirements for Preliminary/Final Plat				
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Required for Preliminary / Final Plat**	**Waiver Requested**
☒	Location of significant physical features, including bodies of water, watercourses, wetlands, railroads, important vegetation, stone walls and soils types that my influence the design of the subdivision. **(Section IV.9/V.8)**		☑ Preliminary Plat ☑ Final Plat	
☒	**Preliminary Plat** Proposed locations, widths and other dimensions of all new streets and utilities, including water mains, storm and sanitary sewer mains, catch basins and culverts, street lights, fire hydrants, sewerage pump stations, etc. **(Section IV.10)** **Final Plat** Proposed locations and profiles of all proposed streets and utilities, including water mains, storm and sanitary sewer mains, catchbasins and culverts, together with typical cross sections. Profiles shall be drawn to a horizontal scale of 1"=50' and a vertical scale of 1"=5', showing existing centerline grade, existing left and right sideline grades, and proposed centerline grade. **(Section V.9)**	Sheet C1 & C2 No new streets proposed	☑ Preliminary Plat ☑ Final Plat	
☐	When required by the Board, the plat shall be accompanied by profiles of proposed street grades, including extensions for a reasonable distance beyond the subject land; also grades and sizes of proposed utilities. **(Section IV.10)**	N/A - No new streets proposed	☑ Preliminary Plat ☑ Final Plat	
☐	Base flood elevation (BFE) for subdivisions involving greater than five (5) acres or fifty (50) lots. **(Section IV.11)**	N/A - not in flood plain	☑ Preliminary Plat ☑ Final Plat	
☒	For subdivisions of five (5) lots or more, or at the discretion of the Board otherwise, the preliminary plat shall show contours at intervals no greater than two (2) feet. Contours shall be shown in dotted lines for existing natural surface and in solid lines for proposed final grade, together with the final grade elevations shown in figures at all lot corners. If existing grades are not to be changed, then the contours in these areas shall be solid lines. **(Section IV.12/ V.12)**	Sheets C1 & C2	☑ Preliminary Plat ☑ Final Plat	

Requirements for Preliminary/Final Plat				
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Required for Preliminary / Final Plat**	**Waiver Requested**
☐	Dates and permit numbers of all necessary permits from governmental agencies from which approval is required by Federal or State law. **(Section V.10)**	N/A - no state permits	☐ Preliminary Plat ☑ Final Plat	
☐	For subdivisions involving greater than five (5) acres or fifty (50) lots, the final plat shall show hazard zones and shall include elevation data for flood hazard zones. **(Section V.11)**	N/A - not in flood zone	☐ Preliminary Plat ☑ Final Plat	
☒	Location of all permanent monuments. **(Section V.12)**		☐ Preliminary Plat ☑ Final Plat	

General Requirements[1]			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	**1. Basic Requirements: (VI.1)**		
☒	a. Conformity to Official Plan or Map		
☒	b. Hazards		
☒	c. Relation to Topography		
☐	d. Planned Unit Development		
☐	**2. Lots: (VI.2)**		
☒	a. Lot Arrangement		
☒	b. Lot sizes		
☐	c. Commercial and Industrial Lots		
☐	**3. Streets: (VI.3)**		
☒	a. Relation to adjoining Street System		
☒	b. Street Rights-of-Way		
☒	c. Access		
☐	d. Parallel Service Roads		
☐	e. Street Intersection Angles		
☐	f. Merging Streets		
☐	g. Street Deflections and Vertical Alignment		
☐	h. Marginal Access Streets		
☐	i. Cul-de-Sacs		
☐	j. Rounding Street Corners		
☐	k. Street Name Signs		
☒	l. Street Names		
☐	m. Block Lengths		
☐	n. Block Widths		
☐	o. Grade of Streets		
☐	p. Grass Strips		
☐	**4. Curbing: (VI.4)**		
☐	**5. Driveways: (VI.5)**		
☐	**6. Drainage Improvements: (VI.6)**		
☒	**7. Municipal Water Service: (VI.7)**		
☒	**8. Municipal Sewer Service: (VI.8)**		
☒	**9. Installation of Utilities: (VI.9)**		
☒	a. All Districts		
☐	b. Indicator Tape		
☐	**10. On-Site Water Supply: (VI.10)**		
☐	**11. On-Site Sewage Disposal Systems: (VI.11)**		
☐	**12. Open Space: (VI.12)**		
☐	a. Natural Features		
☐	b. Buffer Strips		
☐	c. Parks		
☐	d. Tree Planting		
☐	**13. Flood Hazard Areas: (VI.13)**		
☐	a. Permits		
☐	b. Minimization of Flood Damage		
☐	c. Elevation and Flood-Proofing Records		
☐	d. Alteration of Watercourses		

☐	**14. Erosion and Sedimentation Control (VI.14)**		
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☒	**15. Easements (VI.15)**		
☒	a. Utilities		
☐	b. Drainage		
☒	**16. Monuments: (VI.16)**		
☒	**17. Benchmarks: (VI.17)**		
☐	**18. House Numbers (VI.18)**		

	Design Standards		
	Required Items for Submittal	**Indicate compliance and/or provide explanation as to alternative design**	**Waiver Requested**
☐	**1. Streets have been designed according to the design standards required under Section (VII.1).** a. Clearing b. Excavation c. Rough Grade and Preparation of Sub-Grade d. Base Course e. Street Paving f. Side Slopes g. Approval Specifications h. Curbing i. Sidewalks j. Inspection and Methods	N/A	
☐	**2. Storm water Sewers and Other Drainage Appurtenances have been designed according to the design standards required under Section (VII.2).** a. Design b. Standards of Construction	N/A	
☒	**3. Sanitary Sewers have been designed according to the design standards required under Section (VII.3).** a. Design b. Lift Stations c. Materials d. Construction Standards		
☒	**4. Water Mains and Fire Hydrants have been designed according to the design standards required under Section (VII.4).** a. Connections to Lots b. Design and Construction c. Materials d. Notification Prior to Construction		

[1] See City of Portsmouth, NH Subdivision Rules and Regulations for details.

Applicant's/Representative's Signature: _____ **Date:** 3/22/21

AUTHORIZATION

The undersigned, Elizabeth B. Larsen, Trustee of the Elizabeth B. Larsen Trust of 2012("Trust"), owner of the property located at 668Middle Street, Portsmouth, New Hampshire and further identified as Portsmouth Tax Map 147, Lot 18 (the "Property"), hereby authorize Tuck Realty Corporation ("Tuck") and its advisors Jones & Beach Engineers, Inc. and Hoefle, Phoenix, Gormley and Roberts, P.A., to file documents and appear before the Portsmouth Zoning Board of Adjustment, Planning Board, Technical Advisory Committee and/or Conservation Commission in all matters relating to applications by Tuck to the City of Portsmouth to permit the subdivision of and up to eight townhouses or similar structureson the Property.

Dated: January 27, 2021

By: Elizabeth B. Larsen dotloop verified 01/27/21 2:40 PM EST TGOV-SMJF-LFZY-ERRP

Elizabeth B. Larsen, Trustee
Elizabeth B. Larsen Trust of 2012

Letter of Authorization

I, W. Turner Porter, Tuck Realty Corporation, PO Box 190, Exeter, NH 03833, developer of property located in Portsmouth, NH, known as Tax Map 147, Lot 18, do hereby authorize Jones & Beach Engineers, Inc., PO Box 219, Stratham, NH, to act on my behalf concerning the previously-mentioned property. The parcel is located on 668 Middle Street in Portsmouth, NH.

I hereby appoint Jones & Beach Engineers, Inc., as my agent to act on my behalf in the review process, to include any required signatures.

Witness

W. Turner Porter
Tuck Realty Corporation

8/23/21
Date

065834

2012 DEC 20 PM 12:04

ROCKINGHAM COUNTY
REGISTRY OF DEEDS

WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS that I, **Elizabeth B. Larsen**, unmarried, of 668 Middle Street, Portsmouth, Rockingham County, New Hampshire, 03801,

for consideration paid, grant to **Elizabeth B. Larsen, Trustee of The Elizabeth B. Larsen Trust of 2012** u/d/t dated December 11, 2012, of 668 Middle Street, Portsmouth, Rockingham County, New Hampshire, 03801,

with ***WARRANTY COVENANTS*** the following described real estate:

PARCEL I. A certain parcel of land with the buildings thereon, situate on Middle Street, in said Portsmouth, bounded and described as follows:

BEGINNING on Middle Street at land now or formerly of Blanche B. Lovell and running northwesterly by said Lovell's land seven (7) feet to an angle in the division line; thence turning and running North Eighty (80) degrees West by said Lovell's land, land now or formerly of William Conlon and Annie F. Pierce, land now or formerly of the Heirs of Ellen G. Walsh, land now or formerly of the Heirs of Victor Goss, and land now or formerly of Maurice J. and Elizabeth T. Ham, four hundred sixty-two (462) feet to the center of a stone post; thence turning and running North twenty-six (26) degrees West by land of the City of Portsmouth, formerly of the Frank Jones Brewing Company, one hundred six feet and six inches (106.6") to the center of a stone post; thence turning and running North fifty-nine (59) degrees East by land now or formerly of Coleman and Taccetta, formerly of the Frank Jones Brewing Company, two hundred twenty-seven and one half (227 ½) feet to land now or formerly of Florence Laighton; thence turning and running Southeasterly in a direct line by said Laighton's land four hundred forty-two and one half (442 ½) feet, more or less, to Middle Street; thence turning and running Southwesterly by said Street sixty-nine feet and ten inches (69 ft. 10 in.) more or less, to the place of beginning.

Together with a right of way thirty (30) feet wide across the northwesterly side of land now or formerly of said Laighton, adjoining the land now or formerly of said Coleman and Taccetta, formerly of said Brewing Company, and subject to similar right of way in said Laighton, her heirs and assigns, thirty (30) feet wide across the northwesterly side of the land herein conveyed, adjoining land now or formerly of said Coleman and Taccetta. Said rights of way are more fully

limited and defined in deed of William J. Moat to G. Ralph Laighton, dated 10 May, 1980, recorded in Rockingham Registry of Deeds, Book 512, Page 429, and an agreement of G. Ralph Laighton and Harry E. Boynton, dated May 31, 1913 and recorded in said Rockingham Registry of Deeds, Book 674, Page 341, to which reference is hereby made for a more complete description.

Also, those certain parcels of land located on Forest, Central and Elm Streets, Portsmouth, County of Rockingham, State of New Hampshire, bounded and described as follows:

PARCEL 1. BEGINNING at a point in the northeasterly sideline of Forest Street at the northwesterly corner of land now or formerly of DeCoff, being Lot No. 263 on Plan of Jackson Farm and Buckminster Field drawn by John W. Durgin, CE dated February 1955, recorded in Rockingham County Registry of Deeds and running northwesterly by the northeasterly sideline of Forest Street about 256 feet to the southerly corner of Lot No. 267 on said plan; thence turning and running southwesterly about one hundred feet to the point where the southeasterly sideline of Lot 216 on said plan is intersected by the easterly sideline of the property now or formerly of the State of New Hampshire and being the approach to the high level Piscataqua River Bridge; thence turning and running northerly along the easterly sideline of the said bridge approach land now or formerly of the State of New Hampshire to land now or formerly of the Boston & Maine Railroad; thence turning and running easterly by the right of way of the Boston & Maine Railroad to the northwesterly corner of Lot No. 263; thence turning and running southerly by the westerly line of Lot 263 to the point of beginning, said parcel comprising those portions of Lots 216 and 267 not taken by the State of New Hampshire for the approach to the Piscataqua Bridge, together with Lots 264, 265 and 266, and the stub of land on Forest Street westerly of the westerly sideline of Central Street and the stub of Central Street northerly of the northerly sideline of forest.

PARCEL 2. BEGINNING at a point in the northwesterly sideline of Elm Street at the southwesterly corner of Lot No. 237, the property now or formerly of Zamarchi, being the northeasterly corner of the parcel herein described and running southwesterly by said Elm Street 130 feet to a corner at Lot 234, the property now or formerly of the City of Portsmouth; thence turning and running northwesterly by said Lot 234 and Lot 221, the property now or formerly of the City of Portsmouth, 160 feet to the southeasterly side of Central Street; thence turning and running northeasterly by Central Street 101 feet to a corner at Lot No. 218, the property now or formerly of the City of Portsmouth, thence turning and running southeasterly by Lot 218 and Lot 237 to Elm Street and the point of beginning. Comprising Lots 219, 220, 235 and 236 on said Plan of Jackson Farm and Buckminster Field.

PARCEL 3. All my right, title and interest in and to the following streets or portions of streets, namely:

Central Street from the easterly sideline of the Piscataqua River Bridge approach to the southerly sideline of Forest Street.

That portion of Elm Street bounded northerly by Forest Street, southwesterly by land now or formerly of Zamarchi 200 feet, westerly by Elm Street, and northwesterly by Parcel 2 and land of Zamarchi 190 feet.

Forest Street from the westerly side of Cutts Street westerly to a line between the easterly corner of Lot 216 and the southeasterly corner of Lot 217.

These parcels are subject to such rights as the abutting owners and others may have the use thereof for access to their respective properties.

These parcels are also subject to an Easement to Northern Utilities, Inc. dated March 4, 2004, and recorded at Rockingham County Registry of Deeds in Book 4470, Page 2003.

Included in this conveyance is any and all personal property contents of the real estate.

Being the same premises conveyed to the Grantor by deed of The Wyman P. Boynton Revocable Trust of 1994 u/d/t dated September 1, 1994, recorded at Rockingham County Superior Court at Book 3980, Page 0209.

Dated this 11th day of December, 2012.

Witness

Elizabeth B. Larsen

State of New Hampshire
Rockingham, SS. December 11, 2012

Personally appeared, before me, the above-named Elizabeth B. Larsen, known to me, or satisfactorily proven, to be the person whose name is subscribed to the foregoing instrument and acknowledged that she executed the same for the purposes therein contained.

Notary Public/Justice of the Peace

Return To:
Legal Department
City Hall
1 Junkins Ave.
Portsmouth, NH 03801

ACCESS, UTILITY AND DRAINAGE EASEMENT DEED

PUBLIC LAND HOLDINGS LLC, a New Hampshire limited liability company with a mailing address of P.O. Box 190, Exeter, New Hampshire 03833 ("Grantor"), for due consideration, hereby grants to the CITY OF PORTSMOUTH, a municipal body politic, having a mailing address of 1 Junkins Avenue, Portsmouth, New Hampshire 30801 ("Grantee"), with QUITCLAIM COVENANTS, the following easements with respect to Grantor's real property situate on Chevrolet Avenue, Portsmouth, Rockingham County, New Hampshire, also identified as Portsmouth Tax Assessor's Map 147, Lot 18 (the "Premises"):

1. **Easement Area**: to construct, use, repair and replace a roadway for ingress and egress by foot and by vehicle by Grantee and members of the public, together with the right to install underground utilities, and storm water flowage under, over and across that area shown as "Proposed Right of Way and Sewer Easement to Benefit the City of Portsmouth and Proposed Lots 1 and 2" (the "Easement Area") on a plan entitled "Subdivision and Lot Line Adjustment Plan, 668 Middle Street, Portsmouth, NH, Sheet A1, dated November 11, 2020 and revised through _____, 2022, by Jones & Beach Engineers, Inc., recorded in the Rockingham County Registry of Deeds (the "Registry") as Plan #_____ (the "Plan"), which Easement Area is more particularly described as follows:

   Beginning at a proposed railroad spike on the easterly side of Chevrolet Ave. and the northeasterly corner of Lot 18 as shown on the above-referenced plan; thence running S 70° 24' 38" E a distance of 22.43 feet to a point; thence turning and running along a curve with a radius of 519.00 feet, S 45° 24' 52" W with an Arc Length of 22.21 feet; thence turning and running along a curve with a radius of 519.00 feet, S 51° 08' 07" W with an Arc Length of 81.43 feet to a point; thence turning and running S 55° 37' 48" W a distance of 0.87 feet to a point; thence turning and running S 55° 37' 42" W a distance of 19.70 feet to a point; thence continuing S 55° 37' 42" W a distance of 5.30 feet to a point; thence turning and running along a curve with a radius of 481.00 feet, S 54° 06' 57" W an Arc Length of 23.79 feet to a point; thence turning and running N 43° 50' 49" E a distance of 118.10 feet to a proposed railroad spike at the point of beginning.

2. **Purpose and Rights:** The Grantee shall have a permanent and non-exclusive easement and right of way in, under, across and over the Easement Area for the purpose of installing, maintaining, inspecting, removing, repairing, and replacing the roadway and

any utility and/or drainage lines and pipes, together with any associated infrastructure, equipment, outfall, swales and storm water flow. The Grantee shall have the right to remove trees, bushes, undergrowth and other obstructions interfering with the activities authorized herein and to take such other actions as may be necessary, useful or convenient for the enjoyment of the easement rights herein granted.

3. **Grantee's Responsibility to Restore:** Disturbed areas within the Easement Area and they shall be restored at the Grantee's expense.

4. **Grantor's Retained Rights:** Grantor retains the right to freely use and enjoy its interest in the Easement Area insofar as the exercise thereof does not endanger or interfere with the purpose of this instrument, including without limitation any rights of the public to safely utilize Chevrolet Avenue as a public way. Grantor shall not, however, erect any fence or other structure within the Easement Area, substantially change the grade or slope, install any pipes, or pave or asphalt the Permanent Easement Area without prior written consent of the Grantee.

5. **Personal Property.** It is agreed that all utility and drainage infrastructure and related facilities installed within the Easement Area, whether fixed to the realty or not, shall be and remain the property of the Grantee.

6. **Easement to Run with Land:** All rights and privileges, obligations and liabilities created by this instrument shall inure to the benefit of, and be binding upon, the heirs, devises, administrators, executor, successors and assignees of the Grantee and of the Grantor, the parties hereto and all subsequent owners of the Premises and shall run with the land.

MEANING AND INTENDING to describe and convey and easement over a portion of the premises conveyed to Grantor by Elizabeth B. Larsen, Trustee of the Elizabeth B. Larsen Trust of 2012 by deed dated December 21, 2021 and recorded at the Registry at Book 6367, Page 1660.

This is an exempt transfer per RSA 78-B:2(I).

Dated this ____ day of _____, 2022.

PUBLIC LAND HOLDINGS LLC

_____ By:_____

Witness Name:

Title

STATE OF NEW HAMPSHIRE
COUNTY OF ROCKINGHAM

This instrument was acknowledged before me on _____, 2022, by _____, duly authorized _____ of Public Land Holdings LLC, on behalf of said limited liability company.

_____
Notary Public/Justice of the Peace
My Commission Expires:

NO-BUILD AND ACCESS EASEMENT DEED

KNOW ALL MEN BY THESE PRESENTS THAT PUBLIC LAND HOLDINGS LLC, a New Hampshire limited liability company with a mailing address of P.O. Box 190, Exeter, New Hampshire 03833 ("GRANTOR"), for consideration paid, grants to DAVID MARKOVSKY AND TAMARA LEIBOWITZ, individuals with a mailing address of 30 Aldrich Court, Portsmouth, New Hampshire 03801 and TRYGG ENGEN AND KAITLIN A. KOFFINK, individuals with a mailing address of 39 Aldrich Court, Portsmouth, New Hampshire 03801 (collectively, "GRANTEE"), with QUITCLAIM COVENANTS, the following:

A perpetual and permanent No Build and Access Easement on, across and over a portion of that certain tract or parcel of land situate on Chevrolet Avenue, Portsmouth, Rockingham County, New Hampshire, also identified as Portsmouth Tax Assessor's Map 147, Lot 19-1 (the "Premises"), identified as "Proposed 10' Wide Exclusive Use Easement Area in Favor of Lot 40 and 41" (the "Easement Area") on a plan entitled "Subdivision and Lot Line Adjustment Plan, 668 Middle Street, Portsmouth. NH, Sheet A1, dated November 11, 2020 and revised through _____, 2022, by Jones & Beach Engineers, Inc., recorded in the Rockingham County Registry of Deeds (the "Registry") as Plan #_____ (the "Plan"), which Easement Area is more particularly described as follows:

Beginning at an iron rod found on the southeasterly corner of Tax Map 147, Lot 18-1 as shown on the above-referenced plan; thence running S 84° 48' 30" W a distance of 119.28 feet to an 8"x8" bound; thence turning and running N 40° 00' 38" W a distance of 12.18 feet to a point; thence turning and running S 78° 55' 48" E a distance of 149.29 feet to a point; thence turning and running S 34° 15' 48" W a distance of 12.95 feet to an iron rod found at the point of beginning.

Grantee shall have the right to access, from Grantee's abutting properties and not via the Premises, and to use the Easement Area for any and all residential uses. Grantee shall bear all costs and liabilities of any kind related to the use, upkeep and maintenance of the Easement Area and shall keep the Easement Area free from any and all liens arising out of any work performed for, materials furnished or obligations incurred by Grantee.

Grantor shall not construct, install, place, plant or store anything whatsoever in the above-described Easement Area that would violate the purpose of the easement. Grantor further agrees that is shall not construct any buildings on the Premises within that area extending twenty (20) feet along the shared property boundary with Grantee, shown as "20' Voluntary Building Setback" on the Plan.

Said easement is perpetual, is binding on successors and assigns of the parties and shall run with the land.

Homestead rights do not apply to this conveyance.

Meaning and intending to describe and convey and easement over a portion of the premises conveyed to Grantor by Elizabeth B. Larsen, Trustee of the Elizabeth B. Larsen Trust of 2012 by deed dated December 21, 2021 and recorded at the Registry at Book 6367, Page 1660.

Executed this _____ day of _____, 2022.

PUBLIC LAND HOLDINGS LLC

_____ By:_____

Witness Name:

Title

STATE OF NEW HAMPSHIRE
COUNTY OF ROCKINGHAM

This instrument was acknowledged before me on _____, 2022, by _____, duly authorized _____ of Public Land Holdings LLC, on behalf of said limited liability company.

_____

Notary Public/Justice of the Peace
My Commission Expires:

RETURN TO:

RECIPROCAL DRIVEWAY EASEMENT

This Reciprocal Driveway Easement made as of this ___ day of _____, 2022 between [TAX MAP 147, LOT 18-1 OWNER] (the "Lot 18-1 Owner") and [TAX MAP 147, LOT 18-2 OWNER] (the "Lot 18-2 Owner") (each an "Owner" and collectively, the "Owners").

RECITALS:

WHEREAS, the Lot 18-1 Owner is the owner of that certain property situated in the City of Portsmouth, County of Rockingham and State of New Hampshire, identified as Map 147, Lot 18-1 ("Lot 18-1") on plan entitled "Subdivision and Lot Line Adjustment Plan, 668 Middle Street, Portsmouth. NH, Sheet A1, dated November 11, 2020 and revised through _____, 2022, by Jones & Beach Engineers, Inc., recorded in the Rockingham County Registry of Deeds (the "Registry") as Plan #_____ (the "Plan");

WHEREAS, the Lot 18-2 Owner is the owner of that certain property situated in the City of Portsmouth, County of Rockingham and State of New Hampshire, identified as Map 147, Lot 18-2 ("Lot 18-2") on the Plan; and

WHEREAS, the Owners desire to grant certain easements upon Lot 18-1 and Lot 18-2 (collectively the "Lots"), which easements are intended to run to the benefit of and bind their respective lots indicated, and the owners from time to time of such lots or any portion thereof.

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained, the Owners hereby covenant and agree that the Lots, and all present and future owners and occupants of the Lots shall be and hereby are subject to the terms, easements and conditions hereinafter set forth in this Agreement, so that said Lots shall be maintained, kept, sold and used in full compliance with and subject to this Agreement,

and, in connection therewith, the parties hereto on behalf of themselves and their respective successors and assigns covenant and agree as follows:

1. The Lot 18-1 Owner grants to the Lot 18-2 Owner a perpetual non-exclusive right and easement for vehicular and pedestrian travel over a portion of its property along the common lot line between Lot 18-1 and Lot 18-2 within that area identified on the Plan as "Proposed Shared Driveway Access Easement to Benefit Proposed Lots" which area is more particularly bounded and described as follows:

> Beginning at an iron rod on the easterly side of Chevrolet Ave. and the northeasterly corner of Lot 18-1 as shown on the above-referenced plan; thence running S 29° 50' 26" E a distance of 188.06 feet to a point; thence turning and running S 41° 58' 09" W a distance of 6.17 feet to a point; thence turning and running N 31° 44' 31" W a distance of 126.13 feet to a point; thence turning and running along a curve with a radius of 72.50 feet, chord bearing of N 24° 54' 13" W and arc length of 17.31 feet to a point; thence turning and running N 34° 19' 36" W a distance of 22.36 feet to a point; thence turning and running N 55° 37' 42" E a distance of 5.30 feet to an iron rod at the point of beginning.

2. The Lot 18-2 Owner grants to the Lot 18-1 Owner a perpetual non-exclusive right and easement for vehicular and pedestrian travel over a portion of its property along the common lot line between Lot 18-1 and Lot 18-2 within that area identified on the Plan as "Proposed Shared Driveway Access Easement to Benefit Proposed Lots" which area is more particularly bounded and described as follows:

Beginning at an iron rod on the easterly side of Chevrolet Ave. and the northwesterly corner of Lot 18-2 as shown on the above-referenced plan; thence running N 43° 50' 49" E a distance of 21.23 feet; thence turning and running S 34° 19' 36" E a distance of 27.57 feet to a point; thence turning and running along a curve with a radius of 47.50 feet, chord bearing of S 24° 54' 13' E and arc length of 11.34 feet to a point; thence turning and running S 31° 44' 31" E a distance of 126.12 feet to a point; thence turning and running S 41° 58' 09" W a distance of 18.83 feet to a point; thence turning and running N 29° 50' 26" W a distance of 188.06 feet to an iron rod at the point of beginning.

(the areas set forth in paragraphs 1 and 2 above, collectively, the "Driveway Easement Area")

The purposes of these reciprocal easements are to provide ingress and egress over the Driveway Easement Area from to Lot 18-1 and Lot 18-2.

The Owners shall jointly and equally share the burden and cost to maintain the Driveway Easement Area in good order, condition and repair the Driveway Easement Area. Notwithstanding the foregoing, damage by accident or casualty proximately caused by one of the parties hereto, their family, agents, representatives or invitees shall be undertaken at the sole expense of that party. Each Owner shall provide to the other

copies of estimates and proposals, and shall obtain the other's written approval prior to undertaking any activities within the Driveway Easement Area for which that Owner intends to seek monetary contribution from the other. Unless the nature and/or cost of any repair or maintenance is in dispute, each Owner shall reimburse the other within thirty (30) days of documentation of payment for such work.

If either the Lot 18-1 Owner or the Lot 18-2 Owner shall fail to operate, maintain and repair any portion of the Driveway Easement Area in accordance with such Owner's obligations hereunder, and if such failure has not been fully remedied after thirty (30) days prior written notice, the other Owner may perform such operation, maintenance or repair, in such manner as reasonably deemed necessary, for and on the account of the non-performing Owner. In the event of any emergency or other circumstances requiring earlier action (including specifically, but without limitation, failure to perform snow and/or ice removal in a timely fashion), no prior notice shall be required hereunder. In the event of such action, the non-performing Owner shall be required to reimburse the performing Owner, within thirty (30) days, for the actual and reasonable costs incurred in such performance, to the extent that the performing Owner was not financially responsible for such performance.

In the event of a dispute as to the need, nature, or cost of any particular intended expense, the Owners shall attempt to amicably resolve the dispute, failing which each shall be entitled to pursue any and all remedies at law or in equity.

This easement is perpetual, shall run with the land and is binding upon and enforceable by the Owners, and all future owners of the Lots.

IN WITNESS WHEREOF, the parties hereto have caused this Reciprocal Driveway Easement to be executed as of the day and year first above written.

LOT 18-1 OWNER

_____ _____

Witness [Name]

LOT 18-2 OWNER

_____ _____

Witness [Name]

The State of New Hampshire
County of _____ _____, 202__

Personally appeared the above-named, _____, known to me or satisfactorily proven to be the person whose name is subscribed to the above document and acknowledged that he executed the same for the purposes contained therein,

Before me,

_____
Notary Public/Justice of the Peace
Print Name:
My Commission Expires:

The State of New Hampshire
County of _____ _____, 202__

Personally appeared the above-named, _____, known to me or satisfactorily proven to be the person whose name is subscribed to the above document and acknowledged that she executed the same for the purposes contained therein,

Before me,

_____
Notary Public/Justice of the Peace
Print Name:
My Commission Expires:

March 21,2022

To Whom It May Concern,

I have reviewed the draft set of plans entitled "Site of Subdivision Plan Chevrolet Avenue Duplexes Tax Map 147, Lot 18, 668 Middle Street, Portsmouth, NH" prepared by Jones & Beach Engineering, Inc. including specifically the Utility Plan and agree to, in exchange for $7,500.00 from Tuck Realty Corp., grant the City of Portsmouth a sewer, drainage and roadwork easement over my property as shown on the Utility Plan.

Sincerely,

Catherine R. Whelan

Charles J Gaudet

Return To:
Legal Department
City Hall
1 Junkins Ave.
Portsmouth, NH 03801

ACCESS, UTILITY AND DRAINAGE EASEMENT DEED

CATHERINE R. WHELAN, an individual with a mailing address of P.O. Box 235, New Castle, New Hampshire 03801 ("Grantor"), for due consideration, hereby grants to the CITY OF PORTSMOUTH, a municipal body politic, having a mailing address of 1 Junkins Avenue, Portsmouth, New Hampshire 30801 (the "Grantee"), with QUITCLAIM COVENANTS, the following easement with respect to Grantor's real property situate on Chevrolet Avenue, Portsmouth, Rockingham County, New Hampshire, also identified as Portsmouth Tax Assessor's Map 147, Lot 19-1, (the "Premises"):

1. **Easement Area**: to construct, use, repair and replace a roadway for ingress and egress by foot and by vehicle by Grantee and members of the public, together with the right to install underground utilities, and storm water flowage under, over and across those areas shown as "Proposed Right of Way and Sewer Easement" and further identified as Easements Nos. 4 and 5 over Tax Map 147, Lots 18-1 and 18-2 on an "Easement Plan, 668 Middle Street, Portsmouth, NH for Tuck Realty Corporation, " by Jones and Beach Engineers, Inc. , dated March 22, 2022 and revised through _____, 2022, by Jones & Beach Engineers, Inc., recorded in the Rockingham County Registry of Deeds (the "Registry") as Plan #_____ (the "Plan").

2. **Purpose and Rights:** The Grantee shall have a permanent and non-exclusive easement and right of way in, under, across and over the Easement Area for the purpose of installing, maintaining, inspecting, removing, repairing, and replacing the roadway and any utility and/or drainage lines and pipes, together with any associated infrastructure, equipment, outfall, swales and storm water flow. The Grantee shall have the right to remove trees, bushes, undergrowth and other obstructions interfering with the activities authorized herein and to take such other actions as may be necessary, useful or convenient for the enjoyment of the easement rights herein granted.

3. **Grantee's Responsibility to Restore:** Disturbed areas within the Easement Area and they shall be restored at the Grantee's expense.

4. **Grantor's Retained Rights:** Grantor retains the right to freely use and enjoy its interest in the Easement Area insofar as the exercise thereof does not endanger or interfere with

the purpose of this instrument, including without limitation any rights of the public to safely utilize Chevrolet Avenue as a public way. Grantor shall not, however, erect any fence or other structure within the Easement Area, substantially change the grade or slope, install any pipes, or pave or asphalt the Permanent Easement Area without prior written consent of the Grantee.

5. **Personal Property.** It is agreed that all utility and drainage infrastructure and related facilities installed within the Easement Area, whether fixed to the realty or not, shall be and remain the property of the Grantee.

6. **Easement to Run with Land:** All rights and privileges, obligations and liabilities created by this instrument shall inure to the benefit of, and be binding upon, the heirs, devises, administrators, executor, successors and assignees of the Grantee and of the Grantor, the parties hereto and all subsequent owners of the Premises and shall run with the land.

MEANING AND INTENDING to convey an easement over a portion of the premises conveyed to the within Grantor by deed of Charles J. Gaudet dated May 8, 2007, and recorded at the Rockingham County Registry of Deeds (the "Registry") at Book 4798, Page 125.

This is an exempt transfer per RSA 78-B:2(I).

Dated this ____ day of _____, 2022.

Witness:_____ _____
Catherine R. Whelan

STATE OF NEW HAMPSHIRE
COUNTY OF_____

Personally appeared the above-named Catherine R. Whelan and acknowledged the foregoing instrument to be her free act and deed executed for the purposes contained therein.

_____
Notary Public/Justice of the Peace
My commission expires: _____

DRAINAGE ANALYSIS

SEDIMENT AND EROSION CONTROL PLAN

"Chevrolet Avenue Duplexes"
668 Middle Street
Portsmouth, NH 03801
Tax Map 147, Lots 18

Prepared for:

Tuck Realty Corporation
P.O. Box 190
Exeter, NH 03833

Prepared by:
Jones & Beach Engineers, Inc.
85 Portsmouth Avenue
P.O. Box 219
Stratham, NH 03885
(603) 772-4746
December 20, 2021
REVISED February 15, 2022
REVISED March 22, 2022
JBE Project No. 20686

EXECUTIVE SUMMARY

Tuck Realty Corporation is proposing to subdivide the existing Map 147 Lot 18 at 668 Middle Street Portsmouth, creating two new lots with frontage on Chevrolet Avenue on which they propose to construct a total of 2 residential duplexes on the proposed parcels. The existing Map 147 Lot 18 has a 3-unit residential dwelling, a carriage house with a garage, and a barn. Much of the rear of the lot is wooded with some lawn area as well.

A drainage analysis of the entire site was conducted for the purpose of estimating the peak rate of stormwater runoff and to subsequently design adequate drainage structures. Two models were compiled, one for the area in its existing (pre-construction) condition, and a second for its proposed (post-construction) condition. The analysis was conducted using data for the 2 Year – 24 Hour (3.69"), 10 Year – 24 Hour (5.60"), 25 Year – 24 Hour (7.10"), and 50 Year – 24 Hour (8.50")storm events using the USDA SCS TR-20 method within the HydroCAD Stormwater Modeling System environment. This data was taken from the Extreme Precipitation Tables developed by the Northeast Regional Climate Center (NRCC), and the values have been increased by 15% due to the project being within the Coastal/Great Bay Region. A summary of the existing and proposed conditions peak rates of runoff in units of cubic feet per second (cfs) is as follows:

Analysis Point	2 Year		10 Year		25 Year		50 Year	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Analysis Point #1	1.35	1.35	3.53	3.13	5.56	4.81	7.55	6.78

A similar summary of the existing and proposed peak volumes in units of acre-feet is as follows:

Analysis Point	2 Year		10 Year		25 Year		50 Year	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Analysis Point #1	0.146	0.184	0.343	0.409	0.524	0.607	0.706	0.801

The subject parcel is located in the General Residence A District. The subject parcels currently consist of the aforementioned 3-unit residential dwelling, a carriage house with a garage, and a barn, all of which is proposed to remain, with the expectation of the existing barn which will be demolished. The topography on the site defines two (2) subcatchment, which drains to one (1) analysis point at the north eastern corner of the site.

The proposed site development consists of the aforementioned two new lots with frontage on Chevrolet Avenue with the 2 residential duplexes with associated paved common driveway. The addition of the proposed impervious paved areas and buildings causes an increase in the curve number (C_n) and a decrease in the time of concentration (T_c), the net result being a potential increase in peak rates of runoff from the site. A stormwater management system was designed in order to treat additional site run-off and mitigate peak flow rates. The proposed site development divides the site into five (5) subcatchments. The proposed stormwater management system for the front of the site consists of a rain garden system and a catch basin control structure to filter runoff.

The City of Portsmouth's only regulation concerning volume is that it shall be reduced to the maximum extent practicable. There are slight increases at the analysis point during the design storms, however although this project will not require an Alteration of Terrain Permit, it meets the Alteration of Terrain (AoT) Bureau's Channel Protection requirement, stipulating that volume may not increase toward any analysis point by more than 0.1 acre-foot during the 2-Year 24-Hour storm event. The volumes from all analyzed storm events do not exceed this 0.1 acre-foot threshold.

The use of Best Management Practices per the NHDES Stormwater Manual have been applied to the design of this drainage system and will be observed during all stages of construction. All land disturbed during construction will be stabilized within thirty days of groundbreaking and abutting property owners will suffer minimal adversity resultant of this development.

TABLE OF CONTENTS

1.0 RAINFALL CHARACTERISTICS

This drainage report includes an existing conditions analysis of the area involved in the proposed development, as well as a proposed condition, or post-construction analysis, of the same location. These analyses were accomplished using the USDA SCS TR-20 Method within the HydroCAD Stormwater Modeling System. The curve numbers were developed using the SCS TR-55 Runoff Curve numbers for Urban Areas. A Type III SCS 24-hour rainfall distribution was utilized in analyzing the data for the 2 Year – 24 Hour (3.69"), 10 Year – 24 Hour (5.60"), 25 Year – 24 Hour (7.10"), and 50 Year – 24 Hour (8.50") storm events. This data was taken from the Extreme Precipitation Tables developed by the Northeast Regional Climate Center (NRCC), and the values have been increased by 15% due to the project being within the Coastal/Great Bay Region.

The peak rates of runoff will be reduced from the existing condition, thereby minimizing any potential for a negative impact on abutting properties or erosion of the wetland system. This is accomplished through treatment of stormwater runoff and attenuation of peak flows resulting from storm events.

2.0 EXISTING CONDITIONS ANALYSIS

Based on NRCS Web Soil Survey, the soil type for the entire studied area was found to consist of "Urban land – Canton complex" (Map unit symbol 799). This classifies the soils as Hydrologic Soil Groups (HSG) B.

The existing property feature a main house and a carriage house with porches, a garage, a barn, and two gravel driveways. The site is otherwise covered by both woods and grass. The majority of the site is sloped toward the northeastern corner of the lot. This point where the lot drains to have been designated Analysis Point #1 (AP1). The area draining from the south to this point can be described as two subcatchments, Subcatchments 1S and 2S. Subcatchment 1S consists of existing dwelling units and associated driveways and utilities. Subcatchment 2S consists of woods and grassed areas along with a existing barn structure. This subcatchment experiences some grade change, with the highest elevations being roughly 12' higher than the lowest elevation at AP1.

3.0 PROPOSED CONDITIONS ANALYSIS

The addition of the proposed impervious driveway and the buildings causes an increase in the curve number (C_n) and a decrease in the time of concentration (T_c), the result being a potential increase in peak rates of runoff from the site. The proposed development, consisting of the aforementioned two residential duplex units with associated paved driveways as well as stormwater management features divide the subject parcel into five (5) subcatchments. Subcatchment 10S is comprised of the unchanged section of the lot, existing houses, gravel driveway, garage, etc. Subcatchment 20S consists of the remainder of 2S left after the placement of the driveway and houses. Subcatchments 21S is comprised of the proposed driveway and sidewalk. The runoff from subcatchment 21S is directed into the proposed rain garden (10P). After receiving treatment in the rain garden system, runoff will be directed into the existing City of Portsmouth drainage network. Subcatchments 22S and 23S consists of the proposed roof areas along with the proposed drip edges (3P and 4P). The roof areas are directed to the drip edges and any overflow will go to the proposed rain garden.

The site will be graded such that runoff from all the proposed impervious areas, will be treated, by way of the rain garden system.

According to the NH Stormwater Manual, bioretention systems (rain gardens) provide a pollutant removal efficiency of 90% for TSS and 65% for nitrogen, and infiltration basins (including subsurface ones) provide a removal efficiency of 90% for TSS and 60% for nitrogen. Runoff from all impervious surfaces with the exception of roofs is being directed toward one of these two types of treatment systems.

5.0 CONCLUSION

This proposed site development will have minimal adverse effect on abutting infrastructures and properties by way of stormwater runoff or siltation. Appropriate steps will be taken to eliminate erosion and sedimentation; these will be accomplished through the construction of a drainage system consisting of site grading, multi-stage discharge outlet structure, and rain garden system as well as temporary erosion control measures including but not limited to silt fence and the use of a stabilized construction entrance. Best Management Practices developed by the State of New Hampshire have been utilized in the design of this system and their application will be enforced throughout the construction process. Peak rates of runoff from the site will be reduced from the unmanaged post development condition to the analysis point during all storms.

This project disturbs less than 100,000 S.F. and does not require a NHDES Alteration of Terrain Permit.

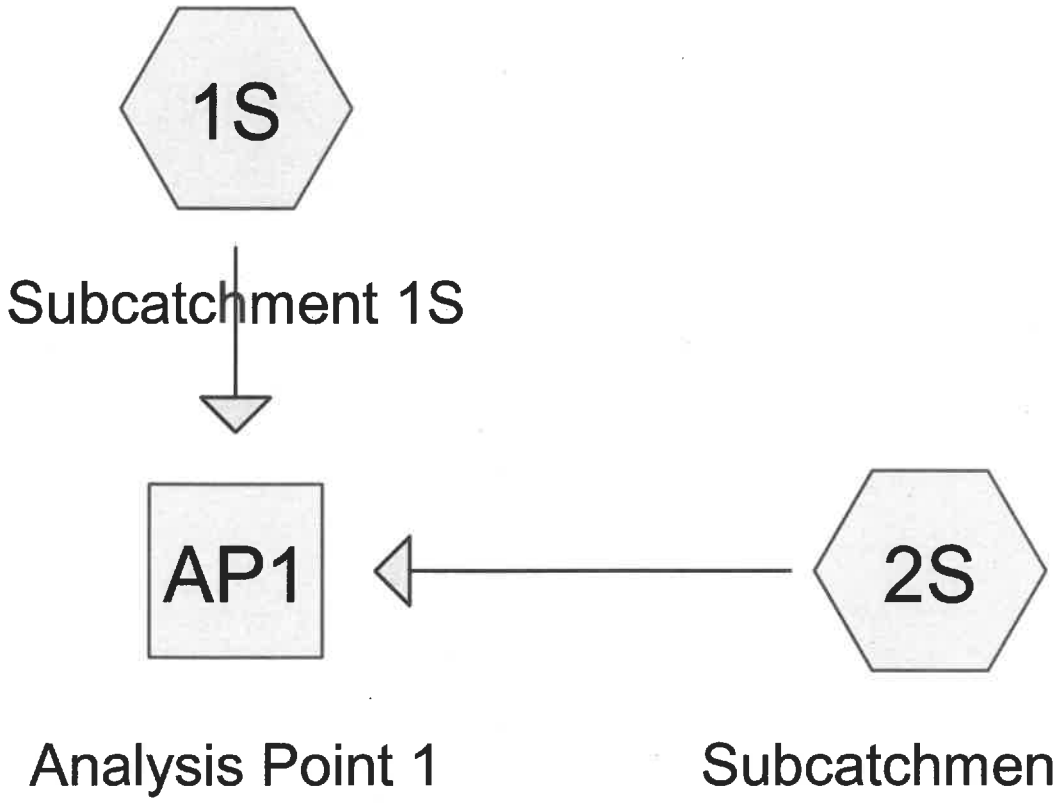
Respectfully Submitted,
JONES & BEACH ENGINEERS, INC.

Michael Kerivan, P.E.
Project Engineer

APPENDIX I

EXISTING CONDITIONS DRAINAGE ANALYSIS

Summary 2 YEAR
Complete 10 YEAR
Summary 25 YEAR
Complete 50 YEAR



Subcat Reach Pond Link

Routing Diagram for 20686-EXISTING_3-22-2022_work
Prepared by Jones and Beach Engineers, Inc., Printed 3/22/2022

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2 Yr 24 Hr (+15%)	Type III 24-hr		Default	24.00	1	3.69	2
2	10 Yr 24 Hr(+15%)	Type III 24-hr		Default	24.00	1	5.60	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.679	61	>75% Grass cover, Good, HSG B (1S, 2S)
0.198	96	Gravel surface, HSG B (1S)
0.074	98	Paved parking, HSG B (1S, 2S)
0.116	98	Roofs, HSG B (1S, 2S)
0.864	55	Woods, Good, HSG B (1S, 2S)
1.931	**66**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.931	HSG B	1S, 2S
0.000	HSG C	
0.000	HSG D	
0.000	Other	
1.931		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Subcatchment 1S Runoff Area=44,468 sf 11.24% Impervious Runoff Depth>1.12"
Flow Length=305' Tc=15.5 min CN=70 Runoff=0.93 cfs 0.096 af

Subcatchment 2S: Subcatchment 2S Runoff Area=39,659 sf 8.35% Impervious Runoff Depth>0.66"
Flow Length=235' Tc=8.6 min CN=61 Runoff=0.48 cfs 0.050 af

Reach AP1: Analysis Point 1 Inflow=1.35 cfs 0.146 af
Outflow=1.35 cfs 0.146 af

Total Runoff Area = 1.931 ac Runoff Volume = 0.146 af Average Runoff Depth = 0.90"
90.12% Pervious = 1.741 ac 9.88% Impervious = 0.191 ac

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Subcatchment 1S Runoff Area=44,468 sf 11.24% Impervious Runoff Depth>2.48"
Flow Length=305' Tc=15.5 min CN=70 Runoff=2.19 cfs 0.211 af

Subcatchment 2S: Subcatchment 2S Runoff Area=39,659 sf 8.35% Impervious Runoff Depth>1.74"
Flow Length=235' Tc=8.6 min CN=61 Runoff=1.56 cfs 0.132 af

Reach AP1: Analysis Point 1 Inflow=3.53 cfs 0.343 af
Outflow=3.53 cfs 0.343 af

Total Runoff Area = 1.931 ac Runoff Volume = 0.343 af Average Runoff Depth = 2.13"
90.12% Pervious = 1.741 ac 9.88% Impervious = 0.191 ac

Summary for Subcatchment 1S: Subcatchment 1S

Runoff = 2.19 cfs @ 12.22 hrs, Volume= 0.211 af, Depth> 2.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr(+15%) Rainfall=5.60"

Area (sf)	CN	Description
4,850	98	Roofs, HSG B
147	98	Paved parking, HSG B
8,632	96	Gravel surface, HSG B
14,968	61	>75% Grass cover, Good, HSG B
15,871	55	Woods, Good, HSG B
44,468	70	Weighted Average
39,471		88.76% Pervious Area
4,997		11.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.70"
1.4	60	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	120	0.0750	4.11		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.9	55	0.0010	0.47		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.2	20	0.0050	1.44		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
15.5	305	Total			

Summary for Subcatchment 2S: Subcatchment 2S

Runoff = 1.56 cfs @ 12.14 hrs, Volume= 0.132 af, Depth> 1.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr(+15%) Rainfall=5.60"

Area (sf)	CN	Description
223	98	Roofs, HSG B
3,090	98	Paved parking, HSG B
14,596	61	>75% Grass cover, Good, HSG B
21,750	55	Woods, Good, HSG B
39,659	61	Weighted Average
36,346		91.65% Pervious Area
3,313		8.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	50	0.0770	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.70"
1.9	185	0.1100	1.66		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.6	235	Total			

Summary for Reach AP1: Analysis Point 1

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

Inflow Area = 1.931 ac, 9.88% Impervious, Inflow Depth > 2.13" for 10 Yr 24 Hr(+15%) event
Inflow = 3.53 cfs @ 12.18 hrs, Volume= 0.343 af
Outflow = 3.53 cfs @ 12.18 hrs, Volume= 0.343 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Subcatchment 1S Runoff Area=44,468 sf 11.24% Impervious Runoff Depth>3.69"
Flow Length=305' Tc=15.5 min CN=70 Runoff=3.29 cfs 0.314 af

Subcatchment 2S: Subcatchment 2S Runoff Area=39,659 sf 8.35% Impervious Runoff Depth>2.77"
Flow Length=235' Tc=8.6 min CN=61 Runoff=2.58 cfs 0.210 af

Reach AP1: Analysis Point 1 Inflow=5.56 cfs 0.524 af
Outflow=5.56 cfs 0.524 af

Total Runoff Area = 1.931 ac Runoff Volume = 0.524 af Average Runoff Depth = 3.26"
90.12% Pervious = 1.741 ac 9.88% Impervious = 0.191 ac

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Subcatchment 1S Runoff Area=44,468 sf 11.24% Impervious Runoff Depth>4.88"
Flow Length=305' Tc=15.5 min CN=70 Runoff=4.37 cfs 0.415 af

Subcatchment 2S: Subcatchment 2S Runoff Area=39,659 sf 8.35% Impervious Runoff Depth>3.82"
Flow Length=235' Tc=8.6 min CN=61 Runoff=3.62 cfs 0.290 af

Reach AP1: Analysis Point 1 Inflow=7.55 cfs 0.706 af
Outflow=7.55 cfs 0.706 af

Total Runoff Area = 1.931 ac Runoff Volume = 0.706 af Average Runoff Depth = 4.38"
90.12% Pervious = 1.741 ac 9.88% Impervious = 0.191 ac

Summary for Subcatchment 1S: Subcatchment 1S

Runoff = 4.37 cfs @ 12.21 hrs, Volume= 0.415 af, Depth> 4.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr(+15%) Rainfall=8.50"

Area (sf)	CN	Description
4,850	98	Roofs, HSG B
147	98	Paved parking, HSG B
8,632	96	Gravel surface, HSG B
14,968	61	>75% Grass cover, Good, HSG B
15,871	55	Woods, Good, HSG B
44,468	70	Weighted Average
39,471		88.76% Pervious Area
4,997		11.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.70"
1.4	60	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	120	0.0750	4.11		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.9	55	0.0010	0.47		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.2	20	0.0050	1.44		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
15.5	305	Total			

Summary for Subcatchment 2S: Subcatchment 2S

Runoff = 3.62 cfs @ 12.13 hrs, Volume= 0.290 af, Depth> 3.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr(+15%) Rainfall=8.50"

Area (sf)	CN	Description
223	98	Roofs, HSG B
3,090	98	Paved parking, HSG B
14,596	61	>75% Grass cover, Good, HSG B
21,750	55	Woods, Good, HSG B
39,659	61	Weighted Average
36,346		91.65% Pervious Area
3,313		8.35% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.7	50	0.0770	0.12		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.70"
1.9	185	0.1100	1.66		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
8.6	235	Total			

Summary for Reach AP1: Analysis Point 1

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

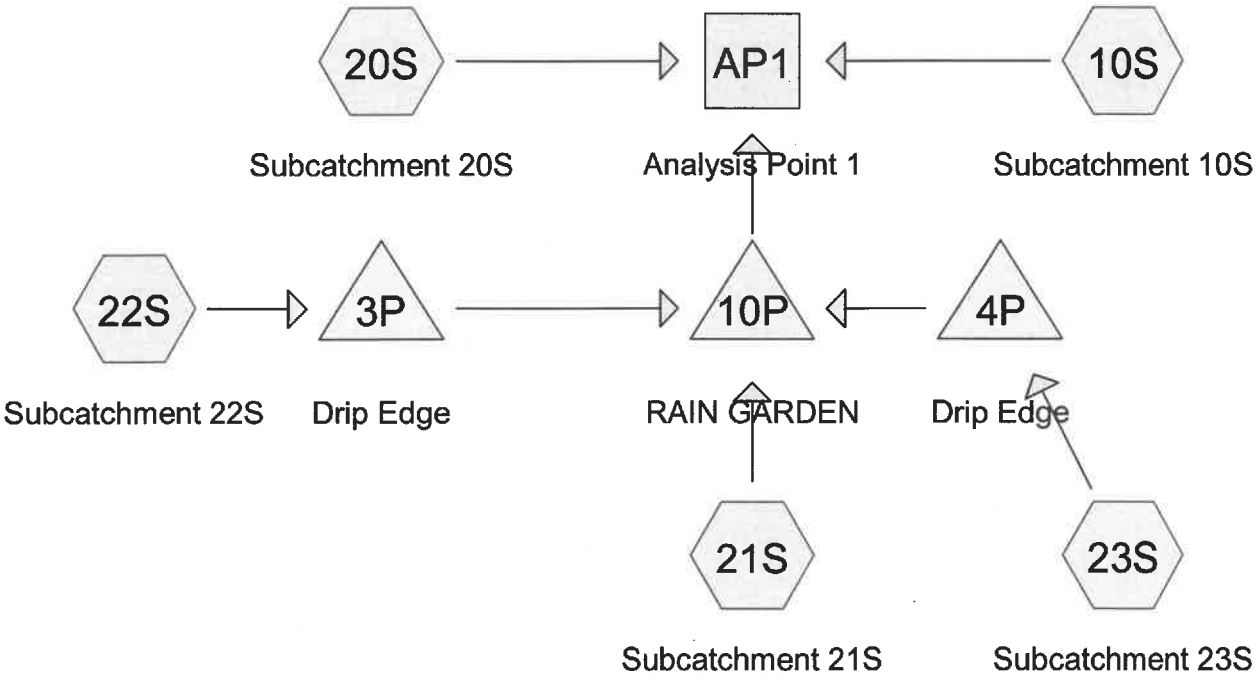
Inflow Area = 1.931 ac, 9.88% Impervious, Inflow Depth > 4.38" for 50 Yr 24 Hr(+15%) event
Inflow = 7.55 cfs @ 12.17 hrs, Volume= 0.706 af
Outflow = 7.55 cfs @ 12.17 hrs, Volume= 0.706 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

APPENDIX II

PROPOSED CONDITIONS DRAINAGE ANALYSIS

Summary 2 YEAR
Complete 10 YEAR
Summary 25 YEAR
Complete 50 YEAR



Subcat Reach Pond Link

Routing Diagram for 20686-PROPOSED_3-22-2022_work
Prepared by Jones and Beach Engineers, Inc., Printed 3/22/2022

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2 Yr 24 Hr (+15%)	Type III 24-hr		Default	24.00	1	3.69	2
2	10 Yr 24 Hr(+15%)	Type III 24-hr		Default	24.00	1	5.60	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.745	61	>75% Grass cover, Good, HSG B (10S, 20S, 21S)
0.197	96	Gravel surface, HSG B (10S)
0.198	98	Paved parking, HSG B (20S, 21S)
0.274	98	Roofs, HSG B (10S, 22S, 23S)
0.035	98	Water Surface, HSG B (22S, 23S)
0.481	55	Woods, Good, HSG B (10S, 20S, 21S)
1.931	**73**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.931	HSG B	10S, 20S, 21S, 22S, 23S
0.000	HSG C	
0.000	HSG D	
0.000	Other	
1.931		**TOTAL AREA**

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 10S: Subcatchment 10S Runoff Area=44,468 sf 10.41% Impervious Runoff Depth>1.07"
Flow Length=305' Tc=15.5 min CN=69 Runoff=0.87 cfs 0.091 af

Subcatchment 20S: Subcatchment 20S Runoff Area=14,138 sf 24.01% Impervious Runoff Depth>1.01"
Flow Length=330' Tc=15.6 min CN=68 Runoff=0.26 cfs 0.027 af

Subcatchment 21S: Subcatchment 21S Runoff Area=16,665 sf 31.51% Impervious Runoff Depth>1.25"
Flow Length=196' Tc=6.0 min CN=72 Runoff=0.53 cfs 0.040 af

Subcatchment 22S: Subcatchment 22S Runoff Area=4,415 sf 100.00% Impervious Runoff Depth>3.45"
Tc=6.0 min CN=98 Runoff=0.36 cfs 0.029 af

Subcatchment 23S: Subcatchment 23S Runoff Area=4,434 sf 100.00% Impervious Runoff Depth>3.45"
Tc=6.0 min CN=98 Runoff=0.36 cfs 0.029 af

Reach AP1: Analysis Point 1 Inflow=1.35 cfs 0.184 af
Outflow=1.35 cfs 0.184 af

Pond 3P: Drip Edge Peak Elev=26.00' Storage=1,216 cf Inflow=0.36 cfs 0.029 af
Outflow=0.00 cfs 0.001 af

Pond 4P: Drip Edge Peak Elev=22.00' Storage=1,247 cf Inflow=0.36 cfs 0.029 af
Outflow=0.00 cfs 0.001 af

Pond 10P: RAIN GARDEN Peak Elev=14.50' Storage=1,200 cf Inflow=0.53 cfs 0.042 af
Outflow=0.44 cfs 0.066 af

Total Runoff Area = 1.931 ac Runoff Volume = 0.216 af Average Runoff Depth = 1.34"
73.70% Pervious = 1.423 ac 26.30% Impervious = 0.508 ac

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 10S: Subcatchment 10S Runoff Area=44,468 sf 10.41% Impervious Runoff Depth>2.40"
Flow Length=305' Tc=15.5 min CN=69 Runoff=2.11 cfs 0.204 af

Subcatchment 20S: Subcatchment 20S Runoff Area=14,138 sf 24.01% Impervious Runoff Depth>2.31"
Flow Length=330' Tc=15.6 min CN=68 Runoff=0.64 cfs 0.062 af

Subcatchment 21S: Subcatchment 21S Runoff Area=16,665 sf 31.51% Impervious Runoff Depth>2.67"
Flow Length=196' Tc=6.0 min CN=72 Runoff=1.17 cfs 0.085 af

Subcatchment 22S: Subcatchment 22S Runoff Area=4,415 sf 100.00% Impervious Runoff Depth>5.36"
Tc=6.0 min CN=98 Runoff=0.54 cfs 0.045 af

Subcatchment 23S: Subcatchment 23S Runoff Area=4,434 sf 100.00% Impervious Runoff Depth>5.36"
Tc=6.0 min CN=98 Runoff=0.55 cfs 0.045 af

Reach AP1: Analysis Point 1 Inflow=3.13 cfs 0.409 af
Outflow=3.13 cfs 0.409 af

Pond 3P: Drip Edge Peak Elev=26.01' Storage=1,226 cf Inflow=0.54 cfs 0.045 af
Outflow=0.23 cfs 0.017 af

Pond 4P: Drip Edge Peak Elev=22.01' Storage=1,257 cf Inflow=0.55 cfs 0.045 af
Outflow=0.24 cfs 0.017 af

Pond 10P: RAIN GARDEN Peak Elev=14.53' Storage=1,217 cf Inflow=1.17 cfs 0.119 af
Outflow=0.44 cfs 0.143 af

Total Runoff Area = 1.931 ac Runoff Volume = 0.442 af Average Runoff Depth = 2.75"
73.70% Pervious = 1.423 ac 26.30% Impervious = 0.508 ac

Summary for Subcatchment 10S: Subcatchment 10S

Runoff = 2.11 cfs @ 12.22 hrs, Volume= 0.204 af, Depth> 2.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr(+15%) Rainfall=5.60"

Area (sf)	CN	Description
4,628	98	Roofs, HSG B
8,595	96	Gravel surface, HSG B
15,374	61	>75% Grass cover, Good, HSG B
15,871	55	Woods, Good, HSG B
44,468	69	Weighted Average
39,840		89.59% Pervious Area
4,628		10.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.70"
1.4	60	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	120	0.0750	4.11		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.9	55	0.0010	0.47		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.2	20	0.0050	1.44		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
15.5	305	Total			

Summary for Subcatchment 20S: Subcatchment 20S

Runoff = 0.64 cfs @ 12.22 hrs, Volume= 0.062 af, Depth> 2.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr(+15%) Rainfall=5.60"

Area (sf)	CN	Description
3,395	98	Paved parking, HSG B
7,455	61	>75% Grass cover, Good, HSG B
3,288	55	Woods, Good, HSG B
14,138	68	Weighted Average
10,743		75.99% Pervious Area
3,395		24.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	20	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.70"
4.6	30	0.0100	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.70"
1.6	173	0.0630	1.76		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	28	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.9	79	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
15.6	330	Total			

Summary for Subcatchment 21S: Subcatchment 21S

Runoff = 1.17 cfs @ 12.09 hrs, Volume= 0.085 af, Depth> 2.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr(+15%) Rainfall=5.60"

Area (sf)	CN	Description
5,251	98	Paved parking, HSG B
9,631	61	>75% Grass cover, Good, HSG B
1,783	55	Woods, Good, HSG B
16,665	72	Weighted Average
11,414		68.49% Pervious Area
5,251		31.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	26	0.0850	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.70"
0.1	25	0.2200	3.28		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	145	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.3	196	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 22S: Subcatchment 22S

Runoff = 0.54 cfs @ 12.09 hrs, Volume= 0.045 af, Depth> 5.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr(+15%) Rainfall=5.60"

Area (sf)	CN	Description
3,660	98	Roofs, HSG B
755	98	Water Surface, HSG B
4,415	98	Weighted Average
4,415		100.00% Impervious Area

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

Summary for Subcatchment 23S: Subcatchment 23S

Runoff = 0.55 cfs @ 12.09 hrs, Volume= 0.045 af, Depth> 5.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Yr 24 Hr(+15%) Rainfall=5.60"

Area (sf)	CN	Description
3,660	98	Roofs, HSG B
774	98	Water Surface, HSG B
4,434	98	Weighted Average
4,434		100.00% Impervious Area

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

Summary for Reach AP1: Analysis Point 1

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

Inflow Area = 1.931 ac, 26.30% Impervious, Inflow Depth > 2.54" for 10 Yr 24 Hr(+15%) event
Inflow = 3.13 cfs @ 12.22 hrs, Volume= 0.409 af
Outflow = 3.13 cfs @ 12.22 hrs, Volume= 0.409 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Pond 3P: Drip Edge

Inflow Area = 0.101 ac,100.00% Impervious, Inflow Depth > 5.36" for 10 Yr 24 Hr(+15%) event
Inflow = 0.54 cfs @ 12.09 hrs, Volume= 0.045 af
Outflow = 0.23 cfs @ 12.36 hrs, Volume= 0.017 af, Atten= 58%, Lag= 16.7 min
Primary = 0.23 cfs @ 12.36 hrs, Volume= 0.017 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 26.01' @ 12.35 hrs Surf.Area= 755 sf Storage= 1,226 cf

Plug-Flow detention time= 337.0 min calculated for 0.017 af (38% of inflow)
Center-of-Mass det. time= 175.3 min (921.1 - 745.8)

Volume	Invert	Avail.Storage	Storage Description
#1	21.99'	1,593 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
21.99	755	0.0	0	0
22.00	755	40.0	3	3
25.99	755	40.0	1,205	1,208
26.00	755	100.0	8	1,216
26.50	755	100.0	378	1,593

Device	Routing	Invert	Outlet Devices
#1	Primary	26.00'	**50.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.20 cfs @ 12.36 hrs HW=26.01' TW=14.28' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.20 cfs @ 0.31 fps)

Summary for Pond 4P: Drip Edge

Inflow Area = 0.102 ac,100.00% Impervious, Inflow Depth > 5.36" for 10 Yr 24 Hr(+15%) event
Inflow = 0.55 cfs @ 12.09 hrs, Volume= 0.045 af
Outflow = 0.24 cfs @ 12.41 hrs, Volume= 0.017 af, Atten= 56%, Lag= 19.2 min
Primary = 0.24 cfs @ 12.41 hrs, Volume= 0.017 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 22.01' @ 12.40 hrs Surf.Area= 774 sf Storage= 1,257 cf

Plug-Flow detention time= 348.8 min calculated for 0.017 af (37% of inflow)
Center-of-Mass det. time= 181.6 min (927.4 - 745.8)

Volume	Invert	Avail.Storage	Storage Description
#1	17.99'	1,633 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.99	774	0.0	0	0
18.00	774	40.0	3	3
21.99	774	40.0	1,235	1,238
22.00	774	100.0	8	1,246
22.50	774	100.0	387	1,633

Device	Routing	Invert	Outlet Devices
#1	Primary	22.00'	**50.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.22 cfs @ 12.41 hrs HW=22.01' TW=14.38' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.22 cfs @ 0.33 fps)

Summary for Pond 10P: RAIN GARDEN

Inflow Area = 0.586 ac, 55.26% Impervious, Inflow Depth > 2.44" for 10 Yr 24 Hr(+15%) event
Inflow = 1.17 cfs @ 12.09 hrs, Volume= 0.119 af
Outflow = 0.44 cfs @ 12.55 hrs, Volume= 0.143 af, Atten= 62%, Lag= 27.2 min
Primary = 0.44 cfs @ 12.55 hrs, Volume= 0.143 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3
Starting Elev= 14.50' Surf.Area= 1,327 sf Storage= 1,200 cf
Peak Elev= 14.53' @ 12.55 hrs Surf.Area= 1,327 sf Storage= 1,217 cf (18 cf above start)

Plug-Flow detention time= 45.7 min calculated for 0.115 af (97% of inflow)
Center-of-Mass det. time= (not calculated: outflow precedes inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	12.24'	4,595 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
12.24	1,327	212.9	0.0	0	0	1,327
12.25	1,327	212.9	40.0	5	5	1,329
15.24	1,327	212.9	40.0	1,587	1,592	1,966
15.25	1,327	212.9	5.0	1	1,593	1,968
15.49	1,327	212.9	5.0	16	1,609	2,019
15.50	1,327	212.9	15.0	2	1,611	2,021
16.99	1,327	212.9	15.0	297	1,908	2,338
17.00	88	55.7	100.0	6	1,913	5,698
18.00	716	193.8	100.0	352	2,265	8,443
19.00	1,325	212.9	100.0	1,005	3,270	9,094
20.00	1,325	0.0	100.0	1,325	4,595	12,702

Device	Routing	Invert	Outlet Devices
#1	Primary	19.00'	**95.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	12.50'	**12.0" Round Culvert** L= 25.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 12.50' / 12.00' S= 0.0200 '/' Cc= 0.900 n= 0.009 PVC, smooth interior, Flow Area= 0.79 sf
#3	Device 2	12.50'	**3.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	18.75'	**48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.44 cfs @ 12.55 hrs HW=14.53' TW=0.00' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
└—**2=Culvert** (Passes 0.44 cfs of 3.70 cfs potential flow)
  ↑—**3=Orifice/Grate** (Orifice Controls 0.44 cfs @ 6.61 fps)
  └—**4=Orifice/Grate** (Controls 0.00 cfs)

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 10S: Subcatchment 10S Runoff Area=44,468 sf 10.41% Impervious Runoff Depth>3.59"
Flow Length=305' Tc=15.5 min CN=69 Runoff=3.20 cfs 0.305 af

Subcatchment 20S: Subcatchment 20S Runoff Area=14,138 sf 24.01% Impervious Runoff Depth>3.48"
Flow Length=330' Tc=15.6 min CN=68 Runoff=0.98 cfs 0.094 af

Subcatchment 21S: Subcatchment 21S Runoff Area=16,665 sf 31.51% Impervious Runoff Depth>3.91"
Flow Length=196' Tc=6.0 min CN=72 Runoff=1.72 cfs 0.125 af

Subcatchment 22S: Subcatchment 22S Runoff Area=4,415 sf 100.00% Impervious Runoff Depth>6.86"
Tc=6.0 min CN=98 Runoff=0.69 cfs 0.058 af

Subcatchment 23S: Subcatchment 23S Runoff Area=4,434 sf 100.00% Impervious Runoff Depth>6.86"
Tc=6.0 min CN=98 Runoff=0.69 cfs 0.058 af

Reach AP1: Analysis Point 1 Inflow=4.81 cfs 0.607 af
Outflow=4.81 cfs 0.607 af

Pond 3P: Drip Edge Peak Elev=26.03' Storage=1,241 cf Inflow=0.69 cfs 0.058 af
Outflow=0.85 cfs 0.030 af

Pond 4P: Drip Edge Peak Elev=22.04' Storage=1,273 cf Inflow=0.69 cfs 0.058 af
Outflow=0.93 cfs 0.030 af

Pond 10P: RAIN GARDEN Peak Elev=18.04' Storage=2,296 cf Inflow=3.18 cfs 0.184 af
Outflow=0.75 cfs 0.208 af

Total Runoff Area = 1.931 ac Runoff Volume = 0.640 af Average Runoff Depth = 3.98"
73.70% Pervious = 1.423 ac 26.30% Impervious = 0.508 ac

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 10S: Subcatchment 10S Runoff Area=44,468 sf 10.41% Impervious Runoff Depth>4.76"
Flow Length=305' Tc=15.5 min CN=69 Runoff=4.26 cfs 0.405 af

Subcatchment 20S: Subcatchment 20S Runoff Area=14,138 sf 24.01% Impervious Runoff Depth>4.64"
Flow Length=330' Tc=15.6 min CN=68 Runoff=1.32 cfs 0.126 af

Subcatchment 21S: Subcatchment 21S Runoff Area=16,665 sf 31.51% Impervious Runoff Depth>5.13"
Flow Length=196' Tc=6.0 min CN=72 Runoff=2.25 cfs 0.164 af

Subcatchment 22S: Subcatchment 22S Runoff Area=4,415 sf 100.00% Impervious Runoff Depth>8.25"
Tc=6.0 min CN=98 Runoff=0.83 cfs 0.070 af

Subcatchment 23S: Subcatchment 23S Runoff Area=4,434 sf 100.00% Impervious Runoff Depth>8.25"
Tc=6.0 min CN=98 Runoff=0.83 cfs 0.070 af

Reach AP1: Analysis Point 1 Inflow=6.78 cfs 0.801 af
Outflow=6.78 cfs 0.801 af

Pond 3P: Drip Edge Peak Elev=26.04' Storage=1,242 cf Inflow=0.83 cfs 0.070 af
Outflow=0.95 cfs 0.042 af

Pond 4P: Drip Edge Peak Elev=22.04' Storage=1,275 cf Inflow=0.83 cfs 0.070 af
Outflow=1.04 cfs 0.041 af

Pond 10P: RAIN GARDEN Peak Elev=18.84' Storage=3,066 cf Inflow=4.14 cfs 0.247 af
Outflow=1.88 cfs 0.270 af

Total Runoff Area = 1.931 ac Runoff Volume = 0.834 af Average Runoff Depth = 5.18"
73.70% Pervious = 1.423 ac 26.30% Impervious = 0.508 ac

Summary for Subcatchment 10S: Subcatchment 10S

Runoff = 4.26 cfs @ 12.22 hrs, Volume= 0.405 af, Depth> 4.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr(+15%) Rainfall=8.50"

Area (sf)	CN	Description
4,628	98	Roofs, HSG B
8,595	96	Gravel surface, HSG B
15,374	61	>75% Grass cover, Good, HSG B
15,871	55	Woods, Good, HSG B
44,468	69	Weighted Average
39,840		89.59% Pervious Area
4,628		10.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.5	50	0.0200	0.07		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.70"
1.4	60	0.0200	0.71		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.5	120	0.0750	4.11		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
1.9	55	0.0010	0.47		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
0.2	20	0.0050	1.44		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
15.5	305	Total			

Summary for Subcatchment 20S: Subcatchment 20S

Runoff = 1.32 cfs @ 12.22 hrs, Volume= 0.126 af, Depth> 4.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr(+15%) Rainfall=8.50"

Area (sf)	CN	Description
3,395	98	Paved parking, HSG B
7,455	61	>75% Grass cover, Good, HSG B
3,288	55	Woods, Good, HSG B
14,138	68	Weighted Average
10,743		75.99% Pervious Area
3,395		24.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	20	0.0100	0.05		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.70"
4.6	30	0.0100	0.11		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.70"
1.6	173	0.0630	1.76		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.2	28	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.9	79	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
15.6	330	Total			

Summary for Subcatchment 21S: Subcatchment 21S

Runoff = 2.25 cfs @ 12.09 hrs, Volume= 0.164 af, Depth> 5.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr(+15%) Rainfall=8.50"

Area (sf)	CN	Description
5,251	98	Paved parking, HSG B
9,631	61	>75% Grass cover, Good, HSG B
1,783	55	Woods, Good, HSG B
16,665	72	Weighted Average
11,414		68.49% Pervious Area
5,251		31.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	26	0.0850	0.11		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.70"
0.1	25	0.2200	3.28		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.4	145	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.3	196	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 22S: Subcatchment 22S

Runoff = 0.83 cfs @ 12.09 hrs, Volume= 0.070 af, Depth> 8.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr(+15%) Rainfall=8.50"

Area (sf)	CN	Description
3,660	98	Roofs, HSG B
755	98	Water Surface, HSG B
4,415	98	Weighted Average
4,415		100.00% Impervious Area

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

Summary for Subcatchment 23S: Subcatchment 23S

Runoff = 0.83 cfs @ 12.09 hrs, Volume= 0.070 af, Depth> 8.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type III 24-hr 50 Yr 24 Hr(+15%) Rainfall=8.50"

Area (sf)	CN	Description
3,660	98	Roofs, HSG B
774	98	Water Surface, HSG B
4,434	98	Weighted Average
4,434		100.00% Impervious Area

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

Summary for Reach AP1: Analysis Point 1

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

Inflow Area = 1.931 ac, 26.30% Impervious, Inflow Depth > 4.98" for 50 Yr 24 Hr(+15%) event
Inflow = 6.78 cfs @ 12.29 hrs, Volume= 0.801 af
Outflow = 6.78 cfs @ 12.29 hrs, Volume= 0.801 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3

Summary for Pond 3P: Drip Edge

[90] Warning: Qout>Qin may require smaller dt or Finer Routing

Inflow Area = 0.101 ac,100.00% Impervious, Inflow Depth > 8.25" for 50 Yr 24 Hr(+15%) event
Inflow = 0.83 cfs @ 12.09 hrs, Volume= 0.070 af
Outflow = 0.95 cfs @ 12.06 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min
Primary = 0.95 cfs @ 12.06 hrs, Volume= 0.042 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 26.04' @ 12.05 hrs Surf.Area= 755 sf Storage= 1,242 cf

Plug-Flow detention time= 221.4 min calculated for 0.042 af (60% of inflow)

Center-of-Mass det. time= 109.7 min (849.7 - 740.1)

Volume	Invert	Avail.Storage	Storage Description
#1	21.99'	1,593 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
21.99	755	0.0	0	0
22.00	755	40.0	3	3
25.99	755	40.0	1,205	1,208
26.00	755	100.0	8	1,216
26.50	755	100.0	378	1,593

Device	Routing	Invert	Outlet Devices
#1	Primary	26.00'	**50.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.86 cfs @ 12.06 hrs HW=26.03' TW=15.36' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.86 cfs @ 0.51 fps)

Summary for Pond 4P: Drip Edge

[90] Warning: Qout>Qin may require smaller dt or Finer Routing

Inflow Area = 0.102 ac,100.00% Impervious, Inflow Depth > 8.25" for 50 Yr 24 Hr(+15%) event
Inflow = 0.83 cfs @ 12.09 hrs, Volume= 0.070 af
Outflow = 1.04 cfs @ 12.06 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min
Primary = 1.04 cfs @ 12.06 hrs, Volume= 0.041 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 22.04' @ 12.05 hrs Surf.Area= 774 sf Storage= 1,275 cf

Plug-Flow detention time= 225.8 min calculated for 0.041 af (59% of inflow)
Center-of-Mass det. time= 111.5 min (851.6 - 740.1)

Volume	Invert	Avail.Storage	Storage Description
#1	17.99'	1,633 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
17.99	774	0.0	0	0
18.00	774	40.0	3	3
21.99	774	40.0	1,235	1,238
22.00	774	100.0	8	1,246
22.50	774	100.0	387	1,633

Device	Routing	Invert	Outlet Devices
#1	Primary	22.00'	**50.0' long x 0.5' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=0.91 cfs @ 12.06 hrs HW=22.03' TW=15.30' (Dynamic Tailwater)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.91 cfs @ 0.52 fps)

Summary for Pond 10P: RAIN GARDEN

Inflow Area = 0.586 ac, 55.26% Impervious, Inflow Depth > 5.06" for 50 Yr 24 Hr(+15%) event
Inflow = 4.14 cfs @ 12.07 hrs, Volume= 0.247 af
Outflow = 1.88 cfs @ 12.31 hrs, Volume= 0.270 af, Atten= 55%, Lag= 14.6 min
Primary = 1.88 cfs @ 12.31 hrs, Volume= 0.270 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs / 3
Starting Elev= 14.50' Surf.Area= 1,327 sf Storage= 1,200 cf
Peak Elev= 18.84' @ 12.31 hrs Surf.Area= 1,215 sf Storage= 3,066 cf (1,866 cf above start)

Plug-Flow detention time= 45.8 min calculated for 0.243 af (98% of inflow)
Center-of-Mass det. time= (not calculated: outflow precedes inflow)

Volume	Invert	Avail.Storage	Storage Description
#1	12.24'	4,595 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
12.24	1,327	212.9	0.0	0	0	1,327
12.25	1,327	212.9	40.0	5	5	1,329
15.24	1,327	212.9	40.0	1,587	1,592	1,966
15.25	1,327	212.9	5.0	1	1,593	1,968
15.49	1,327	212.9	5.0	16	1,609	2,019
15.50	1,327	212.9	15.0	2	1,611	2,021
16.99	1,327	212.9	15.0	297	1,908	2,338
17.00	88	55.7	100.0	6	1,913	5,698
18.00	716	193.8	100.0	352	2,265	8,443
19.00	1,325	212.9	100.0	1,005	3,270	9,094
20.00	1,325	0.0	100.0	1,325	4,595	12,702

Device	Routing	Invert	Outlet Devices
#1	Primary	19.00'	**95.0' long x 1.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.69 2.72 2.75 2.85 2.98 3.08 3.20 3.28 3.31 3.30 3.31 3.32
#2	Primary	12.50'	**12.0" Round Culvert** L= 25.0' CMP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 12.50' / 12.00' S= 0.0200 '/' Cc= 0.900 n= 0.009 PVC, smooth interior, Flow Area= 0.79 sf
#3	Device 2	12.50'	**3.5" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Device 2	18.75'	**48.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.76 cfs @ 12.31 hrs HW=18.83' TW=0.00' (Dynamic Tailwater)
- **1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
- **2=Culvert** (Passes 1.76 cfs of 7.21 cfs potential flow)
  - **3=Orifice/Grate** (Orifice Controls 0.80 cfs @ 11.98 fps)
  - **4=Orifice/Grate** (Weir Controls 0.96 cfs @ 0.94 fps)

APPENDIX III

Test Pit Logs

CSA
ENVIRONMENTAL CONSULTANTS, LLC
CLEAN WATER FOR THE PRESENT AND FUTURE
36 Stage Rd, Nottingham NH 03290
603.679.1866 C: 603.706.2521
calbert.env@gmail.com

TEST PITS
668 MIDDLE ROAD
PORTSMOUTH, NEW HAMPSHIRE
JANUARY 14, 2021

Performed by: Christopher Albert, SSD #1085

TEST PIT #1 – GRASS MAT

0" - 9"	10YR 3/4	dark yellowish brown fine sandy loam common roots
9" - 20"	10YR 5/6	yellowish brown fine sandy loam common roots
20" - 38"	2.5Y 6/4	Light yellowish brown fine sandy loam Few stones

No H2O observed
SHWT: 28"
Roots: 28"
Refusal: 38"
Perc Rate = 8 min/inch

TEST PIT #2 – GRASS MAT

0" - 7"	10YR 3/4	dark yellowish brown fine sandy loam to loamy sand many roots
7" - 20"	10YR 5/6	yellowish brown fine sandy loam few roots
20" - 46"	2.5Y 5/3	Light yellowish brown fine sandy loam, few stones

CSA
ENVIRONMENTAL CONSULTANTS, LLC
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calbert.env@gmail.com

No H2O observed
SHWT: 32"
Roots: 32"
Refusal: 46"
Perc Rate = 8 min/inch

TEST PIT #3 – GRASS MAT

Refusal: 12"

TEST PIT #4 – GRASS MAT

0" - 9"	10YR 3/4	dark yellowish brown fine sandy loam to loamy sand many roots
9" - 28"	10YR 5/6	yellowish brown fine sandy loam few roots
28" - 48"	2.5Y 5/3	Light yellowish brown fine sandy loam, few stones

No H2O observed
SHWT: 28"
Roots: 28"
Refusal: 48"
Perc Rate = 8 min/inch

TEST PIT #5 – GRASS MAT

Refusal: 18"

NEW HAMPSHIRE
Designer
of
Subsurface Disposal
Systems
Christopher S Albert
No. 1085
Department of Environmental Services

CSA
ENVIRONMENTAL CONSULTANTS, LLC
CLEAN WATER FOR THE PRESENT AND FUTURE
36 Stage Rd, Nottingham NH 03290
603.679.1866 C: 603.706.2521
calbertenv@gmail.com

TEST PIT #6 – FOREST MAT

0" – 12"	10YR 3/3	dark brown fine sandy loam few roots
12" - 36"	10YR 4/6	yellowish brown fine sandy loam common roots
36" - 50"	2.5Y 6/4	Light yellowish brown fine sandy loam Few stones

No H2O observed
SHWT: 40"
Roots: 36"
Refusal: 50"
Perc Rate = 8 min/inch

Test Pit #7 – GRASS MAT

0" – 12"	10YR 3/3	dark brown fine sandy loam few roots
12" - 36"	10YR 4/6	yellowish brown fine sandy loam common roots
36" - 72"	2.5Y 5/4	Light Olive brown fine sandy loam Firm, Few stones

No H2O observed
SHWT: 36"
Roots: 36"
Refusal: 72"
Perc Rate = 8 min/inch

NEW HAMPSHIRE
Designer
of
Subsurface Disposal
Systems
Christopher S Albert
No. 1065
Department of Environmental Services

CSA
ENVIRONMENTAL CONSULTANTS, LLC
CLEAN WATER FOR THE PRESENT AND FUTURE
36 Stage Rd, Nottingham NH 03290
603.679.1866 C: 603.706.2521
calbert.env@gmail.com

TEST PIT #8 – GRASS MAT

Refusal: 12"

TEST PIT #9 – GRASS MAT

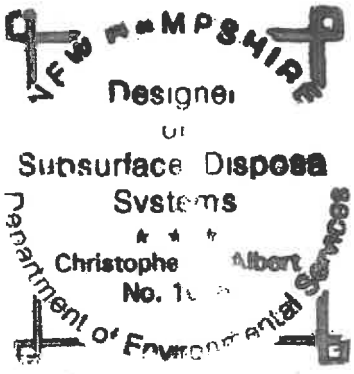
Refusal: 24"

TEST PIT #10 – GRASS MAT

0" - 10"		Crushed Gravel (fill material)
Stabilization Fabric		
10" - 24"	2.5Y 5/3	Light olive brown Silty clay loam Subangular blocky

Encountered 2" electrical conduit

No H2O observed
SHWT: 10"
Roots: none
Refusal: none
Perc Rate = 20 min/inch



TEST PIT #11 – EDGE TREE LINE

0" – 20"	10YR 2/2	Very dark brown, FSL Few roots
20" - 84"	2.5Y 3/4	Light olive brown Silty clay loam Subangular blocky

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CLEAN WATER FOR THE PRESENT AND FUTURE
36 Stage Rd, Nottingham NH 03290
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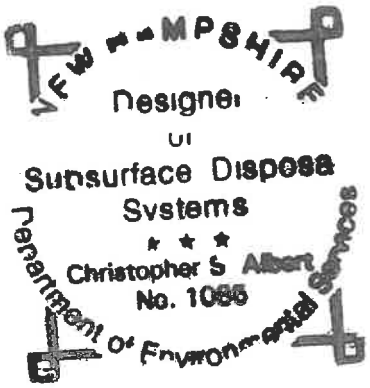
No H2O observed
SHWT: 20"
Roots: 20"
Refusal: none
Perc Rate = 20 min/inch



APPENDIX IV

NRCS Soil Map

Soil Map---Rockingham County, New Hampshire

Map Scale: 1:1,100 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

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
799	Urban land-Canton complex, 3 to 15 percent slopes	2.9	100.0%
Totals for Area of Interest		**2.9**	**100.0%**

APPENDIX V

Extreme Precipitation Estimates

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	70.767 degrees West
Latitude	43.068 degrees North
Elevation	0 feet
Date/Time	Mon, 13 Dec 2021 08:39:25 -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	2.66	2.92	**1yr**	2.35	2.81	3.22	3.94	4.55	**1yr**
2yr	0.32	0.50	0.62	0.81	1.02	1.30	**2yr**	0.88	1.18	1.52	1.94	2.49	3.21	3.57	**2yr**	2.84	3.43	3.94	4.68	5.33	**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	4.07	4.58	**5yr**	3.60	4.40	5.04	5.94	6.70	**5yr**
10yr	0.41	0.65	0.82	1.11	1.45	1.89	**10yr**	1.25	1.72	2.23	2.89	3.75	4.87	5.53	**10yr**	4.31	5.32	6.08	7.11	7.98	**10yr**
25yr	0.48	0.76	0.97	1.33	1.77	2.33	**25yr**	1.53	2.14	2.77	3.63	4.74	6.17	7.10	**25yr**	5.46	6.83	7.80	9.02	10.05	**25yr**
50yr	0.53	0.86	1.10	1.53	2.07	2.75	**50yr**	1.78	2.52	3.28	4.32	5.66	7.39	8.58	**50yr**	6.54	8.25	9.42	10.81	11.98	**50yr**
100yr	0.59	0.96	1.24	1.77	2.41	3.25	**100yr**	2.08	2.97	3.90	5.15	6.77	8.85	10.38	**100yr**	7.84	9.98	11.38	12.96	14.28	**100yr**
200yr	0.67	1.10	1.42	2.04	2.82	3.83	**200yr**	2.43	3.51	4.61	6.12	8.08	10.61	12.55	**200yr**	9.39	12.07	13.75	15.55	17.03	**200yr**
500yr	0.80	1.31	1.71	2.48	3.47	4.75	**500yr**	2.99	4.37	5.75	7.69	10.21	13.49	16.15	**500yr**	11.93	15.53	17.67	19.78	21.50	**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	0.92	1.33	1.68	2.23	2.50	1yr	1.98	2.40	2.86	3.17	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	3.06	3.45	2yr	2.71	3.32	3.82	4.55	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	3.79	4.19	5yr	3.35	4.03	4.72	5.54	6.24	5yr
10yr	0.39	0.59	0.73	1.03	1.32	1.60	10yr	1.14	1.56	1.81	2.39	3.06	4.37	4.87	10yr	3.87	4.68	5.45	6.42	7.20	10yr
25yr	0.44	0.67	0.83	1.19	1.56	1.90	25yr	1.35	1.86	2.10	2.76	3.54	4.71	5.90	25yr	4.17	5.68	6.66	7.80	8.69	25yr
50yr	0.48	0.73	0.91	1.31	1.77	2.17	50yr	1.52	2.12	2.35	3.08	3.94	5.32	6.82	50yr	4.71	6.56	7.74	9.06	10.03	50yr
100yr	0.54	0.81	1.01	1.47	2.01	2.47	100yr	1.74	2.41	2.63	3.42	4.36	5.98	7.87	100yr	5.29	7.57	9.00	10.53	11.58	100yr
200yr	0.59	0.89	1.13	1.63	2.28	2.82	200yr	1.97	2.75	2.93	3.79	4.80	6.70	9.09	200yr	5.93	8.74	10.46	12.25	13.39	200yr
500yr	0.69	1.02	1.31	1.91	2.71	3.37	500yr	2.34	3.29	3.41	4.33	5.47	7.79	10.98	500yr	6.89	10.56	12.75	14.99	16.21	500yr

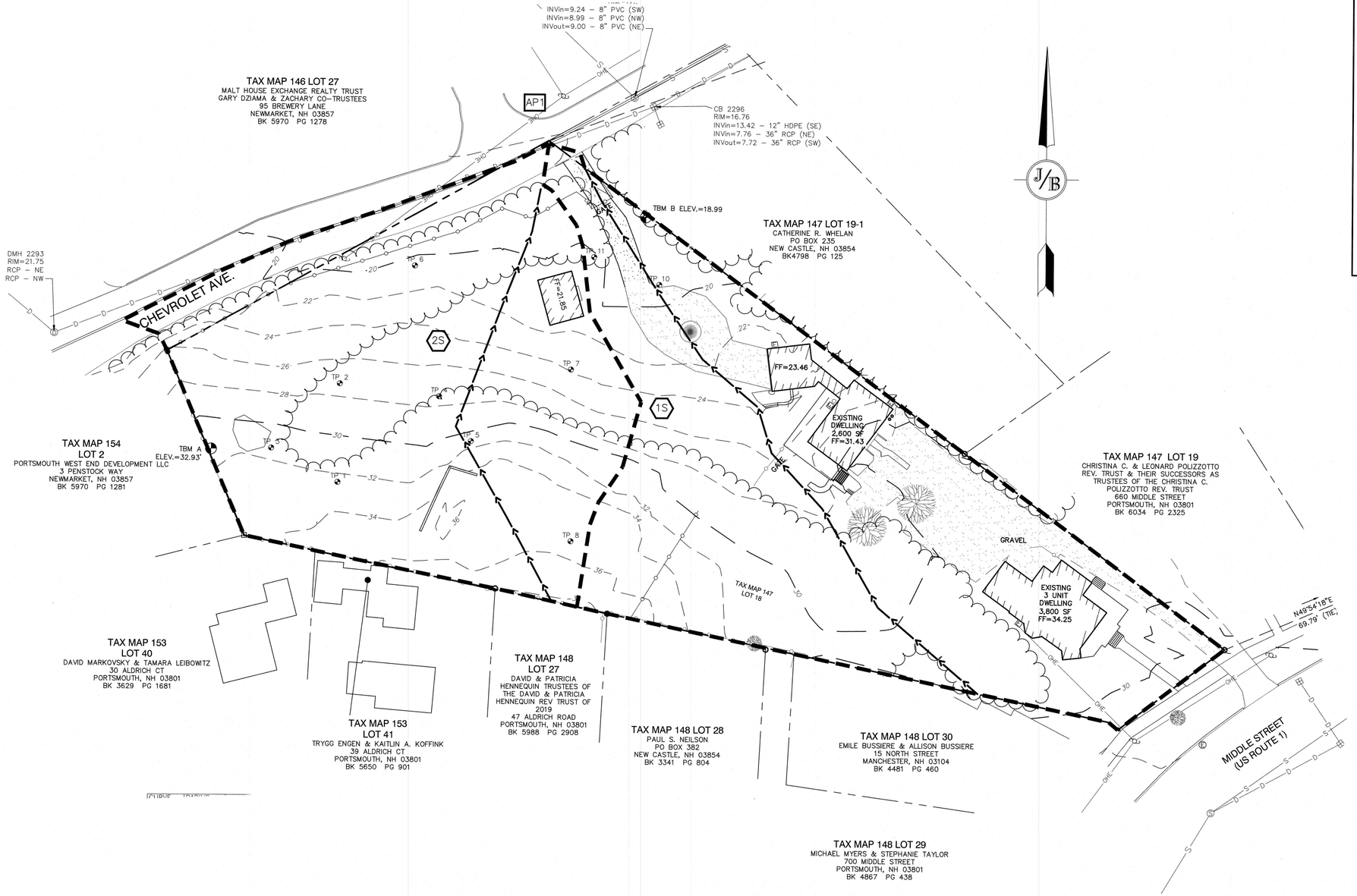
Upper Confidence Limits

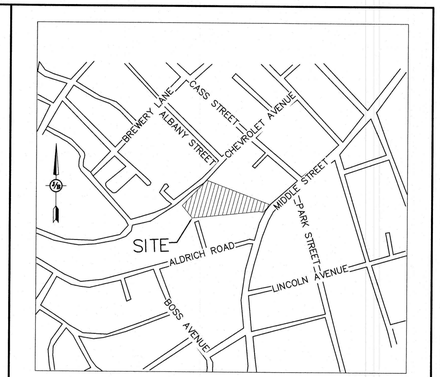
	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.08	1yr	0.77	1.06	1.26	1.74	2.21	2.99	3.16	1yr	2.64	3.04	3.58	4.38	5.05	1yr
2yr	0.34	0.52	0.64	0.86	1.07	1.27	2yr	0.92	1.24	1.48	1.96	2.51	3.43	3.70	2yr	3.03	3.56	4.09	4.84	5.63	2yr
5yr	0.40	0.62	0.76	1.05	1.34	1.62	5yr	1.15	1.58	1.88	2.53	3.25	4.34	4.96	5yr	3.84	4.77	5.38	6.37	7.15	5yr
10yr	0.47	0.72	0.89	1.24	1.61	1.97	10yr	1.39	1.93	2.28	3.10	3.95	5.34	6.19	10yr	4.72	5.96	6.81	7.83	8.74	10yr
25yr	0.57	0.87	1.09	1.55	2.04	2.56	25yr	1.76	2.51	2.95	4.07	5.14	7.79	8.33	25yr	6.90	8.01	9.13	10.33	11.40	25yr
50yr	0.67	1.02	1.27	1.82	2.45	3.12	50yr	2.12	3.05	3.59	4.99	6.30	9.76	10.44	50yr	8.64	10.03	11.41	12.71	13.95	50yr
100yr	0.79	1.19	1.49	2.15	2.95	3.80	100yr	2.55	3.72	4.37	6.15	7.74	12.22	13.07	100yr	10.81	12.57	14.25	15.67	17.07	100yr
200yr	0.92	1.39	1.76	2.54	3.55	4.64	200yr	3.06	4.54	5.33	7.57	9.50	15.33	16.40	200yr	13.57	15.77	17.84	19.31	20.90	200yr
500yr	1.14	1.70	2.19	3.18	4.52	6.02	500yr	3.90	5.88	6.91	10.00	12.50	20.72	22.13	500yr	18.34	21.28	24.00	25.46	27.31	500yr

Powered by ACIS Northeast Regional Climate Center

APPENDIX VI

Pre- and Post-Construction Watershed Plans





LOCUS SCALE: 1"=500'

LEGEND

- SUBCATCHMENT BOUNDARY
- SUBCATCHMENT (X)
- REACH [X]
- POND
- TC PATH
- WETLANDS
- HISS SOILS
- FLOW ARROW

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 147, LOT 18

APPLICANT
TUCK REALTY CORPORATION
PO BOX 190
EXETER, NH 03833

TOTAL LOT AREA
81,046 SQ. FT.
1.86 ACRES

Design: JAC	Draft: AJB	Date: 11/11/20
Checked: JAC	Scale: AS NOTED	Project No.: 20686
Drawing Name: 20686-PLAN.dwg		

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM JONES & BEACH ENGINEERS, INC. (JBE). ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO JBE.

STATE OF NEW HAMPSHIRE – MICHAEL J. KEHVAN No. 9646 LICENSED PROFESSIONAL ENGINEER

REV.	DATE	REVISION	BY
6	3/10/22	REVISED PER TAC COMMENTS	AJB
5	2/15/22	REVISED FOR PLANNING BOARD SUBMISSION	AJB
4	12/20/21	REVISED FOR PLANNING BOARD SUBMISSION	AJB
3	9/30/21	REVISED PER TAC COMMENTS	AJB
2	8/23/21	REVISED FOR PRELIMINARY SUBDIVSION	AJB

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

Plan Name: EXISTING WATERSHED PLAN
Project: 668 MIDDLE STREET PORTSMOUTH, NH
Owner of Record: PUBLIC LAND HOLDINGS LLC PO BOX 190 EXETER, NH 03833 BK 6367 PG 1660

DRAWING No.
W1
SHEET 1 OF 2
JBE PROJECT NO. 20686

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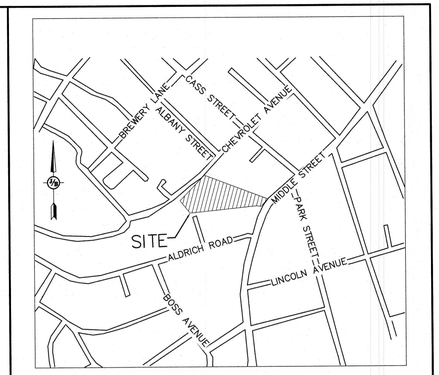


LOCUS SCALE: 1"=500'

LEGEND

- SUBCATCHMENT BOUNDARY
- SUBCATCHMENT (X)
- REACH (X)
- POND (X)
- TC PATH
- WETLANDS
- HISS SOILS
- FLOW ARROW

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 147, LOT 18

APPLICANT
TUCK REALTY CORPORATION
PO BOX 190
EXETER, NH 03833

TOTAL LOT AREA
81,046 SQ. FT.
1.86 ACRES

Design: JAC	Draft: AJB	Date: 11/11/20
Checked: JAC	Scale: AS NOTED	Project No.: 20686
Drawing Name: 20686-PLAN.dwg		

STATE OF NEW HAMPSHIRE – MICHAEL J. KERRIGAN No. 9646 LICENSED PROFESSIONAL ENGINEER

REV.	DATE	REVISION	BY
6	3/10/22	REVISED PER TAC COMMENTS	AJB
5	2/15/22	REVISED FOR PLANNING BOARD SUBMISSION	AJB
4	12/20/21	REVISED FOR PLANNING BOARD SUBMISSION	AJB
3	9/30/21	REVISED PER TAC COMMENTS	AJB
2	8/23/21	REVISED FOR PRELIMINARY SUBDIVSION	AJB

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

Plan Name: PROPOSED WATERSHED PLAN
Project: 668 MIDDLE STREET PORTSMOUTH, NH
Owner of Record: PUBLIC LAND HOLDINGS LLC PO BOX 190 EXETER, NH 03833 BK 6367 PG 1660

DRAWING No. W2
SHEET 2 OF 2
JBE PROJECT NO. 20686

F:\CADD\MASTER STANDARD\dwg\JB-LAYOUTS.dwg 3/12/2015 3:27:29 PM EDT

Plan Name TBD

Chevrolet Ave, Portsmouth NH (10/8/2021)

Artform Home Plans

Prelim / Work in Progress 603-431-9559

NOTE: To scale as noted only if printed on 11x17 paper with "no scaling" (do not "Fit").

Dear Builders and Home Buyers,

In addition to our Terms and Conditions (the "Terms"), please be aware of the following:

This design may not yet have Construction Drawings (as defined in the Terms), and is, therefore, only available as a Design Drawing (as defined in the Terms and together with Construction Drawings, "Drawings'). It is possible that during the conversion of a Design Drawing to a final Construction Drawing, changes may be necessary including, but not limited to, dimensional changes. Please see Plan Data Explained on www.ArtformHomePlans.com to understand room sizes, dimensions and other data provided. We are not responsible for typographical errors.

Artform Home Plans ("Artform") requires that our Drawings be built substantially as designed. Artform will not be obligated by or liable for use of this design with markups as part of any builder agreement. While we attempt to accommodate where possible and reasonable, and where the changes do not denigrate our design, any and all changes to Drawings must be approved in writing by Artform. It is recommended that you have your Drawing updated by Artform prior to attaching any Drawing to any builder agreement. Artform shall not be responsible for the misuse of or unauthorized alterations to any of its Drawings.

Facade Changes:

• To maintain design integrity, we pay particular attention to features on the front facade, including but not limited to door surrounds, window casings, finished porch column sizes, and roof friezes. While we may allow builders to add their own flare to aesthetic elements, we don't allow our designs to be stripped of critical details. Any such alterations require the express written consent of Artform.

• Increasing ceiling heights usually requires adjustments to window sizes and other exterior elements.

Floor plan layout and/or Structural Changes:

• Structural changes always require the express written consent of Artform

• If you wish to move or remove walls or structural elements (such as removal of posts, increases in house size, ceiling height changes, addition of dormers, etc), please do not assume it can be done without other additional changes (even if the builder or lumber yard says you can).

Plan Name TBD

Chevrolet Ave, Portsmouth NH (10/8/2021)

Artform Home Plans

Prelim / Work in Progress 603-431-9559

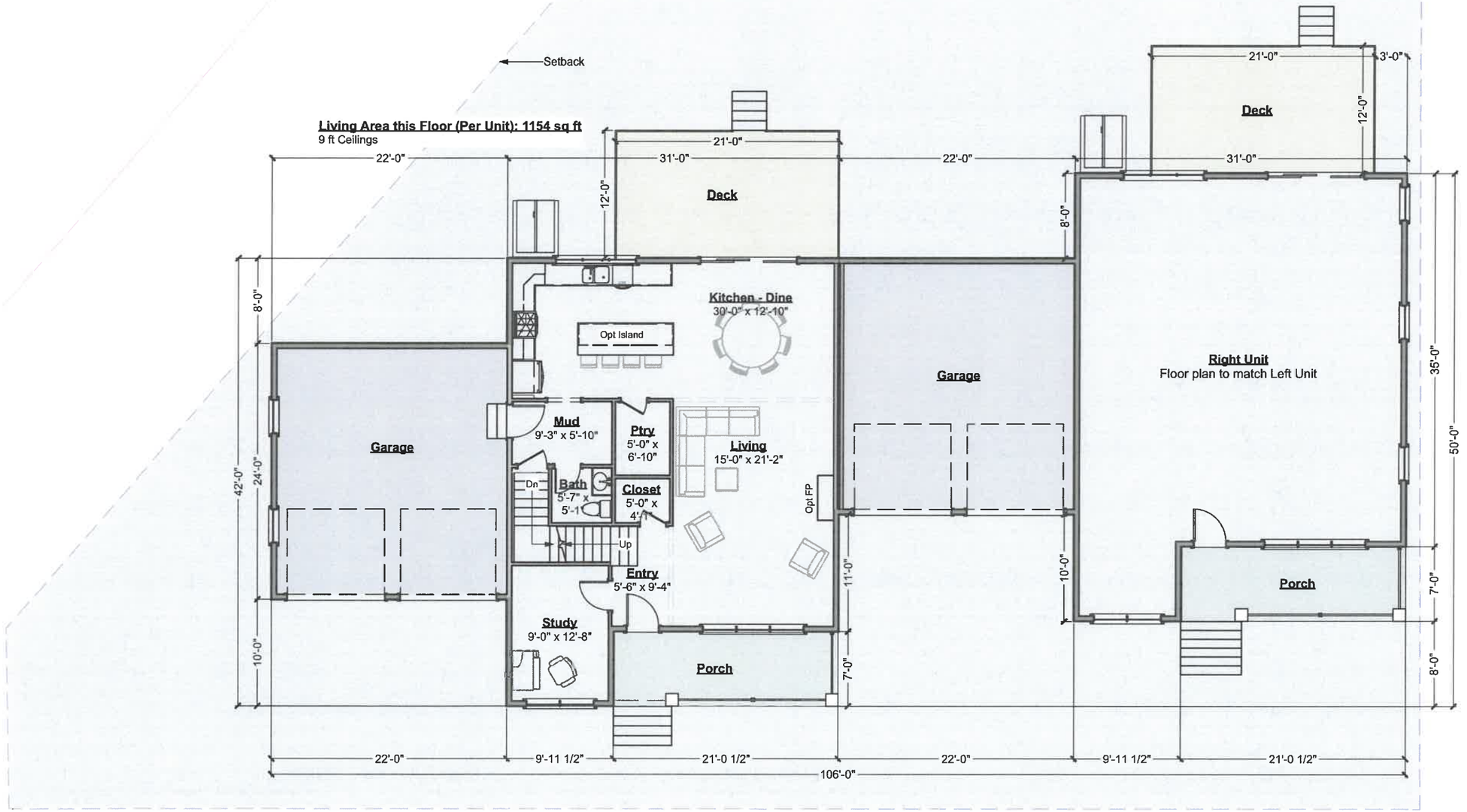
NOTE: To scale as noted only if printed on 11x17 paper with "no scaling" (do not "Fit").

Plan Name TBD

Chevrolet Ave, Portsmouth NH (10/8/2021)

Artform Home Plans
Prelim / Work in Progress 603-431-9559

NOTE: To scale as noted only if printed on 11x17 paper with "no scaling" (do not "Fit").



First Floor Plan

Scale: 3/32" = 1'-0"

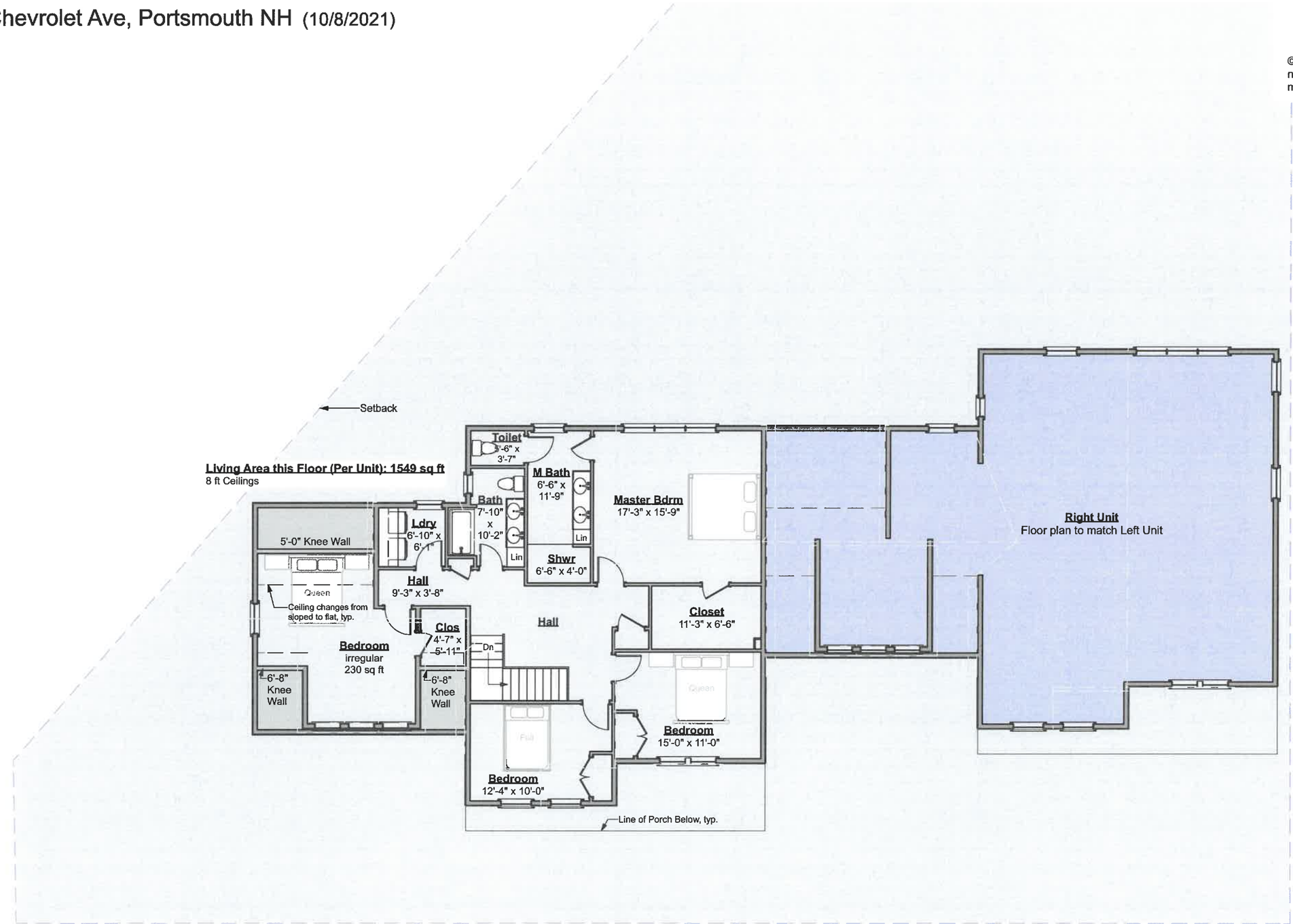
Plan Name TBD

Chevrolet Ave, Portsmouth NH (10/8/2021)

Artform Home Plans

Prelim / Work in Progress 603-431-9559

NOTE: To scale as noted only if printed on 11x17 paper with "no scaling" (do not "Fit").



Second Floor Plan

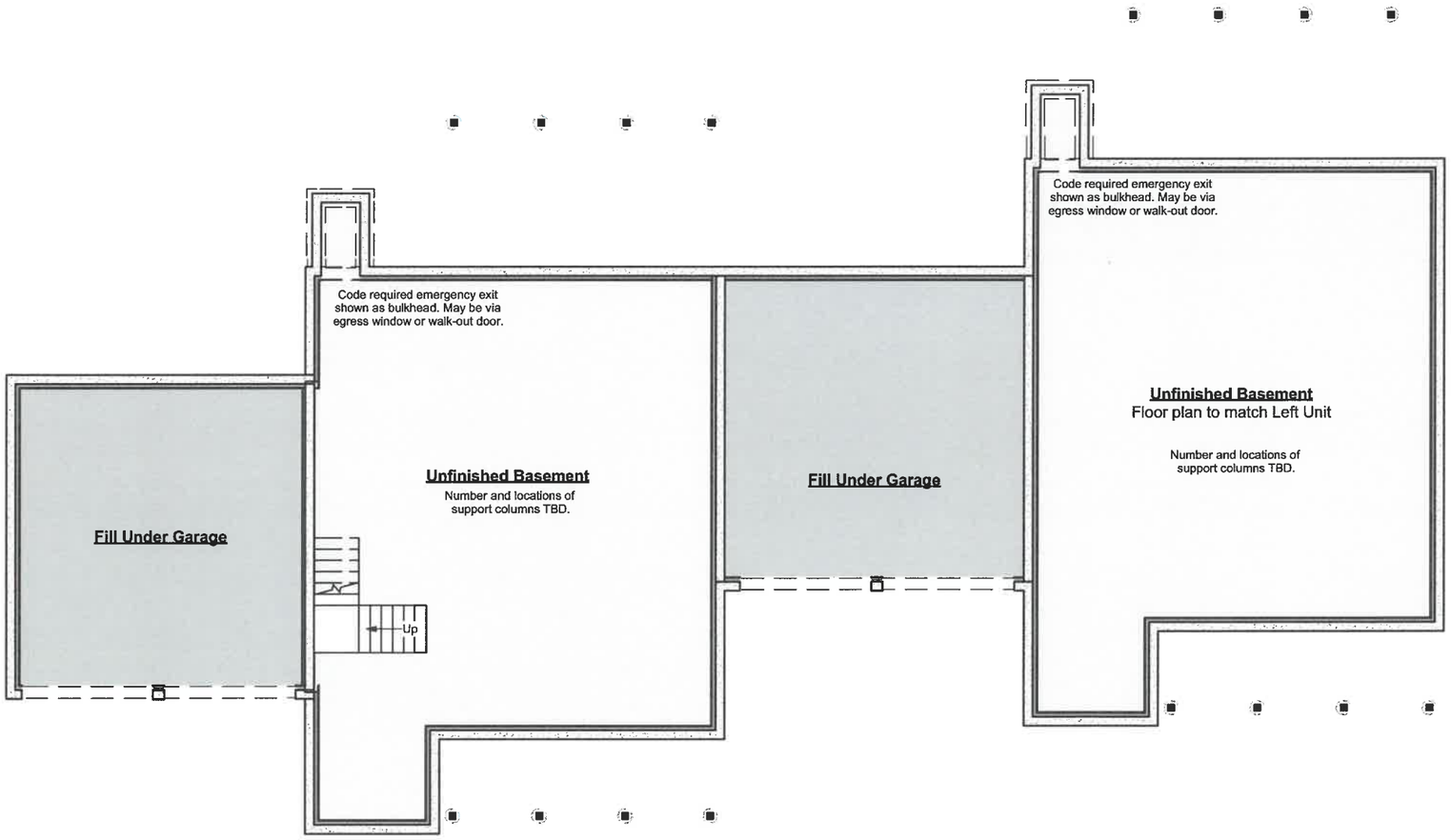
Scale: 3/32" = 1'-0"

Plan Name TBD

Chevrolet Ave, Portsmouth NH (10/8/2021)

Artform Home Plans
Prelim / Work in Progress 603-431-9559

NOTE: To scale as noted only if printed on 11x17 paper with "no scaling" (do not "Fit").



Foundation Plan

Scale: 3/32" = 1'-0"

Plan Name TBD

Chevrolet Ave, Portsmouth NH (10/8/2021)

Artform Home Plans

Prelim / Work in Progress 603-431-9559

NOTE: To scale as noted only if printed on 11x17 paper with "no scaling" (do not "Fit").

Front Elevation

Scale: 1/8" = 1'-0"

Plan Name TBD

Chevrolet Ave, Portsmouth NH (10/8/2021)

Artform Home Plans
Prelim / Work in Progress 603-431-9559

NOTE: To scale as noted only if printed on 11x17 paper with "no scaling" (do not "Fit").

Right Elevation

Scale: 1/8" = 1'-0"

Plan Name TBD

Chevrolet Ave, Portsmouth NH (10/8/2021)

Artform Home Plans

Prelim / Work in Progress 603-431-9559

NOTE: To scale as noted only if printed on 11x17 paper with "no scaling" (do not "Fit").

Rear Elevation

Scale: 1/8" = 1'-0"

Plan Name TBD

Chevrolet Ave, Portsmouth NH (10/8/2021)

Artform Home Plans
Prelim / Work in Progress 603-431-9559

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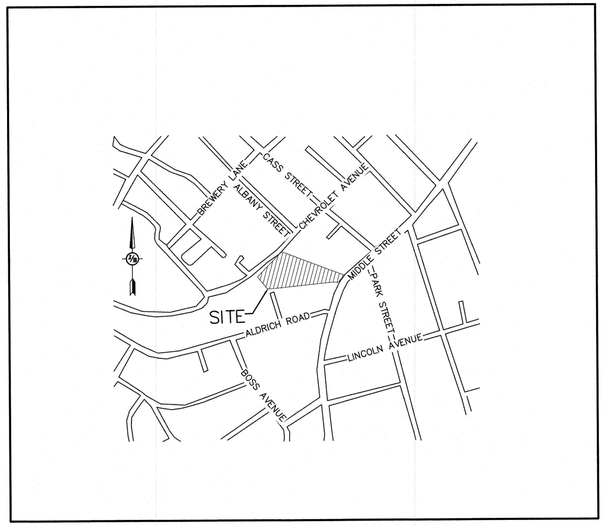
Left Elevation

Scale: 1/8" = 1'-0"

SITE & SUBDIVISION PLAN
"CHEVROLET AVENUE DUPLEXES"
TAX MAP 147 LOT 18
668 MIDDLE STREET, PORTSMOUTH NEW HAMPSHIRE

GENERAL LEGEND

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY LINES
		SETBACK LINES
		CENTERLINE
		FRESHWATER WETLANDS LINE
		TIDAL WETLANDS LINE
		STREAM CHANNEL
		TREE LINE
		STONEWALL
		BARBED WIRE
		FENCE
		STOCKADE FENCE
		SOIL BOUNDARY
		AQUIFER PROTECTION LINE
		FLOOD PLAIN LINE
		ZONELINE
		EASEMENT
100	100	MAJOR CONTOUR
98	98	MINOR CONTOUR
VGC	VGC	EDGE OF PAVEMENT
SGC	SGC	VERTICAL GRANITE CURB
CCB	CCB	SLOPE GRANITE CURB
PCC	PCC	CAPE COD BERM
X	X	POURED CONCRETE CURB
D		SILT FENCE
S	S	DRAINAGE LINE
FM	FM	SEWER LINE
G	G	SEWER FORCE MAIN
W	W	GAS LINE
WS	WS	WATER LINE
OHE	OHE	WATER SERVICE
UGE	UGE	OVERHEAD ELECTRIC
		UNDERGROUND ELECTRIC
		GUARDRAIL
UD	UD	UNDERDRAIN
F	F	FIRE PROTECTION LINE
	W	THRUST BLOCK
		IRON PIPE/IRON ROD
		DRILL HOLE
		IRON ROD/DRILL HOLE
		STONE/GRANITE BOUND
		SPOT GRADE
100x0		PAVEMENT SPOT GRADE
x 100.00		
x 100.00		CURB SPOT GRADE
99.50		
		BENCHMARK (TBM)
		DOUBLE POST SIGN
		SINGLE POST SIGN
		TEST PIT
		TREES AND BUSHES
		UTILITY POLE
		LIGHT POLES
		DRAIN MANHOLE
		SEWER MANHOLE
		HYDRANT
		WATER GATE
		WATER SHUT OFF
		REDUCER
		SINGLE GRATE CATCH BASIN
		DOUBLE GRATE CATCH BASIN
		TRANSFORMER
D		CULVERT W/STRAIGHT HEADWALL
		STONE CHECK DAM
		DRAINAGE FLOW DIRECTION
		RIPRAP
		STABILIZED CONSTRUCTION ENTRANCE
		CONCRETE
		GRAVEL
		SNOW STORAGE
		RETAINING WALL



LOCUS MAP
SCALE 1" = 500'

SHEET INDEX

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

LIGHTING CONSULTANT
CHARRON, INC.
P.O BOX 4550
MANCHESTER, NH 03108
(603) 945-3500
CONTACT: KEN SWEENEY
EMAIL: KSWEENEY@CHARRONINC.COM

LANDSCAPE DESIGNER
LM LAND DESIGN, LLC
11 SOUTH ROAD
BRENTWOOD, NH 03833
(603) 770-7728
CONTACT: LISE MCNAUGHTON

SOILS CONSULTANT
GOVE ENVIRONMENTAL SERVICES, INC.
8 CONTINENTAL DRIVE, UNIT H
PO BOX 219
EXETER, NH 03833
(603) 778-0644
CONTACT: JIM GOVE, CWS, CSS
JGOVE@GESINC.BIZ

ARCHITECT
ART FORM ARCHITECURE INC.
44 LAFAYETTE ROAD
NORTH HAMPTON, NH 03862
CONTACT: WENDY WELTON
(603) 431-9559

WATER
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS
WATER DIVISION
680 PEVERLY HILL ROAD
PORTSMOUTH, NH 03801
CONTACT: RAYMOND PEZZULLO
(603) 427-1530

SEWER
CITY OF PORTSMOUTH
DEPARTMENT OF PUBLIC WORKS
SEWER DIVISION
680 PEVERLY HILL ROAD
PORTSMOUTH, NH 03801
CONTACT: TERRY DESMARAIS, P.E.
(603) 766-1421

NATURAL GAS
UNITIL SERVICE CORP.
114 DRINKWATER ROAD
KENSINGTON, NH 03833-5602
(603) 777-5512

ELECTRIC
EVERSOURCE
74 OLD DOVER ROAD
ROCHESTER, NH 03867
(800) 555-5334

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

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

APPROVED – PORTSMOUTH, NH
PLANNING BOARD

DATE:

PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 147, LOT 18

APPLICANT
TUCK REALTY CORPORATION
PO BOX 190
EXETER, NH 03833

TOTAL LOT AREA
81,046 SQ. FT.
1.86 ACRES

Design: JAC	Draft: ERE
Checked: JAC	Scale: AS NOTED
Drawing Name: 20686-PLAN.dwg	Date: 03/22/22
	Project No.: 20686

STATE OF NEW HAMPSHIRE
MICHAEL J. KERIVAN
No. 9648
LICENSED PROFESSIONAL ENGINEER
4/26/22

REV.	DATE	REVISION	BY
7	4/22/22	REVISED PER TAC COMMENTS	DJM
6	3/22/22	REVISED PER TAC COMMENTS	ERE
5	2/15/22	REVISED FOR PLANNING BOARD SUBMISSION	AJB
4	12/20/21	REVISED FOR PLANNING BOARD SUBMISSION	AJB
3	9/30/21	REVISED PER TAC COMMENTS	AJB

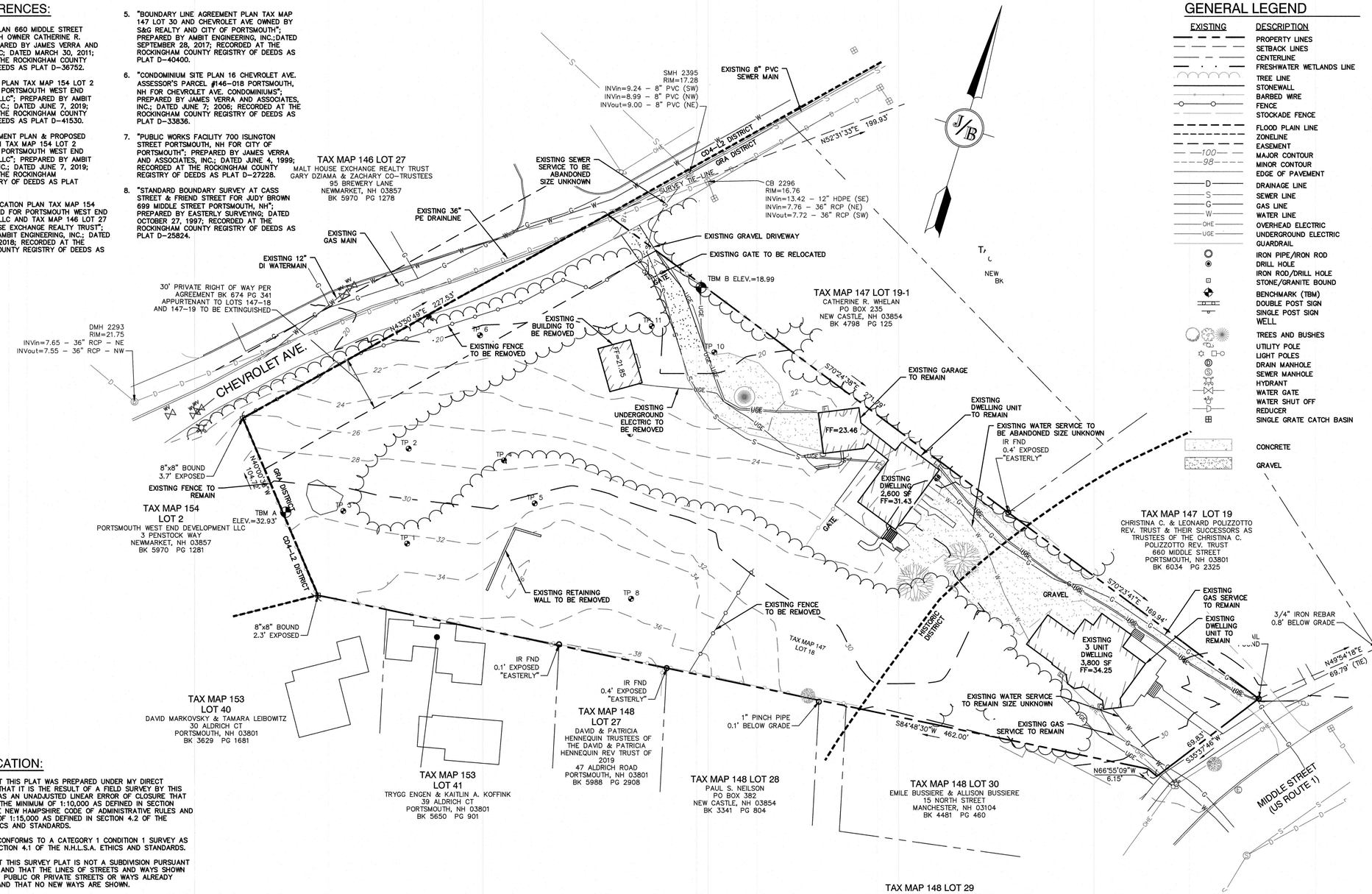
Designed and Produced in NH
J/B Jones & Beach Engineers, Inc.
85 Portsmouth Ave.
PO Box 219
Stratham, NH 03885
Civil Engineering Services
603-772-4746
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	COVER SHEET
Project:	668 MIDDLE STREET PORTSMOUTH, NH
Owner of Record:	PUBLIC LAND HOLDINGS, LLC PO BOX 190 EXETER, NH 03833 BK 6367 PG 1660

DRAWING No.
CS
SHEET 1 OF 14
JBE PROJECT NO. 20686

PLAN REFERENCES:

1. "SUBDIVISION PLAN 660 MIDDLE STREET PORTSMOUTH NH OWNER CATHERINE R. WHELAN"; PREPARED BY JAMES VERRA AND ASSOCIATES, INC; DATED MARCH 30, 2011; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-36752.
2. "AMENDED SITE PLAN TAX MAP 154 LOT 2 PREPARED FOR PORTSMOUTH WEST END DEVELOPMENT, LLC"; PREPARED BY AMBIT ENGINEERING, INC.; DATED JUNE 7, 2019; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-41530.
3. "EXISTING EASEMENT PLAN & PROPOSED EASEMENT PLAN TAX MAP 154 LOT 2 PREPARED FOR PORTSMOUTH WEST END DEVELOPMENT, LLC"; PREPARED BY AMBIT ENGINEERING, INC.; DATED JUNE 7, 2019; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-41529.
4. "LOT LINE RELOCATION PLAN TAX MAP 154 LOT 2 PREPARED FOR PORTSMOUTH WEST END DEVELOPMENT, LLC AND TAX MAP 146 LOT 27 FOR MALT HOUSE EXCHANGE REALTY TRUST"; PREPARED BY AMBIT ENGINEERING, INC.; DATED DECEMBER 21, 2018; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-41238.
5. "BOUNDARY LINE AGREEMENT PLAN TAX MAP 147 LOT 30 AND CHEVROLET AVE OWNED BY S&G REALTY AND CITY OF PORTSMOUTH"; PREPARED BY AMBIT ENGINEERING, INC.;DATED SEPTEMBER 28, 2017; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-40400.
6. "CONDOMINIUM SITE PLAN 16 CHEVROLET AVE. ASSESSOR'S PARCEL #146-018 PORTSMOUTH, NH FOR CHEVROLET AVE. CONDOMINIUMS"; PREPARED BY JAMES VERRA AND ASSOCIATES, INC.; DATED JUNE 7, 2006; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-33836.
7. "PUBLIC WORKS FACILITY 700 ISLINGTON STREET PORTSMOUTH, NH FOR CITY OF PORTSMOUTH"; PREPARED BY JAMES VERRA AND ASSOCIATES, INC.; DATED JUNE 4, 1999; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-27228.
8. "STANDARD BOUNDARY SURVEY AT CASS STREET & FRIEND STREET FOR JUDY BROWN 699 MIDDLE STREET PORTSMOUTH, NH"; PREPARED BY EASTERLY SURVEYING; DATED OCTOBER 27, 1997; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-25824.



GENERAL LEGEND

EXISTING	DESCRIPTION
	PROPERTY LINES
	SETBACK LINES
	CENTERLINE
	FRESHWATER WETLANDS LINE
	TREE LINE
	STONEWALL
	BARBED WIRE
	FENCE
	STOCKADE FENCE
	FLOOD PLAIN LINE
	ZONELINE
	EASEMENT
100	MAJOR CONTOUR
98	MINOR CONTOUR
	EDGE OF PAVEMENT
D	DRAINAGE LINE
S	SEWER LINE
G	GAS LINE
W	WATER LINE
OHE	OVERHEAD ELECTRIC
UGE	UNDERGROUND ELECTRIC
	GUARDRAIL
	IRON PIPE/IRON ROD
	DRILL HOLE
	IRON ROD/DRILL HOLE
	STONE/GRANITE BOUND
	BENCHMARK (TBM)
	DOUBLE POST SIGN
	SINGLE POST SIGN
	WELL
	TREES AND BUSHES
	UTILITY POLE
	LIGHT POLES
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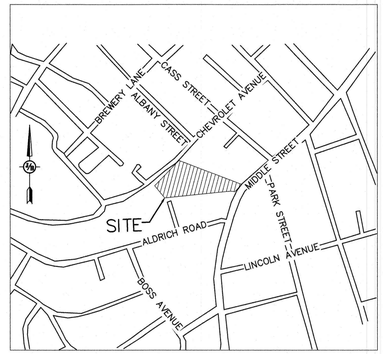
	HYDRANT
	WATER GATE
	WATER SHUT OFF
	REDUCER
	SINGLE GRATE CATCH BASIN
	CONCRETE
	GRAVEL



LOCUS SCALE: 1"=500'

NOTES:

1. THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS OF LOT 18 DEPICTED HEREON TAX MAP 147.
2. THE UTILITY LOCATIONS SHOWN HEREON WERE DETERMINED BY OBSERVED ABOVE GROUND EVIDENCE AND SHOULD BE CONSIDERED APPROXIMATE IN LOCATION ONLY. LOCATION, DEPTH, SIZE, TYPE, EXISTENCE OR NONEXISTENCE OF UNDERGROUND UTILITIES AND/OR UNDERGROUND STORAGE TANKS WAS NOT VERIFIED BY THIS SURVEY. ALL CONTRACTORS SHOULD NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES PRIOR TO ANY EXCAVATION WORK OR CALL DIG-SAFE AT 1-888-DIG-SAFE.
3. THE SUBJECT PARCEL IS LOCATED WITHIN AN AREA HAVING A ZONE X DESIGNATION BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP NO. 33015C0259F, DATED JANUARY 29, 2021, FOR COMMUNITY PANEL NO. 259 OF 681, IN ROCKINGHAM COUNTY, STATE OF NEW HAMPSHIRE, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR COMMUNITY IN WHICH SAID PREMISES IS SITUATED.
4. BASIS OF BEARING: HORIZONTAL: STATE PLANE NAD83 VERTICAL: NAVD88
5. CERTAIN DATA HEREON MAY VARY FROM RECORDED DATA DUE TO DIFFERENCES IN DECLINATION, ORIENTATION, AND METHODS OF MEASUREMENT.
6. ALL BOOK AND PAGE NUMBERS REFER TO THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
7. THE TAX MAP AND LOT NUMBERS ARE BASED ON THE CITY OF PORTSMOUTH TAX RECORDS AND ARE SUBJECT TO CHANGE.
8. RESEARCH WAS PERFORMED AT THE CITY OF PORTSMOUTH ASSESSOR'S OFFICE AND THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
9. THIS SURVEY IS NOT A CERTIFICATION TO OWNERSHIP OR TITLE OF LANDS SHOWN. OWNERSHIP AND ENCUMBRANCES ARE MATTERS OF TITLE EXAMINATION NOT OF A BOUNDARY SURVEY. THE INTENT OF THIS PLAN IS TO RETRACE THE BOUNDARY LINES OF DEEDS REFERENCED HEREON. OWNERSHIP OF ADJOINING PROPERTIES IS ACCORDING TO ASSESSOR'S RECORDS. THIS PLAN MAY OR MAY NOT INDICATE ALL ENCUMBRANCES EXPRESSED, IMPLIED OR PRESCRIPTIVE.
10. ANY USE OF THIS PLAN AND OR ACCOMPANYING DESCRIPTIONS SHOULD BE DONE WITH LEGAL COUNSEL, TO BE CERTAIN THAT TITLES ARE CLEAR, THAT INFORMATION IS CURRENT, AND THAT ANY NECESSARY CERTIFICATES ARE IN PLACE FOR A PARTICULAR CONVEYANCE, OR OTHER USES.
11. NO WETLANDS WERE OBSERVED ON THE SUBJECT PREMISES.
12. THIS PLAN IS THE RESULT OF A CLOSED TRAVERSE WITH A RAW, UNADJUSTED LINEAR ERROR OF CLOSURE GREATER THAN 1 IN 150,000.
13. SURVEY TIE LINES SHOWN HEREON ARE NOT BOUNDARY LINES. THEY SHOULD ONLY BE USED TO LOCATE THE PARCEL SURVEYED FROM THE FOUND MONUMENTS SHOWN AND LOCATED BY THIS SURVEY.
14. HOUSE LOCATIONS OF ABUTTING PROPERTIES ARE FROM AERIAL PHOTOGRAPHY AND DIGITIZED ON PLAT. BUILDINGS WERE LOCATED ON SUBJECT PARCEL BY CONVENTIONAL SURVEYING METHODS.
15. RIGHT OF WAY WENT FROM A 50' IN WIDTH (SEE DEED BK. 512 PG. 429) TO 30' RIGHT OF WAY (SEE DEED BK. 674, PG. 341).
16. EXISTING 20' WIDE GAS EASEMENT ON SUBJECT PARCEL SEE DEED BK 4470 PG 2003. LOCATION OF EASEMENT UNDETERMINDED AT THIS TIME. EASEMENT SHALL FOLLOW THE ROUTE OF PIPELINES 10 FEET ON EACH SIDE EXTENDED TO PROPERTY LINE.

CERTIFICATION:

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

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

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 892 DAVID M. COLLIER

SIGNATURE

4/26/2022

DAVID M. COLLIER, LLS 892 DATE:

ON BEHALF OF JONES & BEACH ENGINEERS, INC.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 147, LOT 18

APPLICANT
TUCK REALTY CORPORATION
PO BOX 190
EXETER, NH 03833

TOTAL LOT AREA
81,046 SQ. FT.
1.86 ACRES

Design: JAC	Draft: ERE	Date: 03/22/22
Checked: JAC	Scale: AS NOTED	Project No.: 20686
Drawing Name: 20686-PLAN.dwg		

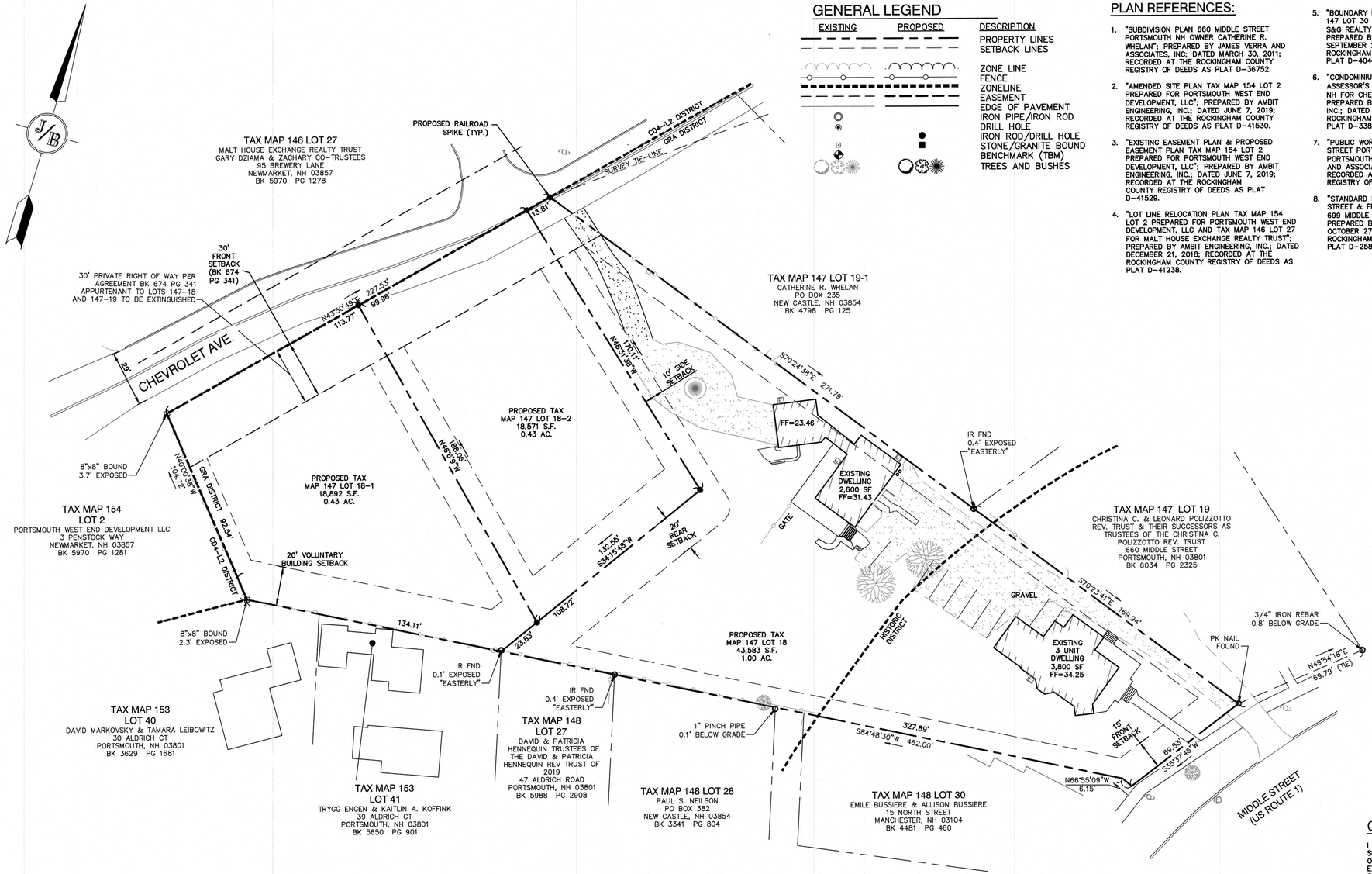
STATE OF NEW HAMPSHIRE MICHAEL J. KERVIAN No. 9646 LICENSED LAND SURVEYOR 4/26/2022

REV.	DATE	REVISION	BY
7	4/22/22	REVISED PER TAC COMMENTS	DJM
6	3/22/22	REVISED PER TAC COMMENTS	ERE
5	2/15/22	REVISED FOR PLANNING BOARD SUBMISSION	AJB
4	12/20/21	REVISED FOR PLANNING BOARD SUBMISSION	AJB
3	9/30/21	REVISED PER TAC COMMENTS	AJB

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

Plan Name:	EXISTING CONDITIONS PLAN
Project:	668 MIDDLE STREET PORTSMOUTH, NH
Owner of Record:	PUBLIC LAND HOLDINGS, LLC PO BOX 190 EXETER, NH 03833 BK 6367 PG 1660

DRAWING No.
C1
SHEET 2 OF 14
JBE PROJECT NO. 20686



GENERAL LEGEND

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY LINES
		SETBACK LINES
		ZONE LINE
		FENCE
		ZONELINE
		EASEMENT
		EDGE OF PAVEMENT
		IRON PIPE/IRON ROD
		DRILL HOLE
		IRON ROD/DRILL HOLE
		STONE/GRANITE BOUND
		BENCHMARK (TBM)
		TREES AND BUSHES

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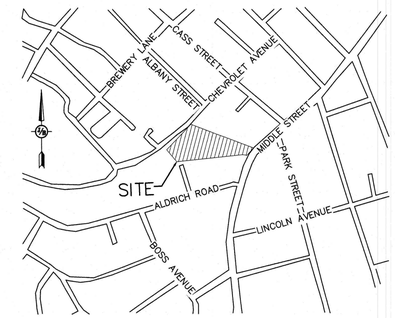
7. "PUBLIC WORKS FACILITY 700 ISLINGTON STREET PORTSMOUTH, NH FOR CITY OF PORTSMOUTH"; PREPARED BY JAMES VERRA AND ASSOCIATES, INC.; DATED JUNE 4, 1999; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-27228.
8. "STANDARD BOUNDARY SURVEY AT CASS STREET & FRIEND STREET FOR JUDY BROWN 699 MIDDLE STREET PORTSMOUTH, NH"; PREPARED BY EASTERLY SURVEYING; DATED OCTOBER 27, 1997; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-25824.



LOCUS SCALE: 1"=500'

SUBDIVISION NOTES:

1. THE INTENT OF THIS PLAN IS TO SUBDIVIDE MAP 147, LOT 18 INTO 3 RESIDENTIAL LOTS AND CONVERT THE EXISTING BUILDINGS INTO CONDOMINIUMS WITH CITY WATER AND SEWER.
2. ZONING DISTRICT: GENERAL RESIDENCE A (GRA)
   LOT AREA MINIMUM = 7,500 S.F.
   MAX DENSITY = 1 DWELLING UNIT PER 7,500 S.F. LOT AREA
   LOT FRONTAGE MINIMUM = 100'
   LOT DEPTH MINIMUM = 70'
   BUILDING SETBACKS (MINIMUM):
   FRONT SETBACK = 15'
   SIDE SETBACK = 10'
   REAR SETBACK = 20'
   MAX. BUILDING HEIGHT = 35' WITH SLOPED ROOF, 30' WITH FLAT ROOF
   MAX. BUILDING COVERAGE = 25%
   MIN. OPEN SPACE = 30%
2. GRANTED VARIANCES:
   SECTION 10.521 – FRONTAGE
   SECTION 10.512 – ACCESS VIA PRIVATE R.O.W.
3. THIS PLAN SET HAS BEEN PREPARED BY JONES & BEACH ENGINEERS, INC., FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA AS SHOWN ON THE DESIGN PLANS, INCLUDING ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS ON THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS, MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
4. THE SUBJECT PARCEL IS LOCATED WITHIN AN AREA HAVING A ZONE X DESIGNATION BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP NO. 33015C0259F, WITH EFFECTIVE DATE OF JANUARY 29, 2021, FOR COMMUNITY PANEL NO. 259 OF 681, IN ROCKINGHAM COUNTY, STATE OF NEW HAMPSHIRE, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR COMMUNITY IN WHICH SAID PREMISES IS SITUATED.
5. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.
6. IRON RODS WITH SURVEY CAPS OR RAIL ROAD SPIKES TO BE SET AT ALL PROPERTY CORNERS AND ANGLE POINTS, UNLESS OTHERWISE INDICATED. ALL MONUMENTS SET ARE 5/8" IRON RODS WITH ALUMINUM CAPS MARKED "JONES & BEACH ENGINEERS BOUNDARY, DO NOT DISTURB, STRATHAM, N.H." AS SHOWN.
7. ALL BOOK AND PAGE NUMBERS REFER TO THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
8. THE TAX MAP AND LOT NUMBERS AND ABUTTING OWNERS ARE BASED ON THE TOWN OF PORTSMOUTH TAX RECORDS AND ARE SUBJECT TO CHANGE.
9. RESEARCH WAS PERFORMED AT THE CITY OF PORTSMOUTH ASSESSORS OFFICE AND THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
10. THIS SURVEY IS NOT A CERTIFICATION TO OWNERSHIP OR TITLE OF LANDS SHOWN. OWNERSHIP AND ENCUMBRANCES ARE MATTERS OF TITLE EXAMINATION NOT OF A BOUNDARY SURVEY. THE INTENT OF THIS PLAN IS TO RETRACE THE BOUNDARY LINES OF DEEDS REFERENCED HEREON. OWNERSHIP OF ADJOINING PROPERTIES IS ACCORDING TO ASSESSOR'S RECORDS. THIS PLAN MAY OR MAY NOT INDICATE ALL ENCUMBRANCES EXPRESSED, IMPLIED OR PRESCRIPTIVE.
11. ANY USE OF THIS PLAN AND OR ACCOMPANYING DESCRIPTIONS SHOULD BE DONE WITH LEGAL COUNSEL TO BE CERTAIN THAT TITLES ARE CLEAR, THAT INFORMATION IS CURRENT, AND THAT ANY NECESSARY CERTIFICATES ARE IN PLACE FOR A PARTICULAR CONVEYANCE, OR OTHER USES.
12. PROPOSED LOTS NEED TO OBTAIN DRIVEWAY PERMITS FOR CHEVROLET AVE.
13. A BLANKET EASEMENT SHALL BE CONVEYED TO THE CITY OF PORTSMOUTH UPON TAX MAP 147, LOTS 18-1 & 18-2 FOR VALVES, LEAK DETECTION, AND METERING.

CERTIFICATION:

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

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

STATE OF NEW HAMPSHIRE No. 892 DAVID M. COLLIER LICENSED LAND SURVEYOR

SIGNATURE

DAVID M. COLLIER, LLS 892 DATE: 4/26/2022

ON BEHALF OF JONES & BEACH ENGINEERS, INC.

APPROVED – PORTSMOUTH, NH PLANNING BOARD

DATE:

PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 147, LOT 18

APPLICANT
TUCK REALTY CORPORATION
PO BOX 190
EXETER, NH 03833

TOTAL LOT AREA
81,046 SQ. FT.
1.86 ACRES

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

Design: JAC	Draft: ERE
Checked: JAC	Scale: AS NOTED
Drawing Name: 20686-PLAN.dwg	Date: 03/22/22
	Project No.: 20686

STATE OF NEW HAMPSHIRE MICHAEL J. KERRIGAN No. 9646 LICENSED LAND SURVEYOR 4/26/2022

REV.	DATE	REVISION	BY
7	4/22/22	REVISED PER TAC COMMENTS	DJM
6	3/22/22	REVISED PER TAC COMMENTS	ERE
5	2/15/22	REVISED FOR PLANNING BOARD SUBMISSION	AJB
4	12/20/21	REVISED FOR PLANNING BOARD SUBMISSION	AJB
3	9/30/21	REVISED PER TAC COMMENTS	AJB

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

Plan Name:	SUBDIVISION PLAN
Project:	668 MIDDLE STREET PORTSMOUTH, NH
Owner of Record:	PUBLIC LAND HOLDINGS, LLC PO BOX 190 EXETER, NH 03833 BK 6367 PG 1660

DRAWING No.
A1
SHEET 3 OF 14
JBE PROJECT NO. 20686

CERTIFICATION:

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

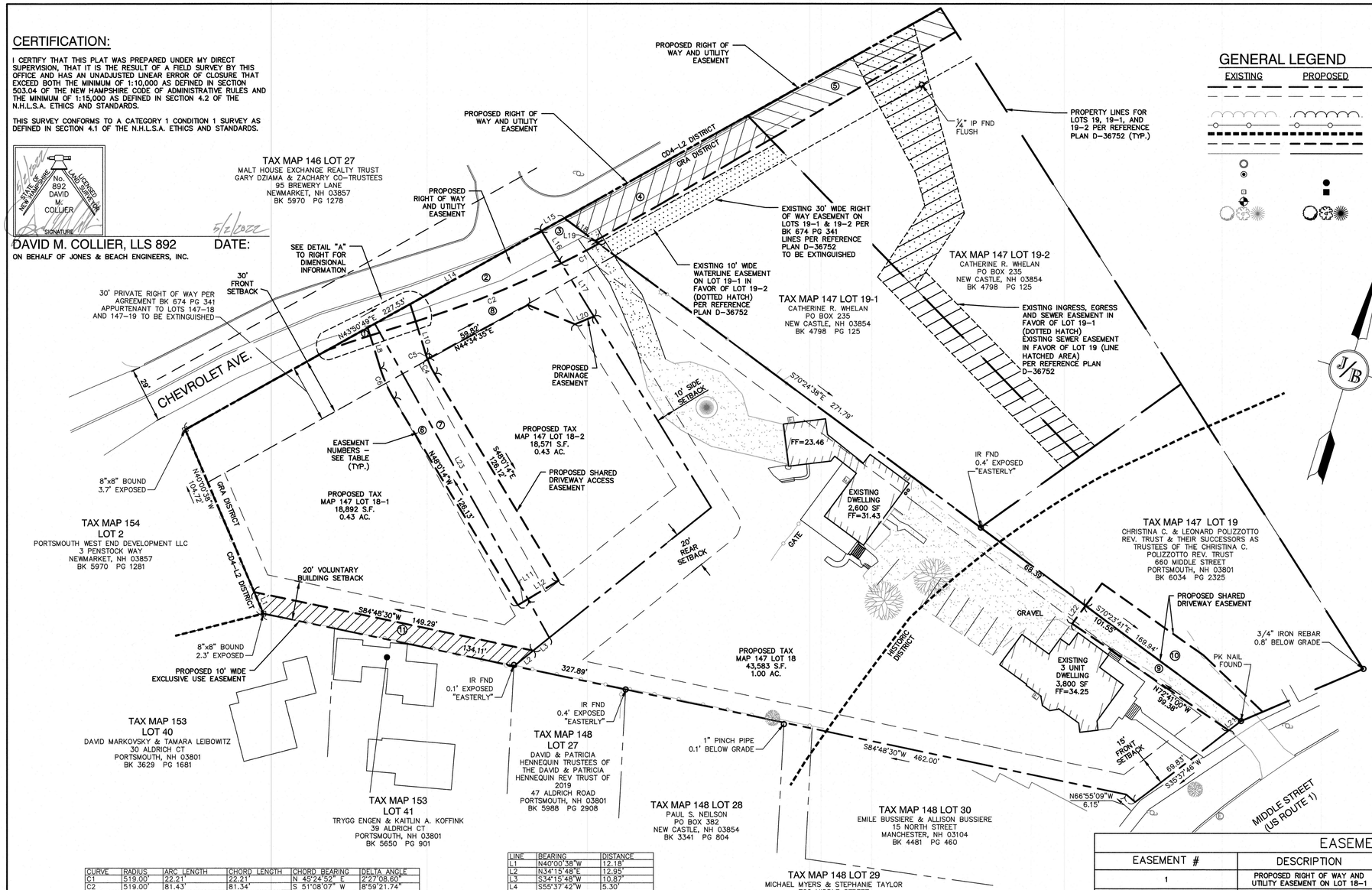
THIS SURVEY CONFORMS TO A CATEGORY 1 CONDITION 1 SURVEY AS DEFINED IN SECTION 4.1 OF THE N.H.L.S.A. ETHICS AND STANDARDS.

STATE OF NEW HAMPSHIRE — No. 892 — DAVID M. COLLIER — LICENSED LAND SURVEYOR — SIGNATURE

5/2/2022

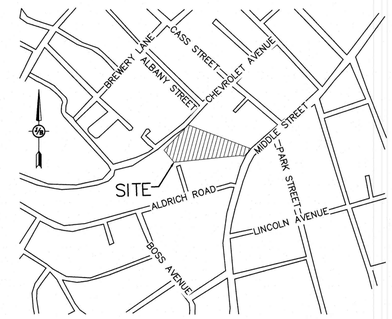
DAVID M. COLLIER, LLS 892 DATE:

ON BEHALF OF JONES & BEACH ENGINEERS, INC.



GENERAL LEGEND

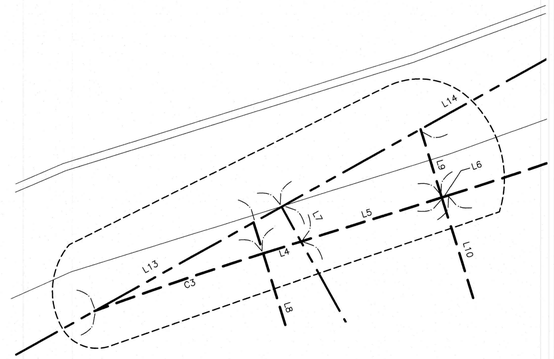
EXISTING	PROPOSED	DESCRIPTION
		PROPERTY LINES
		SETBACK LINES
		ZONE LINE
		FENCE
		ZONELINE
		EASEMENT
		EDGE OF PAVEMENT
		IRON PIPE/IRON ROD
		DRILL HOLE
		IRON ROD/DRILL HOLE
		STONE/GRANITE BOUND
		BENCHMARK (TBM)
		TREES AND BUSHES



LOCUS SCALE: 1"=500'

EASEMENT NOTES:

1. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATIONS AND DESCRIPTIONS OF ALL EXISTING AND PROPOSED EASEMENTS UPON CITY OF PORTSMOUTH TAX MAP 17, LOTS 18, 18-1, 18-2, 19-1, AND 19-2.
2. SEE SHEET A1 – SUBDIVISION PLAN FOR DESCRIPTIONS OF PROPOSED LOTS AS WELL AS PLAN REFERENCES.



DETAIL "A"

1 INCH = 10 FEET

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	519.00'	22.21'	22.21'	N 45°24'52" E	2°27'08.60"
C2	519.00'	81.43'	81.34'	S 51°08'07" W	8°59'21.74"
C3	481.00'	23.79'	23.79'	N 54°06'57" E	2°50'01.00"
C4	47.50'	8.67'	8.66'	S 42°46'21" E	10°27'44.86"
C5	47.50'	2.66'	2.66'	N 35°55'55" W	3°12'36.95"
C6	72.50'	17.31'	17.27'	S 41°09'55" E	13°40'37.55"

LINE	BEARING	DISTANCE
L1	N40°00'38"W	12.18'
L2	N34°15'48"E	12.95'
L3	S34°15'48"W	10.87'
L4	S55°37'42"W	5.30'
L5	N 55°40'24" E	19.70'
L6	N 54°36'40" E	0.87'
L7	S 48°06'09" E	5.32'
L8	S 34°19'36" E	22.36'
L9	N 34°19'36" W	9.55'
L10	N 34°19'36" W	18.05'
L11	N 41°58'09" E	6.17'
L12	S 41°58'09" W	18.83'
L13	N 43°50'49" E	28.60'
L14	S 43°50'49" W	100.00'
L15	N 43°50'49" E	13.81'
L16	S 48°31'38" E	19.86'
L17	S 48°31'38" E	32.73'
L18	S 70°24'38" E	20.09'
L19	S 70°33'59" E	2.35'
L20	S 50°23'39" W	10.69'
L21	S 35°37'46" W	8.11'
L22	N 19°35'22" E	11.76'
L23	N 46°06'09" W	159.63'

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

APPROVED – PORTSMOUTH, NH PLANNING BOARD

DATE:

EASEMENT TABLE

EASEMENT #	DESCRIPTION	TO BENEFIT	SIZE (S.F.)
1	PROPOSED RIGHT OF WAY AND UTILITY EASEMENT ON LOT 18-1	CITY OF PORTSMOUTH, LOT 18-1, AND LOT 18-2	72
2	PROPOSED RIGHT OF WAY AND UTILITY EASEMENT ON LOT 18-2	SAME AS EASEMENT #1	1,412
3	PROPOSED RIGHT OF WAY AND UTILITY EASEMENT ON LOT 18	SAME AS EASEMENT #1	363
4	PROPOSED RIGHT OF WAY AND UTILITY EASEMENT ON LOT 19-1	CITY OF PORTSMOUTH	
5	PROPOSED RIGHT OF WAY AND UTILITY EASEMENT ON LOT 19-2	CITY OF PORTSMOUTH	
6	PROPOSED SHARED DRIVEWAY EASEMENT ON LOT 18-1	LOTS 18-1 AND 18-2	1,356
7	PROPOSED SHARED DRIVEWAY EASEMENT ON LOT 18-2	LOTS 18-1 AND 18-2	2,780
8	PROPOSED DRAINAGE EASEMENT ON LOT 18-2	LOTS 18-1 AND 18-2	1,617
9	PROPOSED SHARED DRIVEWAY EASEMENT ON LOT 18	LOT 19	980
10	PROPOSED SHARED DRIVEWAY EASEMENT ON LOT 19	LOT 18	
11	PROPOSED 10' WIDE EXCLUSIVE USE EASEMENT ON LOT 18-1	LOTS 40 & 41	1,417

PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 147, LOT 18

APPLICANT
TUCK REALTY CORPORATION
PO BOX 190
EXETER, NH 03833

TOTAL LOT AREA
81,046 SQ. FT.
1.86 ACRES

Design: JAC	Draft: ERE	Date: 03/22/22
Checked: JAC	Scale: AS NOTED	Project No.: 20686
Drawing Name: 20686-PLAN.dwg		

REV.	DATE	REVISION	BY
8	5/2/22	REVISED EASEMENT PLAN	DJM
7	4/22/22	REVISED PER TAC COMMENTS	DJM
6	3/22/22	REVISED PER TAC COMMENTS	ERE
5	2/15/22	REVISED FOR PLANNING BOARD SUBMISSION	AJB
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Civil Engineering Services
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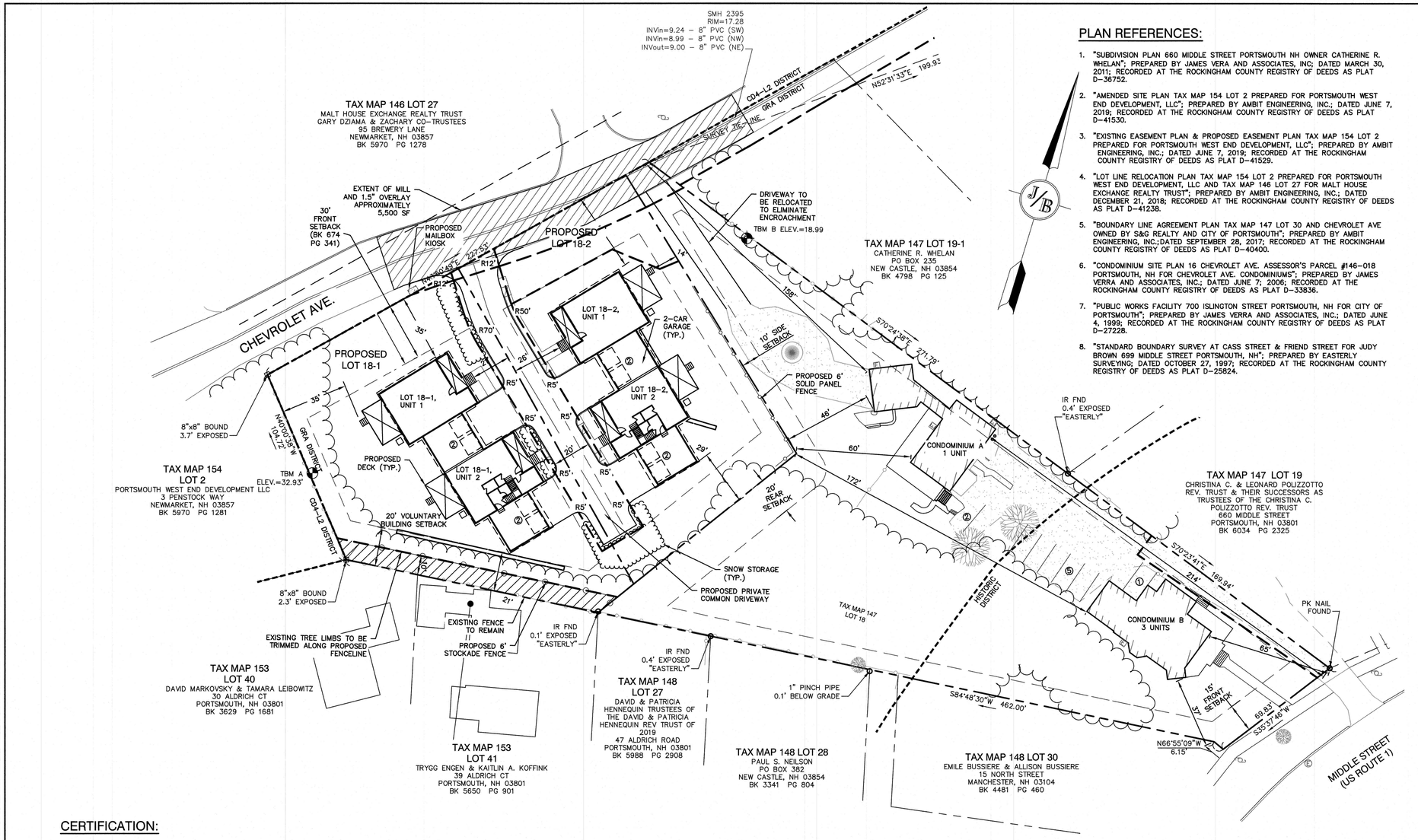
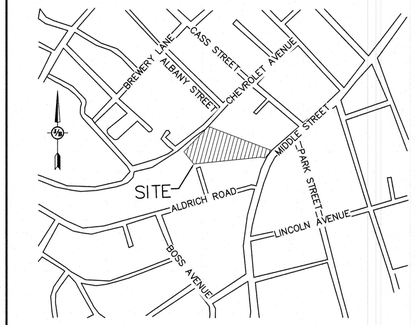
Plan Name:	EASEMENT PLAN
Project:	668 MIDDLE STREET PORTSMOUTH, NH
Owner of Record:	PUBLIC LAND HOLDINGS, LLC PO BOX 190 EXETER, NH 03833 BK 6367 PG 1660

DRAWING No.
A2
SHEET 4 OF 14
JBE PROJECT NO. 20686



PLAN REFERENCES:

1. "SUBDIVISION PLAN 660 MIDDLE STREET PORTSMOUTH NH OWNER CATHERINE R. WHELAN"; PREPARED BY JAMES VERA AND ASSOCIATES, INC; DATED MARCH 30, 2011; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-36752.
2. "AMENDED SITE PLAN TAX MAP 154 LOT 2 PREPARED FOR PORTSMOUTH WEST END DEVELOPMENT, LLC"; PREPARED BY AMBIT ENGINEERING, INC.; DATED JUNE 7, 2019; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-41530.
3. "EXISTING EASEMENT PLAN & PROPOSED EASEMENT PLAN TAX MAP 154 LOT 2 PREPARED FOR PORTSMOUTH WEST END DEVELOPMENT, LLC"; PREPARED BY AMBIT ENGINEERING, INC.; DATED JUNE 7, 2019; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-41529.
4. "LOT LINE RELOCATION PLAN TAX MAP 154 LOT 2 PREPARED FOR PORTSMOUTH WEST END DEVELOPMENT, LLC AND TAX MAP 146 LOT 27 FOR MALT HOUSE EXCHANGE REALTY TRUST"; PREPARED BY AMBIT ENGINEERING, INC.; DATED DECEMBER 21, 2018; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-41238.
5. "BOUNDARY LINE AGREEMENT PLAN TAX MAP 147 LOT 30 AND CHEVROLET AVE OWNED BY S&G REALTY AND CITY OF PORTSMOUTH"; PREPARED BY AMBIT ENGINEERING, INC.;DATED SEPTEMBER 28, 2017; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-40400.
6. "CONDOMINIUM SITE PLAN 16 CHEVROLET AVE. ASSESSOR'S PARCEL #146-018 PORTSMOUTH, NH FOR CHEVROLET AVE. CONDOMINIUMS"; PREPARED BY JAMES VERRA AND ASSOCIATES, INC.; DATED JUNE 7; 2006; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-33836.
7. "PUBLIC WORKS FACILITY 700 ISLINGTON STREET PORTSMOUTH, NH FOR CITY OF PORTSMOUTH"; PREPARED BY JAMES VERRA AND ASSOCIATES, INC.; DATED JUNE 4, 1999; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-27228.
8. "STANDARD BOUNDARY SURVEY AT CASS STREET & FRIEND STREET FOR JUDY BROWN 699 MIDDLE STREET PORTSMOUTH, NH"; PREPARED BY EASTERLY SURVEYING; DATED OCTOBER 27, 1997; RECORDED AT THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAT D-25824.



LOCUS SCALE: 1"=500'

NOTES:

1. THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED 2 LOT RESIDENTIAL SUBDIVISION WITH FRONTAGE ALONG CHEVROLET AVENUE AND THE PROPOSED DUPLEXES ON THOSE LOTS WITH ASSOCIATED UTILITIES.
2. ZONING DISTRICT: GENERAL RESIDENCE A (GRA)
   LOT AREA MINIMUM = 7,500 S.F.
   MAX DENSITY = 1 DWELLING UNIT PER 7,500 S.F. LOT AREA
   DUPLEX LOTS REQUIRE 15,000 SF,
   LOT FRONTAGE MINIMUM = 100'
   LOT DEPTH MINIMUM = 70'
   BUILDING SETBACKS (MINIMUM):
   FRONT SETBACK = 15'
   SIDE SETBACK = 10'
   REAR SETBACK = 20'
   MAX. BUILDING HEIGHT = 35' WITH SLOPED ROOF, 30' WITH FLAT ROOF
   MAX. BUILDING COVERAGE = 25%
   PROPOSED LOT 18-1 = 23.9%
   PROPOSED LOT 18-2 = 24.4%
   PROPOSED MAP 147 LOT 18 = 10.6%
   MIN. OPEN SPACE = 30%
   PROPOSED LOT 18-1 = 50%
   PROPOSED LOT 18-2 = 45%
   PROPOSED MAP 147 LOT 18 = 35%
   SEALED SURFACE: LOT 18-1=7,250 SF
   LOT 18-2=7,250 SF
   DISTRUBANCE: LOT 18-1=15,000 SF
   LOT 18-2=17,750 SF
   REQUIRED PARKING=1.3 SPACES PER UNIT OVER 750 SF
   REQUIRED LOT 18-1 = 3 SPACES, 4 PROVIDED
   REQUIRED LOT 18-2 = 3 SPACES, 4 PROVIDED
   REQUIRED CONDO A = 2 SPACES, 2 PROVIDED
   REQUIRED CONDO B = 4 SPACES, 6 PROVIDED
3. THE SUBJECT PARCEL IS LOCATED WITHIN AN AREA HAVING A ZONE X DESIGNATION BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP NO. 33015C0259F, WITH EFFECTIVE DATE OF JANUARY 29, 2021, FOR COMMUNITY PANEL NO. 259 OF 681, IN ROCKINGHAM COUNTY, STATE OF NEW HAMPSHIRE, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR COMMUNITY IN WHICH SAID PREMISES IS SITUATED.
4. BASIS OF BEARING: HORIZONTAL: STATE PLANE NAD83 VERTICAL: NAVD88.
5. EACH UNIT SHALL OBTAIN A SEPARATE OCCUPANCY PERMIT FROM THE BUILDING INSPECTOR PRIOR TO BEING SOLD.
6. ALL CONSTRUCTION SHALL CONFORM TO TOWN STANDARDS AND REGULATIONS, AND NHDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WHICHEVER IS MORE STRINGENT.
7. LANDOWNERS ARE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING PERMITTING REQUIRED UNDER THESE REGULATIONS.
8. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, FEES AND BONDS.
9. ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PROVIDED BY THE OWNER. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND OWNER PRIOR TO THE START OF CONSTRUCTION. BUILDING DIMENSIONS AND AREAS TO BE TO OUTSIDE OF MASONRY, UNLESS OTHERWISE NOTED.
10. ALL ARCHITECTURAL BLOCK RETAINING WALLS ARE TO BE DESIGNED AND STAMPED BY THE MANUFACTURER'S STRUCTURAL ENGINEER. CONTRACTOR TO COORDINATE WITH APPROVED MANUFACTURER PRIOR TO INSTALLATION.
11. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.
12. DISTURBANCE OF EXISTING ROADWAY SHALL REQURE MILLING AND OVERLAY OF THE FULL ROAD WIDTH TO PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARDS. DISTURBED SIDEWALK SHALL BE REPAIRED OR REPLACED AS DETERMINED BY PORTSMOUTH DEPARTMENT OF PUBLIC WORKS.
13. SUBJECT TO PORTSMOUTH DEPARTMENT OF PUBLIC WORKS REVIEW AND APPROVAL, TEMPORARY PAVEMENT SHALL BE REQUIRED AT THE TIME OF CONSTRUCTION. SUCH PAVING SHALL BE TO THE EXISTING PAVEMENT DEPTH AND, AFTER A WINTER SEASON THE STREET SHALL RECIEVE A FULL MILL AND OVERLAY.
14. PROPOSED LOTS NEED TO OBTAIN DRIVEWAY PERMITS FOR CHEVROLET AVE.
15. $5,000 PER NEW DWELLING SHALL BE PAID TO THE CITY OF PORTSMOUTH FOR DEVELOPMENT OF SIDEWALKS ON ALBANY STREET/MALT HOUSE DRIVE
16. TRASH SHALL BE KEPT INSIDE OF EACH UNIT'S GARAGE.
17. FOUNDATION TO BE FULLY WATERPROOFED TO BOTTOM OF FOOTING (APPLY WATERPROOFING COATING ON EXTERIOR)
18. FOUNDATION FOOTING CAN'T BE INSTALLED ON CRUSHED STONE TO ISOLATE EXTERIOR WATER & INTERIOR WATER.
19. FOOTINGS TO BE BUILT ON VIRGIN GROUND & NO CRUSHED STONE ALLOWED BENEATH FOOTINGS.
20. NO EXTERIOR FOUNDATION DRAINS ON FOUNDATIONS BELOW SEASONAL WATER TABLE
21. INTERIOR ONLY DRAINS TO SUMP BASIN ON FOUNDATIONS BELOW SEASONAL WATER TABLE

CERTIFICATION:

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

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

STATE OF NEW HAMPSHIRE No. 892 DAVID M. COLLIER LICENSED LAND SURVEYOR SIGNATURE

DAVID M. COLLIER, LLS 892 DATE: 4/26/2022
ON BEHALF OF JONES & BEACH ENGINEERS, INC.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY LINES
		SETBACK LINES
		PRIVACY FENCE
		PICKET FENCE
		EASEMENT
100	100	MAJOR CONTOUR
98	98	MINOR CONTOUR
		EDGE OF PAVEMENT
D		DRAINAGE LINE
S	S	SEWER LINE
G	G	GAS LINE
W	W	WATER LINE
WS	WS	WATER SERVICE
OHE	OHE	OVERHEAD ELECTRIC
UGE	UGE	UNDERGROUND ELECTRIC

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

APPROVED – PORTSMOUTH, NH PLANNING BOARD

DATE:

PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 147, LOT 18

APPLICANT
TUCK REALTY CORPORATION
PO BOX 190
EXETER, NH 03833

TOTAL LOT AREA
81,046 SQ. FT.
1.86 ACRES

Design: JAC	Draft: ERE
Checked: JAC	Scale: AS NOTED
Drawing Name: 20686-PLAN.dwg	Date: 03/22/22
	Project No.: 20686

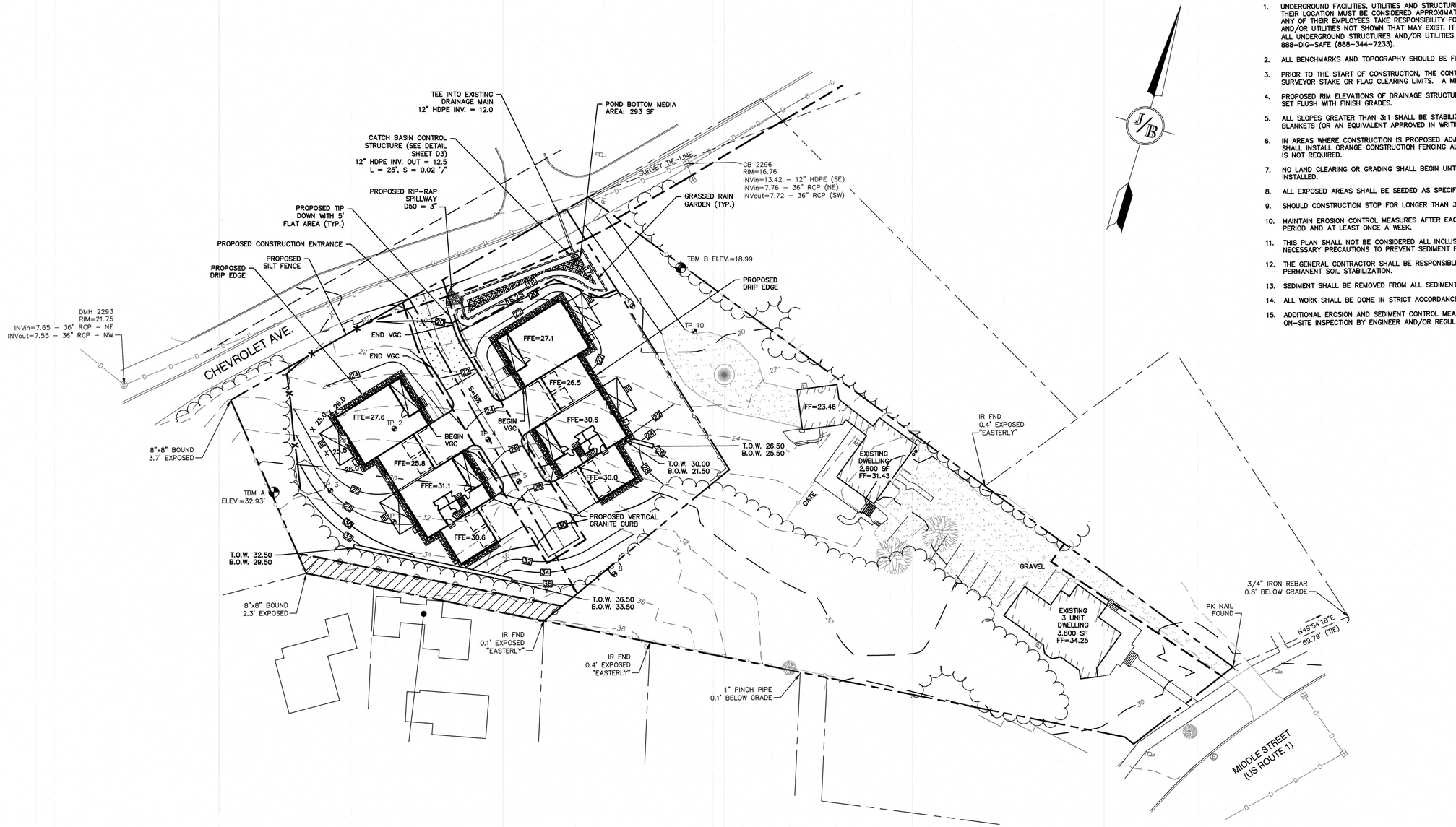
STATE OF NEW HAMPSHIRE MICHAEL J. KERIVAN No. 9846 LICENSED LAND SURVEYOR 4/26/2022

REV.	DATE	REVISION	BY
7	4/22/22	REVISED PER TAC COMMENTS	DJM
6	3/22/22	REVISED PER TAC COMMENTS	ERE
5	2/15/22	REVISED FOR PLANNING BOARD SUBMISSION	AJB
4	12/20/21	REVISED FOR PLANNING BOARD SUBMISSION	AJB
3	9/30/21	REVISED PER TAC COMMENTS	AJB

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

Plan Name:	SITE PLAN
Project:	668 MIDDLE STREET PORTSMOUTH, NH
Owner of Record:	PUBLIC LAND HOLDINGS, LLC PO BOX 190 EXETER, NH 03833 BK 6367 PG 1660

DRAWING No.
C2
SHEET 5 OF 14
JBE PROJECT NO. 20686



GRADING AND DRAINAGE NOTES:

1. UNDERGROUND FACILITIES, UTILITIES AND STRUCTURES HAVE BEEN PLOTTED FROM FIELD OBSERVATION AND THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. NEITHER JONES & BEACH ENGINEERS, INC., NOR ANY OF THEIR EMPLOYEES TAKE RESPONSIBILITY FOR THE LOCATION OF ANY UNDERGROUND STRUCTURES AND/OR UTILITIES NOT SHOWN THAT MAY EXIST. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL UNDERGROUND STRUCTURES AND/OR UTILITIES LOCATED PRIOR TO EXCAVATION WORK BY CALLING 888-DIG-SAFE (888-344-7233).
2. ALL BENCHMARKS AND TOPOGRAPHY SHOULD BE FIELD VERIFIED BY THE CONTRACTOR.
3. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR IS REQUIRED TO HAVE THE PROJECT'S LAND SURVEYOR STAKE OR FLAG CLEARING LIMITS. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED.
4. PROPOSED RIM ELEVATIONS OF DRAINAGE STRUCTURES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES.
5. ALL SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH NORTH AMERICAN GREEN S75 EROSION CONTROL BLANKETS (OR AN EQUIVALENT APPROVED IN WRITING BY THE ENGINEER), UNLESS OTHERWISE SPECIFIED.
6. IN AREAS WHERE CONSTRUCTION IS PROPOSED ADJACENT TO ABUTTING PROPERTIES, THE CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCING ALONG PROPERTY LINES IN ALL AREAS WHERE SILT FENCING IS NOT REQUIRED.
7. NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
8. ALL EXPOSED AREAS SHALL BE SEEDED AS SPECIFIED WITHIN 3 DAYS OF FINAL GRADING.
9. SHOULD CONSTRUCTION STOP FOR LONGER THAN 3 DAYS, THE SITE SHALL BE SEEDED AS SPECIFIED.
10. MAINTAIN EROSION CONTROL MEASURES AFTER EACH RAIN EVENT OF 0.25" OR GREATER IN A 24 HOUR PERIOD AND AT LEAST ONCE A WEEK.
11. THIS PLAN SHALL NOT BE CONSIDERED ALL INCLUSIVE, AS THE GENERAL CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SEDIMENT FROM LEAVING THE SITE.
12. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
13. SEDIMENT SHALL BE REMOVED FROM ALL SEDIMENT BASINS BEFORE THEY ARE 25% FULL.
14. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH PROJECT SPECIFICATIONS.
15. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED, IF DEEMED NECESSARY BY ON-SITE INSPECTION BY ENGINEER AND/OR REGULATORY OFFICIALS.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 147, LOT 18

APPLICANT
TUCK REALTY CORPORATION
PO BOX 190
EXETER, NH 03833

TOTAL LOT AREA
81,046 SQ. FT.
1.86 ACRES

Design: JAC	Draft: ERE	Date: 03/22/22
Checked: JAC	Scale: AS NOTED	Project No.: 20686
Drawing Name: 20686-PLAN.dwg		

STATE OF NEW HAMPSHIRE MICHAEL J. KERIVAN No. 9646 LICENSED LAND SURVEYOR 4/22/2022

REV.	DATE	REVISION	BY
7	4/22/22	REVISED PER TAC COMMENTS	DJM
6	3/22/22	REVISED PER TAC COMMENTS	ERE
5	2/15/22	REVISED FOR PLANNING BOARD SUBMISSION	AJB
4	12/20/21	REVISED FOR PLANNING BOARD SUBMISSION	AJB
3	9/30/21	REVISED PER TAC COMMENTS	AJB

Designed and Produced in NH
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Civil Engineering Services
85 Portsmouth Ave.
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Stratham, NH 03885
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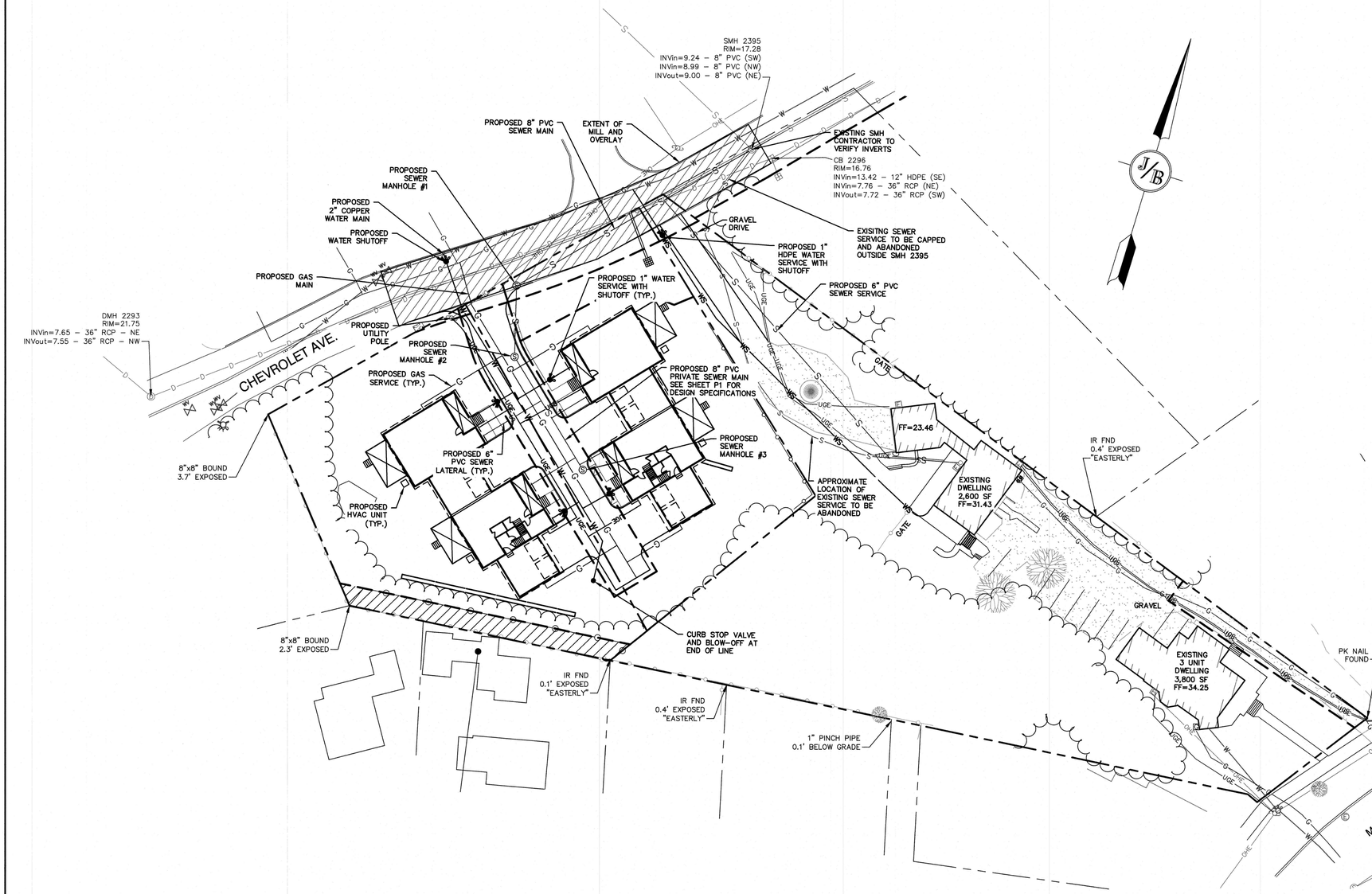
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	GRADING AND DRAINAGE PLAN
Project:	668 MIDDLE STREET PORTSMOUTH, NH
Owner of Record:	PUBLIC LAND HOLDINGS, LLC PO BOX 190 EXETER, NH 03833 BK 6367 PG 1660

DRAWING No.
C3
SHEET 6 OF 14
JBE PROJECT NO. 20686



GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

UTILITY NOTES:

1. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT AND/OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, CONNECTION FEES AND BONDS.
2. THE CONTRACTOR SHALL PROVIDE A MINIMUM NOTICE OF FOURTEEN (14) DAYS TO ALL CORPORATIONS, COMPANIES AND/OR LOCAL AUTHORITIES OWNING OR HAVING A JURISDICTION OVER UTILITIES RUNNING TO, THROUGH OR ACROSS PROJECT AREAS PRIOR TO DEMOLITION AND/OR CONSTRUCTION ACTIVITIES.
3. THE LOCATION, SIZE, DEPTH AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE TO THE STANDARDS AND REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANY (ELECTRIC, TELEPHONE, CABLE TELEVISION, FIRE ALARM, GAS, WATER, AND SEWER).
4. A PRECONSTRUCTION MEETING SHALL BE HELD WITH THE OWNER, ENGINEER, ARCHITECT, CONTRACTOR, LOCAL OFFICIALS, AND ALL PROJECT-RELATED UTILITY COMPANIES (PUBLIC AND PRIVATE) PRIOR TO START OF CONSTRUCTION.
5. ALL CONSTRUCTION SHALL CONFORM TO THE TOWN STANDARDS AND REGULATIONS, AND NHDES STANDARDS AND SPECIFICATIONS, WHICHEVER ARE MORE STRINGENT, UNLESS OTHERWISE SPECIFIED.
6. ALL CONSTRUCTION ACTIVITIES SHALL CONFORM TO LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) RULES AND REGULATIONS.
7. BUILDING TO BE SERVICED BY UNDERGROUND UTILITIES UNLESS OTHERWISE NOTED.
8. THE CONTRACTOR IS TO VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITY STUBS PRIOR TO CONSTRUCTION AND DISCONNECT ALL EXISTING SERVICE CONNECTIONS AT THEIR RESPECTIVE MAINS IN ACCORDANCE WITH THE RESPECTIVE UTILITY COMPANY'S STANDARDS AND SPECIFICATIONS. ENGINEER TO BE NOTIFIED.
9. AS-BUILT PLANS SHALL BE SUBMITTED TO DEPARTMENT OF PUBLIC WORKS.
10. INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW AT CHANGES IN DIRECTION. THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE THROUGH CHANNEL UNDERLAYMENT OF INVERT, AND SHELF SHALL CONSIST OF BRICK MASONRY.
11. FRAMES AND COVERS: MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY DESIGN AND PROVIDE A 30 INCH DIA, CLEAR OPENING. THE WORD "SEWER" OR DRAIN" SHALL BE CAST INTO THE CENTER OF THE UPPER FACE OF EACH COVER WITH RAISED, 3" LETTERS.
12. CONTRACTOR SHALL PLACE 2" WIDE METAL WIRE IMPREGNATED RED PLASTIC WARNING TAPE OVER ENTIRE LENGTH OF ALL GRAVITY SEWERS, SERVICES, AND FORCE MAINS.
13. SANITARY SEWER FLOW CALCULATIONS:
    4 – FOUR BEDROOM UNITS @ 150 GPD/BEDROOM
    TOTAL FLOW = 2,400 GPD
14. ALL SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS.
15. PROPOSED RIM ELEVATIONS OF DRAINAGE AND SANITARY MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES. ADJUST ALL OTHER RIM ELEVATIONS OF MANHOLES, WATER GATES, GAS GATES AND OTHER UTILITIES TO FINISH GRADE AS SHOWN ON THE GRADING AND DRAINAGE PLAN.
16. ALL WATER SERVICE PIPES SHALL HAVE A MINIMUM 12" VERTICAL AND 24" HORIZONTAL SEPARATION TO MANHOLES, OR CONTRACTOR SHALL INSTALL BOARD INSULATION FOR FREEZING PROTECTION.
17. WATER MAINS SHALL BE HYDROSTATICALLY PRESSURE TESTED FOR LEAKAGE PRIOR TO ACCEPTANCE. WATERMAINS SHALL BE TESTED AT 1.5 TIMES THE WORKING PRESSURE OR 150 PSI, WHICH EVER IS GREATER. TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH SECTION 4 OF AWWA STANDARD C 600. WATERMAINS SHALL BE DISINFECTED AFTER THE ACCEPTANCE OF THE PRESSURE AND LEAKAGE TESTS ACCORDING TO AWWA STANDARD C 651.
18. ALL WATER AND SANITARY LEADS TO BUILDING(S) SHALL END 5' OUTSIDE THE BUILDING LIMITS AS SHOWN ON PLANS AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AND WITNESS AT END.
19. THE CONTRACTOR SHALL HAVE THE APPROVAL OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER FIRE PROTECTION SYSTEM PRIOR TO INSTALLATION.
20. EXISTING UTILITIES SHALL BE DIGSAFED BEFORE CONSTRUCTION.
21. ALL WATER LINES SHOULD HAVE TESTABLE BACKFLOW PREVENTERS AT THE ENTRANCE TO EACH BUILDING.
22. ALL GRAVITY SEWER PIPE, MANHOLES, AND FORCE MAINS SHALL BE TESTED ACCORDING TO NHDES STANDARDS OF DESIGN AND CONSTRUCTION FOR SEWAGE AND WASTEWATER TREATMENT FACILITIES, CHAPTER ENV-WQ 700. ADOPTED ON 10-15-14.
23. ENV-WQ 704.06 GRAVITY SEWER PIPE TESTING: GRAVITY SEWERS SHALL BE TESTED FOR WATER TIGHTNESS BY USE OF LOW-PRESSURE AIR TESTS CONFORMING WITH ASTM F1417-92(2005) OR UNI-BELL PVC PIPE ASSOCIATION UNI-B-6. LINES SHALL BE CLEANED AND VISUALLY INSPECTED AND TRUE TO LINE AND GRADE. DEFLECTION TESTS SHALL TAKE PLACE AFTER 30 DAYS FOLLOWING INSTALLATION AND THE MAXIMUM ALLOWABLE DEFLECTION OF FLEXIBLE SEWER PIPE SHALL BE 5% OF AVERAGE INSIDE DIAMETER. A RIGID BALL OR MANDREL WITH A DIAMETER OF AT LEAST 95% OF THE AVERAGE INSIDE PIPE DIAMETER SHALL BE USED FOR TESTING PIPE DEFLECTION. THE DEFLECTION TEST SHALL BE CONDUCTED WITHOUT MECHANICAL PULLING DEVICES.
24. ENV-WQ 704.17 SEWER MANHOLE TESTING: SHALL BE TESTED FOR LEAKAGE USING A VACUUM TEST PRIOR TO BACKFILLING AND PLACEMENT OF SHELVES AND INVERTS.
25. SANITARY SEWER LINES SHALL BE LOCATED AT LEAST TEN (10) FEET HORIZONTALLY FROM AN EXISTING OR PROPOSED WATER LINE. WHEN A SEWER LINE CROSSES UNDER A WATER LINE, THE SEWER PIPE JOINTS SHALL BE LOCATED AT LEAST 6 FEET HORIZONTALLY FROM THE WATERMAIN. THE SEWER LINE SHALL ALSO MAINTAIN A VERTICAL SEPARATION OF NOT LESS THAN 18 INCHES.
26. SEWERS SHALL BE BURIED TO A MINIMUM DEPTH OF 6 FEET BELOW GRADE IN ALL ROADWAY LOCATIONS, AND TO A MINIMUM DEPTH OF 4 FEET BELOW GRADE IN ALL CROSS-COUNTRY LOCATIONS. PROVIDE TWO-INCHES OF R-10 FOAM BOARD INSULATION 2-FOOT WIDE TO BE INSTALLED 6-INCHES OVER SEWER PIPE IN AREAS WHERE DEPTH IS NOT ACHIEVED. A WAIVER FROM THE DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER ENGINEERING BUREAU IS REQUIRED PRIOR TO INSTALLING SEWER AT LESS THAN MINIMUM COVER.
27. ALL WATER AND SANITARY LEADS TO BUILDING(S) SHALL END AT RIGHT OF WAY AS SHOWN ON PLANS AND SHALL BE PROVIDED WITH A TEMPORARY PLUG AND WITNESS AT END.
28. LIGHTING CONDUIT SHALL BE SCHEDULE 40 PVC, AND SHALL BE INSTALLED IN CONFORMANCE WITH THE NATIONAL ELECTRIC CODE. CONTRACTOR SHALL PROVIDE EXCAVATION AND BACKFILL.
29. ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
30. REWORK OF THE EXISTING INVERT INSIDE SMH 2395 WILL BE REQUIRED TO ALLOW THE NEW PIPE TO ENTER AT THE PROPOSED ELEVATION REQUIRED TO CROSS THE EXISTING DRAIN. INSTALLER TO WORK WITH PORTSMOUTH DPW TO MAKE CONNECTIONS TO THEIR SATISFACTION.
31. AN AGREEMENT WITH PORTSMOUTH WATER WILLL BE REQUIRED FOR WATER SYSTEM FLUSHING.
32. TO PROTECT THE CITY OF PORTSMOUTH, NEW SEWER TREATMENT PLANT, NO DRAINAGE IS TO BE TIED INTO SEWER LINES

PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 147, LOT 18

APPLICANT
TUCK REALTY CORPORATION
PO BOX 190
EXETER, NH 03833

TOTAL LOT AREA
81,046 SQ. FT.
1.86 ACRES

Design: JAC	Draft: ERE	Date: 03/22/22
Checked: JAC	Scale: AS NOTED	Project No.: 20686
Drawing Name: 20686-PLAN.dwg		

STATE OF NEW HAMPSHIRE – MICHAEL J. KERIVAN No. 9946 LICENSED LAND SURVEYOR – 3/22/22

REV.	DATE	REVISION	BY
7	4/22/22	REVISED PER TAC COMMENTS	DJM
6	3/22/22	REVISED PER TAC COMMENTS	ERE
5	2/15/22	REVISED FOR PLANNING BOARD SUBMISSION	AJB
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3	9/30/21	REVISED PER TAC COMMENTS	AJB

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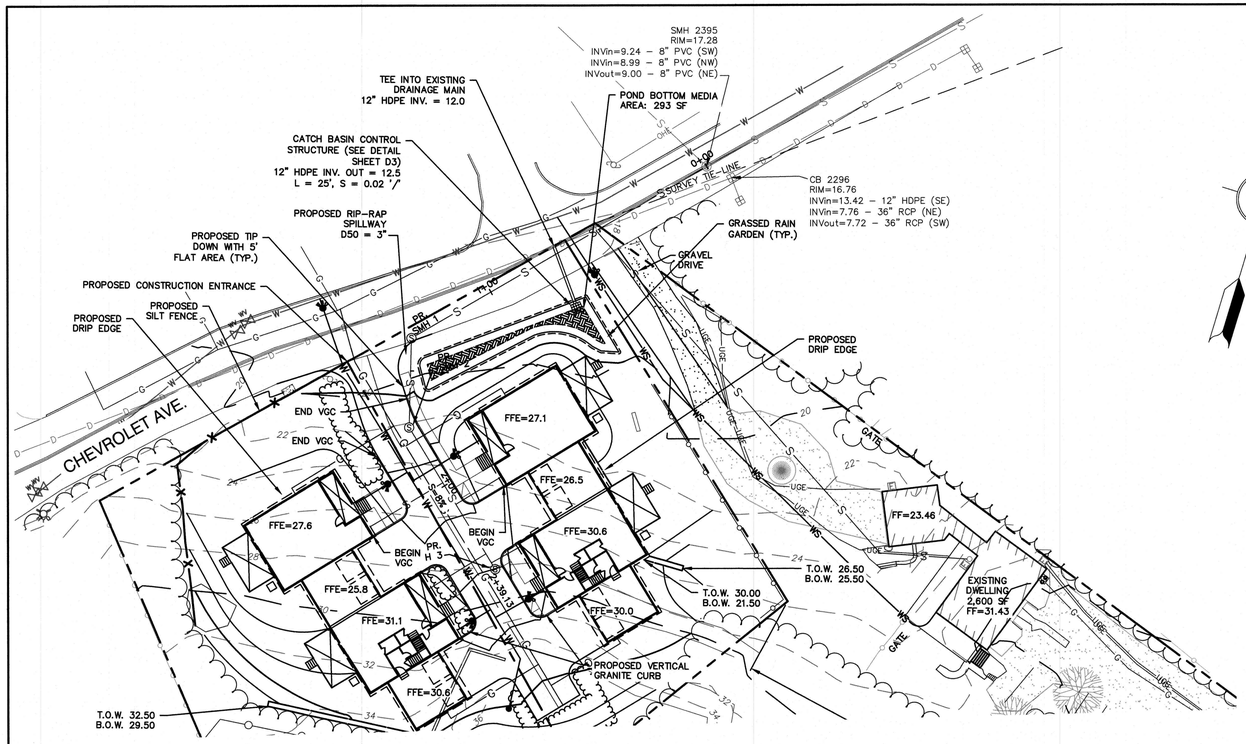
Stratham, NH 03885 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	UTILITY PLAN
Project:	668 MIDDLE STREET PORTSMOUTH, NH
Owner of Record:	PUBLIC LAND HOLDINGS, LLC PO BOX 190 EXETER, NH 03833 BK 6367 PG 1660

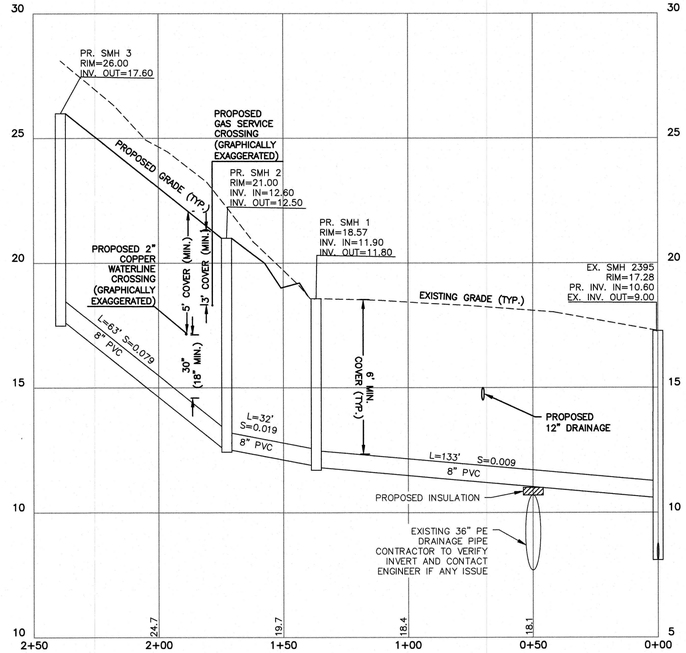
DRAWING No.
C4
SHEET 7 OF 14
JBE PROJECT NO. 20686



GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.



GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft. Horiz.
1 inch = 3 ft. Vert.

6 3 0
0 30 60

NOTES:

1. ALL ROAD AND DRAINAGE WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR THE TOWN, AND NHDOT SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WHICHEVER IS MORE STRINGENT.
2. AS-BUILT PLANS TO BE SUBMITTED TO THE TOWN PRIOR TO ACCEPTANCE OF THE ROADWAY.
3. DEVELOPER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL WETLAND REGULATIONS, INCLUDING ANY PERMITTING AND SETBACK REQUIREMENTS REQUIRED UNDER THESE REGULATIONS.
4. THIS PLAN HAS BEEN PREPARED BY JONES & BEACH ENGINEERS, INC. FOR MUNICIPAL AND STATE APPROVALS AND FOR CONSTRUCTION BASED ON DATA OBTAINED FROM ON-SITE FIELD SURVEY AND EXISTING MUNICIPAL RECORDS. THROUGHOUT THE CONSTRUCTION PROCESS, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY OF ANY FIELD DISCREPANCY FROM DATA SHOWN ON THE DESIGN PLANS. THIS INCLUDES ANY UNFORESEEN CONDITIONS, SUBSURFACE OR OTHERWISE, FOR EVALUATION AND RECOMMENDATIONS. ANY CONTRADICTION BETWEEN ITEMS OF THIS PLAN/PLAN SET, OR BETWEEN THE PLANS AND ON-SITE CONDITIONS MUST BE RESOLVED BEFORE RELATED CONSTRUCTION HAS BEEN INITIATED.
5. SILTATION AND EROSION CONTROLS SHALL BE INSTALLED PRIOR TO CONSTRUCTION, SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN UNTIL SITE HAS BEEN STABILIZED WITH PERMANENT VEGETATION.
6. ALL DISTURBED AREAS NOT STABILIZED BY NOVEMBER 1st SHALL BE COVERED WITH AN EROSION CONTROL BLANKET. PRODUCT TO BE SPECIFIED BY THE ENGINEER.
7. FINAL DRAINAGE, GRADING AND EROSION PROTECTION MEASURES SHALL CONFORM TO REGULATIONS OF THE PUBLIC WORKS DEPARTMENT.
8. CONTRACTOR TO VERIFY EXISTING UTILITIES AND TO NOTIFY ENGINEER OF ANY DISCREPANCY IMMEDIATELY.
9. SIDEWALK TO BE INSTALLED AT TIME OF TOP COURSE PAVING ALONG WITH DRIVEWAY APRONS.
10. CONTRACTOR MUST HAVE A VALID PIPE INSTALLER'S LICENSE FROM THE PUBLIC WORKS DEPARTMENT BEFORE WORKING ON ANY DRAINAGE AND/OR UTILITY CONSTRUCTION.

Design: JAC	Draft: ERE	Date: 03/22/22
Checked: JAC	Scale: AS NOTED	Project No.: 20686
Drawing Name: 20686-PLAN.dwg		

STATE OF NEW HAMPSHIRE – MICHAEL J. KERIVAN No. 9946 – LICENSED PROFESSIONAL ENGINEER

REV.	DATE	REVISION	BY
7	4/22/22	REVISED PER TAC COMMENTS	DJM
6	3/22/22	REVISED PER TAC COMMENTS	ERE
5	2/15/22	REVISED FOR PLANNING BOARD SUBMISSION	AJB
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3	9/30/21	REVISED PER TAC COMMENTS	AJB

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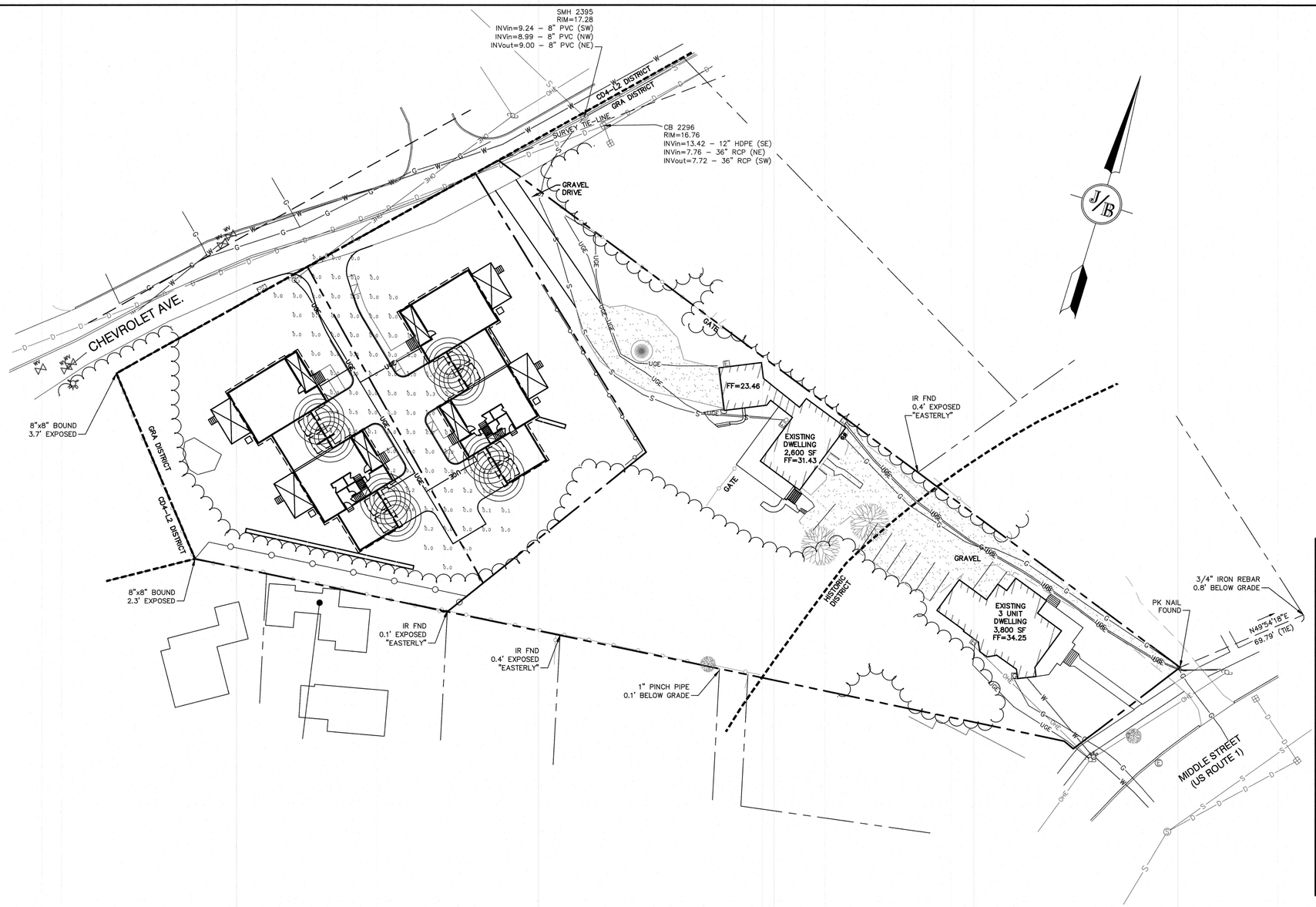
FAX: 603-772-0227
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	SEWER PLAN AND PROFILE
Project:	668 MIDDLE STREET PORTSMOUTH, NH
Owner of Record:	PUBLIC LAND HOLDINGS, LLC PO BOX 190 EXETER, NH 03833 BK 6367 PG 1660

DRAWING No.

P1

SHEET 8 OF 14
JBE PROJECT NO. 20686



LIGHTING AND ELECTRICAL NOTES:

1. SITE ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF EASEMENTS, UNDERGROUND UTILITIES AND DRAINAGE BEFORE DRILLING POLE BASES.
2. LIGHTING CONDUIT SHALL BE SCHEDULE 40 PVC, AND SHALL BE INSTALLED IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE. CONTRACTOR SHALL PROVIDE EXCAVATION AND BACKFILL.
3. ILLUMINATION READINGS SHOWN ARE BASED ON A TOTAL LLF OF 0.75 AT GRADE. ILLUMINATION READINGS SHOWN ARE IN UNITS OF FOOT–CANDLES.
4. LIGHTING CALCULATIONS SHOWN ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM AND SAFETY.
5. ALL LIGHTING FIXTURES SHALL BE FULL CUT–OFF DARK–SKY COMPLIANT, UNLESS OTHERWISE NOTED.
6. NL INDICATES THAT THIS LUMINAIRE SHALL BE ON A NIGHT LIGHT CIRCUIT. FL INDICATES THAT THIS LUMINAIRE SHALL BE A FLOOD LIGHT FIXTURE. MOUNTING BRACKET FOR THIS FL FIXTURE SHALL BE MOUNTED 25' ABOVE BOTTOM OF POLE BASE FOR ALL LIGHT POLES CLOSEST TO STOREFRONT. THESE DESIGNATIONS INDICATE WHAT PHASE LIGHTS ARE WIRED TO (TYP).
7. THE PROPOSED LIGHTING CALCULATIONS AND DESIGN WAS PERFORMED BY CHARRON, INC., P.O. BOX 4550, MANCHESTER, NH 03108. ATTENTION KEN SWEENEY. ALL LIGHTS SHOULD BE PURCHASED FROM THIS COMPANY, OR AN EQUAL LIGHTING DESIGN SHOULD BE SUBMITTED FOR REVIEW IF EQUAL SUBSTITUTIONS ARE PROPOSED BY THE CONTRACTOR OR OWNER.

Calvin Wall

TMSLIGHTING
ESTABLISHED 1923

Features

- Provides excellent coverage and uniformity with cut-off
- Practical and aesthetic options for application and design flexibility
- Weatherproof construction to withstand the elements
- Quality components combined with the most current technology for high efficiency and reduced lighting costs

Applications
The Calvin wall-mount luminaire is ideal for illuminating areas where localized distribution is necessary, such as doorways and entrances, laneways, patios and could provide adequate night time security lighting. It lends itself to commercial, and industrial applications that could benefit from materials and maintenance cost reductions. Calvin could either augment the existing lighting, or illuminate a small to medium-sized area.
Calvin is also available as a pendant-style model.

Construction
High grade spun aluminum, brushed solid copper, or brushed 316L stainless steel reflector, with stainless steel mounting hardware, for indoor and outdoor applications.

Lamp
Operates with Cree™ LED (19W max.), compact fluorescent (42W max.), metal halide (100W max.), or incandescent (150W max.). Specify 3000K, 3500K or 4000K CCT for LED systems. A dimmable, screw-type, 17W LED lamp is also available (PAR 38, E26 base, 120V, 4000K CCT).
Note: LED systems are available with 120-277V supply voltage only.
LED modules do not require a socket, and are wired directly to the integral driver.
Incandescent and metal halide systems, and those using the 17W LED PAR 38 lamp, use a medium base socket (E26).

Diffuser
Globe: clear and prismatic, elongated, glass globes are available.
Lens: the clear, flat lens provides slight diffusion, and protects any components located in the reflector.
Note: G3 is used with 100IN, 32CF, and 15LED max.
Only prismatic globes are compatible with LED systems.
Globes are not available with the 17W LED PAR 38 lamps.

Option
Wire Guard: a steel, chrome-plated wire guard is available for lamp protection against light projectiles, wildlife, and serves as a vandal deterrent.

Ballast/LED Driver
Ballasts are efficient with a high power factor greater than 90%, and quiet with an "A" sound rating.
The LED source is controlled by an advanced electronic driver that delivers consistent power.
Ballast and LED drivers are electronic, and available for integral and remote mounting, indoor or outdoor.

cULus cULus CE IP23

Luminaire Schedule				
Symbol	Qty	Label	Arrangement	Description
⊖	8	W	Single	2W-O-15LED-30K-120-WM-XX

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 147, LOT 18

APPLICANT
TUCK REALTY CORPORATION
PO BOX 190
EXETER, NH 03833

TOTAL LOT AREA
81,046 SQ. FT.
1.86 ACRES

Design: JAC	Draft: ERE
Checked: JAC	Scale: AS NOTED
Date: 03/22/22	Project No.: 20686
Drawing Name: 20686-PLAN.dwg	

STATE OF NEW HAMPSHIRE — MICHAEL J. KERIVAN No. 9646 LICENSED PROFESSIONAL ENGINEER — 4/26/2022

REV.	DATE	REVISION	BY
7	4/22/22	REVISED PER TAC COMMENTS	DJM
6	3/22/22	REVISED PER TAC COMMENTS	ERE
5	2/15/22	REVISED FOR PLANNING BOARD SUBMISSION	AJB
4	12/20/21	REVISED FOR PLANNING BOARD SUBMISSION	AJB
3	9/30/21	REVISED PER TAC COMMENTS	AJB

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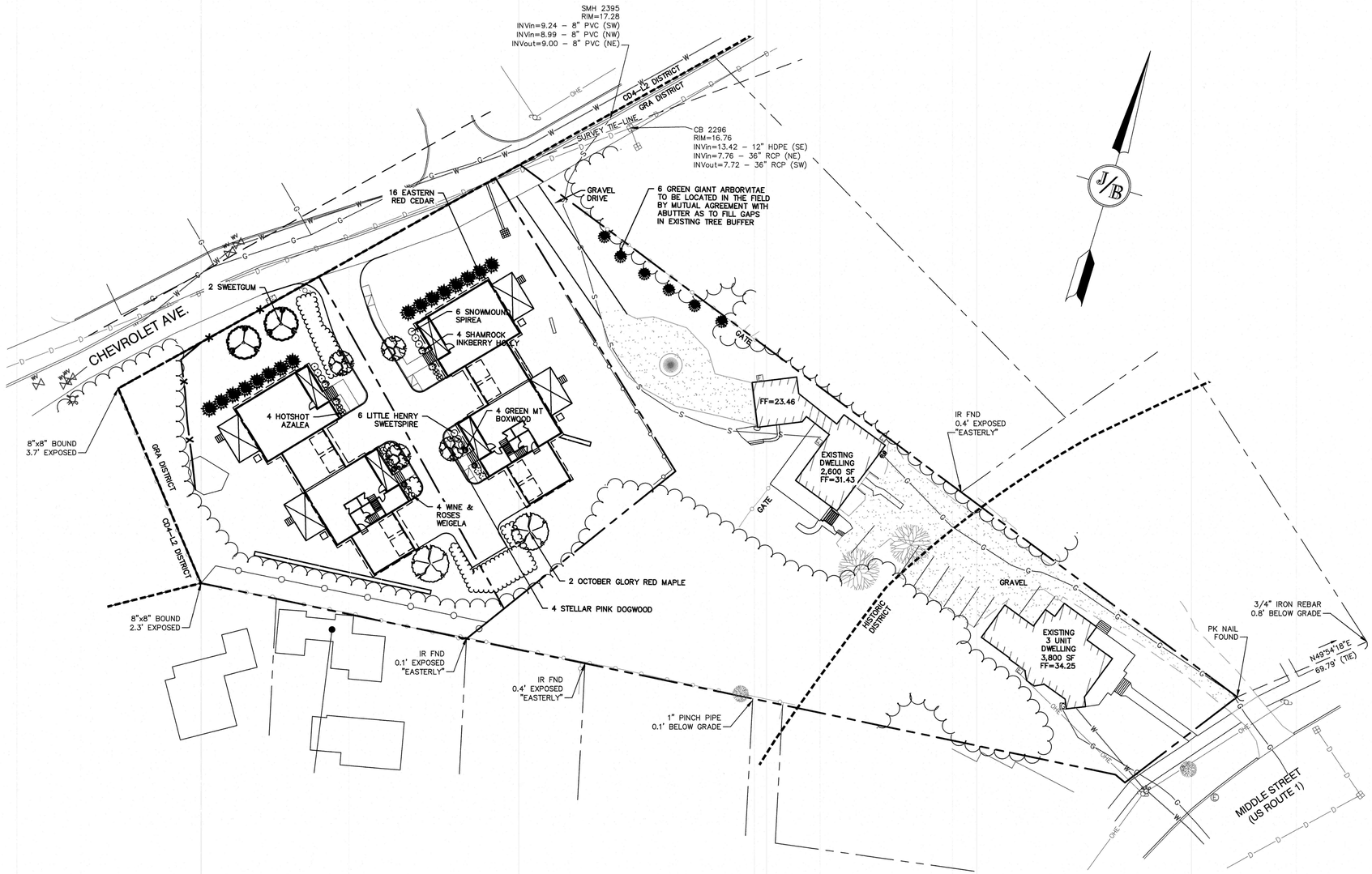
E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	LIGHTING PLAN
Project:	668 MIDDLE STREET PORTSMOUTH, NH
Owner of Record:	PUBLIC LAND HOLDINGS, LLC PO BOX 190 EXETER, NH 03833 BK 6367 PG 1660

DRAWING No.
L1
SHEET 9 OF 14
JBE PROJECT NO. 20686



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 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.
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 FOR 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 WORK AND PLANTS SHALL BE DONE, INSTALLED AND DETAILED IN STRICT ACCORDANCE WITH 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.
12. FINAL ACCEPTANCE BY THE LANDSCAPE ARCHITECT WILL BE MADE UPON THE CONTRACTOR'S REQUEST AFTER ALL CORRECTIVE WORK HAS BEEN COMPLETED.
13. BY THE END OF THE GUARANTEE PERIOD, THE CONTRACTOR SHALL HAVE REPLACED ANY PLANT MATERIAL THAT IS MISSING, NOT TRUE TO SIZE AS SPECIFIED, THAT HAS DIED, LOST NATURAL SHAPE DUE TO DEAD BRANCHES, EXCESSIVE PRUNING OR INADEQUATE OR IMPROPER CARE, OR THAT IS, 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 SPECIFIED.
15. ALL TREES AND SHRUBS SHALL BE PLANTED IN MULCH BEDS WITH EDGE STRIPS TO SEPARATE TURF GRASS AREAS.
16. THE CONTRACTOR SHALL REMOVE WEEDS, ROCKS, CONSTRUCTION ITEMS, ETC. FROM ANY LANDSCAPE AREA SO DESIGNATED TO REMAIN, WHETHER ON OR OFF-SITE. GRASS SEED OR PINE BARK MULCH SHALL BE APPLIED AS DEPICTED ON PLANS.
17. ALL LANDSCAPING SHALL MEET THE TOWN STANDARDS AND REGULATIONS.
18. EXISTING TREES TO REMAIN SHALL BE PROTECTED WITH TEMPORARY SNOW FENCING AT THE DRIPLINE OF THE TREE. 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 3" LAYER OF SHREDDED PINE BARK MULCH OVER A 10 MIL WEED MAT EQUAL TO 'WEEDBLOCK' BY EASY GARDENER OR DEWITT WEED BARRIER.
20. ALL LANDSCAPED AREAS SHALL HAVE SELECT MATERIALS REMOVED TO A DEPTH OF AT LEAST 9" BELOW FINISH GRADE. THE RESULTING VOID IS TO BE FILLED WITH A MINIMUM OF 9" HIGH-QUALITY SCREENED LOAM AMENDED WITH 3" OF AGED ORGANIC COMPOST.
21. THIS PLAN IS INTENDED FOR LANDSCAPING PURPOSES ONLY. REFER TO CIVIL/SITE DRAWINGS FOR OTHER SITE CONSTRUCTION INFORMATION.

Plants

Quantity	Botanical Name	Common Name	Size
2	Acer rubrum 'October Glory'	OCTOBER GLORY RED MAPLE	3" Caliper
4	Azalea 'Girards Hotshot'	HOTSHOT AZALEA	3 Gallon
4	Buxus 'Green Mountain'	GREEN MT BOXWOOD	5 Gallon
4	Cornus kousa X C. florida 'Stellar Pink'	STELLAR PINK DOGWOOD	2.5" Caliper
4	Ilex glabra 'Shamrock'	SHAMROCK INKBERRY HOLLY	5 Gallon
6	Itea virginica 'Sprich Little Henry'	LITTLE HENRY SWEETSPIRE	3 Gallon
16	Juniperus virginiana	EASTER RED CEDAR	6-7 Ft. Ht.
6	Thuja plicata 'Green Gaint'	GREEN GIANT ARBORVITAE	10-12 Ft. Ht.
6	Spiraea nipponica 'Snowmound'	SNOWMOUND SPIREA	3 Gallon
2	Liquidambar styraciflua	SWEETGUM	3" Caliper
4	Weigela florida 'Alexandra'	WINE & ROSES WEIGELA	3 Gallon

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

PROJECT PARCEL
CITY OF PORTSMOUTH
TAX MAP 147, LOT 18

APPLICANT
TUCK REALTY CORPORATION
PO BOX 190
EXETER, NH 03833

TOTAL LOT AREA
81,046 SQ. FT.
1.86 ACRES

F:\CADD\MASTER STANDARD\dwg\JB-LAYOUTS.dwg 3/12/2015 3:27:29 PM EDT

Design: JAC	Draft: ERE	Date: 03/22/22
Checked: JAC	Scale: AS NOTED	Project No.: 20686
Drawing Name: 20686-PLAN.dwg		

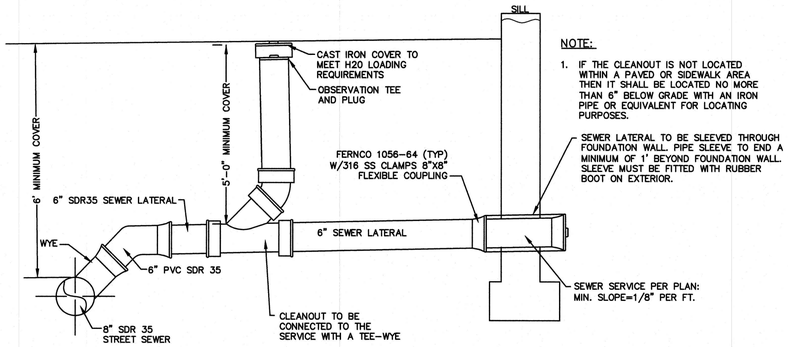
STATE OF NEW HAMPSHIRE – MICHAEL J. KERVAN No. 9646 – LICENSED PROFESSIONAL ENGINEER – 3/12/2022

REV.	DATE	REVISION	BY
7	4/22/22	REVISED PER TAC COMMENTS	DJM
6	3/22/22	REVISED PER TAC COMMENTS	ERE
5	2/15/22	REVISED FOR PLANNING BOARD SUBMISSION	AJB
4	12/20/21	REVISED FOR PLANNING BOARD SUBMISSION	AJB
3	9/30/21	REVISED PER TAC COMMENTS	AJB

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

Plan Name: LANDSCAPE PLAN
Project: 668 MIDDLE STREET PORTSMOUTH, NH
Owner of Record: PUBLIC LAND HOLDINGS, LLC PO BOX 190 EXETER, NH 03833 BK 6367 PG 1660

DRAWING No. L2
SHEET 10 OF 14
JBE PROJECT NO. 20686

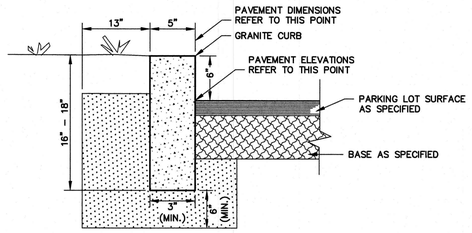


NOTE:

1. IF THE CLEANOUT IS NOT LOCATED WITHIN A PAVED OR SIDEWALK AREA THEN IT SHALL BE LOCATED NO MORE THAN 6" BELOW GRADE WITH AN IRON PIPE OR EQUIVALENT FOR LOCATING PURPOSES.
2. SEWER LATERAL TO BE SLEEVED THROUGH FOUNDATION WALL. PIPE SLEEVE TO END A MINIMUM OF 1' BEYOND FOUNDATION WALL. SLEEVE MUST BE FITTED WITH RUBBER BOOT ON EXTERIOR.

HOUSE SEWER SERVICE

NOT TO SCALE

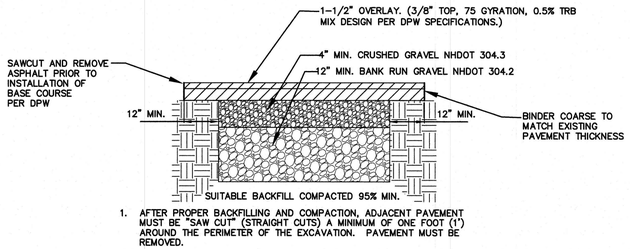


NOTES:

1. EDGING TO BE PLACED PRIOR TO PLACING TOP SURFACE COURSE.
2. JOINTS BETWEEN STONES SHALL BE MORTARED.

VERTICAL GRANITE CURB

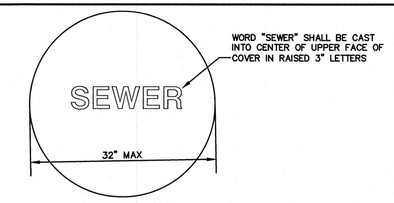
NOT TO SCALE



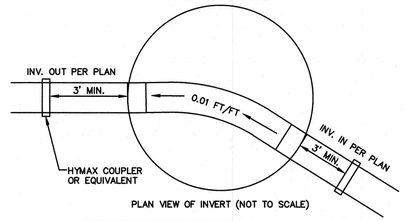
1. AFTER PROPER BACKFILLING AND COMPACTION, ADJACENT PAVEMENT MUST BE "SAW CUT" (STRAIGHT CUTS) A MINIMUM OF ONE FOOT (1') AROUND THE PERIMETER OF THE EXCAVATION. PAVEMENT MUST BE REMOVED.
2. INSTALL BASE COURSE LEAVING A REVEAL FOR SURFACE COURSE.
3. INSTALL SURFACE COURSE OF ASPHALT PAVING.
4. APPLY EMULSION SEALANT AT PERIMETER OF JOINT OVERLAPPING BASE COURSE. INSTALL WEARING COURSE OF ASPHALT TO GRADE. APPLY LIGHT SAND TO ABSORB EXCESS JOINT SEALANT.
5. GRAVEL COMPACTIONS TO MEET 95% MINIMUM.

TYPICAL PAVEMENT REPAIR DETAIL

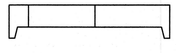
NOT TO SCALE



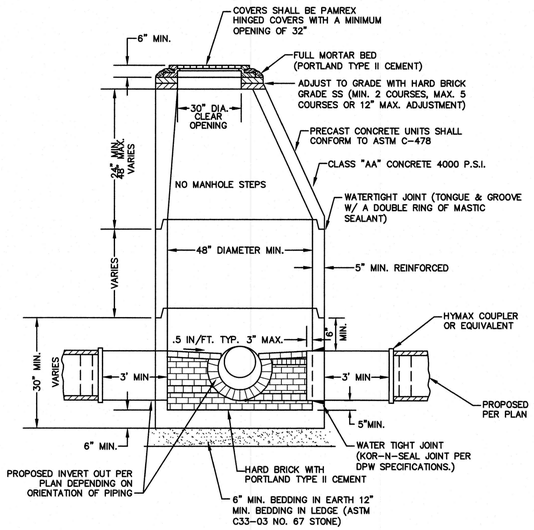
PLAN VIEW OF COVER



PLAN VIEW OF INVERT (NOT TO SCALE)



ALTERNATE TOP SLAB FOR MANHOLES LESS THAN SIX FEET DEEP. REINFORCED TO MEET OR EXCEED THE REQUIRMENTS OF AASHTO HS20-44 LOADING

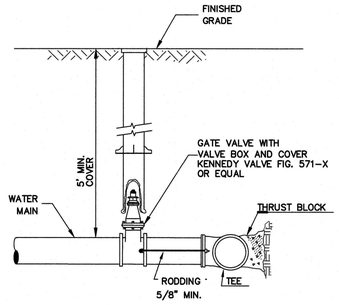


NOTES:

1. PER NHDES ENV-WQ 704.13(C), THE MORTAR SPECIFICATION SHALL BE AS FOLLOWS:
   1. MORTAR SHALL BE COMPOSED OF PORTLAND CEMENT AND SAND WITH OR WITHOUT HYDRATED LIME ADDITION;
   2. PROPORTIONS IN MORTAR OF PARTS BY VOLUMES SHALL BE:
      A. 4.5 PARTS SAND AND 1.5 PARTS CEMENT; OR
      B. 4.5 PARTS SAND, ONE PART CEMENT AND 0.5 PART HYDRATED LIME;
   3. CEMENT SHALL BE TYPE II PORTLAND CEMENT CONFORMING TO ASTM C150-05;
   4. HYDRATED LIME SHALL BE TYPE S CONFORMING TO THE ASTM C207-06 STANDARD SPECIFICATIONS FOR HYDRATED LIME FOR MASONRY PURPOSES';
   5. SAND SHALL CONSIST OF INERT NATURAL SAND CONFORMING TO THE ASTM C33-03 STANDARD SPECIFICATIONS FOR CONCRETE, FINE AGGREGATES';
2. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPED TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL IN ACCORDANCE WITH ENV-WQ 704.12 (K).
3. ALL MANHOLES SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH ENV-WQ 704.17 (a) THROUGH (e).
4. SEWER MANHOLE COVERS SHALL CONFORM TO ASTM A48 WITH A CASTING EQUAL TO CLASS 30 IN ACCORDANCE WITH ENV-WQ 704.13 (a).
5. ALL ASBESTOS CONTAINING WASTE MATERIALS MUST BE PROPERLY IDENTIFIED, PACKAGED AND DELIVERED TO A LANDFILL LICENCED BY THE NHDES SOLID WASTE MANAGEMENT PROGRAM FOR DISPOSAL. CALL (603) 271-2925 FOR MORE INFORMATION.
6. PORTSMOUTH STANDARD SEWER MANHOLE SHALL BE USED.
7. CONTRACTOR TO PURCHASE SEWER MANHOLE COVERS FROM THE CITY OF PORTSMOUTH DIRECTLY.
8. MANHOLE BASE SECTIONS SHALL BE MONOLITHIC TO A POINT AT LEAST 6" ABOVE THE HIGHEST INCOMING SEWER PIPE PER ENV-WQ 704.12 (e).
9. MANHOLE CASTINGS SHALL CONFORM TO ASTM A48 PER ENV-WQ 704.13 (a) (8).

PORTSMOUTH SEWER MANHOLE

NOT TO SCALE



BURIED GATE VALVE DETAIL

NOT TO SCALE

Design: JAC	Draft: ERE	Date: 03/22/22
Checked: JAC	Scale: AS NOTED	Project No.: 20686
Drawing Name: 20686-PLAN.dwg		

STATE OF NEW HAMPSHIRE — MICHAEL J. KERIVAN No. 9646 — LICENSED PROFESSIONAL ENGINEER — 4/22/22

REV.	DATE	REVISION	BY
7	4/22/22	REVISED PER TAC COMMENTS	DJM
6	3/22/22	REVISED PER TAC COMMENTS	ERE
5	2/15/22	REVISED FOR PLANNING BOARD SUBMISSION	AJB
4	12/20/21	REVISED FOR PLANNING BOARD SUBMISSION	AJB
3	9/30/21	REVISED PER TAC COMMENTS	AJB

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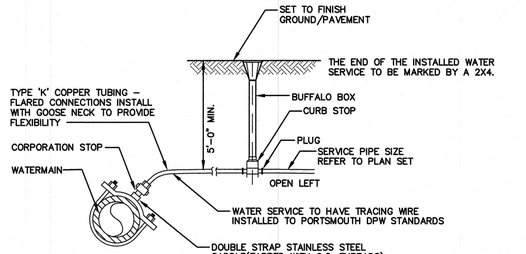
85 Portsmouth Ave. PO Box 219 Stratham, NH 03885
Civil Engineering Services
603-772-4746 FAX: 603-772-0227 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	DETAIL SHEET
Project:	668 MIDDLE STREET PORTSMOUTH, NH
Owner of Record:	PUBLIC LAND HOLDINGS, LLC PO BOX 190 EXETER, NH 03833 BK 6367 PG 1660

DRAWING No.

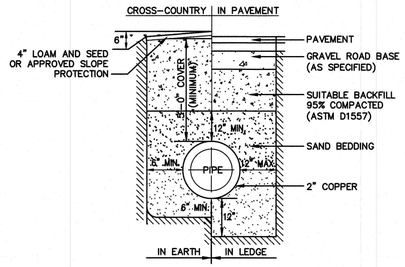
D1

SHEET 11 OF14
JBE PROJECT NO. 20686



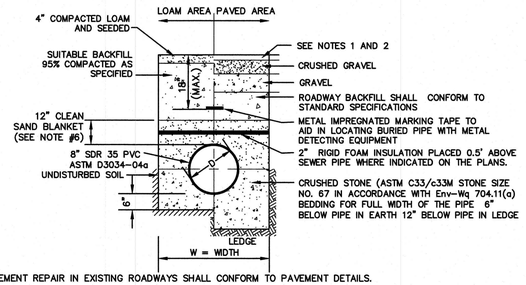
WATER SERVICE CONNECTION-COPPER PIPE

NOT TO SCALE



WATER SYSTEM TRENCH

NOT TO SCALE

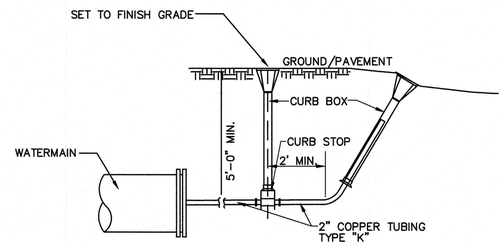


NOTES:

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

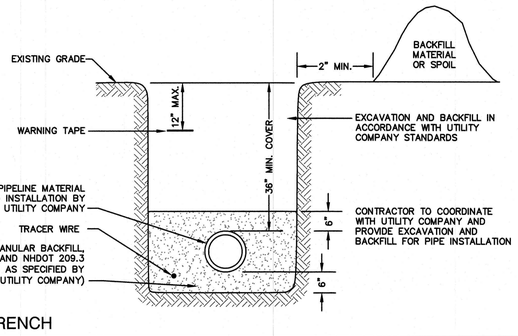
SEWER TRENCH

NOT TO SCALE



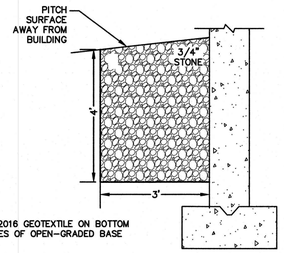
TYPICAL WATER MAIN BLOW OFF DETAIL

NOT TO SCALE



GAS TRENCH

NOT TO SCALE



DRIP EDGE DETAIL

NOT TO SCALE

Design: JAC	Draft: ERE	Date: 03/22/22
Checked: JAC	Scale: AS NOTED	Project No.: 20686
Drawing Name: 20686-PLAN.dwg		

STATE OF NEW HAMPSHIRE – MICHAEL J. KERIVAN No. 9846 LICENSED PROFESSIONAL ENGINEER – 4/26/2022

REV.	DATE	REVISION	BY
7	4/22/22	REVISED PER TAC COMMENTS	DJM
6	3/22/22	REVISED PER TAC COMMENTS	ERE
5	2/15/22	REVISED FOR PLANNING BOARD SUBMISSION	AJB
4	12/20/21	REVISED FOR PLANNING BOARD SUBMISSION	AJB
3	9/30/21	REVISED PER TAC COMMENTS	AJB

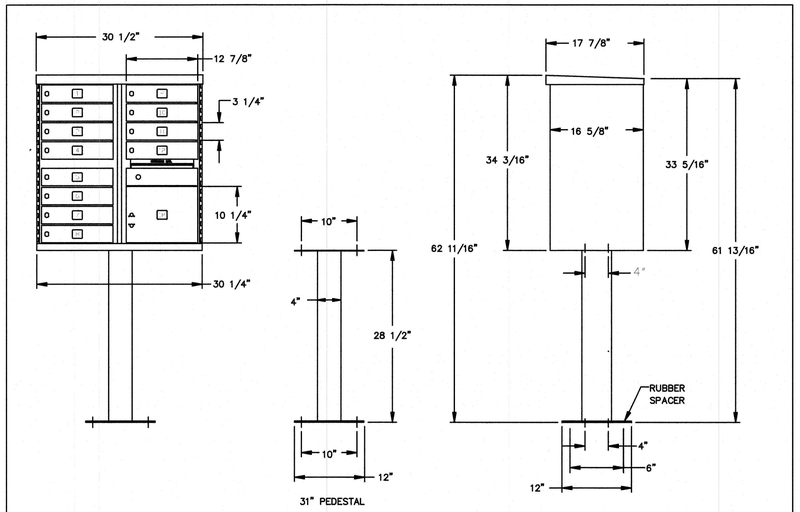
Designed and Produced in NH
J/B Jones & Beach Engineers, Inc.
85 Portsmouth Ave. Civil Engineering Services 603-772-4746
PO Box 219 FAX: 603-772-0227
Stratham, NH 03885 E-MAIL: JBE@JONESANDBEACH.COM

Plan Name:	DETAIL SHEET
Project:	668 MIDDLE STREET PORTSMOUTH, NH
Owner of Record:	PUBLIC LAND HOLDINGS, LLC PO BOX 190 EXETER, NH 03833 BK 6367 PG 1660

DRAWING No.

D2

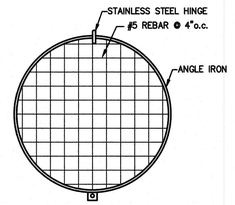
SHEET 12 OF14
JBE PROJECT NO. 20686



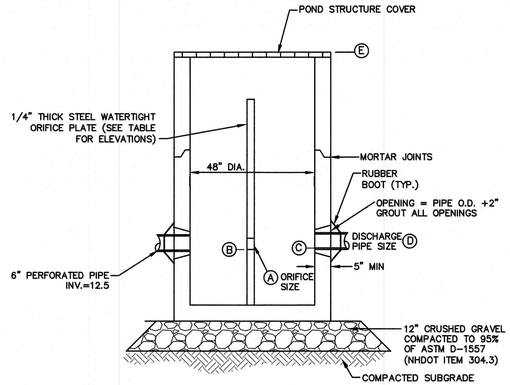
POSTAL PRODUCTS UNLIMITED, INC.™ A Division of American Postal Manufacturing, Inc. Phone. 1-800-229-4500 800 W. Oklahoma Ave. Milwaukee, WI 53207-2549	Product: Type II CBU with Pedestal – Front Loading – N1027875			
	Distribution: USPS Approved		Finish: Powder Coat	
	Mounting: Pedestal		Total Mailboxes: 12 Doors – 1 Locker	
	Date: 02/02/06	Scale: NONE	Drawn By: CDO	Checked By: AJK

CLUSTER MAILBOX UNIT DETAIL

NOT TO SCALE



POND STRUCTURE COVER



	A	B	C	D	E
MSDOS 1	3.5"	12.50	12.50	12"	18.00

CATCH BASIN CONTROL STRUCTURE (CBCS)

NOT TO SCALE

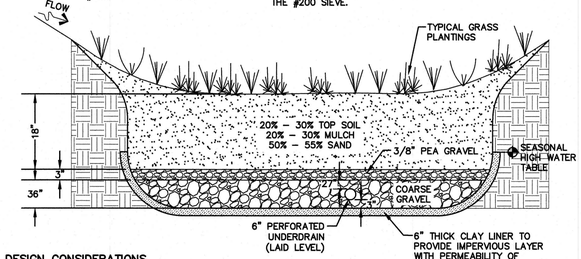
SAND SPECIFICATION	
SIEVE SIZE	% BY WEIGHT
3"	100
#4	95–100
#8	80–100
#16	50–85
#30	25–60
#60	10–30
#100	2–10
#200	0–5

TOPSOIL SPECIFICATION

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

MULCH SPECIFICATION

MODERATELY FINE, SHREDDED BARK OR WOOD FIBER MULCH WITH LESS THAN 5% PASSING THE #200 SIEVE.



DESIGN CONSIDERATIONS

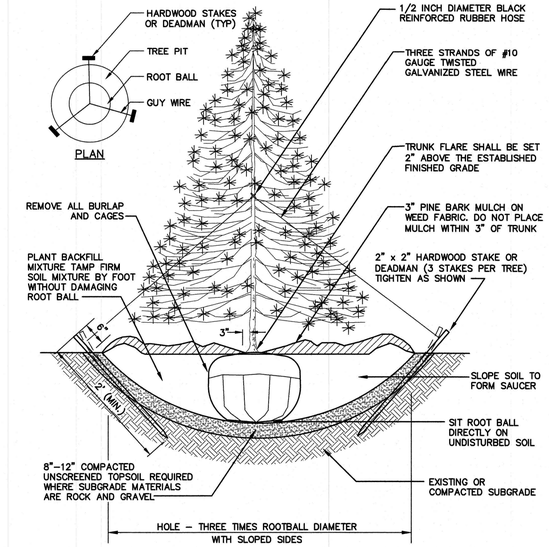
1. DO NOT DIRECT RUNOFF TO THE BIORETENTION SYSTEMS UNTIL IT HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
2. DO NOT DISCHARGE SEDIMENT–LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUN–OFF, WATER FROM EXCAVATIONS) TO THE BIORETENTION AREA DURING ANY STAGE OF CONSTRUCTION.
3. DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.

MAINTENANCE REQUIREMENTS:

1. SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EVENT EXCEEDING 2.5 INCHES IN A 24 HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS WARRANTED BY SUCH INSPECTION.
3. TRASH AND DEBRIS SHOULD BE REMOVED AT EACH INSPECTION.
4. AT LEAST ONCE ANNUALLY, SYSTEM SHOULD BE INSPECTED FOR DRAWDOWN TIME. IF BIORETENTION SYSTEM DOES NOT DRAIN WITHIN 72 HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION FUNCTION OR INFILTRATION FUNCTION (AS APPLICABLE), INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER MEDIA.
5. VEGETATION SHOULD BE INSPECTED AT LEAST ANNUALLY, AND MAINTAINED IN HEALTHY CONDITION, INCLUDING PRUNING, REMOVAL AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF INVASIVE SPECIES.

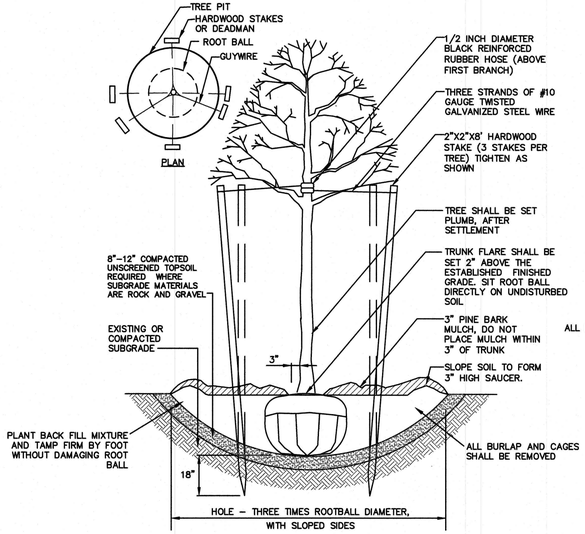
RAIN GARDEN (GRASSED W/ UNDER DRAIN)

NOT TO SCALE



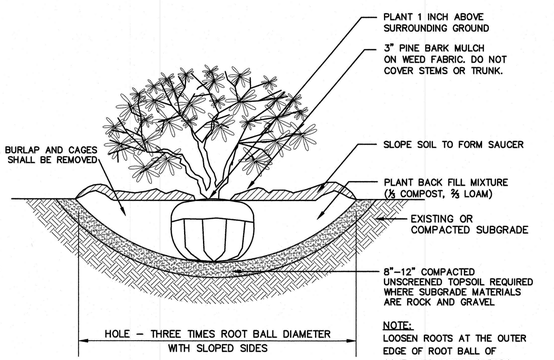
EVERGREEN PLANTING

NOT TO SCALE



TREE PLANTING (FOR TREES UNDER 4" CALIPER)

NOT TO SCALE



SHRUB PLANTING

NOT TO SCALE

Design: JAC	Draft: ERE	Date: 03/22/22
Checked: JAC	Scale: AS NOTED	Project No.: 20686
Drawing Name: 20686-PLAN.dwg		

STATE OF NEW HAMPSHIRE — MICHAEL J. KERRIVAN No. 9646 LICENSED PROFESSIONAL ENGINEER — 4/22/2022

REV.	DATE	REVISION	BY
7	4/22/22	REVISED PER TAC COMMENTS	DJM
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Plan Name:	DETAIL SHEET
Project:	668 MIDDLE STREET PORTSMOUTH, NH
Owner of Record:	PUBLIC LAND HOLDINGS, LLC PO BOX 190 EXETER, NH 03833 BK 6367 PG 1660

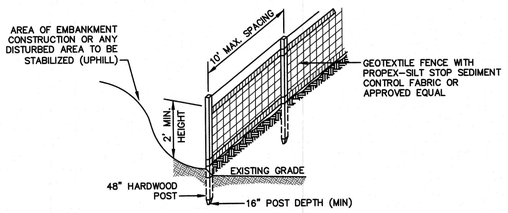
DRAWING No.

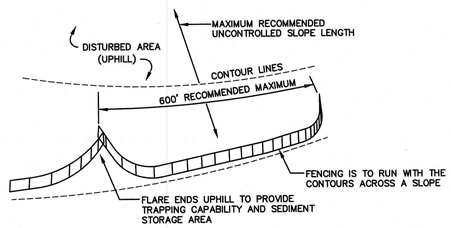
D3

SHEET 13 OF 14
JBE PROJECT NO. 20686

TEMPORARY EROSION CONTROL NOTES

1. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE EXPOSED AT ANY ONE TIME. AT NO TIME SHALL AN AREA IN EXCESS OF 5 ACRES BE EXPOSED AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
2. EROSION, SEDIMENT AND DETENTION MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS AND AT LOCATIONS AS REQUIRED, DIRECTED BY THE ENGINEER.
3. ALL DISTURBED AREAS (INCLUDING POND AREAS BELOW THE PROPOSED WATERLINE) SHALL BE RETURNED TO PROPOSED GRADES AND ELEVATIONS. DISTURBED AREAS SHALL BE LOAMED WITH A MINIMUM OF 6" OF SCREENED ORGANIC LOAM AND SEEDED WITH SEED MIXTURE 'C' AT A RATE NOT LESS THAN 1.10 POUNDS OF SEED PER 1,000 S.F. OF AREA (48 LBS. / ACRE).
4. SILT FENCES AND OTHER BARRIERS SHALL BE INSPECTED EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 0.5" OR GREATER. ALL DAMAGED AREAS SHALL BE REPAIRED, AND SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED OF.
5. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED AND THE AREA DISTURBED BY THE REMOVAL SMOOTHED AND RE-VEGETATED.
6. AREAS MUST BE SEEDED AND MULCHED OR OTHERWISE PERMANENTLY STABILIZED WITHIN 3 DAYS OF FINAL GRADING, OR TEMPORARILY STABILIZED WITHIN 14 DAYS OF THE INITIAL DISTURBANCE OF SOIL. ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
7. ALL PROPOSED VEGETATED AREAS THAT DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED BY SEEDING AND INSTALLING NORTH AMERICAN GREEN S75 EROSION CONTROL BLANKETS (OR AN EQUIVALENT APPROVED IN WRITING BY THE ENGINEER) ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
8. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85 PERCENT VEGETATIVE GROWTH BY OCTOBER 15, OR WHICH ARE DISTURBED AFTER OCTOBER 15, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
9. AFTER OCTOBER 15th, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3" OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.
10. AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
    a. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED;
    b. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED;
    c. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH STONE OR RIPRAP HAS BEEN INSTALLED; OR
    d. EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
11. FUGITIVE DUST CONTROL IS REQUIRED TO BE CONTROLLED IN ACCORDANCE WITH ENV-A 1000, AND THE PROJECT IS TO MEET THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES.
12. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR'S NAME, ADDRESS, AND PHONE NUMBER SHALL BE SUBMITTED TO DES VIA EMAIL (SEE BELOW).
13. PRIOR TO CONSTRUCTION, A PHASING PLAN THAT DELINEATES EACH PHASE OF THE PROJECT SHALL BE SUBMITTED. ALL TEMPORARY SEDIMENT BASINS THAT WILL BE NEEDED FOR DEWATERING WORK AREAS SHALL BE LOCATED AND IDENTIFIED ON THIS PLAN.





CONSTRUCTION SPECIFICATIONS:

1. WOVEN FABRIC FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. FILTER CLOTH SHALL BE FASTENED TO WOVEN WIRE EVERY 24" AT TOP, MID AND BOTTOM AND EMBEDDED IN THE GROUND A MINIMUM OF 8" AND THEN COVERED WITH SOIL.
2. THE FENCE POSTS SHALL BE A MINIMUM OF 48" LONG, SPACED A MAXIMUM 10' APART, AND DRIVEN A MINIMUM OF 16" INTO THE GROUND.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THE ENDS OF THE FABRIC SHALL BE OVERLAPPED 6", FOLDED AND STAPLED TO PREVENT SEDIMENT FROM BY-PASSING.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SEDIMENT REMOVED AND PROPERLY DISPOSED OF WHEN IT IS 6" DEEP OR VISIBLE 'BULGES' DEVELOP IN THE SILT FENCE.
5. PLACE THE ENDS OF THE SILT FENCE UP CONTOUR TO PROVIDE FOR SEDIMENT STORAGE.
6. SILT FENCE SHALL REMAIN IN PLACE FOR 24 MONTHS.
7. SILT FENCES SHALL BE REMOVED WHEN NO LONGER NEEDED AND THE SEDIMENT COLLECTED SHALL BE DISPOSED AS DIRECTED BY THE ENGINEER. THE AREA DISTURBED BY THE REMOVAL SHALL BE SMOOTHED AND REVEGETATED.

MAINTENANCE:

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

SILT FENCE

NOT TO SCALE

SEEDING SPECIFICATIONS

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

USE	SEEDING MIXTURE 1/	DROUGHTY	WELL DRAINED	MODERATELY WELL DRAINED	POORLY DRAINED
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	FAIR	GOOD	GOOD	FAIR
	B	POOR	GOOD	FAIR	FAIR
	C	POOR	GOOD	EXCELLENT	GOOD
	D	FAIR	EXCELLENT	EXCELLENT	POOR
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER.	A	GOOD	GOOD	GOOD	FAIR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY USE RECREATION SITES.	A	GOOD	GOOD	GOOD	FAIR
	B	GOOD	GOOD	FAIR	POOR
	C	GOOD	EXCELLENT	EXCELLENT	FAIR
PLAY AREAS AND ATHLETIC FIELDS. (TOPSOIL IS ESSENTIAL FOR GOOD TURF.)	E	FAIR	EXCELLENT	EXCELLENT	2/
	F	FAIR	EXCELLENT	EXCELLENT	2/
GRAVEL PIT, SEE NH-PM-24 IN APPENDIX FOR RECOMMENDATION REGARDING RECLAMATION OF SAND AND GRAVEL PITS.					

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

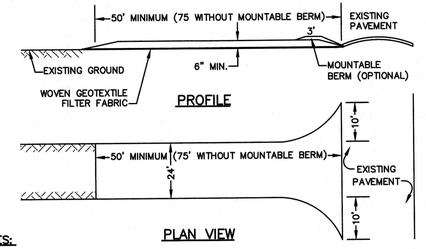
NOTE: TEMPORARY SEED MIX FOR STABILIZATION OF TURF SHALL BE WINTER RYE OR OATS AT A RATE OF 2.5 LBS. PER 1000 S.F. AND SHALL BE PLACED PRIOR TO OCTOBER 15th, IF PERMANENT SEEDING NOT YET COMPLETE.

SEEDING GUIDE

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

1/ FOR HEAVY USE ATHLETIC FIELDS CONSULT THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION TURF SPECIALIST FOR CURRENT VARIETIES AND SEEDING RATES.

SEEDING RATES



NOTES:

1. STONE FOR STABILIZED CONSTRUCTION ENTRANCE SHALL BE 3 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET, 75' WITHOUT A MOUNTABLE BERM, AND EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS, OR 10 FEET, WHICHEVER IS GREATER.
5. GEOTEXTILE FILTER FABRIC SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER FABRIC IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENTIAL LOT.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A STONE BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO THE PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO THE PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

CONSTRUCTION SEQUENCE

1. CUT AND REMOVE TREES IN CONSTRUCTION AREA AS REQUIRED OR DIRECTED.
2. INSTALL SILT FENCING, HAY BALES AND CONSTRUCTION ENTRANCES PRIOR TO THE START OF CONSTRUCTION. THESE ARE TO BE MAINTAINED UNTIL THE FINAL PAVEMENT SURFACING AND LANDSCAPING AREAS ARE ESTABLISHED.
3. CLEAR, CUT, GRUB AND DISPOSE OF DEBRIS IN APPROVED FACILITIES. THIS INCLUDES ANY REQUIRED DEMOLITION OF EXISTING STRUCTURES, UTILITIES, ETC.
4. CONSTRUCT AND/OR INSTALL TEMPORARY OR PERMANENT SEDIMENT AND/OR DETENTION BASIN(S) AS REQUIRED. THESE FACILITIES SHALL BE INSTALLED AND STABILIZED PRIOR TO DIRECTING RUN-OFF TO THEM.
5. STRIP LOAM AND PAVEMENT, OR RECLAIM EXISTING PAVEMENT WITHIN LIMITS OF WORK PER THE RECOMMENDATIONS OF THE PROJECT ENGINEER AND STOCKPILE EXCESS MATERIAL. STABILIZE STOCKPILE AS NECESSARY.
6. PERFORM PRELIMINARY SITE GRADING IN ACCORDANCE WITH THE PLANS, INCLUDING THE CONSTRUCTION OF ANY RETAINING WALLS AND SOUND WALLS.
7. PREPARE BUILDING PAD(S) TO ENABLE BUILDING CONSTRUCTION TO BEGIN.
8. INSTALL THE SEWER AND DRAINAGE SYSTEMS FIRST, THEN ANY OTHER UTILITIES IN ACCORDANCE WITH THE PLAN AND DETAILS. ANY CONFLICTS BETWEEN UTILITIES ARE TO BE RESOLVED WITH THE INVOLVEMENT AND APPROVAL OF THE ENGINEER.
9. INSTALL INLET PROTECTION AT ALL CATCH BASINS AS THEY ARE CONSTRUCTED IN ACCORDANCE WITH DETAILS.
10. ALL SWALES AND DRAINAGE STRUCTURES ARE TO BE CONSTRUCTED AND STABILIZED PRIOR TO HAVING RUN-OFF DIRECTED TO THEM.
11. DAILY, OR AS REQUIRED, CONSTRUCT TEMPORARY BERMS, DRAINAGE DITCHES, CHECK DAMS, SEDIMENT TRAPS, ETC., TO PREVENT EROSION ON THE SITE AND PREVENT ANY SILTATION OF ABUTTING WATERS AND/OR PROPERTY.
12. PERFORM FINAL FINE GRADING, INCLUDING PLACEMENT OF 'SELECT' SUBGRADE MATERIALS.
13. PAVE DRIVEWAYS WITH INITIAL 'BASE COURSE'.
14. PERFORM ALL REMAINING SITE CONSTRUCTION (i.e. BUILDING, CURBING, UTILITY CONNECTIONS, ETC.).
15. LOAM AND SEED ALL DISTURBED AREAS AND INSTALL ANY REQUIRED SEDIMENT AND EROSION CONTROL FACILITIES (i.e. RIP RAP, EROSION CONTROL BLANKETS, ETC.).
16. FINISH PAVING ALL DRIVEWAY WAYS WITH 'FINISH' COURSE.
17. ALL DRIVEWAYS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
18. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
19. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
20. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER SEEDING AREAS HAVE BEEN 75%-85% ESTABLISHED AND SITE IMPROVEMENTS ARE COMPLETE. SMOOTH AND RE-VEGETATE ALL DISTURBED AREAS.
21. CLEAN SITE AND ALL DRAINAGE STRUCTURES, PIPES AND SUMPS OF ALL SILT AND DEBRIS.
22. UPON COMPLETION OF CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY ANY RELEVANT PERMITTING AGENCIES THAT THE CONSTRUCTION HAS BEEN FINISHED IN A SATISFACTORY MANNER.

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Checked: JAC	Scale: AS NOTED	Project No.: 20686
Drawing Name: 20686-PLAN.dwg		

STATE OF NEW HAMPSHIRE — MICHAEL J. KERVAN No. 9646 — LICENSED PROFESSIONAL ENGINEER — 4/22/2022

REV.	DATE	REVISION	BY
7	4/22/22	REVISED PER TAC COMMENTS	DJM
6	3/22/22	REVISED PER TAC COMMENTS	ERE
5	2/15/22	REVISED FOR PLANNING BOARD SUBMISSION	AJB
4	12/20/21	REVISED FOR PLANNING BOARD SUBMISSION	AJB
3	9/30/21	REVISED PER TAC COMMENTS	AJB

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Plan Name:	EROSION AND SEDIMENT CONTROL DETAILS
Project:	668 MIDDLE STREET PORTSMOUTH, NH
Owner of Record:	PUBLIC LAND HOLDINGS, LLC PO BOX 190 EXETER, NH 03833 BK 6367 PG 1660

DRAWING No.
E1
SHEET 14 OF 14
JBE PROJECT NO. 20686