Chase Drive Gateway Development Site Subdivision and Site Plan Review

200 CHASE DRIVE Portsmouth, New Hampshire Assessor's Parcel 210-02

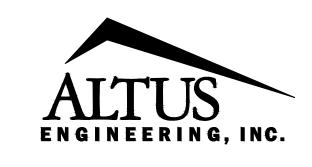
Owner:

BETHEL ASSEMBLY OF GOD 200 CHASE DRIVE PORTSMOUTH, NH 03801

Applicant:

200 Chase Drive, LLC c/o Cove Workspace 36 Maplewood Avenue PORTSMOUTH, NH 03801

Landscape Architect:



Civil Engineer:

133 COURT STREET PORTSMOUTH, NH 0380 www.ALTUS-ENG.co

Ar chitect:



39 Maplewood Avenue Portsmouth, NH 03801 603.766.3760 WOODBURN & COMPANY

Landscape Architecture, LLC

103 Kent Place Newmarket, NH 03857 Tel 603.659.5949 Fax: 603.659.5939

Sur veyor:



NOVEMBER 18, 2019

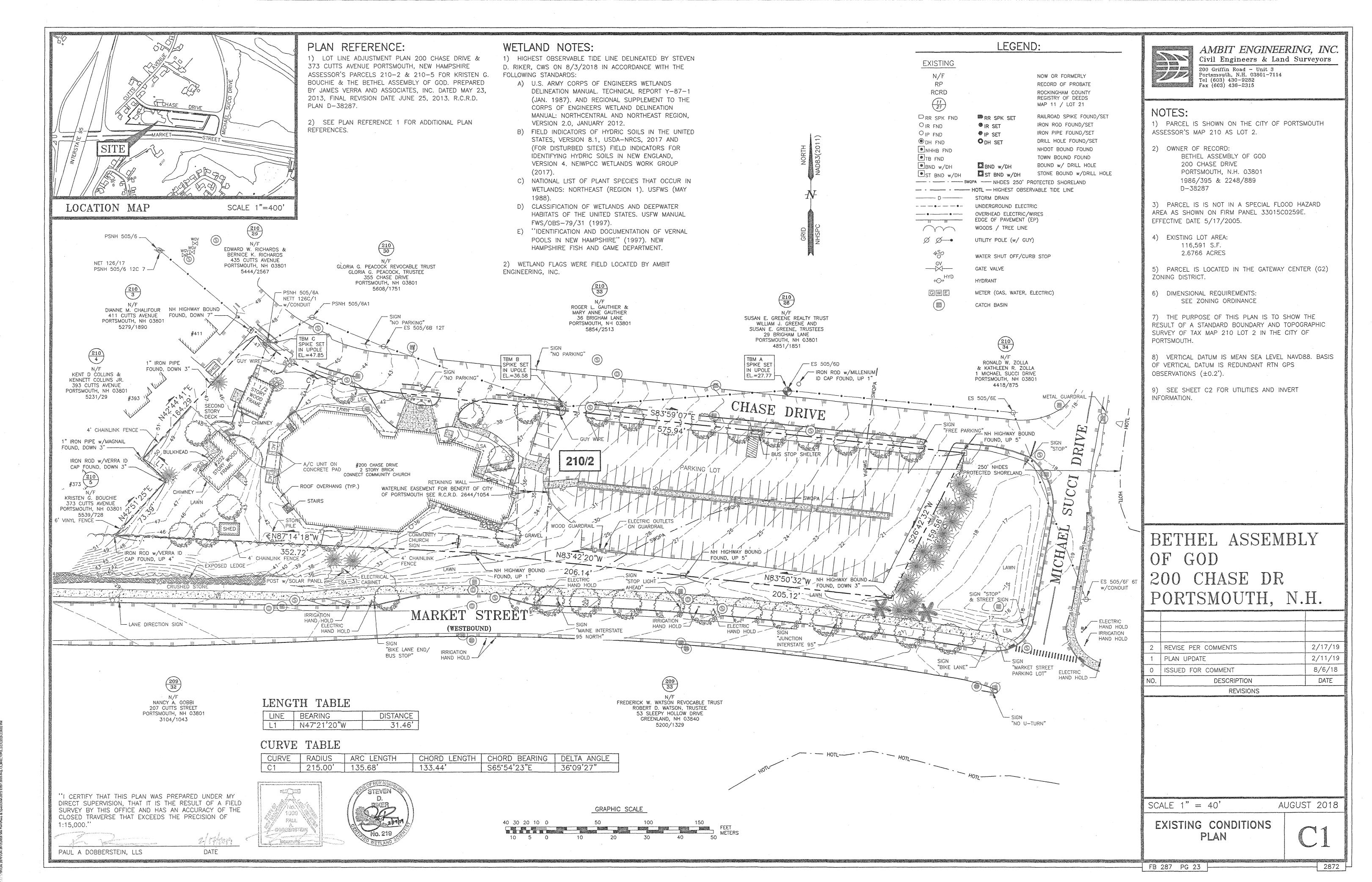
PLANNING BOARD APPROVAL

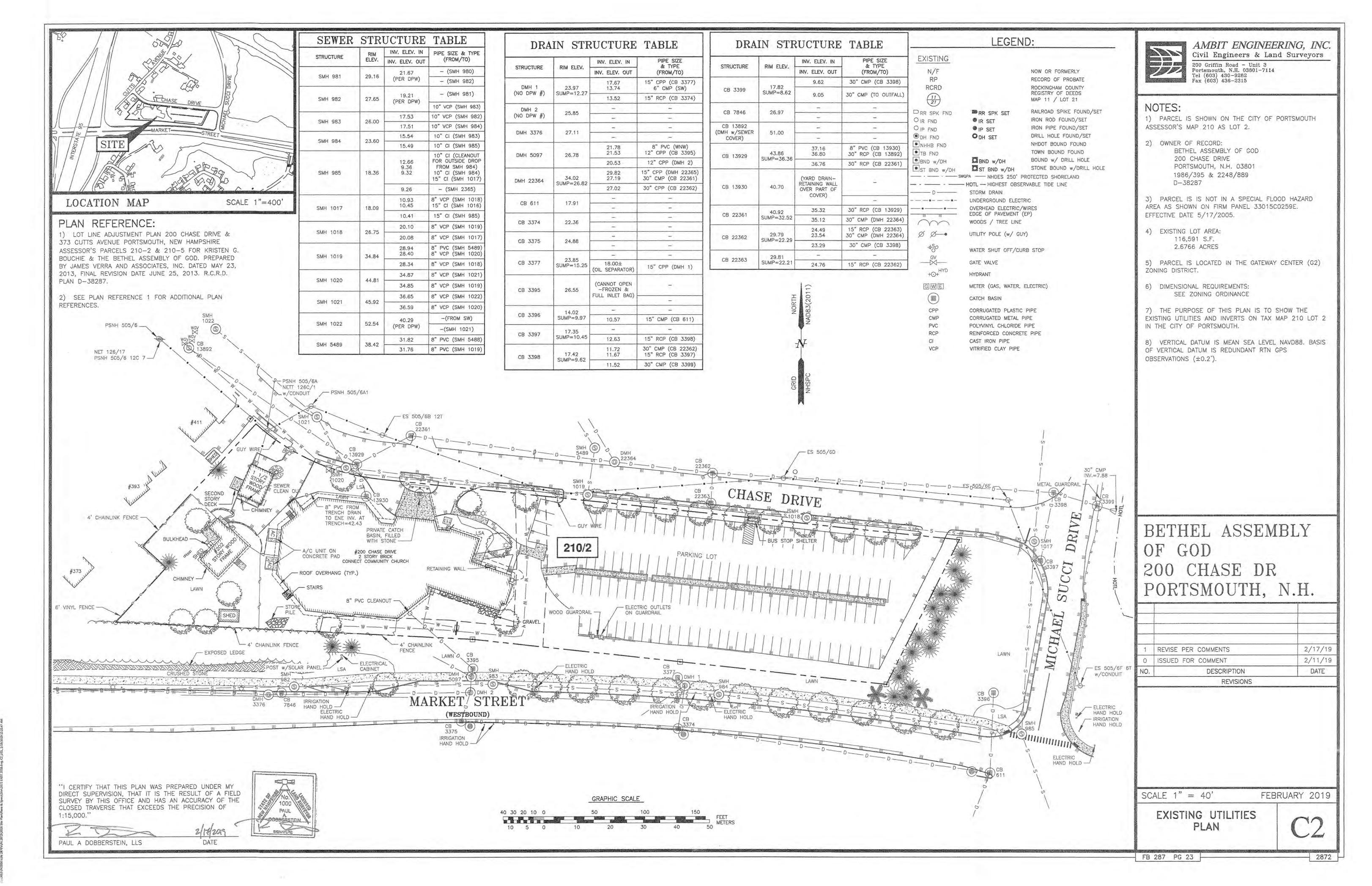


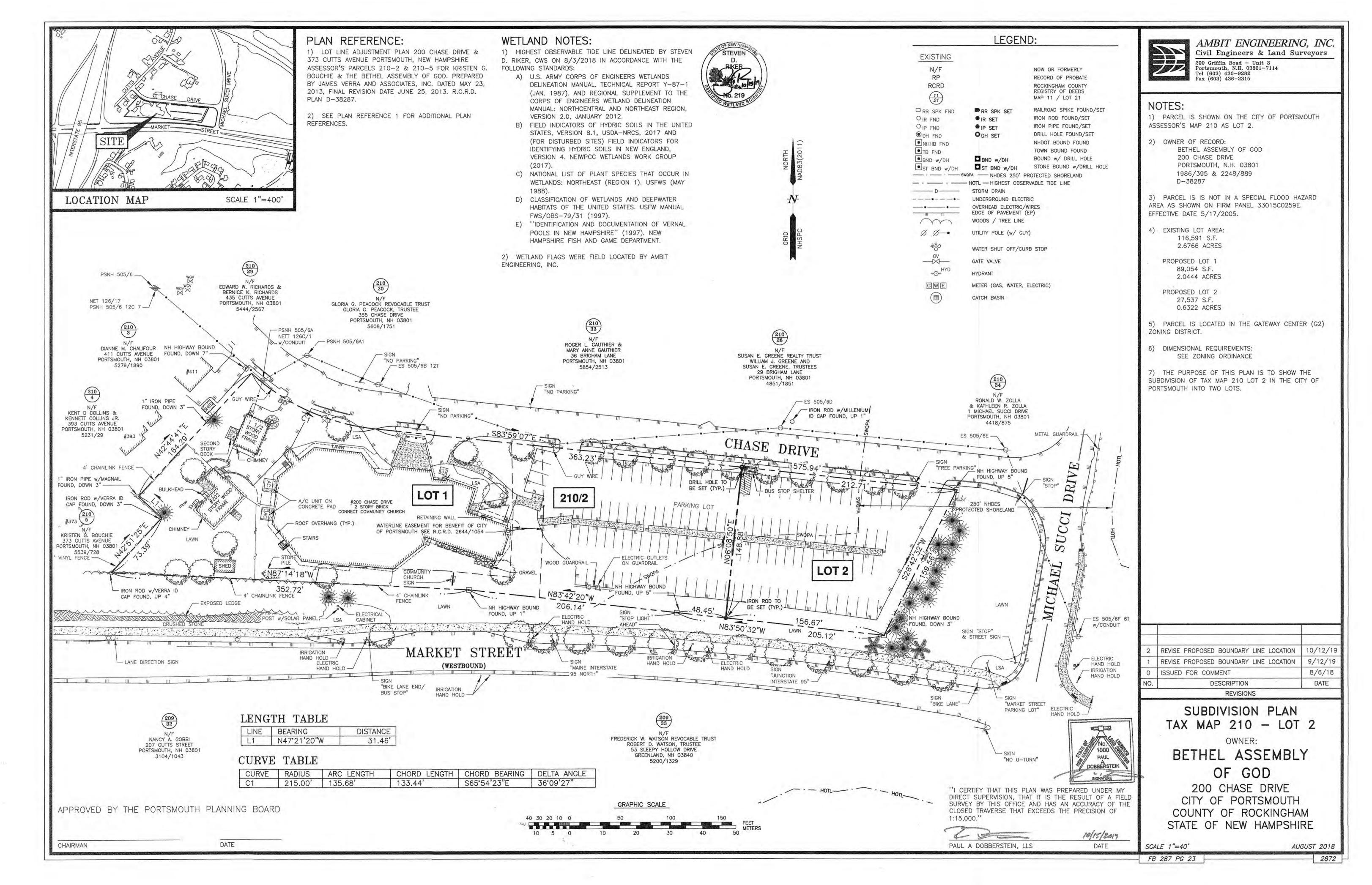
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Scale: Not to Scale

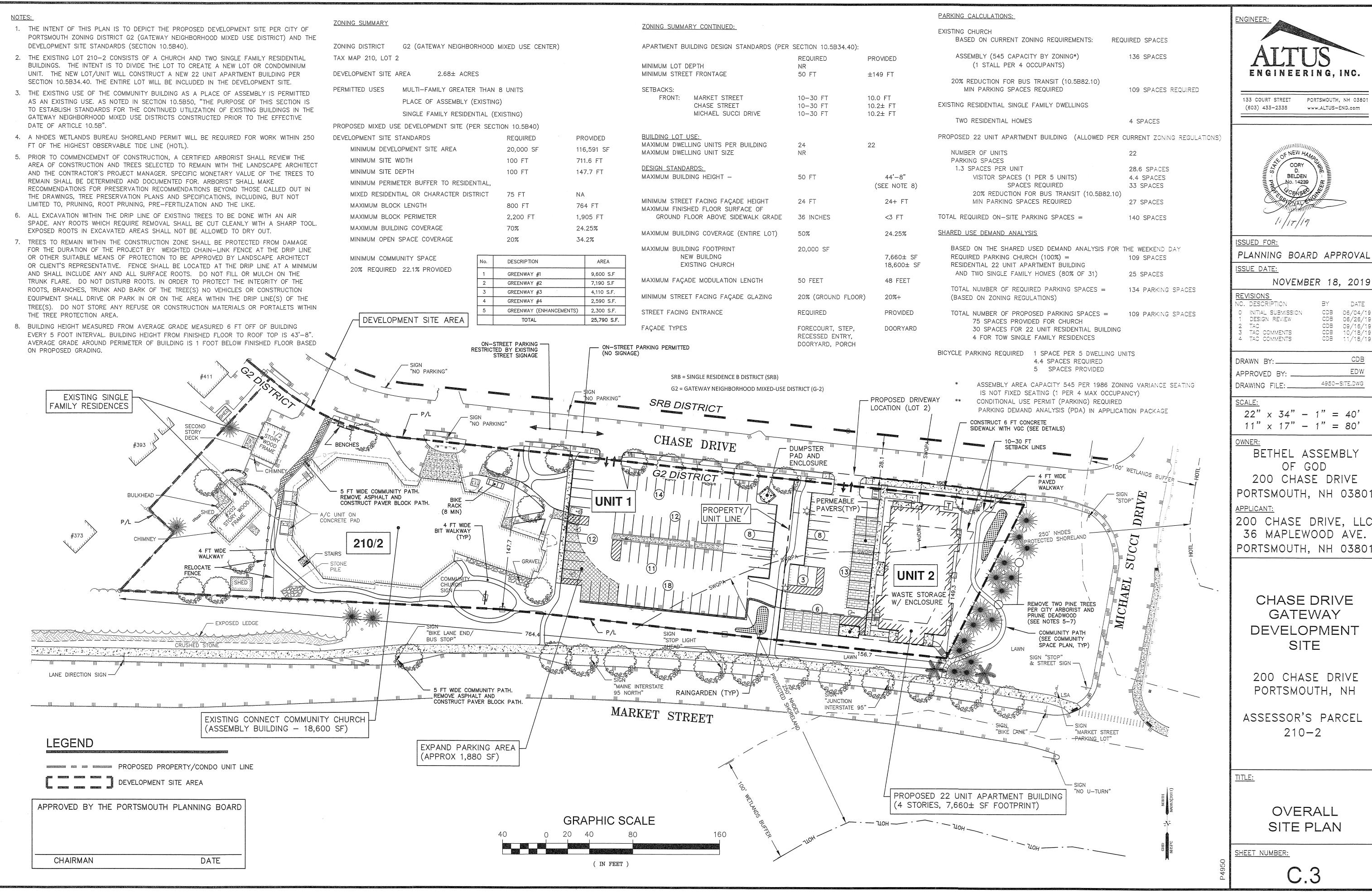
APPROVED	BY THE	PORTSMOUTH	PLANNING	BOARD

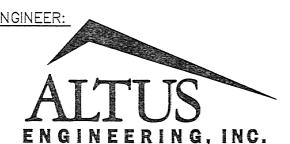
Sheet Index Title	$Sheet \\ No.:$	Rev.	Date
Existing Conditions Plans (by Ambit Engineering, Inc.)	C1	2	02/17/19
Existing Utilities Plans (by Ambit Engineering, Inc.)	C2	1	02/17/19
Subdivision Plan (by Ambit Engineering, Inc.)	1 of 1	2	10/12/19
Overall Site Plan	C.3	4	11/18/19
Site Plan	C. 4	4	11/18/19
Grading and Drainage Plan	C.5	4	11/18/19
Grading and Drainage Plan	C.6	2	11/18/19
Sediment & Erosion Control Plan	C.7	2	11/18/19
Utilities Plan	C.8	2	11/18/19
Community Space Plan	C.9	4	11/18/19
Overall Site Landscape Plan and Details	L-1	2	11/18/19
Landscape Plan	L-2	2	11/18/19
Site Lighting Plan	1 of 1	2	10/15/19
Erosion Control Notes & Details	D.1	2	11/18/19
Construction Details	D.2	1	09/16/19
Construction Details	D.3	1	09/16/19
Construction Details	D.4	2	10/18/19
Construction Details	D.5	2 3	11/18/19
Construction Details	D.6		11/18/19
Construction Details	D.7	2	11/18/19
Floor Plans (by SOMMA Studios)	3 Sheets	1	10/19
Exterior Elevations (by SOMMA Studios)	4 Sheets	1	10/19
Building Rendering (by SOMMA Studios)	1 of 1	0	06/19





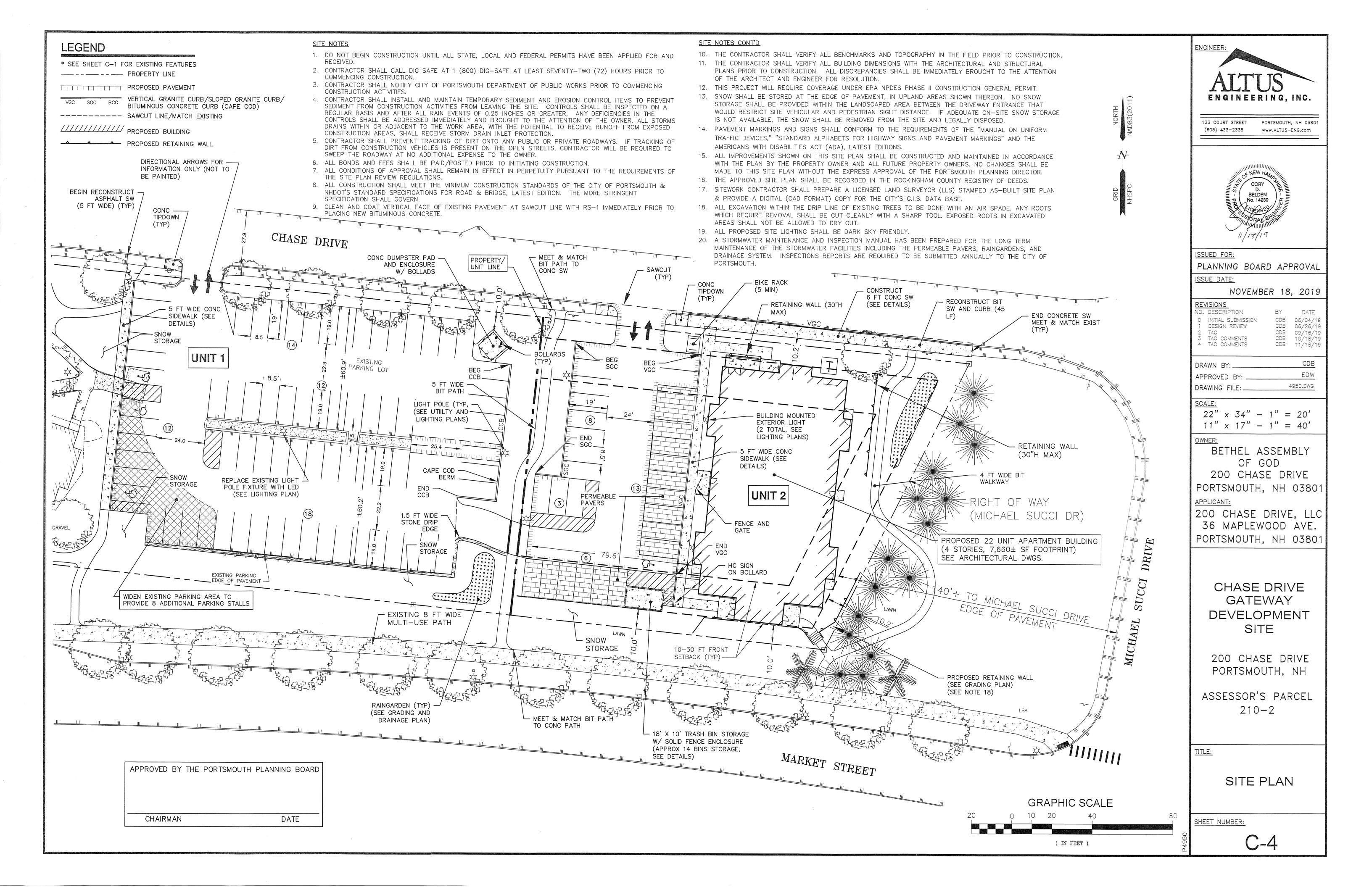


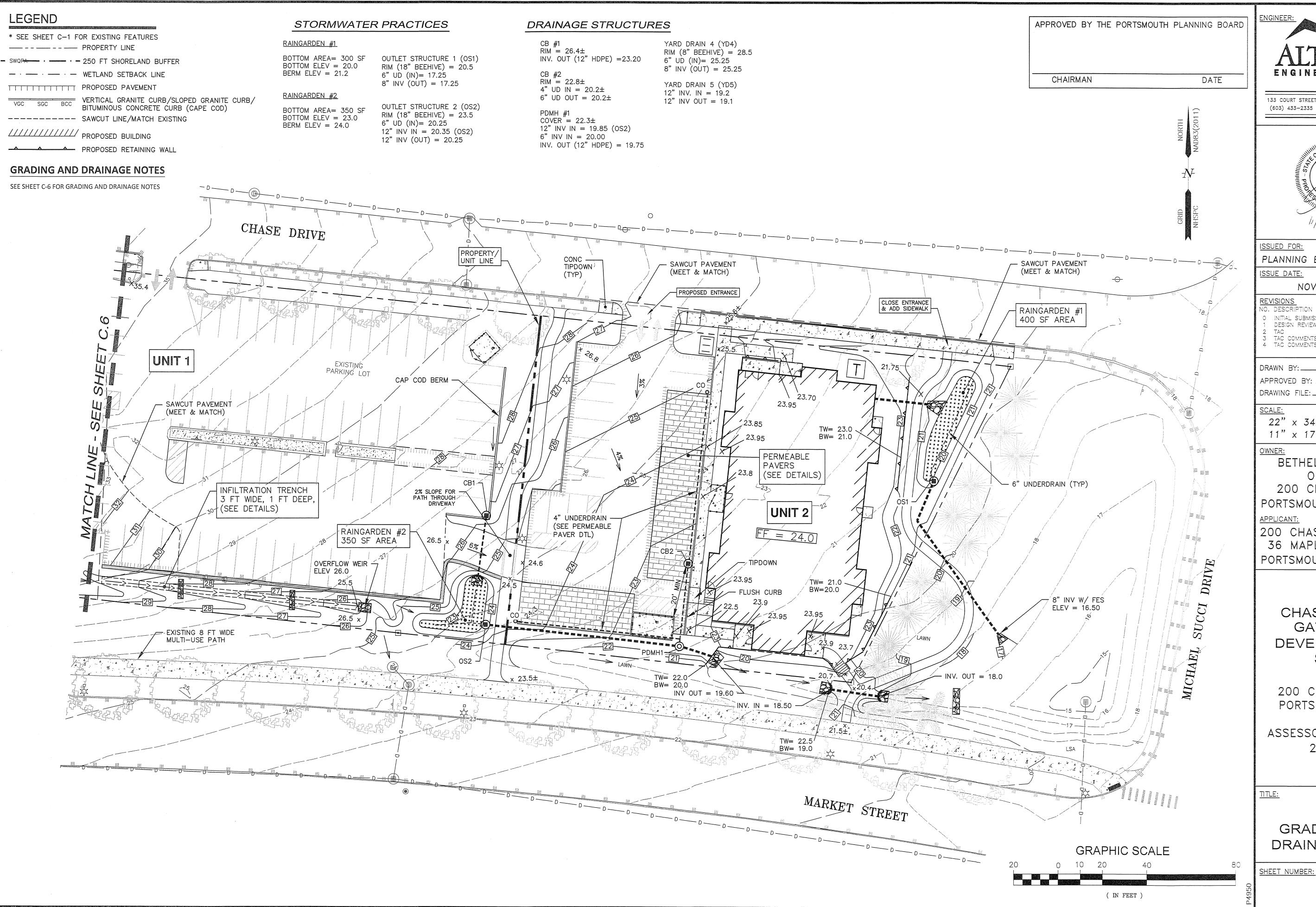


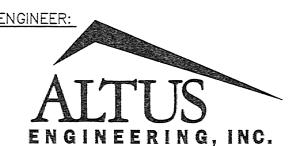


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28	INITIAL SUBMISSION	CDB	06/04/19
5	DESIGN REVIEW	CDB	06/26/19
4 -	TAC TAC COMMENTS	CDB CDB	09/16/19
- 1	TAC COMMENTS	CDB	10/18/19 11/18/19
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200 CHASE DRIVE, LLC 36 MAPLEWOOD AVE. PORTSMOUTH, NH 03801







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



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NOVEMBER 18, 2019

NO. DESCRIPTION DATE O INITIAL SUBMISSION CDB 06/04/19 CDB 06/26/19 1 DESIGN REVIEW CDB 09/16/19 CDB 10/18/19 CDB 11/18/19 2 TAC 3 TAC COMMENTS 4 TAC COMMENTS

CDB EDW APPROVED BY: 4950.DWG DRAWING FILE: .

 $22" \times 34" - 1" = 20"$ $11" \times 17" - 1" = 40"$

BETHEL ASSEMBLY OF GOD 200 CHASE DRIVE PORTSMOUTH, NH 0380

200 CHASE DRIVE, LLC 36 MAPLEWOOD AVE. PORTSMOUTH, NH 03801

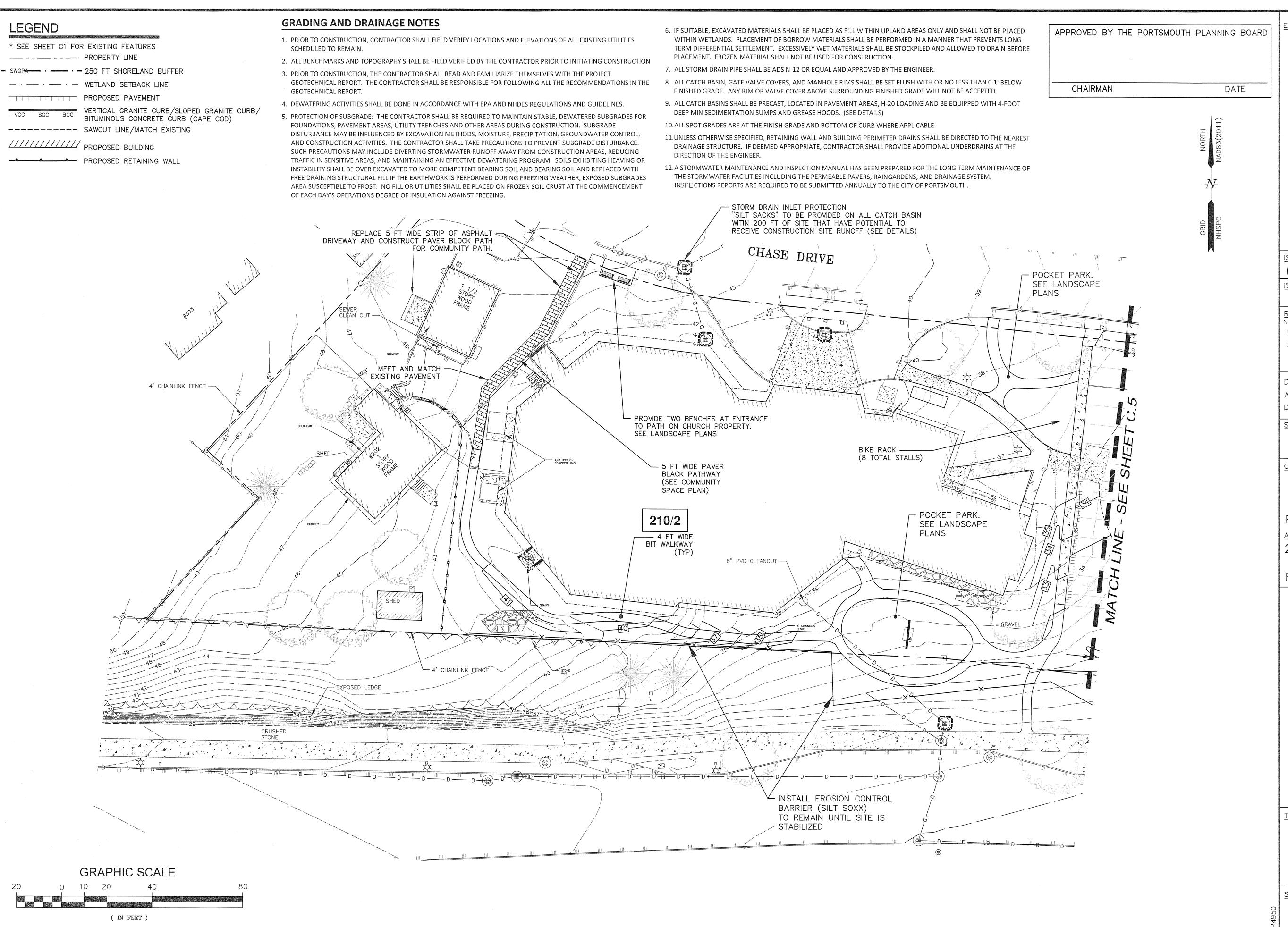
CHASE DRIVE GATEWAY DEVELOPMENT SITE

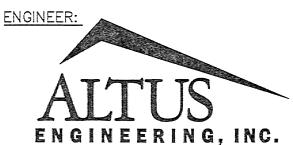
200 CHASE DRIVE PORTSMOUTH, NH

ASSESSOR'S PARCEL 210-2

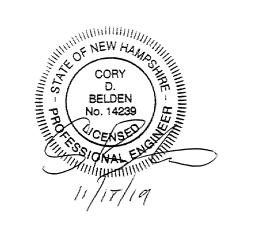
GRADING AND DRAINAGE PLAN

C.5





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ISSUED FOR:

PLANNING BOARD APPROVAL

ISSUE DATE:

NOVEMBER 18, 2019

<u>REVISIONS</u> 10. DESCRIPTION

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 $22" \times 34" - 1" = 20"$ $11" \times 17" - 1" = 40"$

OWNER:

BETHEL ASSEMBLY OF GOD 200 CHASE DRIVE PORTSMOUTH, NH 03801 APPLICANT:

200 CHASE DRIVE, LLC 36 MAPLEWOOD AVE. PORTSMOUTH, NH 03801

CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE PORTSMOUTH, NH

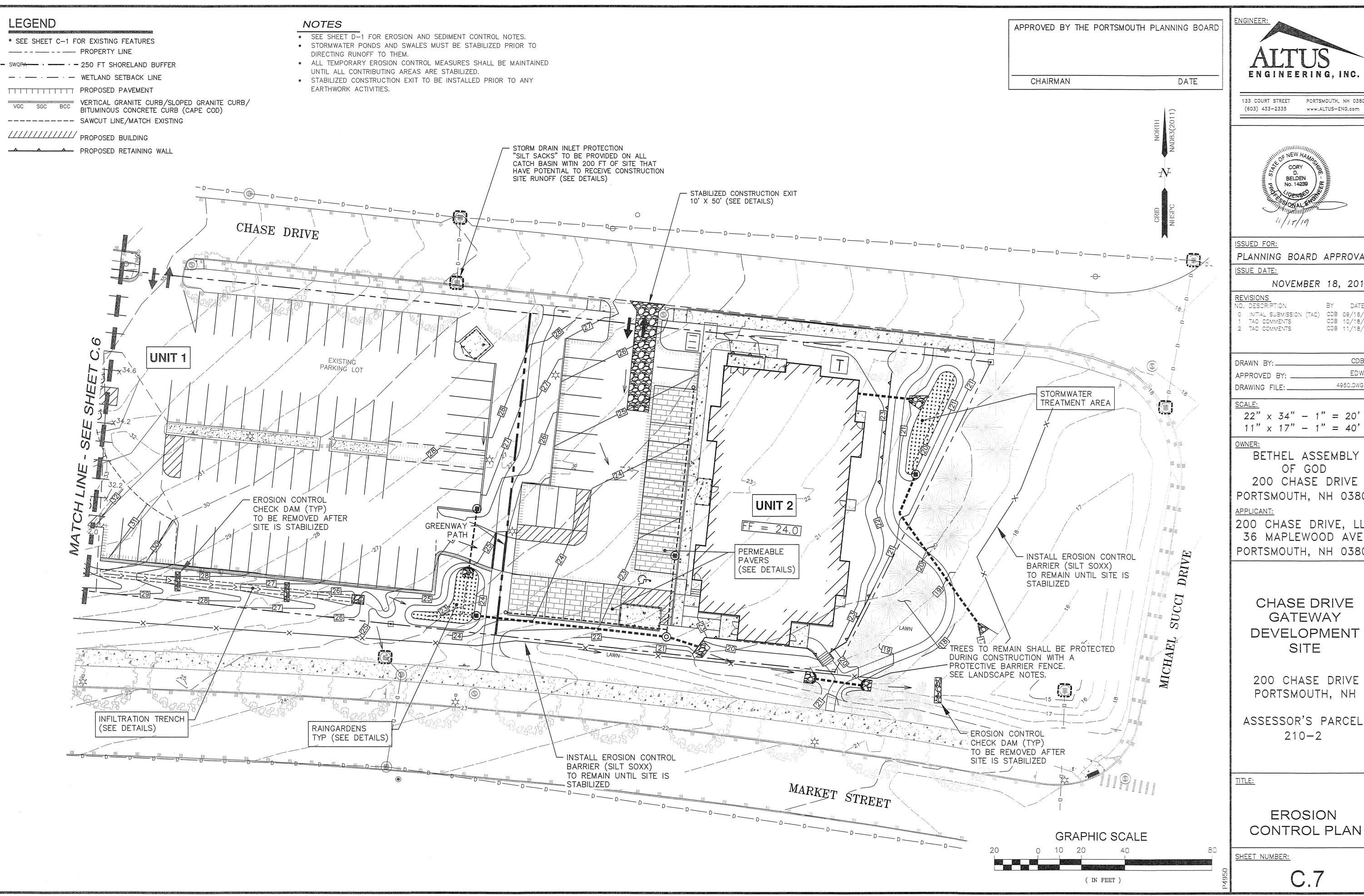
ASSESSOR'S PARCEL 210-2

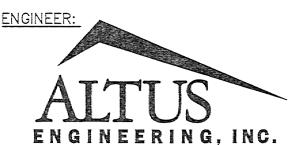
TITLE:

GRADING AND DRAINAGE PLAN

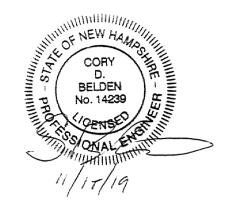
SHEET NUMBER:

C.6





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PLANNING BOARD APPROVAL

NOVEMBER 18, 2019

2002	REV	ISIONS_			
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Ser Kolla	0	INITIAL SUBMISSION	(TAC)	CDB	09/16/19
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200	2	TAC COMMENTS		CDB	11/18/19
SECTION					

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APPROVED BY:	EDW
DRAWING FILE:	4950.DWG

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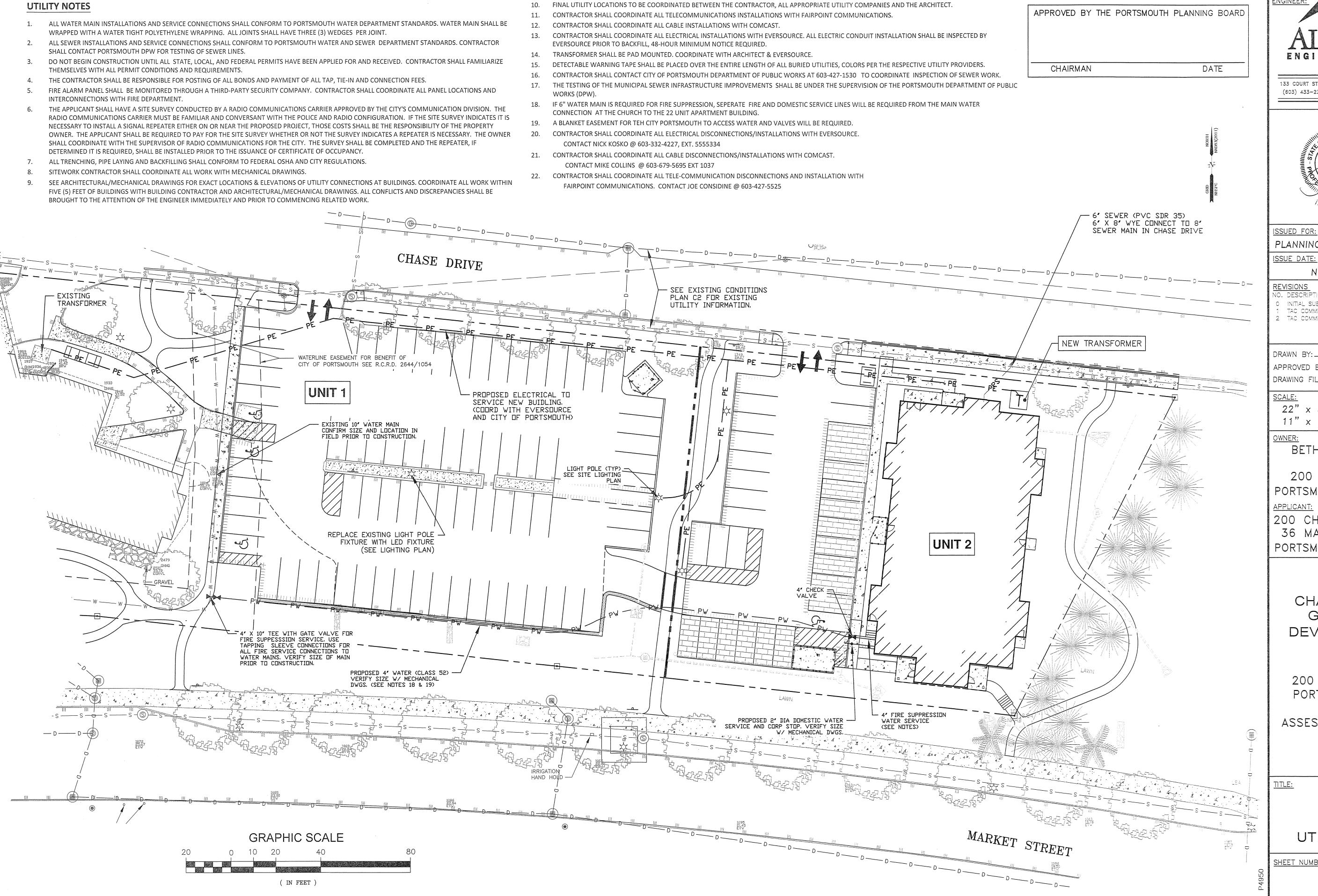
BETHEL ASSEMBLY OF GOD 200 CHASE DRIVE PORTSMOUTH, NH 03801

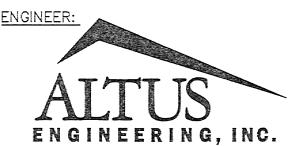
200 CHASE DRIVE, LLC 36 MAPLEWOOD AVE. PORTSMOUTH, NH 03801

CHASE DRIVE GATEWAY DEVELOPMENT

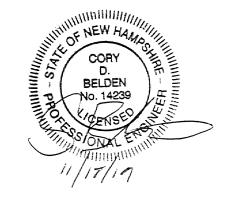
200 CHASE DRIVE PORTSMOUTH, NH

EROSION CONTROL PLAN





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



ISSUED FOR: PLANNING BOARD APPROVAL

NOVEMBER 18, 2019

INITIAL SUBMISSION CDB 09/16/19 CDB 10/18/19 TAC COMMENTS CDB 11/18/19 2 TAC COMMENTS

DRAWN BY:. EDW 4950-SITE.DWG DRAWING FILE

 $22" \times 34" - 1" = 20'$

 $11" \times 17" - 1" = 40"$

BETHEL ASSEMBLY 200 CHASE DRIVE PORTSMOUTH, NH 0380 200 CHASE DRIVE, LLC

36 MAPLEWOOD AVE. PORTSMOUTH, NH 03801

CHASE DRIVE **GATEWAY** DEVELOPMENT SITE

200 CHASE DRIVE PORTSMOUTH, NH

ASSESSOR'S PARCEL 210-2

UTILITY PLAN

SHEET NUMBER:

C.8

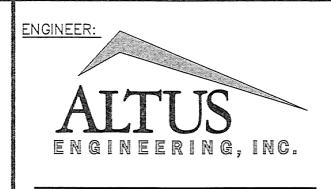


No.	DESCRIPTION	AREA	PATHWAYS
1	GREENWAY #1	9,600 S.F	2,260 S.F
2	GREENWAY #2	7,190 S.F	2,230 S.F.
3	GREENWAY #3	4,110 S.F.	865 S.F
4	GREENWAY #4	2,590 S.F.	855 S.F.
5	GREENWAY (ENHANCEMENTS)	2,300 S.F.	
	TOTAL	25,790 S.F.	6,210 S.F.

COMMUNITY SPACE TABLE:

CHAIRMAN	DATE

APPROVED BY THE PORTSMOUTH PLANNING BOARD



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ISSUED FOR:

PLANNING BOARD APPROVAL

ISSUE DATE:

NOVEMBER 18, 2019

REV	/ISIONS		
NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	06/04/19
1	DESIGN REVIEW	CDB	06/26/19
2	TAC	CDB	09/16/19
3	TAC	CDB	10/18/19
4	TAC	CDB	11/18/19
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DRAWN BY:	CDB
APPROVED BY:	EDW
DRAWING FILE:	4950-SITE.DWG

SCALE: 22" x 34" - 1" = 40' 11" x 17" - 1" = 80'

OWNER:

BETHEL ASSEMBLY
OF GOD
200 CHASE DRIVE
PORTSMOUTH, NH 03801
APPLICANT:

200 CHASE DRIVE, LLC 36 MAPLEWOOD AVE. PORTSMOUTH, NH 03801

> CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE PORTSMOUTH, NH

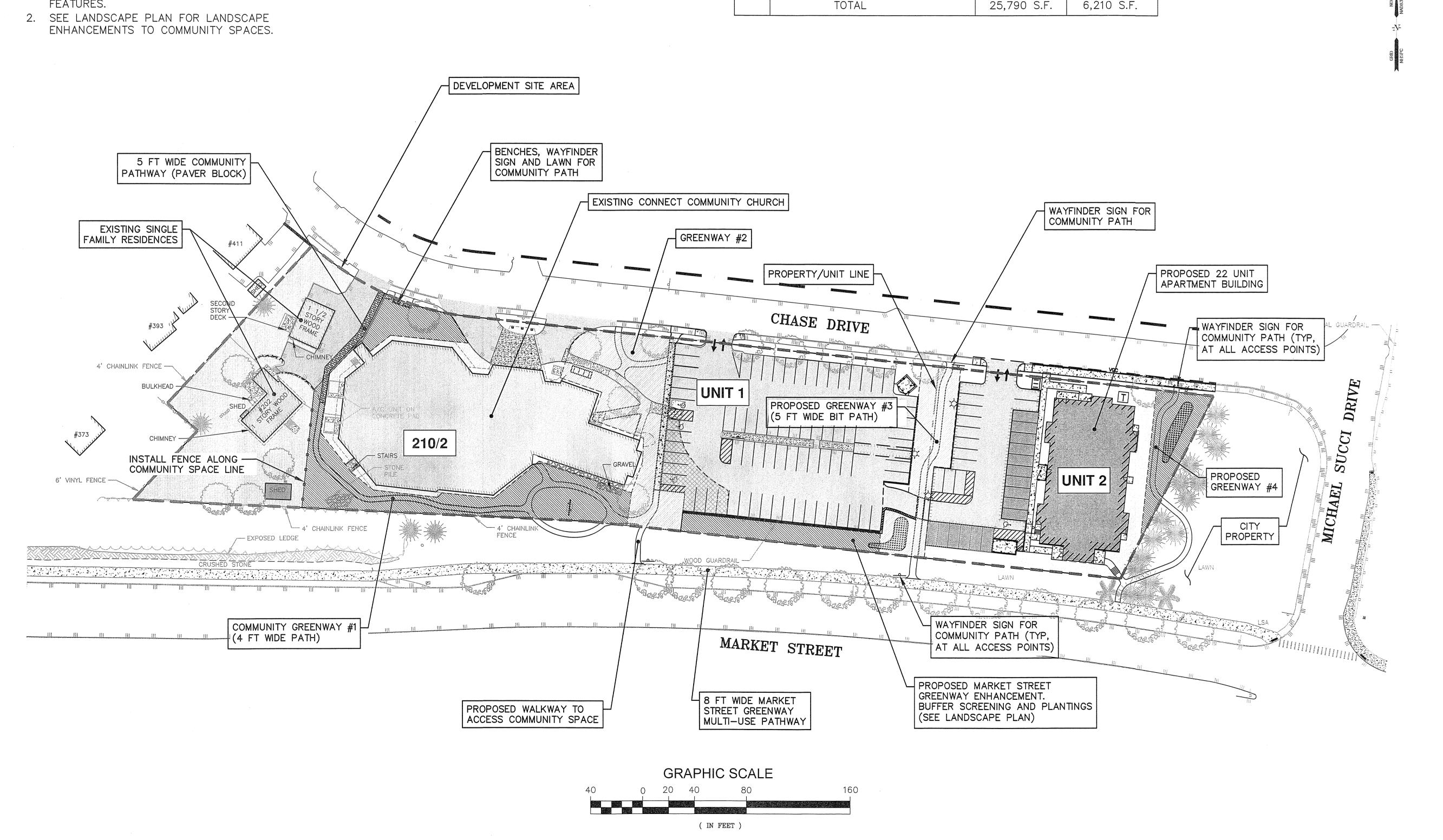
ASSESSOR'S PARCEL 210-2

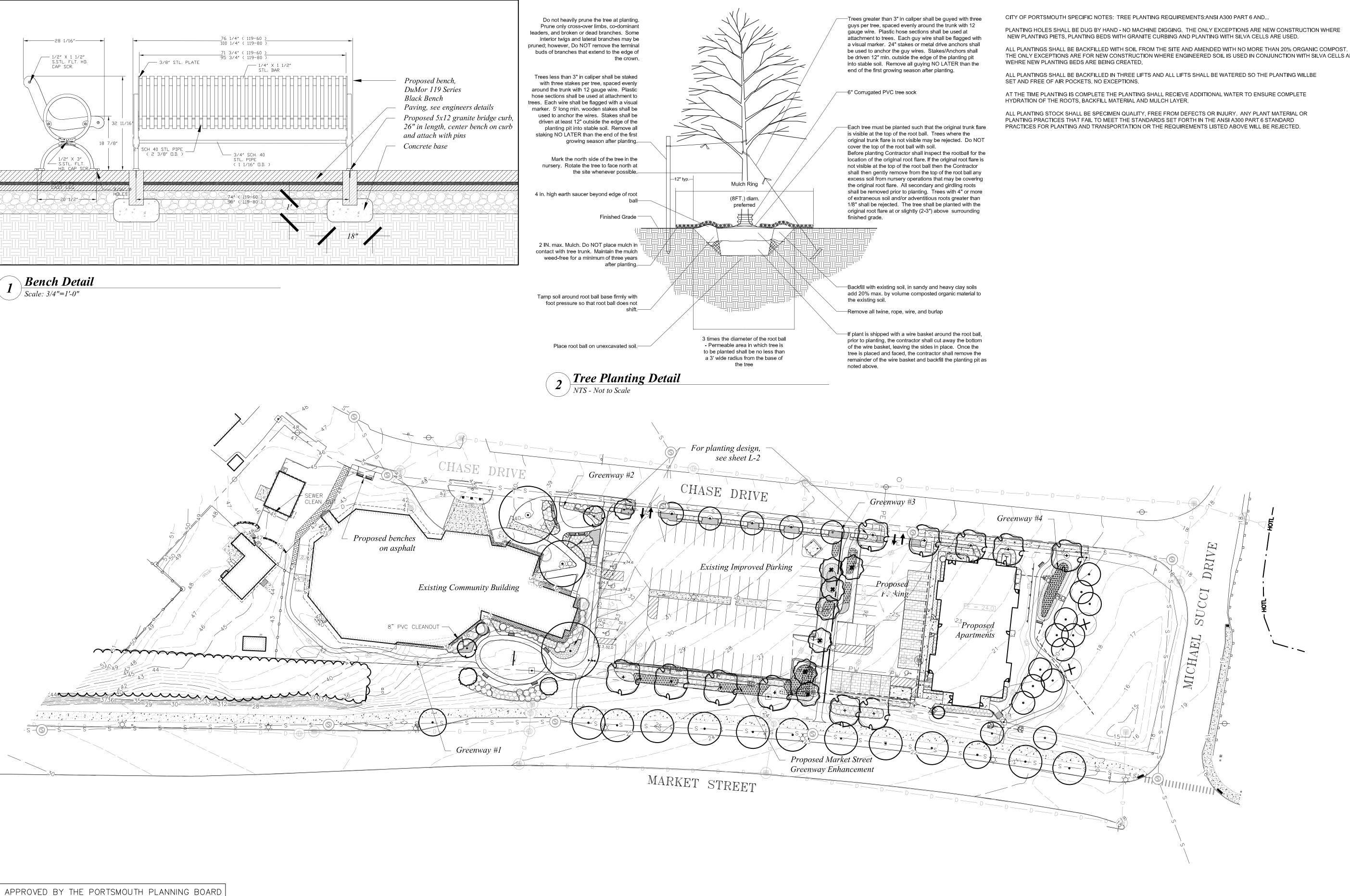
TITLE

COMMUNITY SPACE PLAN

SHEET NUMBER:

C.9





DATE

CHAIRMAN

PLANTING HOLES SHALL BE DUG BY HAND - NO MACHINE DIGGING. THE ONLY EXCEPTIONS ARE NEW CONSTRUCTION WHERE

THE ONLY EXCEPTIONS ARE FOR NEW CONSTRUCTION WHERE ENGINEERED SOIL IS USED IN CONJUNCTION WITH SILVA CELLS AND

Ę OVERALL

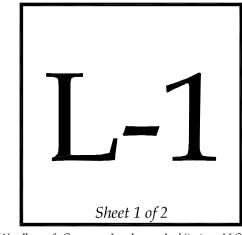
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Drawn By: Checked By: Scale: 2019-09-19 Date: Revisions:

2019-10-21 2019-11-18



CHAIRMAN

DATE

19. The Contractor shall guarantee all plants for not less than one year from time of acceptance. 20. Owner or Owner's Representative will inspect plants upon delivery for conformity to Specification requirements. Such approval shall not affect the right of inspection and rejection during or after the progress of the work. The Owner reserves the right to inspect and/or select all trees at the place of growth and reserves the right to approve a representative sample of each type of shrub, herbaceous perennial, annual, and ground cover at the place of growth.

Such sample will serve as a minimum standard for all plants of the same species used in this work. 21. No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any

If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas. The contractor is responsible for all plant material from the time their work commences until final acceptance. This includes but is not limited to maintaining all plants in good condition, the security of the plant material once delivered to the site, and watering of plants. Plants shall be appropriately watered prior to, during and after planting. It is the contractor's responsibility to provide water from off site, should it not be available on site.

irrigation that will be disturbed during planting. Contractor shall provide irrigation design for review by Landscape

All disturbed areas will be dressed with 6" of topsoil and planted as noted on the plans or seeded except plant beds.

Plant beds shall be prepared to a depth of 12" with 75% loam and 25% compost. Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded native bark not longer than 4" in length and ½" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 5' diameter min.

In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously

Secondary lateral branches of deciduous trees overhanging vehicular and pedestrian travel ways shall be pruned up to a height of 6' to allow clear and safe passage of vehicles and pedestrians under tree canopy.

The property owner and all future property owners shall be responsible for the maintenance, repair, and replacement o

32. All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary and kept free of refuse and debris. All required fences and walls shall be maintained in good repair.

The property owner shall be responsible to remove and replace dead or diseased plant materials immediately with the same type, size, and quantity of plant materials as originally installed, unless alternative plantings are requested, justified and approved by the Planning Board or Planning Director.

Landscape Architect is not responsible for the means and methods of the contractor. This Site Plan shall be recorded in the Rockingham County Registry of Deeds.

property owner and all future property owners. No changes shall be made to this Site Plan without the express The property owner and all future property owners shall be responsible for the maintenance, repair and replacement of

All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary,

The property owner shall be responsible to remove and replace dead or diseased plant materials immediately with the same type, size and quantity of plant materials as originally installed, unless alternative plantings are requested,

and kept free of refuse and debris. All required fences and walls shall be maintained in good repair.

Lawn

0380

200

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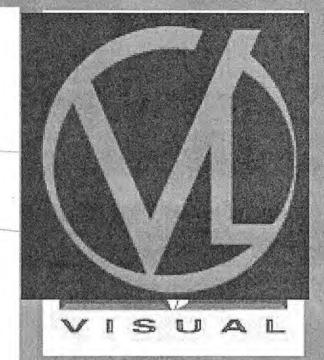
Revisions:

© 2019 Woodburn & Company Landscape Architecture, LLC

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Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
(D = D)	2B4	1	Lithonia Lighting	DSX0 LED P3 40K TFTM MVOLT SPUMBA DDBXD	DSX0 LED Area Fixture; mounted at 25ft	LED	1	DSX0_LED_P3_ 40K_TFTM_MVO LT.ies	8447	0.9	142
	A4	2	Lithonia Lighting	DSX0 LED P2 40K TFTM MVOLT SPA DDBXD with SSS 14 4C DM19AS DDBXD	DSX0 LED Area Fixture; mounted at 14ft	LED	1	DSX0_LED_P2_ 40K_TFTM_MVO LT.ies	6007	0.9	49
	В4	1	Lithonia Lighting	DSX0 LED P3 40K TFTM MVOLT SPA DDBXD with SSS 20 4C DM19AS DDBXD	DSX0 LED Area Fixture; mounted at 20ft	LED	1	DSX0_LED_P3_ 40K_TFTM_MVO LT.ies	8447	0.9	71
	W3	1	Lithonia Lighting	DSXW1 LED 10C 700 40K T3M MVOLT HS DDBXD	DSXW1 LED Wall pack; mounted at 12ft	LED	1	DSXW1_LED_10 C_700_40K_T3 M_MVOLT_HS.ie s		0.9	26.2
	W4	1	Lithonia Lighting	DSXW1 LED 10C 700 40K TFTM MVOLT HS DDBXD	DSXW1 LED Wall pack; mounted at 12ft	LED	1	DSXW1_LED_10 C_700_40K_TFT M_MVOLT_HS.ie		0.9	26.2

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
200 Chase Dr Parking Lot	+	1.0 fc	3.3 fc	0.3 fc	11.0:1	3.3:1
Outside of Small Parking Lot	+	0.4 fc	3.6 fc	0.0 fc	N/A	N/A



PORTSMOUTH, NH Site Lighting Layout

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

Hampton, NH 03842

Date

10/15/2019

Scale

1"=30'

Drawing No.

Summary

1 of 1

SEDIMENT AND EROSION CONTROL NOTES

PROJECT NAME AND LOCATION

Owner:

BETHEL ASSEMBLY OF GOD 200 CHASE DRIVE PORTSMOUTH, NH 03801

LATITUDE: 043° 05' 05" N LONGITUDE: 070° 46' 10" W

DESCRIPTION

The proposed Mixed Use Site Development in the Gateway Neighborhood Mixed Use District (G2) will subdivide the existing 2.7 acre lot into two lots and develop the lots under the Site Development regulations as contiguous lots. A new 22 unit residential apartment building will be constructed on the Bark Mulch new lot along with associated site improvements. DISTURBED AREA

The total area to be disturbed on the parcel and for the buildings, driveway, parking area, drainage, and utility construction is approximately 46.000 SF± (1.0 acres±). The combined disturbed area exceeds 43,560 SF (1 acre), thus a SWPPP will be required for compliance with the USEPA-NPDES Construction General Permit.

NPDES CONSTRUCTION GENERAL PERMIT

Contractor shall prepare a Stormwater Pollution Prevention Plan (SWPPP) is accordance with federal storm water permit requirements (see "Developing Your Stormwater Pollution Prevention Plan", EPA 833-R-060-4). The SWPPP must be prepared in a format acceptable to the Owner and provided to the City at least fourteen (14) days prior to initiating construction. Contractor is responsible for all cost associated with preparation and implementation of SWPPP including any temporary erosion control measures (whether indicated or not on these drawings) as required for the contractor's sequence of activities.

The Contractor and Owner shall each file a Notice of Intent (NOI) with the U.S.E.P.A. under the NPDES Construction General Permit. (U.S.E.P.A., 1200 Pennsylvania Avenue NW, Washington, DC 20460) All work shall be in accordance with NPDES General Permit: NHG07000, including NOI requirements, effluent limitations, standards and management for construction. The Contractor shall be responsible for obtaining a USEPA Construction Dewatering Permit, if required.

SEQUENCE OF MAJOR ACTIVITIES

- Prepare SWPPP and file NPDES Notice of Intent, prior to any construction activities (Required).
- Hold a pre-construction meeting with City & stake holders. Install temporary erosion control measures, including silt fences and stabilized construction entrance.
- 4. Protect specified trees (see plans). Remove pavement & construct utility infrastructure.
- 6. Rough grade lot to prepare for site development. Construct temporary sediment control basins. Stabilize swales prior to directing flow to them.
- Construct building foundations. Construct parking, driveways, sidewalks & curbing.
- Loam and seed disturbed areas. Construct raingardens & landscaping after site is stabilized.
- 10. When all construction activity is complete and site is stabilized, remove all hay bales, stone check dams (if applicable), silt fences and temporary structures and sediment that has been trapped by
- 11. File a Notice of Termination (N.O.T.) with U.S.E.P.A. (Required)

NAME OF RECEIVING WATER

The majority of the site connects to the municipal stormwater collection system and eventually discharging to the Piscatagua River

TEMPORARY EROSION & SEDIMENT CONTROL AND STABILIZATION PRACTICES

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

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

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

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

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

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

A. GENERAL

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

- 1. The smallest practical portion of the site shall be denuded at one time, but in no case shall it exceed 5 acres at one time.
- 2. All control measures shall be inspected at least once each week and following any storm event of 0.5
- 3. All measures shall be maintained in good working order; if a repair is necessary, it will be initiated within
- 4. Built-up sediment shall be removed from silt fence or other barriers when it has reached one-third the
- height of the fence or bale, or when "bulges" occur. . All diversion dikes shall be inspected and any breaches promptly repaired.
- Temporary seeding and planting shall be inspected for bare spots, washouts, and unhealthy growth. 7. The owner's authorized engineer shall inspect the site on a periodic basis to review compliance with the
- 8. All roadways and parking lots shall be stabilized within 72 hours of achieving finished grade.
- 9. All cut and fill slopes shall be seeded/loamed within 72 hours of achieving finished grade.
- 10. An area shall be considered stable if one of the following has occurred: Base coarse gravels have been installed in greas to be paved;
 - b. A minimum of 85% vegetated growth as been established; c. A minimum of 3 inches of non-erosive material such as stone of riprap has been installed:
- d. Erosion control blankets have been properly installed.

11. The length of time of exposure of area disturbed during construction shall not exceed 45 days.

B. MULCHING

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

1. Timing — In order for mulch to be effective, it must be in place prior to major storm

erosion on adjacent areas to choose an appropriate time restriction.

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

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

2. Guidelines for Winter Mulch Application -

Hay or Straw

Blanket

Rate per 1,000 s.f. Use and Comments 70 to 90 lbs. Must be dry and free from mold. May be used

with plantings. 460 to 920 lbs. Used mostly with trees

Wood Chips or and shrub plantings. Jute and Fibrous As per manufacturer Used in slope areas.

Matting (Erosion Specifications water courses and other Control areas

Crushed Stone Spread more than 1/4" to 1-1/2" dia. 1/2" thick Erosion Control Mix 2" thick (min)

wind and water erosion. * The organic matter content is between 80 and 100%, dry weight basis. * Particle size by weight is 100% passing

Effective in controlling

a 6"screen and a minimum of 70 %, maximum of 85%, passing a 0.75" screen * The organic portion needs to be fibrous * Large portions of silts, clays or fine sands are not acceptable in the mix.

* Soluble salts content is less than 4.0

mmhos/cm. * The pH should fall between 5.0 and 8.0.

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

C. TEMPORARY GRASS COVER

 Seedbed Preparation Apply fertilizer at the rate of 600 pounds per acre of 10-10-10. Apply limestone (equivalent to 50 percent calcium plus magnesium oxide) at a rate of three (3) tons per acre.

- a. Utilize annual rve grass at a rate of 40 lbs/acre. b. Where the soil has been compacted by construction operations, loosen soil to a depth of two (2) inches before applying fertilizer, lime and seed.
- c. Apply seed uniformly by hand, cyclone seeder, or hydroseeder (slurry including seed and fertilizer). Hydroseedings, which include mulch, may be left on soil surface. Seeding rates must be increased 10% when hydroseeding.

Temporary seedings shall be periodically inspected. At a minimum, 95% of the soil surface should be covered by vegetation. If any evidence of erosion or sedimentation is apparent, repairs shall be made and other temporary measures used in the interim (mulch, filter barriers, check dams, etc.).

D. FILTERS

- 1. Tubular Sediment Barrier
 - a. See detail. b. Install per manufacturer's requirements.

2. Silt Fence (if used)

a. Synthetic filter fabric shall be a pervious sheet of propylene, nylon, polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming to the following requirements:

Physical Property Filtering Efficiency	<u>Test</u> VTM-51	Requirements 75% minimum
Tensile Strength at 20% Maximum Elongation*	VTM-52	Extra Strength 50 lb/lin in (min) Standard Strength 30 lb/lin in (min)

Flow Rate VTM-51 0.3 gal/sf/min (min)

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

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

b. Posts shall be spaced a maximum of ten (10) feet apart at the barrier location or as recommended by the manufacturer and driven securely into the ground (minimum of 16 inches).

c. A trench shall be excavated approximately six (6) inches wide and eight (8) inches deep along the line of posts and upslope from the barrier.

d. When standard strength filter fabric is used, a wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy duty wire staples at least one (1) inch long, tie wires or hog rings. The wire shall extend no more than 36 inches above the original

e. The "standard strength" filter fabric shall be stapled or wired to the fence, and eight (8) inches of the fabric shall be extended into the trench. The fabric shall not extend more than 36 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.

f. When extra strength filter fabric and closer post spacing are used, the wire mesh support fence may be eliminated. In such a case, the filter fabric is stapled or wired directly to the posts with all other provisions of item (a) applying.

g. The trench shall be backfilled and the soil compacted over the filter fabric.

h. Silt fences shall be removed when they have served their useful purpose but not before the upslope areas has been permanently stabilized.

3. Sequence of Installation -

Sediment barriers shall be installed prior to any soil disturbance of the contributing upslope

4. Maintenance -

a. Silt fence barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. They shall be repaired if there are any signs of erosion or sedimentation below them. Any required repairs shall be made immediately. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water, the sediment barriers shall be replaced with a temporary stone check dam.

Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier still is necessary, the fabric shall be replaced promptly. c. Sediment deposits must be removed when deposits reach approximately one-third (1/3) the

height of the barrier. d. Any sediment deposits remaining in place after the silt fence or other barrier is no longer required shall be removed. The area shall be prepared and seeded.

e. Additional stone may have to be added to the construction entrance, rock barrier and riprap lined swales, etc., periodically to maintain proper function of the erosion control structure.

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

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

- NOTE: SLOW OR CONTROLLED RELEASE FERTILIZE IS REQUIRED WITHIN THE 250 FOOT SHORELAND PROTECTION AREA. SEE PLANS FOR LOCATIONS.
- 1. Seed Mixture (See Landscape Drawings for additional information):
- 1.1. Lawn seed mix shall be a fresh, clean new seed crop. The Contractor shall furnish a dealer's quaranteed statement of the composition of the mixture and the percentage of purity and germination
- of each variety. 1.2. Seed mixture shall consist of
 - a. 1/3 Kentucky blue, b. 1/3 perennial rye, and
- c. 1/3 fine fescue.
- 1.1. Turf type tall fescue is unacceptable.
- 2. Sodding sodding is done where it is desirable to rapidly establish cover on a disturbed area. Sodding an area may be substituted for permanent seeding procedures anywhere on site. Bed preparation, fertilizing, and placement of sod shall be performed according to the S.C.S. Handbook. Sodding is recommended for steep sloped areas, areas immediately adjacent to sensitive water courses, easily erodible soils (fine sand/silt), etc.

WINTER CONSTRUCTION NOTES

Vegetated Areas

Stormwater Channels

sediments or debris

been dislodged

Culverts

and outlet

open-top culverts

roadway shoulder

Runoff Infiltration Facilities

to allow for new growth

or for a length of 72 hours

<u>Mow grass swales monthly</u>

Repair any erosion of the ditch

Remove debris and liter as necessary

Vegetative Swale

ow vegetated ditches

Inspect all slopes and embankments

able to withstand concentrated flows.

Remove any obstructions and accumulated

Repair any erosion of the ditch lining

Repair any slumping side slopes

outlet and within the conduit

Roadways and Parking Surfaces

Sweep pavement to remove sediment

either manually or by a front-end loader

Grade gravel roads and gravel shoulders

Ensure that stormwater is not impeded by

Grade road shoulders and remove excess sand

Clean out sediment contained in water bars or

accumulations of material or false ditches in the

Remove dead vegetation and any accumulated

Mow turf three (3) times a growing season

Aerate area with deep tines, if water ponds on the

surface for more than 24 hours during the first year

Inspect swale following significant rainfall event | x | x

ALL FACILITIES SHOULD BE INSPECTED ON AN ANNUAL BASIS AT A MINIMUM. IN ADDITION, ALL

FACILITIES SHOULD BE INSPECTED AFTER A SIGNIFICANT PRECIPITATION EVENT TO ENSURE THE

FACILITY IS DRAINING APPROPRIATELY AND TO IDENTIFY ANY DAMAGE THAT OCCURRED AS A RESULT OF THE INCREASED RUNOFF. FOR THE PURPOSE OF THIS STORMWATER MANAGEMENT PROGRAM, A

TO HAVE A HIGHER POTENTIAL OF EROSION FOR THIS SITE THAN A LONGER, HIGH VOLUME EVENT.

SIGNIFICANT RAINFALL EVENT IS CONSIDERED AN EVENT OF THREE (3) INCHES IN A 24-HOUR PERIOD

Control vegetated growth and woody vegetation x

sediment (normally at the entrance to the garden)

Weed; add additional hardwood mulch to suppress x

Replant bare areas or areas with sparse growth

lining or divert the erosive flows to on-site areas

Armor areas with rill erosion with an appropriate

Inspect ditches, swales and other open stormwater

Control vegetated growth and woody vegetation

Remove woody vegetation growing through riprap

Repair any erosion damage at the culvert's inlet x

Remove accumulated winter sand along roadways | x |

Remove accumulated sediments and debris at inlet. x x

Remove woody vegetation growing through riprap x

Replace riprap where underlying filter fabric or underdrain gravel is exposed or where stones have

- 1. All proposed vegetated areas which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and elsewhere seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting. The installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or on frozen ground and shall be completed in advance of thaw or spring
- 2. All ditches or swales which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions; and

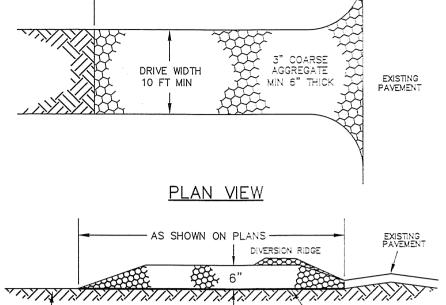
Spring Fall or Yearly After Major Storm Every 2-5

3. After November 15th, incomplete road or parking surfaces where work has stopped for the winter season shall be protected with a minimum of 3 inches of crushed gravel per NHDOT item 304.3.

X

Long Term Inspection & Maintenance Schedule

APPROVED BY THE PORTSMOUTH PLANNING BOARD DATE CHAIRMAN



FILTER FABRIC

NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

REFERENCE NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3 (LATEST EDITION), SECTION 4.2 "TEMPORARY CONSTRUCTION EXIT" REQUIREMENTS AND BMP DETAIL. STONE SIZE - 3" COARSE AGGREGATE

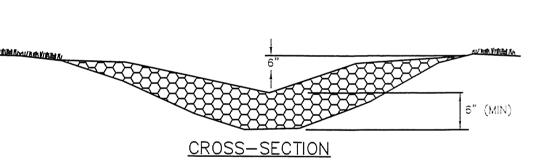
PROFILE

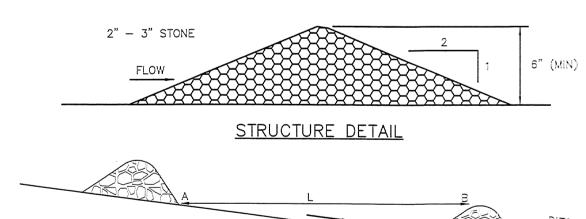
- THICKNESS SIX (6) INCHES (MINIMUM) LENGTH - 75 FOOT MINIMUM, OR 50 FOOT ALLOWED WHEN DIVERSION RIDGE IS PROVIDED.
- WIDTH 1/2 OF DRIVEWAY (10 FOOT MINIMUM). FILTER FABRIC MIRAFI 600X OR APPROVED EQUAL.
- SURFACE WATER CONTROL ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE
- SUBSTITUTED FOR THE PIPE. 8. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND SCALE: REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. 9. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE

ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED,

SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH

DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. STABILIZED CONSTRUCTION EXIT





SPACING BETWEEN STRUCTURES

- 1. L = DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION
- 2. CHECK DAM SHALL BE CONSTRUCTED OF TO 3" STONE WITH COMPLETE COVERAGE OF DITCH OR SWALE TO INSURE THAT THE CENTER OF THE STRUCTURE IS LOWER THAN

THE EDGES. MAINTENANCE

TEMPORARY GRADE STABILIZATION STRUCTURES SHOULD BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED STORMS. ANY NECESSARY REPAIRS SHOULD BE MADE IMMEDIATELY. PARTICULAR ATTENTION SHOULD BE GIVEN TO END RUN AND EROSION AT THE DOWNSTREAM TOE OF THE STRUCTURE. WHEN THE STRUCTURES ARE REMOVED, THE DISTURBED PORTION SHOULD BE BROUGHT TO THE EXISTING CHANNEL GRADE AND THE AREAS PREPARED, SEEDED, AND MULCHED. WHILE THIS PRACTICE IS NOT INTENDED TO BE USED PRIMARILY FOR SEDIMENT TRAPPING, SOME SEDIMENT WILL ACCUMULATE BEHIND THE STRUCTURES, SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRUCTURES WHEN IT HAS ACCUMULATED TO ONE HALF OF THE ORIGINAL HEIGHT OF THE STRUCTURE.

CONSTRUCTION SPECIFICATIONS

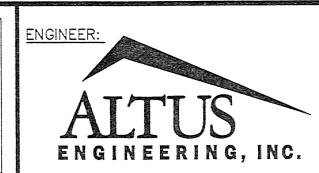
- 1. STRUCTURES SHALL BE INSTALLED ACCORDING TO THE DIMENSIONS SHOWN ON THE
- PLANS AT THE APPROPRIATE SPACING.

 2. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER SO THAT EROSION AND AIR AND WATER POLLUTION WILL BE MINIMIZED.

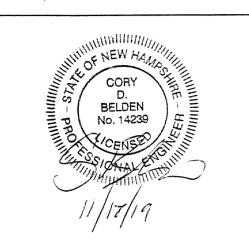
 3. SEEDING, FERTILIZING, AND MULCHING SHALL CONFORM TO THE RECOMMENDATIONS
- N THE APPROPRIATE VEGETATIVE BMP 4. STRUCTURES SHALL BE REMOVED FROM THE CHANNEL WHEN THEIR USEFUL LIFE HAS

STONE CHECK DAM OR 0.5 INCHES IN A ONE-HOUR PERIOD. IT IS ANTICIPATED THAT A SHORT, INTENSE EVENT IS LIKELY

NOT TO SCALE



PORTSMOUTH, NH 0380 133 COURT STREET (603) 433-2335 www.ALTUS-ENG.com



ISSUED FOR: PLANNING BOARD APPROVAL

ISSUE DATE:

NOVEMBER 18, 2019 REVISIONS O. DESCRIPTION DATE CDB 06/26/19 O INITIAL SUBMISSION CDB 09/16/19 1 TAC SUBMISSION CDB 11/18/19 2 TAC COMMENTS

CDB DRAWN BY: _ EDW APPROVED BY: 4950DETAILS.DWG DRAWING FILE: _

NOT TO SCALE

BETHEL ASSEMBLY OF GOD 200 CHASE DRIVE

200 CHASE DRIVE, LLC 36 MAPLEWOOD AVE

PORTSMOUTH, NH 0380

PORTSMOUTH, NH 03801

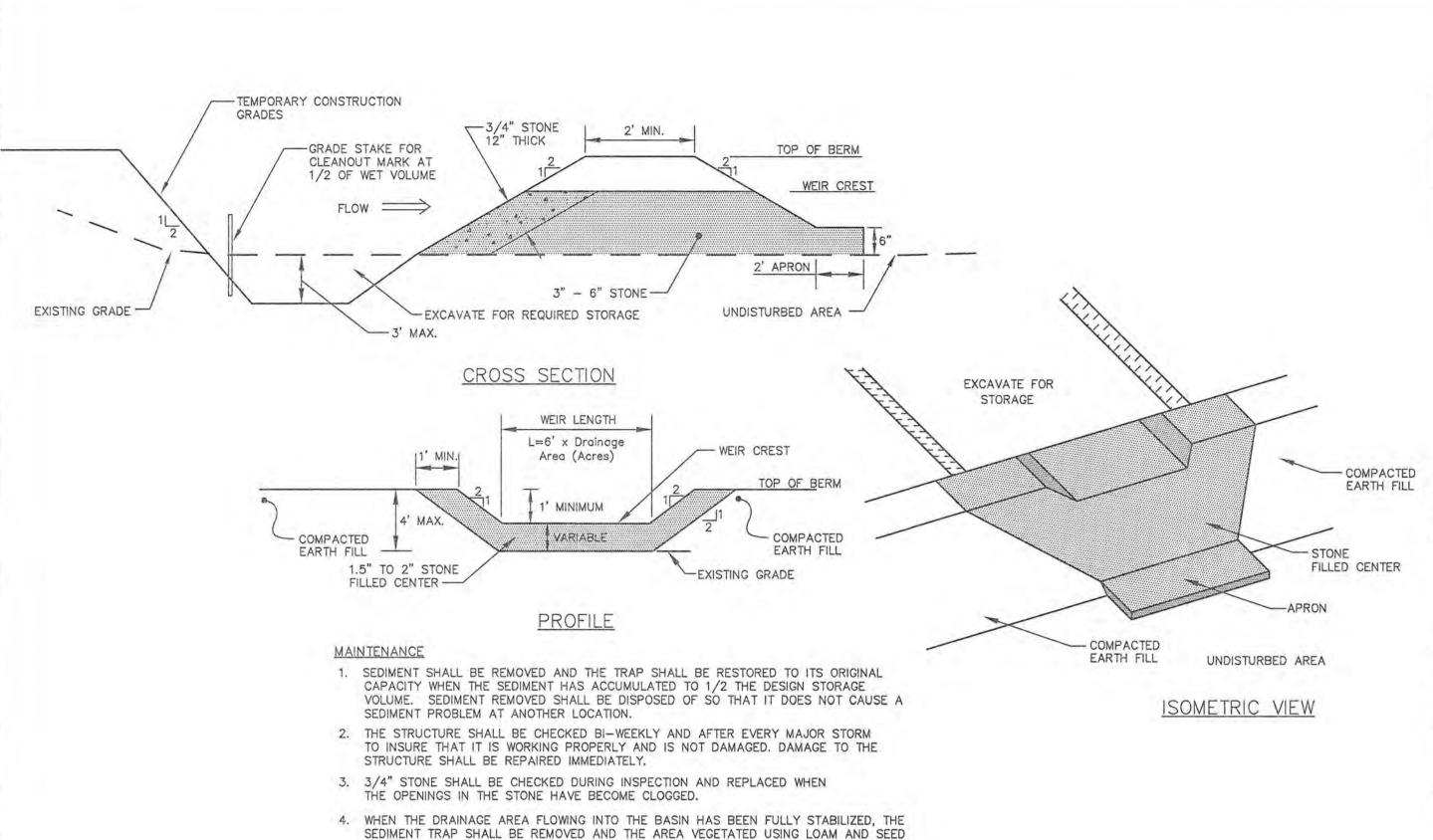
CHASE DRIVE **GATEWAY** DEVELOPMENT SITE

200 CHASE DRIVE PORTSMOUTH, NH

ASSESSOR'S PARCEL 210-2

EROSION CONTROL DETAILS

SHEET NUMBER:



(5)

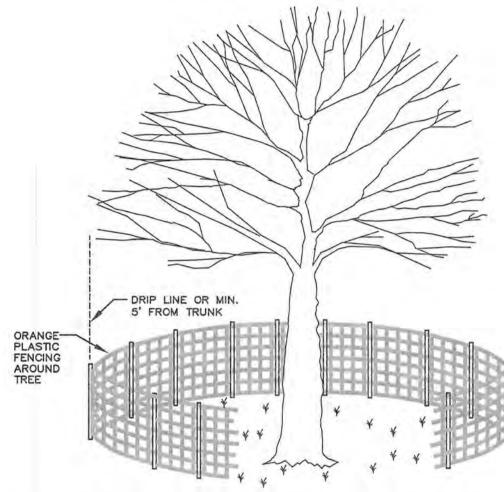
PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.

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

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN

IF SOIL BECOMES COMPATCED OVER THE ROOT ZONE OF ANY TREE, THE GROUND SHOULD BE AERATED BY PUNCHING SMALL HOLES IN IT WITH SUITABLE ANY DAMAGE TO THE CROWN, TRUNK OR ROOT SYSTEM OF ANY TREE RETAINED ON SITE SHOULD BE REPAIRED IMMEDIATELY. CONSULT A FORESTER OR TREE SPECIALIST FOR MORE SERIOUS DAMAGE CONTRACTOR TO USE TREE PROTECTION WHERE SUITABLE AND/OR AS DIRECTED BY THE ENGINEER.



SSUED FOR:

ENGINEER:

133 COURT STREET (603) 433-2335

DATE

ISSUE DATE: SEPTEMBER 16, 2019

BELDEN

No. 14239

ENGINEERING, INC.

PORTSMOUTH, NH 03801

www.ALTUS-ENG.com

TAC

REVISIONS NO. DESCRIPTION DATE CDB 06/26/19 O INITIAL SUBMISSION 1 TAC SUBMISSION CDB 09/16/19

DRAWN BY: _ EDW APPROVED BY: 4950DETAILS.DWG DRAWING FILE: _

SCALE:

NOT TO SCALE

BETHEL ASSEMBLY OF GOD 200 CHASE DRIVE PORTSMOUTH, NH 03801 APPLICANT: 200 CHASE DRIVE, LLC 36 MAPLEWOOD AVE.

> CHASE DRIVE GATEWAY DEVELOPMENT SITE

PORTSMOUTH, NH 03801

200 CHASE DRIVE PORTSMOUTH, NH

ASSESSOR'S PARCEL 210 - 2

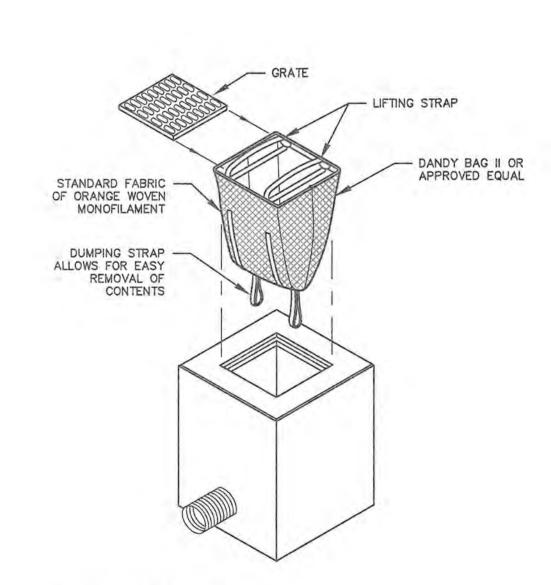
CONSTRUCTION DETAILS

SHEET NUMBER:

EROSION CONTROL BLANKET - SLOPE NOT TO SCALE

TREE PROTECTION DETAILS

NOT TO SCALE



INSTALLATION AND MAINTENANCE;

WITH MULCH (OR SOD IF NECESSARY) WITHIN 72 HOURS OF THE REMOVAL OF THE BASIN.

TEMPORARY SEDIMENT TRAP (TST) OUTLET

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

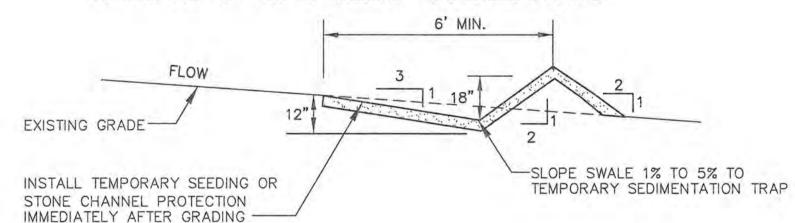
MAINTENANCE: REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM VICINITY OF THE UNIT AFTER EACH STORM EVENT. AFTER EACH STORM EVENT AND AT REGULAR INTERVALS, LOOK INTO THE CATCH BASIN INSERT. IF THE CONTAINMENT AREA IS MORE THAN 1/3 FULL OF SEDIMENT, THE UNIT MUST BE EMPTIED. TO EMPTY THE UNIT, LIFT THE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

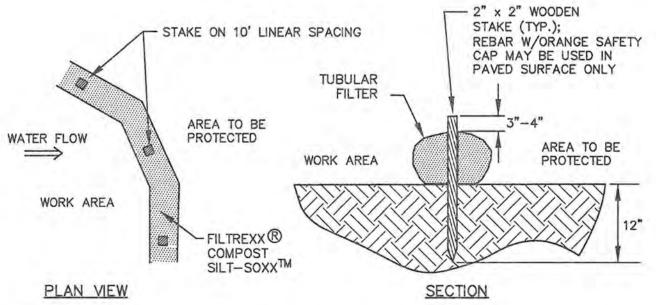
UNACCEPTABLE INLET PROTECTION METHOD:

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

STORM DRAIN INLET PROTECTION NOT TO SCALE

SWALE SHALL BE FREE OF IRREGULARITIES WHICH MAY CAUSE PONDING. COMPACT FILLS AS NECESSARY TO STABILIZE MATERIAL.



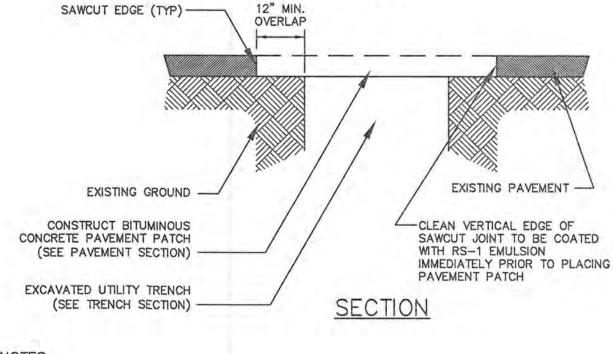


NOT TO SCALE

. SILTSOXX OR APPROVED EQUAL SHALL BE USED FOR TUBULAR SEDIMENT BARRIERS.

2. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS. 3. COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIREMENTS OF THE SPECIFIC APPLICATION.

4. ALL SEDIMENT TRAPPED BY BARRIER SHALL BE DISPOSED OF PROPERLY. TUBULAR SEDIMENT BARRIER DETAIL NOT TO SCALE

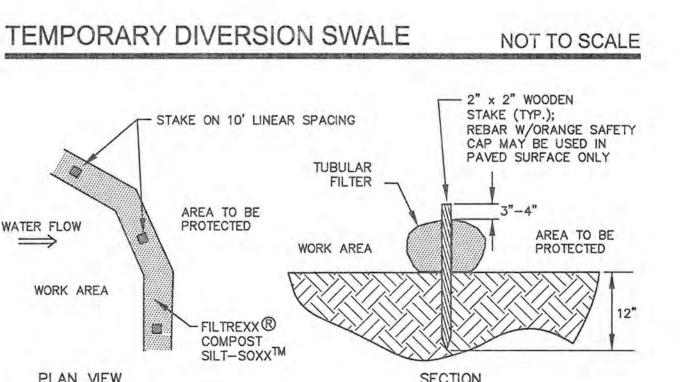


24" MIN.

2. ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF

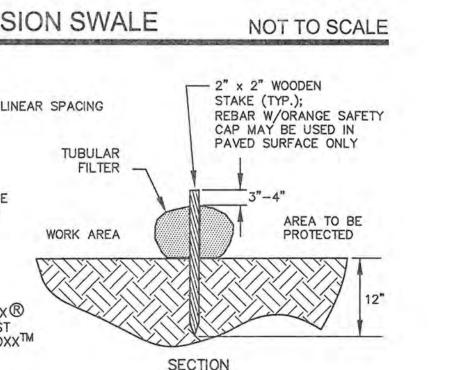
PLAN

NOT TO SCALE



- 1. MACHINE CUT EXISTING PAVEMENT.
- 3. DIAMOND PATCHES, SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY. DIAMOND PATCHES SHALL MEET NHDOT REQUIREMENTS.

TYPICAL TRENCH PATCH



EXCAVATED UTILITY TRENCH (SEE TRENCH SECTION)

EXISTING GRAVEL BEYOND TRENCH SHALL BE LEFT

UNDISTURBED -

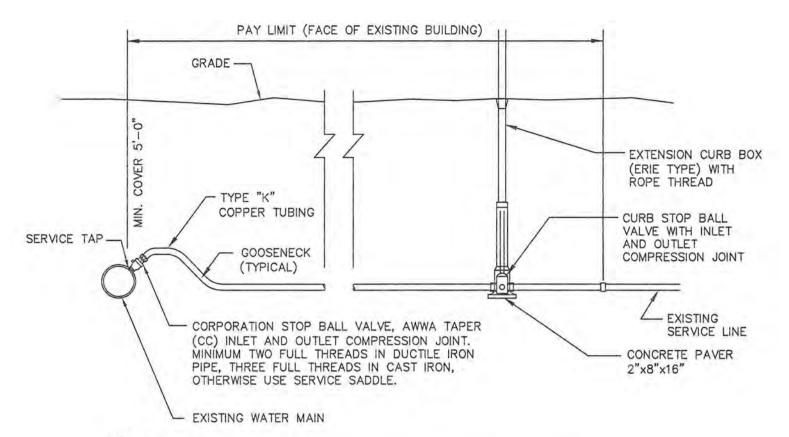
LIMIT OF TRENCH

SAWCUT EDGE (TYP)

SAWCUT EDGE (TYP) -

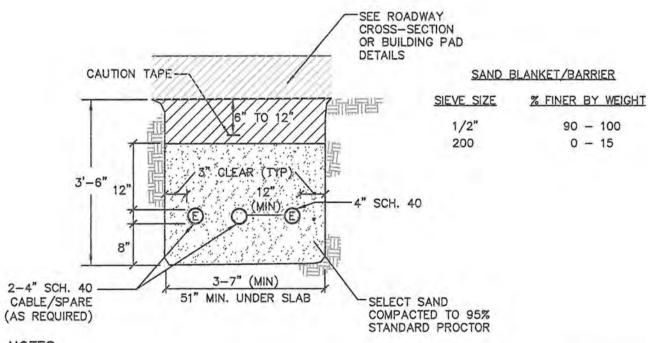
EXCAVATION (TYP)

PERMANENT TRENCH REPAIRS.



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

SERVICE CONNECTION DETAIL NOT TO SCALE



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

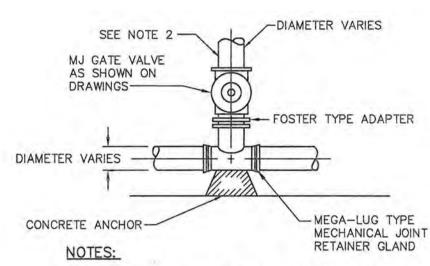
ELECTRIC / COMMUNICATION TRENCH NOT TO SCALE

WATER MAIN 24" PREFERRED (18" MINIMUM) - SEWER PIPE

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

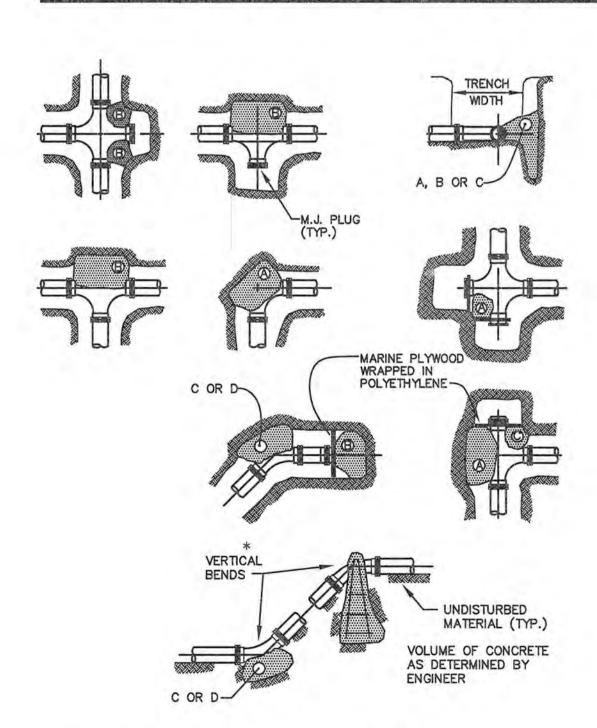
WATER MAIN / SEWER CROSSING

NOT TO SCALE



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

TEE & GATE VALVE ASSEMBLY DETAIL NOT TO SCALE



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

NOTES: POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST
BLOCK TO UNDISTURBED MATERIAL NO
JOINTS SHALL BE COVERED WITH CONCRETE.

ON BENDS AND TEES, EXTEND THRUST
BLOCKS FULL LENGTH OF FITTING.

PLACE BOARD IN FRONT OF ALL PLUGS
BEDDE POLICIAN THRUST BLOCKS BEFORE POURING THRUST BLOCKS.

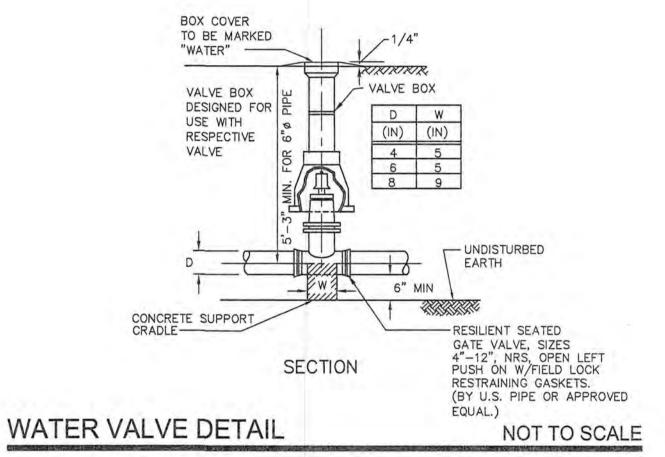
4. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR

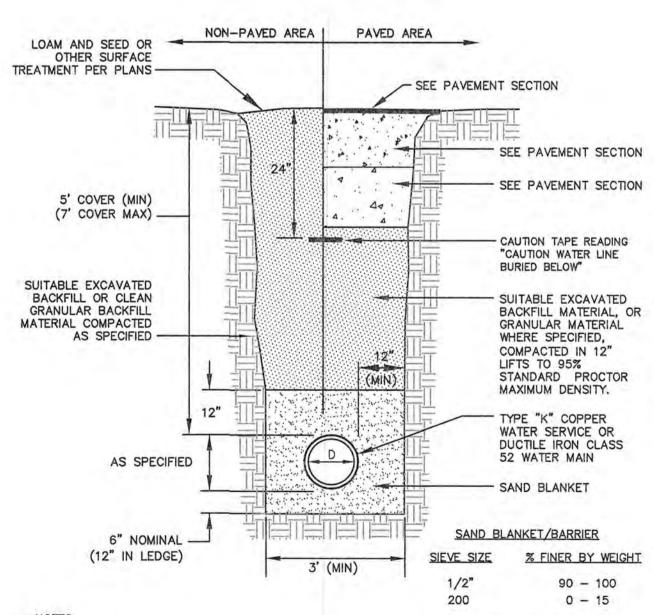
END BLOCKINGS. POLYETHYLENE (6 MIL) SHALL BE PLACED AROUND FITTINGS PRIOR TO CONCRETE

THRUST BLOCKING DETAIL

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE





NOTES

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

WATER MAIN TRENCH

ENGINEERING, INC.

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



ISSUED FOR:

ISSUE DATE:

SEPTEMBER 16, 2019

REVISIONS NO. DESCRIPTION DATE CDB 06/26/19 O INITIAL SUBMISSION 1 TAC SUBMISSION CDB 09/16/19

DRAWN BY: EDW APPROVED BY: 4950DETAILS.DWG DRAWING FILE: -

SCALE:

NOT TO SCALE

BETHEL ASSEMBLY OF GOD 200 CHASE DRIVE PORTSMOUTH, NH 03801 APPLICANT:

200 CHASE DRIVE, LLC 36 MAPLEWOOD AVE. PORTSMOUTH, NH 03801

CHASE DRIVE **GATEWAY** DEVELOPMENT SITE

200 CHASE DRIVE PORTSMOUTH, NH

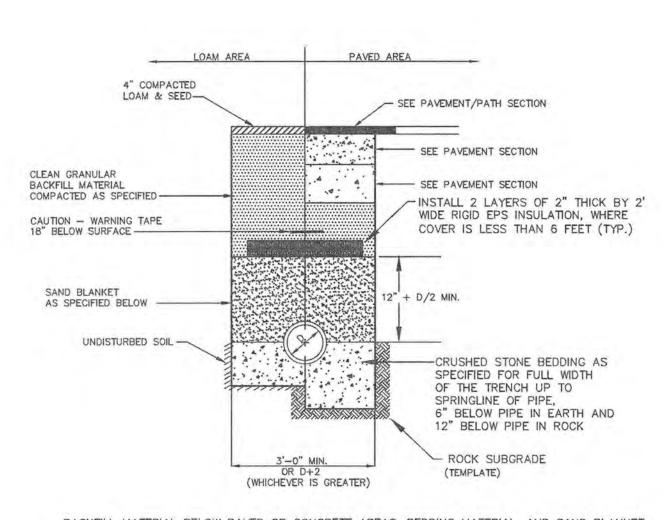
ASSESSOR'S PARCEL 210 - 2

TITLE:

CONSTRUCTION **DETAILS**

SHEET NUMBER:

NOT TO SCALE NOT TO SCALE



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

SAND BLANKET		CRUSHED	CRUSHED STONE BEDDING *		
SIEVE SIZE	% FINER BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT		
1/2"	90 - 100	1"	100		
200	0 - 15	3/4"	90 - 100		
		3/8"	20 - 55		
		# 4	0 - 10		
		# 8	0 - 5		
	T TO STANDARD STONE SIZE #67 - DOT STANDARD SPECIFICATIONS	- SECTION			

SEWER TRENCH SECTION

NOT TO SCALE

STANDARD TRENCH NOTES:

- 1. ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE: BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN OF THE DRAWING.
- 2. BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY. LOAM, ORGANIC MATTER AND MEETING ASTM C33, STONE SIZE NO. 67. PASSING 1 INCH SCREEN 90 - 100% PASSING 3/4 INCH SCREEN

20 - 55% PASSING 3/8 INCH SCREEN 0-10% PASSING #4 SIEVE

PASSING #8 SIEVE WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1-1/2 INCH TO 1/2 INCH SHALL BE USED.

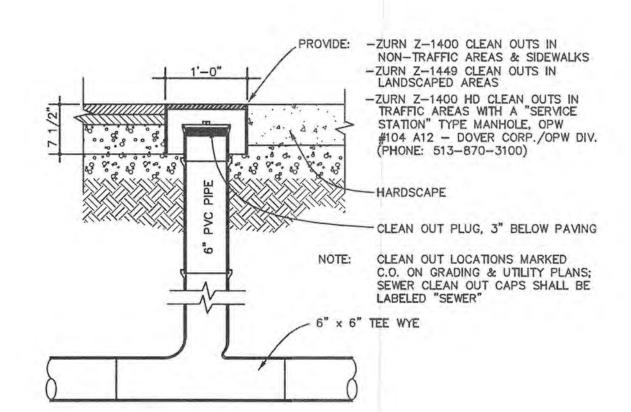
- 3. SAND BLANKET: CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 90 100% PASSES 1/2 INCH SIEVE AND NOT MORE THAN 15% WILL PASS A #200 SIEVE. BLANKET MAY BE OMITTED FOR CAST-IRON, DUCTILE IRON, AND REINFORCED CONCRETE PIPE PROVIDED HOWEVER, THAT NO STONE LARGER THAN 2" IS IN CONTACT WITH THE PIPE.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

CONCRETE ENCASEMENT IS NOT ALLOWED FOR PVC PIPE.

- 10. CONCRETE FULL ENCASEMENT: IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MINIMUM). BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.
- 11. NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES DESIGN STANDARDS REQUIRE TEN FEET (10') SEPARATION BETWEEN WATER AND SEWER. REFER TO CITY'S STANDARD SPECIFICATIONS FOR METHODS OF PROTECTION IN AREAS THAT CANNOT MEET THESE REQUIREMENTS.

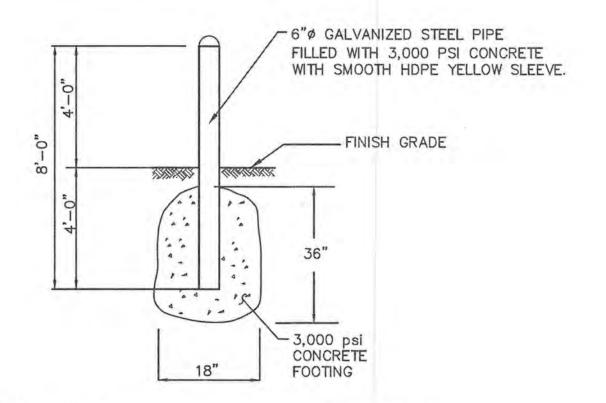
CHAIRMAN DATE

APPROVED BY THE PORTSMOUTH PLANNING BOARD



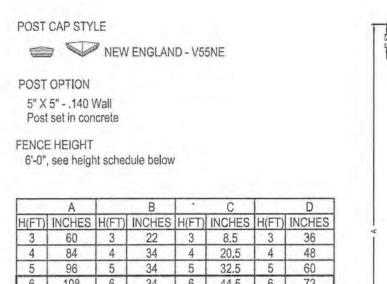
CLEANOUT DETAIL

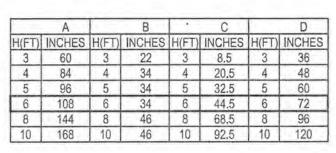
NOT TO SCALE



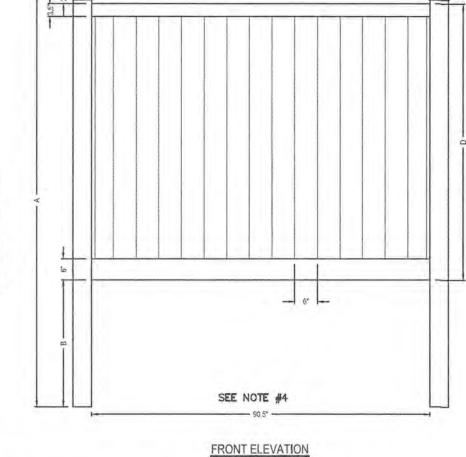
BOLLARD

NOT TO SCALE

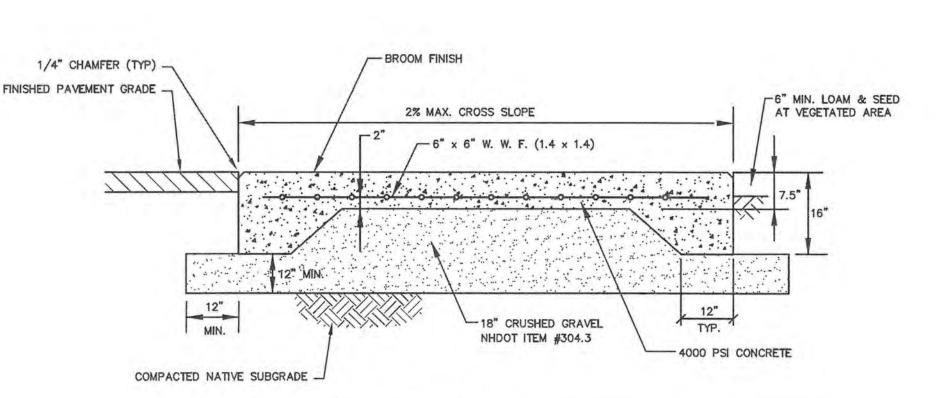




- 1. FENCE SHALL BE ILLUSION VINYL FENCE
- PRODUCT OR APPROVED EQUAL. 2. COLOR SHALL BE DETERMINE BY LANDSCAPE
- ARCHITECT OR APPLICANT. 3. POST SHALL BE SET IN CONCRETE.
- 4. OPENING CLEARANCE DIMENSIONS PER OWNER REQUIREMENT.

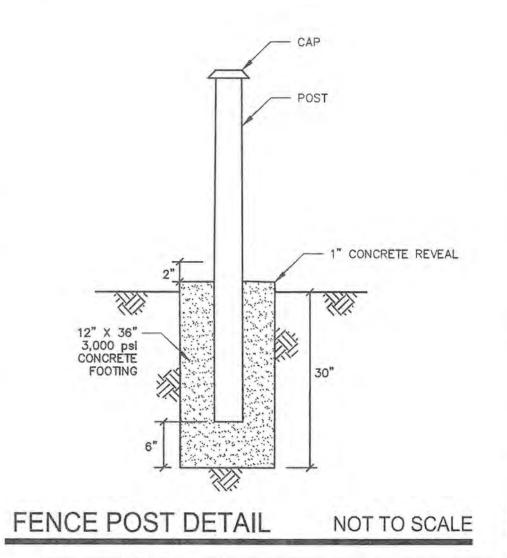


DUMPSTER/SOLID WASTE STORAGE SCREENING DETAIL NOT TO SCALE



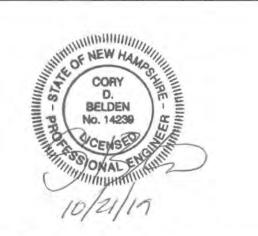
DUMPSTER SLAB DETAILS

NOT TO SCALE



ENGINEER: ENGINEERING, INC.

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



ISSUED FOR:

ISSUE DATE:

OCTOBER 18, 2019

DATE NO. DESCRIPTION CDB 06/26/19 O INITIAL SUBMISSION CDB 09/16/19 1 TAC SUBMISSION 2 TAC SUBMISSION CDB 10/18/19

TAC

CDB DRAWN BY: __ EDW APPROVED BY: 4950DETAILS.DWG DRAWING FILE: __

SCALE:

NOT TO SCALE

BETHEL ASSEMBLY OF GOD 200 CHASE DRIVE PORTSMOUTH, NH 03801

200 CHASE DRIVE, LLC 36 MAPLEWOOD AVE. PORTSMOUTH, NH 03801

CHASE DRIVE **GATEWAY** DEVELOPMENT SITE

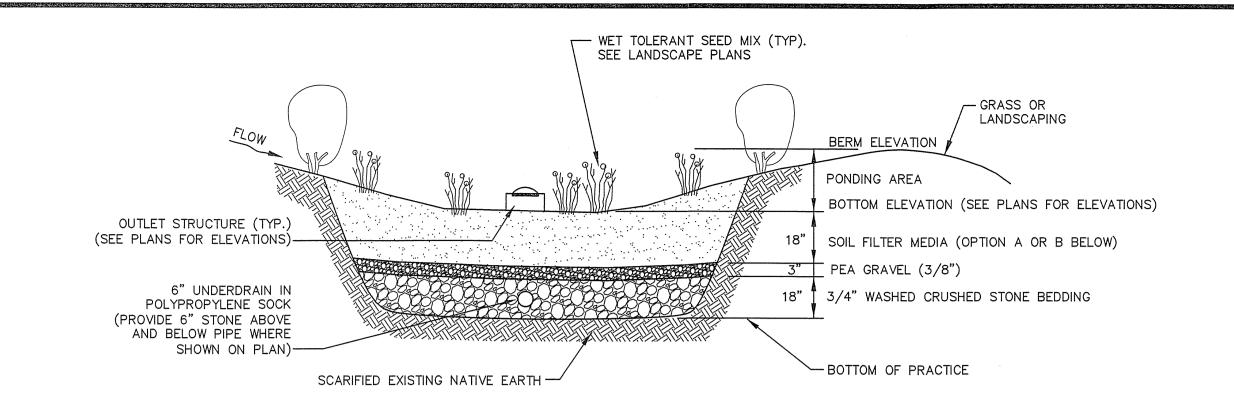
200 CHASE DRIVE PORTSMOUTH, NH

ASSESSOR'S PARCEL 210-2

TITLE:

CONSTRUCTION DETAILS

SHEET NUMBER:



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

NOT TO SCALE

FIL	TER MEDIA MIX	XTURES		
	Percent of	Gradation of material		
Component Material	Mixture by Volume	Sieve No.	Percent by Weight Passing Standard Sieve	
F	ilter Media Opt	ion A	A STATE OF THE STA	
ASTM C-33 concrete sand	50 to 55			
Loamy sand topsoil, with fines as indicated	20 to 30	200	15 to 25	
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5	
F	ilter Media Opt	ion B		
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5	
		10	85 to 100	
Loamy coarse sand	70 to 80	20	70 to 100	
Loaniy coarse sand	70 10 80	60	15 to 40	
		200	8 to 15	

BUILDING FACE

18" MIN.

GRADE AS SHOWN ON PLANS

(MATERIAL AS APPROVED BY ARCHITECT OR OWNER)

SLOPE AS SHOWN ON PLAN

4" THICK WASHED RIVER STONE, SIZE 1.5" TO 2.5", TAMPED TO DEPTH OF 6". STONE COLOR TO BE APPROVED BY ARCHITECT.

CHAIRMAN

APPROVED BY THE PORTSMOUTH PLANNING BOARD

DRIP EDGE DETAIL NOT

----BANK RUN GRAVEL, 6" THICK

NOT TO SCALE

DATE

NOTES

1. WHEN CONTRACTOR EXCAVATES RAIN GARDEN AREA TO SUBGRADE, DESIGN ENGINEER SHALL PERFORM SUBSURFACE EVALUATION PRIOR TO THE PLACEMENT OF ANY SELECT MATERIAL OR OTHER BACKFILL.
2. SOIL FILTER MEDIA SHALL EITHER OPTION A OR OPTION B AT CONTRACTOR'S DISCRETION.

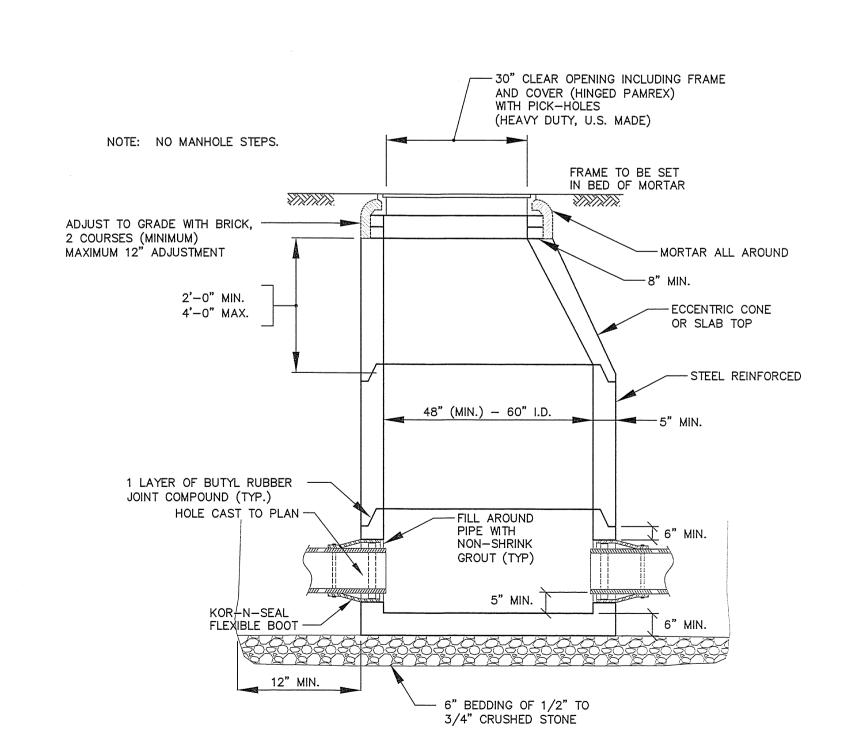
MAINTENANCE REQUIREMENTS

- SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EXCEEDING 2.5 INCHES IN A 24-HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS A WARRANTED BY SUCH INSPECTION.
- PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY.
- 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.
- 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.

DESIGN REFERENCES

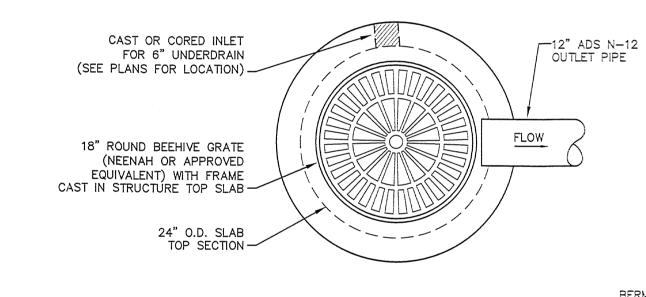
- UNH STORMWATER CENTER
- EPA (1999A)
 NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 2, DECEMBER 2008 AS AMENDED.

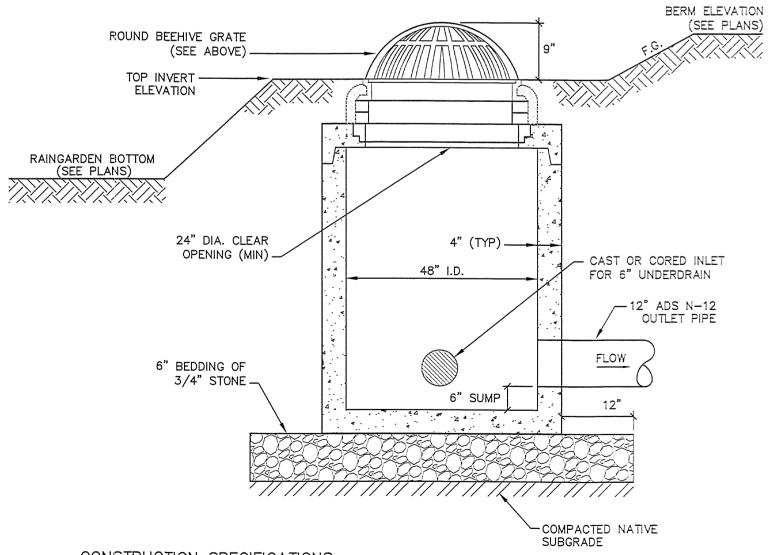
TYPICAL RAINGARDEN



DRAIN MANHOLE DETAIL

NOT TO SCALE





CONSTRUCTION SPECIFICATIONS

- 1. OUTLET STRUCTURE SHALL BE CONSTRUCTED ONSITE OR PRECAST TO EQUAL DIMENSIONS.
- 2. ALL JOINTS AND PIPE OPENINGS SHALL BE SEALED WATERTIGHT WITH MORTAR.
- 3. STRUCTURE IS TO BE BUILT TO WITHSTAND H20 LOADING.
- 4. SOIL UNDERLYING THE STRUCTURE'S GRAVEL BASE PAD AND THE PAD ITSELF ARE TO BE COMPACTED TO 95% MODIFIED PROCTOR.
- COMPACTED TO 95% MODIFIED PROCTOR.

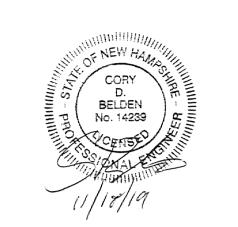
 5. ALL CONCRETE SHALL BE 4,000 PSI MINIMUM.

OUTLET STRUCTURE DETAIL

NOT TO SCALE

ALTUS ENGINEERING, INC.

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



ISSUED FOR:
PLANNING BOARD APPROVAL
ISSUE DATE:
NOVEMBER 18, 2019

	REV	/ISIONS		
1	NO.	DESCRIPTION	BY	DATE
	0	INITIAL SUBMISSION	CDB	06/26/19
	1	TAC SUBMISSION	CDB	09/16/19
l	2	TAC COMMENTS	CDB	11/18/19
900				, , ,

DRAWN BY:	CDB
APPROVED BY:	EDW
DRAWING FILE:	4950DETAILS.DWG

SCALE:

NOT TO SCALE

OWNER:

BETHEL ASSEMBLY
OF GOD
200 CHASE DRIVE
PORTSMOUTH, NH 0380

200 CHASE DRIVE, LLC 36 MAPLEWOOD AVE. PORTSMOUTH, NH 03801

PROJECT:

CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE PORTSMOUTH, NH

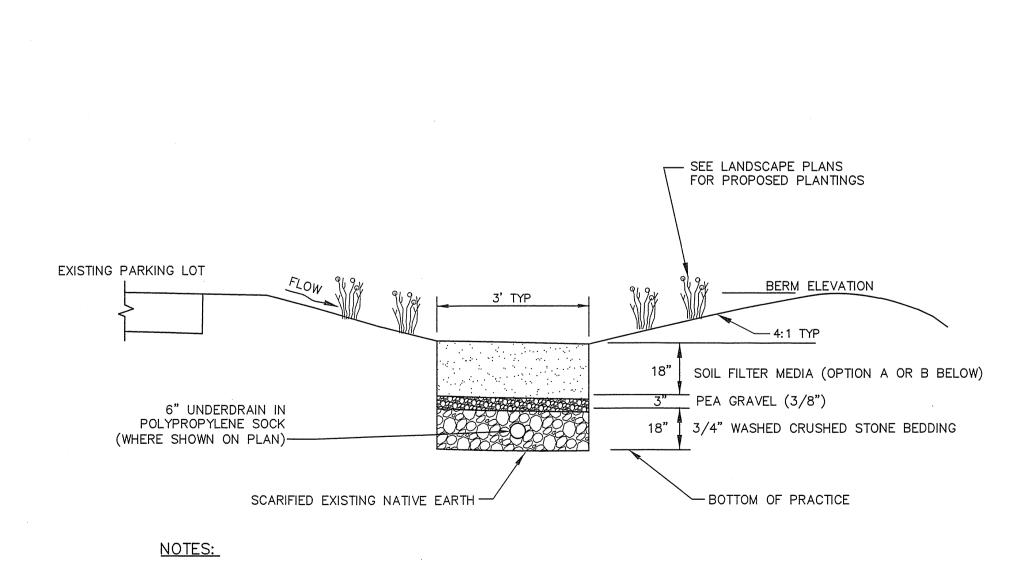
ASSESSOR'S PARCEL 210-2

TITLE:

CONSTRUCTION DETAILS

SHEET NUMBER:

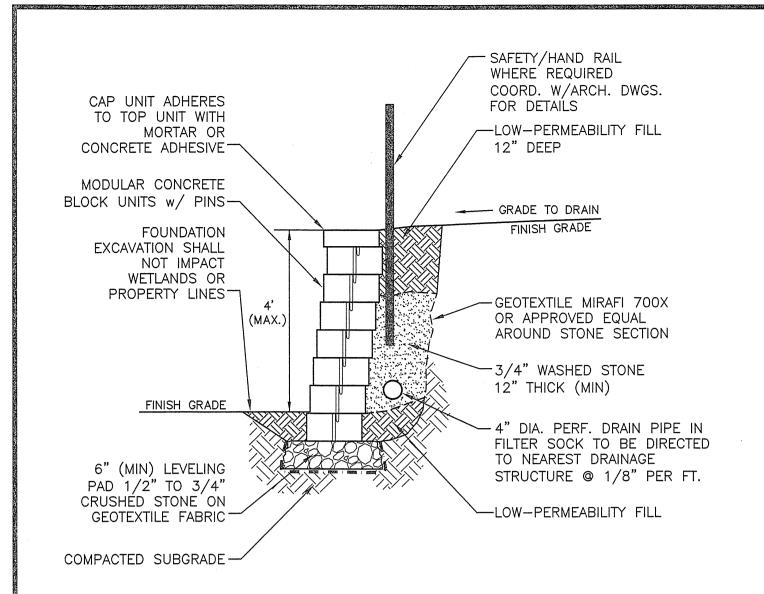
D.5



 SEE RAINGARDEN DETAIL FOR FILTER MEDIA OPTIONS AND AND CRUSHED STONE REQUIREMENT.

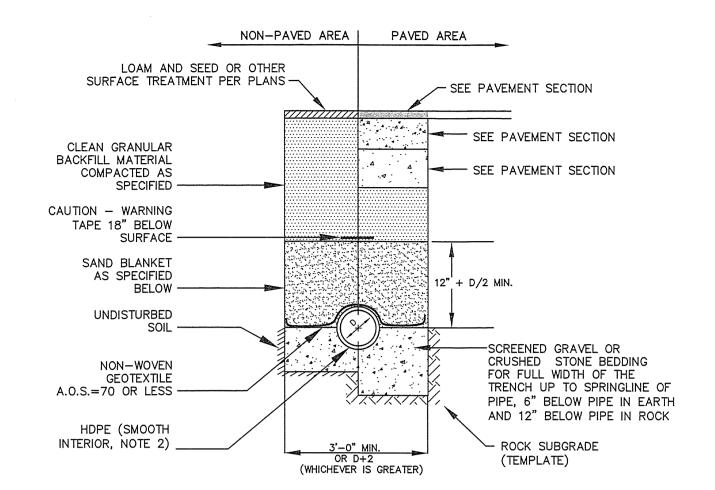
INFILTRATION TRENCH DETAIL

NOT TO SCALE



- 1. TYPICAL MODULAR BLOCK SHALL BE PRECAST CONCRETE MEASURING APPROXIMATELY 16"x12"x6". OTHER BLOCK SIZES MAY BE APPROVED BY THE ENGINEER UPON REQUEST. CAP UNITS SHALL BE
- PER THE STANDARDS OF THE SELECTED MANUFACTURER. 2. BLOCK MANUFACTURER SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
- 3. WALL SHALL BE INSTALLED PER THE REQUIREMENTS OF THE MANUFACTURER.
- 4. WALL HEIGHT SHALL NOT EXCEED 4' WITHOUT DESIGN DRAWINGS STAMPED BY A PROFESSIONAL
- STRUCTURAL ENGINEER. 5. LOCKING PINS MAY OR MAY NOT BE REQUIRED BASED ON THE WALL MANUFACTURER APPROVED BY
- THE ENGINEER. 6. WALL SHALL BE EMBEDDED BELOW EXISTING GRADE THE DEPTH OF AT LEAST ONE BLOCK UNLESS
- OTHERWISE SPECIFIED BY THE WALL MANUFACTURER.
- 7. WALL BATTER SHALL BE PER THE MANUFACTURER'S SPECIFICATIONS. 8. BLOCK FINISH SHALL BE AT THE DISCRETION OF THE OWNER.
- 9. MODULAR BLOCK RETAINING WALL SHALL BE DIAMOND PRO WALL SYSTEM BY ANCHOR WALL SYSTEMS (OR APPROVED EQUAL). VERIFY WITH OWNER & ARCHITECT.

MODULAR BLOCK RETAINING WALL NOT TO SCALE



NOTES:

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

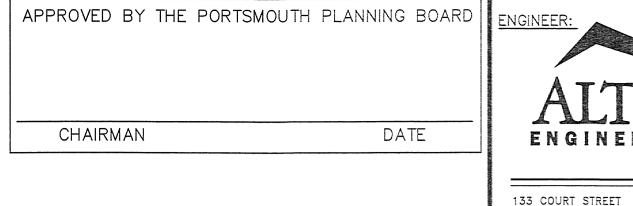
2. ALL PIPE SHALL BE HDPE WITH SMOOTH INTERIOR AND CORRUGATED EXTERIOR, ADS TYPE N-12 OR APPROVED EQUAL.

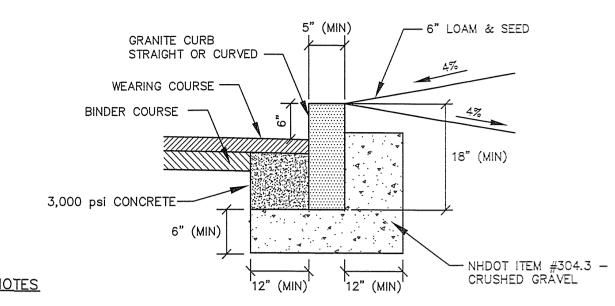
<u>S</u>	AND BLANKET/BARRIER	SCREENED GRAVEL	OR CRUSHED STONE BEDDING*
SIEVE S	SIZE % FINER BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
1/2 ° 200	90 - 100 0 - 15	1" 3/4" 3/8" # 4 # 8	100 90 - 100 20 - 55 0 - 10 0 - 5

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

STORM DRAIN TRENCH

NOT TO SCALE





SEE PLANS FOR CURB LOCATION.

2. SEE PLANS FOR PAVEMENT CROSS SECTION. 3. ADJOINING STONES SHALL HAVE THE SAME OR

APPROXIMATELY THE SAME LENGTH. 4. MINIMUM LENGTH OF CURB STONES = 4'.

5. MAXIMUM LENGTH OF CURB STONES = 10'.

6. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES - SEE CHART.

7. CURB ENDS TO ROUNDED AND BATTERED FACES TO BE CUT WHEN CALL FOR ON THE PLANS.

8. CURB SHALL BE INSTALLED PRIOR TO PLACEMENT OF TOP PAVEMENT COURSE.

9. JOINTS BETWEEN CURB STONES SHALL BE MORTARED.

21'	3'
22'-28'	4'
29'-35'	5'
36'-42'	6'
43'-49'	7'
50'-56'	8'
57'-60'	9'
OVER 60'	10'

MAX. LENGTH

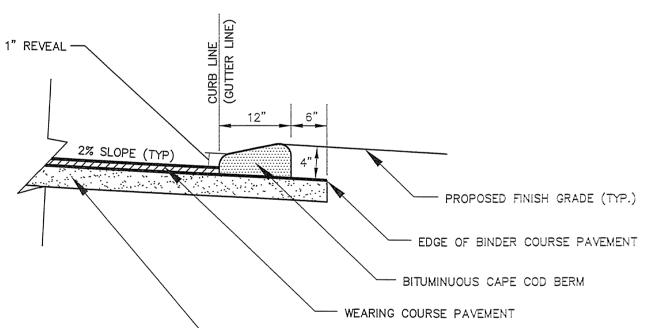
RADIUS

VERTICAL GRANITE CURB

NOT TO SCALE SCALE:

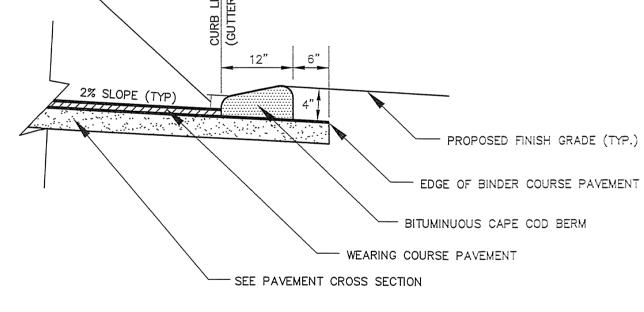
APPLICANT:

DRAWN BY: _



CAPE COD BERM

NOT TO SCALE



-SLOPE AS SHOWN ON PLANS LOAM & SEED --LOAM & SEED SEE SITE PLAN FOR WIDTH 3:1 MAX. COMPACTED NATIVE SUBGRADE (OR FILL WHERE REQUIRED) -- NHDOT ITEM 304.3 - 8" CRUSHED GRAVEL

GRAVEL PATH CROSS SECTION NOT TO SCALE

PROJECT: CHASE DRIVE **GATEWAY** DEVELOPMENT

ENGINEERING, INC.

CORY

BELDEN

No. 14239

PLANNING BOARD APPROVAL

NOVEMBER 18, 2019

DATE

EDW

CDB 06/26/19

CDB 09/16/19

CDB 10/18/19

CDB 11/18/19

4950DETAILS.DWG

NOT TO SCALE

BETHEL ASSEMBLY

OF GOD

200 CHASE DRIVE

PORTSMOUTH, NH 0380

200 CHASE DRIVE, LLC 36 MAPLEWOOD AVE.

PORTSMOUTH, NH 03801

(603) 433-2335

ISSUED FOR:

ISSUE DATE:

. DESCRIPTION

O INITIAL SUBMISSION

TAC SUBMISSION

2 TAC SUBMISSION

3 TAC COMMENTS

APPROVED BY: _

DRAWING FILE: _

PORTSMOUTH, NH 03801

www.ALTUS-ENG.com

200 CHASE DRIVE PORTSMOUTH, NH

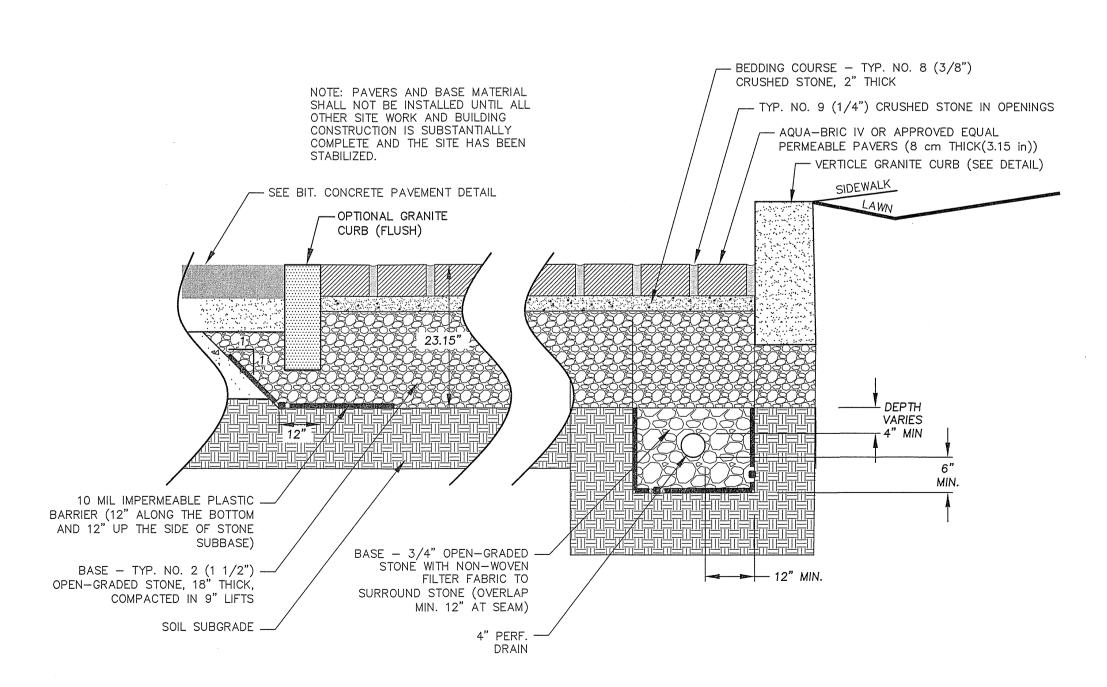
SITE

ASSESSOR'S PARCEL 210-2

CONSTRUCTION DETAILS

SHEET NUMBER:

D.6



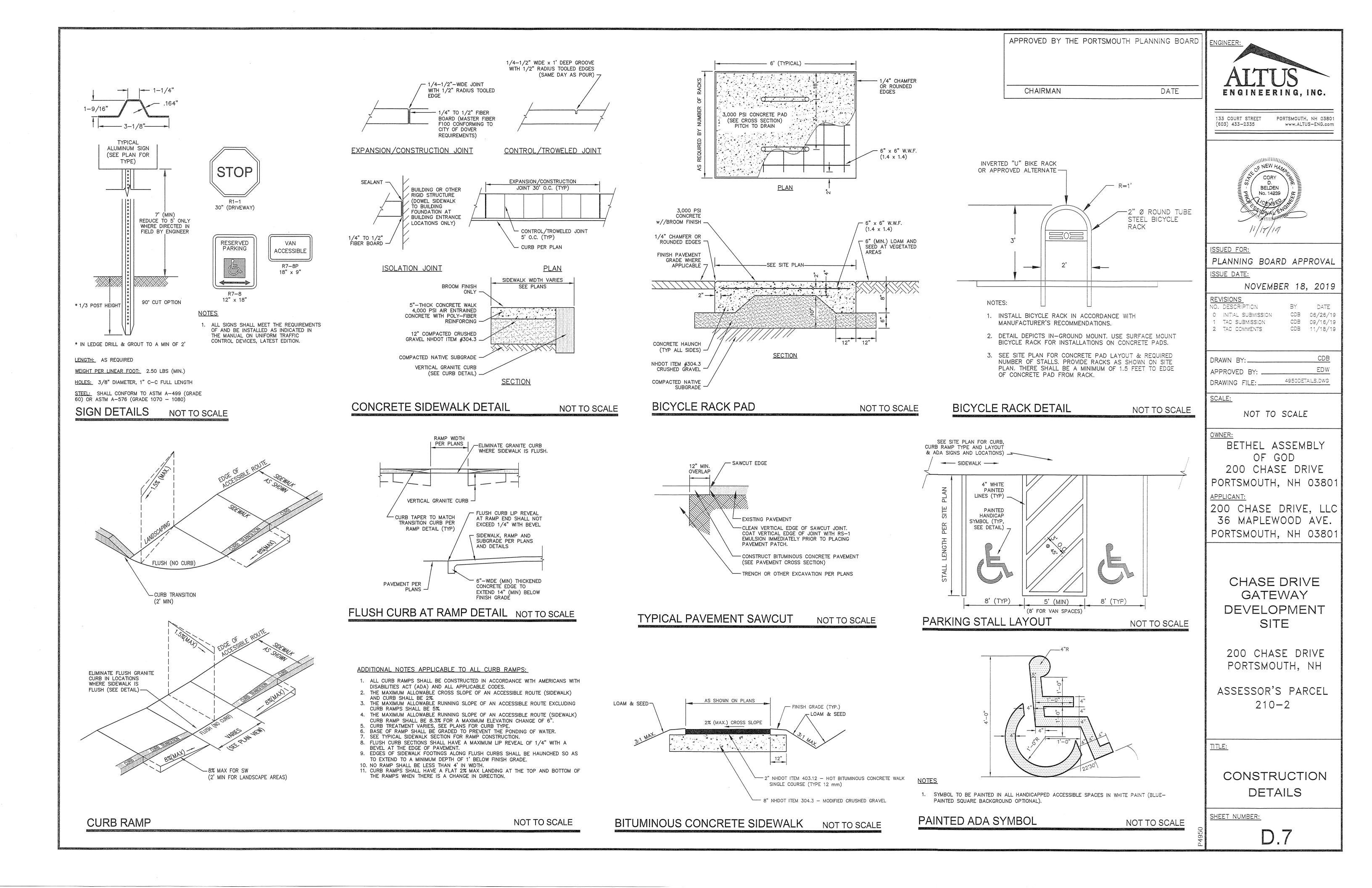
PERMEABLE PAVERS DETAIL NOT TO SCALE

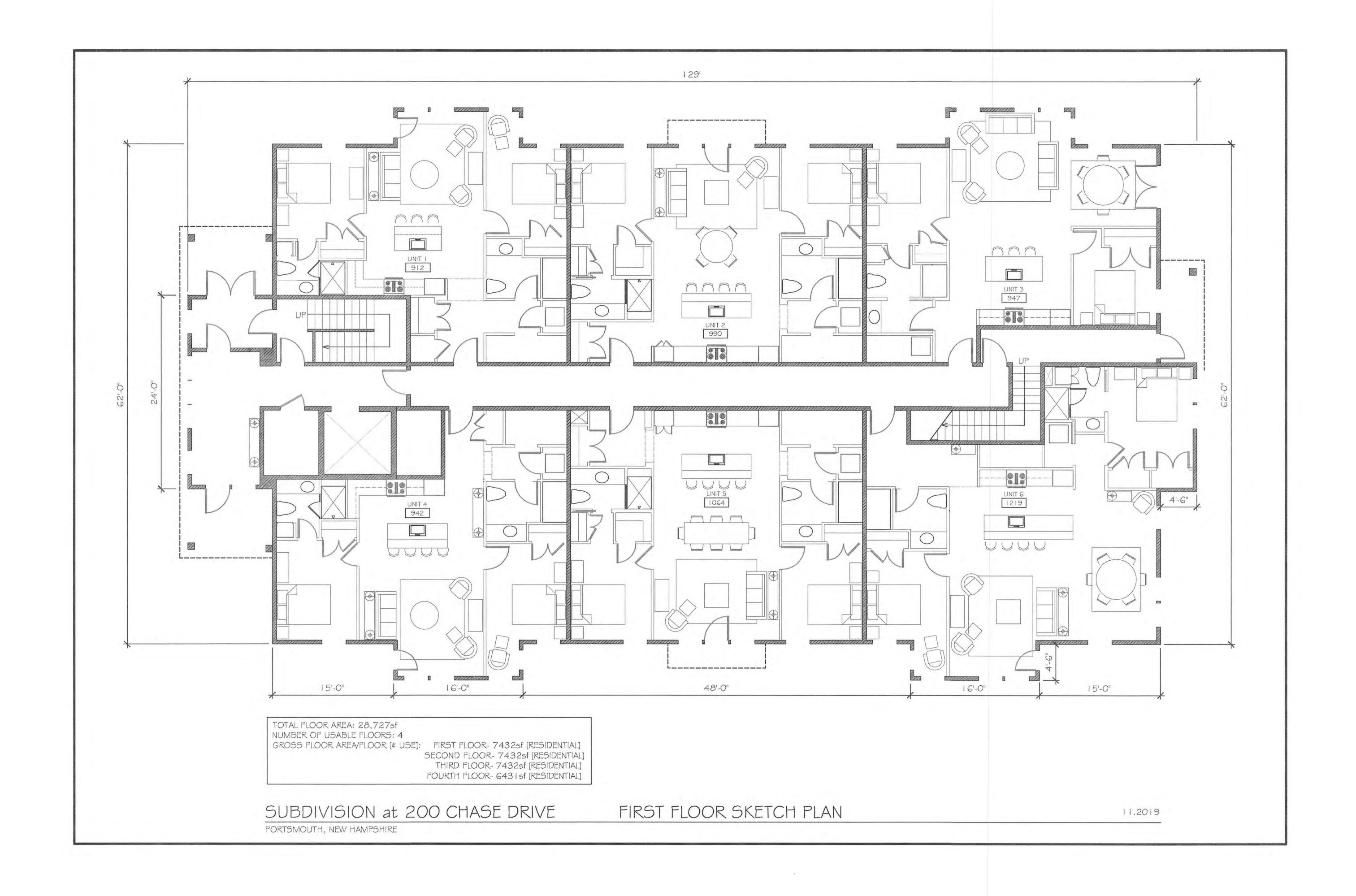
NHDOT ITEM 403.12 - HOT BITUMINOUS CONCRETE PAVEMENT (4" NOMINAL) 1-1/2" WEARING COURSE, (TYPE 12 mm) 2-1/2" BINDER COURSE, (TYPE 19 mm) SLOPE AS SHOWN ON PLANS --1/4" REVEAL (TYP) /-1" REVEAL (TYP) DRIP EDGE 1' MIN TACK COAT BETWEEN PAVEMENT COURSES — -6" LOAM AND SEED (TYP). RIP RAP IN AREAS AS SPECIFIED ON PLANS. PROVIDE 1" LIP TO ALLOW PAVED AREAS TO DRAIN. COMPACTED - NHDOT ITEM 304.3 - 6" CRUSHED GRAVEL NATIVE SUBGRADE (OR FILL WHERE REQUIRED) -- NHDOT ITEM 304.2 - 12" GRAVEL

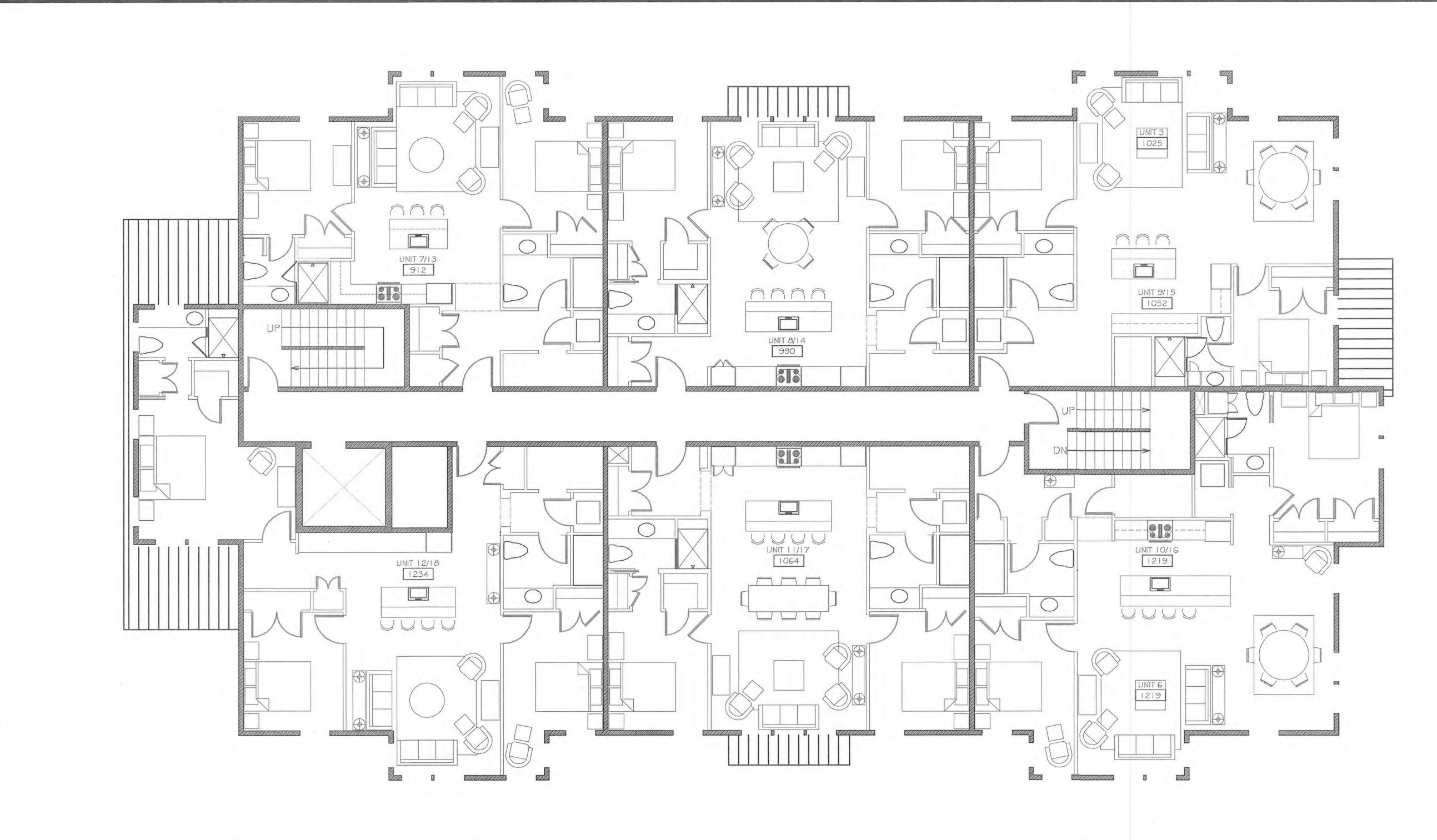
NOTE: SUBGRADE AREA TO BE PROOF ROLLED PER GEOTECHNICAL REPORT RECOMMENDATIONS OR ENGINEER.

PAVEMENT CROSS SECTION

NOT TO SCALE





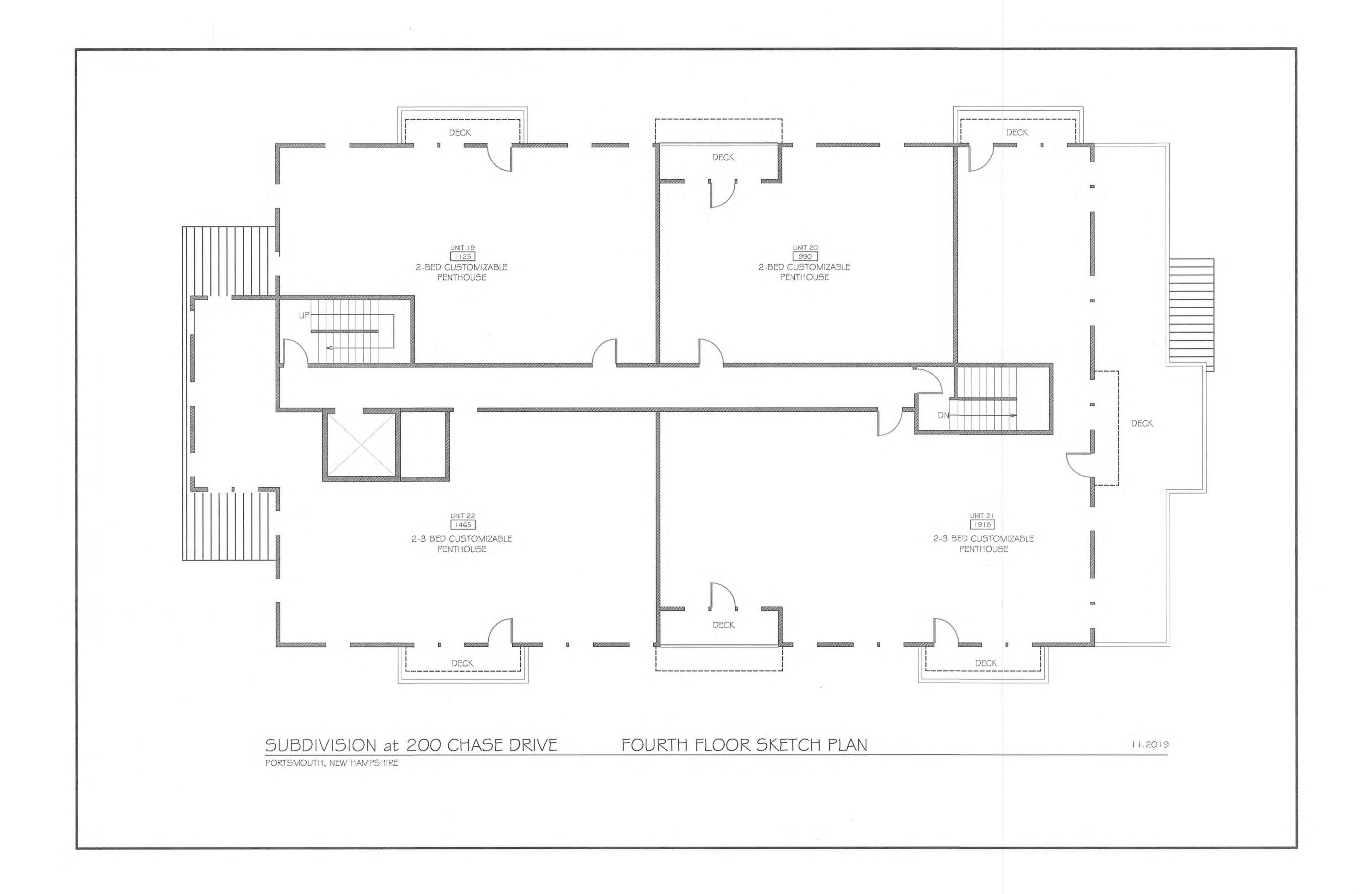


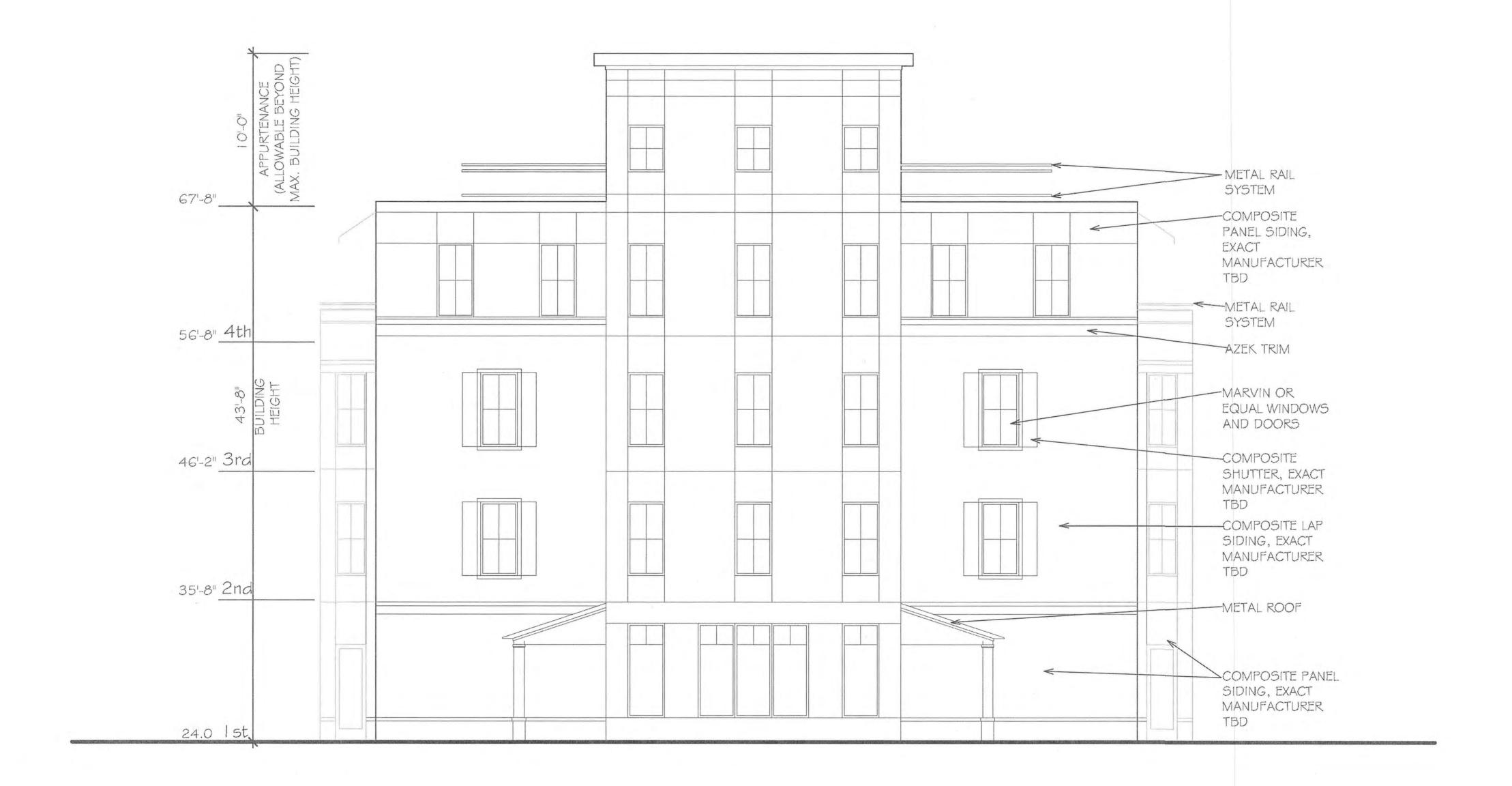
SUBDIVISION at 200 CHASE DRIVE

SECOND AND THIRD FLOOR SKETCH PLANS

11.2019

PORTSMOUTH, NEW HAMPSHIRE



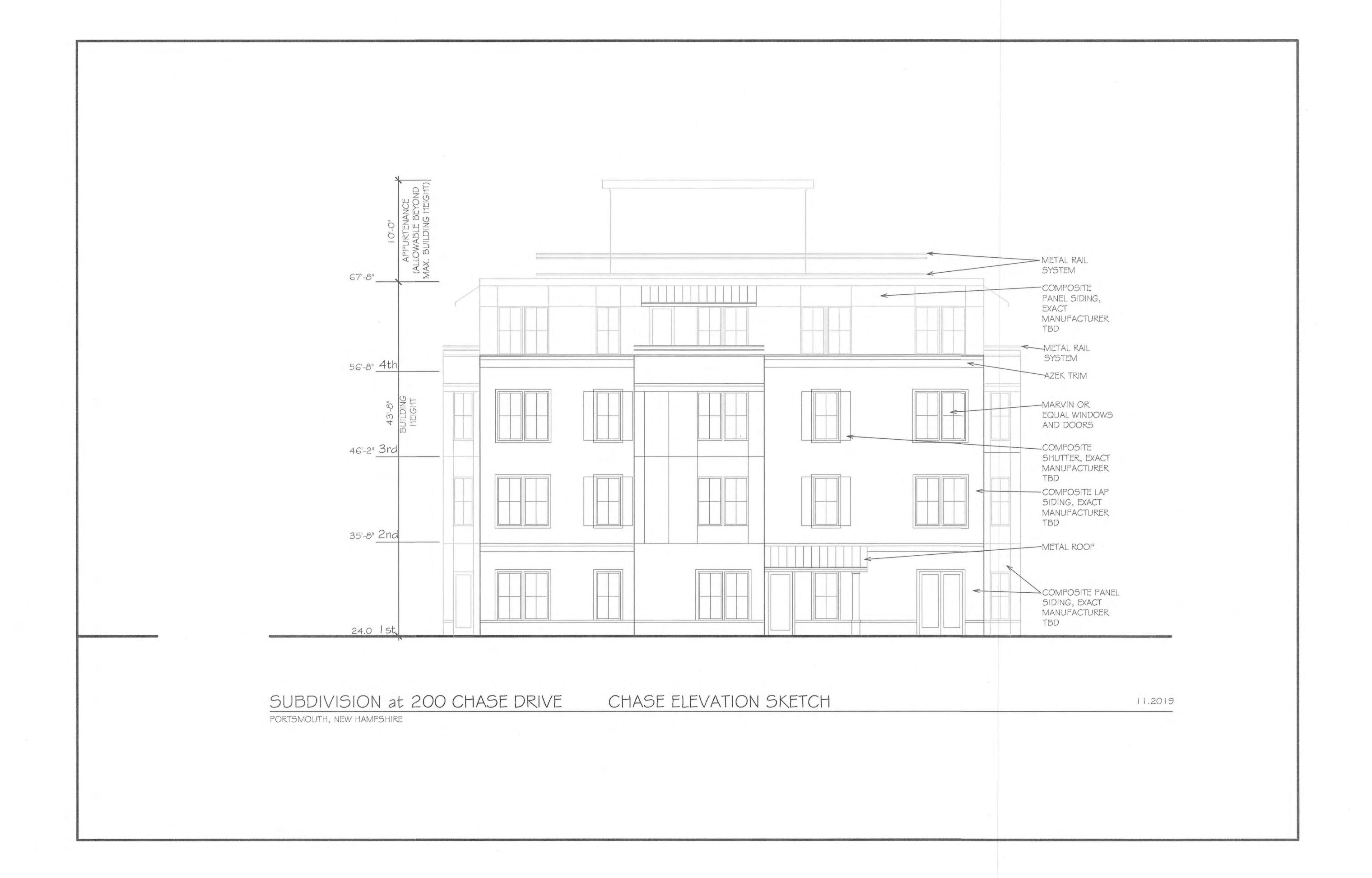


SUBDIVISION at 200 CHASE DRIVE MARKET STREET ELEVATION SKETCH

11.2019

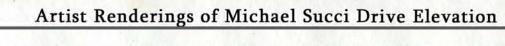
PORTSMOUTH, NEW HAMPSHIRE













200 Chase Drive Gateway Development Site

Assessor's Map 210, Lot 02 200 Chase Drive, Portsmouth, NH Altus Project #P4950

PARKING DEMAND ANALYSIS

(For Conditional Use Permit Application)

Revised November 18, 2019

The Bethel Assembly of God (owner) and 200 Chase Drive, LLC (Applicant) are proposing to re-develop the property located at 200 Chase Drive (Assessor's Map 210, Lot 02) to construct a new multi-family building that will provide 22 housing units and retain the existing church and residential houses. The proposed project will sub-divide the existing 2.68 acre lot into two lots and develop the lots under the Development Site regulations as contiguous lots. A new 22-Unit residential apartment building will be constructed on the new lot, closest to Michael Succi Drive. The existing church will remain on the original lot and continue to function as a religious place of assembly.

The aerial image below shows the existing church property and the existing parking lot which has 133 parking stalls.



1. PARKING USE SUMAMRY

A. Connect Community Church and Residences (Existing):

The Connect Community Church (church) has been serving the Portsmouth community for nearly 50 years. During the 1980's the church had a rise in membership and expanded the church for a large assembly area (545 occupancy). Unfortunately, the closure of Pease Air Force Base (AFB) in 1991 had a resounding impact on the church and membership declined by almost two-thirds. The church has struggled with debt and reduced membership for the last 28 years. The existing parking lot has 133 parking stalls and was designed to serve the church in the 1980's. It is currently under utilized and has been leased to the City for a downtown off-site parking shuttle service for the past three years. This service will end in 2020.

i. Attendance

The current Pastor (Chad Lynn), has been keeping records of attendance at the services since March 2019 to assess the church attendance and parking demand. During this period, the church has been holding two weekend services at 9 am and 11 am on Sunday mornings. The Attendance Records in Attachments shows the attendance at both of these services, which includes volunteers that assist with the services. As shown in the report, the 11 am service is typically the highest attended service and has averaged 135.5 attendees for the 35 week period that data was taken. Excluding the Easter Sunday and Celebration Sunday services, the high regular service attendance was 172. The Easter Sunday and Celebration Sunday services are special event services and had high attendances of 186 and 190, respectively. for the 9 am service and was the highest service attendance during this period.

Average attendance for 30 weeks (11 am service) = 135.5 attendees Single Week high attendance (excluding Special Services) = 172 attendees Single High Special Event (Celebration Sunday) = 190 attendees

ii. Vehicle Usage

The church has been collecting vehicle parking data since October of 2019. During this period the church also estimated the vehicle usage by attendees for the services and estimated the average persons per vehicle was 2.9. This did not account for the volunteers and was as estimate as the lot was still being used by the City for the parking shuttle service. Starting October 6, 2019 the church began a more comprehensive parking analysis to assess the number of non-church, volunteer, and church attendee vehicles utilizing the parking lot. Based on the 7 week period from 10/6/19 through 11/17/19, the records indicate an average of approximately 2.4 persons per vehicle for the late service (highest attended) and includes all attendees and volunteers. Based on these number, we feel that 2.6 persons per vehicles is a reasonable estimate based on the data collected.

Average vehicle usage per attendee = 2.6 Persons per Vehicle

B. 22 Unit Residential Apartment Building (Proposed):

The current Zoning regulations (Section 10.1110) allow for 1.3 parking stalls per unit for multi-family buildings and 1 visitor stall per 5 units. The minimum required number of stalls for the new 22-unit lot would be 33 stalls based on current zoning regulations. The 33 required stalls are reduced by 20% based on Section 10.5B82.10 because a local bus connection is located adjacent to the site. Therefore the minimum number of parking stalls require is 27, while an additional 20% is allowed by Planning Board approval, which would be a maximum of 33 parking stalls. 30 parking stalls are proposed for the new 22 Unit building.

Minimum allowed parking stalls per zoning = 27 stalls

Maximum allowed parking stalls per zoning = 33 stalls

Proposed number of parking stalls per site plan = 30 stalls

C. Two Single Family residences (Existing):

The two single family residences located on the west side of the church are the residences of the Pastor and assistant Pastor for the church. The zoning variance to create this housing stipulated that the houses are only to be occupied by people who work at the church. Each house has two designated parking spaces, which serve the residences, so they are not included in the parking demand analysis for the parking lot.

Not included in Parking Demand Analysis

2. PARKING DEMAND

Using the single high standard service attendance of 172 attendees for the 35 week data period and the average of 2.6 attendees per vehicle, the parking demand would be 66 parking stalls. As noted above and shown in the attached records, the average attendance for the 9 am Sunday service is 104.4 attendees, and the 11 am service is 135.5 attendees. This equates to 40 and 52 average vehicles for the respective services.

The church has been monitoring membership for many years and the current membership level is at the highest point since the 1980's prior to Pease closure. The attendance on 11/17/19 is the single day highest attendance seen in the last 18 years. Even for this day, the highest total vehicles was 65 total. The church's goal is to provide smaller and more intimate services, so as the attendance increases, more services will be added to disperse the attendance. Currently there is not the need to offer the additional services. The church does not intend to exceed 150 average attendees per service and will work with the members to maintain the smaller service size. 75 parking stalls would have provided 10 extra parking spaces for the highest single standard service attendance day in the last 18 years. Allowing for a 10% increase to the highest 35 weeks standard attendance of 172 attendees and using the 2.6 average attendees per vehicle estimate, the parking demand for the church is 73 parking stalls. The church has indicated that 75 parking stalls will adequately serve their needs for the foreseeable future.

Parking Demand for Church = 73 Parking Stalls

2. MITIGATION

Standard services:

The church has indicated that the long term solution to an increase in attendance is to offer more services, which will disperse the attendance. The church has considered a week night services and weekend evening services to provide more opportunities to members. The goal of the church is to provide small, more intimate services, so it is not the goal of the church to exceed 150 average attendees per service. The church will continue to monitor membership, service attendances, and parking and will work with the membership to maintain the smaller service size so that the 75 parking stalls continues to adequately serve the church for all weekly services.

Large Events:

On rare occasions there could be a situation where the church would like to host an event that may have a parking demand higher than 75, or over 250 attendees. The church realizes that they may not be able to host these types of events similar to years past with the decreased parking availability. In such circumstances, the church has a number of options to mitigate the parking impacts.

- 1. Carpool The church can encourage members to carpool to at least 3 persons per vehicle for large events. Many members of the church are friends and family and it is anticipated that they could increase the attendees per vehicle ratio by encouraging carpools for special events.
- 2. Bus Transit There is a COAST bus transit located on Market Street directly in front of the church. Similar to carpooling, the church can encourage members to utilize the COAST bus transit for special events.

Parking Demand Analysis November 18, 2019 Page 5

3. Shuttle Service – The church has a bus and has the ability to run a shuttle service to an off-site parking facility such as the Foundry Garage, less than 1 mile away, to allow attendees to park off-site for large events.

4. CONCLUSION

Based on this Parking Demand Analysis, we feel that the proposed 109 parking stalls (75 for the church, 30 for the new 22-unit apartment building, and 4 for the two residential houses) will adequately serve the proposed development site. Current zoning regulations would require 134 on-site parking stalls which exceeds the parking demand for the site. Implementing the parking requirement per the zoning regulations would create a larger than necessary parking lot and significant impervious areas that would rarely be used. Based on the 35 week average attendance of 135.5 attendees for the most attended service, 52 parking spaces would be needed on average for the standard weekly service. Per zoning regulations, a 109 parking stall lot would be required for the church, which would leave approximately 57 empty parking stalls for the average weekend services. The remainder of the week the lot would also remain predominantly empty. The church is proposing to provide 75 parking stalls, which meets the parking demand analysis and accounts for a 10% increase to the single highest attendance in 18 years. The church has the ability mitigate impacts for larger event and add services to manage the parking if the demand is needed. Therefore, we feel that the current proposal to provide 75 parking stalls for the church, 30 parking stalls for the 22-Unit apartment building, and 4 parking stalls for single family homes, for a total of 109 off-street parking stalls will adequately service the proposed site development.

Attachments

- Parking Table
- Attendance Records
- Site Pictures
- Existing Conditions Site Plan, by Ambit Engineering
- Overall Site Plan, by Altus Engineering

ALTUS ENGINEERING, INC.

Cory Belden, PE

Ecopy: Stephen Kelm, 200 Chase Drive, LLC

Pastor Chad Lynn, Connect Community Church

wde/4950-Parking Demand Analysis 101819.doc

Civil Site Planning Environmental Engineering

133 Court Street Portsmouth, NH 03801-4413

200 Chase Drive Gateway Development Site

Assessor's Map 210, Lot 02 200 Chase Drive, Portsmouth, NH

Table 1. Parking Table

Existing Church

Required Spaces

Assembly (545 capacity by zoning)

1 stall per 4 occupants

136 Spaces

20% Reduction for bus transit (10.5B82.10)

Min Parking Spaces Required

109 Spaces Required

Existing Single Family Residential

Two Single Family Residential (SFR) Houses

2 stalls per residence

4 Spaces Required

Proposed 22 Unit Apartment Building (allowed per current Zoning Ordinance)

Number of Units

22

Parking Spaces

1.3 spaces per unit

28.6 spaces

Visitor Spaces (1 per 5 units)

4.4 spaces

Spaces Required

33 spaces

20% Reduction for bus transit (10.5B82.10)

Min Parking Spaces Required

27 spaces Required

Total Required On-Site Parking =

140 Spaces

Shared Use Demand Analysis

Based on the shared used demand analysis for the Weekend Day

Minimum Required Church Parking (100%) =

109 Spaces

Residential (Apartment Building and SFR)

(80% of 31 Parking Spaces) 25 Spaces

Total Number of Required Parking Spaces

Based on Shared Used Analysis

Total Number of Proposed Parking Spaces

Church

75 Spaces

22-Unit residential building Two Single Family Residential 30 Spaces 4 Spaces

TOTAL PROPOSED PARKING SPACES

109 Parking Spaces

134 Parking Spaces

Tel: (603) 433-2335

E-mail: Altus@altus-eng.com

Community Connect Church

Attendance Records

Date	Time	Attendance	Time	Attendance	
3/3/201	9:00 AN	Л 94	11:00 AM	135	
3/10/201			11:00 AM		
3/17/201			11:00 AM		
3/24/201	9:00 AN	Л 96	11:00 AM		
3/31/201	9:00 AN	И 97	11:00 AM	148	
4/7/201	9:00 AN	И 107	11:00 AM	137	
4/14/201	9:00 AN	И 107	11:00 AM	148	
4/21/201	9:00 AM	И 186	11:00 AM	165	*EASTER SUNDAY
4/28/201	.9 9:00 AM	И 104	11:00 AM	147	
5/5/201	.9 9:00 AN	И 111	11:00 AM	127	
5/12/201	.9 9:00 AN	И 115	11:00 AM	121	
5/19/201	.9 9:00 AN	M 103	11:00 AM	138	
5/26/201	.9 9:00 AM	M 135	11:00 AM	107	
6/2/201	.9 9:00 Al	M 125	11:00 AM	112	
6/9/201	.9 9:00 AM	M 84	11:00 AM	143	
6/16/201	.9 9:00 Al	M 69	11:00 AM	107	
6/23/201	.9 9:00 Af	И 98	11:00 AM	109	
6/30/201	.9 9:00 Al	И 98	11:00 AM	118	,
7/7/201	.9 9:00 Al	M 88	11:00 AM	113	
7/14/201	.9 9:00 Ai	M 70	11:00 AM	120	
7/21/201	.9 9:00 AI	M 72	11:00 AM	108	
7/28/201		M 98	11:00 AM	128	
8/4/201		M 101	11:00 AM	147	
8/11/201			11:00 AM	138	
8/18/201			11:00 AM		
8/25/201			11:00 AM	172	
9/1/201					
9/8/201			11:00 AM		No data
9/15/201			11:00 AM		No data
9/22/201			11:00 AM		No data
9/29/201					
10/6/201					
10/13/201					
10/20/201					*Celebration Sunday
10/27/201					
11/3/201					
11/10/201					
11/17/201	19 9:00 AI	M 123	11:00 AM	l 163	
	Ave Attendance	104.4	Ave Attendance	135.5	

Community Connect Church

Vehicle and Attendance Records

(October 3 to November 17, 2019)

	Early service	ce (9 am)	Late service	e (11 am)	
Date	Attendance	Vehicles	Attendance	Vehicles	
10/6/2019	114	55	139	61	
10/13/2019	135	65	146	62	
10/20/2019	124	59	190	79	*Celebration Sunday
10/27/2019	111	54	150	66	
11/3/2019	123	58	138	62	
11/10/2019	121	55	141	59	**
11/17/2019	123	57	163	65	**
Average	121.6	57.6	152.4	64.9	
			Average	2.4	persons/vehicle

^{**} Vehicles counted by Cory Belden of Altus Engineering, Inc.



11/10/19 8:48 am (Approx 30 vehicles)



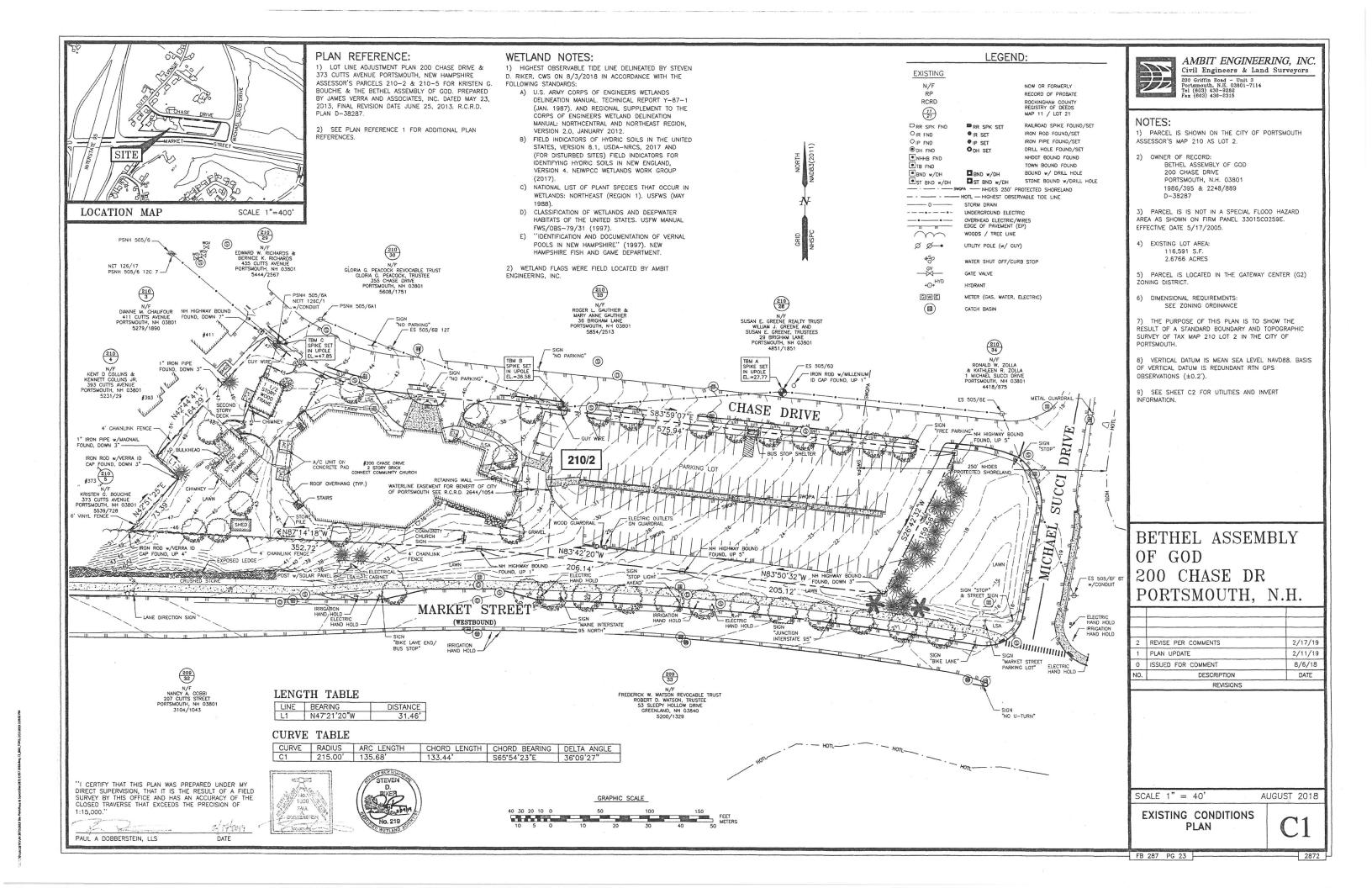
11/17/19 9:05 am (40 church, and 9 non-church vehicles)

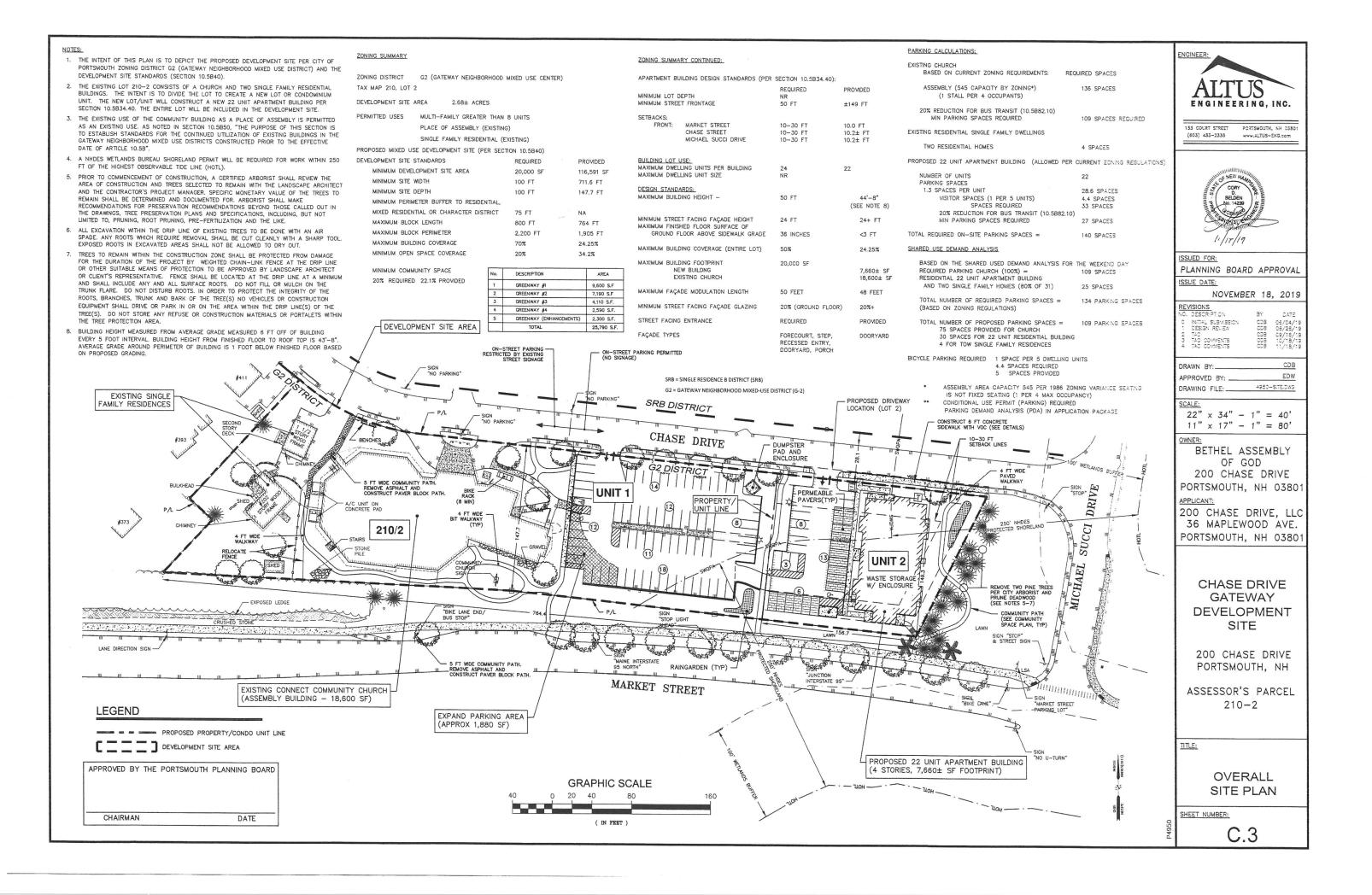


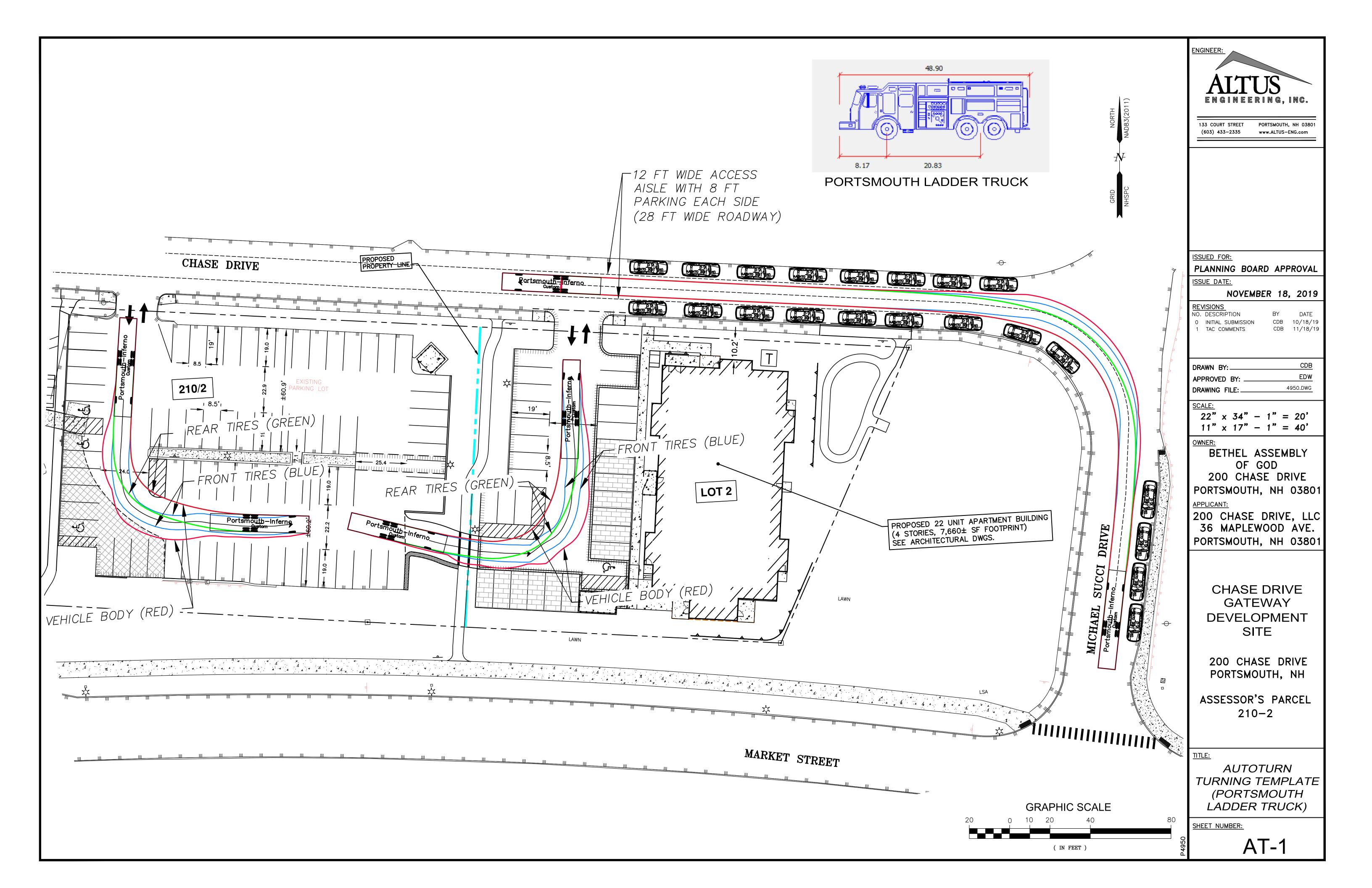
11/1019 12:10 pm (59 church and 7 non-church vehicles)

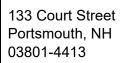


11/10/19 9:20 am (51 church, 7 non-church vehicles)











TRAFFIC GENERATION MEMORANDUM

Assessor's Map 210, Lot 02 200 Chase Drive, Portsmouth, NH Altus Project #P4950

November 5, 2019

The Bethel Assembly of God (owner) and 200 Chase Drive, LLC (Applicant) are proposing to re-develop the property located at 200 Chase Drive (Assessor's Map 210, Lot 02) to construct a new multi-family building that will provide 22 housing units and retain the existing church and residential houses. The existing church will continue to operate as it is today. This traffic generation memorandum is to determine the anticipate traffic that results from the proposed 22-Unit residential apartment building, excluding the existing church traffic. Utilizing the Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition), the anticipated traffic generated from the proposed apartment building (Section 220) is as follows:

<u>Trip Generation Table</u> 22-Unit Apartment (ITE, Section 220)

	Time	Rate	Vehicle Trips
Total Trips*	Weekday	6.65	146.3
	Saturday	6.39	140.6
	Sunday	5.86	128.9
*Total trips es	stimate 50% entering and 50	% exiting site	
Peak Hr	Weekday AM Peak Hr	0.55	12.1
	Weekday PM Peak Hr	0.67	14.7
	Saturday Peak Hr	0.52	11.4
	Sunday Peak Hr	0.51	11.2

Note: This Traffic Generation Memo excludes any existing traffic counts from the existing use of the church parking lot as a public parking lot.

Ecopy: Stephen Kelm, 200 Chase Drive, LLC

Pastor Chad Lynn, Connect Community Church

wde/4950-TRAFFIC MEMO.doc



Civil Site Planning Environmental Engineering

133 Court Street Portsmouth, NH 03801-4413

Waiver Request

Assessor's Map 210, Lot 02 200 Chase Drive, Portsmouth, NH Altus Project #P4950

November 5, 2019

Waiver Request #1: Article 9, Section 9.3 -Location and Disposal

The project proposal is to place the dumpster and waste container pads as shown on the proposed project plans. The existing church does not have access to the rear of the building (Market St side) so a side location was selected, using the parking lot side instead of the single family residential side. The new 22-Unit apartment building has three frontages and a side, so the side location was selected for waste disposal. The pads are located a minimum of 10 feet from the property line, where 20 feet is required. No drainage inlets will be within 20 feet of the waste disposal pads. The proposed waste storage areas will be enclosed with solid fencing to screen dumpster and waste storage as shown on the project plans and details.

Ecopy: Stephen Kelm, 200 Chase Drive, LLC

Pastor Chad Lynn, Connect Community Church

wde/4950-Waiver Request_110119.doc