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

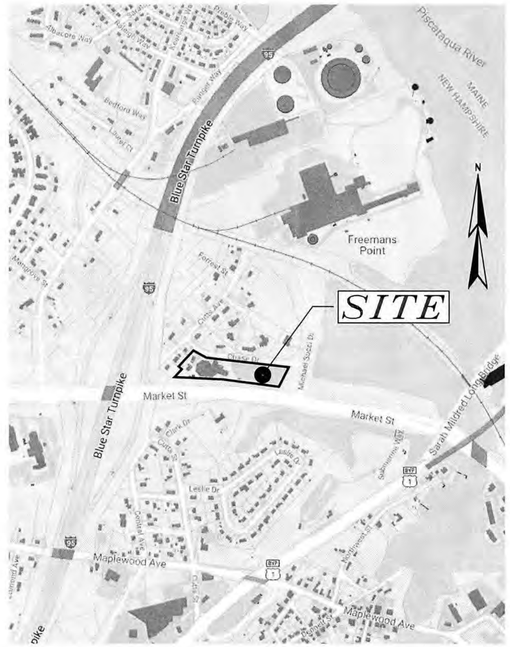
Issued:

DECEMBER 23, 2019

PLANNING BOARD APPROVAL

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE



Locus Map
Scale: Not to Scale

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Existing Utilities Plans (by Ambit Engineering, Inc.)	C2	1	02/17/19
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Community Space Plan	C.9	5	12/23/19
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Construction Details	D.4	2	10/18/19
Construction Details	D.5	2	12/23/19
Construction Details	D.6	3	11/18/19
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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

Civil Engineer:

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

Landscape Architect:

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

Architect:

SOMMA
39 Maplewood Avenue
Portsmouth, NH 03801
603.766.3760

Surveyor:

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

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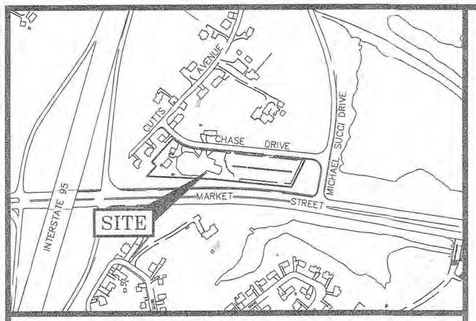

LOCATION MAP SCALE 1"=400'

PLAN REFERENCE:

1) LOT LINE ADJUSTMENT PLAN 200 CHASE DRIVE & 373 CUTTS AVENUE PORTSMOUTH, NEW HAMPSHIRE ASSESSOR'S PARCELS 210-2 & 210-5 FOR KRISTEN G. BOUCHIE & THE BETHEL ASSEMBLY OF GOD. PREPARED BY JAMES VERRA AND ASSOCIATES, INC. DATED MAY 23, 2013. FINAL REVISION DATE JUNE 25, 2013. R.C.R.D. PLAN D-38287.

2) SEE PLAN REFERENCE 1 FOR ADDITIONAL PLAN REFERENCES.

WETLAND NOTES:

1) HIGHEST OBSERVABLE TIDE LINE DELINEATED BY STEVEN D. RIKER, CWS ON 8/3/2018 IN ACCORDANCE WITH THE FOLLOWING STANDARDS:

A) U.S. ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL. TECHNICAL REPORT Y-87-1 (JAN. 1987). AND REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012.

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E) "IDENTIFICATION AND DOCUMENTATION OF VERNAL POOLS IN NEW HAMPSHIRE" (1997). NEW HAMPSHIRE FISH AND GAME DEPARTMENT.

2) WETLAND FLAGS WERE FIELD LOCATED BY AMBIT ENGINEERING, INC.

LEGEND:

EXISTING

N/F		NOW OR FORMERLY
RP		RECORD OF PROBATE
RCRD		ROCKINGHAM COUNTY REGISTRY OF DEEDS
11/27		MAP 11 / LOT 21
RR SPK FND	RR SPK SET	RAILROAD SPIKE FOUND/SET
IR FND	IR SET	IRON ROD FOUND/SET
IP FND	IP SET	IRON PIPE FOUND/SET
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BND w/DH	BND w/DH	BOUND w/ DRILL HOLE
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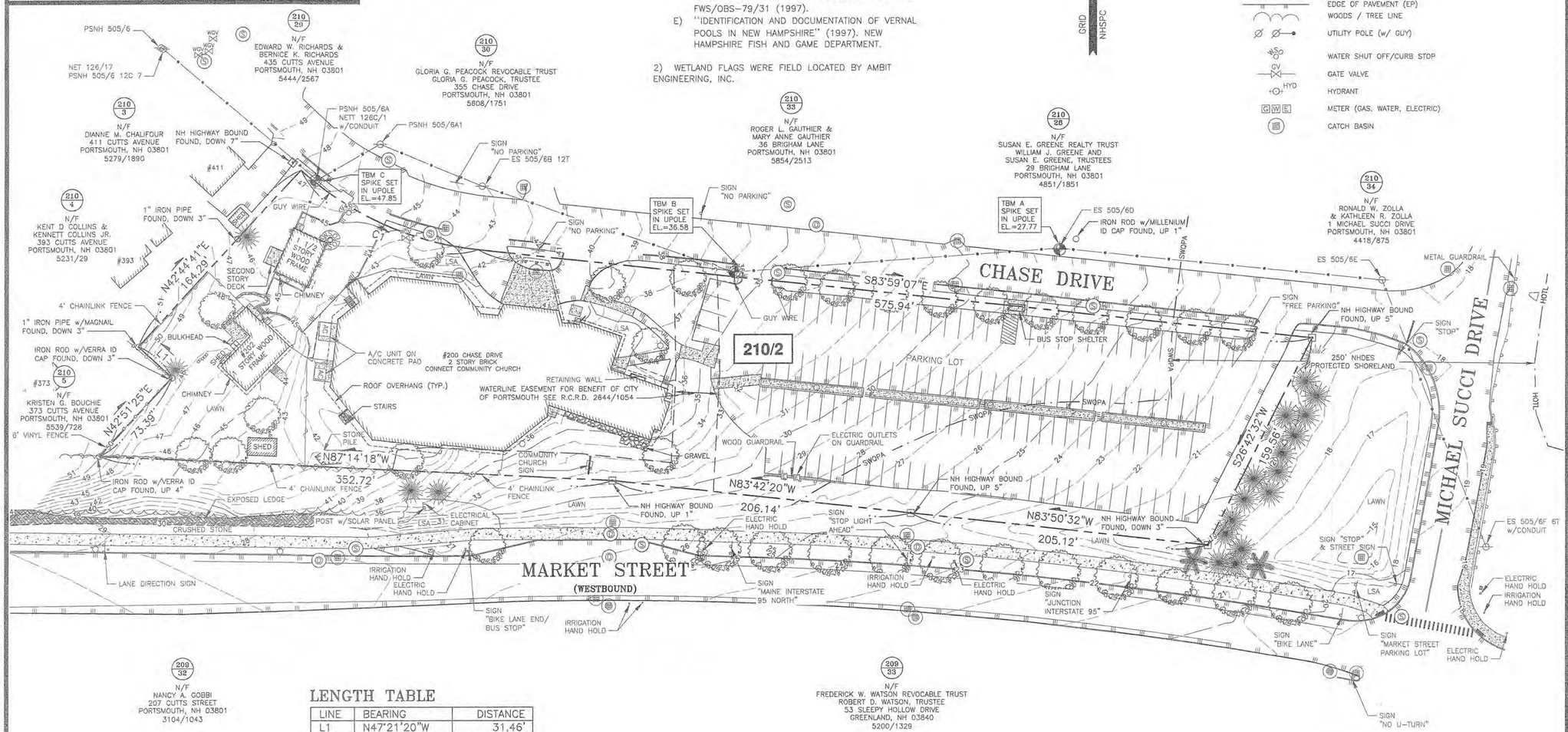
SWOPA	SWOPA	NHDES 250' PROTECTED SHORELAND
HOTL	HOTL	HIGHEST OBSERVABLE TIDE LINE
D	D	STORM DRAIN
UGE	UGE	UNDERGROUND ELECTRIC
OHE	OHE	OVERHEAD ELECTRIC/WIRES
EP	EP	EDGE OF PAVEMENT (EP)
		WOODS / TREE LINE
		UTILITY POLE (w/ GUY)
WSO	WSO	WATER SHUT OFF/CURB STOP
GV	GV	GATE VALVE
HYD	HYD	HYDRANT
G W E	G W E	METER (GAS, WATER, ELECTRIC)
		CATCH BASIN



N/F
NANCY A. GOBBI
207 CUTTS STREET
PORTSMOUTH, NH 03801
3104/1043
209/32

N/F
FREDERICK W. WATSON REVOCABLE TRUST
ROBERT D. WATSON, TRUSTEE
53 SLEEPY HOLLOW DRIVE
GREENLAND, NH 03840
5200/1329
209/33

LENGTH TABLE

LINE	BEARING	DISTANCE
L1	N47°21'20"W	31.46'

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	215.00'	135.68'	133.44'	S65°54'23"E	36°09'27"

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

PAUL A DOBBERSTEIN, LLS DATE

STATE OF NEW HAMPSHIRE STEVEN D. RIKER No. 219 CERTIFIED WETLANDS SCIENTIST

GRAPHIC SCALE
40 30 20 10 0 50 100 150 FEET
10 5 0 10 20 30 40 50 METERS

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

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 210 AS LOT 2.

2) OWNER OF RECORD:
BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
PORTSMOUTH, N.H. 03801
1986/395 & 2248/889
D-38287

3) PARCEL IS IS NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE 5/17/2005.

4) EXISTING LOT AREA:
116,591 S.F.
2.6766 ACRES

5) PARCEL IS LOCATED IN THE GATEWAY CENTER (G2) ZONING DISTRICT.

6) DIMENSIONAL REQUIREMENTS:
SEE ZONING ORDINANCE

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE RESULT OF A STANDARD BOUNDARY AND TOPOGRAPHIC SURVEY OF TAX MAP 210 LOT 2 IN THE CITY OF PORTSMOUTH.

8) VERTICAL DATUM IS MEAN SEA LEVEL NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GPS OBSERVATIONS (±0.2').

9) SEE SHEET C2 FOR UTILITIES AND INVERT INFORMATION.

BETHEL ASSEMBLY OF GOD
200 CHASE DR
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
2	REVISE PER COMMENTS	2/17/19
1	PLAN UPDATE	2/11/19
0	ISSUED FOR COMMENT	8/6/18

REVISIONS

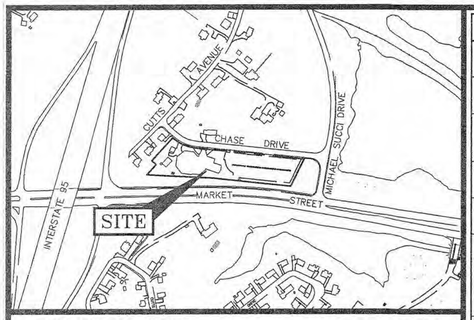
SCALE 1" = 40' AUGUST 2018

EXISTING CONDITIONS PLAN

C1

FB 287 PG 23

2872



LOCATION MAP SCALE 1"=400'

PLAN REFERENCE:

1) LOT LINE ADJUSTMENT PLAN 200 CHASE DRIVE & 373 CUTTS AVENUE PORTSMOUTH, NEW HAMPSHIRE ASSESSOR'S PARCELS 210-2 & 210-5 FOR KRISTEN G. BOUCHIE & THE BETHEL ASSEMBLY OF GOD. PREPARED BY JAMES VERRA AND ASSOCIATES, INC. DATED MAY 23, 2013, FINAL REVISION DATE JUNE 25, 2013. R.C.R.D. PLAN D-38287.

2) SEE PLAN REFERENCE 1 FOR ADDITIONAL PLAN REFERENCES.

SEWER STRUCTURE TABLE

STRUCTURE	RIM ELEV.	INV. ELEV. IN INV. ELEV. OUT	PIPE SIZE & TYPE (FROM/TO)
SMH 981	29.16	21.67 (PER DPW)	– (SMH 980)
			– (SMH 982)
SMH 982	27.65	19.21 (PER DPW)	– (SMH 981)
			10" VCP (SMH 983)
SMH 983	26.00	17.53	10" VCP (SMH 982)
		17.51	10" VCP (SMH 984)
SMH 984	23.60	15.54	10" CI (SMH 983)
		15.49	10" CI (SMH 985)
SMH 985	18.36	12.66 9.36 9.32	10" CI (CLEANOUT FOR OUTSIDE DROP FROM SMH 984) 10" CI (SMH 984) 15" CI (SMH 1017)
		9.26	– (SMH 2365)
SMH 1017	18.09	10.93 10.45	8" VCP (SMH 1018) 15" CI (SMH 1016)
		10.41	15" CI (SMH 985)
SMH 1018	26.75	20.10	8" VCP (SMH 1019)
		20.08	8" VCP (SMH 1017)
SMH 1019	34.84	28.94 28.40	8" PVC (SMH 5489) 8" VCP (SMH 1020)
		28.34	8" VCP (SMH 1018)
SMH 1020	44.81	34.87	8" VCP (SMH 1021)
		34.85	8" VCP (SMH 1019)
SMH 1021	45.92	36.65	8" VCP (SMH 1022)
		36.59	8" VCP (SMH 1020)
SMH 1022	52.54	40.29 (PER DPW)	–(FROM SW)
			–(SMH 1021)
SMH 5489	38.42	31.82	8" PVC (SMH 5488)
		31.76	8" PVC (SMH 1019)

DRAIN STRUCTURE TABLE

STRUCTURE	RIM ELEV.	INV. ELEV. IN INV. ELEV. OUT	PIPE SIZE & TYPE (FROM/TO)
DMH 1 (NO DPW #)	23.97 SUMP=12.27	17.67 13.74	15" CPP (CB 3377) 6" CMP (SW)
		13.52	15" RCP (CB 3374)
DMH 2 (NO DPW #)	25.85	–	–
		–	–
DMH 3376	27.11	–	–
		–	–
DMH 5097	26.78	21.78 21.53	8" PVC (WNW) 12" CPP (CB 3395)
		20.53	12" CPP (DMH 2)
DMH 22364	34.02 SUMP=26.82	29.82 27.19	15" CPP (DMH 22365) 30" CMP (CB 22361)
		27.02	30" CPP (CB 22362)
CB 611	17.91	–	–
		–	–
CB 3374	22.36	–	–
		–	–
CB 3375	24.88	–	–
		–	–
CB 3377	23.85 SUMP=15.25	–	–
		18.00± (OIL SEPARATOR)	15" CPP (DMH 1)
CB 3395	26.55	(CANNOT OPEN –FROZEN & FULL INLET BAG)	–
			–
CB 3396	14.02 SUMP=9.97	–	–
		10.57	15" CMP (CB 611)
CB 3397	17.35 SUMP=10.45	–	–
		12.63	15" RCP (CB 3398)
CB 3398	17.42 SUMP=9.62	11.72 11.67	30" CMP (CB 22362) 15" RCP (CB 3397)
		11.52	30" CMP (CB 3399)

DRAIN STRUCTURE TABLE

STRUCTURE	RIM ELEV.	INV. ELEV. IN INV. ELEV. OUT	PIPE SIZE & TYPE (FROM/TO)
CB 3399	17.82 SUMP=8.62	9.62	30" CMP (CB 3398)
		9.05	30" CMP (TO OUTFALL)
CB 7846	26.97	–	–
		–	–
CB 13892 (DMH w/SEWER COVER)	51.00	–	–
		–	–
CB 13929	43.86 SUMP=36.36	37.16 36.80	8" PVC (CB 13930) 30" RCP (CB 13892)
		36.76	30" RCP (CB 22361)
CB 13930	40.70	(YARD DRAIN– RETAINING WALL OVER PART OF COVER)	–
			–
CB 22361	40.92 SUMP=32.52	35.32	30" RCP (CB 13929)
		35.12	30" CMP (DMH 22364)
CB 22362	29.79 SUMP=22.29	24.49 23.54	15" RCP (CB 22363) 30" CMP (DMH 22364)
		23.29	30" CMP (CB 3398)
CB 22363	29.81 SUMP=22.21	–	–
		24.76	15" RCP (CB 22362)

LEGEND:

EXISTING

N/F	NOW OR FORMERLY
RP	RECORD OF PROBATE
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
11/27	MAP 11 / LOT 21
RR SPK FND	RAILROAD SPIKE FOUND
IR FND	IRON ROD FOUND
IP FND	IRON PIPE FOUND
DH FND	DRILL HOLE FOUND
NHHB FND	NHDOT BOUND FOUND
TB FND	TOWN BOUND FOUND
BND w/DH	BOUND w/ DRILL HOLE
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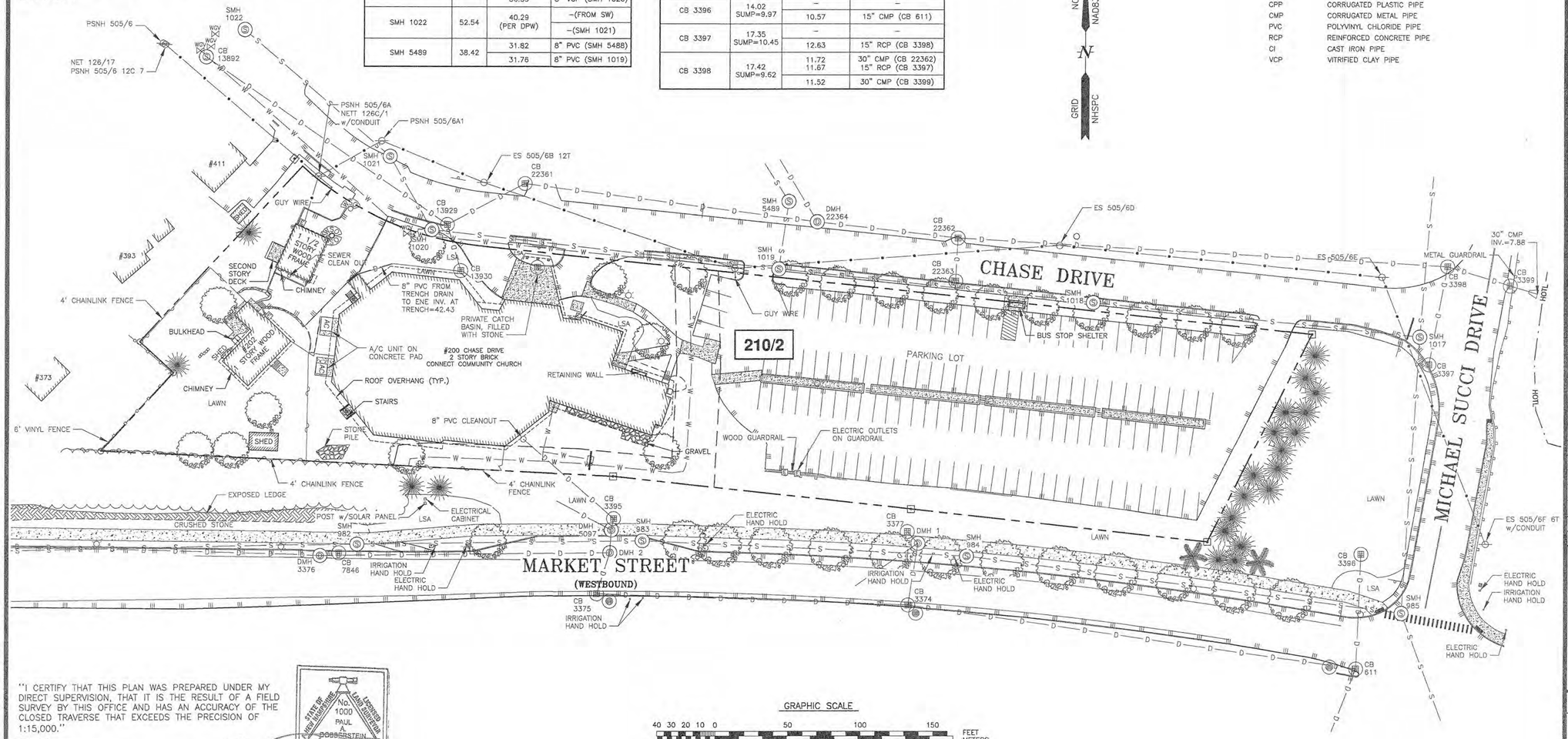
DH SET	DRILL HOLE SET
SWQPA — NHDES 250' PROTECTED SHORELAND	
HOTL — HIGHEST OBSERVABLE TIDE LINE	
D — STORM DRAIN	
UNDERGROUND ELECTRIC	
OVERHEAD ELECTRIC/WIRES	
EDGE OF PAVEMENT (EP)	
WOODS / TREE LINE	
UTILITY POLE (w/ GUY)	
WATER SHUT OFF/CURB STOP	
GV GATE VALVE	
HYD HYDRANT	
METER (GAS, WATER, ELECTRIC)	
CATCH BASIN	
CPP CORRUGATED PLASTIC PIPE	
CMP CORRUGATED METAL PIPE	
PVC POLYVINYL CHLORIDE PIPE	
RCP REINFORCED CONCRETE PIPE	
CI CAST IRON PIPE	
VCP VITRIFIED CLAY PIPE	

NORTH NAD83(2011) N GRID NHSPC



GRAPHIC SCALE

40 30 20 10 0 50 100 150 FEET

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STATE OF NEW HAMPSHIRE No. 1000 PAUL A. DOBBERSTEIN LICENSED LAND SURVEYOR

SIGNATURE

PAUL A DOBBERSTEIN, LLS 2/19/2019 DATE

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

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 210 AS LOT 2.

2) OWNER OF RECORD:
BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
PORTSMOUTH, N.H. 03801
1986/395 & 2248/889
D-38287

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6) DIMENSIONAL REQUIREMENTS:
SEE ZONING ORDINANCE

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING UTILITIES AND INVERTS ON TAX MAP 210 LOT 2 IN THE CITY OF PORTSMOUTH.

8) VERTICAL DATUM IS MEAN SEA LEVEL NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GPS OBSERVATIONS (±0.2').

BETHEL ASSEMBLY OF GOD
200 CHASE DR
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	REVISE PER COMMENTS	2/17/19
0	ISSUED FOR COMMENT	2/11/19
NO.	DESCRIPTION	DATE
	REVISIONS	

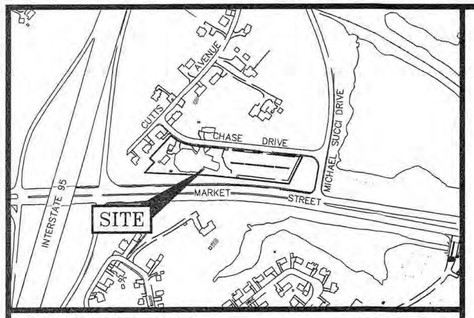
SCALE 1" = 40' FEBRUARY 2019

EXISTING UTILITIES PLAN

C2

FB 287 PG 23

2872



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STATE OF NEW HAMPSHIRE
STEVEN D. RIKER
No. 219
CERTIFIED WETLAND SCIENTIST

NORTH NAD83(2011)
GRID NHSPC

LEGEND:

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	GATE VALVE	
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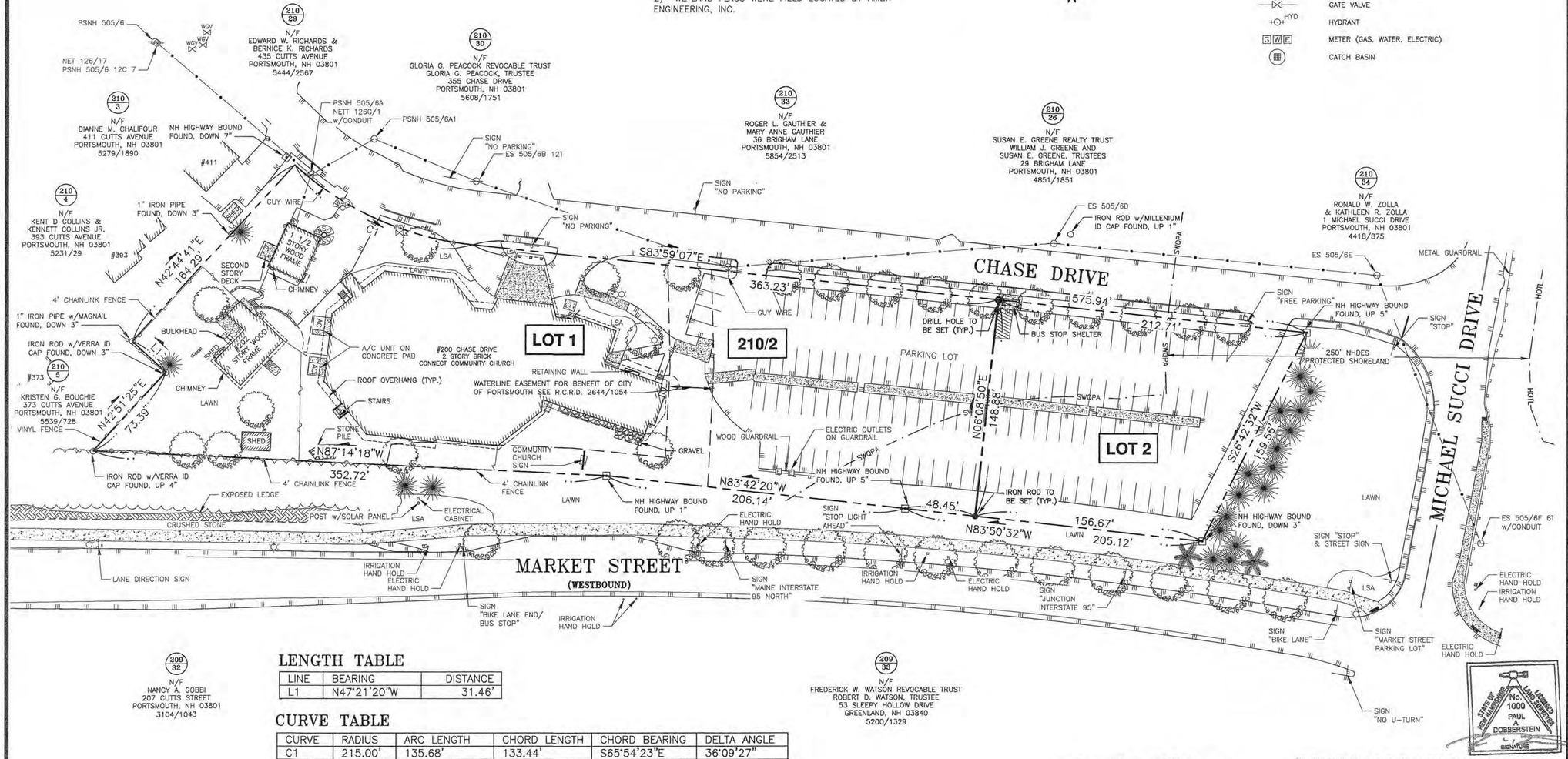
GWE	METER (GAS, WATER, ELECTRIC)	
	CATCH BASIN	



LENGTH TABLE

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CURVE TABLE

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APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

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PAUL A DOBBERSTEIN, LLS DATE 10/15/2019

STATE OF NEW HAMPSHIRE No. 1000 PAUL A. DOBBERSTEIN LICENSED LAND SURVEYOR SIGNATURE

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

NOTES:

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2) OWNER OF RECORD:
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200 CHASE DRIVE
PORTSMOUTH, N.H. 03801
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116,591 S.F.
2.6766 ACRES

PROPOSED LOT 1
89,054 S.F.
2.0444 ACRES

PROPOSED LOT 2
27,537 S.F.
0.6322 ACRES

5) PARCEL IS LOCATED IN THE GATEWAY CENTER (G2) ZONING DISTRICT.

6) DIMENSIONAL REQUIREMENTS:
SEE ZONING ORDINANCE

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE SUBDIVISION OF TAX MAP 210 LOT 2 IN THE CITY OF PORTSMOUTH INTO TWO LOTS.

NO.	DESCRIPTION	DATE
2	REVISE PROPOSED BOUNDARY LINE LOCATION	10/12/19
1	REVISE PROPOSED BOUNDARY LINE LOCATION	9/12/19
0	ISSUED FOR COMMENT	8/6/18

REVISIONS

SUBDIVISION PLAN
TAX MAP 210 - LOT 2

OWNER:

BETHEL ASSEMBLY OF GOD

200 CHASE DRIVE
CITY OF PORTSMOUTH
COUNTY OF ROCKINGHAM
STATE OF NEW HAMPSHIRE

SCALE 1"=40' AUGUST 2018

FB 287 PG 23 2872

NOTES:

1. THE INTENT OF THIS PLAN IS TO DEPICT THE PROPOSED DEVELOPMENT SITE PER CITY OF PORTSMOUTH ZONING DISTRICT G2 (GATEWAY NEIGHBORHOOD MIXED USE DISTRICT) AND THE DEVELOPMENT SITE STANDARDS (SECTION 10.5B40).
2. THE EXISTING LOT 210–2 CONSISTS OF A CHURCH AND TWO SINGLE FAMILY RESIDENTIAL BUILDINGS. THE INTENT IS TO DIVIDE THE LOT TO CREATE A NEW LOT OR CONDOMINIUM UNIT. THE NEW LOT/UNIT WILL CONSTRUCT A NEW 22 UNIT APARTMENT BUILDING PER SECTION 10.5B34.40. THE ENTIRE LOT WILL BE INCLUDED IN THE DEVELOPMENT SITE.
3. THE EXISTING USE OF THE COMMUNITY BUILDING AS A PLACE OF ASSEMBLY IS PERMITTED AS AN EXISTING USE. AS NOTED IN SECTION 10.5B50, "THE PURPOSE OF THIS SECTION IS TO ESTABLISH STANDARDS FOR THE CONTINUED UTILIZATION OF EXISTING BUILDINGS IN THE GATEWAY NEIGHBORHOOD MIXED USE DISTRICTS CONSTRUCTED PRIOR TO THE EFFECTIVE DATE OF ARTICLE 10.5B".
4. A NHDES WETLANDS BUREAU SHORELAND PERMIT WILL BE REQUIRED FOR WORK WITHIN 250 FT OF THE HIGHEST OBSERVABLE TIDE LINE (HOTL).
5. PRIOR TO COMMENCEMENT OF CONSTRUCTION, A CERTIFIED ARBORIST SHALL REVIEW THE AREA OF CONSTRUCTION AND TREES SELECTED TO REMAIN WITH THE LANDSCAPE ARCHITECT AND THE CONTRACTOR'S PROJECT MANAGER. SPECIFIC MONETARY VALUE OF THE TREES TO REMAIN SHALL BE DETERMINED AND DOCUMENTED FOR. ARBORIST SHALL MAKE RECOMMENDATIONS FOR PRESERVATION RECOMMENDATIONS BEYOND THOSE CALLED OUT IN THE DRAWINGS, TREE PRESERVATION PLANS AND SPECIFICATIONS, INCLUDING, BUT NOT LIMITED TO, PRUNING, ROOT PRUNING, PRE–FERTILIZATION AND THE LIKE.
6. ALL EXCAVATION WITHIN THE DRIP LINE OF EXISTING TREES TO BE DONE WITH AN AIR SPADE. ANY ROOTS WHICH REQUIRE REMOVAL SHALL BE CUT CLEANLY WITH A SHARP TOOL. EXPOSED ROOTS IN EXCAVATED AREAS SHALL NOT BE ALLOWED TO DRY OUT.
7. TREES TO REMAIN WITHIN THE CONSTRUCTION ZONE SHALL BE PROTECTED FROM DAMAGE FOR THE DURATION OF THE PROJECT BY WEIGHTED CHAIN–LINK FENCE AT THE DRIP LINE OR OTHER SUITABLE MEANS OF PROTECTION TO BE APPROVED BY LANDSCAPE ARCHITECT OR CLIENT'S REPRESENTATIVE. FENCE SHALL BE LOCATED AT THE DRIP LINE AT A MINIMUM AND SHALL INCLUDE ANY AND ALL SURFACE ROOTS. DO NOT FILL OR MULCH ON THE TRUNK FLARE. DO NOT DISTURB ROOTS. IN ORDER TO PROTECT THE INTEGRITY OF THE ROOTS, BRANCHES, TRUNK AND BARK OF THE TREE(S) NO VEHICLES OR CONSTRUCTION EQUIPMENT SHALL DRIVE OR PARK IN OR ON THE AREA WITHIN THE DRIP LINE(S) OF THE TREE(S). DO NOT STORE ANY REFUSE OR CONSTRUCTION MATERIALS OR PORTALETS WITHIN THE TREE PROTECTION AREA.
8. BUILDING HEIGHT MEASURED FROM AVERAGE GRADE MEASURED 6 FT OFF OF BUILDING EVERY 5 FOOT INTERVAL. BUILDING HEIGHT FROM FINISHED FLOOR TO ROOF TOP IS 43'–8". AVERAGE GRADE AROUND PERIMETER OF BUILDING IS 1 FOOT BELOW FINISHED FLOOR BASED ON PROPOSED GRADING.

ZONING SUMMARY

ZONING DISTRICT G2 (GATEWAY NEIGHBORHOOD MIXED USE CENTER)

TAX MAP 210, LOT 2

DEVELOPMENT SITE AREA 2.68± ACRES

PERMITTED USES MULTI–FAMILY GREATER THAN 8 UNITS
PLACE OF ASSEMBLY (EXISTING)
SINGLE FAMILY RESIDENTIAL (EXISTING)

PROPOSED MIXED USE DEVELOPMENT SITE (PER SECTION 10.5B40)

DEVELOPMENT SITE STANDARDS	REQUIRED	PROVIDED
MINIMUM DEVELOPMENT SITE AREA	20,000 SF	116,591 SF
MINIMUM SITE WIDTH	100 FT	711.6 FT
MINIMUM SITE DEPTH	100 FT	147.7 FT
MINIMUM PERIMETER BUFFER TO RESIDENTIAL, MIXED RESIDENTIAL OR CHARACTER DISTRICT	75 FT	NA
MAXIMUM BLOCK LENGTH	800 FT	764 FT
MAXIMUM BLOCK PERIMETER	2,200 FT	1,905 FT
MAXIMUM BUILDING COVERAGE	70%	24.25%
MINIMUM OPEN SPACE COVERAGE	20%	34.2%

MINIMUM COMMUNITY SPACE
20% REQUIRED 21.5% PROVIDED

No.	DESCRIPTION	AREA
1	GREENWAY #1	3,785 S.F.
2	GREENWAY #2	4,010 S.F.
2	GREENWAY #3	8,310 S.F
1	POCKET PARK #1	4,345 S.F
3	POCKET PARK #2	2,340 S.F.
4	GREENWAY (ENHANCEMENTS)	2,300 S.F.
	TOTAL	25,090 S.F.

ZONING SUMMARY CONTINUED:

APARTMENT BUILDING DESIGN STANDARDS (PER SECTION 10.5B34.40):

		REQUIRED	PROVIDED
MINIMUM LOT DEPTH		NR	
MINIMUM STREET FRONTAGE		50 FT	±149 FT
SETBACKS:			
FRONT:	MARKET STREET	10–30 FT	10.0 FT
	CHASE STREET	10–30 FT	10.2± FT
	MICHAEL SUCCI DRIVE	10–30 FT	10.2± FT
BUILDING LOT USE:			
MAXIMUM DWELLING UNITS PER BUILDING		24	22
MAXIMUM DWELLING UNIT SIZE		NR	
DESIGN STANDARDS:			
MAXIMUM BUILDING HEIGHT –		50 FT	44'–8" (SEE NOTE 8)
MINIMUM STREET FACING FAÇADE HEIGHT		24 FT	24+ FT
MAXIMUM FINISHED FLOOR SURFACE OF GROUND FLOOR ABOVE SIDEWALK GRADE		36 INCHES	<3 FT
MAXIMUM BUILDING COVERAGE (ENTIRE LOT)		50%	24.25%
MAXIMUM BUILDING FOOTPRINT	NEW BUILDNG	20,000 SF	7,660± SF
	EXISTING CHURCH		18,600± SF
MAXIMUM FAÇADE MODULATION LENGTH		50 FEET	48 FEET
MINIMUM STREET FACING FAÇADE GLAZING		20% (GROUND FLOOR)	20%+
STREET FACING ENTRANCE		REQUIRED	PROVIDED
FAÇADE TYPES		FORECOURT, STEP, RECESSED ENTRY, DOORYARD, PORCH	DOORYARD

PARKING CALCULATIONS:

EXISTING CHURCH	
BASED ON CURRENT ZONING REQUIREMENTS:	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 RESIDENTIAL SINGLE FAMILY DWELLINGS	
TWO RESIDENTIAL HOMES	4 SPACES
PROPOSED 22 UNIT APARTMENT BUILDING (ALLOWED PER CURRENT ZONING REGULATIONS)	
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
TOTAL REQUIRED ON–SITE PARKING SPACES =	140 SPACES

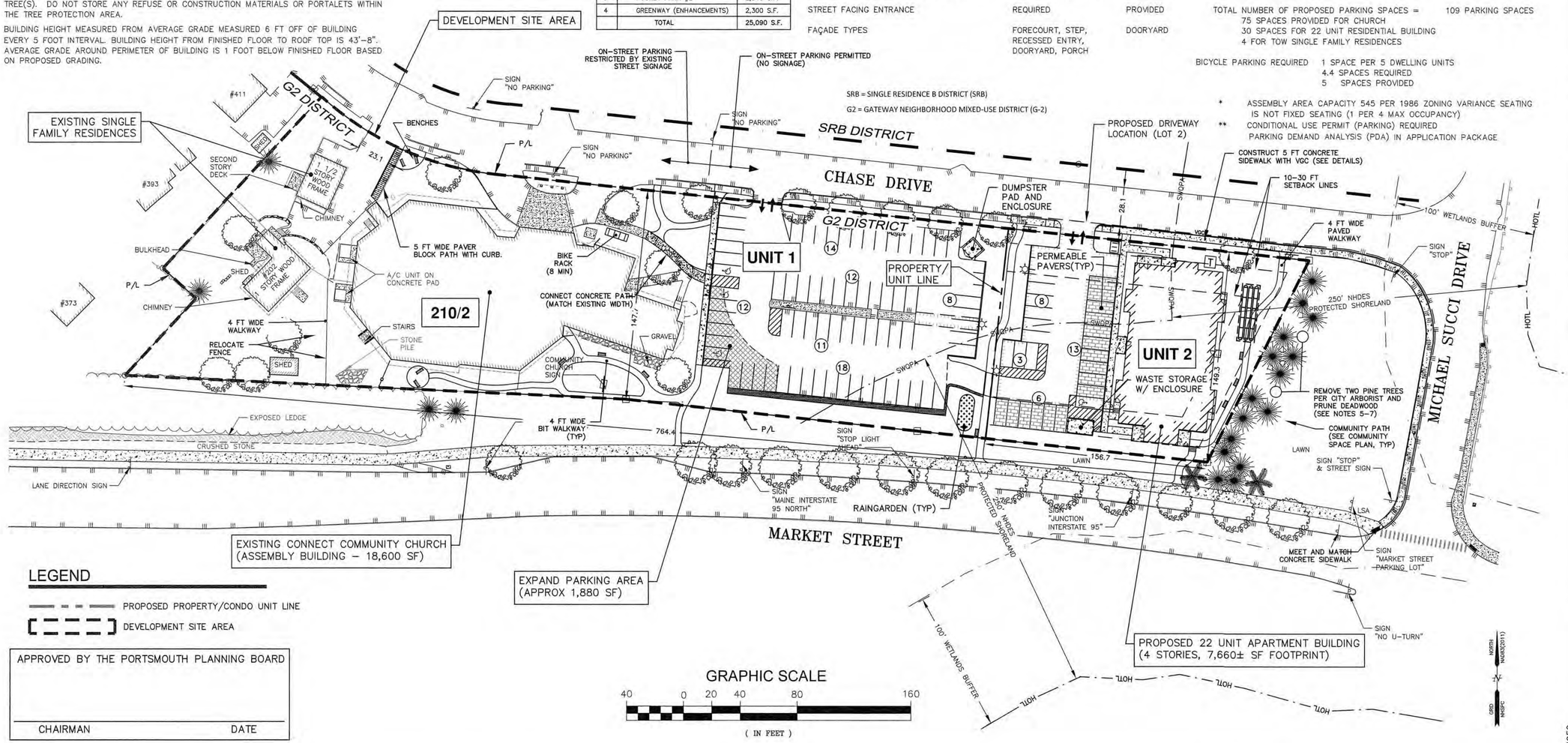
SHARED USE DEMAND ANALYSIS

BASED ON THE SHARED USED DEMAND ANALYSIS FOR THE WEEKEND DAY	
REQUIRED PARKING CHURCH (100%) =	109 SPACES
RESIDENTIAL 22 UNIT APARTMENT BUILDING AND TWO SINGLE FAMILY HOMES (80% OF 31)	25 SPACES
TOTAL NUMBER OF REQUIRED PARKING SPACES = (BASED ON ZONING REGULATIONS)	134 PARKING SPACES
TOTAL NUMBER OF PROPOSED PARKING SPACES = 75 SPACES PROVIDED FOR CHURCH 30 SPACES FOR 22 UNIT RESIDENTIAL BUILDING 4 FOR TOW SINGLE FAMILY RESIDENCES	109 PARKING SPACES

BICYCLE PARKING REQUIRED 1 SPACE PER 5 DWELLING UNITS
4.4 SPACES REQUIRED
5 SPACES PROVIDED

* ASSEMBLY AREA CAPACITY 545 PER 1986 ZONING VARIANCE SEATING IS NOT FIXED SEATING (1 PER 4 MAX OCCUPANCY)

** CONDITIONAL USE PERMIT (PARKING) REQUIRED
PARKING DEMAND ANALYSIS (PDA) IN APPLICATION PACKAGE



LEGEND

PROPOSED PROPERTY/CONDO UNIT LINE

DEVELOPMENT SITE AREA

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

P4950

ENGINEER:

ALTUS ENGINEERING, INC.

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

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

12/23/19

ISSUED FOR:
PLANNING BOARD APPROVAL

ISSUE DATE:
DECEMBER 23, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
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3	TAC COMMENTS	CDB	10/18/19
4	TAC COMMENTS	CDB	11/18/19
5	TAC COMMENTS	CDB	12/23/19

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:

OVERALL SITE PLAN

SHEET NUMBER:

C.3

LEGEND

* SEE SHEET C-1 FOR EXISTING FEATURES

PROPERTY LINE

PROPOSED PAVEMENT

VGC SGC BCC — VERTICAL GRANITE CURB/SLOPED GRANITE CURB/ BITUMINOUS CONCRETE CURB (CAPE COD)

SAWCUT LINE/MATCH EXISTING

PROPOSED BUILDING

PROPOSED RETAINING WALL

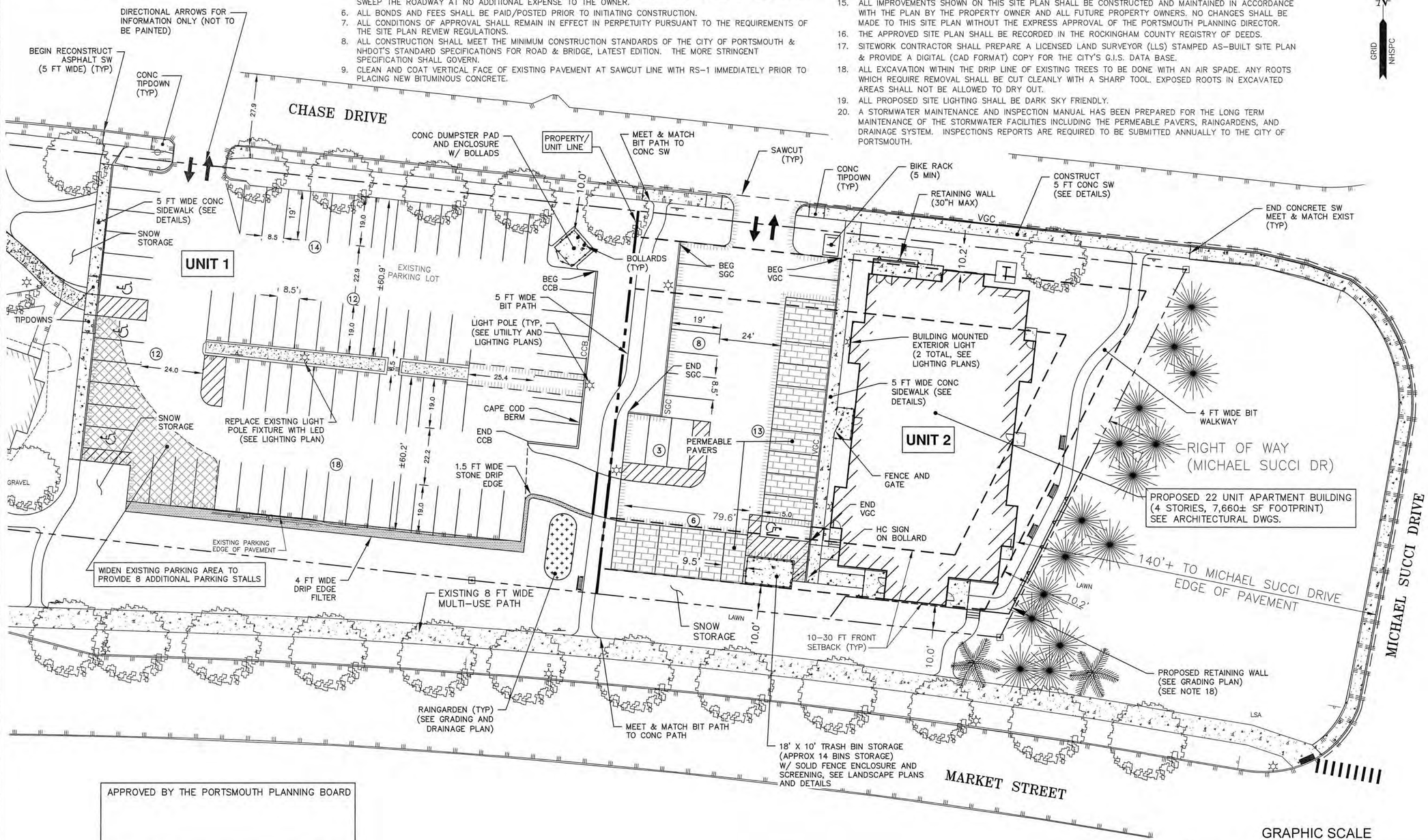
SITE NOTES

1. DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE, LOCAL AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
2. CONTRACTOR SHALL CALL DIG SAFE AT 1 (800) DIG-SAFE AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO COMMENCING CONSTRUCTION.
3. CONTRACTOR SHALL NOTIFY CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
4. CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY SEDIMENT AND EROSION CONTROL ITEMS TO PREVENT SEDIMENT FROM CONSTRUCTION ACTIVITIES FROM LEAVING THE SITE. CONTROLS SHALL BE INSPECTED ON A REGULAR BASIS AND AFTER ALL RAIN EVENTS OF 0.25 INCHES OR GREATER. ANY DEFICIENCIES IN THE CONTROLS SHALL BE ADDRESSED IMMEDIATELY AND BROUGHT TO THE ATTENTION OF THE OWNER. ALL STORMS DRAINS WITHIN OR ADJACENT TO THE WORK AREA, WITH THE POTENTIAL TO RECEIVE RUNOFF FROM EXPOSED CONSTRUCTION AREAS, SHALL RECEIVE STORM DRAIN INLET PROTECTION.
5. CONTRACTOR SHALL PREVENT TRACKING OF DIRT ONTO ANY PUBLIC OR PRIVATE ROADWAYS. IF TRACKING OF DIRT FROM CONSTRUCTION VEHICLES IS PRESENT ON THE OPEN STREETS, CONTRACTOR WILL BE REQUIRED TO SWEEP THE ROADWAY AT NO ADDITIONAL EXPENSE TO THE OWNER.
6. ALL BONDS AND FEES SHALL BE PAID/POSTED PRIOR TO INITIATING CONSTRUCTION.
7. ALL CONDITIONS OF APPROVAL SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
8. ALL CONSTRUCTION SHALL MEET THE MINIMUM CONSTRUCTION STANDARDS OF THE CITY OF PORTSMOUTH & NHDOT'S STANDARD SPECIFICATIONS FOR ROAD & BRIDGE, LATEST EDITION. THE MORE STRINGENT SPECIFICATION SHALL GOVERN.
9. CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINE WITH RS-1 IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.

SITE NOTES CONT'D

10. THE CONTRACTOR SHALL VERIFY ALL BENCHMARKS AND TOPOGRAPHY IN THE FIELD PRIOR TO CONSTRUCTION.
11. THE CONTRACTOR SHALL VERIFY ALL BUILDING DIMENSIONS WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PRIOR TO CONSTRUCTION. ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER FOR RESOLUTION.
12. THIS PROJECT WILL REQUIRE COVERAGE UNDER EPA NPDES PHASE II CONSTRUCTION GENERAL PERMIT.
13. SNOW SHALL BE STORED AT THE EDGE OF PAVEMENT, IN UPLAND AREAS SHOWN THEREON. NO SNOW STORAGE SHALL BE PROVIDED WITHIN THE LANDSCAPED AREA BETWEEN THE DRIVEWAY ENTRANCE THAT WOULD RESTRICT SITE VEHICULAR AND PEDESTRIAN SIGHT DISTANCE. IF ADEQUATE ON-SITE SNOW STORAGE IS NOT AVAILABLE, THE SNOW SHALL BE REMOVED FROM THE SITE AND LEGALLY DISPOSED.
14. PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC DEVICES," "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" AND THE AMERICANS WITH DISABILITIES ACT (ADA), LATEST EDITIONS.
15. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
16. THE APPROVED SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
17. SITEWORK CONTRACTOR SHALL PREPARE A LICENSED LAND SURVEYOR (LLS) STAMPED AS-BUILT SITE PLAN & PROVIDE A DIGITAL (CAD FORMAT) COPY FOR THE CITY'S G.I.S. DATA BASE.
18. ALL EXCAVATION WITHIN THE DRIP LINE OF EXISTING TREES TO BE DONE WITH AN AIR SPADE. ANY ROOTS WHICH REQUIRE REMOVAL SHALL BE CUT CLEANLY WITH A SHARP TOOL. EXPOSED ROOTS IN EXCAVATED AREAS SHALL NOT BE ALLOWED TO DRY OUT.
19. ALL PROPOSED SITE LIGHTING SHALL BE DARK SKY FRIENDLY.
20. A STORMWATER MAINTENANCE AND INSPECTION MANUAL HAS BEEN PREPARED FOR THE LONG TERM MAINTENANCE OF THE STORMWATER FACILITIES INCLUDING THE PERMEABLE PAVERS, RAINGARDENS, AND DRAINAGE SYSTEM. INSPECTIONS REPORTS ARE REQUIRED TO BE SUBMITTED ANNUALLY TO THE CITY OF PORTSMOUTH.

NORTH NAD83(2011) — N — GRID NHSPC



APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

P4950

ENGINEER:

ALTUS ENGINEERING, INC.

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

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

12/23/19

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DRAWN BY: CDB

APPROVED BY: EDW

DRAWING FILE: 4950.DWG

SCALE:

22" x 34" - 1" = 20'
11" x 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:

SITE PLAN

SHEET NUMBER:

C-4

LEGEND

* SEE SHEET C-1 FOR EXISTING FEATURES

- PROPERTY LINE
- SWQPA — 250 FT SHORELAND BUFFER
- WETLAND SETBACK LINE
- PROPOSED PAVEMENT
- VGC SGC BCC — VERTICAL GRANITE CURB/SLOPED GRANITE CURB/ BITUMINOUS CONCRETE CURB (CAPE COD)
- SAWCUT LINE/MATCH EXISTING
- PROPOSED BUILDING
- PROPOSED RETAINING WALL

GRADING AND DRAINAGE NOTES

SEE SHEET C-6 FOR GRADING AND DRAINAGE NOTES

STORMWATER PRACTICES

RAINGARDEN #1

BOTTOM AREA= 250 SF
BOTTOM ELEV = 23.0
BERM ELEV = 24.0

OUTLET STRUCTURE 1 (OS1)
RIM (18" BEEHIVE) = 23.5
6" UD (IN)= 20.25
12" INV IN = 20.35 (OS2)
12" INV (OUT) = 20.25

SUB-SURFACE CHAMBER SYSTEM

STORMTECH SC-130 (OR APPROVED EQUAL)
15 CHAMBERS TOTAL - 3 ROWS OF 5 EACH
CHAMBER BOTTOM ELEV = 20.0
4" UNDERDRAIN INV = 19.4
STORAGE VOLUME = 450 CF

DRAINAGE STRUCTURES

CB #1
RIM = 26.4±
INV. OUT (12" HDPE) =23.20

CB #2
RIM = 22.8±
4" UD IN = 20.2±
6" UD OUT = 20.2±

PDMH #1
COVER = 22.3±
12" INV IN = 19.85 (OS2)
6" INV IN = 20.00
INV. OUT (12" HDPE) = 19.75

APPROVED BY THE PORTSMOUTH PLANNING BOARD

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NORTH NAD83(2011)
GRID NHSPC

CHASE DRIVE
MICHAEL SUCCI DRIVE
MARKET STREET
MATCH LINE - SEE SHEET C.6
UNIT 1
UNIT 2
FF = 24.0
EXISTING PARKING LOT
EXISTING 8 FT WIDE MULTI-USE PATH
PROPERTY/ UNIT LINE
CONC TIPDOWN (TYP)
PROPOSED ENTRANCE
SAWCUT PAVEMENT (MEET & MATCH)
CLOSE ENTRANCE & ADD SIDEWALK
CAP COD BERM
4 FT WIDE DRIP EDGE FILTER (620 SF) (SEE DETAILS)
RAINGARDEN #1 250 SF AREA
2% SLOPE FOR PATH THROUGH DRIVEWAY
PERMEABLE PAVERS (SEE DETAILS)
SUB-SURFACE TREATMENT SYSTEM (STORMTECH CHAMBERS SC-130, SEE DETAILS)
4" UNDERDRAIN (SEE PERMEABLE PAVER DTL)
4" UNDERDRAIN (TYP, SEE DETAILS)
8" INV OUT = 19.4
TW= 21.0 BW=20.0
TIPDOWN
FLUSH CURB
TW= 23.5 BW= 20.0
INV OUT = 19.0
TW= 22.0 BW= 20.0 INV OUT = 19.60
INV IN = 19.0
INV OUT = 18.60
CB1
CB2
PDMH1
OS1
CO
LAWN
LSA

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

P4950

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CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE
PORTSMOUTH, NH

ASSESSOR'S PARCEL 210-2

TITLE:
GRADING AND DRAINAGE PLAN

SHEET NUMBER:
C.5

LEGEND

* SEE SHEET C1 FOR EXISTING FEATURES

PROPERTY LINE

SWQPA — 250 FT SHORELAND BUFFER

WETLAND SETBACK LINE

PROPOSED PAVEMENT

VGC SGC BCC — VERTICAL GRANITE CURB/SLOPED GRANITE CURB/ BITUMINOUS CONCRETE CURB (CAPE COD)

SAWCUT LINE/MATCH EXISTING

PROPOSED BUILDING

PROPOSED RETAINING WALL

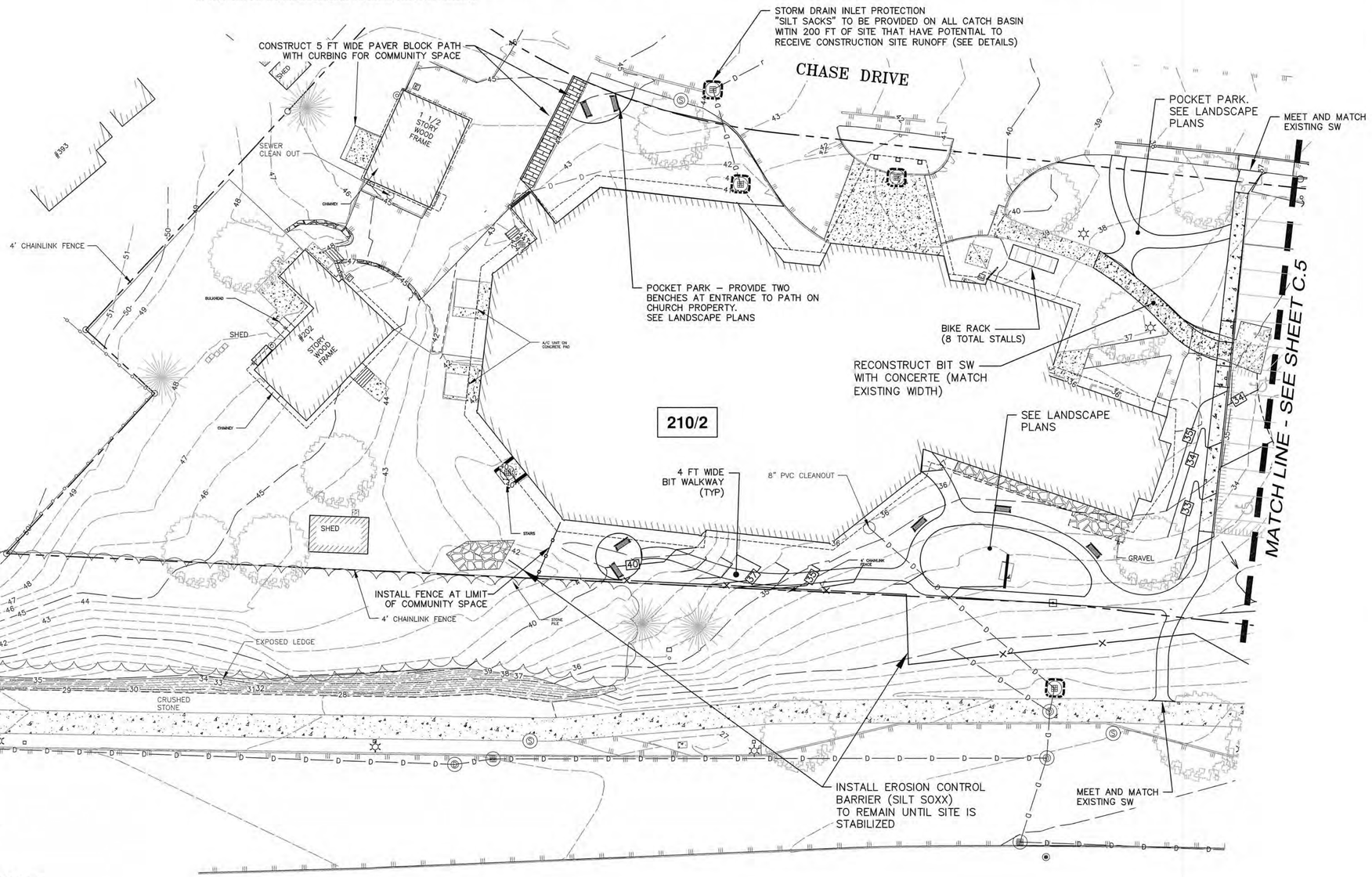
GRADING AND DRAINAGE NOTES

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

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

NORTH NAD83(2011) N GRID NHSPC



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

ENGINEER:

ALTUS ENGINEERING, INC.

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

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

12/23/19

ISSUED FOR:
PLANNING BOARD APPROVAL

ISSUE DATE:
DECEMBER 23, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	09/16/19
1	TAC COMMENTS	CDB	10/18/19
2	TAC COMMENTS	CDB	11/18/19
3	TAC COMMENTS	CDB	12/23/19

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

SCALE:
22" x 34" – 1" = 20'
11" x 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

P4950

LEGEND

* SEE SHEET C-1 FOR EXISTING FEATURES

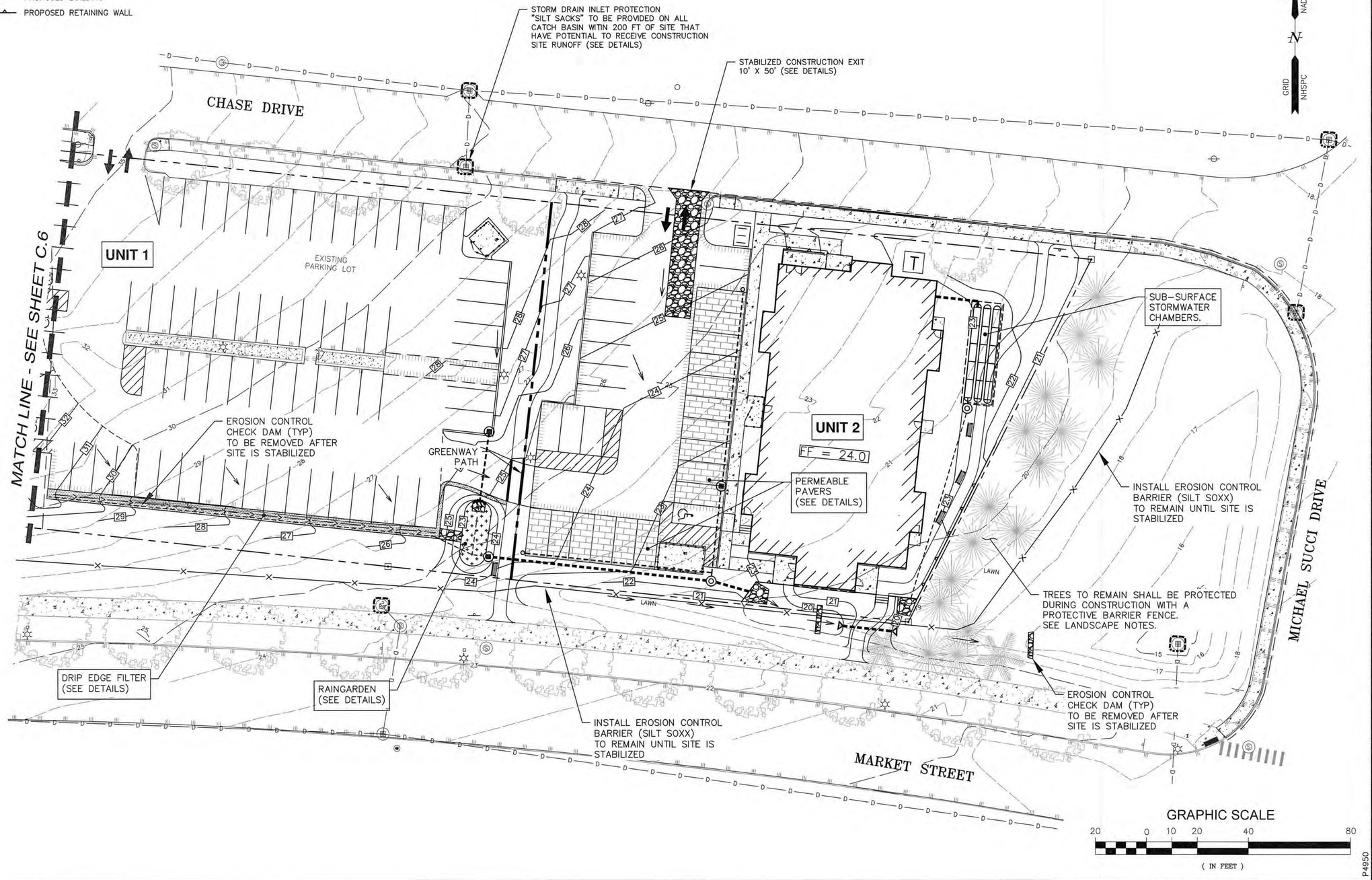
- PROPERTY LINE
- SWQPA — 250 FT SHORELAND BUFFER
- WETLAND SETBACK LINE
- PROPOSED PAVEMENT
- VGC SGC BCC — VERTICAL GRANITE CURB/SLOPED GRANITE CURB/ BITUMINOUS CONCRETE CURB (CAPE COD)
- SAWCUT LINE/MATCH EXISTING
- PROPOSED BUILDING
- PROPOSED RETAINING WALL

NOTES

- SEE SHEET D-1 FOR EROSION AND SEDIMENT CONTROL NOTES.
- STORMWATER PONDS AND SWALES MUST BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL ALL CONTRIBUTING AREAS ARE STABILIZED.
- STABILIZED CONSTRUCTION EXIT TO BE INSTALLED PRIOR TO ANY EARTHWORK ACTIVITIES.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE



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200 CHASE DRIVE
PORTSMOUTH, NH

ASSESSOR'S PARCEL 210-2

TITLE:

EROSION CONTROL PLAN

SHEET NUMBER:

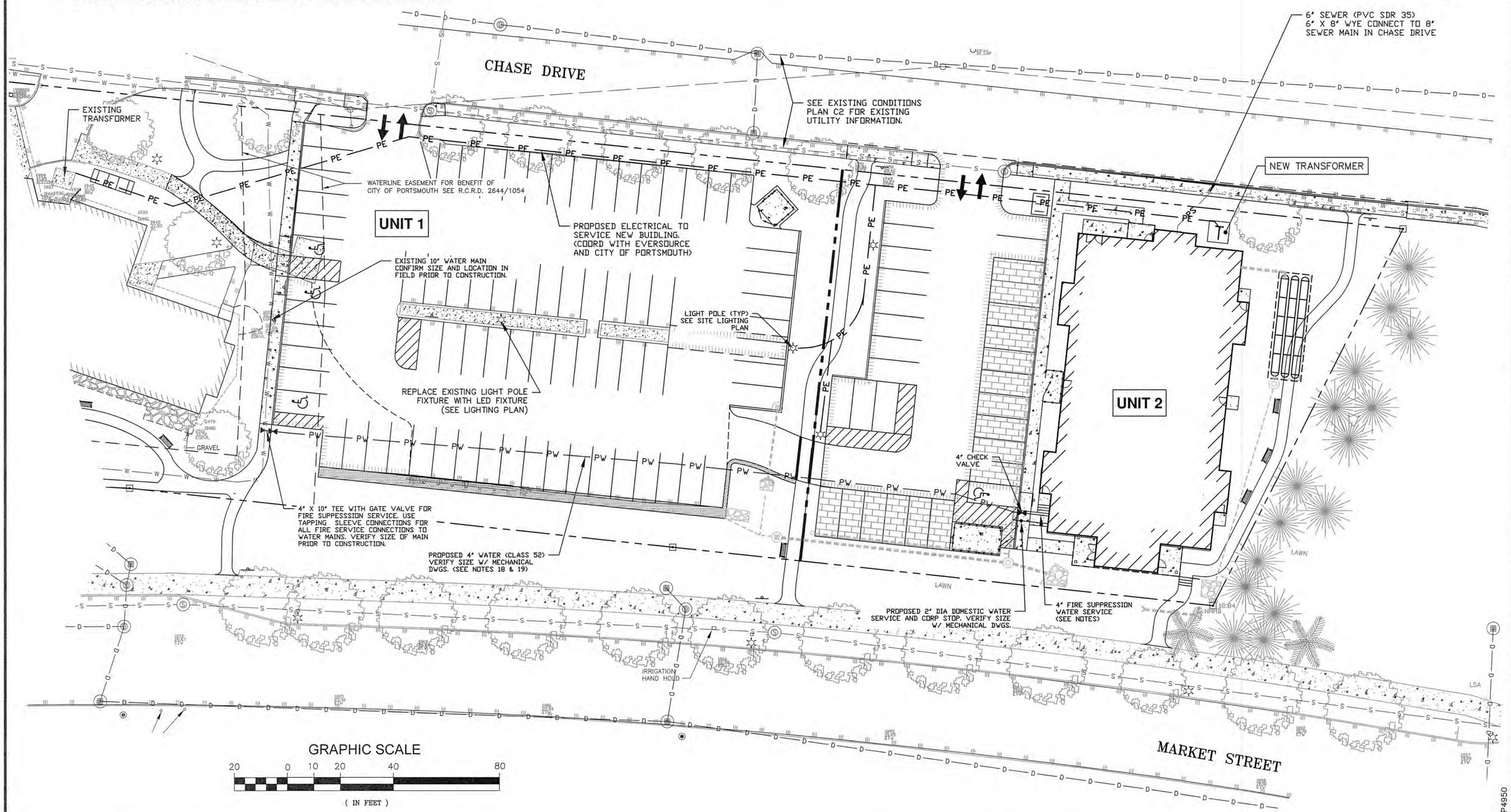
C.7

UTILITY NOTES

1. ALL WATER MAIN INSTALLATIONS AND SERVICE CONNECTIONS SHALL CONFORM TO PORTSMOUTH WATER DEPARTMENT STANDARDS. WATER MAIN SHALL BE WRAPPED WITH A WATER TIGHT POLYETHYLENE WRAPPING. ALL JOINTS SHALL HAVE THREE (3) WEDGES PER JOINT.
2. ALL SEWER INSTALLATIONS AND SERVICE CONNECTIONS SHALL CONFORM TO PORTSMOUTH WATER AND SEWER DEPARTMENT STANDARDS. CONTRACTOR SHALL CONTACT PORTSMOUTH DPW FOR TESTING OF SEWER LINES.
3. DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE, LOCAL, AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH ALL PERMIT CONDITIONS AND REQUIREMENTS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR POSTING OF ALL BONDS AND PAYMENT OF ALL TAP, TIE-IN AND CONNECTION FEES.
5. FIRE ALARM PANEL SHALL BE MONITORED THROUGH A THIRD-PARTY SECURITY COMPANY. CONTRACTOR SHALL COORDINATE ALL PANEL LOCATIONS AND INTERCONNECTIONS WITH FIRE DEPARTMENT.
6. THE APPLICANT SHALL HAVE A SITE SURVEY CONDUCTED BY A RADIO COMMUNICATIONS CARRIER APPROVED BY THE CITY'S COMMUNICATION DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE POLICE AND RADIO CONFIGURATION. IF THE SITE SURVEY INDICATES IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE APPLICANT SHALL BE REQUIRED TO PAY FOR THE SITE SURVEY WHETHER OR NOT THE SURVEY INDICATES A REPEATER IS NECESSARY. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR THE CITY. THE SURVEY SHALL BE COMPLETED AND THE REPEATER, IF DETERMINED IT IS REQUIRED, SHALL BE INSTALLED PRIOR TO THE ISSUANCE OF CERTIFICATE OF OCCUPANCY.
7. ALL TRENCHING, PIPE LAYING AND BACKFILLING SHALL CONFORM TO FEDERAL OSHA AND CITY REGULATIONS.
8. SITEWORK CONTRACTOR SHALL COORDINATE ALL WORK WITH MECHANICAL DRAWINGS.
9. SEE ARCHITECTURAL/MECHANICAL DRAWINGS FOR EXACT LOCATIONS & ELEVATIONS OF UTILITY CONNECTIONS AT BUILDINGS. COORDINATE ALL WORK WITHIN FIVE (5) FEET OF BUILDINGS WITH BUILDING CONTRACTOR AND ARCHITECTURAL/MECHANICAL DRAWINGS. ALL CONFLICTS AND DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY AND PRIOR TO COMMENCING RELATED WORK.
10. FINAL UTILITY LOCATIONS TO BE COORDINATED BETWEEN THE CONTRACTOR, ALL APPROPRIATE UTILITY COMPANIES AND THE ARCHITECT.
11. CONTRACTOR SHALL COORDINATE ALL TELECOMMUNICATIONS INSTALLATIONS WITH FAIRPOINT COMMUNICATIONS.
12. CONTRACTOR SHALL COORDINATE ALL CABLE INSTALLATIONS WITH COMCAST.
13. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL INSTALLATIONS WITH EVERSOURCE. ALL ELECTRIC CONDUIT INSTALLATION SHALL BE INSPECTED BY EVERSOURCE PRIOR TO BACKFILL, 48-HOUR MINIMUM NOTICE REQUIRED.
14. TRANSFORMER SHALL BE PAD MOUNTED. COORDINATE WITH ARCHITECT & EVERSOURCE.
15. DETECTABLE WARNING TAPE SHALL BE PLACED OVER THE ENTIRE LENGTH OF ALL BURIED UTILITIES, COLORS PER THE RESPECTIVE UTILITY PROVIDERS.
16. CONTRACTOR SHALL CONTACT CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS AT 603-427-1530 TO COORDINATE INSPECTION OF SEWER WORK.
17. THE TESTING OF THE MUNICIPAL SEWER INFRASTRUCTURE IMPROVEMENTS SHALL BE UNDER THE SUPERVISION OF THE PORTSMOUTH DEPARTMENT OF PUBLIC WORKS (DPW).
18. IF 6" WATER MAIN IS REQUIRED FOR FIRE SUPPRESSION, SEPERATE FIRE AND DOMESTIC SERVICE LINES WILL BE REQUIRED FROM THE MAIN WATER CONNECTION AT THE CHURCH TO THE 22 UNIT APARTMENT BUILDING.
19. A BLANKET EASEMENT FOR TEH CITY PORTSMOUTH TO ACCESS WATER AND VALVES WILL BE REQUIRED.
20. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL DISCONNECTIONS/INSTALLATIONS WITH EVERSOURCE.
    CONTACT NICK KOSKO @ 603-332-4227, EXT. 5555334
21. CONTRACTOR SHALL COORDINATE ALL CABLE DISCONNECTIONS/INSTALLATIONS WITH COMCAST.
    CONTACT MIKE COLLINS @ 603-679-5695 EXT 1037
22. CONTRACTOR SHALL COORDINATE ALL TELE-COMMUNICATION DISCONNECTIONS AND INSTALLATION WITH FAIRPOINT COMMUNICATIONS. CONTACT JOE CONSIDINE @ 603-427-5525

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE



ENGINEER:

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

12/23/19

ISSUED FOR:
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ISSUE DATE:
DECEMBER 23, 2019

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2	TAC COMMENTS	CDB	11/18/19
3	TAC COMMENTS	CDB	12/23/19

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

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

OWNER:
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PORTSMOUTH, NH 03801

APPLICANT:
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PORTSMOUTH, NH 03801

CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE
PORTSMOUTH, NH

ASSESSOR'S PARCEL 210-2

TITLE:

UTILITY PLAN

SHEET NUMBER:

C.8

P4950

LEGEND

- PROPOSED PROPERTY/UNIT LINE
- DEVELOPMENT SITE AREA
- PROPOSED COMMUNITY SPACE

NOTE:

1. SEE SITE PLAN FOR ADDITIONAL INFORMATION ON PROPOSED SITE FEATURES.
2. SEE LANDSCAPE PLAN FOR LANDSCAPE ENHANCEMENTS TO COMMUNITY SPACES.

COMMUNITY SPACE SUMMARY

ZONING DISTRICT G2 (GATEWAY NEIGHBORHOOD MIXED USE CENTER)

TAX MAP 210, LOT 2

DEVELOPMENT SITE AREA = 2.68± ACRES (116,591 S.F.)

COMMUNITY SPACE REQUIREMENT = 20% (23,318 S.F.)

COMMUNITY SPACE PROVIDED = 21.5% (25,090 S.F.)

COMMUNITY SPACE TABLE:

No.	DESCRIPTION	AREA
1	GREENWAY #1	3,785 S.F.
2	GREENWAY #2	4,010 S.F.
2	GREENWAY #3	8,310 S.F
1	POCKET PARK #1	4,345 S.F
3	POCKET PARK #2	2,340 S.F.
4	GREENWAY (ENHANCEMENTS)	2,300 S.F.
	TOTAL	25,090 S.F.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

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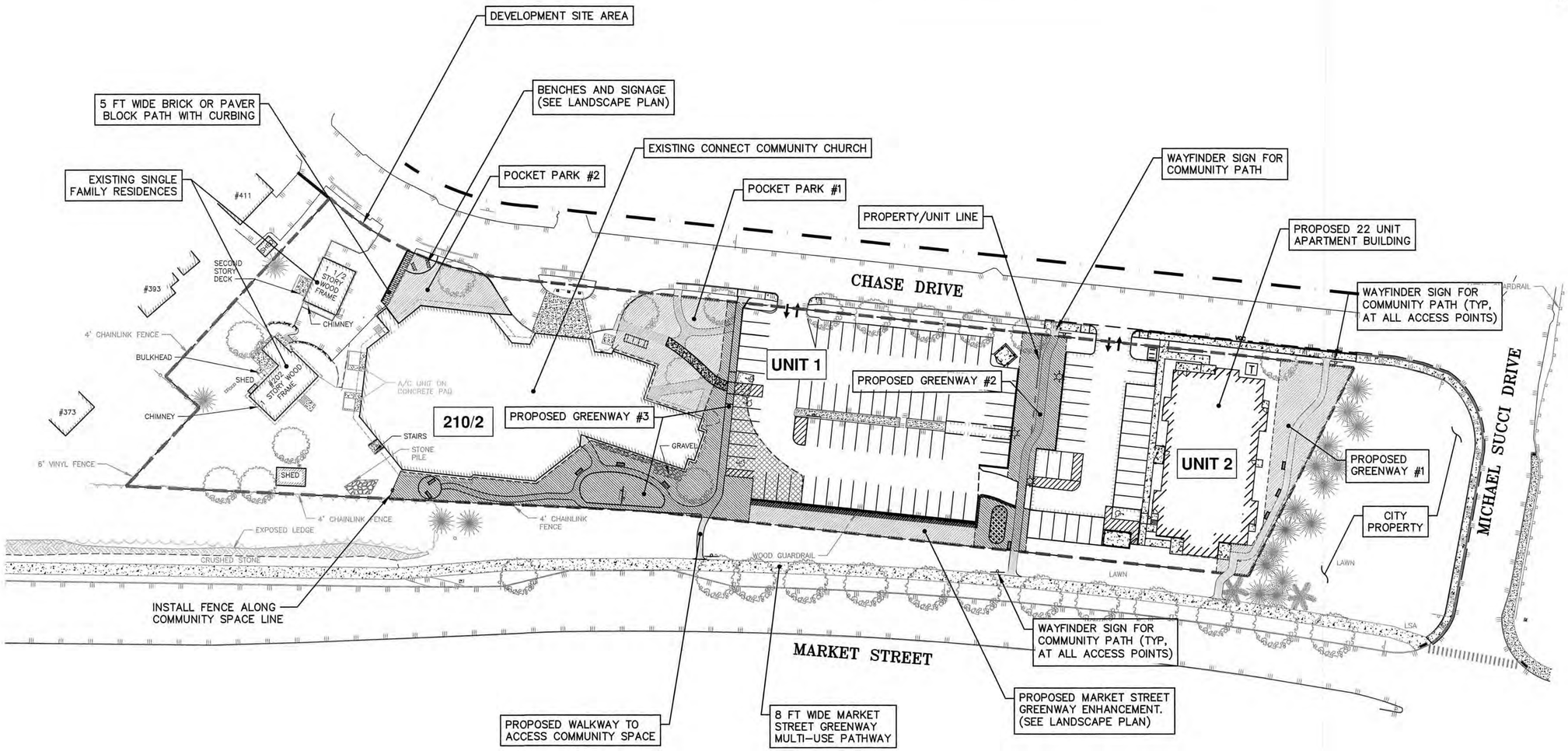

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

P4950

ENGINEER:

ALTUS ENGINEERING, INC.

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

STATE OF NEW HAMPSHIRE CORY D. BELDEN No. 14289 LICENSED PROFESSIONAL ENGINEER

12/23/19

ISSUED FOR:

PLANNING BOARD APPROVAL

ISSUE DATE:

DECEMBER 23, 2019

REVISIONS

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
5	TAC	CDB	12/23/19

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

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200 CHASE DRIVE
PORTSMOUTH, NH

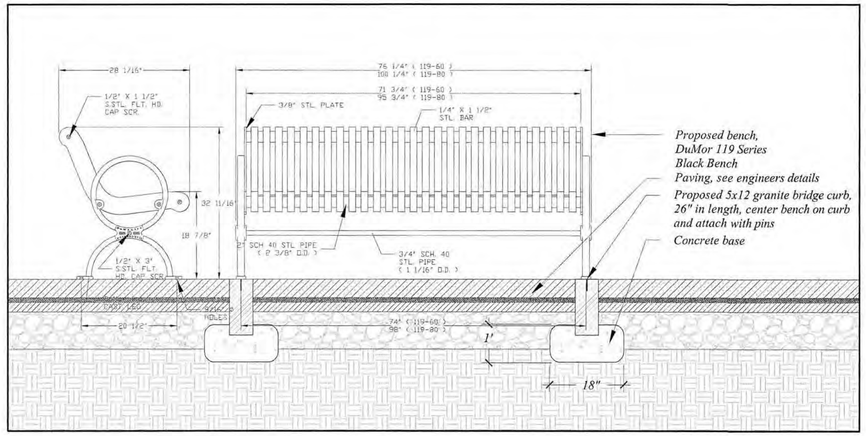
ASSESSOR'S PARCEL 210-2

TITLE:

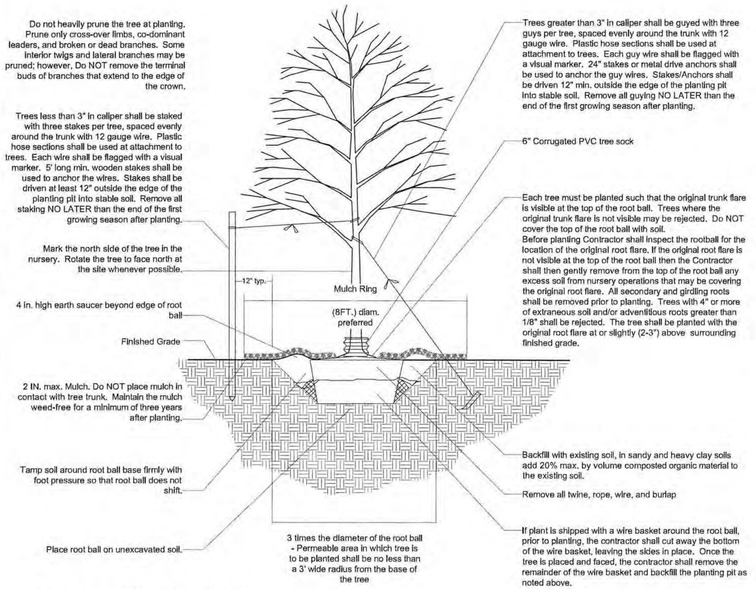
COMMUNITY SPACE PLAN

SHEET NUMBER:

C.9



1 Bench Detail
Scale: 3/4"=1'-0"



2 Tree Planting Detail
NTS - Not to Scale

CITY OF PORTSMOUTH SPECIFIC NOTES: TREE PLANTING REQUIREMENTS:ANSI A300 PART 6 AND...

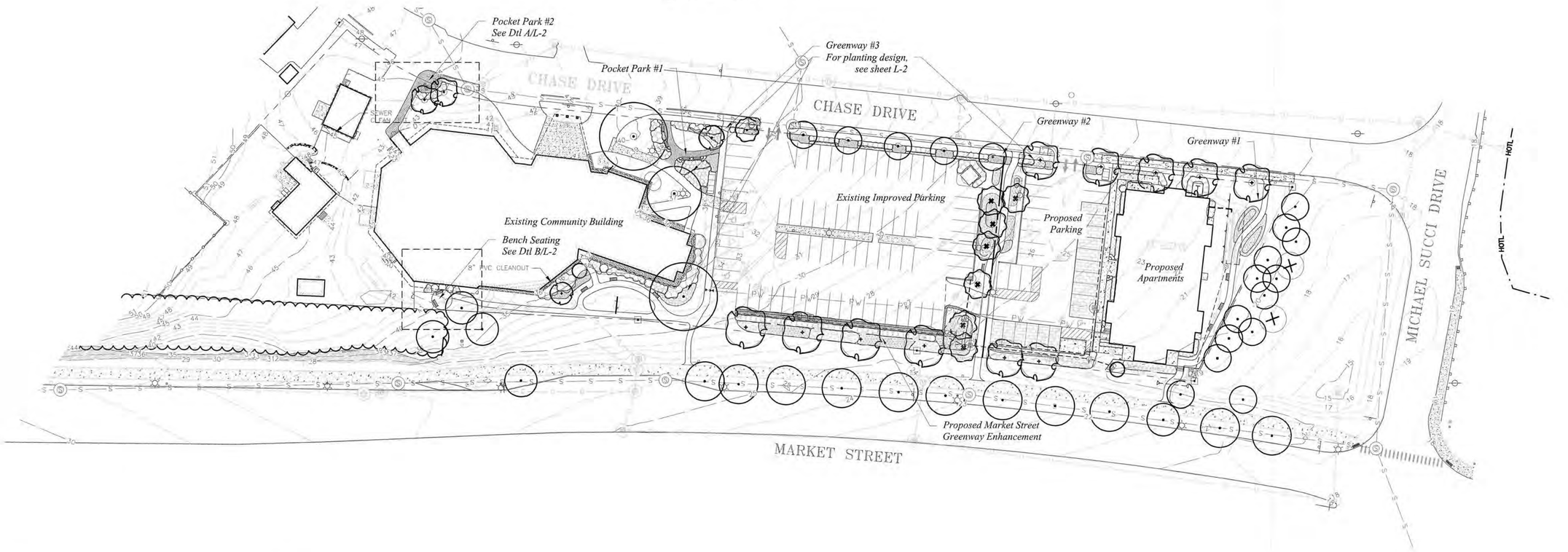
PLANTING HOLES SHALL BE DUG BY HAND - NO MACHINE DIGGING. THE ONLY EXCEPTIONS ARE NEW CONSTRUCTION WHERE NEW PLANTING PIETS, PLANTING BEDS WITH GRANITE CURBING AND PLANTING WITH SILVA CELLS ARE USED.

ALL PLANTINGS SHALL BE BACKFILLED WITH SOIL FROM THE SITE AND AMENDED WITH NO MORE THAN 20% ORGANIC COMPOST. THE ONLY EXCEPTIONS ARE FOR NEW CONSTRUCTION WHERE ENGINEERED SOIL IS USED IN CONJUNCTION WITH SILVA CELLS AND WEHRE NEW PLANTING BEDS ARE BEING CREATED,

ALL PLANTINGS SHALL BE BACKFILLED IN THREE LIFTS AND ALL LIFTS SHALL BE WATERED SO THE PLANTING WILLBE SET AND FREE OF AIR POCKETS. NO EXCEPTIONS.

AT THE TIME PLANTING IS COMPLETE THE PLANTING SHALL RECIEVE ADDITIONAL WATER TO ENSURE COMPLETE HYDRATION OF THE ROOTS, BACKFILL MATERIAL AND MULCH LAYER.

ALL PLANTING STOCK SHALL BE SPECIMEN QUALITY, FREE FROM DEFECTS OR INJURY. ANY PLANT MATERIAL OR PLANTING PRACTICES THAT FAIL TO MEET THE STANDARDS SET FORTH IN THE ANSI A300 PART 6 STANDARD PRACTICES FOR PLANTING AND TRANSPORTATION OR THE REQUIREMENTS LISTED ABOVE WILL BE REJECTED.



APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

0 10 20 40 80

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

Bethel Assembly of God

OVERALL SITE LANDSCAPE PLAN & DETAILS

200 Chase Drive, Portsmouth, NH 03801

Drawn By:	LF
Checked By:	RW
Scale:	1" = 40'
Date:	2019-09-19
Revisions:	2019-10-21 2019-11-18 2019-12-16 2019-12-23

L-1

Sheet 1 of 2

Plant List

TREES

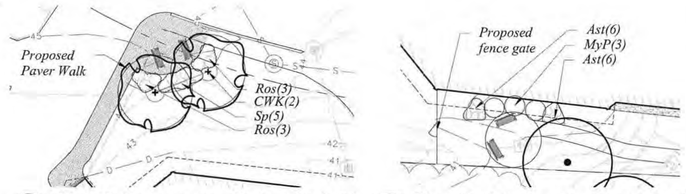
Symbol	Botanical Name	Common Name	Quantity	Size	Min. Size	Comments
Bn	*Betula nigra 'Heritage'*	Heritage River Birch	7	10-12' ht.		BB
Ck	*Cornus kousa*	Kousa Dogwood	1	8-10' ht		BB multi-stemmed
CWK	*Crataegus 'Winter King'*	Winter King Hawthorn	2	2-2.5" cal.		BB
Mag	*Magnolia 'Butterfly'*	Butterfly magnolia	1	8-10' ht		BB multi-stemmed
Pc	*Pyrus calleryana 'Chanticleer'*	Chanticleer Flowering Pear	1	2.5-3" cal.		BB matched
PoG	*Picea orientalis 'Gowdy'*	Gowdy Oriental Spruce	2	8-10' ht.		BB
Ua	*Ulmus americana 'Princeton'*	Princeton American Elm	4	2.5-3" cal.		BB matched
Z	*Zelkova serrata 'Green Vase'*	Green Vase Zelkova	7	2.5-3" cal.		BB matched

SHRUBS

Symbol	Botanical Name	Common Name	Quantity	Size		Comments
Enk	*Enkianthus campanulatus*	Redvein Enkianthus	1	4-5' ht.		BB
HyA	*Hydrangea arborescens 'Incrediball'*	Incrediball Hydrangea	23	5 gal.	24"x24"	
HyASB	*Hydrangea macrophylla 'All Summer Beauty'*	All Summer Beauty Hydrangea	5	3 gal.	18"x18"	
Ig	*Ilex glabra 'Shamrock'*	Shamrock Inkberry	55	5 gal.	24"x24"	
ImCG	*Ilex meserve 'China Girl'*	China Girl Holly	12	2.5-3'		BB
JcSG	*Juniperus chinensis 'Seagreen'*	Seagreen Juniper	87	2.5-3' ht.		BB
MyP	*Myrica pensylvanica*	Northern Bayberry	15	3-4' ht.		BB
RhS	*Rhododendron 'Scintillation'*	Scintillation Rhododendron	8	2.5-3' ht.		BB
Rhus	*Rhus aromatica 'Grow-Low'*	Grow Low Sumac	15	3 gal.	18"x18"	
Ros	*Rosa 'Knockout'*	Double Red Knockout Rose	23	2 gal.		
Sp	*Spiraea x bumalda 'Anthony Waterer'*	Anthony Waterer Spirea	46	3 gal.	18"x18"	
Tax	*Taxus media 'Greenwave'*	Greenwave Yew	14	2.5-3' ht.		BB
ThN	*Thuja occidentalis 'Nigra'*	Dark American Arborvitae	2	6-7' ht.		BB
ThS	*Thuja occidentalis 'Smaragd'*	Emerald Green Arborvitae	34	5-6'ht.		BB

PERENNIALS, GROUNDCOVERS, VINES and ANNUALS

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Ast	*Astilbe 'Fanal'*	Rubyred Astilbe	23	1 gal	
Cal	*Calamagrostis acutifolia 'Karl Foerster'*	Feather Reed Grass	59	1 gal	24" O.C.
H1	*Hosta sieboldiana 'Elegans'*	Elegans Hosta	41	1 gal	
H2	*Hosta 'Frances Williams'*	Frances Williams Hosta	35	1 gal	
Hem	*Hemerocallis 'Happy Returns'*	Happy Returns Daylily	118	1 gal	18" O.C.
Hem	*Hemerocallis 'Siloam Double Classic'*	Siloam Double Classic Daylily	118	1 gal	18" O.C.
Hem	*Hemerocallis 'Apricot Sparkle'*	Apricot Sparkle Daylily	118	1 gal	18" O.C.
Heu	*Heuchera 'Splendens'*	Coral Bells	25	2qt	
Mol	*Molinia caerulea 'Variegata'*	Variegated Moor Grass	130	1 gal	24" O.C.
Nep	*Nepeta faassenii x 'Walker's Low'*	Walker's Low Catmint	11	1 gal	
Pan1	*Panicum virgatum 'Cheyenne Sky'*	Cheyenne Sky Switch Grass	299	1 gal	18" O.C.
Pan2	*Panicum virgatum 'Heavy Metal'*	Heavy Metal Switch Grass	183	1 gal	36" O.C.
VmB	*Vinca minor 'Bowles'*	Bowles Periwinkle	1870	2.5" Pots	8" O.C.

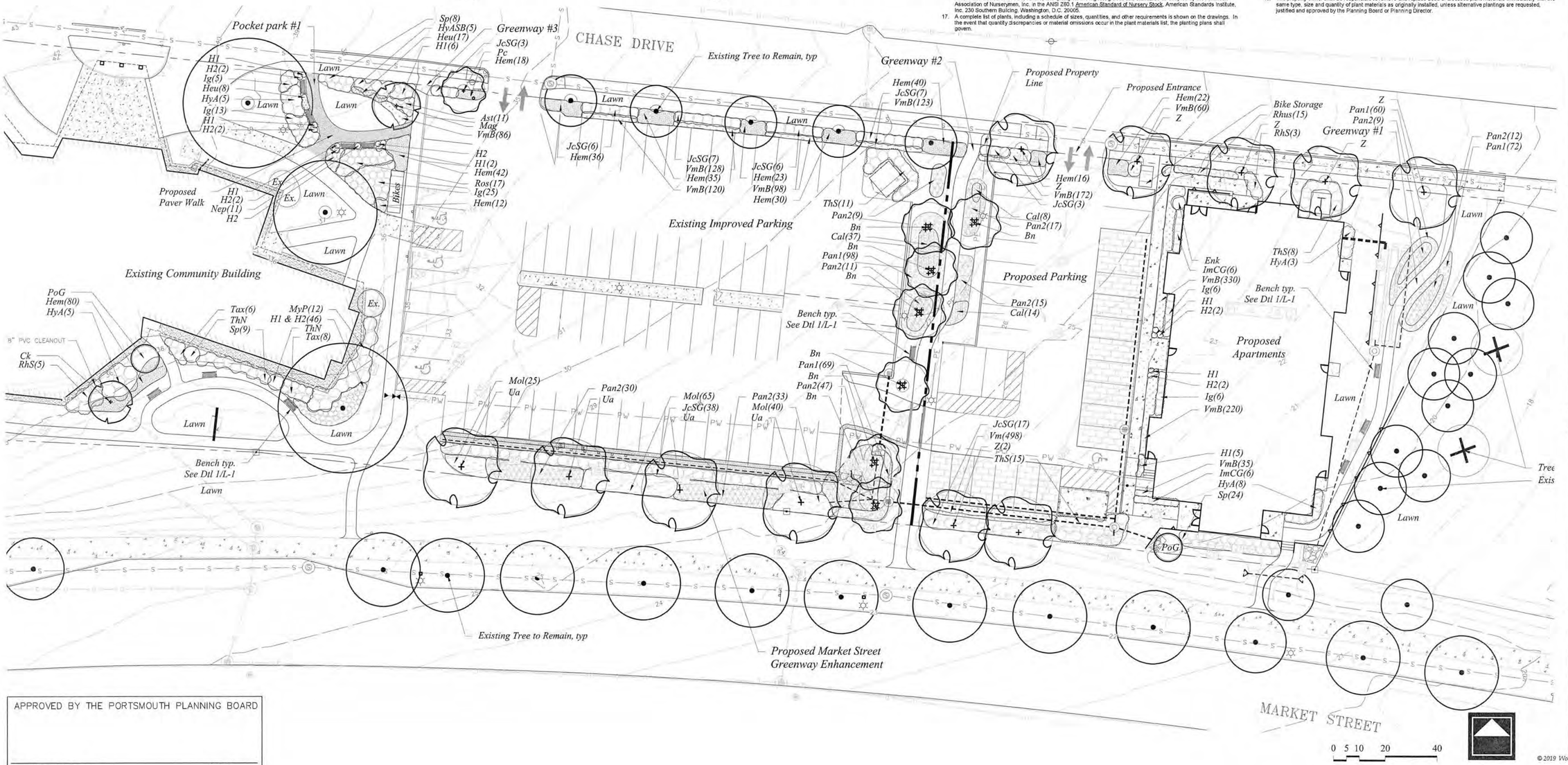


A ***Plan Enlargement - Pocket Park #1***

B ***Plan Enlargement - Greenway #1***

LANDSCAPE NOTES:

1. Design is based on drawings by Altus Engineering, Inc. dated 12-12-2019 and may require adjustment due to actual field conditions.
2. The contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
3. Erosion Control shall be in place prior to construction.
4. Erosion Control to consist of Hay Bales and Erosion Control Fabric shall be staked in place between the work and Water bodies, Wetlands and/or drainage ways prior to any construction.
5. The Contractor shall verify layout and grades and inform the Landscape Architect or Client's Representative of any discrepancies or changes in layout and/or grade relationships prior to construction.
6. It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawings is incorrect, the landscape architect will provide a set of drawings at the correct scale, at the request of the contractor.
7. **Prior to commencement of construction, a certified arborist shall review the area of construction and trees selected to remain with the landscape architect and the contractor's project manager. Specific monetary value of the trees to remain shall be determined and documented for. Arborist shall make recommendations for preservation recommendations beyond these called out here and in the drawings. tree preservation plans and specifications, including, but not limited to, pruning, root pruning, pre-fertilization and the like.**
8. **All excavation within the drip line of existing trees to be done with an Air Spade. Any roots which require removal shall be cut cleanly with a sharp tool. Exposed roots in excavated areas shall not be allowed to dry out.**
9. Trees to Remain within the construction zone shall be protected from damage for the duration of the project by weighted chain-link fence at the drip line or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Fence shall be located at the drip line at a minimum and shall include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots. In order to protect the integrity of the roots, branches, trunk and bark of the tree(s) no vehicles or construction equipment shall drive or park in or on the area within the drip line(s) of the tree(s). Do not store any refuse or construction materials or portalets within the tree protection area.
10. This plan is for review purposes only, NOT for Construction. Construction Documents will be provided upon request.
11. Location, support, protection, and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor.
12. The Contractor shall verify exact location and elevation of all utilities with the respective utility owners prior to construction. Call DIGSAFE at 1-888-344-7233.
13. The Contractor shall procure any required permits prior to construction.
14. Prior to any landscape construction activities Contractor shall test all existing loam and loam from off-site intended to be used for lawns and plant beds using a thorough sampling throughout the supply. Soil testing shall indicate levels of pH, nitrates, macro and micro nutrients, texture, soluble salts, and organic matter. Contractor shall provide Landscape Architect with test results and recommendations from the testing facility along with soil amendment plans as necessary for the proposed plantings to thrive. All loam to be used on site shall be amended as approved by the Landscape Architect prior to placement.
15. Contractor shall notify landscape architect or owner's representative immediately if at any point during demolition or construction a site condition is discovered which may negatively impact the completed project. This includes, but is not limited to, unforeseen crainage problems, unknown subsurface conditions, and discrepancies between the plan and the site. If a contractor is aware of a potential issue, and does not bring it to the attention of the landscape architect or owner's representative immediately, they may be responsible for the labor and materials associated with correcting the problem.
16. The Contractor shall furnish and plant all plants shown on the drawings and listed thereon. All plants shall be nursery-grown under climatic conditions similar to those in the locality of the project. Plants shall conform to the botanical names and standards of size, culture, and quality for the highest grades and standards as adopted by the American Association of Nurserymen, Inc. in the ANSI Z60.1 American Standard of Nursery Stock, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
17. A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
18. All plants shall be legibly tagged with proper botanical name.
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 reason.
22. All landscaping shall be provided with either of the following
    a. An underground sprinkling system
    b. An outside hose attachment within 150 feet
23. If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas.
24. 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.
25. Contractor shall provide an alternate price for irrigating all newly landscaped areas and resetting of any existing irrigation that will be disturbed during planting. Contractor shall provide irrigation design for review by Landscape Architect or Owner's Representative when awarded the project.
26. 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.
27. Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded native bark not longer than 4" in length and ½" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 5' diameter min. saucer. Color of mulch shall be black.
28. Drip strip shall extend to 6" beyond roof overhang and shall be edged with 3/16" thick metal edger.
29. In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously applied mulch) over the root ball of any plant.
30. 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.
31. The property owner and all future property owners shall be responsible for the maintenance, repair, and replacement of all required screening and landscape materials.
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.
33. 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.
34. Snow shall be stored a minimum of 5' from shrubs and trunks of trees.
35. Landscape Architect is not responsible for the means and methods of the contractor.
36. This Site Plan shall be recorded in the Rockingham County Registry of Deeds.
37. 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.
38. The property owner and all future property owners shall be responsible for the maintenance, repair and replacement of all required screening and landscape materials.
39. 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.
40. 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.



APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

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

Bethel Assembly of God

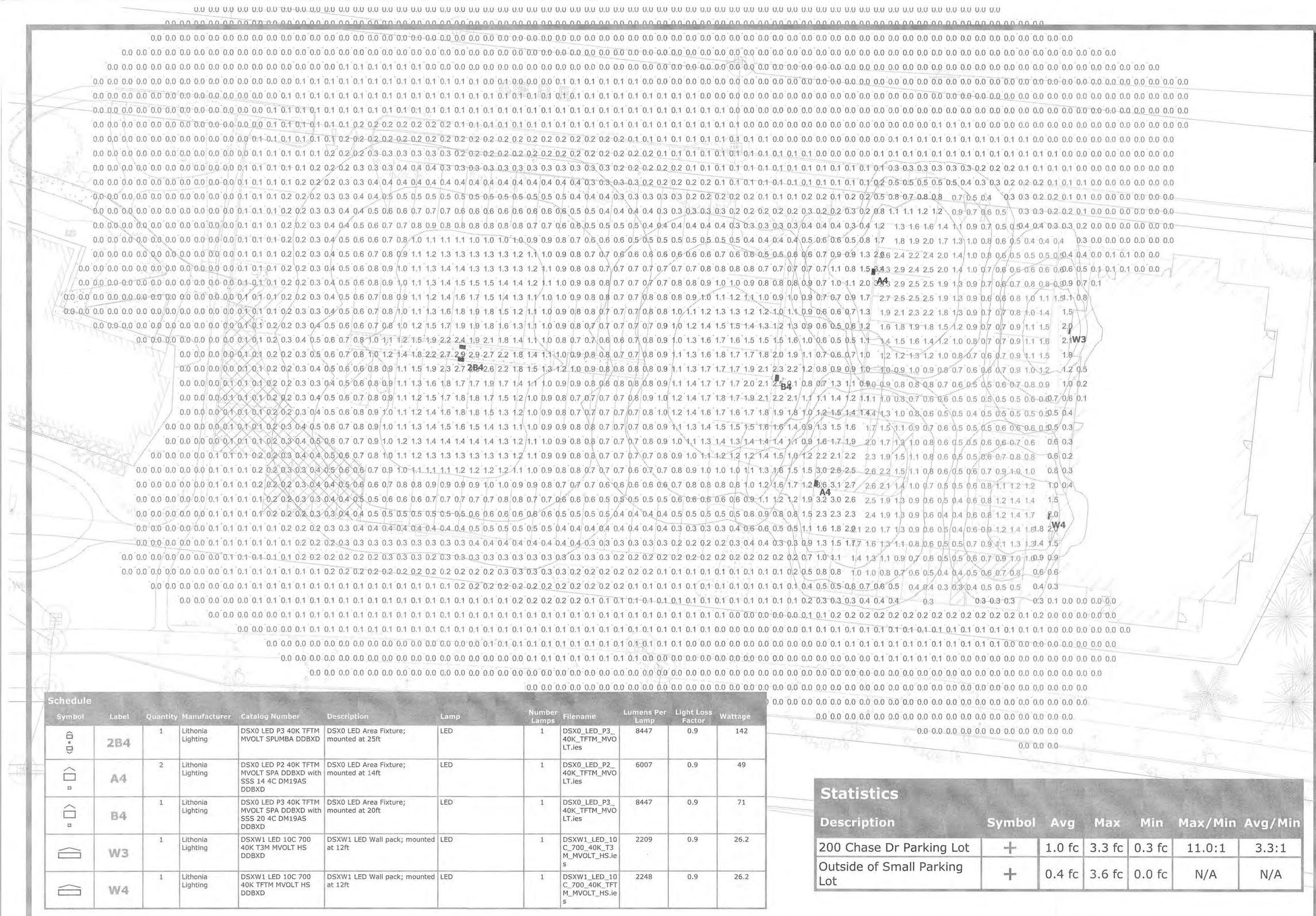
LANDSCAPE PLAN

200 Chase Drive, Portsmouth, NH 03801

Drawn By:	LF
Checked By:	RW
Scale:	1" = 20'
Date:	2019-09-19
Revisions:	2019-10-21 2019-11-18 2019-12-06 2019-12-16 2019-12-23

L-2

Sheet 2 of 2



Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	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_MVOLT.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_MVOLT.ies	6007	0.9	49
	B4	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_MVOLT.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_10C_700_40K_T3M_MVOLT_HS.ies	2209	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_10C_700_40K_TFTM_MVOLT_HS.ies	2248	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

VISUAL

200 CHASE DR 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

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 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

1. Prepare SWPPP and file NPDES Notice of Intent, prior to any construction activities (Required).
2. Hold a pre–construction meeting with City & stake holders.
3. Install temporary erosion control measures, including silt fences and stabilized construction entrance.
4. Protect specified trees (see plans).
5. 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.
7. Construct building foundations. Construct parking, driveways, sidewalks & curbing.
8. Loam and seed disturbed areas.
9. 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 these devices.
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 Piscataqua 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 around the site with stabilized channels where possible. Sheet runoff from the site shall be filtered through hay bale barriers, stone check dams, and silt fences. All storm drain inlets shall be provided with hay bale filters or stone check dams. Stone rip rap shall be provided at the outlets of drain pipes and culverts where shown on the drawings.

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

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

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

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

A. GENERAL

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

1. The smallest practical portion of the site shall be denuded at one time, but in no case shall it exceed 5 acres at one time.
2. All control measures shall be inspected at least once each week and following any storm event of 0.5 inches or greater.
3. All measures shall be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours.
4. Built–up sediment shall be removed from silt fence or other barriers when it has reached one–third the height of the fence or bale, or when "bulges" occur.
5. All diversion dikes shall be inspected and any breaches promptly repaired.
6. Temporary seeding and planting shall be inspected for bare spots, washouts, and unhealthy growth.
7. The owner's authorized engineer shall inspect the site on a periodic basis to review compliance with the Plans.
8. All roadways and parking lots shall be stabilized within 72 hours of achieving finished grade.
9. All cut and fill slopes shall be seeded/loamed within 72 hours of achieving finished grade.
10. An area shall be considered stable if one of the following has occurred:
    a. Base coarse gravels have been installed in areas to be paved;
    b. A minimum of 85% vegetated growth as been established;
    c. A minimum of 3 inches of non–erosive material such as stone of riprap has been installed;
    – or –
    d. Erosion control blankets have been properly installed.
11. The length of time of exposure of area disturbed during construction shall not exceed 45 days.

B. MULCHING

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

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

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

2. Guidelines for Winter Mulch Application –

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

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

C. TEMPORARY GRASS COVER

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

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

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

D. FILTERS

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

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

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

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

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

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

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

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

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

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

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

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

3. Sequence of Installation –
Sediment barriers shall be installed prior to any soil disturbance of the contributing upslope drainage area.

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

b. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier still is necessary, the fabric shall be replaced promptly.

c. Sediment deposits must be removed when deposits reach approximately one–third (1/3) the height of the barrier.

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

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

E. PERMANENT SEEDING –

1. Bedding – stones larger than 1½", trash, roots, and other debris that will interfere with seeding and future maintenance of the area should be removed. Where feasible, the soil should be tilled to a depth of 5" to prepare a seedbed and mix fertilizer into the soil.

2. Fertilizer – lime and fertilizer should be applied evenly over the area prior to or at the time of seeding and incorporated into the soil. Kinds and amounts of lime and fertilizer should be based on an evaluation of soil tests. When a soil test is not available, the following minimum amounts should be applied:

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

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 guaranteed 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

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

2. All ditches or swales which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions; and

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

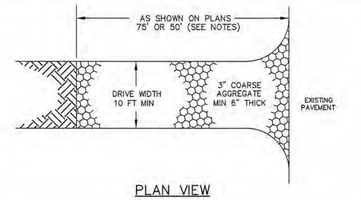
Long Term Inspection & Maintenance Schedule

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

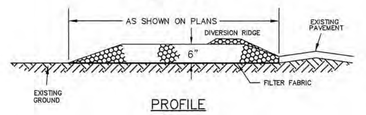
NOTE:
ALL FACILITIES SHOULD BE INSPECTED ON AN ANNUAL BASIS AT A MINIMUM. IN ADDITION, ALL FACILITIES SHOULD BE INSPECTED AFTER A SIGNIFICANT PRECIPITATION EVENT TO ENSURE THE FACILITY IS DRAINING APPROPRIATELY AND TO IDENTIFY ANY DAMAGE THAT OCCURRED AS A RESULT OF THE INCREASED RUNOFF. FOR THE PURPOSE OF THIS STORMWATER MANAGEMENT PROGRAM, A SIGNIFICANT RAINFALL EVENT IS CONSIDERED AN EVENT OF THREE (3) INCHES IN A 24–HOUR PERIOD OR 0.5 INCHES IN A ONE–HOUR PERIOD. IT IS ANTICIPATED THAT A SHORT, INTENSE EVENT IS LIKELY TO HAVE A HIGHER POTENTIAL OF EROSION FOR THIS SITE THAN A LONGER, HIGH VOLUME EVENT.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE



PLAN VIEW

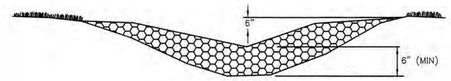


PROFILE

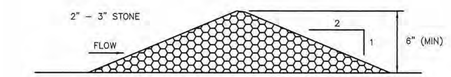
CONSTRUCTION SPECIFICATIONS

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

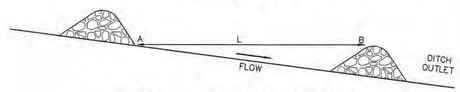
STABILIZED CONSTRUCTION EXIT NOT TO SCALE



CROSS–SECTION



STRUCTURE DETAIL



SPACING BETWEEN STRUCTURES

1. L = DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION
2. CHECK DAM SHALL BE CONSTRUCTED OF 2" 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 IN THE APPROPRIATE VEGETATIVE BMP.
4. STRUCTURES SHALL BE REMOVED FROM THE CHANNEL WHEN THEIR USEFUL LIFE HAS BEEN COMPLETED.

STONE CHECK DAM NOT TO SCALE

P4950

ENGINEER:
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133 COURT STREET PORTSMOUTH, NH 03801
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STATE OF NEW HAMPSHIRE – CORY D. BELDEN No. 14239 – LICENSED PROFESSIONAL ENGINEER
11/18/19

ISSUED FOR:
PLANNING BOARD APPROVAL

ISSUE DATE:
NOVEMBER 18, 2019

REVISIONS

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

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

SCALE:
NOT TO SCALE

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

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

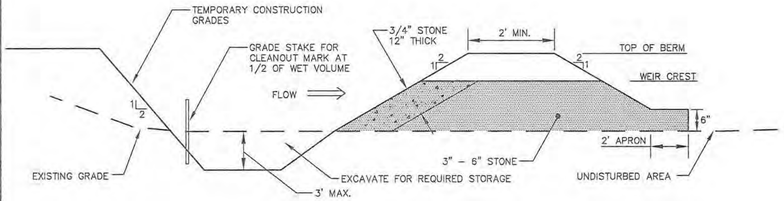
CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE
PORTSMOUTH, NH

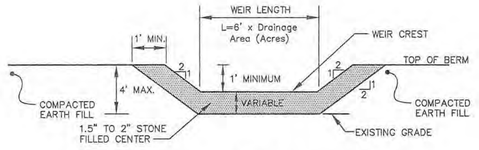
ASSESSOR'S PARCEL 210–2

TITLE:
EROSION CONTROL DETAILS

SHEET NUMBER:
D.1



CROSS SECTION



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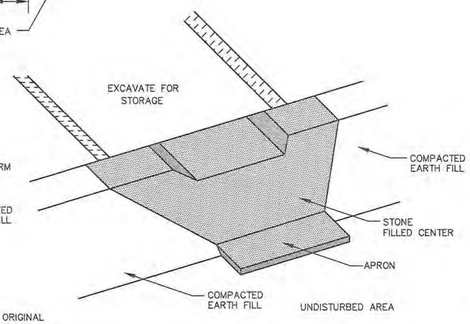
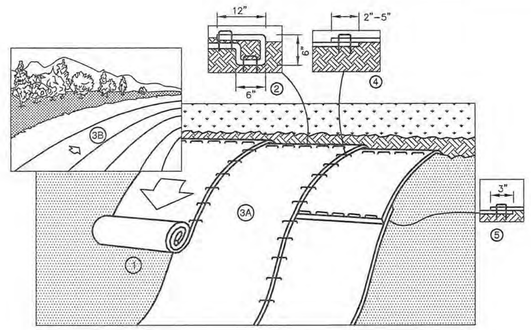


ISOMETRIC VIEW

MAINTENANCE

1. SEDIMENT SHALL BE REMOVED AND THE TRAP SHALL BE RESTORED TO ITS ORIGINAL CAPACITY WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN STORAGE VOLUME. SEDIMENT REMOVED SHALL BE DISPOSED OF SO THAT IT DOES NOT CAUSE A SEDIMENT PROBLEM AT ANOTHER LOCATION.
2. THE STRUCTURE SHALL BE CHECKED BI-WEEKLY AND AFTER EVERY MAJOR STORM TO INSURE THAT IT IS WORKING PROPERLY AND IS NOT DAMAGED. DAMAGE TO THE STRUCTURE SHALL BE REPAIRED IMMEDIATELY.
3. 3/4" STONE SHALL BE CHECKED DURING INSPECTION AND REPLACED WHEN THE OPENINGS IN THE STONE HAVE BECOME CLOGGED.
4. WHEN THE DRAINAGE AREA FLOWING INTO THE BASIN HAS BEEN FULLY STABILIZED, THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA VEGETATED USING LOAM AND SEED WITH MULCH (OR SOD IF NECESSARY) WITHIN 72 HOURS OF THE REMOVAL OF THE BASIN.

TEMPORARY SEDIMENT TRAP (TST) OUTLET NOT TO SCALE



NOTES

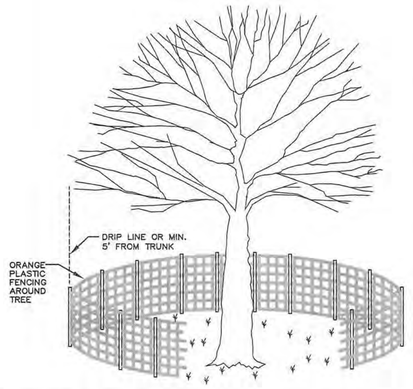
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP BY 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET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

EROSION CONTROL BLANKET - SLOPE NOT TO SCALE

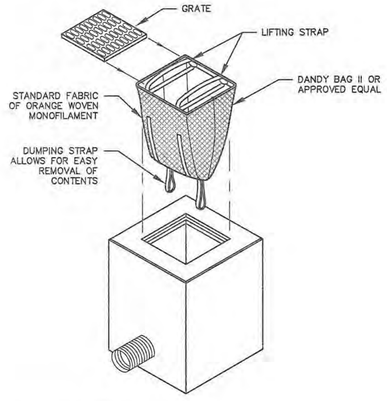
NOTE:
IF SOIL BECOMES COMPACTED OVER THE ROOT ZONE OF ANY TREE, THE GROUND SHOULD BE AERATED BY PUNCHING SMALL HOLES IN IT WITH SUITABLE AERATING EQUIPMENT.

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 OF TREES.

CONTRACTOR TO USE TREE PROTECTION WHERE SUITABLE AND/OR AS DIRECTED BY THE ENGINEER.



TREE PROTECTION DETAILS NOT TO SCALE



INSTALLATION AND MAINTENANCE:

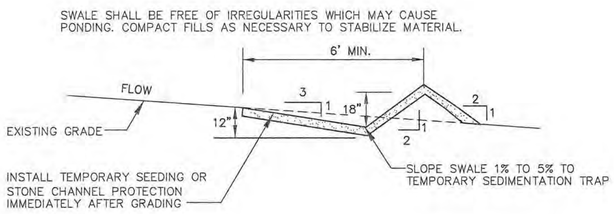
INSTALLATION: REMOVE THE GRATE FROM CATCH BASIN. IF USING OPTIONAL OIL ABSORBENTS; PLACE ABSORBENT PILLOW IN UNIT. STAND GRATE ON END. MOVE THE TOP LIFTING STRAPS OUT OF THE WAY AND PLACE THE GRATE INTO CATCH BASIN INSERT SO THE GRATE IS BELOW THE TOP STRAPS AND ABOVE THE LOWER STRAPS. HOLDING THE LIFTING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

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

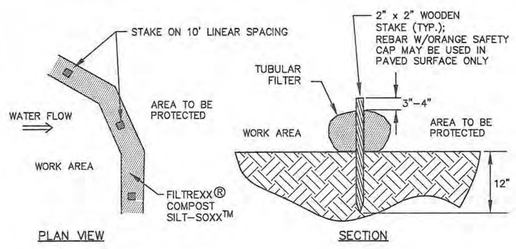
UNACCEPTABLE INLET PROTECTION METHOD:

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

STORM DRAIN INLET PROTECTION NOT TO SCALE

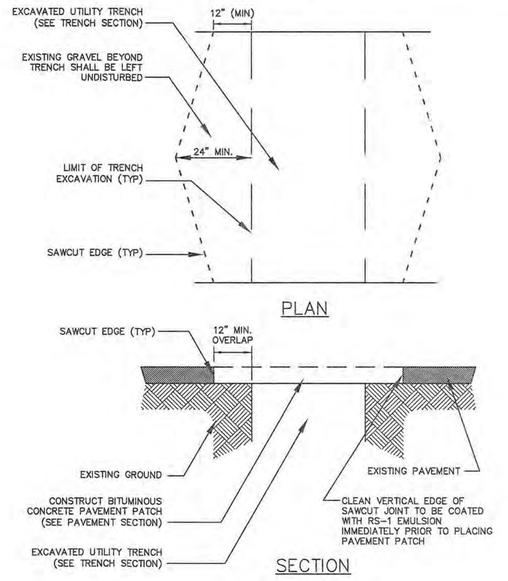


TEMPORARY DIVERSION SWALE NOT TO SCALE



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

TUBULAR SEDIMENT BARRIER DETAIL NOT TO SCALE



NOTES

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

TYPICAL TRENCH PATCH NOT TO SCALE

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

ENGINEER:
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(603) 433-2335 www.ALTUS-ENG.com

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

9/16/19

ISSUED FOR: TAC

ISSUE DATE: SEPTEMBER 16, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	06/26/19
1	TAC SUBMISSION	CDB	09/16/19

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

SCALE: NOT TO SCALE

OWNER:
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PORTSMOUTH, NH 03801

APPLICANT:
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36 MAPLEWOOD AVE.
PORTSMOUTH, NH 03801

CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE
PORTSMOUTH, NH

ASSESSOR'S PARCEL 210–2

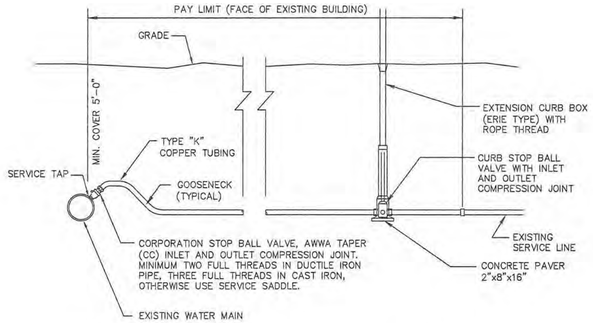
TITLE:

CONSTRUCTION DETAILS

SHEET NUMBER:

D.2

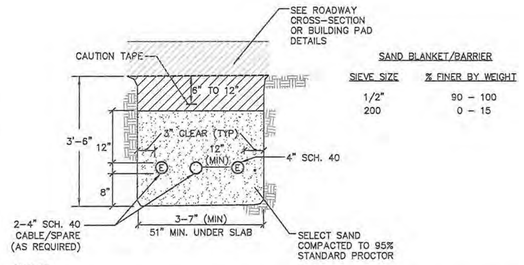
P4950



NOTES

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

SERVICE CONNECTION DETAIL NOT TO SCALE



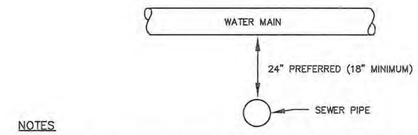
SAND BLANKET/BARRIER

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

NOTES

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

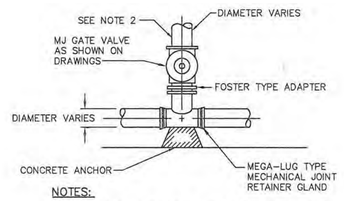
ELECTRIC / COMMUNICATION TRENCH NOT TO SCALE



NOTES

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

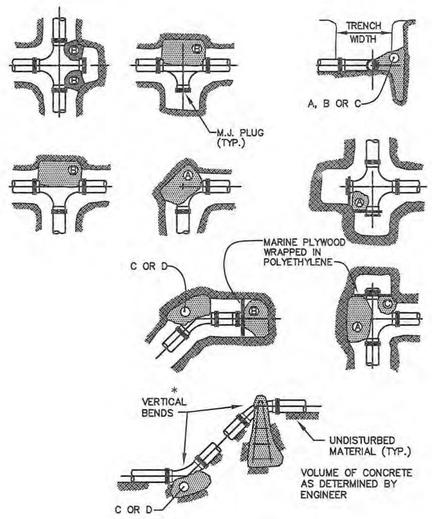
WATER MAIN / SEWER CROSSING NOT TO SCALE



NOTES:

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

TEE & GATE VALVE ASSEMBLY DETAIL NOT TO SCALE

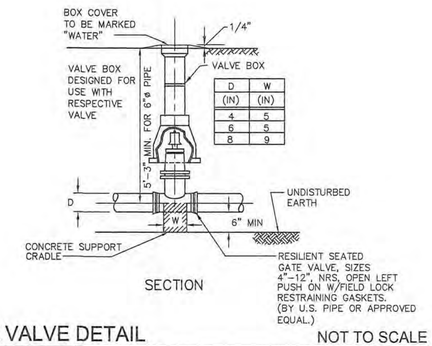


TEST PRESSURE = 150 psi	SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL					
	REACTION TYPE	PIPE SIZE				
		4"	6"	8"	10"	12"
	A 90°	0.89	2.19	3.82	11.14	17.24
	B 180°	0.65	1.55	2.78	8.38	12.00
	C 45°	0.48	1.19	2.12	6.02	9.32
	D 22-1/2°	0.25	0.60	1.06	3.08	4.74
	E 11-1/4°	0.13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

NOTES:

1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
4. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
5. POLYETHYLENE (8 MIL) SHALL BE PLACED AROUND FITTINGS PRIOR TO CONCRETE PLACEMENT.

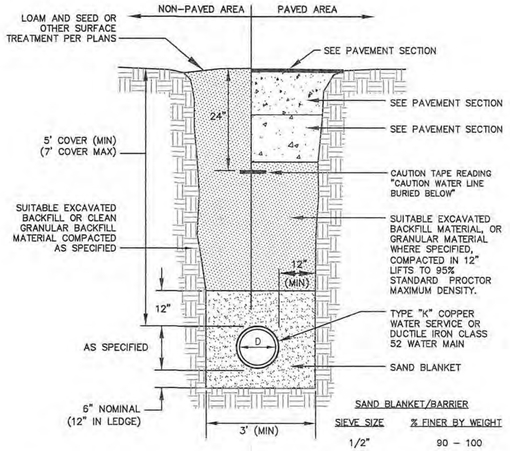
THRUST BLOCKING DETAIL NOT TO SCALE



D (IN)	W (IN)
4	5
6	5
8	9

SECTION

WATER VALVE DETAIL NOT TO SCALE



SAND BLANKET/BARRIER

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

NOTES

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

WATER MAIN TRENCH NOT TO SCALE

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

ENGINEER:
ALTUS ENGINEERING, INC.
133 COURT STREET PORTSMOUTH, NH 03801
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CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE
9/16/19

ISSUED FOR: TAC

ISSUE DATE: SEPTEMBER 16, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	06/26/19
1	TAC SUBMISSION	CDB	09/16/19

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APPROVED BY: EDW
DRAWING FILE: 4950DETAILS.DWG

SCALE: NOT TO SCALE

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APPLICANT:
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CHASE DRIVE GATEWAY DEVELOPMENT SITE

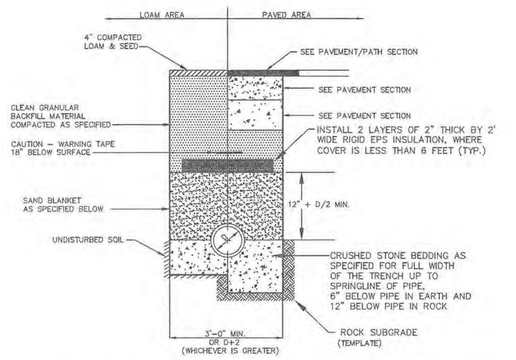
200 CHASE DRIVE
PORTSMOUTH, NH

ASSESSOR'S PARCEL 210-2

TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
D.3

P4950



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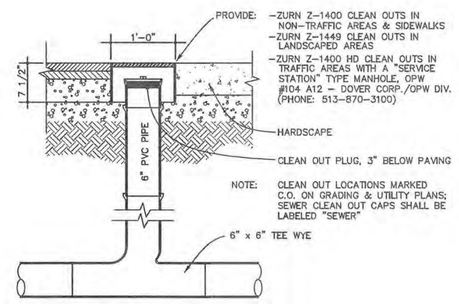
SAND BLANKET		CRUSHED STONE BEDDING *	
SIEVE SIZE	% FINER BY WEIGHT	SIEVE SIZE	% PASSING BY WEIGHT
1/2"	90 – 100	1"	100
200	0 – 15	3/4"	90 – 100
		3/8"	20 – 55
		# 4	0 – 10
		# 8	0 – 5

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

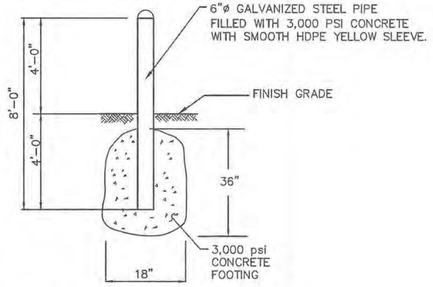
SEWER TRENCH SECTION NOT TO SCALE

STANDARD TRENCH NOTES:

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



CLEANOUT DETAIL NOT TO SCALE



BOLLARD NOT TO SCALE

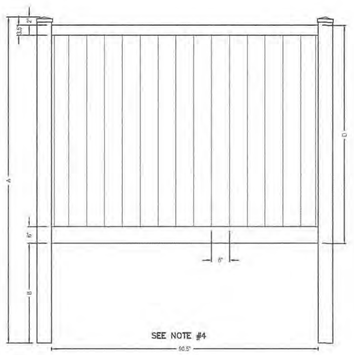
POST CAP STYLE
NEW ENGLAND - V55NE

POST OPTION
5" X 5" - .140 Wall
Post set in concrete

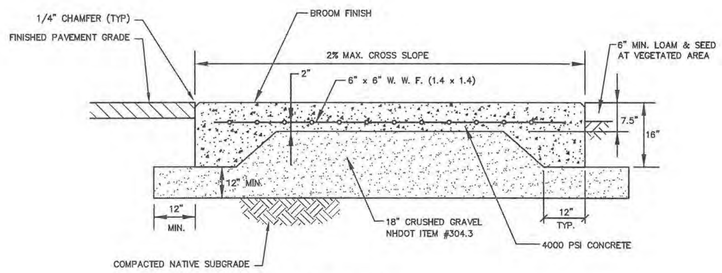
FENCE HEIGHT
6'-0", see height schedule below

A		B		C		D	
H(FT)	INCHES	H(FT)	INCHES	H(FT)	INCHES	H(FT)	INCHES
3	60	3	22	3	8.5	3	96
4	84	4	34	4	20.5	4	48
5	96	5	34	5	32.5	5	60
6	108	6	34	6	44.5	6	72
8	144	8	46	8	68.5	8	96
10	168	10	46	10	92.5	10	120

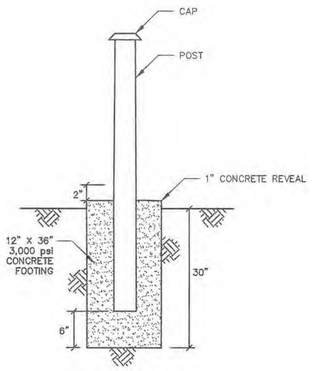
NOTE:
1. FENCE SHALL BE ILLUSION VINYL FENCE PRODUCT OR APPROVED EQUAL.
2. COLOR SHALL BE DETERMINE BY LANDSCAPE ARCHITECT OR APPLICANT.
3. POST SHALL BE SET IN CONCRETE.
4. OPENING CLEARANCE DIMENSIONS PER OWNER REQUIREMENT.



DUMPSTER/SOLID WASTE STORAGE SCREENING DETAIL NOT TO SCALE



DUMPSTER SLAB DETAILS NOT TO SCALE



FENCE POST DETAIL NOT TO SCALE

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

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

STATE OF NEW HAMPSHIRE – CORY D. BELDEN No. 14236 LICENSED PROFESSIONAL ENGINEER
10/21/19

ISSUED FOR: TAC

ISSUE DATE: OCTOBER 18, 2019

REVISIONS

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

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

SCALE: NOT TO SCALE

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

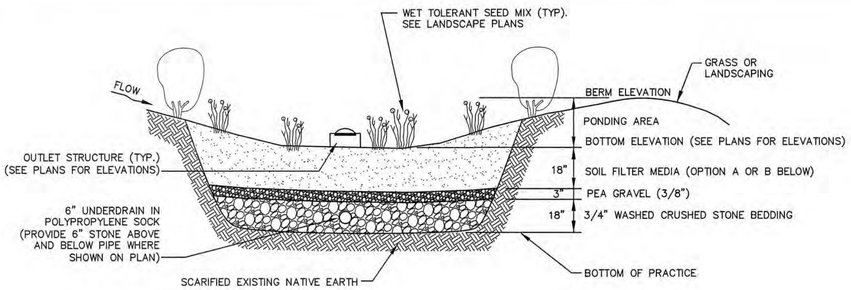
200 CHASE DRIVE
PORTSMOUTH, NH

ASSESSOR'S PARCEL 210–2

TITLE: CONSTRUCTION DETAILS

SHEET NUMBER: D.4

P4950



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

NOT TO SCALE

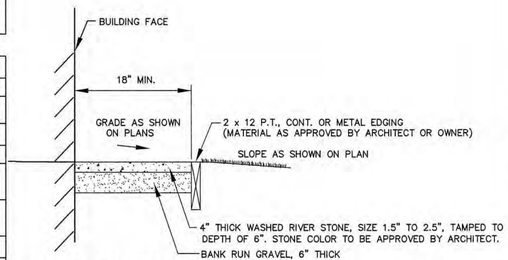
CRUSHED STONE BEDDING *

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

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

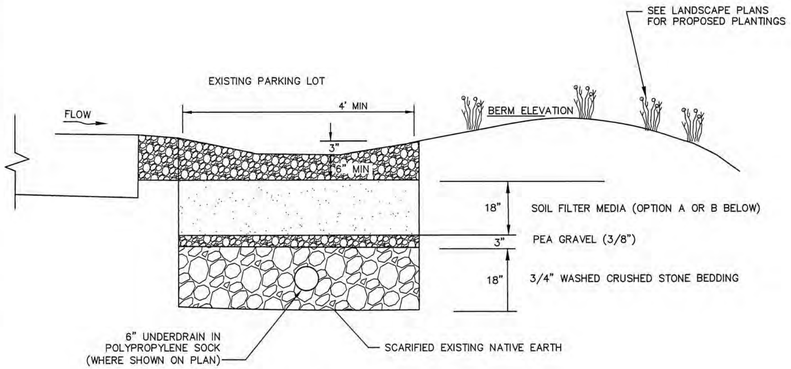
FILTER MEDIA MIXTURES

Component Material	Percent of Mixture by Volume	Gradation of material: Sieve No.	Gradation of material: Percent by Weight Passing Standard Sieve
Filter Media Option A			
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
Filter Media Option B			
Moderately fine shredded bark or wood fiber mulch, with fines as indicated	20 to 30	200	< 5
Loamy coarse sand	70 to 80	10	85 to 100
		20	70 to 100
		60	15 to 40
		200	8 to 15



DRIP EDGE DETAIL

NOT TO SCALE

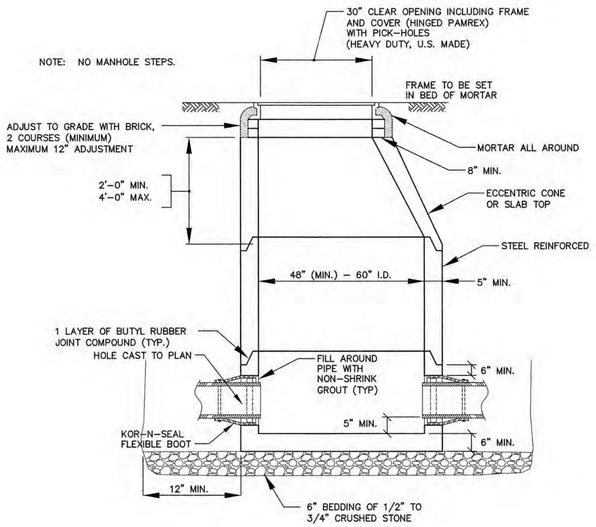


NOTES:

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

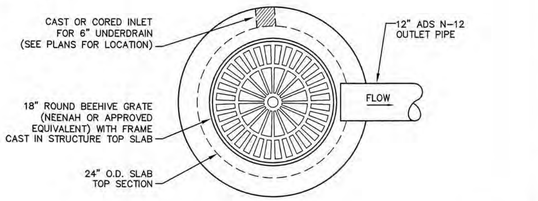
DRIP EDGE FILTER DETAIL

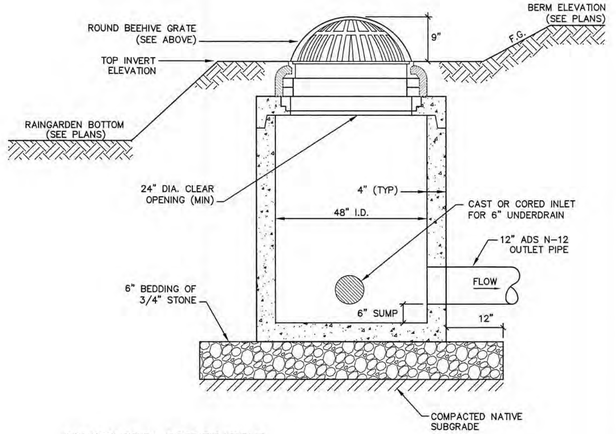
NOT TO SCALE



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

OUTLET STRUCTURE DETAIL

NOT TO SCALE

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

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

STATE OF NEW HAMPSHIRE CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER
12/23/19

ISSUED FOR:
PLANNING BOARD APPROVAL

ISSUE DATE:
DECEMBER 23, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	06/26/19
1	TAC SUBMISSION	CDB	09/16/19
2	TAC COMMENTS	CDB	11/18/19
3	TAC COMMENTS	CDB	12/23/19

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

SCALE:
NOT TO SCALE

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

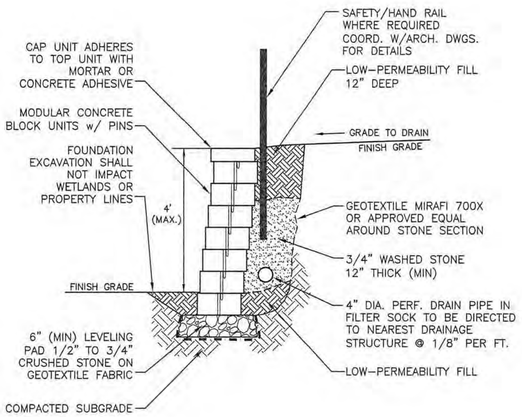
APPLICANT:
200 CHASE DRIVE, LLC
36 MAPLEWOOD AVE.
PORTSMOUTH, NH 03801

PROJECT:
CHASE DRIVE GATEWAY DEVELOPMENT SITE
200 CHASE DRIVE
PORTSMOUTH, NH
ASSESSOR'S PARCEL 210-2

TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
D.5

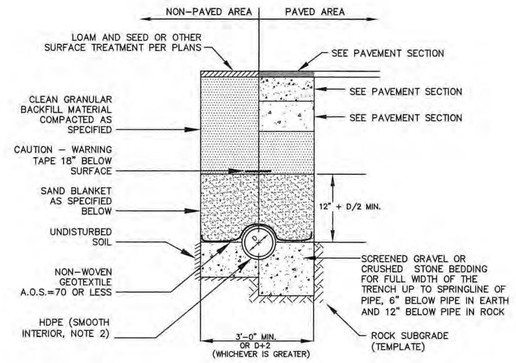
P4950



NOTES:

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.

SAND BLANKET/BARRIER

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

SCREENED GRAVEL OR CRUSHED STONE BEDDING*

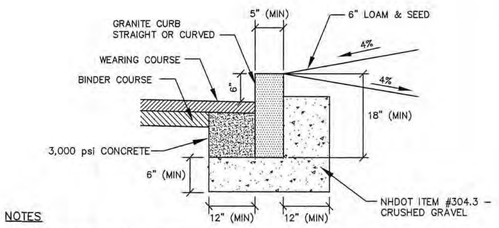
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90 - 100
3/8"	20 - 55
# 4	0 - 10
# 8	0 - 5

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

STORM DRAIN TRENCH NOT TO SCALE

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

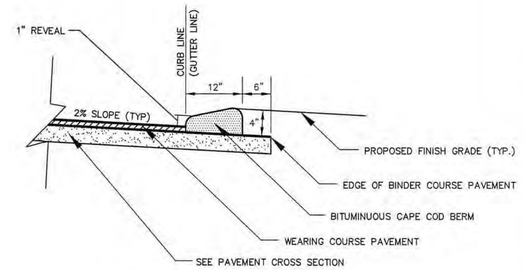


NOTES

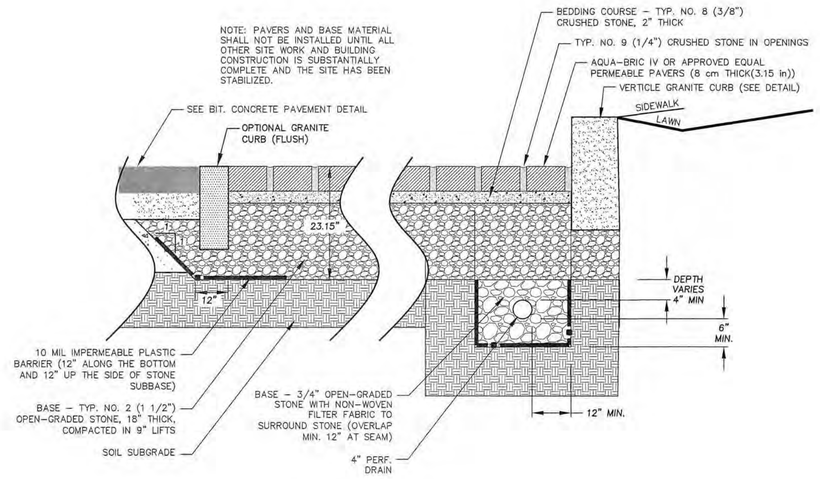
1. SEE PLANS FOR CURB LOCATION.
2. SEE PLANS FOR PAVEMENT CROSS SECTION.
3. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
4. MINIMUM LENGTH OF CURB STONES = 4'.
5. MAXIMUM LENGTH OF CURB STONES = 10'.
6. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES - SEE CHART.
7. CURB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

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

VERTICAL GRANITE CURB NOT TO SCALE

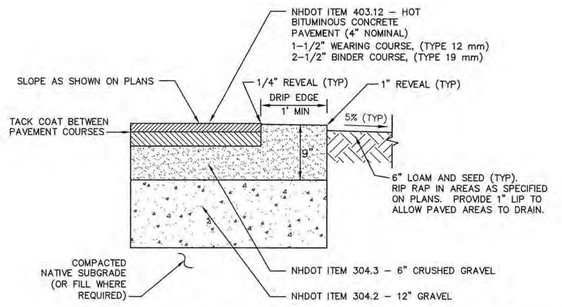


CAPE COD BERM NOT TO SCALE



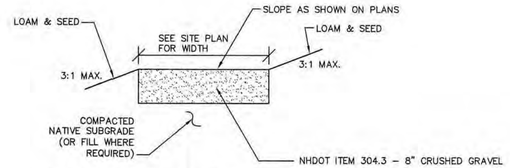
PERMEABLE PAVERS DETAIL

NOT TO SCALE



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

PAVEMENT CROSS SECTION NOT TO SCALE



GRAVEL PATH CROSS SECTION NOT TO SCALE

P4950

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

STATE OF NEW HAMPSHIRE CORY D. BELDEN No. 14239 LICENSED PROFESSIONAL ENGINEER
11/17/19

ISSUED FOR:
PLANNING BOARD APPROVAL

ISSUE DATE:
NOVEMBER 18, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	06/26/19
1	TAC SUBMISSION	CDB	09/16/19
2	TAC SUBMISSION	CDB	10/18/19
3	TAC COMMENTS	CDB	11/18/19

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

SCALE:
NOT TO SCALE

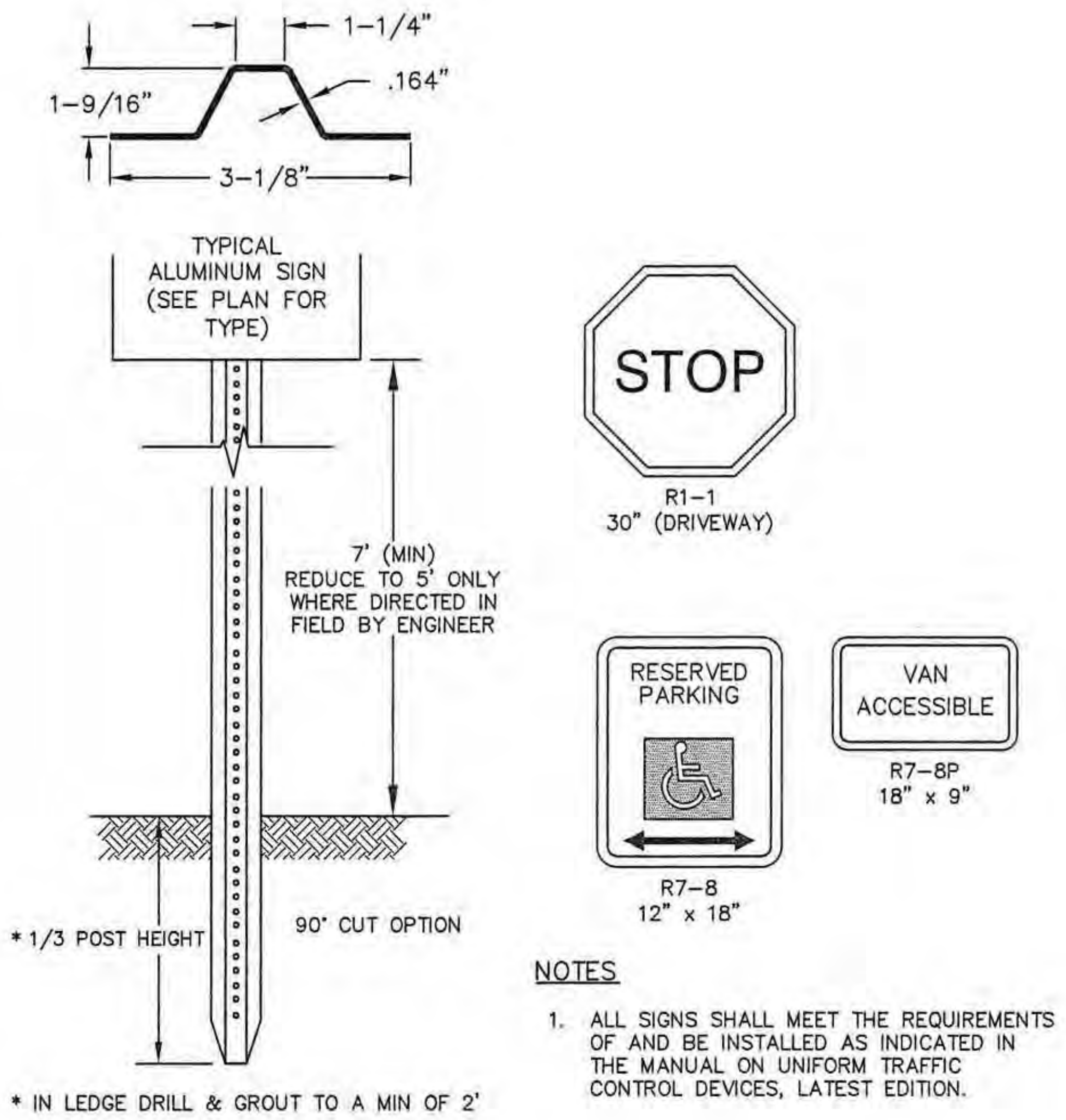
OWNER:
BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
PORTSMOUTH, NH 03801

APPLICANT:
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.6



NOTES

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

* IN LEDGE DRILL & GROUT TO A MIN OF 2'

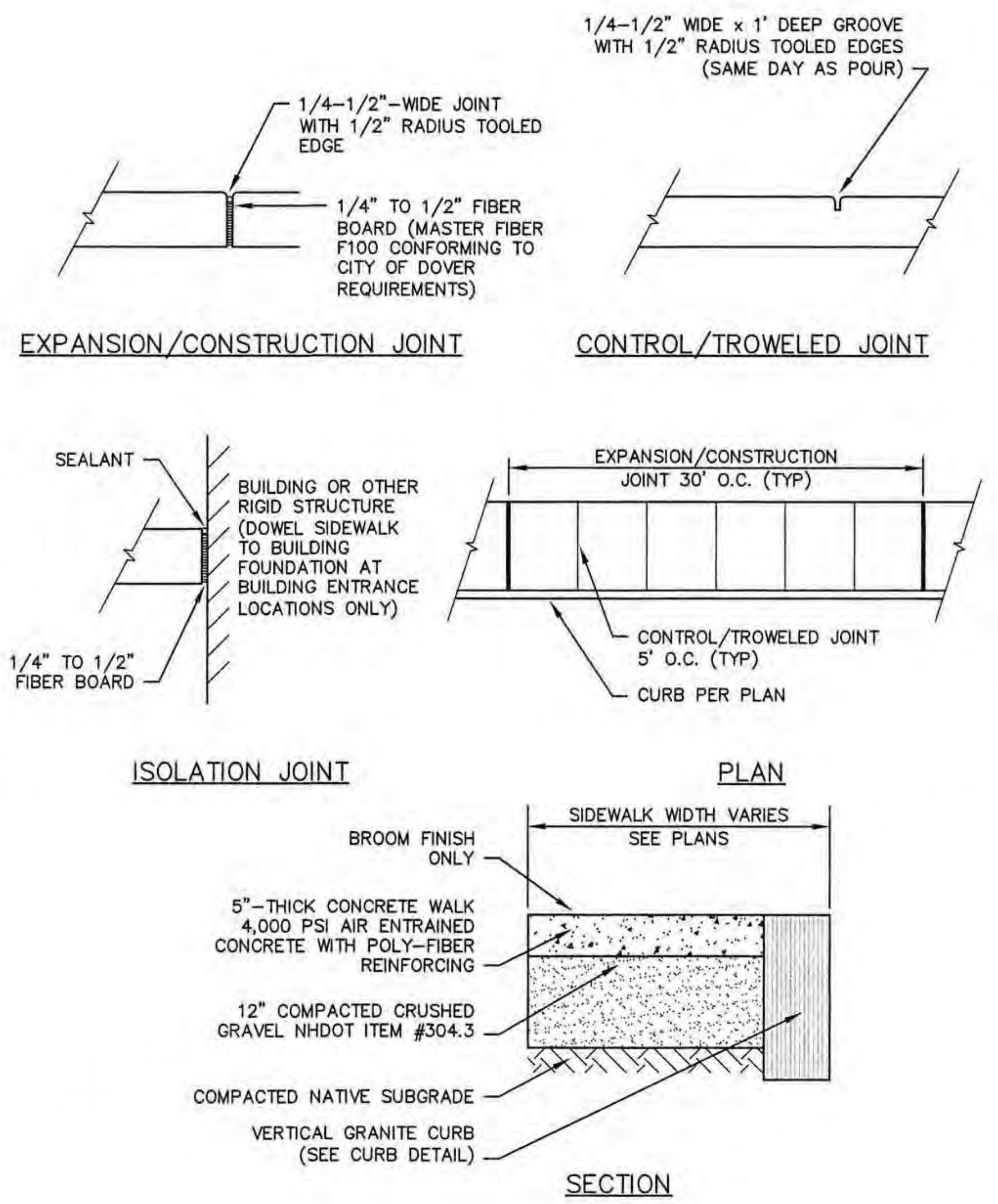
LENGTH: AS REQUIRED

WEIGHT PER LINEAR FOOT: 2.50 LBS (MIN.)

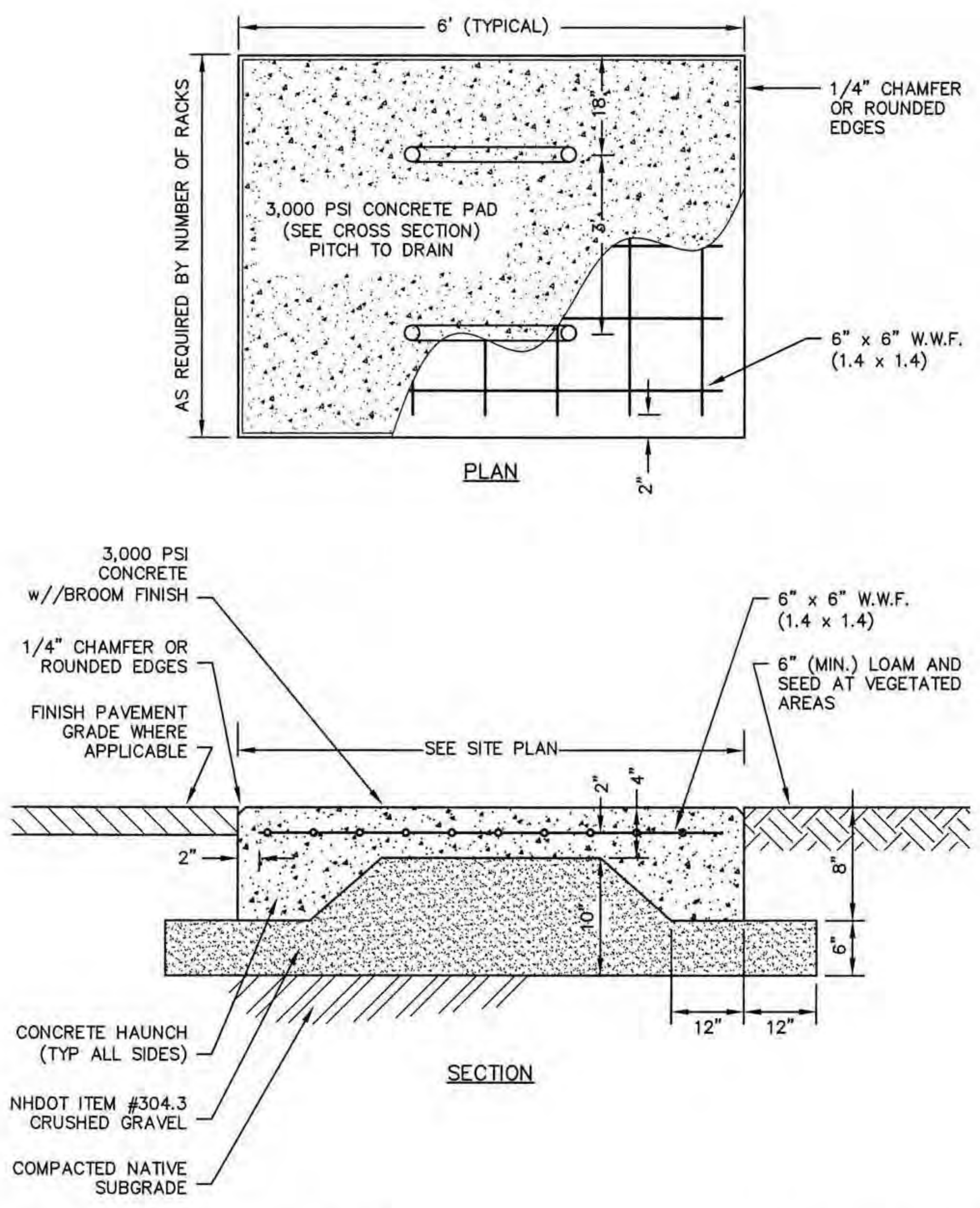
HOLES: 3/8" DIAMETER, 1" C-C FULL LENGTH

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

SIGN DETAILS NOT TO SCALE



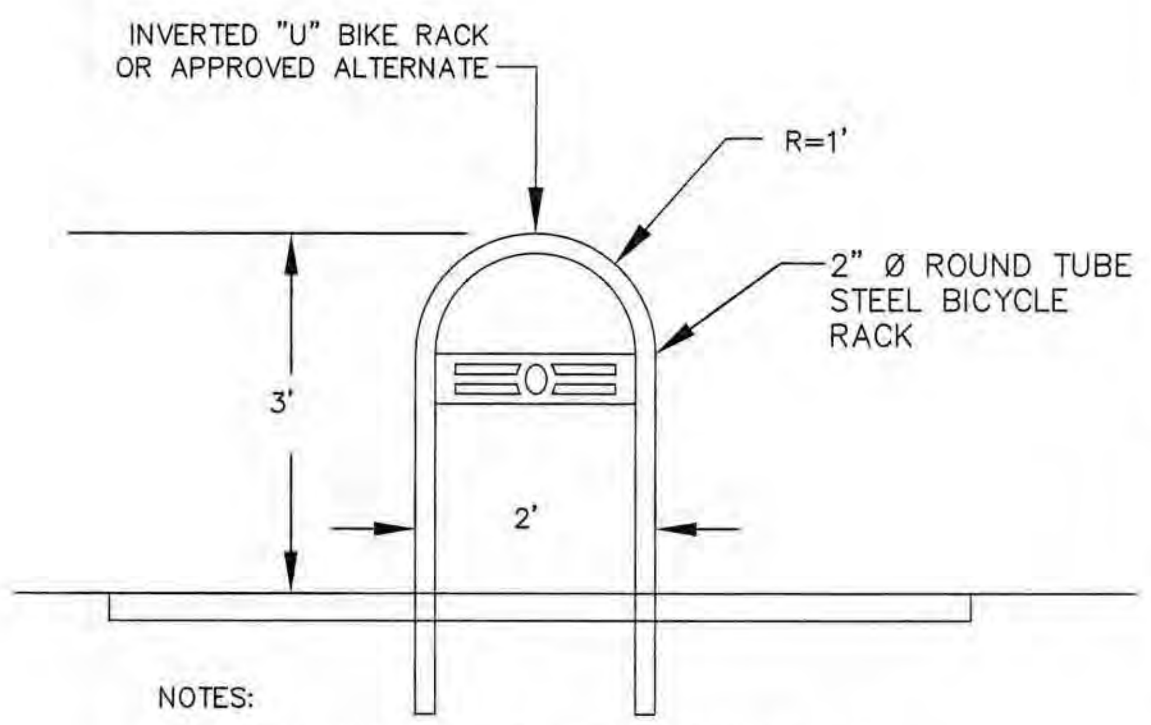
CONCRETE SIDEWALK DETAIL NOT TO SCALE



BICYCLE RACK PAD NOT TO SCALE

APPROVED BY THE PORTSMOUTH PLANNING BOARD

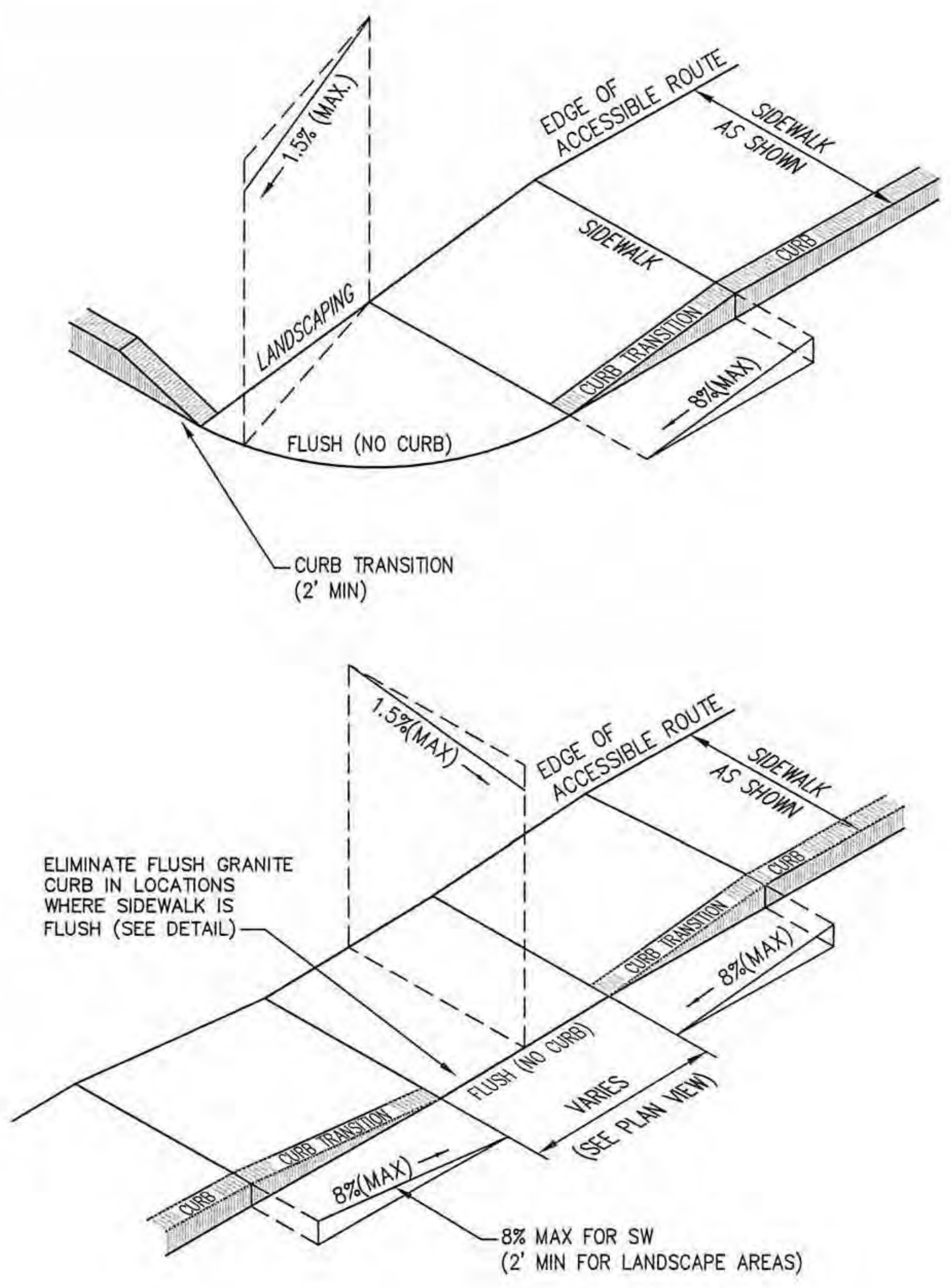
CHAIRMAN DATE



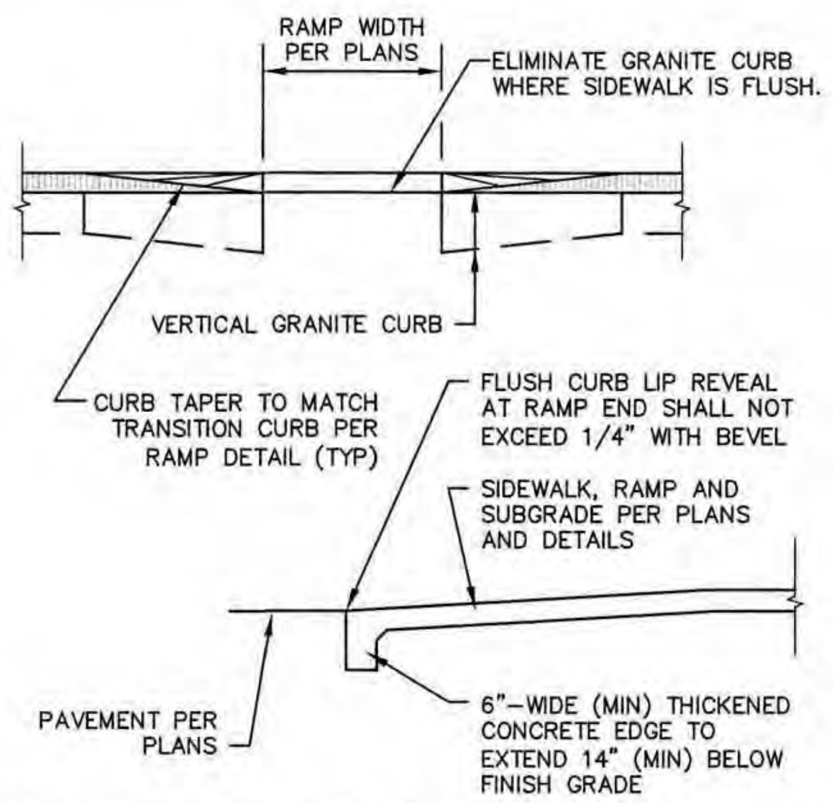
NOTES:

1. INSTALL BICYCLE RACK IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. DETAIL DEPICTS IN-GROUND MOUNT. USE SURFACE MOUNT BICYCLE RACK FOR INSTALLATIONS ON CONCRETE PADS.
3. SEE SITE PLAN FOR CONCRETE PAD LAYOUT & REQUIRED NUMBER OF STALLS. PROVIDE RACKS AS SHOWN ON SITE PLAN. THERE SHALL BE A MINIMUM OF 1.5 FEET TO EDGE OF CONCRETE PAD FROM RACK.

BICYCLE RACK DETAIL NOT TO SCALE



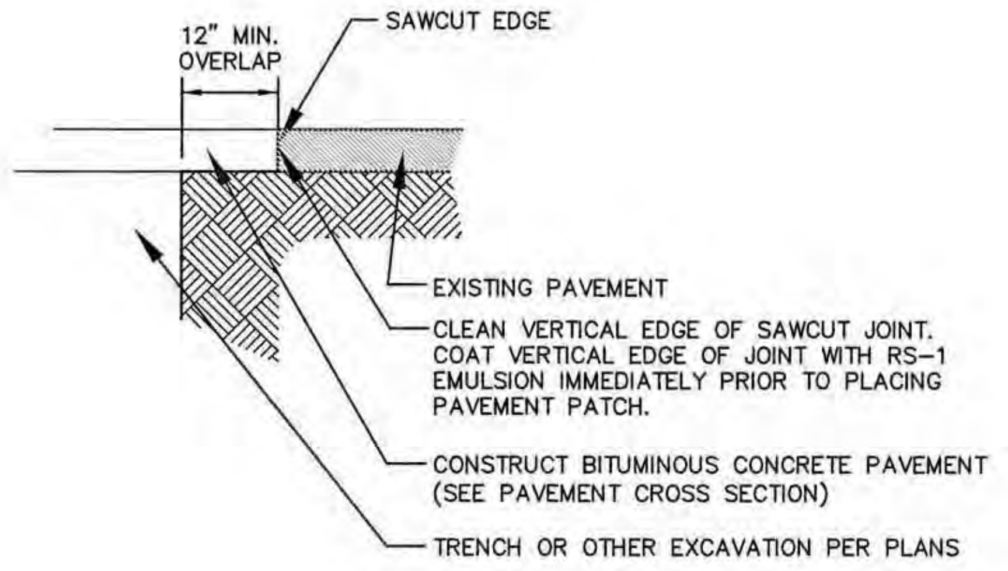
CURB RAMP NOT TO SCALE



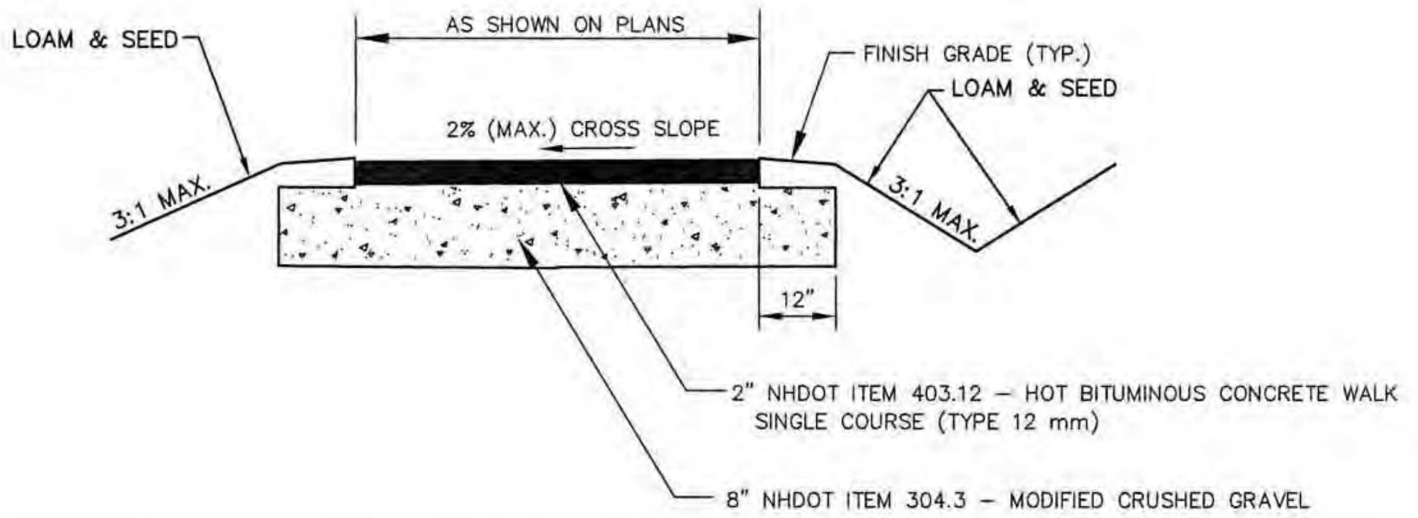
FLUSH CURB AT RAMP DETAIL NOT TO SCALE

ADDITIONAL NOTES APPLICABLE TO ALL CURB RAMPS:

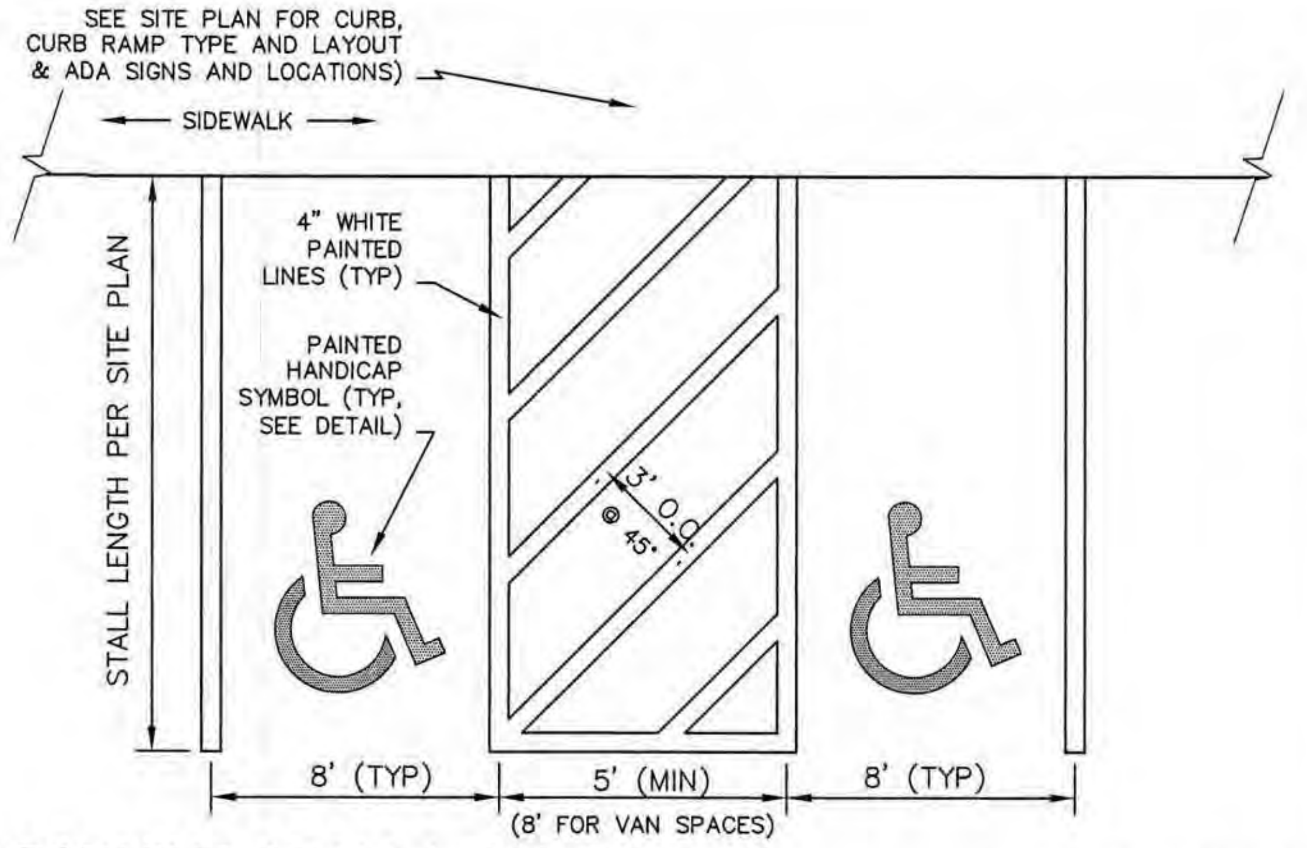
1. ALL CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AMERICANS WITH DISABILITIES ACT (ADA) AND ALL APPLICABLE CODES.
2. THE MAXIMUM ALLOWABLE CROSS SLOPE OF AN ACCESSIBLE ROUTE (SIDEWALK) AND CURB SHALL BE 2%.
3. THE MAXIMUM ALLOWABLE RUNNING SLOPE OF AN ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
4. THE MAXIMUM ALLOWABLE RUNNING SLOPE OF AN ACCESSIBLE ROUTE (SIDEWALK) CURB RAMP SHALL BE 8.3% FOR A MAXIMUM ELEVATION CHANGE OF 6".
5. CURB TREATMENT VARIES, SEE PLANS FOR CURB TYPE.
6. BASE OF RAMP SHALL BE GRADED TO PREVENT THE PONDING OF WATER.
7. SEE TYPICAL SIDEWALK SECTION FOR RAMP CONSTRUCTION.
8. FLUSH CURB SECTIONS SHALL HAVE A MAXIMUM LIP REVEAL OF 1/4" WITH A BEVEL AT THE EDGE OF PAVEMENT.
9. EDGES OF SIDEWALK FOOTINGS ALONG FLUSH CURBS SHALL BE HAUNCHED SO AS TO EXTEND TO A MINIMUM DEPTH OF 1' BELOW FINISH GRADE.
10. NO RAMP SHALL BE LESS THAN 4' IN WIDTH.
11. CURB RAMPS SHALL HAVE A FLAT 2% MAX LANDING AT THE TOP AND BOTTOM OF THE RAMPS WHEN THERE IS A CHANGE IN DIRECTION.



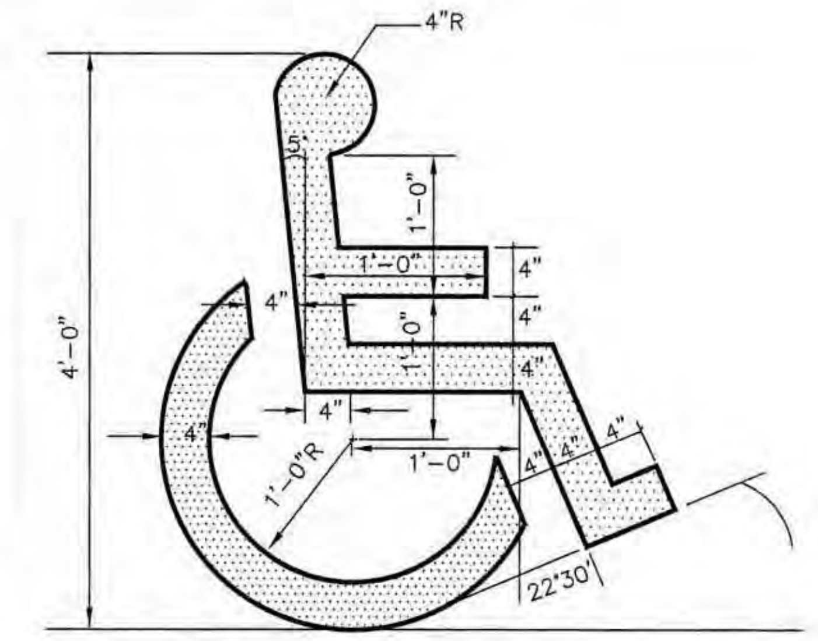
TYPICAL PAVEMENT SAWCUT NOT TO SCALE



BITUMINOUS CONCRETE SIDEWALK NOT TO SCALE



PARKING STALL LAYOUT NOT TO SCALE



NOTES

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

PAINTED ADA SYMBOL NOT TO SCALE

P4950

ENGINEER:

ALTUS
ENGINEERING, INC.

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

CORY D. BELDEN No. 14239

11/18/19

ISSUED FOR:
PLANNING BOARD APPROVAL

ISSUE DATE:
NOVEMBER 18, 2019

REVISIONS

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

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

SCALE:
NOT TO SCALE

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

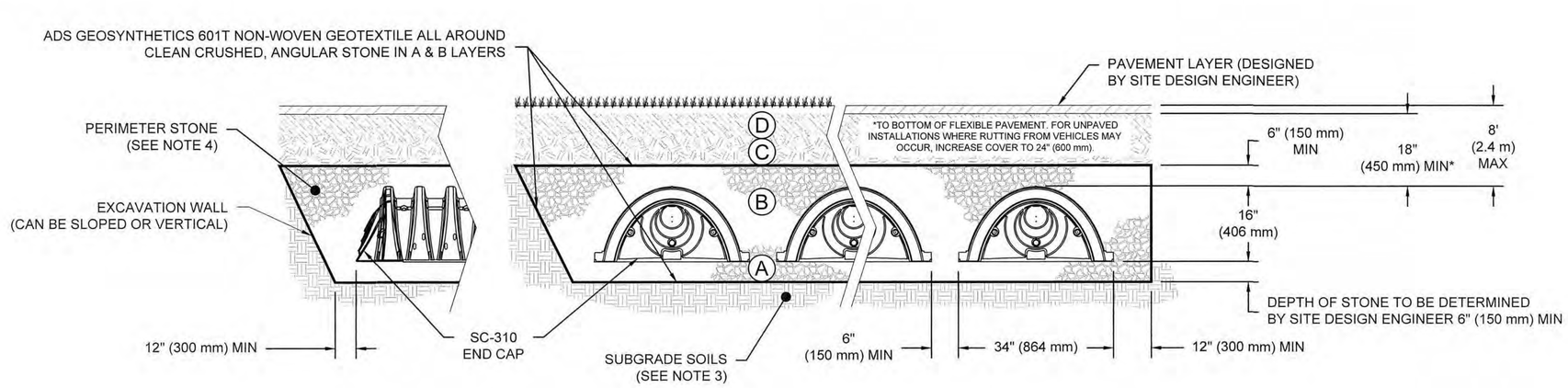
TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
D.7

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR **#4** STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418-16a (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 400 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

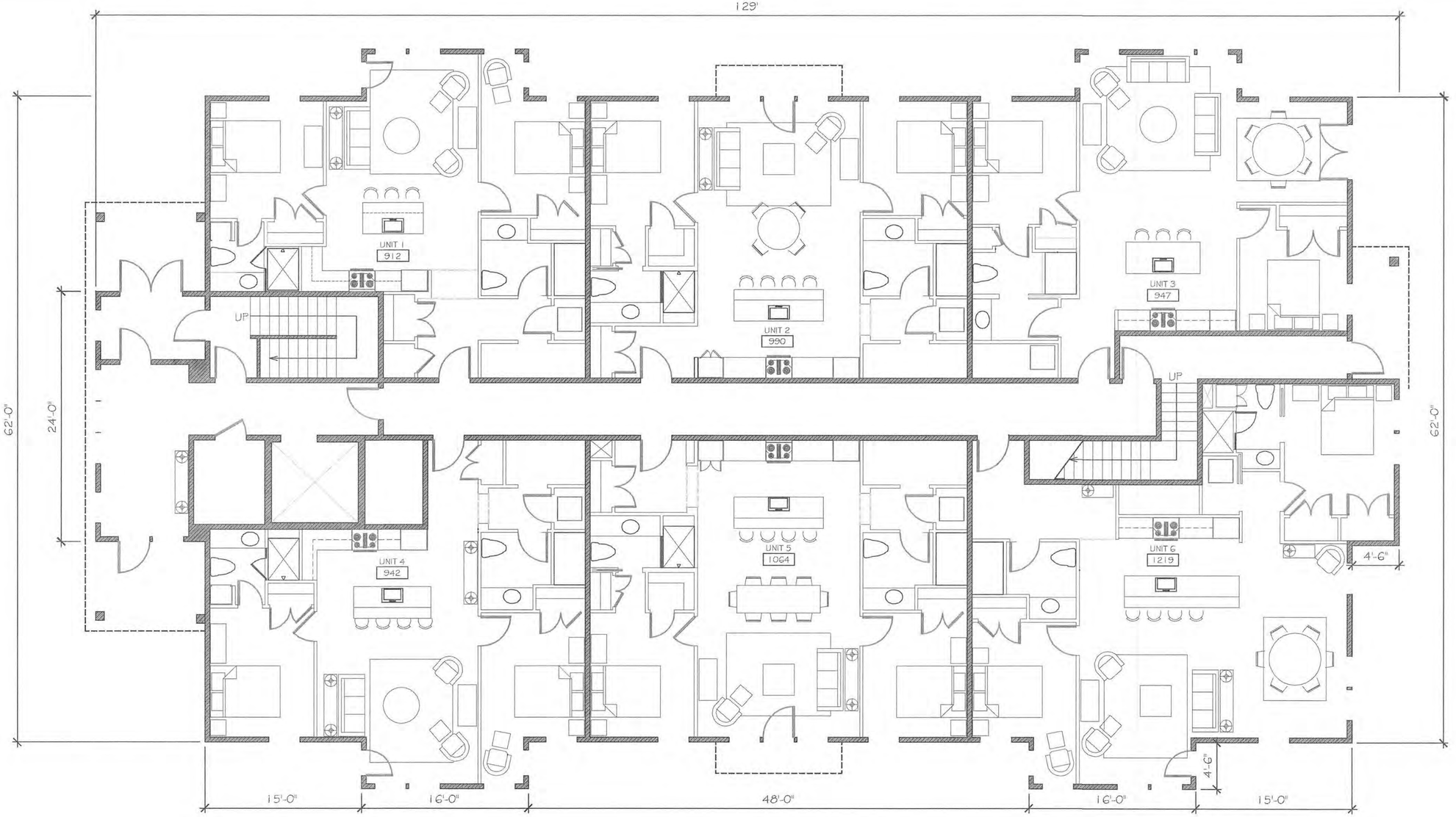
SC-310
STANDARD CROSS SECTION

DATE: 05-10-19 | DRAWN: KR | CHECKED: KR | PROJECT #:

DATE	DRWN	CHKD	DESCRIPTION

StormTech®
Detention • Retention • Water Quality
70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067
860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

ADS®
ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OH 43026



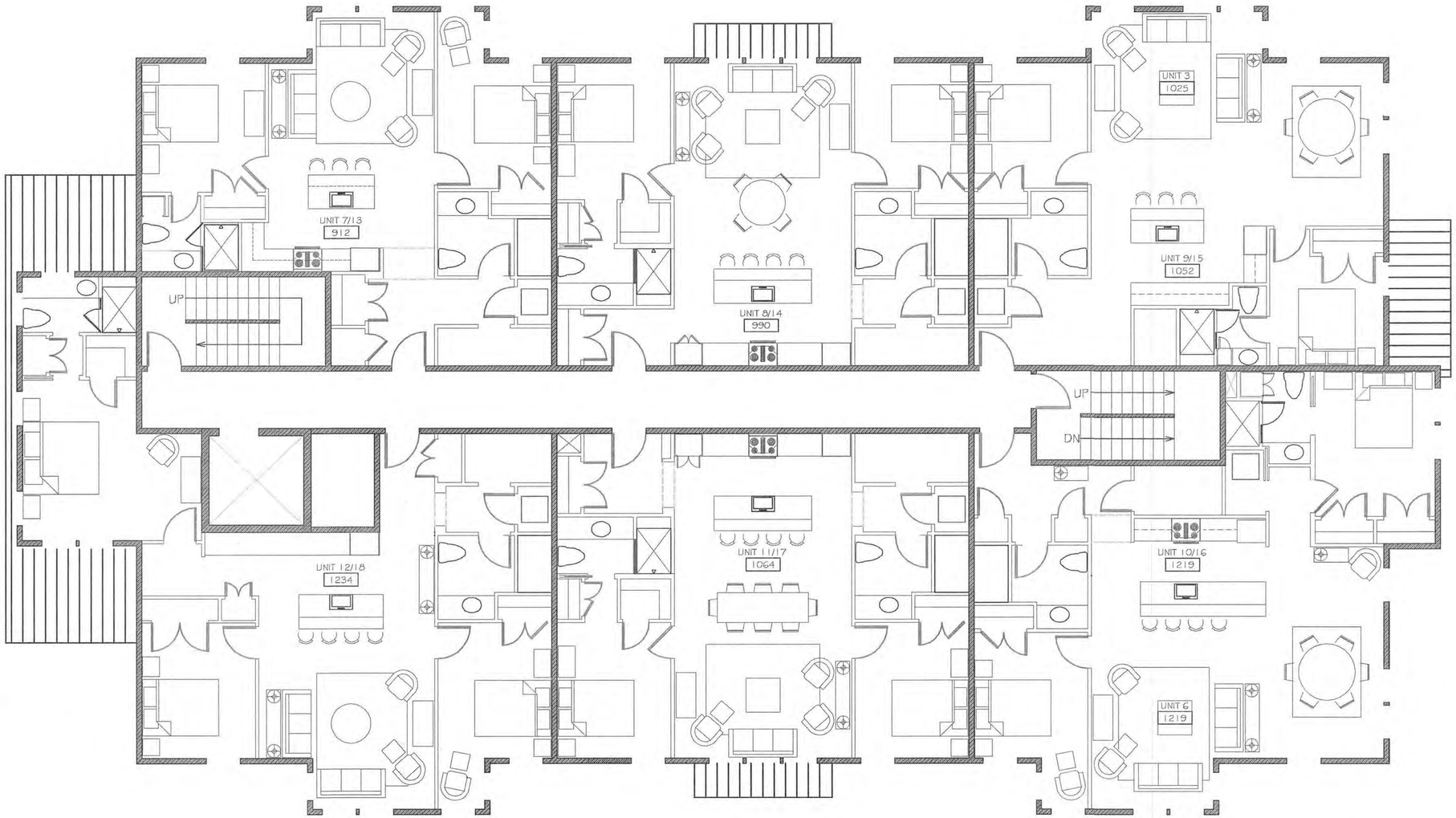
TOTAL FLOOR AREA: 28,727sf
NUMBER OF USABLE FLOORS: 4
GROSS FLOOR AREA/FLOOR [& USE]:
FIRST FLOOR- 7432sf [RESIDENTIAL]
SECOND FLOOR- 7432sf [RESIDENTIAL]
THIRD FLOOR- 7432sf [RESIDENTIAL]
FOURTH FLOOR- 6431sf [RESIDENTIAL]

SUBDIVISION at 200 CHASE DRIVE

PORTSMOUTH, NEW HAMPSHIRE

FIRST FLOOR SKETCH PLAN

11.2019

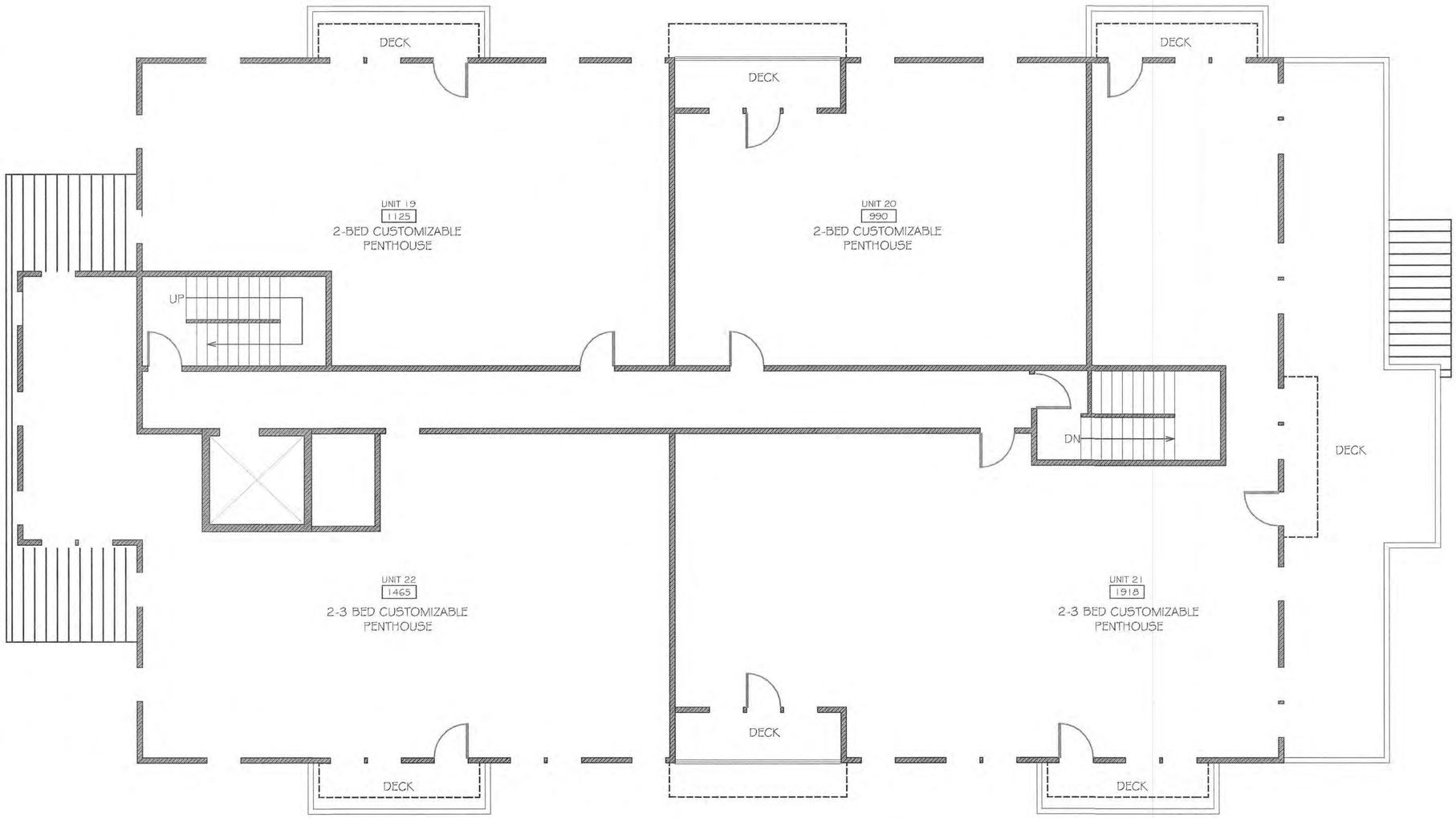


SUBDIVISION at 200 CHASE DRIVE

PORTSMOUTH, NEW HAMPSHIRE

SECOND AND THIRD FLOOR SKETCH PLANS

11.2019

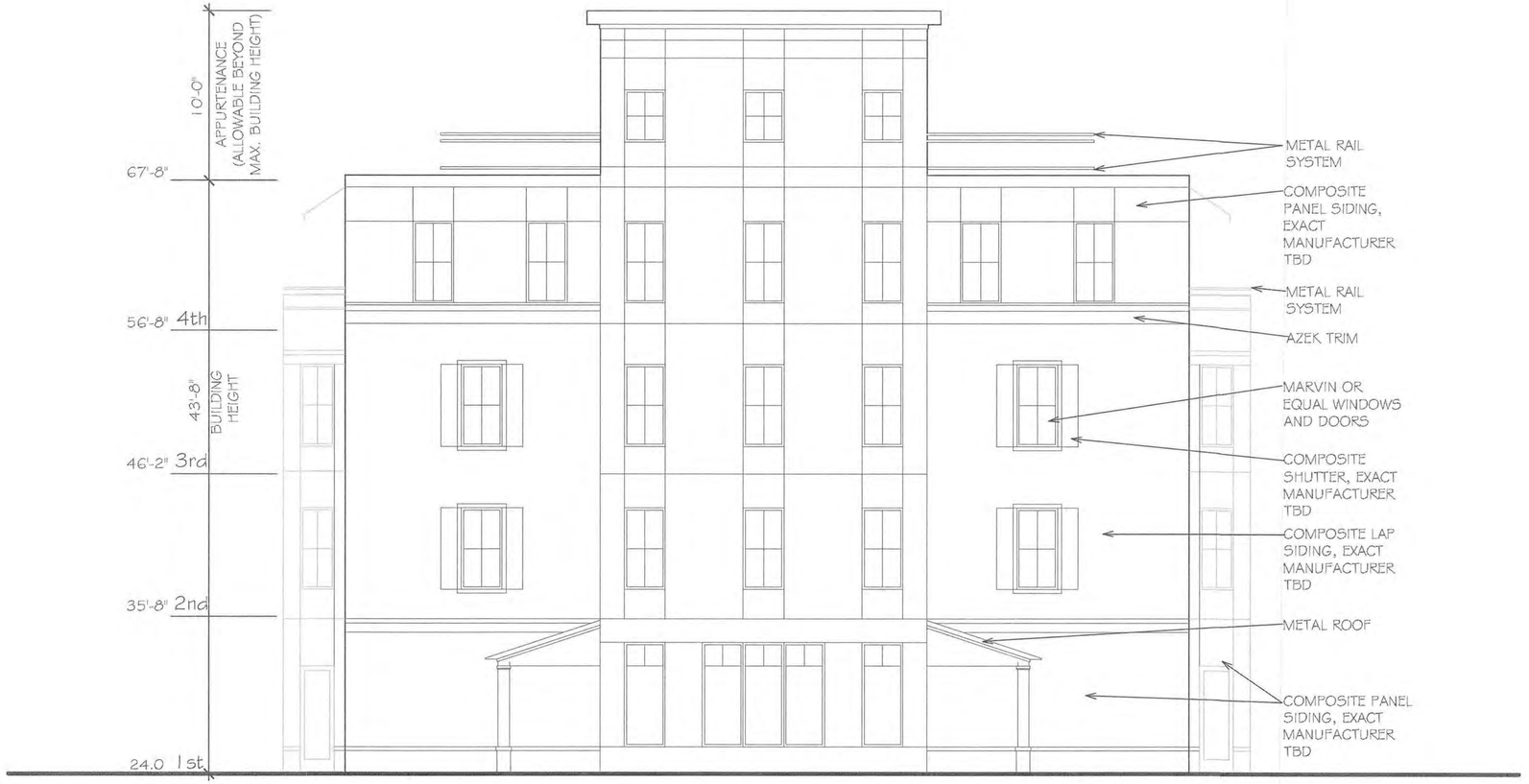


SUBDIVISION at 200 CHASE DRIVE

PORTSMOUTH, NEW HAMPSHIRE

FOURTH FLOOR SKETCH PLAN

11.2019



SUBDIVISION at 200 CHASE DRIVE MARKET STREET ELEVATION SKETCH 11.2019

PORTSMOUTH, NEW HAMPSHIRE

SUBDIVISION at 200 CHASE DRIVE

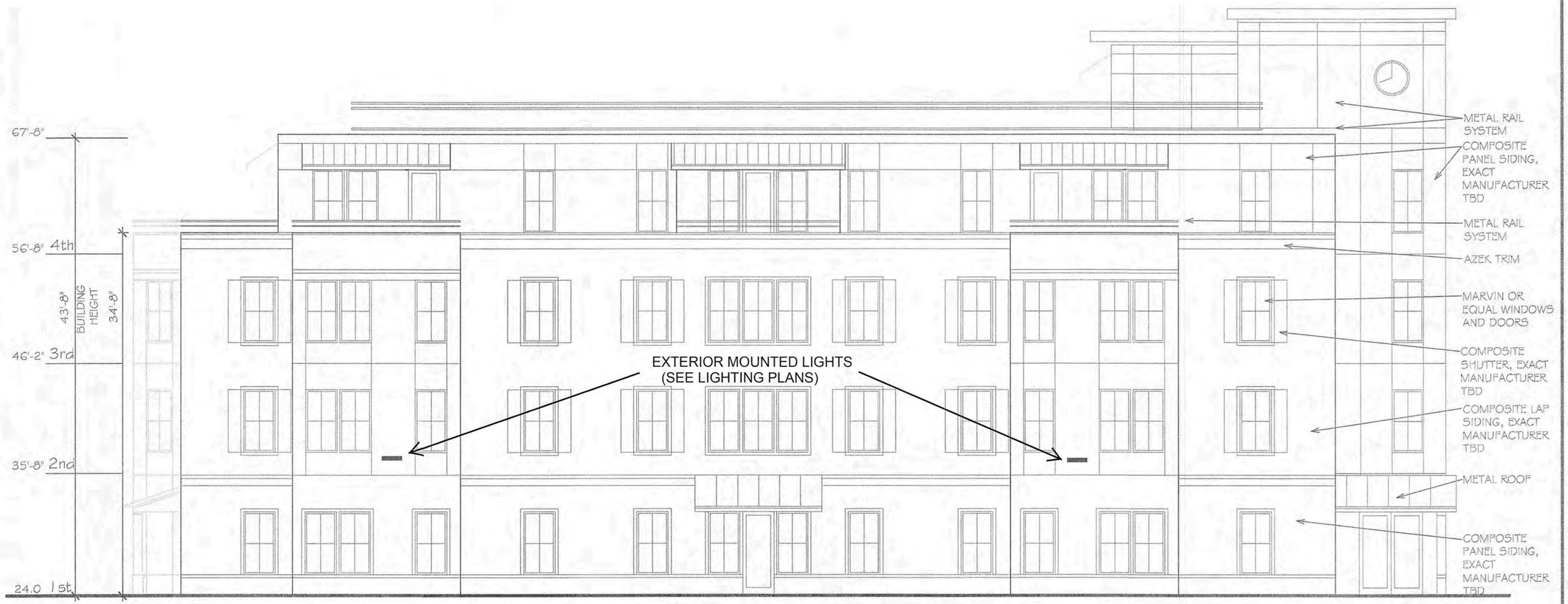
PORTSMOUTH, NEW HAMPSHIRE

MICHAEL SUCCI DR. ELEVATION

11.2019

SUBDIVISION at 200 CHASE DRIVE CHASE ELEVATION SKETCH 11.2019

PORTSMOUTH, NEW HAMPSHIRE



SUBDIVISION at 200 CHASE DRIVE — CHURCH FACING ELEVATION SKETCH — 11.2019

PORTSMOUTH, NEW HAMPSHIRE

200 Chase Ave, Portsmouth, NH
June 2019

Artist Renderings of Michael Succi Drive Elevation

200 Chase Drive
Community Space Narrative
2019-12-22

Character Based Zoning for the Portsmouth Gateway District allows and encourages the use of community space to be provided as part of a development (in accordance with Sections 10.5A42, 10.5A43 or 10.5A46.10).

The proposed development of 200 Chase Drive designates 21.5 % of the site as community space designated as greenway space with publicly accessible pathways that connect to two pocket parks and provide cross site connections to Market Street and provides more direct access to the newly created Park along the waterfront on Market St.

Greenways are defined in the Portsmouth Zoning Ordinance as *"A linear community space that may follow natural corridors providing unstructured and limited amounts of structured recreation. A greenway may be spatially defined by landscaping rather than buildings. Its landscape shall consist of paths and trails, waterbodies, and trees, naturally disposed."*

Pocket Parks are defined as "*a community space available for informal activities in close proximity to neighborhood residences. A pocket park is spatially defined by buildings. Its landscape shall consist of paths, lawns and trees, formally disposed. The minimum size shall be 500sf*."

The 200 Chase site lies between the Cutts Avenue and Brigham Lane residential neighborhoods and Market Street. By designating portions of the site area as community space and creating greenways with landscaped access paths through the site that connect to the tree lined City owned Market Street greenway, neighbors and the general public experience a more fluid connection towards downtown and the newly created waterfront Park. It enhances the pedestrian experience and is of benefit to the neighborhood and the general public.

Three greenways will cross the site from north to south, providing varied access through the property and create a looped system of pathways when accessed from City

sidewalks. The entrances to the greenways will be signed to inform users of the access welcoming them to use the greenway.

Greenway #1 runs along the eastern side of the proposed residential building and provides a curving path that connects the Chase Drive sidewalk through the site, connecting to the Market Street Greenway. Benches are oriented out towards river, the new park and the City beyond.

A second pathway, Greenway #2, will separate the existing church parking lot from the new residential parking area. A raingarden is located at the southern end of this greenway.

Linear garden beds flank this path, planted with ornamental grasses, will create a soft, natural garden feel. The plantings of ornamental grasses and Birch trees create an enhanced landscape along this corridor.

Greenway #3 connects Chase Drive to the Market Street Greenway along the side of the church. Two small park areas are included in the greenway space. One, labeled as Pocket Park #1, is located along the western edge of the parking lot and has a looping path from the existing sidewalk which invites pedestrians into the space. Benches are oriented toward the street and River beyond with a garden of low shrubs and perennials providing seasonal interest. The pathway proceeds out of the small park and through the site, connecting with the Market Street Greenway to the south. The second park space is located on the sloping lawn on the Market Street side of the church, just off the connecting path described above. It is a larger garden space that could be used for small gatherings or contemplation. A small seating area with two benches is located at a high point above the ledge along Market Street. This seating area has great views looking down the Market Street corridor towards town.

At the west end of the church, along Chase Drive is a small pocket park labeled “Pocket Park #2”. This space provides a small, 500sf resting space for pedestrians along Chase Street and designating the beginning of the community space.

Layered planting is proposed between the parking areas and Market Street. This enhanced planting will separate the parking from the street and enhance the existing Market Street Greenway by providing a varied mix of trees, evergreen shrubs, and ornamental grasses layered along its north side.

The proposed site improvements and landscape enhancements will mark a major improvement to the existing site, complementing the proposed building and providing publicly accessible community space connecting to Market Street and the downtown. These connections provide access and Park like garden spaces that will be seen from and enhance the gateway of Market Street. The added community space more than doubles the pathways available to the community when combined with the newly created waterfront Park along Market St.

103 KENT PLACE
NEWMARKET, NH 03857
603.659.5949
woodburnandcompany.com

ALTUS
ENGINEERING, INC.

Civil
Site Planning
Environmental
Engineering

133 Court Street
Portsmouth, NH
03801-4413

DRAINAGE MEMO

200 Chase Drive Gateway Development Site

Assessor's Map 210 Lot 02

Altus Project P4950

This supplemental Drainage Memo provides a summary of the changes and results from the original Drainage Report that was submitted for the proposing development site located at 200 Chase Drive (Assessor's Map 210, Lot 02). The proposed project will subdivide the existing lot that is owned by the Bethel Assembly of God and is the current home to the Connect Community Church. The new lot will provide a new multi-family building that will provide 22 housing units as well as additional site improvements.

On December 3, 2019 the proposed development was heard by the City of Portsmouth Technical Advisory Committee (TAC). During this meeting TAC provided design comments for the proposes development. The following revisions have been made to the drainage plans as a result of the comments:

1) The existing conditions model has been revised to reflect the entire parking lot flowing to CB 3396 at the corner of Michael Succi Drive and Market St. An existing grass berm along the south side of the parking lot convey keep the flows from the Market Street Drainage.
2) The raingarden on the west side (Michael Succi Drive) of the proposed building has been removed in lieu on of a subsurface chamber system. The chamber system will allow the outlet to be located on in the southeast corner of the property.
3) The two small raingardens along the south side of the existing parking lot have been remove in lieu of a drip edge filter along the entire parking lot. This drip edge filter will be a minimum of 4 ft wide and have a 6" layer of rock over an 18" thick filter media layer (similar to a raingarden. The filter will have an 18" rock layer under the filter media with an underdrain.
4) The overflow ditch to the catch basin along Market Street CB 3377 has been removed. All flows from the existing parking lot and new site development will be conveyed to CB 3396 at the corner of Michael Succi Dr and Market St.

December 23, 2019

The attached Pre-Development Drainage Plan and Post-Development Drainage Plan illustrate the pre-development and proposed post-development drainage conditions. Also reference the revised site plans dated December 23, 2019 for detailed grading and drainage information. The following table compares the revised pre- and post-development peak rates at the Points of Analysis identified on the plans for the 2, 10, 25, and 50 year storm events:

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

*Rainfall Intensities reflect 15% Increase per AOT	2-Yr Storm (3.74 inch)	10-Yr Storm (5.67 inch)	25-Yr Storm (7.19 inch)	50-Yr Storm (8.61 inch)
POA #1				
Pre	5.9	11.1	15.2	17.6
Post	4.4	8.3	11.7	14.7
Net Change	**-1.5**	**-2.8**	**-3.5**	**-2.9**

As the above table demonstrates, the proposed peak rates of runoff will not be increased from the existing conditions for any of the analyzed storm events. Upon acceptance of the proposed design, a complete revised Drainage Report with all supporting modeling results will be provided the City

CONCLUSION

The proposed 200 Chase Drive development will not have an adverse effect on abutting properties and infrastructure as a result of stormwater runoff. The existing site was developed in the 1970's and 80's and has no designed stormwater treatment facilities and minimal detention areas. The proposed improvements will reduce the total impervious area on site by approximately 2,800 square feet, but will provide treatment to approximately 42,700 square feet of impervious area, reducing the effective (untreated) impervious area from 64% to 25%. The analysis of the site utilizes a 15% increase to the rainfall intensities for seacoast communities, as is recommended by NHDES. The site was analyzed for the 2, 10, 25, and 50 year storm events and shows a reduction in off-site discharge for all storm events.

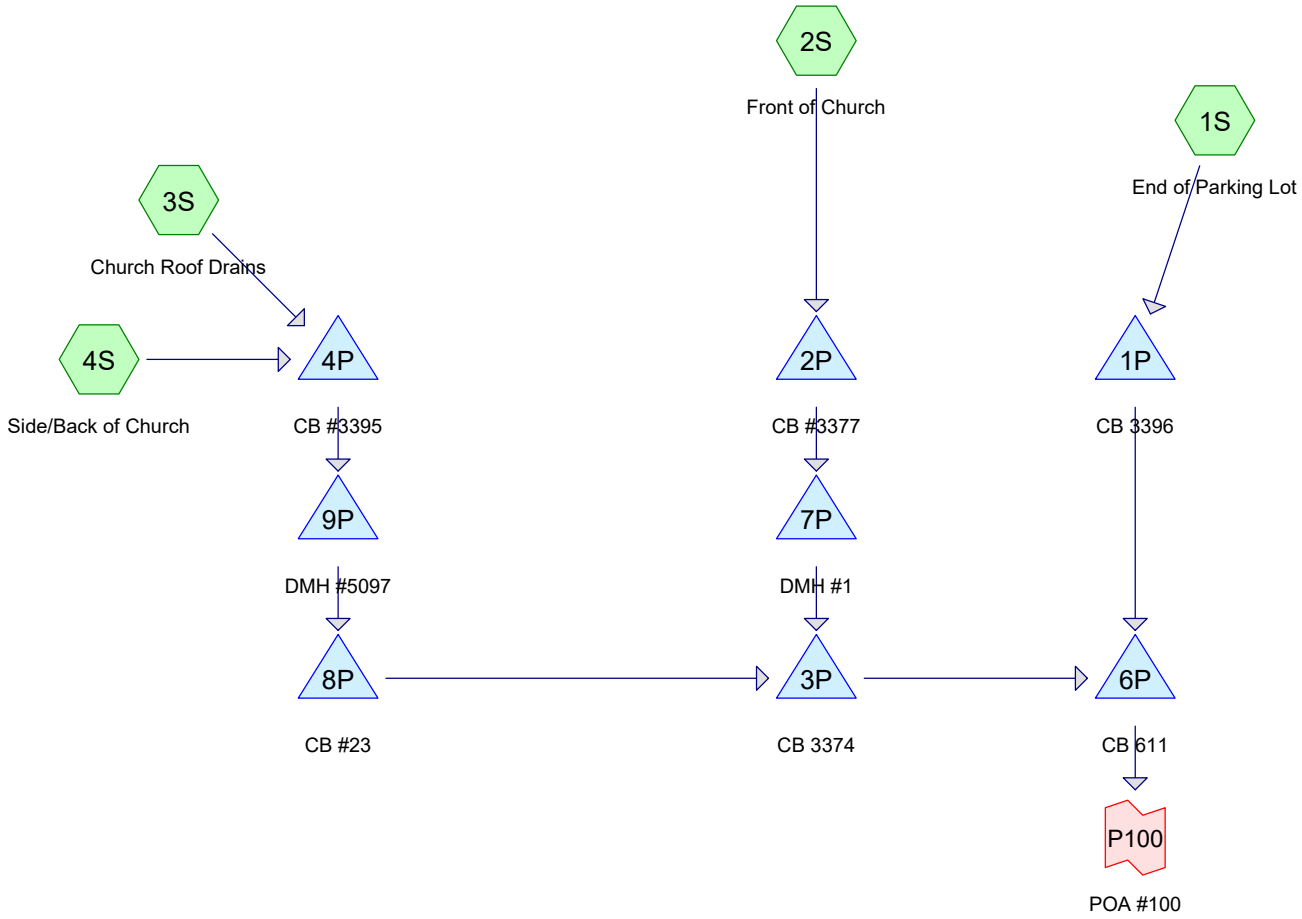
ATTACHMENTS

- Pre-Development Drainage Plan
- Post-Development Drainage Plan

Sincerely,
ALTUS ENGINEERING, INC.

Cory Belden, PE, Project Manager

Enclosure
Ecopy: Stephen Kelm, 200 Chase Drive, LLC
Pastor Chad Lynn, Connect Community Church



Subcat Reach Pond Link

Routing Diagram for 4950-PRE_122319
Prepared by Altus Engineering, Inc., Printed 12/23/2019

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.472	61	>75% Grass cover, Good, HSG B (1S, 2S, 4S)
1.065	98	Paved parking, HSG B (1S)
0.033	98	Paved parking, HSG C (4S)
0.383	98	Roofs, HSG B (2S, 3S, 4S)
0.032	98	Unconnected pavement, HSG B (1S, 2S)
0.016	98	Unconnected pavement, HSG C (4S)
3.003	**80**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
2.953	HSG B	1S, 2S, 3S, 4S
0.050	HSG C	4S
0.000	HSG D	
0.000	Other	
3.003		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	1.472	0.000	0.000	0.000	1.472	>75% Grass cover, Good	1S, 2S, 4S
0.000	1.065	0.033	0.000	0.000	1.099	Paved parking	1S, 4S
0.000	0.383	0.000	0.000	0.000	0.383	Roofs	2S, 3S, 4S
0.000	0.032	0.016	0.000	0.000	0.049	Unconnected pavement	1S, 2S, 4S
0.000	**2.953**	**0.050**	**0.000**	**0.000**	**3.003**	**TOTAL AREA**	

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Link P100: POA #100

Inflow=5.85 cfs 0.454 af
Primary=5.85 cfs 0.454 af

Summary for Link P100: POA #100

Inflow Area = 3.003 ac, 50.96% Impervious, Inflow Depth > 1.81" for 2-Year event
Inflow = 5.85 cfs @ 12.10 hrs, Volume= 0.454 af
Primary = 5.85 cfs @ 12.10 hrs, Volume= 0.454 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Link P100: POA #100 Inflow=11.06 cfs 0.850 af
Primary=11.06 cfs 0.850 af

Summary for Link P100: POA #100

Inflow Area = 3.003 ac, 50.96% Impervious, Inflow Depth > 3.40" for 10-Year event
Inflow = 11.06 cfs @ 12.10 hrs, Volume= 0.850 af
Primary = 11.06 cfs @ 12.10 hrs, Volume= 0.850 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Link P100: POA #100 Inflow=15.16 cfs 1.183 af
Primary=15.16 cfs 1.183 af

Summary for Link P100: POA #100

Inflow Area = 3.003 ac, 50.96% Impervious, Inflow Depth > 4.73" for 25-Year event
Inflow = 15.16 cfs @ 12.11 hrs, Volume= 1.183 af
Primary = 15.16 cfs @ 12.11 hrs, Volume= 1.183 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

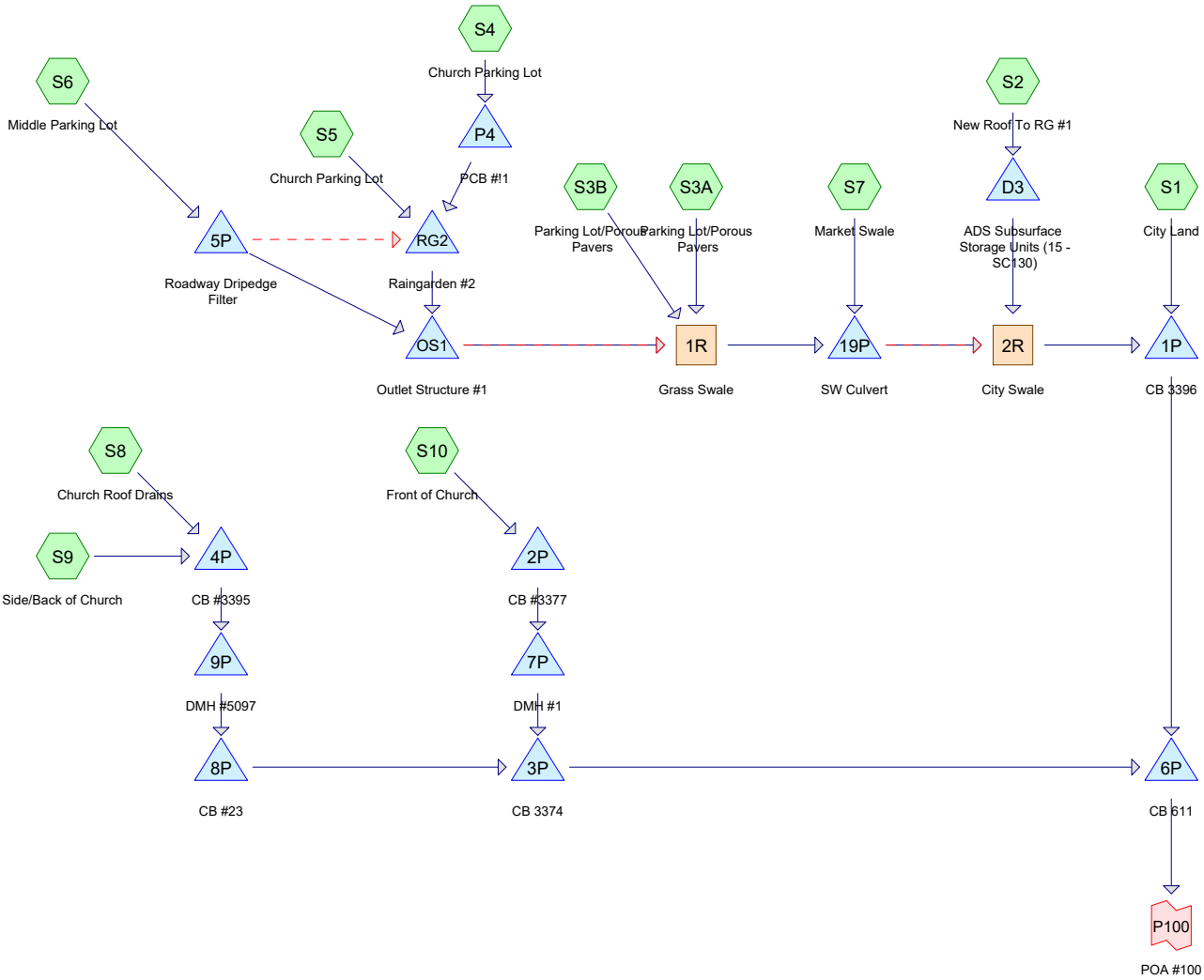
Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Link P100: POA #100 Inflow=17.61 cfs 1.502 af
Primary=17.61 cfs 1.502 af

Summary for Link P100: POA #100

Inflow Area = 3.003 ac, 50.96% Impervious, Inflow Depth > 6.00" for 50-Year event
Inflow = 17.61 cfs @ 12.13 hrs, Volume= 1.502 af
Primary = 17.61 cfs @ 12.13 hrs, Volume= 1.502 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs



Subcat Reach Pond Link

Routing Diagram for 4950-POST_122319
Prepared by Altus Engineering, Inc., Printed 12/23/2019
HydroCAD® 10.00-22 s/n 01222 © 2018 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.517	61	>75% Grass cover, Good, HSG B (S1, S10, S3A, S3B, S4, S5, S6, S7, S9)
0.641	98	Paved parking, HSG B (S3A, S3B, S4, S5, S6)
0.033	98	Paved parking, HSG C (S9)
0.013	98	Paved roads w/curbs & sewers, HSG B (S7)
0.059	85	Porous Pavers, HSG B (S3A, S3B)
0.559	98	Roofs, HSG B (S10, S2, S8, S9)
0.125	98	Unconnected pavement, HSG B (S1, S10, S3A, S3B, S4, S6, S7)
0.054	98	Unconnected pavement, HSG C (S9)
3.003	**79**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
2.915	HSG B	S1, S10, S2, S3A, S3B, S4, S5, S6, S7, S8, S9
0.088	HSG C	S9
0.000	HSG D	
0.000	Other	
3.003		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	1.517	0.000	0.000	0.000	1.517	>75% Grass cover, Good	S1, S10, S3A, S3B, S4, S5, S6, S7, S9
0.000	0.641	0.033	0.000	0.000	0.675	Paved parking	S3A, S3B, S4, S5, S6, S9
0.000	0.013	0.000	0.000	0.000	0.013	Paved roads w/curbs & sewers	S7
0.000	0.059	0.000	0.000	0.000	0.059	Porous Pavers	S3A, S3B
0.000	0.559	0.000	0.000	0.000	0.559	Roofs	S10, S2, S8, S9
0.000	0.125	0.054	0.000	0.000	0.179	Unconnected pavement	S1, S10, S3A, S3B, S4, S6, S7, S9
0.000	**2.915**	**0.088**	**0.000**	**0.000**	**3.003**	**TOTAL AREA**	

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Link P100: POA #100 Inflow=4.35 cfs 0.359 af
Primary=4.35 cfs 0.359 af

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Link P100: POA #100 Inflow=8.31 cfs 0.707 af
Primary=8.31 cfs 0.707 af

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Link P100: POA #100 Inflow=11.67 cfs 1.007 af
Primary=11.67 cfs 1.007 af

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Link P100: POA #100 Inflow=14.70 cfs 1.298 af
Primary=14.70 cfs 1.298 af

NORTH
NAD83(2011)
GRID
NHSPC

SOLS CLASSIFICATION

SYMBOL	DESCRIPTION	HSG
799	URBAN LAND – CANTON COMPLEX (ENTIRE SITE)	B

SLOPE PHASES

SYMBOL	PHASE
A	0–3%
B	3–8%
C	8–15%
D	15–25%
E	25–50%
F	50%+

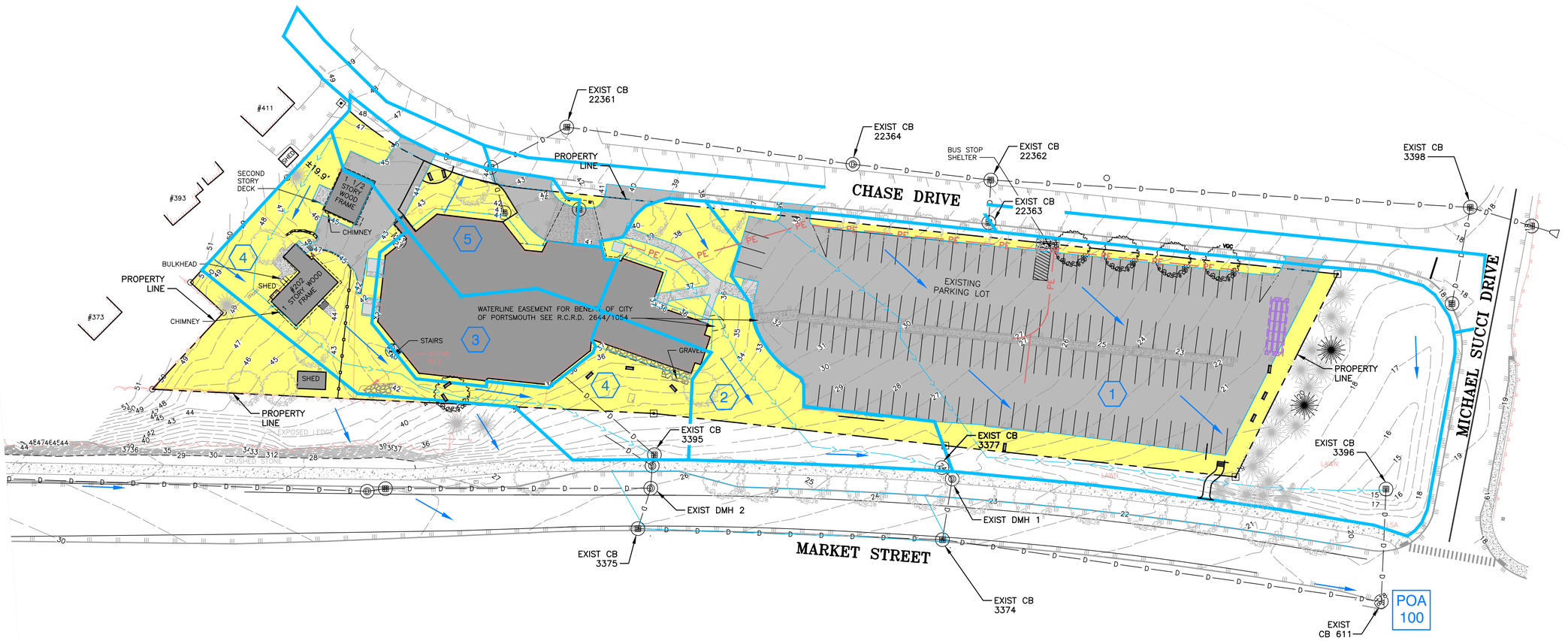
SOILS LEGEND

HYDROLOGIC GROUP

- SOILS – HSG A
- SOILS – HSG B
- SOILS – HSG C
- SOILS – HSG D
- IMPERVIOUS (BLDGS/ROADS/MISC)

LEGEND

- PROPERTY LINE
- WETLAND/SOILS BOUNDARY
- 60 EXISTING CONTOUR
- EXISTING PAVEMENT/CURB
- EXISTING TREELINE
- WATERSHED BOUNDARY
- Tc PATH
- SURFACE FLOW DIRECTION
- 1 1 1 SUBCATCHMENT/POND/REACH
- POA POINT OF ANALYSIS



GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

P4950

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

ISSUED FOR:
DRAINAGE REPORT

ISSUE DATE:
DECEMBER 23, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	09/16/19
0	REVISION 1	CDB	12/23/19

DRAWN BY: CDB
APPROVED BY: EDW
DRAWING FILE: 4950.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:
PRE-DEVELOPMENT DRAINAGE PLAN

SHEET NUMBER:
DA-1

NORTH
NAD83(2011)
GRID
NHSPC

SOLS CLASSIFICATION

SYMBOL	DESCRIPTION	HSG
799	URBAN LAND – CANTON COMPLEX (ENTIRE SITE)	B

SLOPE PHASES

SYMBOL	PHASE
A	0–3%
B	3–8%
C	8–15%
D	15–25%
E	25–50%
F	50%+

SOILS LEGEND

HYDROLOGIC GROUP

- SOILS – HSG A
- SOILS – HSG B
- SOILS – HSG C
- SOILS – HSG D
- IMPERVIOUS (BLDGS/ROADS/MISC)

LEGEND

- PROPERTY LINE
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- SURFACE FLOW DIRECTION
- 1 1 1 SUBCATCHMENT/POND/REACH
- POA POINT OF ANALYSIS

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

P4950

ENGINEER:

ALTUS ENGINEERING, INC.

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

ISSUED FOR:
DRAINAGE REPORT

ISSUE DATE:
DECEMBER 23, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	09/16/19
1	REVISED PARKING LOT	CDB	10/21/19
2	REVISION 2	CDB	12/23/19

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

SCALE:
22" x 34" – 1" = 40'
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CHASE DRIVE GATEWAY DEVELOPMENT SITE

200 CHASE DRIVE
PORTSMOUTH, NH

ASSESSOR'S PARCEL 210–2

TITLE:
POST-DEVELOPMENT DRAINAGE PLAN

SHEET NUMBER:
DA-2

ALTUS ENGINEERING, INC.

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
Altus Project #P4950

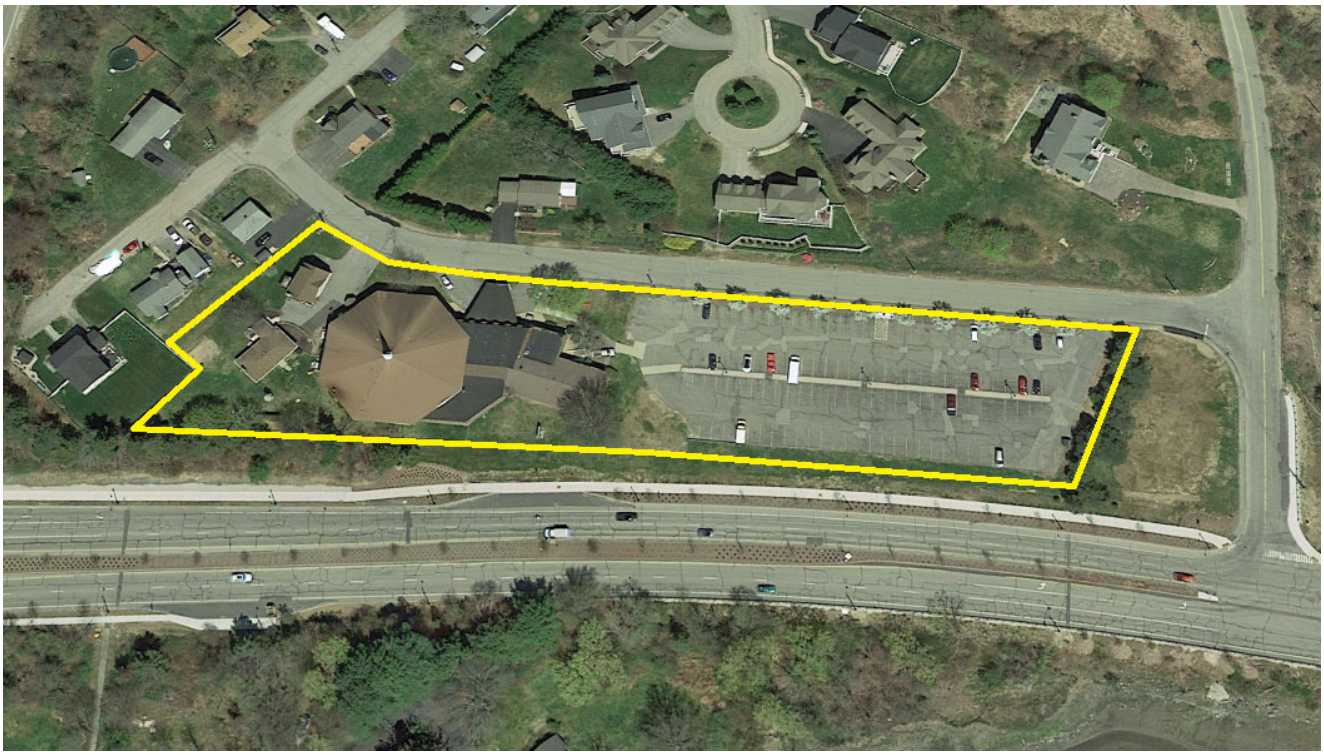
PARKING DEMAND ANALYSIS

(For Conditional Use Permit Application)

Revised December 23, 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 attendance data since March 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 10 week period from 10/6/19 through 12/8/19, the records indicate that for the highest attended services, the average is 2.6 persons per vehicle. Although the average throughout the period is 2.4 persons per vehicle, this accounts for approximately 15 volunteers per service that are primarily single occupancy. Removing the volunteers results in an average of 2.8 persons per vehicle for the general membership attending each service.

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

3. 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.

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
- Community Connect Church Parking Plan
- Special Events Parking Exhibit
- 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

ALTUS ENGINEERING, INC.

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 =	**134 Parking Spaces**
Total Number of Proposed Parking Spaces	
Church	75 Spaces
22-Unit residential building	30 Spaces
Two Single Family Residential	4 Spaces
TOTAL PROPOSED PARKING SPACES	**109 Parking Spaces**

Community Connect Church

Attendance Records

Date	Time	Attendance	Time	Attendance	
3/3/2019	9:00 AM	94	11:00 AM	135	
3/10/2019	9:00 AM	61	11:00 AM	122	
3/17/2019	9:00 AM	81	11:00 AM	147	
3/24/2019	9:00 AM	96	11:00 AM	155	
3/31/2019	9:00 AM	97	11:00 AM	148	
4/7/2019	9:00 AM	107	11:00 AM	137	
4/14/2019	9:00 AM	107	11:00 AM	148	
4/21/2019	9:00 AM	186	11:00 AM	165	*EASTER SUNDAY
4/28/2019	9:00 AM	104	11:00 AM	147	
5/5/2019	9:00 AM	111	11:00 AM	127	
5/12/2019	9:00 AM	115	11:00 AM	121	
5/19/2019	9:00 AM	103	11:00 AM	138	
5/26/2019	9:00 AM	135	11:00 AM	107	
6/2/2019	9:00 AM	125	11:00 AM	112	
6/9/2019	9:00 AM	84	11:00 AM	143	
6/16/2019	9:00 AM	69	11:00 AM	107	
6/23/2019	9:00 AM	98	11:00 AM	109	
6/30/2019	9:00 AM	98	11:00 AM	118	
7/7/2019	9:00 AM	88	11:00 AM	113	
7/14/2019	9:00 AM	70	11:00 AM	120	
7/21/2019	9:00 AM	72	11:00 AM	108	
7/28/2019	9:00 AM	98	11:00 AM	128	
8/4/2019	9:00 AM	101	11:00 AM	147	
8/11/2019	9:00 AM	118	11:00 AM	138	
8/18/2019	9:00 AM	83	11:00 AM	138	
8/25/2019	9:00 AM	95	11:00 AM	172	
9/1/2019	9:00 AM	114	11:00 AM	121	
9/8/2019	9:00 AM		11:00 AM		No data
9/15/2019	9:00 AM		11:00 AM		No data
9/22/2019	9:00 AM		11:00 AM		No data
9/29/2019	9:00 AM	93	11:00 AM	105	
10/6/2019	9:00 AM	114	11:00 AM	139	
10/13/2019	9:00 AM	135	11:00 AM	146	
10/20/2019	9:00 AM	124	11:00 AM	190	*Celebration Sunday
10/27/2019	9:00 AM	111	11:00 AM	150	
11/3/2019	9:00 AM	123	11:00 AM	138	
11/10/2019	9:00 AM	121	11:00 AM	141	
11/17/2019	9:00 AM	123	11:00 AM	163	
11/24/2019	9:00 AM	101	11:00 AM	101	*Combined Service
12/1/2019	9:00 AM	113	11:00 AM	161	
12/8/2019	9:00 AM	130	11:00 AM	125	
	Ave Attendance	105.2	Ave Attendance	135.0	

Community Connect Church

Vehicle and Attendance Records

(October 3 to December 8, 2019)

	Early service (9 am)		Late service (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	**
11/24/2019	No Service		202	73	***Thanksgiving (Single Service)
12/1/2019	113	58	161	65	
12/8/2019	130	57	125	55	

Average 2.4 persons/vehicle

Each service averages fifteen volunteers, which include usshers, attendant, band member, speakers, child care helpers, etc. The volunteers are predominantly single occupancy.

Excluding the volunteers, the average person/vehicle is: **2.8** persons/vehicle (late service)

As note, for the Thanksgiving service, volunteers parked off-site and the pesons per vehilce was : 2.8

The average of the thhee highest attendeed service is 2.6 persons/vehicle (late service)

Because of the high volunteer vehicles, which are predominantly single occupants,
the ration of peson/per vehicle increases as the attendance increases.

Therefore, we recommend 2.6 persons per vehicle for capacity analysis of the parking lot,

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

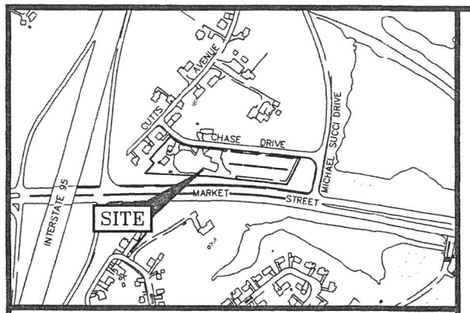
*** For the Thanksgiving Service the Church implemented parking measures by allowing 8 vehicles to park in the parsonage lot and having 10 volunteer vehicles shuttle from an off-site lot.

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

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

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

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



LOCATION MAP SCALE 1"=400'

PLAN REFERENCE:

1) LOT LINE ADJUSTMENT PLAN 200 CHASE DRIVE & 373 CUTTS AVENUE PORTSMOUTH, NEW HAMPSHIRE ASSESSOR'S PARCELS 210-2 & 210-5 FOR KRISTEN G. BOUCHIE & THE BETHEL ASSEMBLY OF GOD. PREPARED BY JAMES VERRA AND ASSOCIATES, INC. DATED MAY 23, 2013, FINAL REVISION DATE JUNE 25, 2013. R.C.R.D. PLAN D-38287.

2) SEE PLAN REFERENCE 1 FOR ADDITIONAL PLAN REFERENCES.

WETLAND NOTES:

1) HIGHEST OBSERVABLE TIDE LINE DELINEATED BY STEVEN D. RIKER, CWS ON 8/3/2018 IN ACCORDANCE WITH THE FOLLOWING STANDARDS:

A) U.S. ARMY CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL. TECHNICAL REPORT Y-87-1 (JAN. 1987). AND REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2012.

B) FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES, VERSION 8.1, USDA-NRCS, 2017 AND (FOR DISTURBED SITES) FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4. NEIWPCC WETLANDS WORK GROUP (2017).

C) NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: NORTHEAST (REGION 1). USFWS (MAY 1988).

D) CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. USFW MANUAL FWS/OBS-79/31 (1997).

E) "IDENTIFICATION AND DOCUMENTATION OF VERNAL POOLS IN NEW HAMPSHIRE" (1997). NEW HAMPSHIRE FISH AND GAME DEPARTMENT.

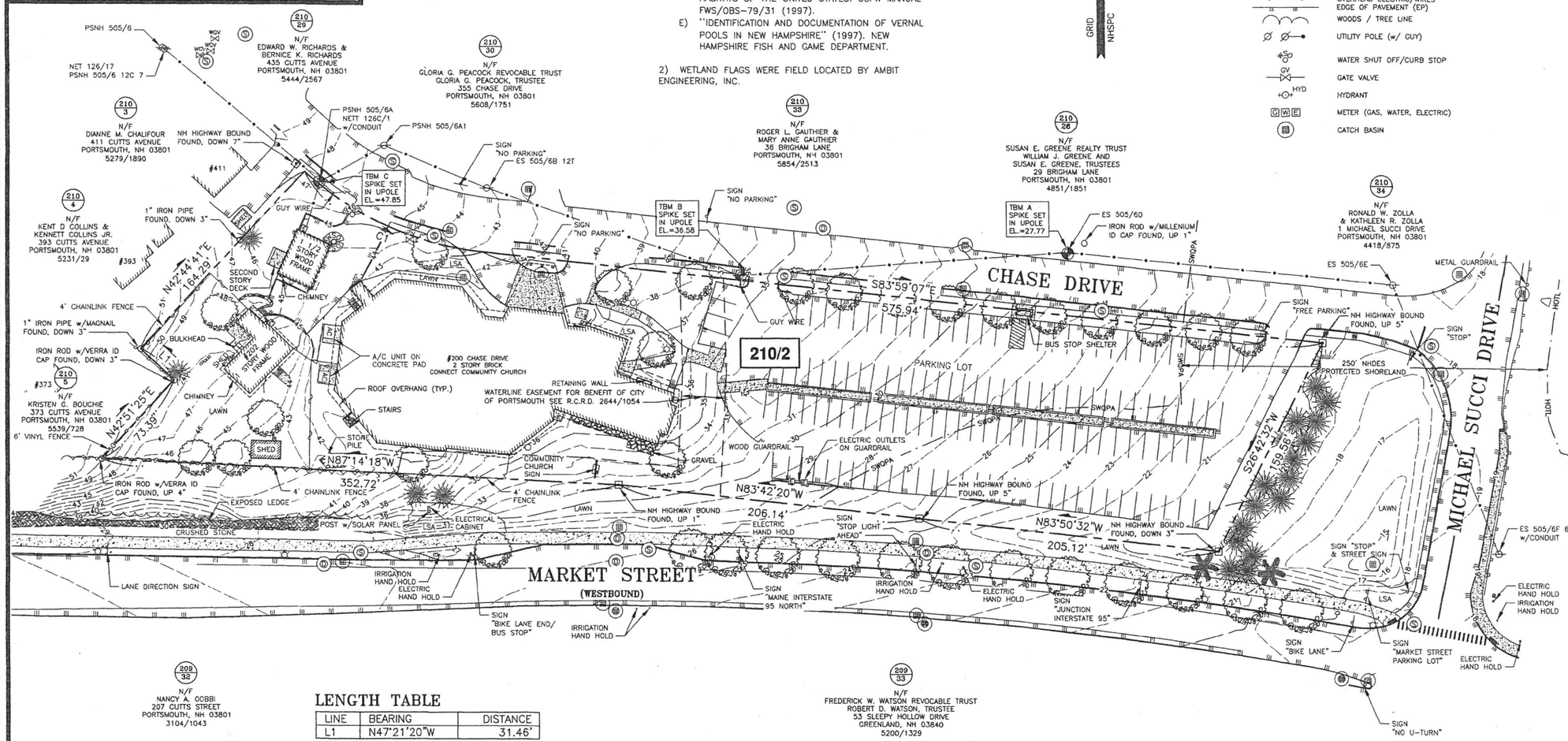
2) WETLAND FLAGS WERE FIELD LOCATED BY AMBIT ENGINEERING, INC.

LEGEND:

EXISTING

N/F		NOW OR FORMERLY
RP		RECORD OF PROBATE
RCRD		ROCKINGHAM COUNTY REGISTRY OF DEEDS
11/27		MAP 11 / LOT 21
RR SPK FND	RR SPK SET	RAILROAD SPIKE FOUND/SET
IR FND	IR SET	IRON ROD FOUND/SET
IP FND	IP SET	IRON PIPE FOUND/SET
DH FND	DH SET	DRILL HOLE FOUND/SET
NHHB FND		NHDOT BOUND FOUND
TB FND		TOWN BOUND FOUND
BND w/DH	BND w/DH	BOUND w/ DRILL HOLE
ST BND w/DH	ST BND w/DH	STONE BOUND w/DRILL HOLE
SWOPA		NHDES 250' PROTECTED SHORELAND
HOTL		HIGHEST OBSERVABLE TIDE LINE
D		STORM DRAIN
		UNDERGROUND ELECTRIC
		OVERHEAD ELECTRIC/WIRES
		EDGE OF PAVEMENT (EP)
		WOODS / TREE LINE
		UTILITY POLE (w/ GUY)
WSO		WATER SHUT OFF/CURB STOP
GV		GATE VALVE
HYD		HYDRANT
G W E		METER (GAS, WATER, ELECTRIC)
		CATCH BASIN

NORTH NAD83(2011) N GRID NHSPC



LENGTH TABLE

LINE	BEARING	DISTANCE
L1	N47°21'20"W	31.46'

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	215.00'	135.68'	133.44'	S65°54'23"E	36°09'27"

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

PAUL A DOBBERSTEIN, LLS DATE

STATE OF NEW HAMPSHIRE STEVEN D. RIKER No. 219 CERTIFIED WETLAND SCIENTIST

GRAPHIC SCALE

40 30 20 10 0 50 100 150 FEET
10 5 0 10 20 30 40 50 METERS

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

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 210 AS LOT 2.

2) OWNER OF RECORD:
BETHEL ASSEMBLY OF GOD
200 CHASE DRIVE
PORTSMOUTH, N.H. 03801
1986/395 & 2248/889
D-38287

3) PARCEL IS IS NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE 5/17/2005.

4) EXISTING LOT AREA:
116,591 S.F.
2.6766 ACRES

5) PARCEL IS LOCATED IN THE GATEWAY CENTER (G2) ZONING DISTRICT.

6) DIMENSIONAL REQUIREMENTS:
SEE ZONING ORDINANCE

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE RESULT OF A STANDARD BOUNDARY AND TOPOGRAPHIC SURVEY OF TAX MAP 210 LOT 2 IN THE CITY OF PORTSMOUTH.

8) VERTICAL DATUM IS MEAN SEA LEVEL NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GPS OBSERVATIONS (±0.2').

9) SEE SHEET C2 FOR UTILITIES AND INVERT INFORMATION.

BETHEL ASSEMBLY OF GOD
200 CHASE DR
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
2	REVISE PER COMMENTS	2/17/19
1	PLAN UPDATE	2/11/19
0	ISSUED FOR COMMENT	8/6/18

REVISIONS

SCALE 1" = 40' AUGUST 2018

EXISTING CONDITIONS PLAN

C1

FB 287 PG 23

2872

NOTES:

1. THE INTENT OF THIS PLAN IS TO DEPICT THE PROPOSED DEVELOPMENT SITE PER CITY OF PORTSMOUTH ZONING DISTRICT G2 (GATEWAY NEIGHBORHOOD MIXED USE DISTRICT) AND THE DEVELOPMENT SITE STANDARDS (SECTION 10.5B40).
2. THE EXISTING LOT 210-2 CONSISTS OF A CHURCH AND TWO SINGLE FAMILY RESIDENTIAL BUILDINGS. THE INTENT IS TO DIVIDE THE LOT TO CREATE A NEW LOT OR CONDOMINIUM UNIT. THE NEW LOT/UNIT WILL CONSTRUCT A NEW 22 UNIT APARTMENT BUILDING PER SECTION 10.5B34.40. THE ENTIRE LOT WILL BE INCLUDED IN THE DEVELOPMENT SITE.
3. THE EXISTING USE OF THE COMMUNITY BUILDING AS A PLACE OF ASSEMBLY IS PERMITTED AS AN EXISTING USE. AS NOTED IN SECTION 10.5B50, "THE PURPOSE OF THIS SECTION IS TO ESTABLISH STANDARDS FOR THE CONTINUED UTILIZATION OF EXISTING BUILDINGS IN THE GATEWAY NEIGHBORHOOD MIXED USE DISTRICTS CONSTRUCTED PRIOR TO THE EFFECTIVE DATE OF ARTICLE 10.5B".
4. A NHDES WETLANDS BUREAU SHORELAND PERMIT WILL BE REQUIRED FOR WORK WITHIN 250 FT OF THE HIGHEST OBSERVABLE TIDE LINE (HOTL).
5. PRIOR TO COMMENCEMENT OF CONSTRUCTION, A CERTIFIED ARBORIST SHALL REVIEW THE AREA OF CONSTRUCTION AND TREES SELECTED TO REMAIN WITH THE LANDSCAPE ARCHITECT AND THE CONTRACTOR'S PROJECT MANAGER. SPECIFIC MONETARY VALUE OF THE TREES TO REMAIN SHALL BE DETERMINED AND DOCUMENTED FOR. ARBORIST SHALL MAKE RECOMMENDATIONS FOR PRESERVATION RECOMMENDATIONS BEYOND THOSE CALLED OUT IN THE DRAWINGS, TREE PRESERVATION PLANS AND SPECIFICATIONS, INCLUDING, BUT NOT LIMITED TO, PRUNING, ROOT PRUNING, PRE-FERTILIZATION AND THE LIKE.
6. ALL EXCAVATION WITHIN THE DRIP LINE OF EXISTING TREES TO BE DONE WITH AN AIR SPADE. ANY ROOTS WHICH REQUIRE REMOVAL SHALL BE CUT CLEANLY WITH A SHARP TOOL. EXPOSED ROOTS IN EXCAVATED AREAS SHALL NOT BE ALLOWED TO DRY OUT.
7. TREES TO REMAIN WITHIN THE CONSTRUCTION ZONE SHALL BE PROTECTED FROM DAMAGE FOR THE DURATION OF THE PROJECT BY WEIGHTED CHAIN-LINK FENCE AT THE DRIP LINE OR OTHER SUITABLE MEANS OF PROTECTION TO BE APPROVED BY LANDSCAPE ARCHITECT OR CLIENT'S REPRESENTATIVE. FENCE SHALL BE LOCATED AT THE DRIP LINE AT A MINIMUM AND SHALL INCLUDE ANY AND ALL SURFACE ROOTS. DO NOT FILL OR MULCH ON THE TRUNK FLARE. DO NOT DISTURB ROOTS. IN ORDER TO PROTECT THE INTEGRITY OF THE ROOTS, BRANCHES, TRUNK AND BARK OF THE TREE(S) NO VEHICLES OR CONSTRUCTION EQUIPMENT SHALL DRIVE OR PARK IN OR ON THE AREA WITHIN THE DRIP LINE(S) OF THE TREE(S). DO NOT STORE ANY REFUSE OR CONSTRUCTION MATERIALS OR PORTALETS WITHIN THE TREE PROTECTION AREA.
8. BUILDING HEIGHT MEASURED FROM AVERAGE GRADE MEASURED 6 FT OFF OF BUILDING EVERY 5 FOOT INTERVAL. BUILDING HEIGHT FROM FINISHED FLOOR TO ROOF TOP IS 43'-8". AVERAGE GRADE AROUND PERIMETER OF BUILDING IS 1 FOOT BELOW FINISHED FLOOR BASED ON PROPOSED GRADING.

ZONING SUMMARY

ZONING DISTRICT G2 (GATEWAY NEIGHBORHOOD MIXED USE CENTER)

TAX MAP 210, LOT 2

DEVELOPMENT SITE AREA 2.68± ACRES

PERMITTED USES MULTI-FAMILY GREATER THAN 8 UNITS
PLACE OF ASSEMBLY (EXISTING)
SINGLE FAMILY RESIDENTIAL (EXISTING)

PROPOSED MIXED USE DEVELOPMENT SITE (PER SECTION 10.5B40)

DEVELOPMENT SITE STANDARDS	REQUIRED	PROVIDED
MINIMUM DEVELOPMENT SITE AREA	20,000 SF	116,591 SF
MINIMUM SITE WIDTH	100 FT	711.6 FT
MINIMUM SITE DEPTH	100 FT	147.7 FT
MINIMUM PERIMETER BUFFER TO RESIDENTIAL, MIXED RESIDENTIAL OR CHARACTER DISTRICT	75 FT	NA
MAXIMUM BLOCK LENGTH	800 FT	764 FT
MAXIMUM BLOCK PERIMETER	2,200 FT	1,905 FT
MAXIMUM BUILDING COVERAGE	70%	24.25%
MINIMUM OPEN SPACE COVERAGE	20%	34.2%
MINIMUM COMMUNITY SPACE	20% REQUIRED	22.1% PROVIDED

No.	DESCRIPTION	AREA
1	GREENWAY #1	9,600 S.F
2	GREENWAY #2	7,190 S.F
3	GREENWAY #3	4,110 S.F.
4	GREENWAY #4	2,590 S.F.
5	GREENWAY (ENHANCEMENTS)	2,300 S.F.
	TOTAL	25,790 S.F.

ZONING SUMMARY CONTINUED:

APARTMENT BUILDING DESIGN STANDARDS (PER SECTION 10.5B34.40):

	REQUIRED	PROVIDED
MINIMUM LOT DEPTH	NR	
MINIMUM STREET FRONTAGE	50 FT	±149 FT
SETBACKS:		
FRONT: MARKET STREET	10-30 FT	10.0 FT
CHASE STREET	10-30 FT	10.2± FT
MICHAEL SUCCI DRIVE	10-30 FT	10.2± FT
BUILDING LOT USE:		
MAXIMUM DWELLING UNITS PER BUILDING	24	22
MAXIMUM DWELLING UNIT SIZE	NR	
DESIGN STANDARDS:		
MAXIMUM BUILDING HEIGHT -	50 FT	44'-8" (SEE NOTE 8)
MINIMUM STREET FACING FAÇADE HEIGHT	24 FT	24+ FT
MAXIMUM FINISHED FLOOR SURFACE OF GROUND FLOOR ABOVE SIDEWALK GRADE	36 INCHES	<3 FT
MAXIMUM BUILDING COVERAGE (ENTIRE LOT)	50%	24.25%
MAXIMUM BUILDING FOOTPRINT NEW BUILDING	20,000 SF	7,660± SF
EXISTING CHURCH		18,600± SF
MAXIMUM FAÇADE MODULATION LENGTH	50 FEET	48 FEET
MINIMUM STREET FACING FAÇADE GLAZING	20% (GROUND FLOOR)	20%+
STREET FACING ENTRANCE	REQUIRED	PROVIDED
FAÇADE TYPES	FORECOURT, STEP, RECESSED ENTRY, DOORYARD, PORCH	DOORYARD

PARKING CALCULATIONS:

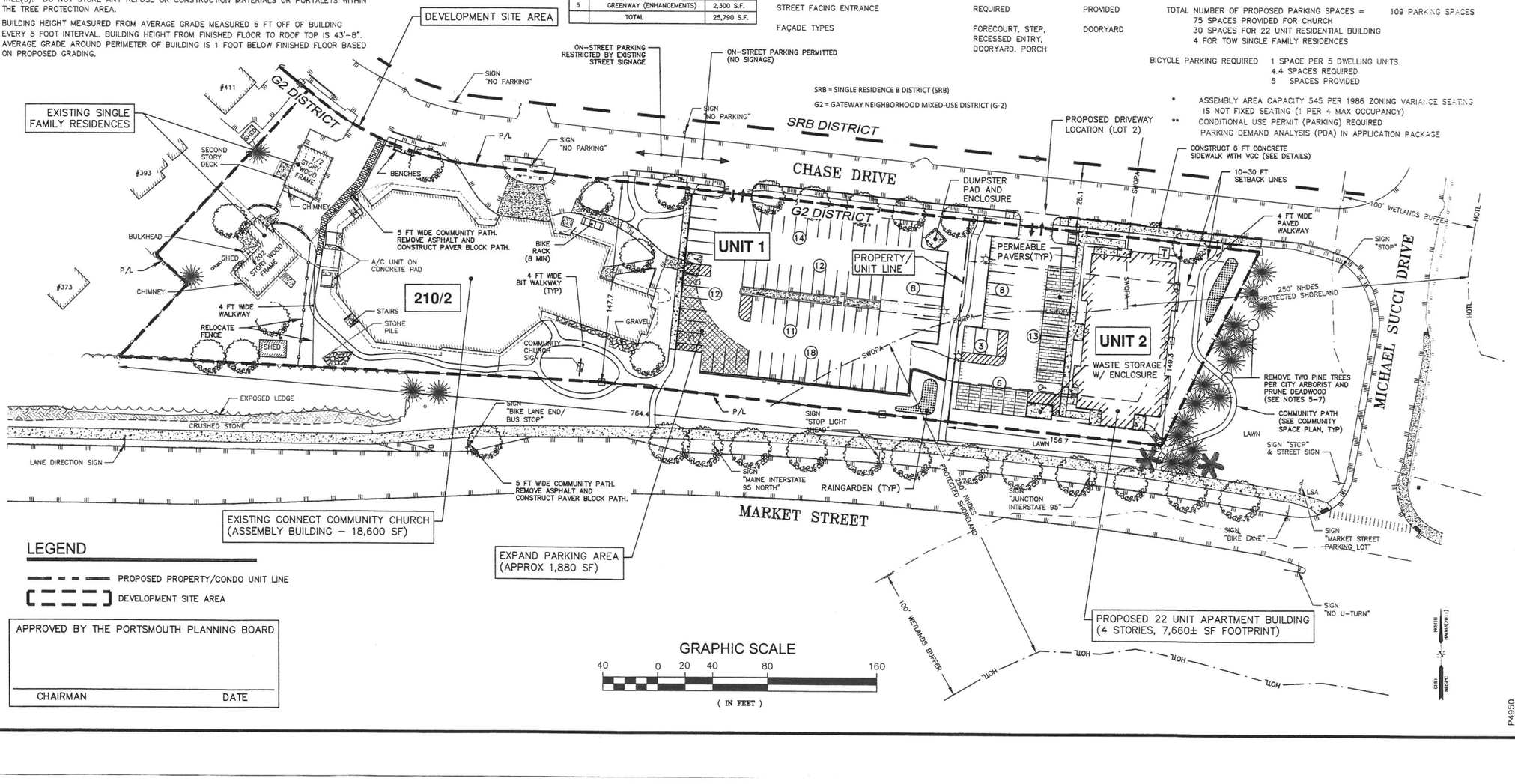
EXISTING CHURCH	
BASED ON CURRENT ZONING REQUIREMENTS:	REQUIRED SPACES
ASSEMBLY (545 CAPACITY BY ZONING*) (1 STALL PER 4 OCCUPANTS)	136 SPACES
20% REDUCTION FOR BUS TRANSIT (10.5B82.10) MIN PARKING SPACES REQUIRED	109 SPACES REQUIRED
EXISTING RESIDENTIAL SINGLE FAMILY DWELLINGS	
TWO RESIDENTIAL HOMES	4 SPACES
PROPOSED 22 UNIT APARTMENT BUILDING (ALLOWED PER CURRENT ZONING REGULATIONS)	
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
TOTAL REQUIRED ON-SITE PARKING SPACES =	140 SPACES

SHARED USE DEMAND ANALYSIS

BASED ON THE SHARED USED DEMAND ANALYSIS FOR THE WEEKEND DAY	
REQUIRED PARKING CHURCH (100%) =	109 SPACES
RESIDENTIAL 22 UNIT APARTMENT BUILDING AND TWO SINGLE FAMILY HOMES (80% OF 31)	25 SPACES
TOTAL NUMBER OF REQUIRED PARKING SPACES = (BASED ON ZONING REGULATIONS)	134 PARKING SPACES
TOTAL NUMBER OF PROPOSED PARKING SPACES =	109 PARKING SPACES
75 SPACES PROVIDED FOR CHURCH	
30 SPACES FOR 22 UNIT RESIDENTIAL BUILDING	
4 FOR TOW SINGLE FAMILY RESIDENCES	
BICYCLE PARKING REQUIRED 1 SPACE PER 5 DWELLING UNITS	
4.4 SPACES REQUIRED	
5 SPACES PROVIDED	

* ASSEMBLY AREA CAPACITY 545 PER 1986 ZONING VARIANCE SEATING IS NOT FIXED SEATING (1 PER 4 MAX OCCUPANCY)

** CONDITIONAL USE PERMIT (PARKING) REQUIRED
PARKING DEMAND ANALYSIS (PDA) IN APPLICATION PACKAGE



LEGEND

PROPOSED PROPERTY/CONDO UNIT LINE

DEVELOPMENT SITE AREA

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN DATE

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)

P4950

ENGINEER:

ALTUS ENGINEERING, INC.

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

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

11/15/19

ISSUED FOR:

PLANNING BOARD APPROVAL

ISSUE DATE:

NOVEMBER 18, 2019

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	INITIAL SUBMISSION	CDB	06/04/19
1	DESIGN REVIEW	CDB	08/26/19
2	TAC	CDB	09/16/19
3	TAC COMMENTS	CDB	10/18/19
4	TAC COMMENTS	CDB	11/18/19

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:

OVERALL SITE PLAN

SHEET NUMBER:

C.3

CONNECT COMMUNITY CHURCH PLAN FOR FUTURE PARKING

12/17/2019

OVERVIEW

This plan details Connect Community Church's strategy to handle parking after the proposed project by 200 Chase Drive LLC is completed. The plan entails the use of 75 parking spaces for the church's use on Sundays and special events.

OBJECTIVE

The objective of this plan is to show that the present and future parking needs of Connect Community Church can be met with the 75 spaces and the proposed plan mentioned in this document.

THE PLAN

The Connect Community Church parking plan has four major components

- **#1** The use of parking attendants to accommodate parking needs, safety and quick and efficient placement of cars.
- **#2** The adding of additional services as the church grows.
- **#3** The maximizing of the church parking lot
- **#4** The use of remote parking by our volunteer base.

THE USE OF PARKING ATTENDANTS

The use of the parking attendants to accommodate parking needs, safety and quick and efficient placement of cars

- **Action #1**: Parking attendants will be working high attendance services to ensure the safety of church attendees, guest and any residual traffic flow coming down Chase Drive.
- **Action #2**: To efficiently park incoming cars and release exiting cars in an orderly and safe manner.

- **Action #3**: To effectively enable stack parking for incoming vehicles and outgoing vehicles. (see Special Events Parking Plan)

THE ADDING OF ADDITIONAL SERVICES

The adding of additional services as the church grows beyond its present size to keep individual services below 150 average attendance

- **Action #1**: We have intentionally shrunk the size of our services to increase intimacy and to increase the inviting nature of our church experience.
- **Action #2**: We have 200 seats in the sanctuary at this time. We would add another service at 80% capacity to continue to provide seating for larger families in any given service and to ensure we stay within the 75 parking spaces of the church.
- **Action #3**: The leadership of Connect has already begun planning for a 3rd service.

THE MAXIMIZING OF THE CHURCH PARKING LOT

The maximizing of the church parking potential by stack parking and utilizing the parsonage driveway

- **Action #1**: To maximize the church parking, we could enact stacked parking in the church's lot for additional
- **Action #2**: As we enact stacked parking it would give us an additional 19 cars in our parking lot. (See Special Events Parking Plan)
- **Action #3**: We would park 6 vehicles in the driveway of the parsonage.
- **Action #4**: With the additional parking, the church could accommodate up to 100 vehicles on-site.

THE USE OF REMOTE PARKING FOR THE CHURCH VOLUNTEER BASE

Remote parking would free up additional parking spaces

- **Action #1**: Designate at least 15 people from our volunteer base that would park at a remote site. *(this plan was already test ran during our November 24th service)*
- **Action #2**: Target the Foundry garage, other churches or empty parking lots as potential overflow parking when the need arises.
- **Action #3**: This remote parking would allow for an additional 35+ people to come to each service for a total of 70 extra people per Sunday based on 2 services.

RESULTS OF PARKING PLAN STUDY

The parking plan to provide 75 Parking Stalls for Connect Community Church will meet present and future needs of the church

Capacity based on 75 Parking Stalls (2.5 ave. persons/vehicle)	185 people per service	370 total in 2 services	370 total attendees
Stacked parking and use of parsonage driveway added (25 additional stalls)	60 people added per service	120 total for 2 services	490 total attendees
Use of remote parking for volunteers (15 Additional Stalls)	35 people added per service	70 total for 2 services	560 total attendees (two services with stacked parking and remote volunteers parking)
Adding additional service with NO additional parking	185 people added for 3rd service alone	185 added	555 attendees in 3 services
Adding additional service with stacked parking and use of parsonage driveway added	245 people per service	735 total for 3 services	735 attendees in 3 services
Adding an additional service with stacked parking and remote parking volunteer	280 people per service	840 total for 3 services	840 attendees in 3 services (with stacked and remote parking in all 3 services)

RESULTS OF PARKING PLAN

Many parts of this parking plan have already been instituted into our present parking situation or have been test ran on special services. The leadership of Connect has confidence that we can meet the necessary requirements for our parking in the 75 spots that the church will have after construction is complete. The Church has averaged approximately 240 total attendees for the two services since March of 2019 with the current membership; 105 attendees for the 9 am service and 135 attendees for the 11 am service. This plan makes large provisions for the potential growth and expansion of the church. We are excited about the future of Connect and we look forward to continuing to be a vital part of the Portsmouth community. Thank you for considering this parking plan.

Leadership of Connect Community Church

CONNECT COMMUNITY CHURCH SPECIAL EVENT PARKING PLAN

19 additional on -site parking spaces - Parking to be administered with attendants