# PROPOSED STORM SEWER IMPROVEMENTS CITY OF PORTSMOUTH WOODLAWN CIRCLE

PORTSMOUTH, NEW HAMPSHIRE CONSTRUCTION PLANS

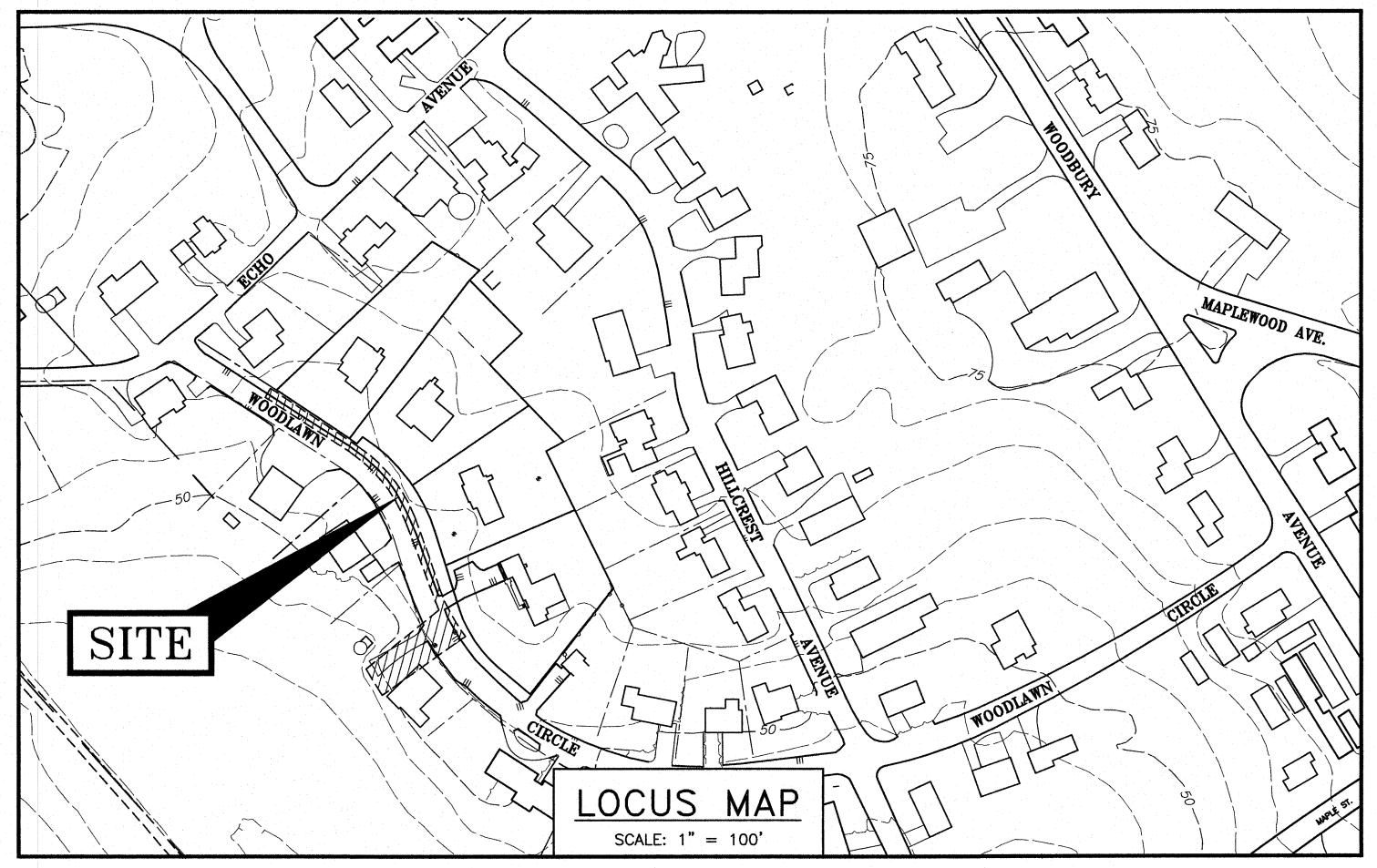
#### OWNER: CITY OF PORTSMOUTH

c/o PORTSMOUTH DEPARTMENT OF PUBLIC WORKS 680 PEVERLY HILL ROAD PORTSMOUTH, N.H. 03801

### CIVIL ENGINEER & LAND SURVEYOR: AMBIT ENGINEERING, INC.

200 GRIFFIN ROAD, UNIT 3 PORTSMOUTH, N.H. 03801-7114 Tel (603) 430-9282 Fax (603) 436-2315





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	O IP FND	IRON	PIPE FC	DUND		
	● IR SET	IRON	ROD SE	T		
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EXISTING	PROPOSED	
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	SL	SEWER LATERAL
G	G	GAS LINE STORM DRAIN
FD	—— FD ——	FOUNDATION DRAIN
W	w	WATER LINE
		WATER SERVICE
UE	UE	UNDERGROUND ELECTRIC SUPPLY
* * * * * * <b>*</b> * * * * * * * * * * * *		UNDERGROUND ELECTRIC SERVICE
——————————————————————————————————————	—— OHW ———	OVERHEAD ELECTRIC/WIRES RETAINING WALL
		EDGE OF PAVEMENT (EP)
	100	CONTOUR
97×3	98×0	SPOT ELEVATION
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E	E	ELECTRIC METER
		TRANSFORMER ON CONCRETE PAD
450	MSO.	WATER SHUT OFF/CURB STOP
c.o.	-o <sup>C.O.</sup>	PIPE CLEANOUT
$\longrightarrow$		GATE VALVE
<b>-</b> @-	HYD + <del>♥</del> +	HYDRANT
СВ	© CB	CATCH BASIN
	SMH	SEWER MANHOLE
	<b>●</b> DMH	DRAIN MANHOLE
<b>(M)</b>	WMH	WATER METER MANHOLE
#5 TP 1		TEST BORING
		TEST PIT
LA	\(\frac{1}{4}\)\(\fra	LANDSCAPED AREA
CI CI	CI	CAST IRON PIPE
COP	COP	COPPER PIPE
CMP DI	CMP DI	CORRUGATED METAL PIPE  DUCTILE IRON PIPE
PVC	PVC	POLYVINYL CHLORIDE PIPE
RCP	RCP	REINFORCED CONCRETE PIPE
HYD	HYD	HYDRANT
<u>@</u>	<u>Q</u>	CENTERLINE
EP EL.	EP EL.	EDGE OF PAVEMENT ELEVATION
FF	FF	FINISHED FLOOR
INV	INV	INVERT
TBM	TBM	TEMPORARY BENCH MARK
TYP	TYP	TYPICAL

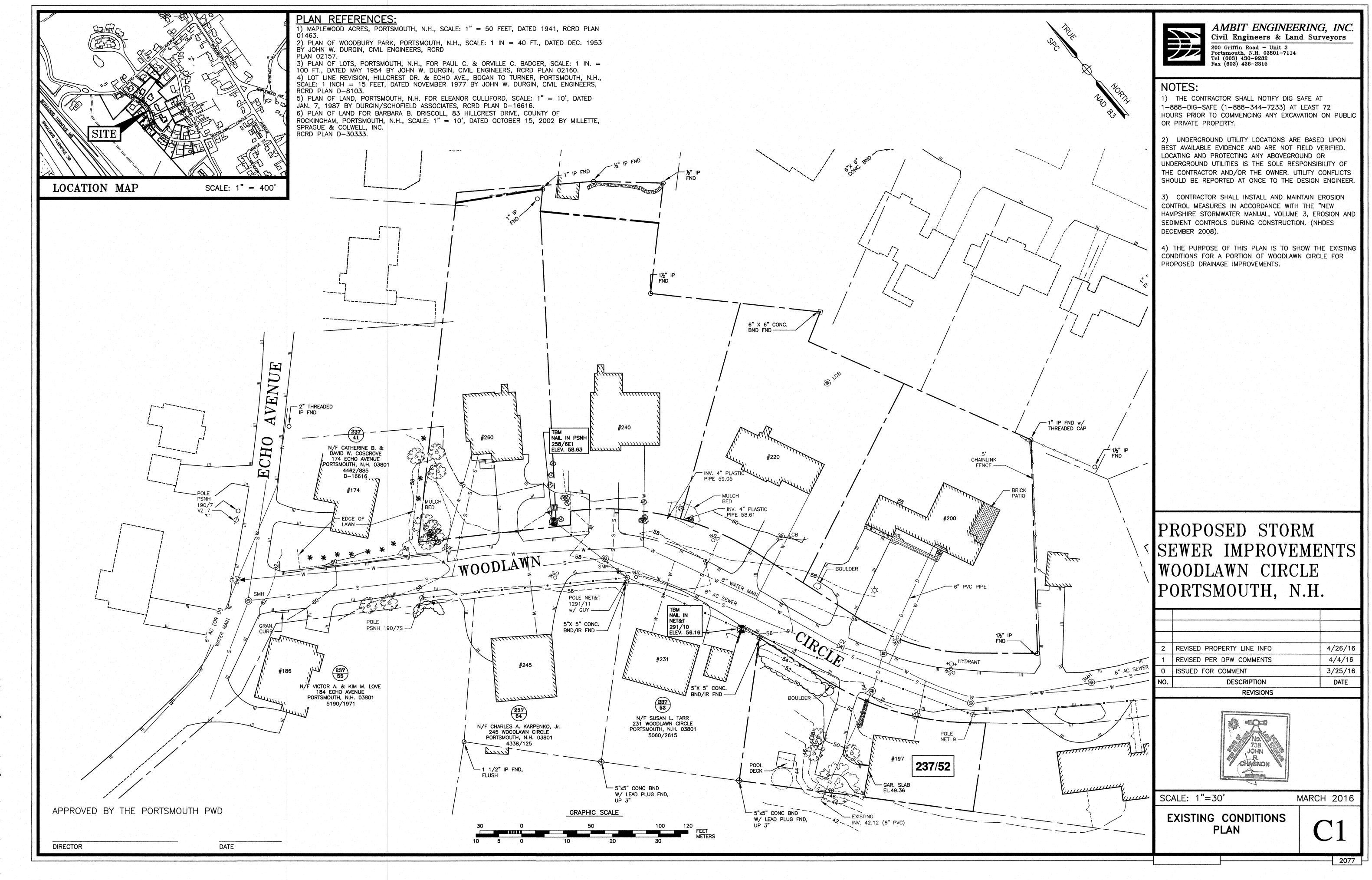
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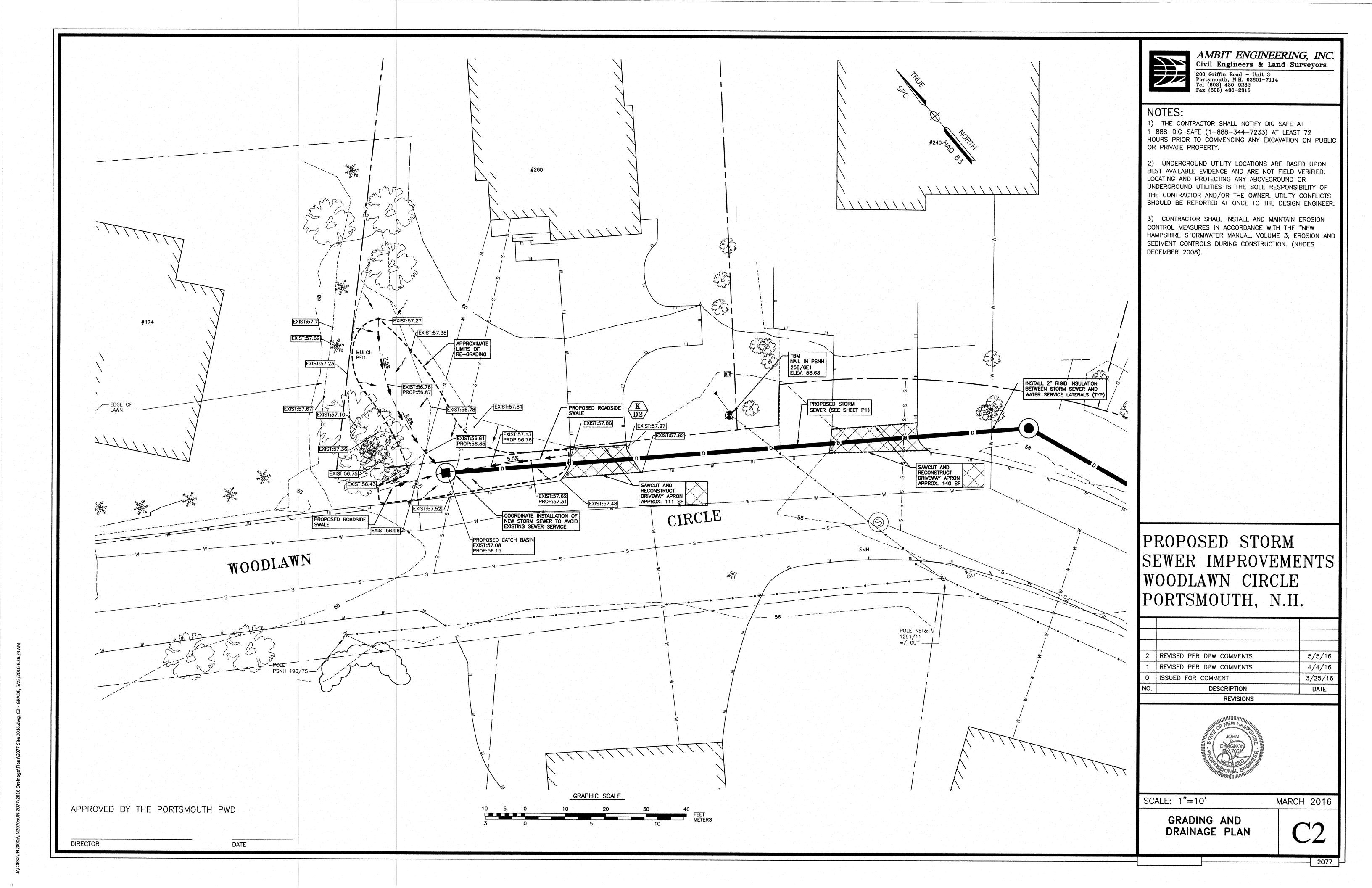
AMBIT ENGINEERING, INC. Civil Engineers & Land Surveyors

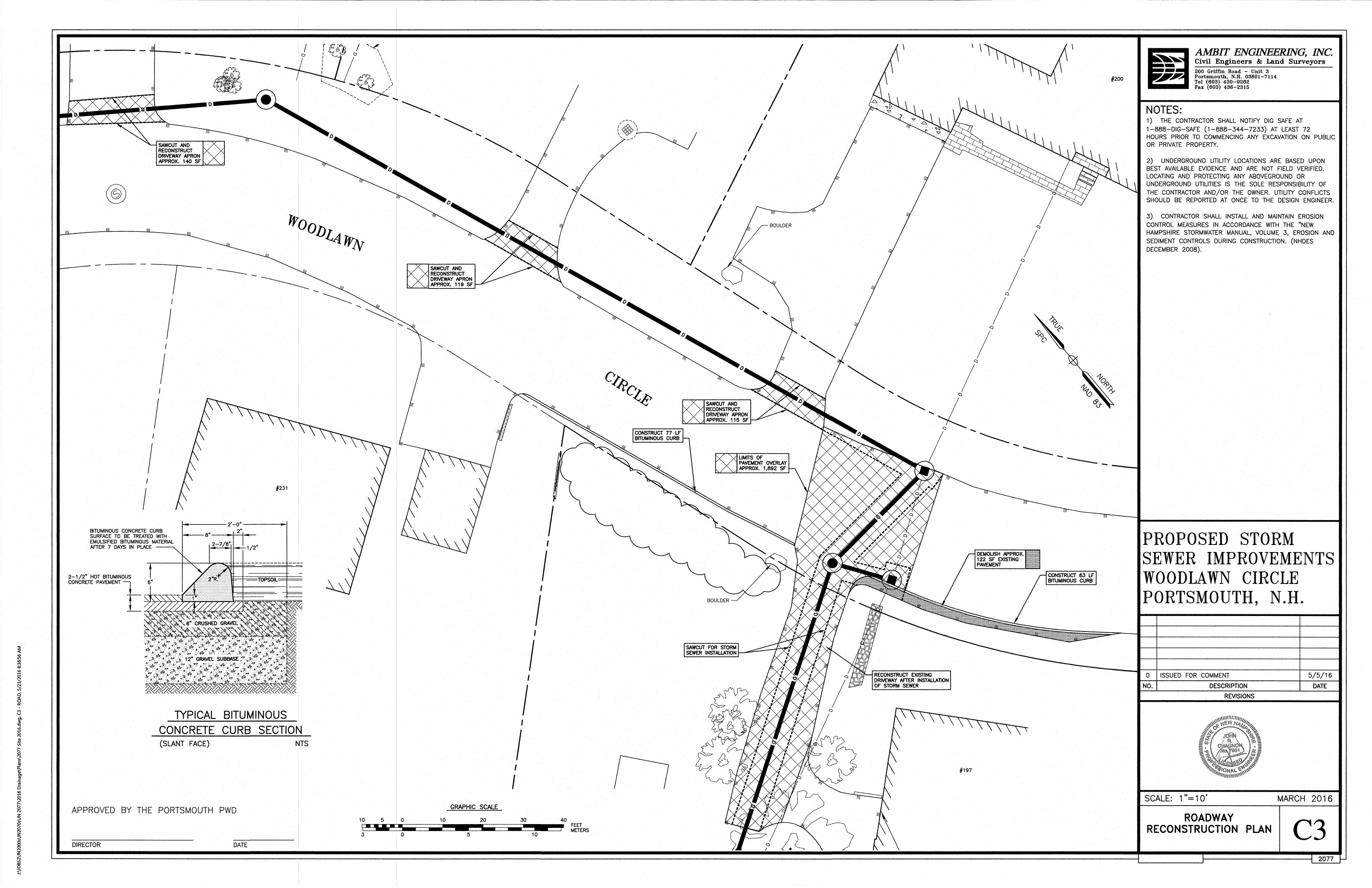
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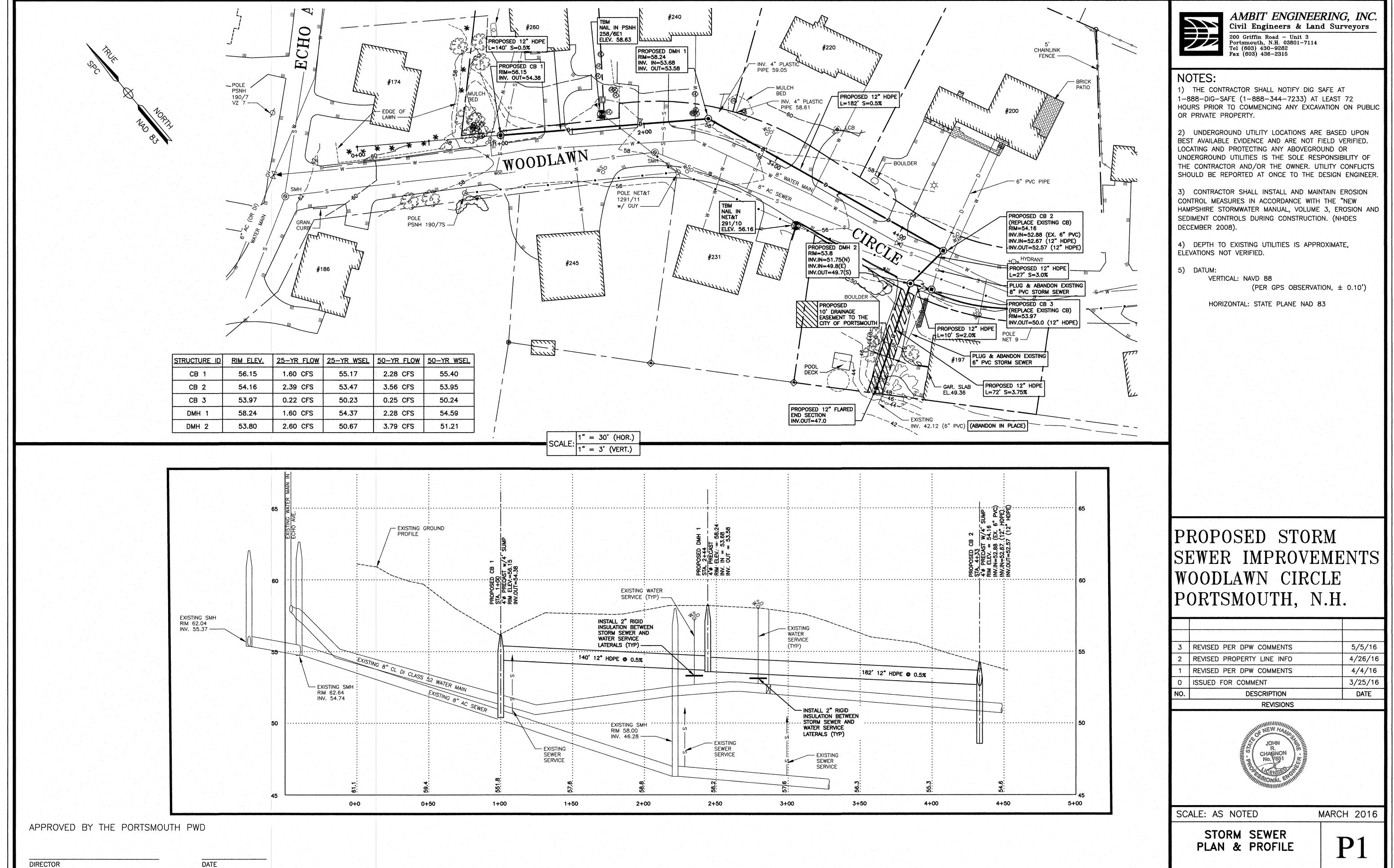
PLAN SET SUBMITTAL DATE: 5 MAY 2016



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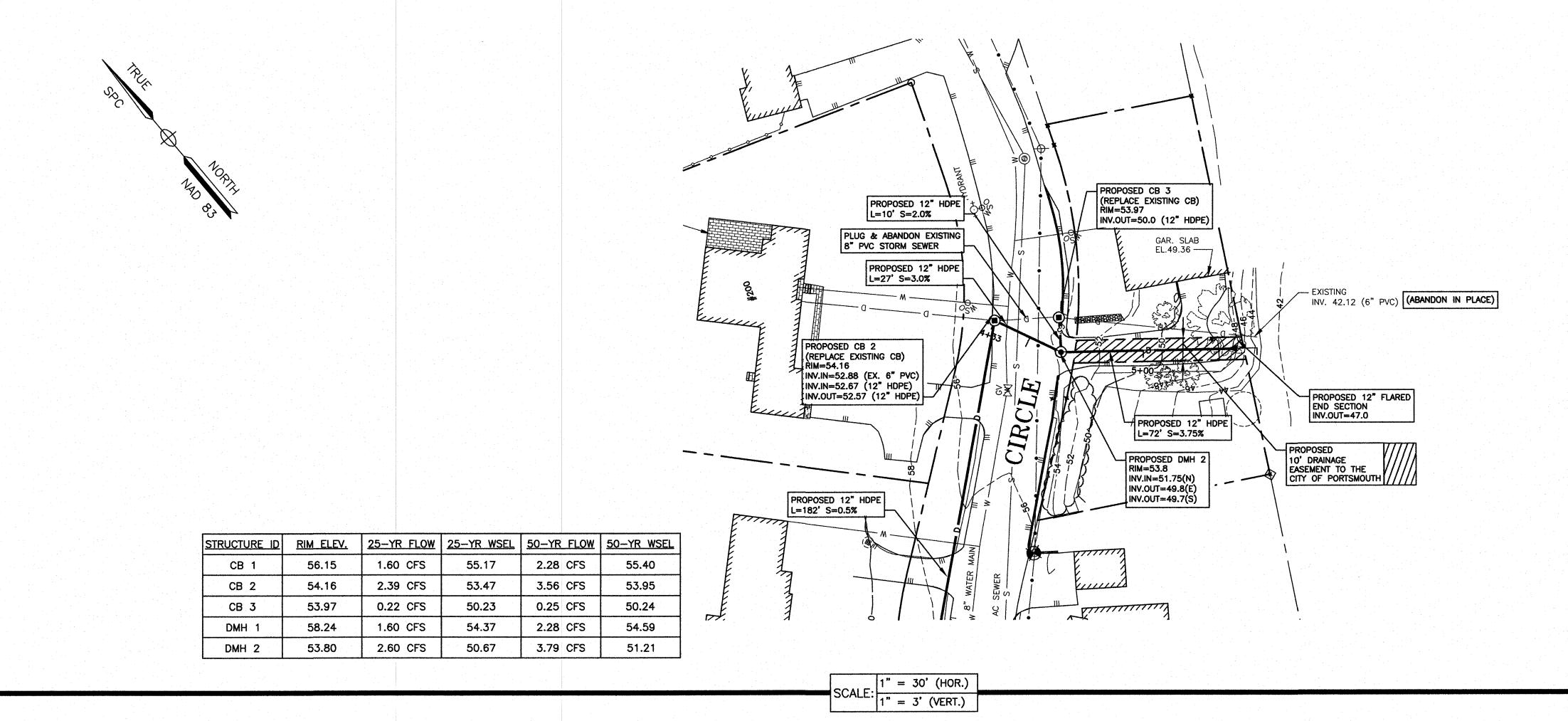






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2077



AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors

200 Griffin Road - Unit 3 Portsmouth, N.H. 03801-7114 Tel (603) 430-9282

#### NOTES:

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

VERTICAL: NAVD 88

(PER GPS OBSERVATION, ± 0.10')

HORIZONTAL: STATE PLANE NAD 83

# PROPOSED STORM SEWER IMPROVEMENTS WOODLAWN CIRCLE PORTSMOUTH, N.H.

3	REVISED PER DPW COMMENTS	5/5/16
2	REVISED PROPERTY LINE INFO	4/26/16
1	REVISED PER DPW COMMENTS	4/4/16
0	ISSUED FOR COMMENT	3/25/16
NO.	DESCRIPTION	DATE
	REVISIONS	



SCALE: AS NOTED

MARCH 2016

STORM SEWER PLAN & PROFILE

P2

60 O SECURE MAIN

10 O SECURE MAIN

11 O SECURE MAIN

12 O SECURE MAIN

13 O SECURE MAIN

14 O SECURE MAIN

15 O SECURE MAIN

16 O SECURE MAIN

16 O SECURE MAIN

17 O SECURE MAIN

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APPROVED BY THE PORTSMOUTH PWD

DIRECTOR

DATE

2077

#### CONSTRUCTION SEQUENCE

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

INSTALL INLET PROTECTION AND PERIMETER CONTROLS, i.e., SILT FENCING OR SILTSOXX AROUND THE LIMITS OF DISTURBANCE BEFORE ANY EARTH MOVING OPERATIONS.

CUT AND GRUB ALL TREES, SHRUBS, SAPLINGS, BRUSH, VINES AND REMOVE OTHER DEBRIS AND RUBBISH AS REQUIRED.

FINISH GRADE SITE, BACKFILL ROAD SUBBASE GRAVEL IN TWO, COMPACTED LIFTS. PROVIDE TEMPORARY EROSION PROTECTION TO DITCHES AND SWALES IN THE FORM OF MULCHING, JUTE MESH OR DITCH DAMS.

ALL PERMANENT DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO

PLACE BINDER LAYER OF PAVEMENT, THEN RAISE CATCH BASIN FRAMES TO FINAL GRADE. REINSTALL BASIN INLET PROTECTION.

CONSTRUCT ASPHALT WEARING COURSE.

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

LOT DISTURBANCE, OTHER THAN THAT SHOWN ON THE APPROVED PLANS, SHALL NOT COMMENCE UNTIL AFTER THE ROADWAY HAS THE BASE COURSE TO DESIGN ELEVATION AND THE ASSOCIATED DRAINAGE IS COMPLETE AND STABLE.

#### **GENERAL CONSTRUCTION NOTES**

THE EROSION CONTROL PROCEDURES SHALL CONFORM TO SECTION 645 OF THE "STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION" OF THE NHDOT, AND "STORM WATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE". THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

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

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

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

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

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

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

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

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

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

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

FILL MATERIAL SHALL NOT BE PLACED ON FROZEN FOUNDATION SUBGRADE.

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

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

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

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

#### VEGETATIVE PRACTICE

FOR PERMANENT MEASURES AND PLANTINGS:

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

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

SEED SHALL BE SOWN AT THE RATES SHOWN IN THE TABLE BELOW. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AT A RATE OF 1.5 TO 2 TONS PER ACRE, AND SHALL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE EROSION AND SEDIMENT CONTROL HANDBOOK.

THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED.

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

100 LBS/ACRE

GENERAL COVER PROPORTION SEEDING RATE

CREEPING RED FESCUE 50%

50% KENTUCKY BLUEGRASS

CREEPING RED FESCUE TALL FESCUE

48 LBS/ACRE 42% BIRDSFOOT TREFOIL

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

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

FOR TEMPORARY PROTECTION OF DISTURBED AREAS:

MULCHING AND SEEDING SHALL BE APPLIED AT THE FOLLOWING RATES: PERENNIAL RYE: 0.7 LBS/1,000 S.F. 1.5 TONS/ACRE

#### MAINTENANCE AND PROTECTION

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

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

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

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

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

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

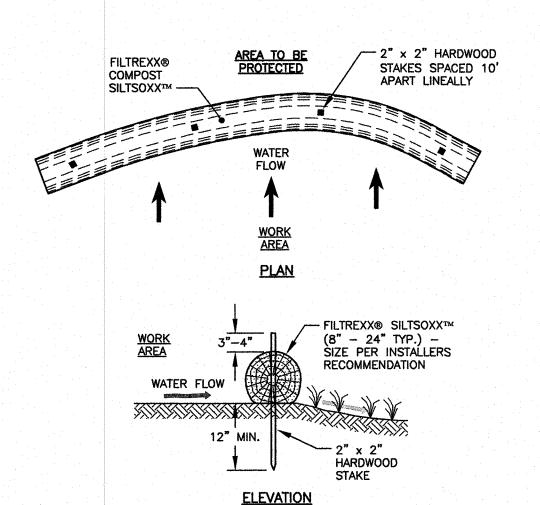
SILT FENCING AND SILTSOXX SHALL BE REMOVED ONCE VEGETATION IS ESTABLISHED, AND DISTURBED AREAS RESULTING FROM SILT FENCE AND SILTSOXX REMOVAL SHALL BE PERMANENTLY SEEDED.

#### **WINTER NOTES**

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

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

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

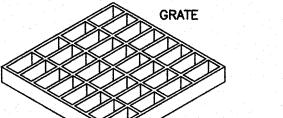


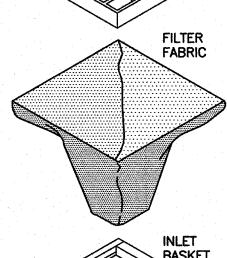
MATERIAL TO MEET FILTREXX SPECIFICATIONS. FILLTREXX SYSTEM SHALL BE INSTALLED BY A CERTIFIED

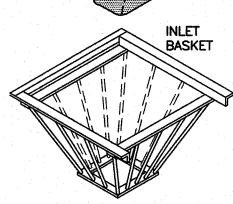
- FILTREXX INSTALLER. THE CONTRACTOR SHALL MAINTAIN THE COMPOST FILTRATION SYSTEM IN A FUNCTIONAL CONDITION AT ALL TIMES. IT WILL BE ROUTINELY INSPECTED AND REPAIRED WHEN REQUIRED.
- SILTSOXX DEPICTED IS FOR MINIMUM SLOPES, GREATER SLOPES MAY REQUIRE ADDITIONAL PLACEMENTS. THE COMPOST FILTER MATERIAL WILL BE DISPERSED ON SITE

WHEN NO LONGER REQUIRED, AS DETERMINED BY THE

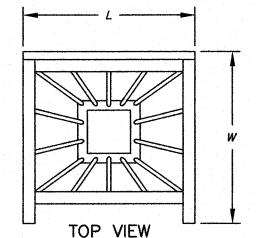
FILTREXX® SILTSOXXTM FILTRATION SYSTEM

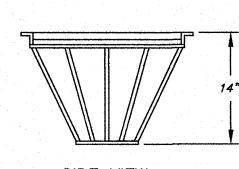


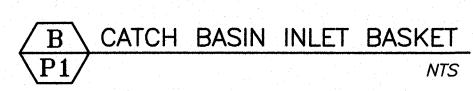


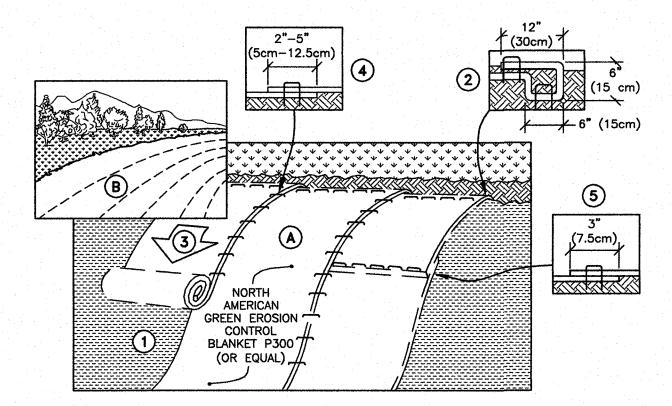


LENGTH (L) & WIDTH (W) AS REQUIRED TO FIT NHOOT TYPE GRATE & FRAME.









- 1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE
- INSTALLED WITH PAPER SIDE DOWN. 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECEP'S IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH, ANCHOR THE RECP'S 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 RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF
- STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP'S. 3. ROLL THE RECP'S (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM™, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- 4. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON RECP'S TYPE.
- 5. CONSECUTIVE RECP'S 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 RECP'S WIDTH.

NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTH GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.



EROSION CONTROL BLANKET (INSTALL AS REQUIRED)

IS COMPLETE AND SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL PAVEMENT BINDER COURSE

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

1) INLET BASKETS SHALL BE INSTALLED

IMMEDIATELY AFTER CATCH BASIN CONSTRUCTION

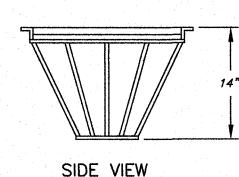
3) THE FILTER FABRIC SHALL BE A GEOTEXTILE FÁBRIC: POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE, OR POLYVINYLIDENE CHLORIDE MEETING THE FOLLOWING SPECIFICATIONS:

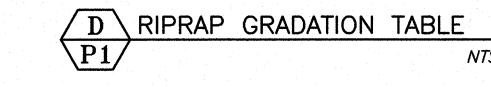
-RAB STRENGTH: 45 LB. MIN. IN ANY PRINCIPAL DIRECTION (ASTM D1682) -MULLEN BURST STRENGTH: MIN. 60 psi (ASTM D774)

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

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

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





RIPRAP - 3"

RIPRAP - 4"

RIPRAP - 6'

RIPRAP - 9'

RESERVED

SIZE OF STONE

**RANGE IN INCHES** 

4.5 TO 6

3.9 TO 5.4

3 TO 4.5

0.9 TO 1.5

SIZE OF STONE

RANGE IN INCHES

6 TO 8

5.2 TO 7.2

4 TO 6

1.2 TO 2

SIZE OF STONE

RANGE IN INCHES

9 TO 12

7.8 TO 10.8

6 TO 9

1.8 TO 3

SIZE OF STONE

RANGE IN INCHES

13.5 TO 18

11.7 TO 16.2

9 TO 13.5

2.7 TO 4.5

% OF WEIGHT SMALLER

THAN THE GIVEN SIZE

100

% OF WEIGHT SMALLER

THAN THE GIVEN SIZE

100

% OF WEIGHT SMALLER

THAN THE GIVEN SIZE

100

% OF WEIGHT SMALLER

THAN THE GIVEN SIZE

100

Z15



AMBIT ENGINEERING, INC. Civil Engineers & Land Surveyors

200 Griffin Road - Unit 3 Portsmouth, N.H. 03801-7114 Tel (603) 430-9282 Fax (603) 436-2315

#### **NOTES:**

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

PROPOSED STORM SEWER IMPROVEMENTS WOODLAWN CIRCLE PORTSMOUTH, N.H.

ISSUED FOR COMMENTS 3/25/16 DESCRIPTION DATE **REVISIONS** 



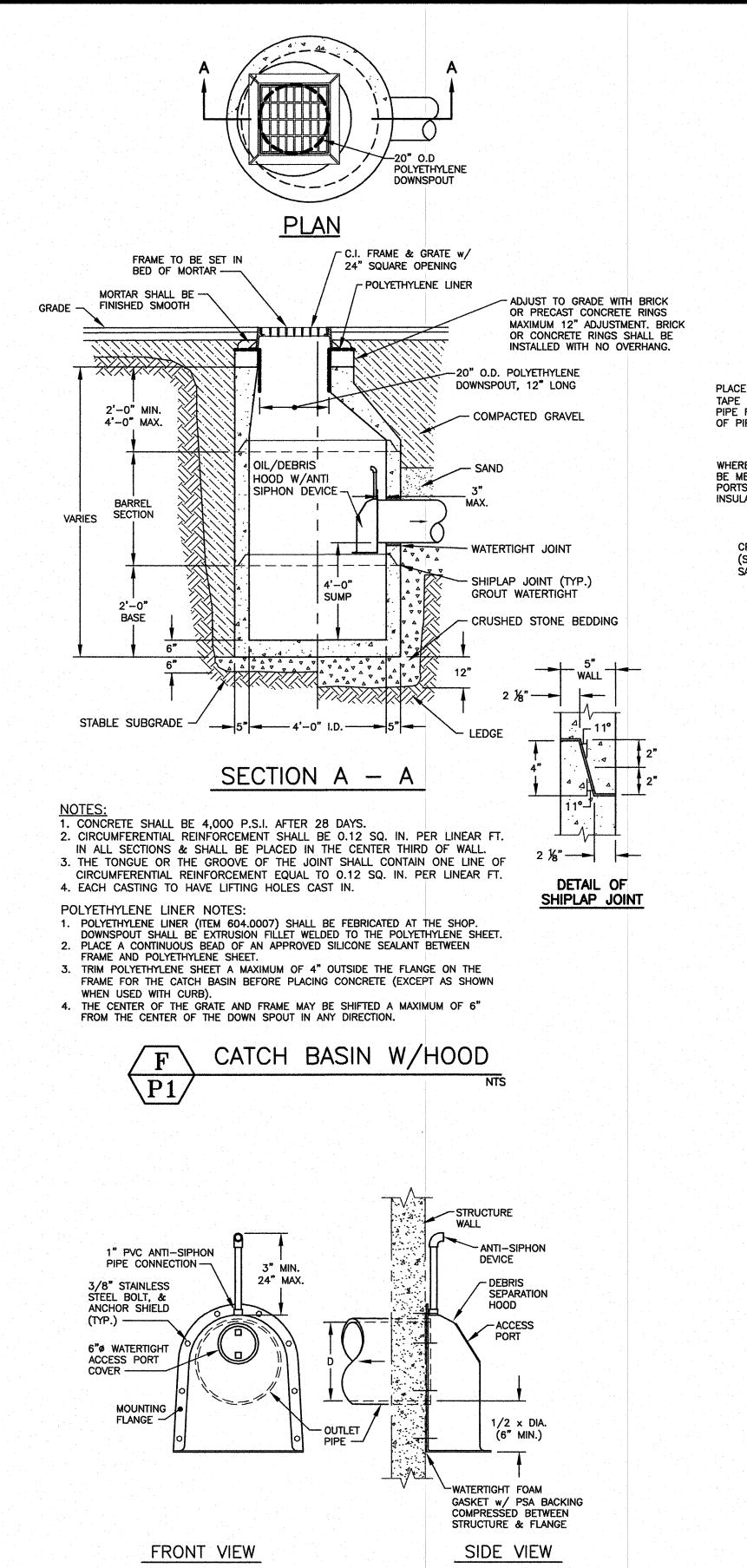
SCALE AS SHOWN

NTS

MARCH 2016

**EROSION CONTROL** NOTES & DETAILS

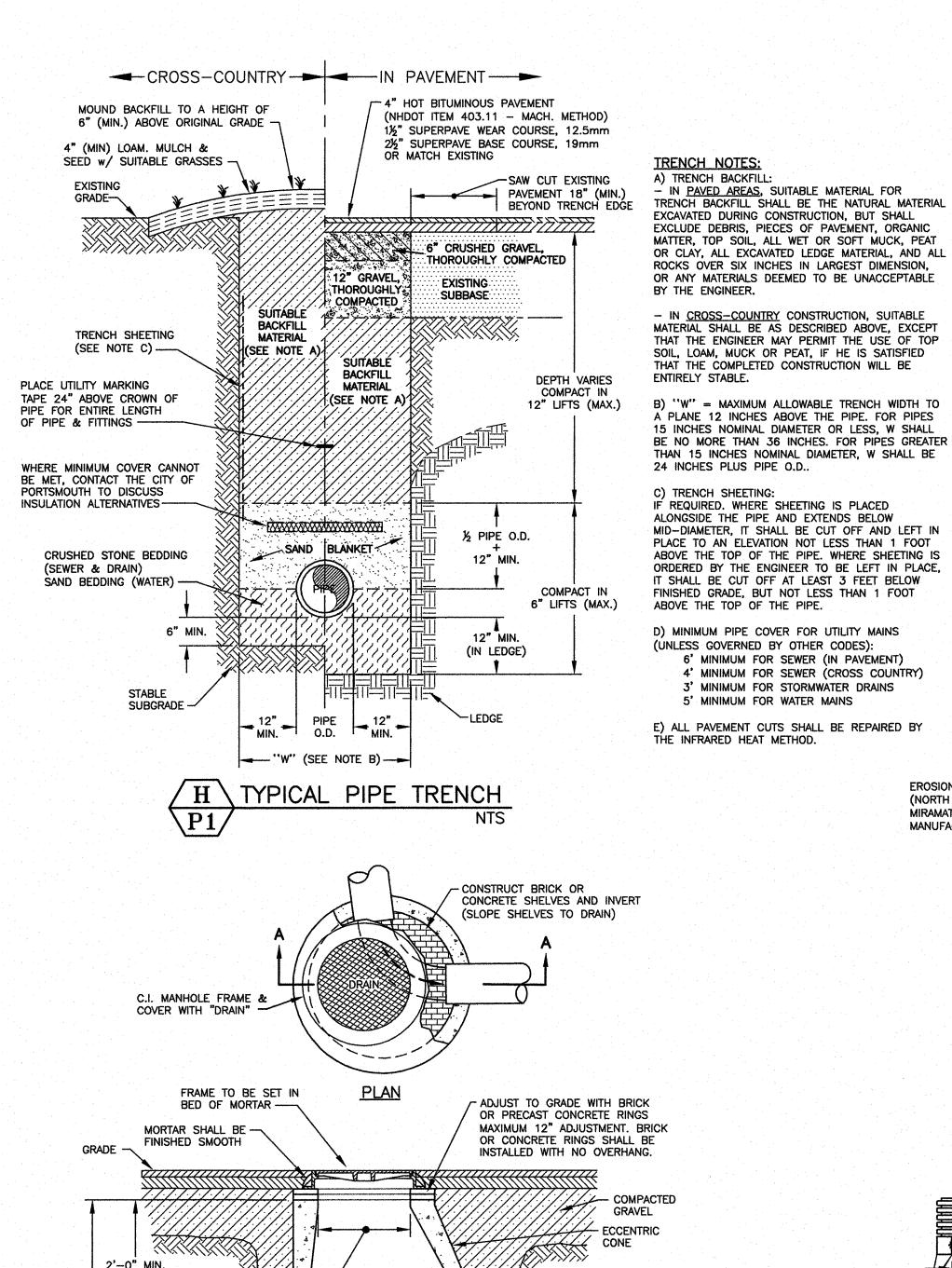
2077

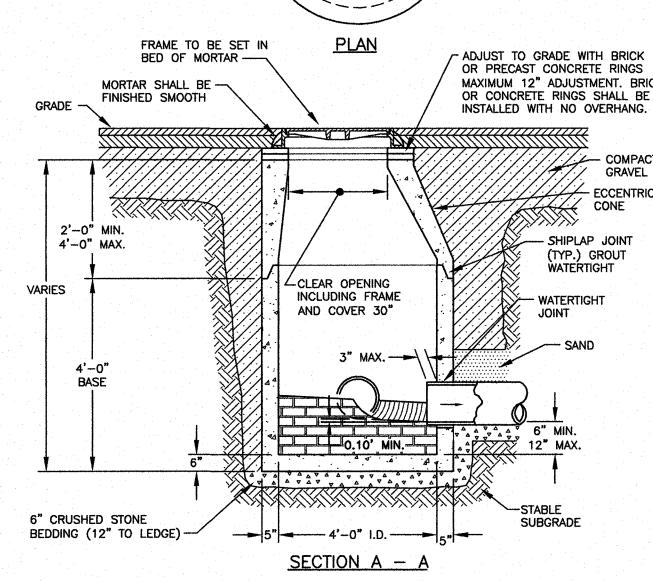


CATCH BASIN OUTLET HOOD DETAIL

NTS

"SNOUT" OR APPROVED EQUAL





NOTES:

1. CONCRETE SHALL BE 4,000 P.S.I. AFTER 28 DAYS.

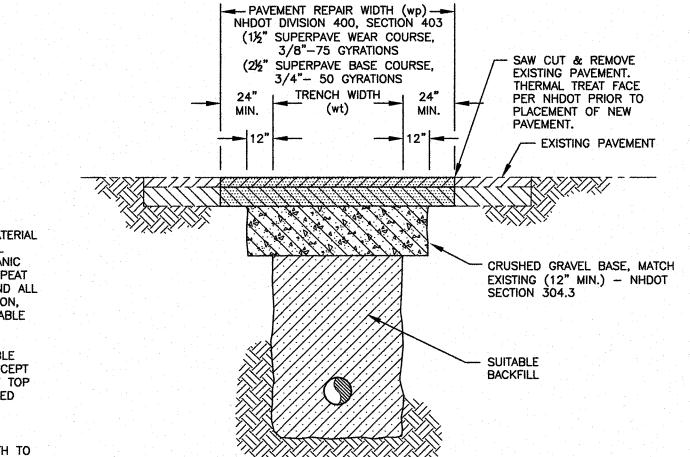
2. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.

3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT..

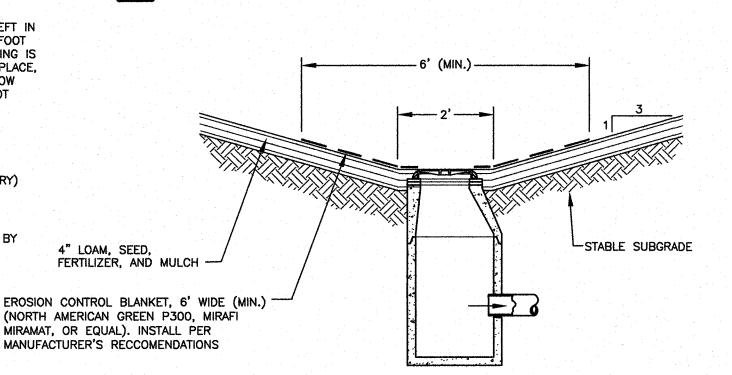
4. EACH CASTING TO HAVE LIFTING HOLES CAST IN.

5. STRUCTURE TO BE DESIGNED FOR H20 LOADING.

P1 DRAIN MANHOLE DETAIL
NTS

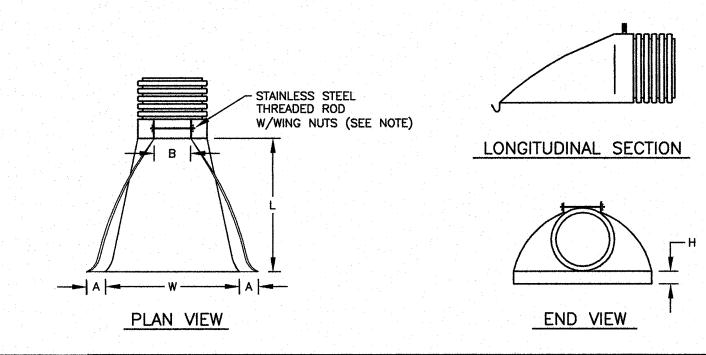


J TRENCH - PAVEMENT REPLACEMENT
NTS



CROSS SECTION

ROADSIDE SWALE NTS



	PART NO.	PIPE SIZE	Α	B (MAX.)	4 <b>H</b>	L	W
Г	1210-NP	12" / 300mm	6.5" / 165mm	10" / 254mm	6.5" / 165mm	25" / 635mm	29" / 735mm
	1510-NP	15" / 375mm	6.5" / 165mm	10" / 254mm	6.5" / 165mm	25" / 635mm	29" / 735mm
-	1810-NP	18" / 450mm	7.5" / 190mm	15" / 380mm	6.5" / 165mm	32" / 812mm	35" / 890mm
	2410-NP	24" / 600mm	7.5" / 190mm	18" / 450mm	6.5" / 165mm	36" / 900mm	45" / 1140mm
	3012-NP	30" / 750mm	10.5" / 266mm	N/A	7.0" / 178mm	53" / 1345mm	68" / 1725mm
	3612-NP	36" / 900mm	10.5" / 266mm	N/A	7.0" / 178mm	53" / 1345mm	68" / 1725mm

NOTE: STAINLESS STEEL THREADED ROD w/ WING NUTS PROVIDED FOR END SECTIONS 12"-24", 30" & 36" END SECTIONS TO BE WELDED TO PIPE PER MANUFACTURER'S RECOMMENDATIONS.

L ADVANCED DRAINAGE SYSTEM (ADS) FLARED END SECTION NTS



## AMBIT ENGINEERING, INC. Civil Engineers & Land Surveyors

200 Griffin Road - Unit 3 Portsmouth, N.H. 03801-7114 Tel (603) 430-9282

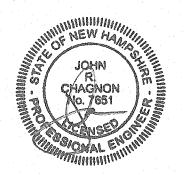
Fax (603) 436-2315

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# PROPOSED STORM SEWER IMPROVEMENTS WOODLAWN CIRCLE PORTSMOUTH, N.H.

1 REVISED PER DPW COMMENTS 4/4/16
0 ISSUED FOR COMMENTS 3/25/16
NO. DESCRIPTION DATE
REVISIONS



SCALE AS SHOWN

MARCH 2016

**DETAILS** 

D2