

PROPOSED SUBDIVISION

799 SOUTH STREET PORTSMOUTH, NEW HAMPSHIRE SITE PLANS

OWNERS:

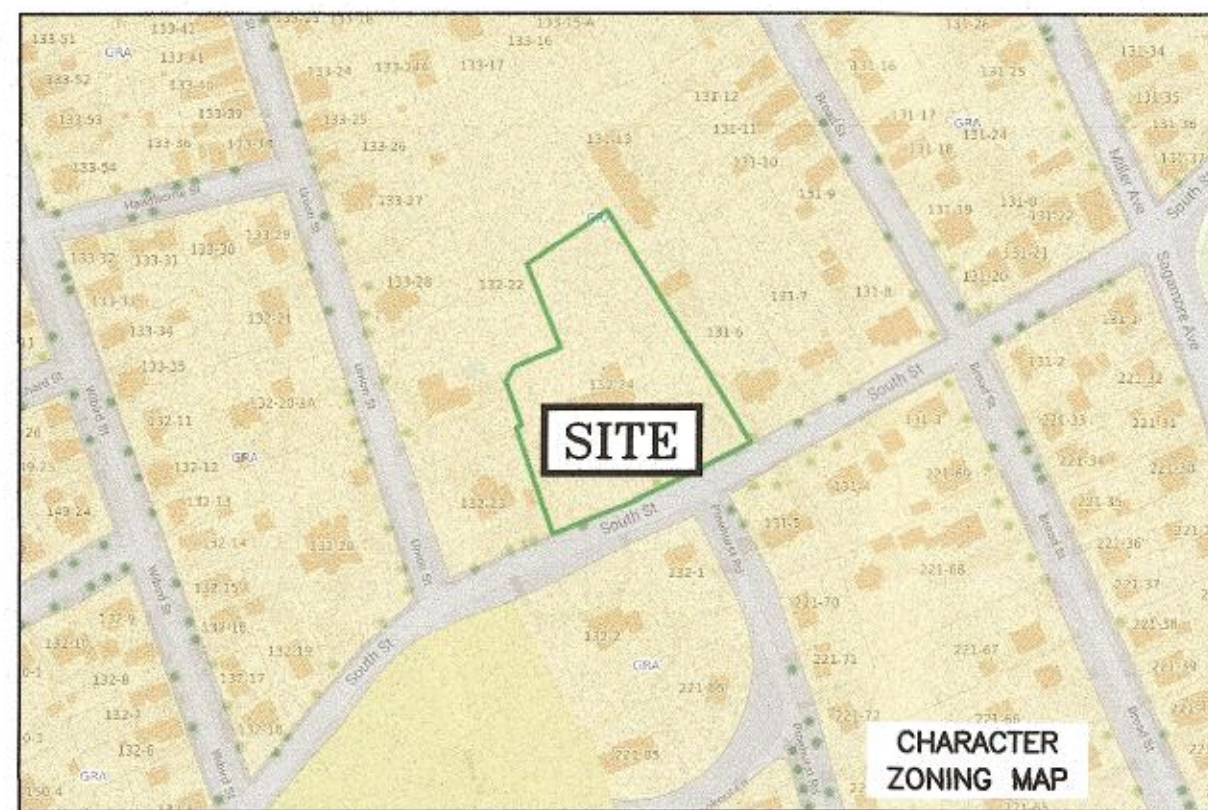
NOELE M. CLEWS REVOCABLE TRUST
CHRISTOPHER CLEWS, TRUSTEE
67 RIDGES COURT
PORTSMOUTH, NH 03801

CIVIL ENGINEER & LAND SURVEYOR:

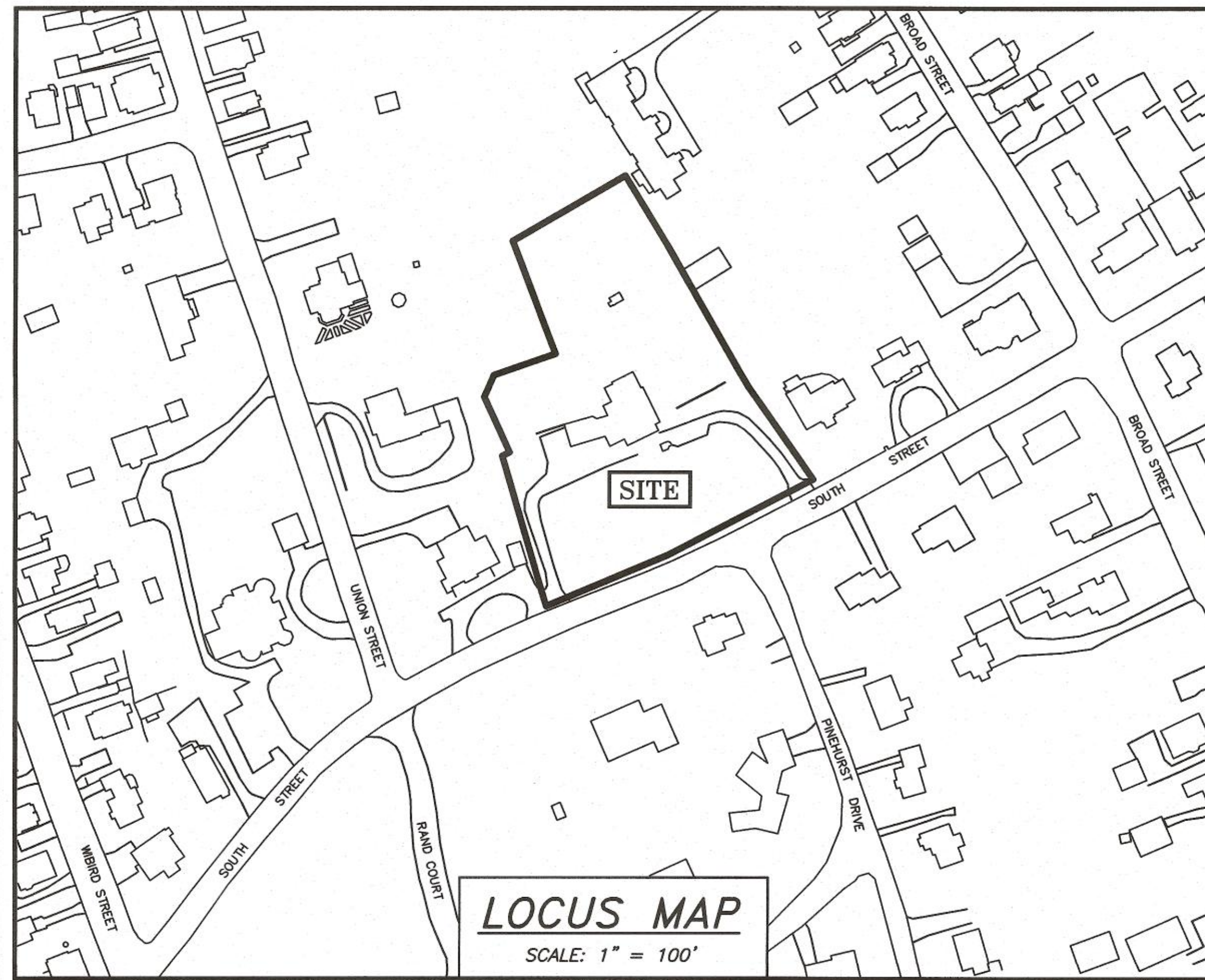
AMBIT ENGINEERING, INC.
200 GRIFFIN ROAD, UNIT 3
PORTSMOUTH, N.H. 03801
Tel. (603) 430-9282
Fax (603) 436-2315

TRAFFIC ENGINEER:

STEPHEN G. PERNAW & COMPANY, INC.
PO BOX 1721
CONCORD, N.H. 03302
Tel. (603) 731-8500
Fax (866) 929-6094



Legend	
Character Districts	
[Symbol]	Character-Based Zoning Area (Refer to Zoning Map Sheet 2 of 2 Character Districts Regulating Plan)
Residential Districts	
[Symbol]	R Rural
[Symbol]	SRA Single Residence A
[Symbol]	SRB Single Residence B
[Symbol]	GRA General Residence A
[Symbol]	GRB General Residence B
[Symbol]	GRC General Residence C
[Symbol]	GA/MH Garden Apartment/Mobile Home Park
Mixed Residential Districts	
[Symbol]	MRO Mixed Residential Office
[Symbol]	MRB Mixed Residential Business
[Symbol]	G1 Gateway Corridor
[Symbol]	G2 Gateway Center



PERMIT LIST:
PORTSMOUTH SUBDIVISION

LEGEND:

EXISTING	PROPOSED	
[Symbol]	[Symbol]	PROPERTY LINE
[Symbol]	[Symbol]	SETBACK
[Symbol]	[Symbol]	SEWER PIPE
[Symbol]	[Symbol]	SEWER LATERAL
[Symbol]	[Symbol]	GAS LINE
[Symbol]	[Symbol]	STORM DRAIN
[Symbol]	[Symbol]	WATER LINE
[Symbol]	[Symbol]	WATER SERVICE
[Symbol]	[Symbol]	UNDERGROUND ELECTRIC
[Symbol]	[Symbol]	OVERHEAD ELECTRIC/WIRES
[Symbol]	[Symbol]	FOUNDATION DRAIN
[Symbol]	[Symbol]	EDGE OF PAVEMENT (EP)
[Symbol]	[Symbol]	CONTOUR
[Symbol]	[Symbol]	SPOT ELEVATION
[Symbol]	[Symbol]	UTILITY POLE
[Symbol]	[Symbol]	WALL MOUNTED EXTERIOR LIGHTS
[Symbol]	[Symbol]	TRANSFORMER ON CONCRETE PAD
[Symbol]	[Symbol]	ELECTRIC HANDHOLD
[Symbol]	[Symbol]	SHUT OFFS (WATER/GAS)
[Symbol]	[Symbol]	GATE VALVE
[Symbol]	[Symbol]	HYDRANT
[Symbol]	[Symbol]	CATCH BASIN
[Symbol]	[Symbol]	SEWER MANHOLE
[Symbol]	[Symbol]	DRAIN MANHOLE
[Symbol]	[Symbol]	TELEPHONE MANHOLE
[Symbol]	[Symbol]	PARKING SPACE COUNT
[Symbol]	[Symbol]	PARKING METER
[Symbol]	[Symbol]	LANDSCAPED AREA
[Symbol]	[Symbol]	TO BE DETERMINED
[Symbol]	[Symbol]	CAST IRON PIPE
[Symbol]	[Symbol]	COPPER PIPE
[Symbol]	[Symbol]	DUCTILE IRON PIPE
[Symbol]	[Symbol]	POLYVINYL CHLORIDE PIPE
[Symbol]	[Symbol]	REINFORCED CONCRETE PIPE
[Symbol]	[Symbol]	ASBESTOS CEMENT PIPE
[Symbol]	[Symbol]	VITRIFIED CLAY PIPE
[Symbol]	[Symbol]	EDGE OF PAVEMENT
[Symbol]	[Symbol]	ELEVATION
[Symbol]	[Symbol]	FINISHED FLOOR
[Symbol]	[Symbol]	INVERT
[Symbol]	[Symbol]	SLOPE FT/FT
[Symbol]	[Symbol]	TEMPORARY BENCH MARK
[Symbol]	[Symbol]	TYPICAL



UTILITY CONTACTS

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

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

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

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

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

INDEX OF SHEETS

DWG No.	Description
-	SUBDIVISION PLAN
C1	EXISTING CONDITIONS PLAN
C2	UTILITY SITE PLAN
C3	DRIVEWAY PLAN
C4	CONCEPT AND GRADING PLAN
D1-D5	DETAILS

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

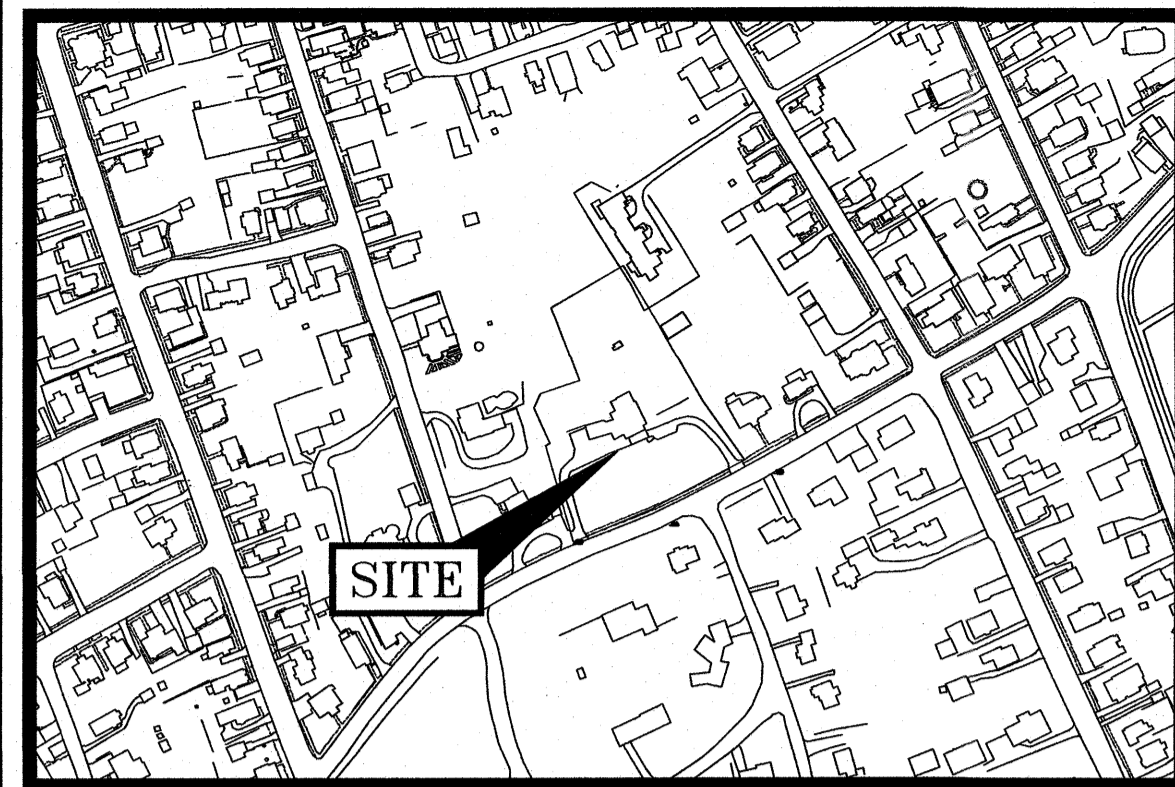
APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

TAC SUBMISSION
CLEWS SUBDIVISION
799 SOUTH STREET
PORTSMOUTH, N.H.

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

PLAN SET SUBMITTAL DATE: 17 JUNE 2019



LOCATION MAP

SCALE: 1"=300'

LEGEND:

- EXISTING**
- N/F
 - RP
 - RCRD
 - (11/21)
 - RR SPK FND
 - IR FND
 - IP FND
 - DH FND
 - NH/B FND
 - TB FND
 - BND w/DH
 - ST BND w/DH
 - STORM DRAIN
 - UNDERGROUND ELECTRIC
 - OVERHEAD ELECTRIC/WIRES
 - EDGE OF PAVEMENT (EP)
 - WOODS / TREE LINE
 - UTILITY POLE (w/ GUY)
 - WATER SHUT OFF/CURB STOP
 - GATE VALVE
 - HYD
 - HYDRANT
 - METER (GAS, WATER, ELECTRIC)
 - CATCH BASIN
- NOW OR FORMERLY RECORD OF PROBATE ROCKINGHAM COUNTY REGISTRY OF DEEDS MAP 11 / LOT 21**
- RR SPK SET
 - IR SET
 - IP SET
 - DH SET
 - BND w/DH
 - ST BND w/DH
 - RAILROAD SPIKE FOUND/SET
 - IRON ROD FOUND/SET
 - IRON PIPE FOUND/SET
 - DRILL HOLE FOUND/SET
 - NH/DOT BOUND FOUND
 - TOWN BOUND FOUND
 - BOUND w/ DRILL HOLE
 - STONE BOUND w/DRILL HOLE

PLAN REFERENCES:

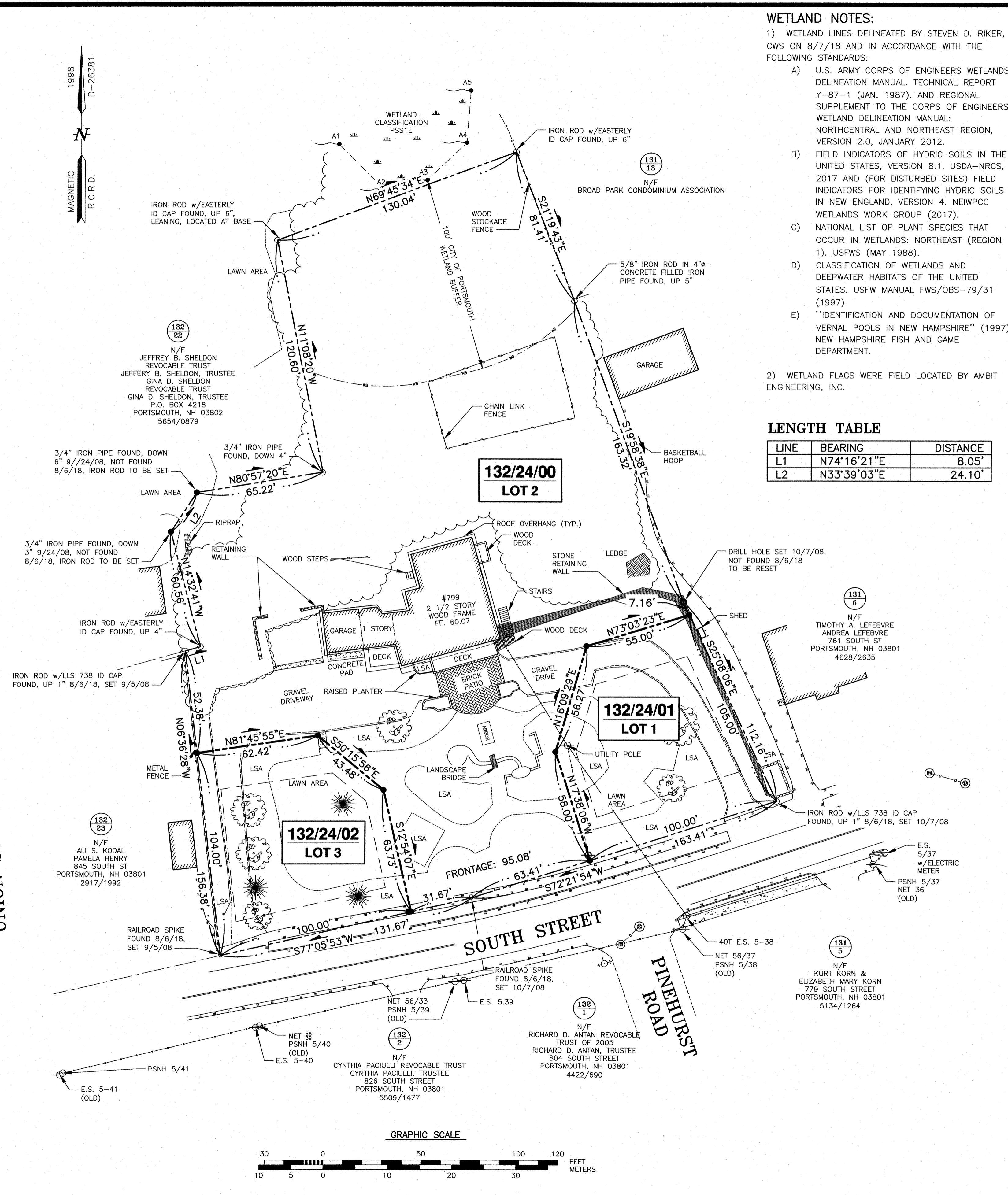
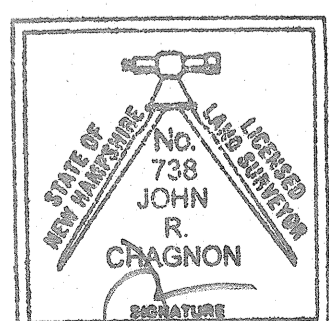
- STANDARD BOUNDARY SURVEY FOR PROPERTY AT 613 UNION STREET, ROCKINGHAM COUNTY, PORTSMOUTH, NEW HAMPSHIRE OWNED BY JOHN R. & ELIZABETH U. FEGELA. DATED 5/15/98 BY EASTERLY SURVEYING. RCRD #D-26381.
- SITE PLAN, BROAD PARK CONDOMINIUMS OFF BROAD STREET, PORTSMOUTH, N.H. DATED 3/10/81 BY RICHARD P. MILLETTE AND ASSOCIATES. RCRD #D-10137.
- PLAN OF RAND AND HISLOP LAND, SOUTH, UNION AND SPRING STS., PORTSMOUTH, N.H. DATED OCT. 1943 BY JOHN W. DURGIN. RCRD #01239.
- PLAN OF LOTS, PORTSMOUTH, N.H. OWNED BY C.W. BREWSTER. DATED OCT. 1931 BY JOHN W. DURGIN. RCRD #0687.

VARIANCE REQUEST:

- SECTION 10.521-TO ALLOW 95.08' OF FRONTAGE FOR LOT 2, WHERE 100' IS REQUIRED. APPROVED 3-26-19

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

John R. Chagnon
 JOHN R. CHAGNON, LLS
 DATE 6-17-19



- WETLAND NOTES:**
- WETLAND LINES DELINEATED BY STEVEN D. RIKER, CWS ON 8/7/18 AND IN ACCORDANCE WITH THE FOLLOWING STANDARDS:
 - 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.
 - 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. NEWPCC WETLANDS WORK GROUP (2017).
 - NATIONAL LIST OF PLANT SPECIES THAT OCCUR IN WETLANDS: NORTHEAST (REGION 1). USFWS (MAY 1988).
 - CLASSIFICATION OF WETLANDS AND DEEPWATER HABITATS OF THE UNITED STATES. USFW MANUAL FWS/OBS-79/31 (1997).
 - "IDENTIFICATION AND DOCUMENTATION OF VERNAL POOLS IN NEW HAMPSHIRE" (1997). NEW HAMPSHIRE FISH AND GAME DEPARTMENT.
 - WETLAND FLAGS WERE FIELD LOCATED BY AMBIT ENGINEERING, INC.

LENGTH TABLE

LINE	BEARING	DISTANCE
L1	N74°16'21"E	8.05'
L2	N33°39'03"E	24.10'

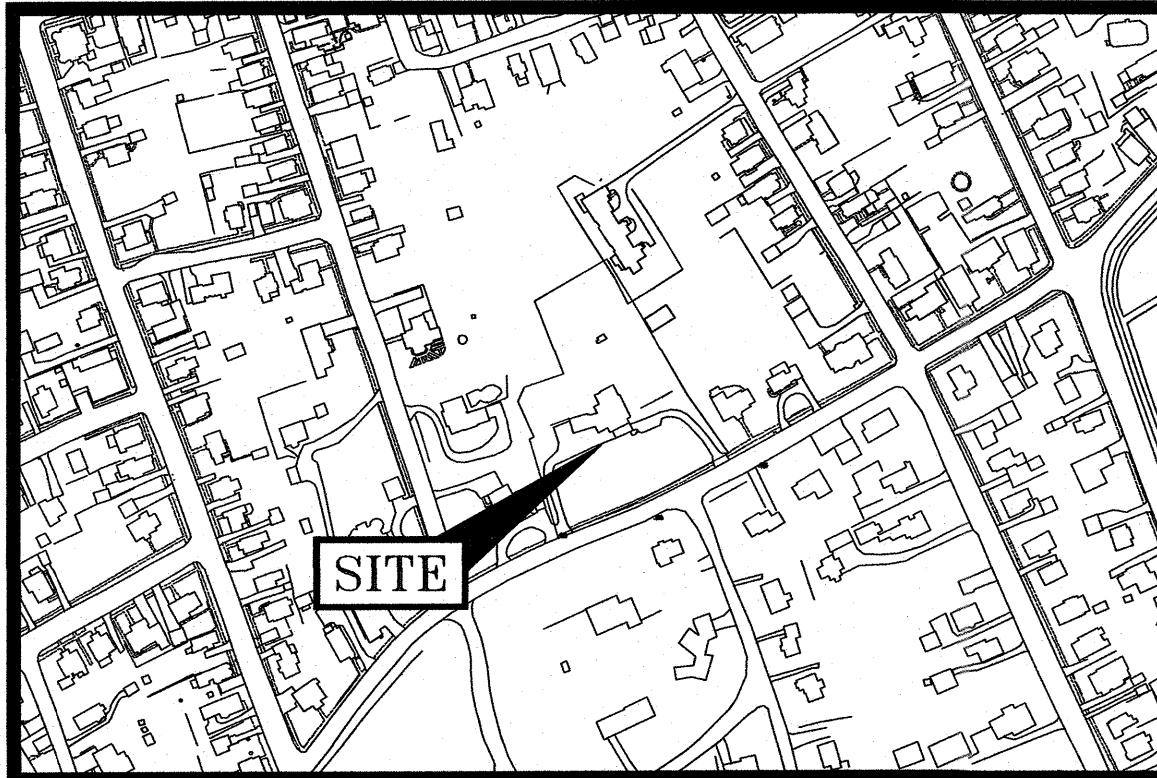
AMBIT ENGINEERING, INC.
 Civil Engineers & Land Surveyors
 200 Griffin Road - Unit 3
 Portsmouth, N.H. 03801-7114
 Tel (603) 430-9282
 Fax (603) 436-2315

- NOTES:**
- PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S TAX MAP 132 AS LOT 24.
 - OWNERS OF RECORD:
 NOELE M. CLEWS REVOCABLE TRUST
 CHRISTOPHER CLEWS, TRUSTEE
 67 RIDGES COURT
 PORTSMOUTH, NH 03801
 2338/525
 - PARCEL NOT IN A FLOOD HAZARD ZONE AS SHOWN ON FIRM PANEL 33015C0259E. MAY 17, 2005.
 - EXISTING LOT AREA:
 LOT 1: 76,889 S.F.
 1.7651 ACRES
 LOT 2: 58,885 S.F.
 1.3518 ACRES
 LOT 3: 9,000 S.F.
 0.2066 ACRES
 PROPOSED LOT AREAS:
 LOT 1: 9,004 S.F.
 0.2067 ACRES
 LOT 2: 58,885 S.F.
 1.3518 ACRES
 LOT 3: 9,000 S.F.
 0.2066 ACRES
 - PARCEL IS LOCATED IN GENERAL RESIDENCE A (GRA) DISTRICT.
 DIMENSIONAL REQUIREMENTS:
 MIN. LOT AREA: 7,500 S.F.
 FRONTAGE: 100 FEET
 MIN. DEPTH: 70 FEET
 SETBACKS:
 FRONT: 15 FEET
 SIDE: 10 FEET
 REAR: 20 FEET
 MAXIMUM STRUCTURE HEIGHT: 35'
 MAXIMUM STRUCTURE COVERAGE: 25%
 MINIMUM OPEN SPACE: 30%
 - THE PURPOSE OF THIS PLAN IS TO SHOW THE SUBDIVISION OF TAX MAP 132 LOT 24 IN THE CITY OF PORTSMOUTH INTO 3 LOTS.

NO.	DESCRIPTION	DATE
1	ISSUED FOR TAC REVIEW	6/17/19
0	ISSUED FOR VARIANCE APPLICATION	2/22/19

SUBDIVISION PLAN
TAX MAP 132 - LOT 24
 OWNER:
NOELE M. CLEWS
REVOCABLE TRUST
CHRISTOPHER CLEWS, TRUSTEE
 PROPERTY LOCATED AT:
 799 SOUTH STREET
 CITY OF PORTSMOUTH
 COUNTY OF ROCKINGHAM
 STATE OF NEW HAMPSHIRE

J:\JOBST\1700s\1736\1736 SUBDIVISION\1736 SUBDIVISION\1736.dwg, SUBDI

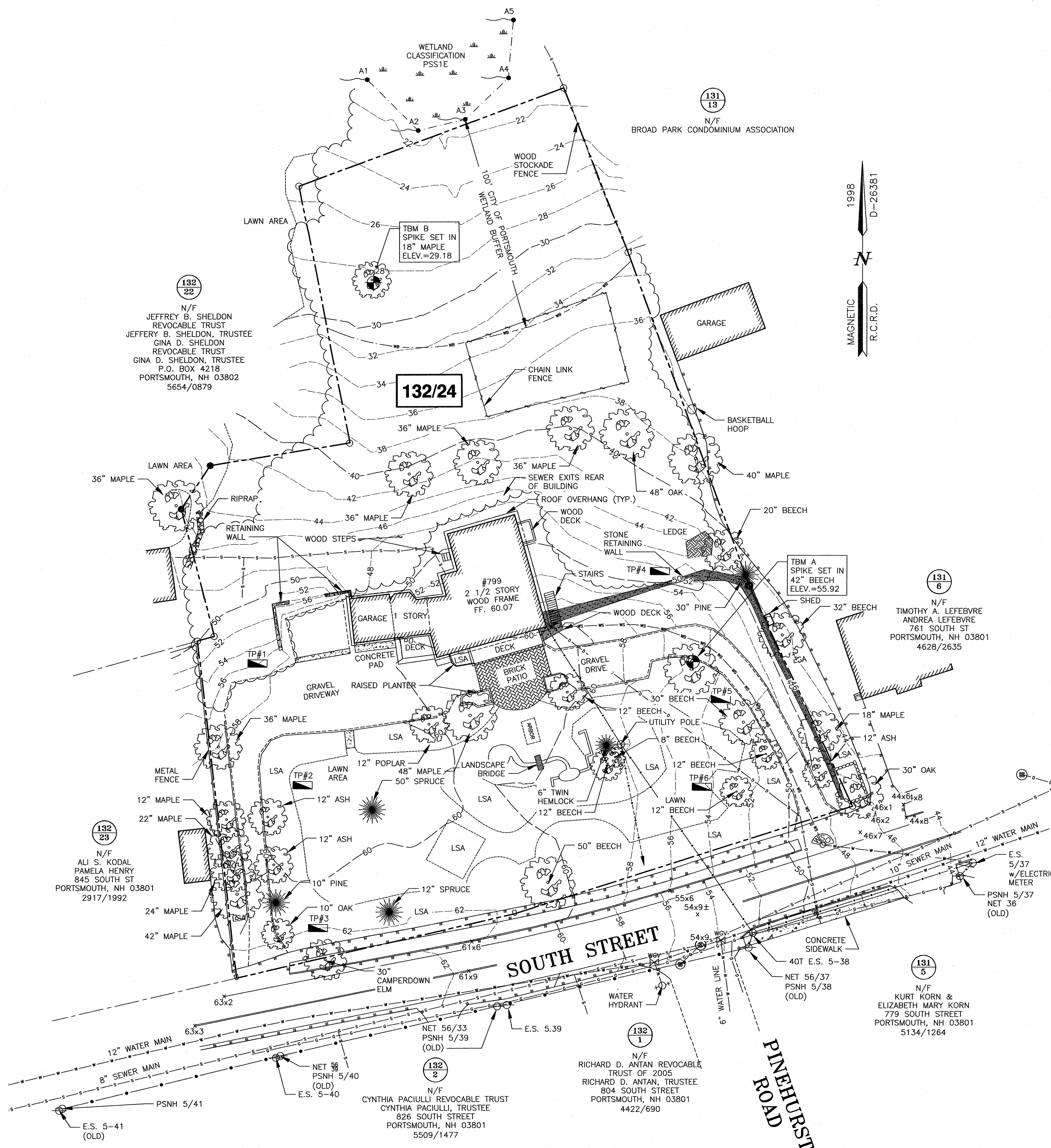


LOCATION MAP

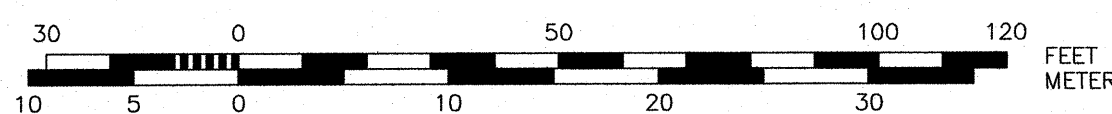
1"=300'

WETLAND NOTES:

- 1) WETLAND LINES DELINEATED BY STEVEN D. RIKER, CWS ON 8/7/18 AND 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. NEWIPCC 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.



GRAPHIC SCALE



- TEST PIT 1, ELEV.: 56.0**
 Date: 5/30/19
 Logged by: DOUG LAROSA
 ESHWT: NONE
 Observed Water: NONE
 Restrictive layer: NONE
 REFUSAL: LEDGE AT 42"
 DEPTH DESCRIPTION
 0" - 42" 10YR 3/3 FINE SANDY LOAM, MASSIVE, FRIABLE, 20% GRAVEL
- TEST PIT 2, ELEV. 59.1**
 Date: 5/30/19
 Logged by: DOUG LAROSA
 ESHWT: 49" MOTTLES 5YR 7/8
 Observed Water: NONE
 Restrictive layer: NONE
 REFUSAL: LEDGE AT 64"
 DEPTH DESCRIPTION
 0" - 30" 10YR 3/3 FINE SANDY LOAM, MASSIVE, FRIABLE, 15% GRAVEL
 30" - 64" 10YR 5/6 FINE SANDY LOAM, GRANULAR, FRIABLE, 20% COBBLES
- TEST PIT 3, ELEV.: 62.0**
 Date: 5/30/19
 Logged by: DOUG LAROSA
 ESHWT: NONE
 Observed Water: NONE
 Restrictive layer: NONE
 REFUSAL: LEDGE AT 37"
 DEPTH DESCRIPTION
 0" - 18" 10YR 3/3 FINE SANDY LOAM, MASSIVE, FRIABLE, 20% GRAVEL
 18" - 37" 10YR 5/6 FINE SANDY LOAM, GRANULAR, FRIABLE, ROOTS 36"
- TEST PIT 4, ELEV. 48.4**
 Date: 9/30/19
 Logged by: DOUG LAROSA
 ESHWT: NONE
 Observed Water: NONE
 Restrictive layer: NONE
 REFUSAL: LEDGE AT 29"
 DEPTH DESCRIPTION
 0" - 13" 10YR 4/3 FINE SANDY LOAM, MASSIVE, FRIABLE
 13" - 29" 10YR 4/6 FINE SANDY LOAM, GRANULAR, FRIABLE, ROOTS 26"
- TEST PIT 5, ELEV. 53.5**
 Date: 9/30/19
 Logged by: DOUG LAROSA
 ESHWT: NONE
 Observed Water: NONE
 Restrictive layer: NONE
 REFUSAL: LEDGE AT 25"
 DEPTH DESCRIPTION
 0" - 46" 10YR 3/3 FINE SANDY LOAM, MASSIVE, FRIABLE
 46" - 72" 10YR 5/6 FINE SANDY LOAM, GRANULAR, FRIABLE, 20% GRAVEL, ROOTS 65"
- TEST PIT 6, ELEV. 54.5**
 Date: 9/30/19
 Logged by: DOUG LAROSA
 ESHWT: NONE
 Observed Water: NONE
 Restrictive layer: NONE
 REFUSAL: LEDGE AT 42"
 DEPTH DESCRIPTION
 0" - 42" 10YR 3/3 FINE SANDY LOAM, MASSIVE, FRIABLE

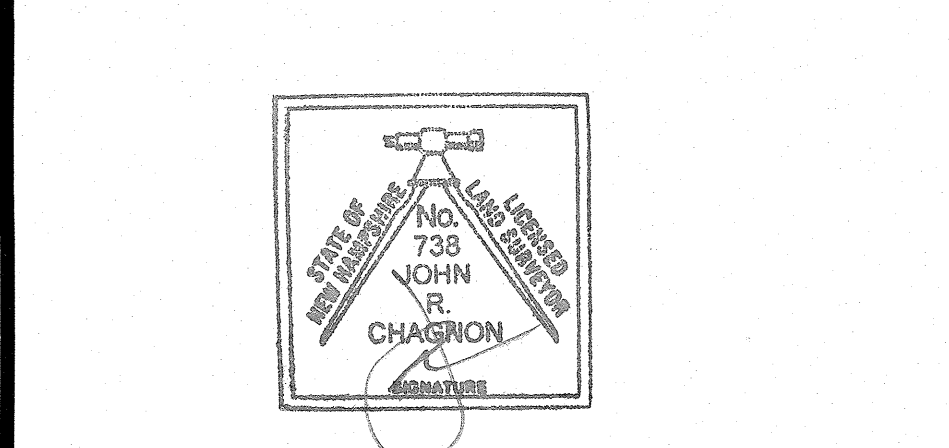
AMBIT ENGINEERING, INC.
 Civil Engineers & Land Surveyors
 200 Griffin Road - Unit 3
 Portsmouth, N.H. 03801-7114
 Tel (603) 430-9282
 Fax (603) 436-2315

- NOTES:**
- 1) PARCEL IS SHOWN ON CITY OF PORTSMOUTH ASSESSOR'S TAX MAP 132 AS LOT 24.
 - 2) OWNERS OF RECORD:
 NOELE M. CLEWS REVOCABLE TRUST
 CHRISTOPHER CLEWS, TRUSTEE
 67 RIDGES COURT
 PORTSMOUTH, NH 03801
 2338/525
 - 3) PARCEL NOT IN A FLOOD HAZARD ZONE AS SHOWN ON FIRM PANEL 33015C0259E. MAY 17, 2005.
 - 4) EXISTING LOT AREA:
 76,889 S.F.
 1.7651 ACRES
 - 5) PARCEL IS LOCATED IN GENERAL RESIDENCE A (GRA) DISTRICT.
 - 6) DIMENSIONAL REQUIREMENTS:
 MIN. LOT AREA: 7,500 S.F.
 FRONTAGE: 100 FEET
 SETBACKS: FRONT 15 FEET
 SIDE 10 FEET
 REAR 20 FEET
 MAXIMUM STRUCTURE HEIGHT: 35 FEET
 MAXIMUM BUILDING COVERAGE: 25%
 MINIMUM OPEN SPACE: 30%
 - 7) THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS ON TAX MAP 132 LOT 24 IN THE CITY OF PORTSMOUTH.
 - 8) 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.
 - 9) VERTICAL DATUM IS MEAN SEA LEVEL NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GPS OBSERVATIONS (±0.2').
 - 10) SEWER LOCATED FROM FIELD INSPECTED BY TED BERRY COMPANY ON APRIL 22, 2019.

**CLEWS SUBDIVISION
 799 SOUTH STREET
 PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
2	ADDED GAS LINE, REVISED WATER LINE	6/17/19
1	ISSUED FOR CITY	4/5/19
0	ISSUED FOR COMMENT	2/22/19

REVISIONS



SCALE 1" = 30' FEBRUARY 2019

**EXISTING CONDITIONS
 PLAN**

C1

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

JOHN R. CHAGNON, LLS _____ DATE _____

J:\JOBS\171703\171703_2018_Subdivision\Plans & Specs\Site\1736_Subdivision\1736.dwg, C1_EXIST



AMBIT ENGINEERING, INC.

Civil Engineers & Land Surveyors

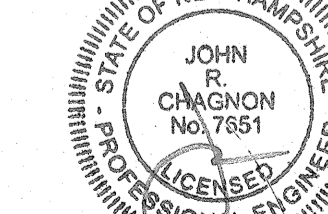
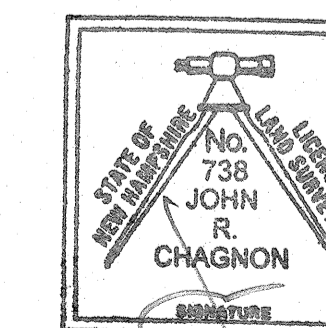
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

- 1) THE PURPOSE OF THIS PLAN IS TO SHOW THE UTILITIES ASSOCIATED WITH THE SUBDIVISION OF TAX MAP 132 LOT 24 IN THE CITY OF PORTSMOUTH.
- 2) 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.
- 3) 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.
- 4) 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).
- 5) VERTICAL DATUM IS MEAN SEA LEVEL NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GPS OBSERVATIONS (±0.2').
- 6) EVERSOURCE WORK ORDER NUMBER:
- 7) BUILDING LOCATIONS ON LOTS 1 & 3 ARE PRELIMINARY AND SUBJECT TO CHANGE.

**CLEWS SUBDIVISION
799 SOUTH STREET
PORTSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
2	ADDED CONCEPTS/UPDATE UTILITIES	6/17/19
1	ISSUED TO CITY	4/5/19
0	ISSUED FOR COMMENT	2/22/19
REVISIONS		

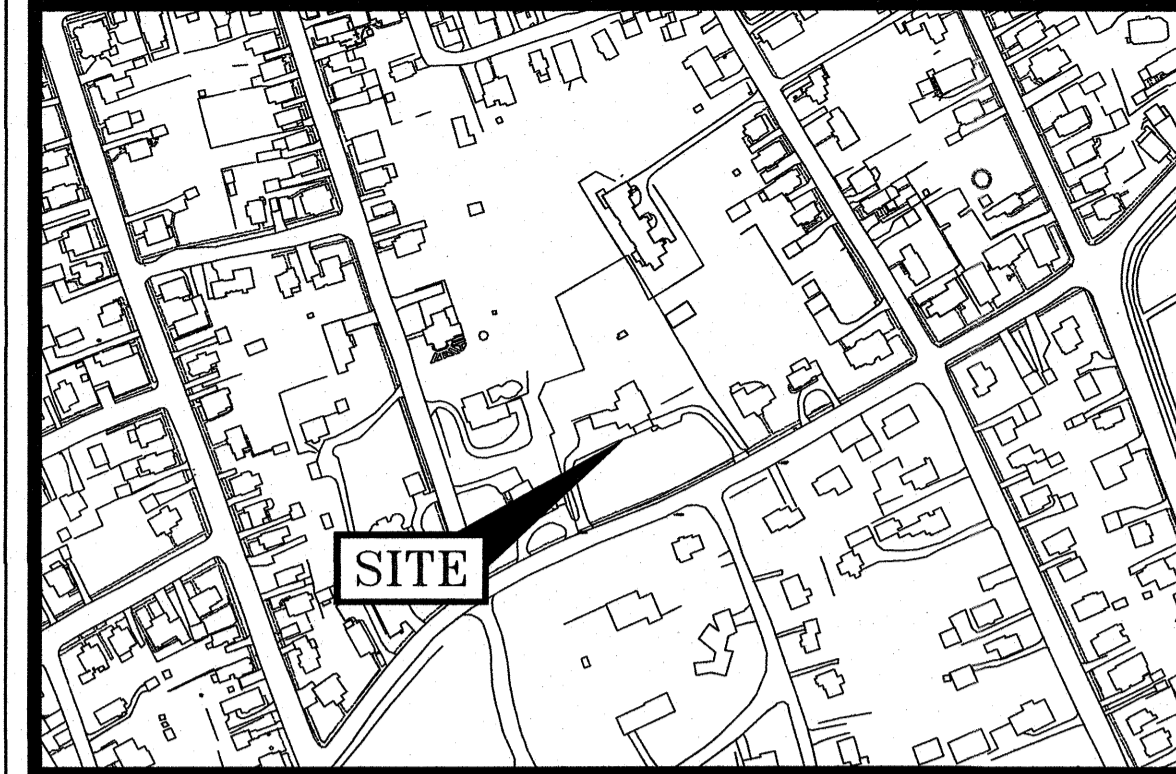


SCALE 1" = 20'

FEBRUARY 2019

**UTILITY
SITE PLAN**

C2

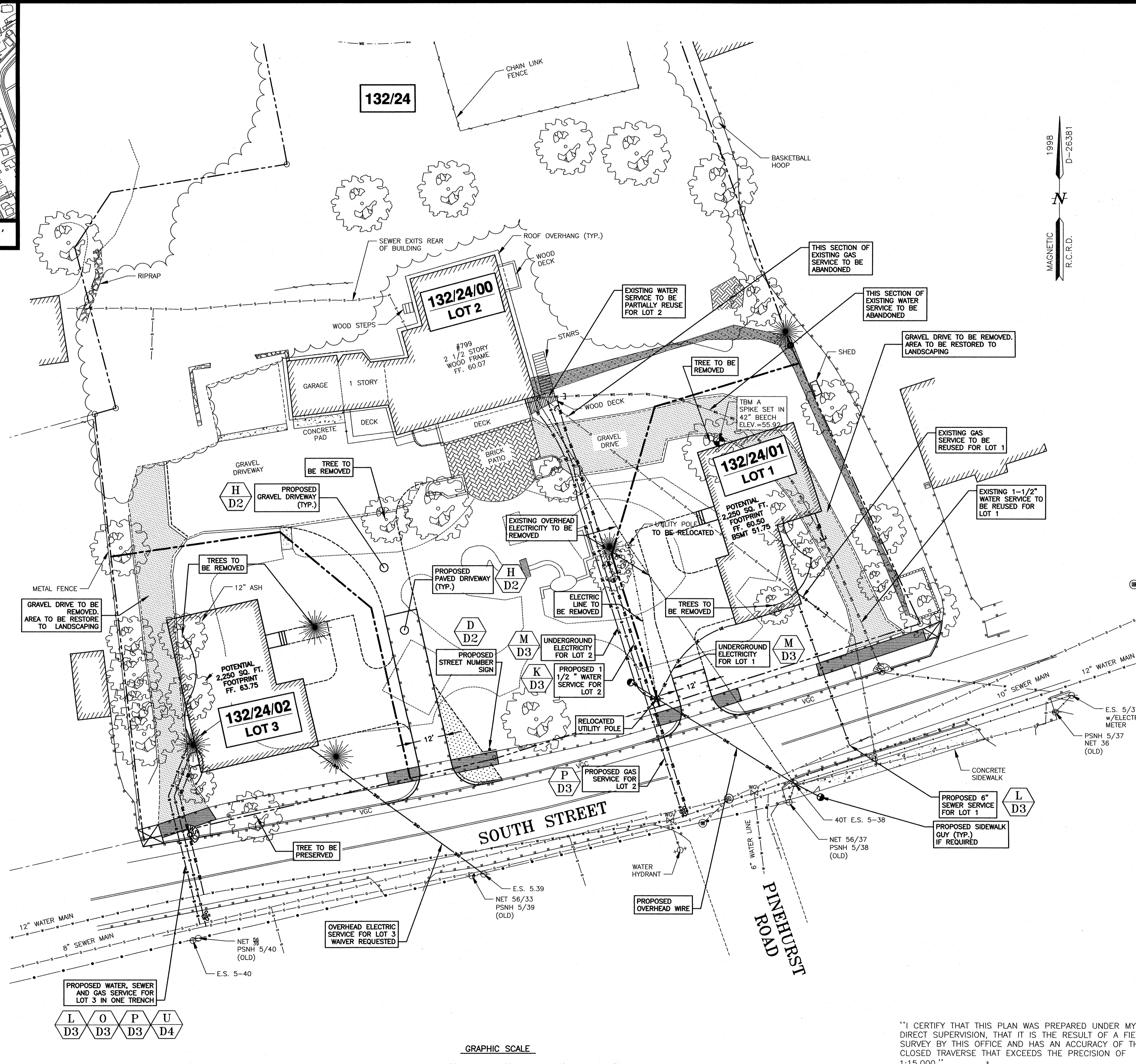


LOCATION MAP

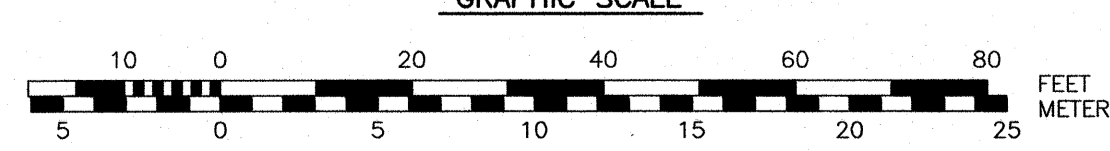
1"=300'

LEGEND:

- | EXISTING | PROPOSED | |
|-----------------|-------------|------------------------------|
| N/F | | NOW OR FORMERLY |
| RP | | RECORD OF PROBATE |
| RCRD | | ROCKINGHAM COUNTY |
| (11/21) | | REGISTRY OF DEEDS |
| | | MAP 11 / LOT 21 |
| BOUNDARY | | |
| RR SPK FND | RR SPK SET | SETBACK |
| IR FND | IR SET | RAILROAD SPIKE FOUND/SET |
| IP FND | IP SET | IRON ROD FOUND/SET |
| DH FND | DH SET | IRON PIPE FOUND/SET |
| NHFB FND | | DRILL HOLE FOUND/SET |
| TB FND | | NHDOT BOUND FOUND |
| BND w/DH | BND w/DH | TOWN BOUND FOUND |
| ST BND w/DH | ST BND w/DH | BOUND w/ DRILL HOLE |
| | | STONE BOUND w/DRILL HOLE |
| | | FORCE MAIN |
| | | SEWER LINE |
| | | GAS LINE |
| | | STORM DRAIN |
| | | WATER LINE |
| | | UNDERGROUND ELECTRIC |
| | | OVERHEAD ELECTRIC/WIRES |
| 100 | 100 | CONTOUR |
| 97x3 | 98x0 | SPOT ELEVATION |
| | | EDGE OF PAVEMENT (EP) |
| | | WOODS / TREE LINE |
| | | UTILITY POLE (w/ GUY) |
| | | GAS SHUT OFF |
| | | WATER SHUT OFF/CURB STOP |
| | | GATE VALVE |
| | | HYDRANT |
| | | METER (GAS, WATER, ELECTRIC) |
| | | CATCH BASIN |
| | | TELEPHONE MANHOLE |
| | | SEWER MANHOLE |
| | | DRAIN MANHOLE |
| | | WELL |
| | | PHOTO LOCATION/DIRECTION |
| | | AIR CONDITIONER UNIT |
| | | TEST PROBE |
| | | MONITORING WELL |
| | | TEST PIT |
| | | SIGNS |
| | | EDGE OF WETLAND FLAGGING |
| | | SWAMP / MARSH |
| | | ASBESTOS CEMENT PIPE |
| | | CAST IRON PIPE |
| | | CORRUGATED METAL PIPE |
| | | CONCRETE MASONRY UNIT |
| | | COPPER PIPE |
| | | DUCTILE IRON PIPE |
| | | POLYVINYL CHLORIDE PIPE |
| | | REINFORCED CONCRETE PIPE |
| | | VITRIFIED CLAY PIPE |
| | | ELEVATION |
| | | EDGE OF PAVEMENT |
| | | FINISHED FLOOR |
| | | INVERT |
| | | TEMPORARY BENCHMARK |
| | | TYPICAL |
| | | VERTICAL/SLOPED GRANITE CURB |
| | | CAPE COD BERM |
| | | CENTERLINE |
| | | LANDSCAPED AREA |



GRAPHIC SCALE



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

John R. Chagnon
JOHN R. CHAGNON, LLS
DATE 6/17/19

J:\JOBST\1730s\1730s\1736\Subdivision\Plans & Specs\Site\1736\Subdivision\2019.dwg, C2 SITE UTIL

LEGEND:

③ PARKING SPOT #3

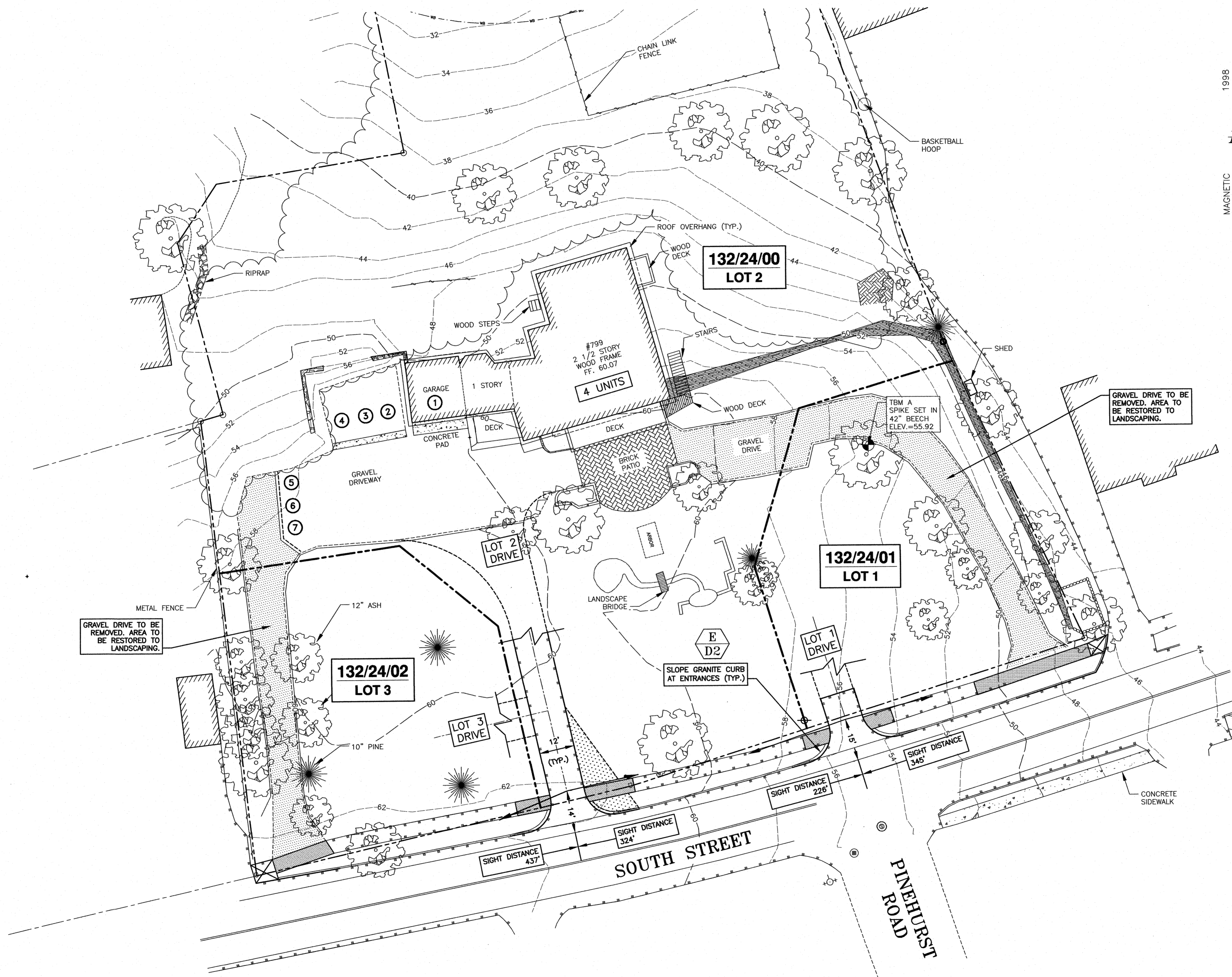


AMBIT ENGINEERING, INC.
 Civil Engineers & Land Surveyors
 200 Griffin Road - Unit 3
 Portsmouth, N.H. 03801-7114
 Tel (603) 430-9282
 Fax (603) 436-2315

NOTES:

- 1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.
- 2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED. LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.
- 3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).
- 4) REQUIRED PARKING FOR LOT 2:
 UNIT 1: 2,119 SF: 1.3 SPACES
 UNIT 2: 505 SF: 1 SPACE
 UNIT 3: 1,147 SF: 1.3 SPACES
 UNIT 4: 1,493 SF: 1.3 SPACES
 TOTAL REQUIRED: 5 SPACES
 PROVIDED: 7 SPACES
- 5) THE PURPOSE OF THIS PLAN IS TO SHOW PROPOSED DRIVEWAY LOCATIONS AND SIGHT DISTANCES FOR THE CLEWS SUBDIVISION.

1998
D-26381
N
MAGNETIC
R.C.R.D.

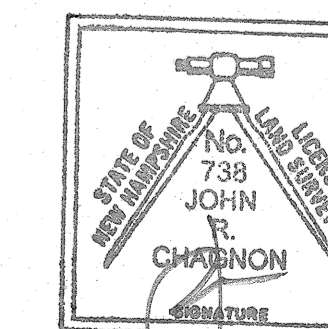
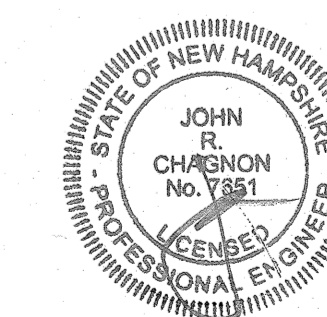


UNION STREET

CLEWS SUBDIVISION
799 SOUTH STREET
PORTSMOUTH, N.H.

2	ISSUED FOR APPROVAL	6/17/19
1	DRIVE LOCATIONS, SIGHT DISTANCE	5/9/19
0	ISSUED FOR COMMENT	4/5/19

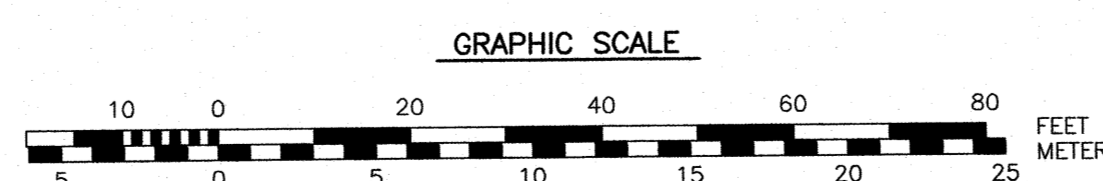
NO.	DESCRIPTION	DATE
REVISIONS		

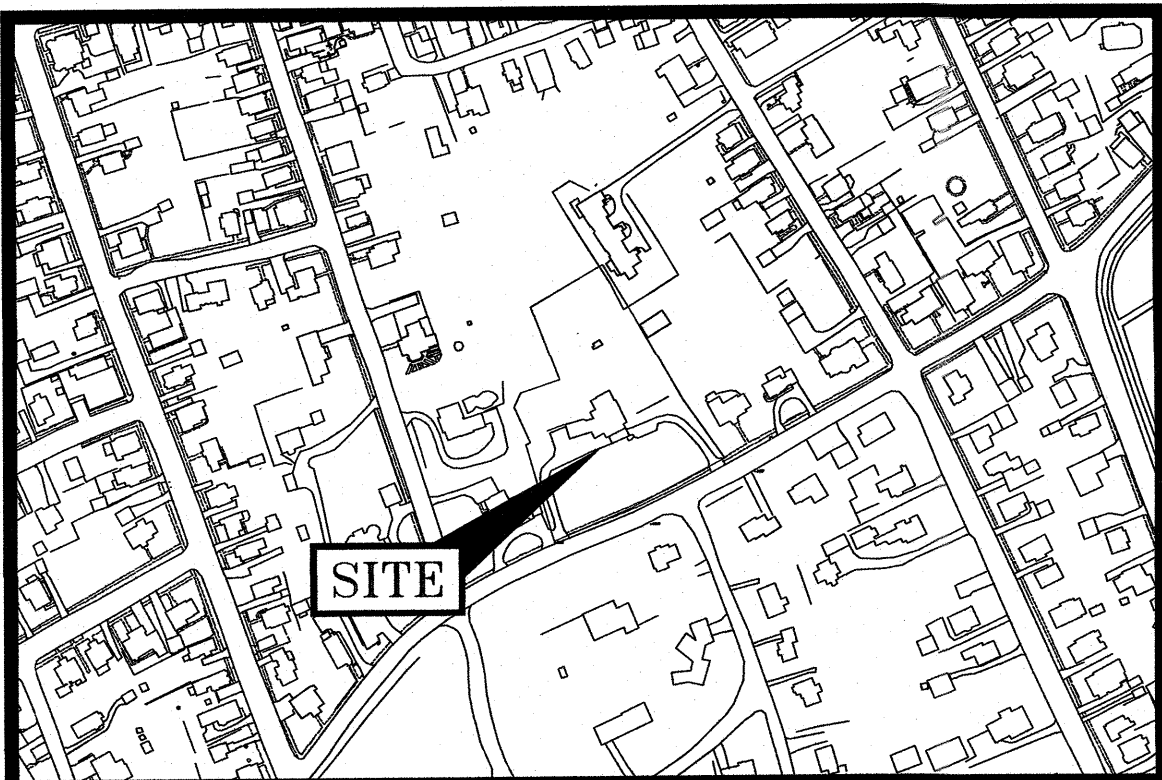


SCALE 1" = 20' MARCH 2019

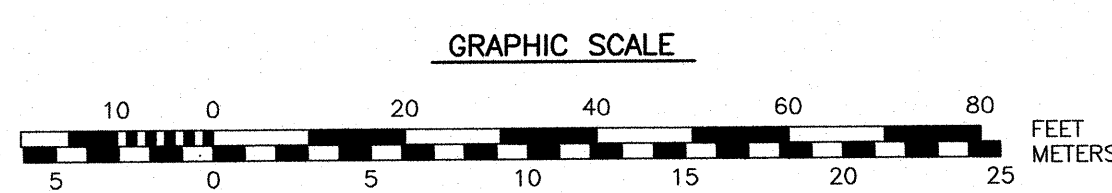
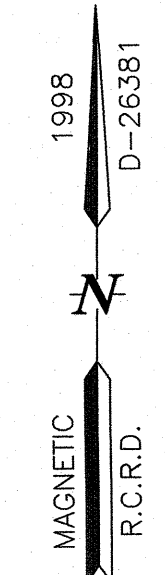
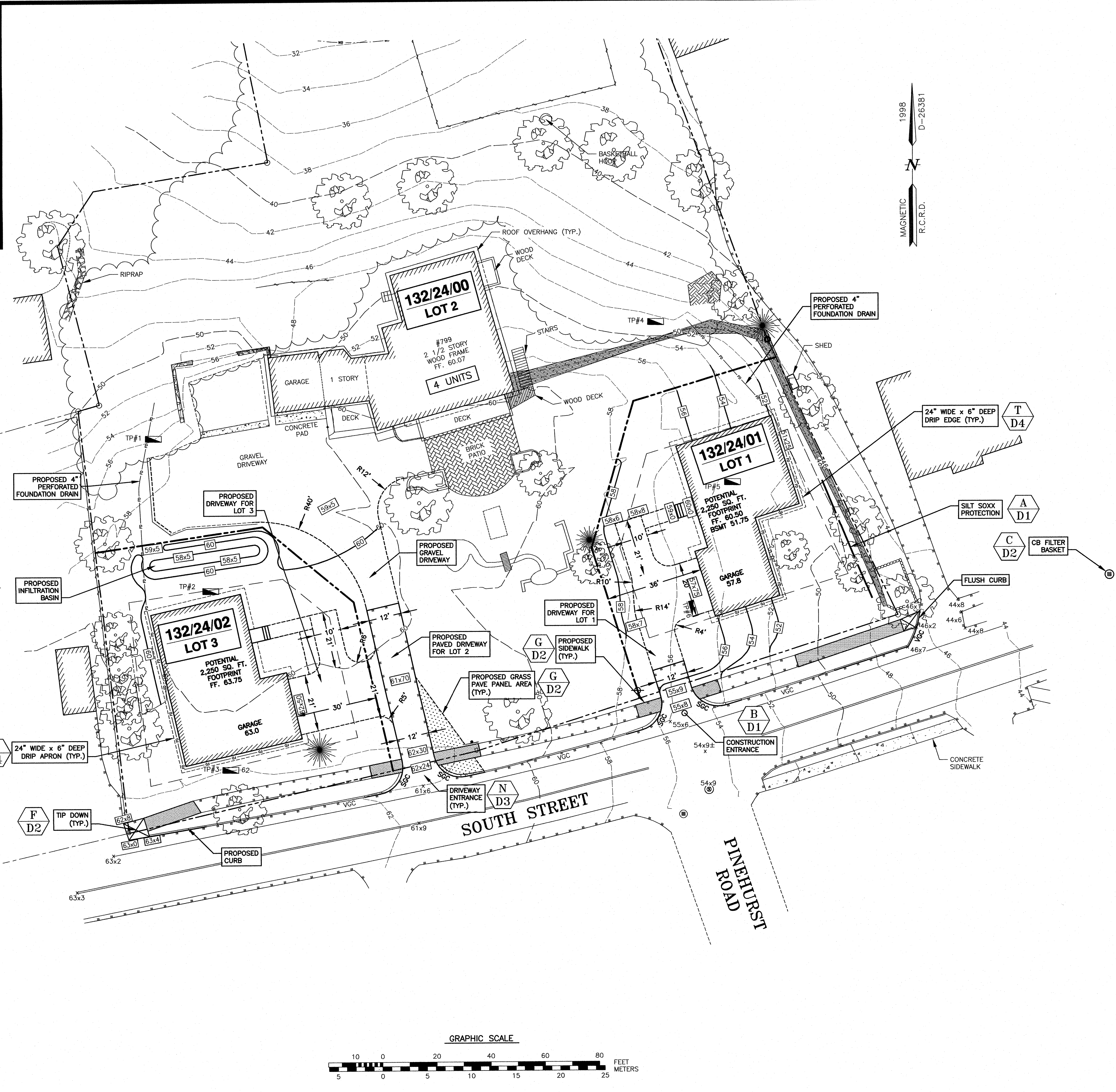
DRIVEWAY PLAN

C3





LOCATION MAP 1"=300'

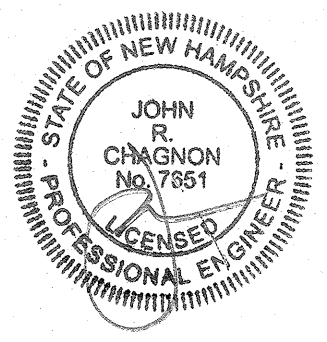


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 Portsmouth, N.H. 03801-7114
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 Fax (603) 430-2315

- NOTES:**
- 1) THE PURPOSE OF THIS PLAN IS TO SHOW THE CONCEPTUAL LAYOUT ASSOCIATED WITH THE SUBDIVISION OF TAX MAP 132 LOT 24 IN THE CITY OF PORTSMOUTH.
 - 2) 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.
 - 3) 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.
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 - 5) VERTICAL DATUM IS MEAN SEA LEVEL NAVD88. BASIS OF VERTICAL DATUM IS REDUNDANT RTN GPS OBSERVATIONS ($\pm 0.2'$).
 - 6) THE PURPOSE OF THIS PLAN IS TO SHOW THE POTENTIAL DEVELOPMENT OF LOTS 1 & 3. BUILDINGS ARE CONCEPTUAL AND SUBJECT TO CHANGE. PROPOSED DRIVEWAY LOCATIONS ARE FIXED AND ARE TO BE CONSTRUCTED PER THIS PLAN.

**CLEWS SUBDIVISION
 799 SOUTH STREET
 PORTMSMOUTH, N.H.**

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	6/17/19
REVISIONS		

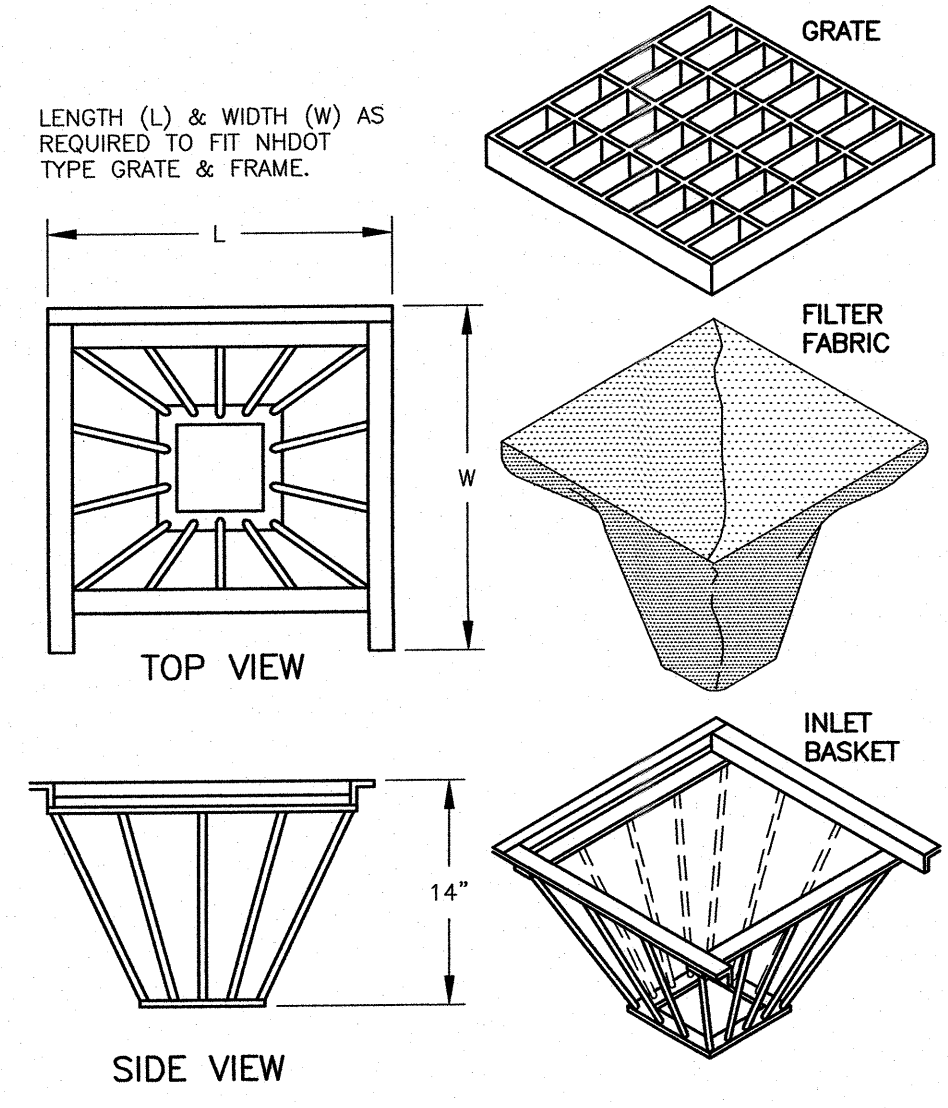


SCALE 1" = 20' MAY 2019

CONCEPT AND GRADING PLAN **C4**

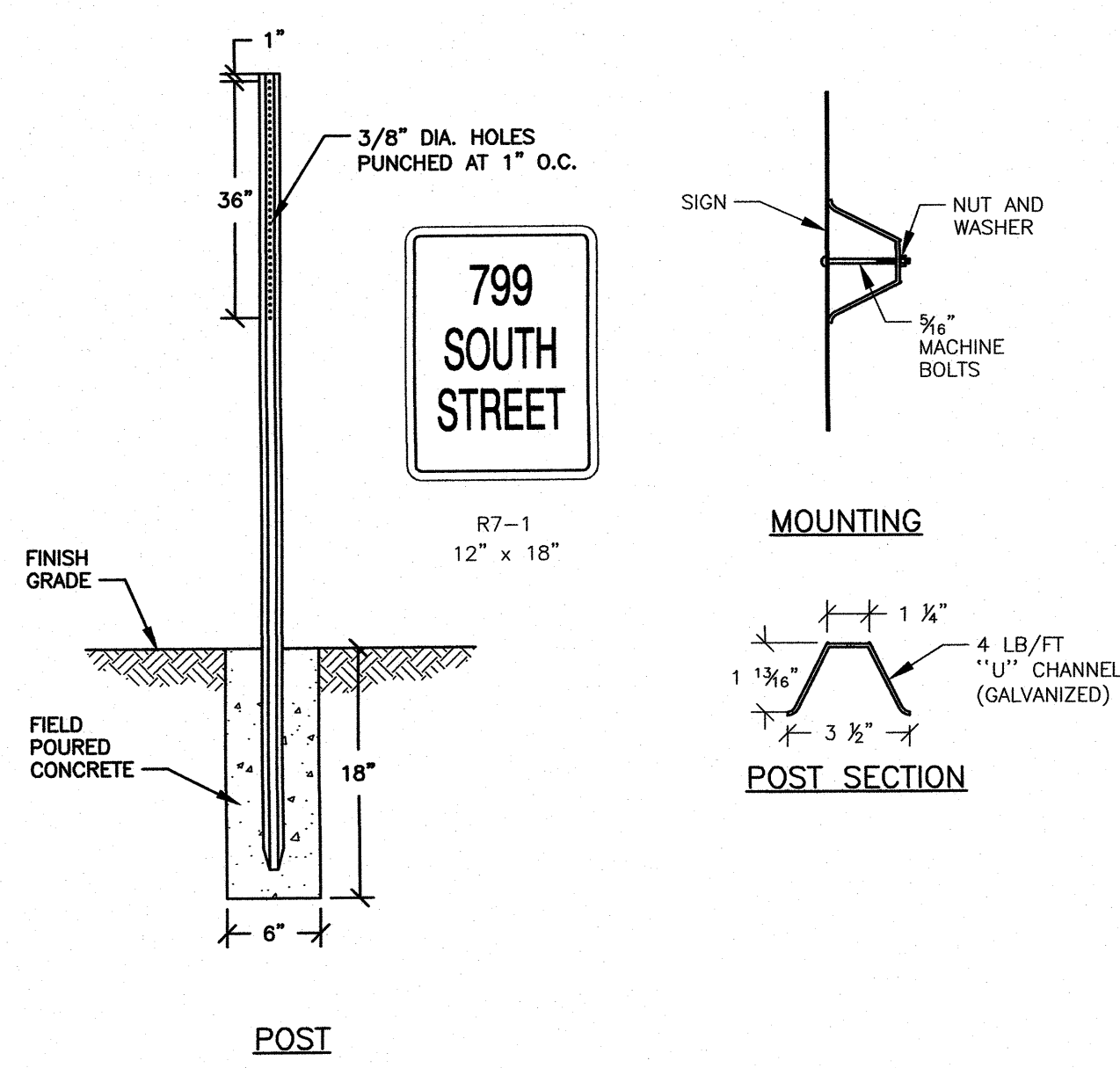
J:\0851\N17305\N17305\N17305\Subdivision\Plans & Specs\Site\1736 SUBDIVISION 2019.dwg, C4_CONCEPT GRADE

- 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.
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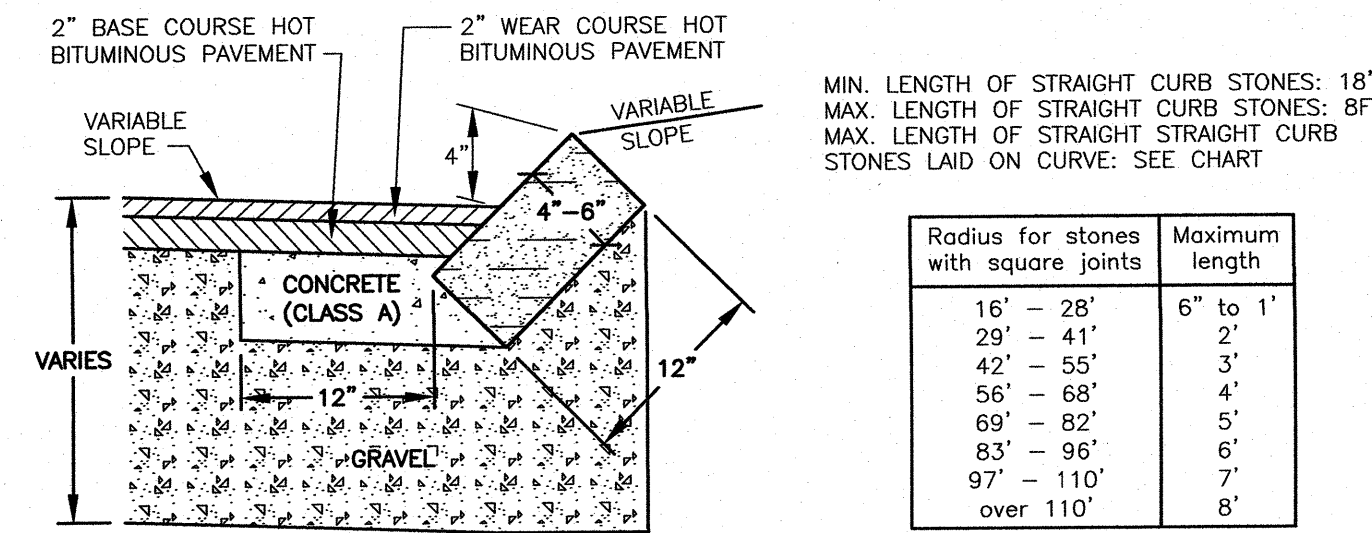


- 1) INLET BASKETS SHALL BE INSTALLED IMMEDIATELY AFTER CATCH BASIN CONSTRUCTION IS COMPLETE AND SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL PAVEMENT BINDER COURSE IS COMPLETE.
- 2) FILTER FABRIC SHALL BE PUSHED DOWN AND FORMED TO THE SHAPE OF THE BASKET. THE SHEET OF FABRIC SHOULD BE LARGE ENOUGH TO BE SUPPORTED BY THE BASKET FRAME WHEN HOLDING SEDIMENT AND, SHALL EXTEND AT LEAST 6" PAST THE FRAME. THE INLET GRATE SHALL BE PLACED OVER THE BASKET/FRAME AND WILL SERVE AS THE FABRIC ANCHOR.
- 3) THE FILTER FABRIC SHALL BE A GEOTEXTILE FABRIC; POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE, OR POLYVINYLIDENE CHLORIDE MEETING THE FOLLOWING SPECIFICATIONS:
 - RAB STRENGTH: 45 LB. MIN. IN ANY PRINCIPAL DIRECTION (ASTM D1682)
 - MULLEN BURST STRENGTH: MIN. 60 psi (ASTM D774)
- 4) THE FABRIC SHALL HAVE AN OPENING NO GREATER THAN A NUMBER 20 U.S. STANDARD SIEVE AND A MINIMUM PERMEABILITY OF 120 gpm/s.f. (MULTIPLY THE PERMITTIVITY IN SEC.-1 FROM ASTM 54491-85 CONSTANT HEAD TEST USING THE CONVERSION FACTOR OF 74.)
- 5) THE INLET BASKET SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM REACHING THE DRAINAGE SYSTEM AND/OR CAUSING SURFACE FLOODING.
- 6) SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT, OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED.

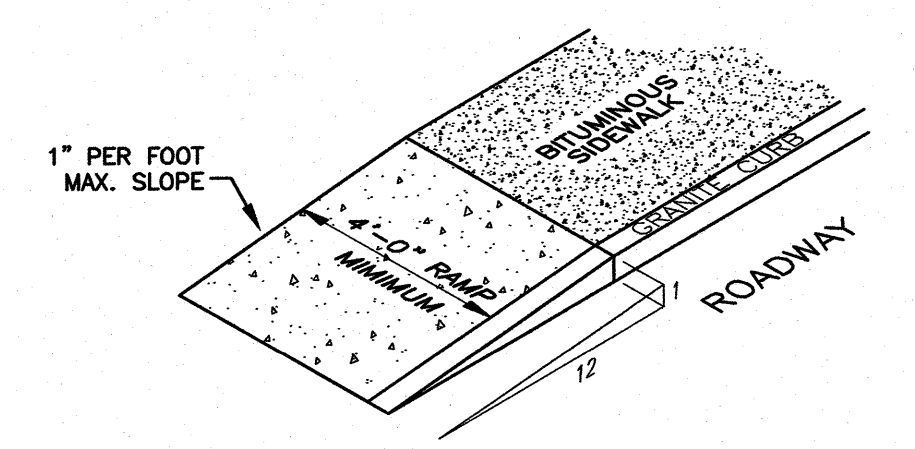
C CATCH BASIN INLET BASKET
 NTS



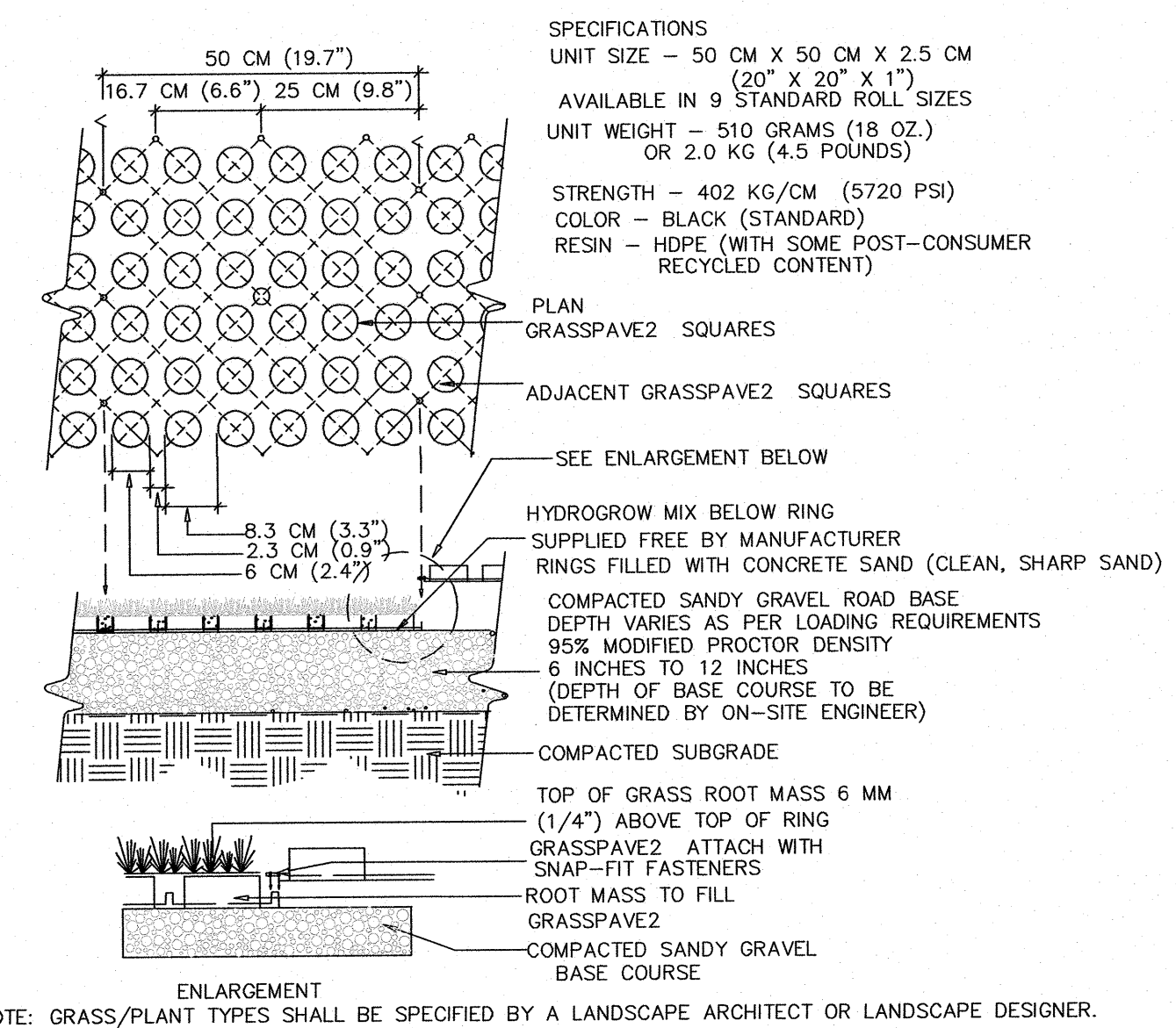
D SIGN & POST DETAIL
 NTS



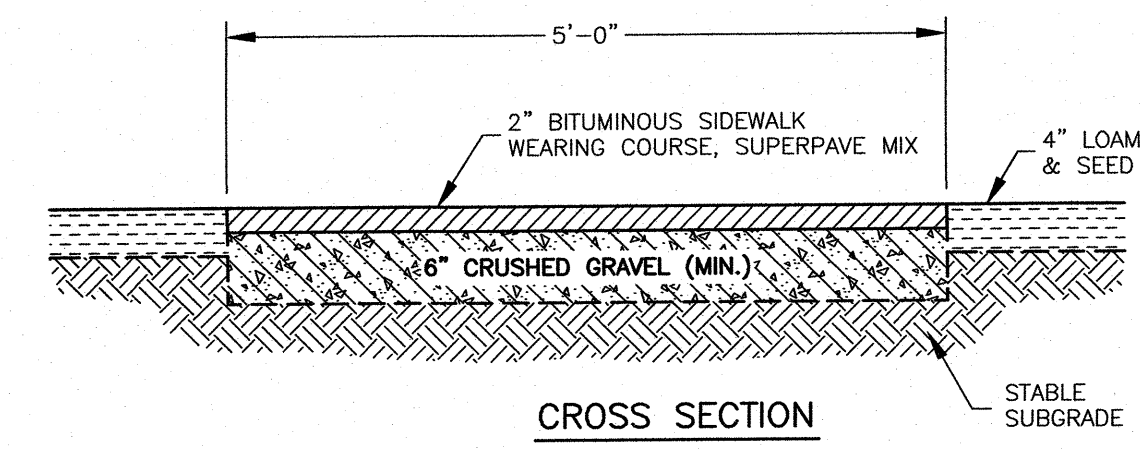
E SLOPED GRANITE CURBING DETAILS
 NTS



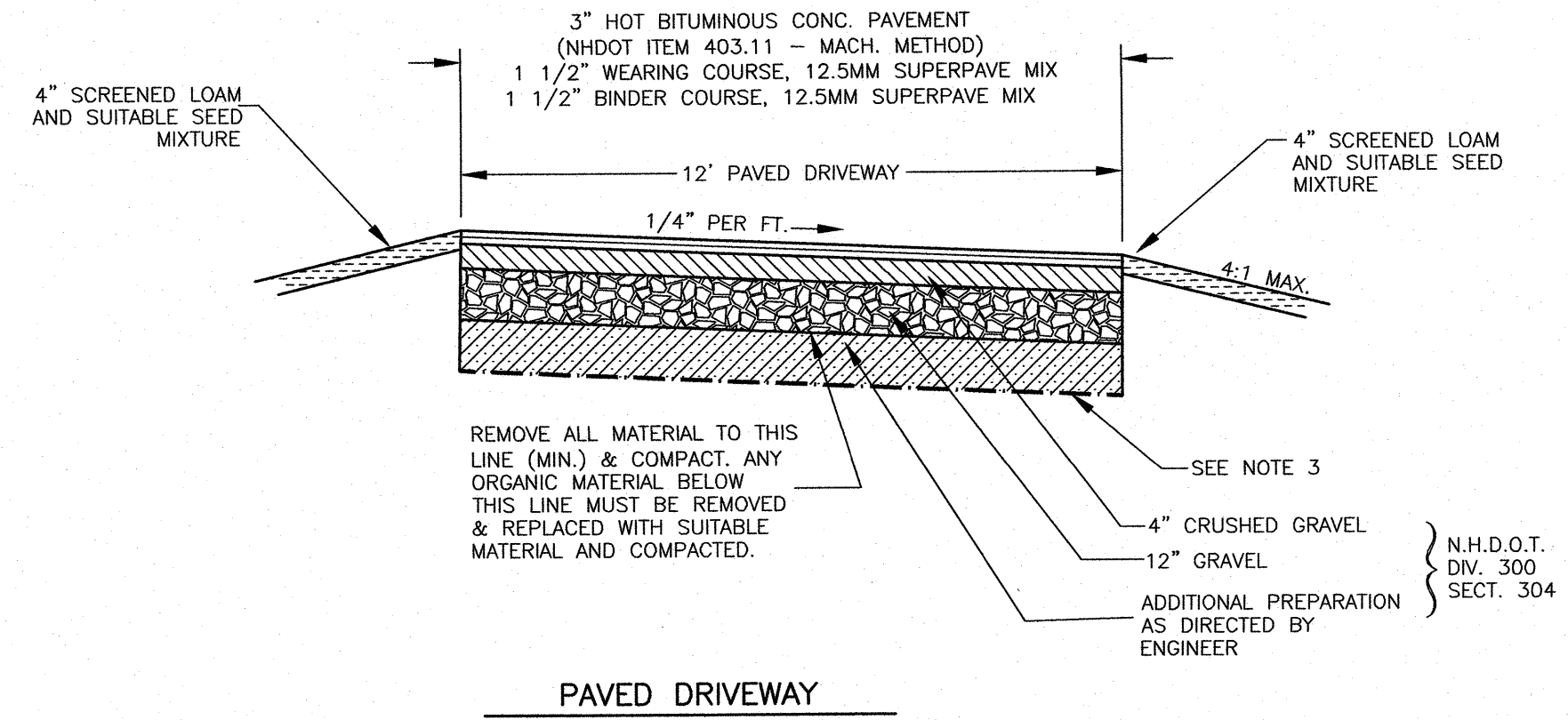
F TYPICAL SIDEWALK TIP DOWN
 NTS



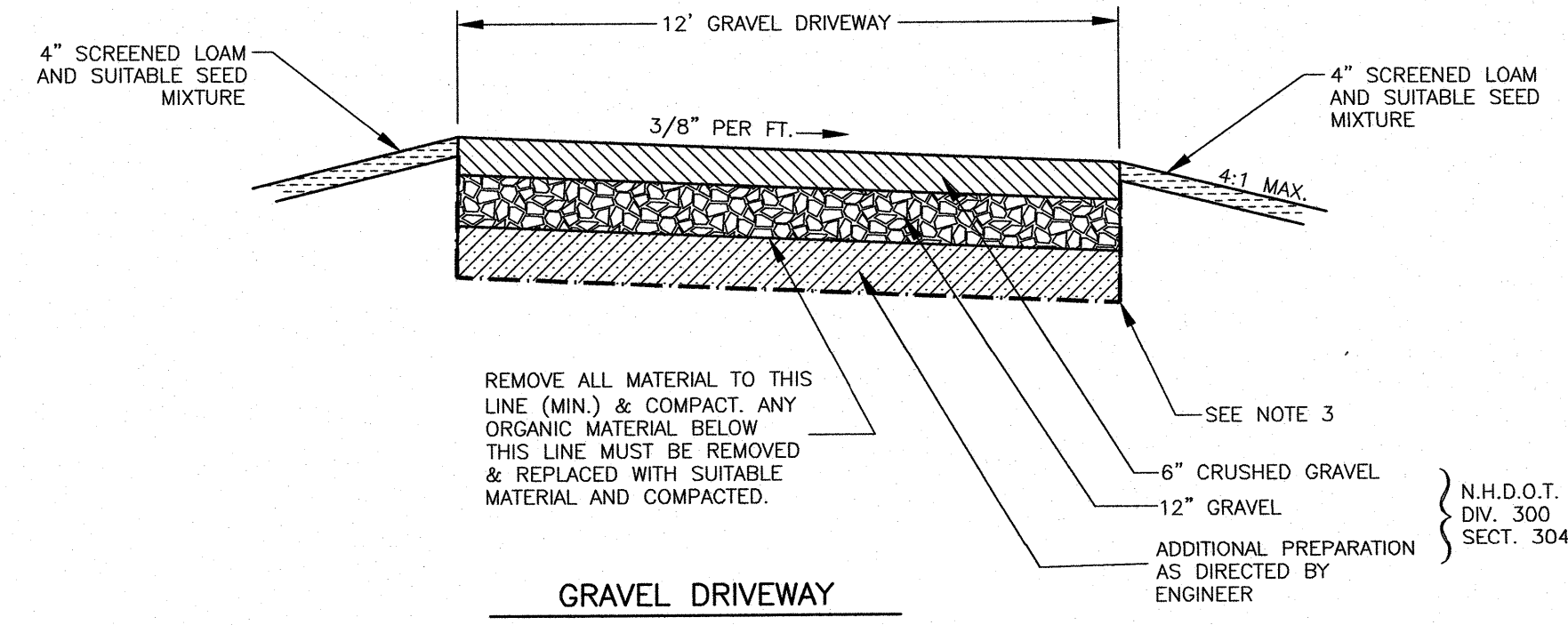
TYPICAL GRASSPAVE2 DETAIL
 CHOOSE THIS PRODUCT FOR REINFORCING GRASS WEARING SURFACES
 NOT TO SCALE
 INVISIBLE STRUCTURES, INC.
 GPD2.DWG
 1600 Jackson St., Ste. 310
 GOLDEN, COLORADO 80401
 800-233-1510 OR
 303-233-8383
 FAX: 800-233-1522 OR
 303-233-8282
 www.invisiblestructures.com
 rev. 10/05



G BITUMINOUS CONCRETE SIDEWALK
 (WITH GRASSPAVE DETAIL)
 NTS



- NOTES:**
- 1) REMOVE LEDGE TO 18" BELOW FINISHED SURFACE.
 - 2) REMOVE CLAY, LOAM AND ANY OTHER UNSUITABLE MATERIALS TO 20" BELOW FINISHED SURFACE.
 - 3) INSTALL GEOTEXTILE FABRIC ABOVE CLAYS AND SILTS OR IN AREAS WHERE EXCAVATION IS BELOW THE SEASONAL HIGH WATER TABLE.

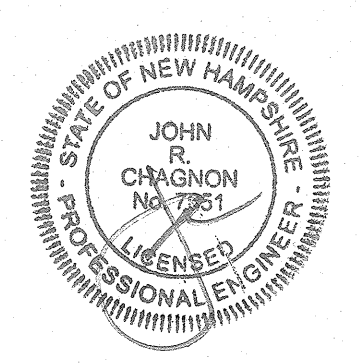


H TYPICAL DRIVEWAY SECTIONS
 NTS

I RESERVED
 NTS

CLEWS SUBDIVISION
 799 SOUTH STREET
 PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	6/17/19

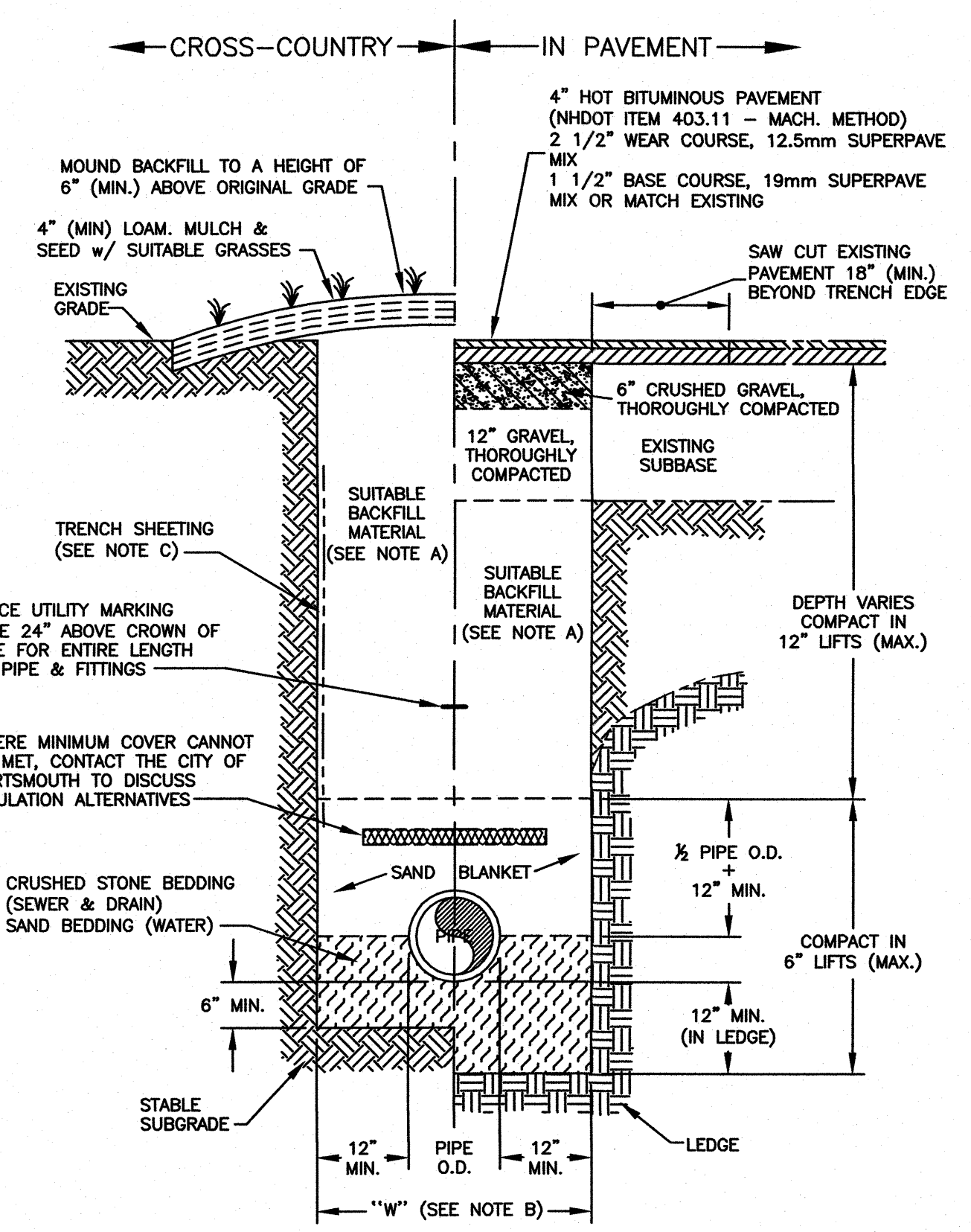


SCALE: AS SHOWN JUNE 2019

DETAILS **D2**

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).



J TYPICAL PIPE TRENCH
 C2 NTS

TRENCH NOTES:

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

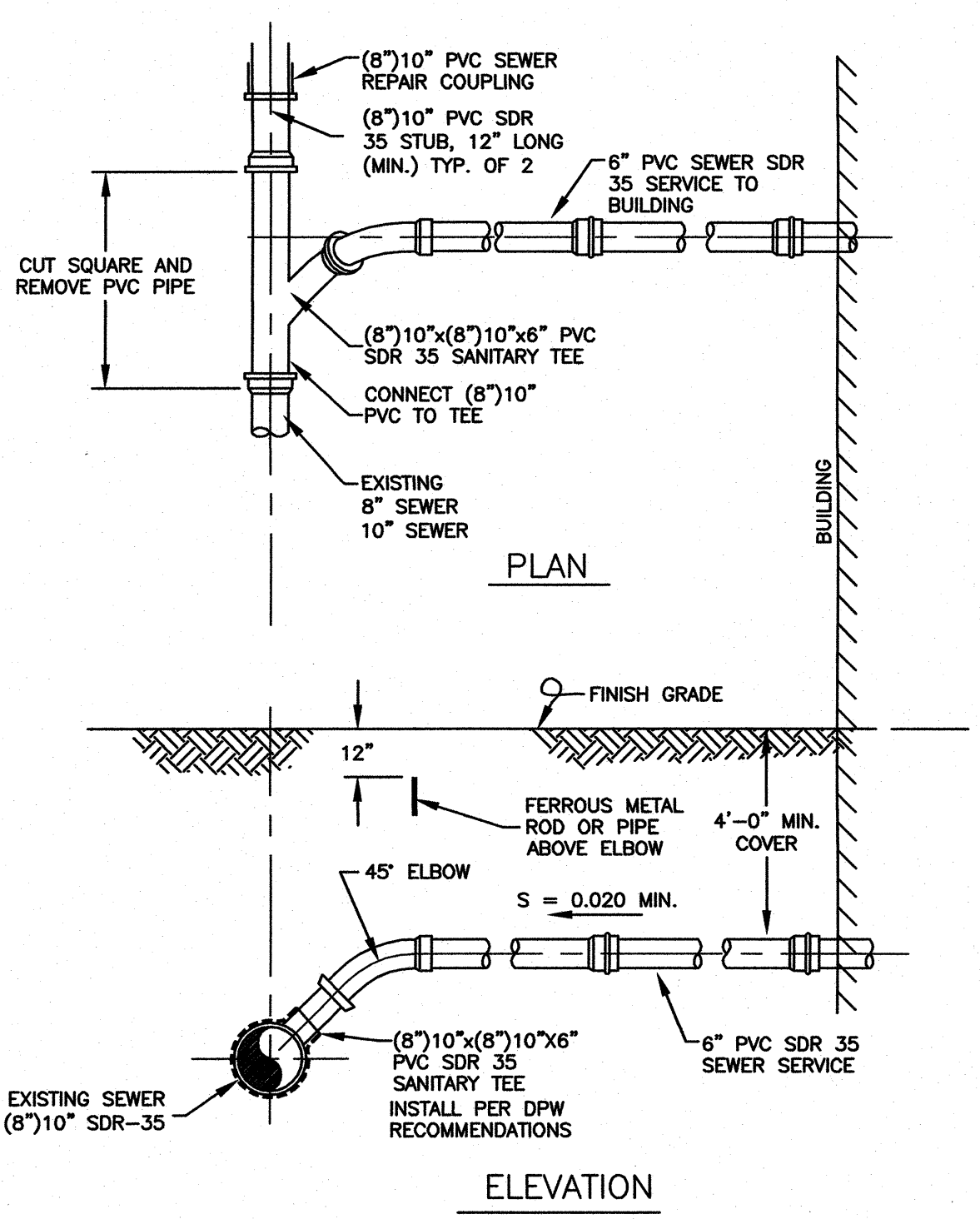
- IN CROSS-COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE.

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

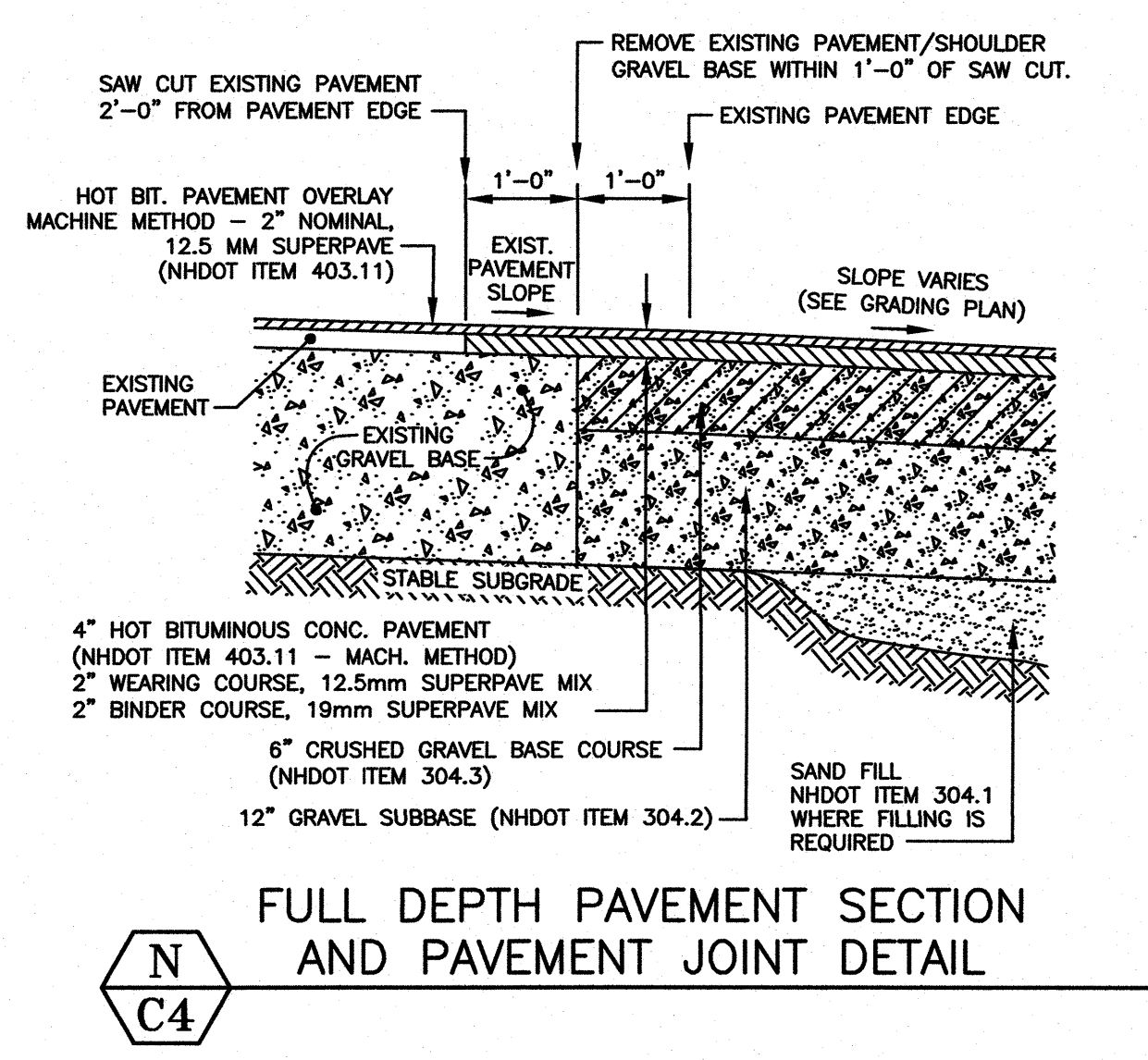
C) TRENCH SHEETING: IF REQUIRED, WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.

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

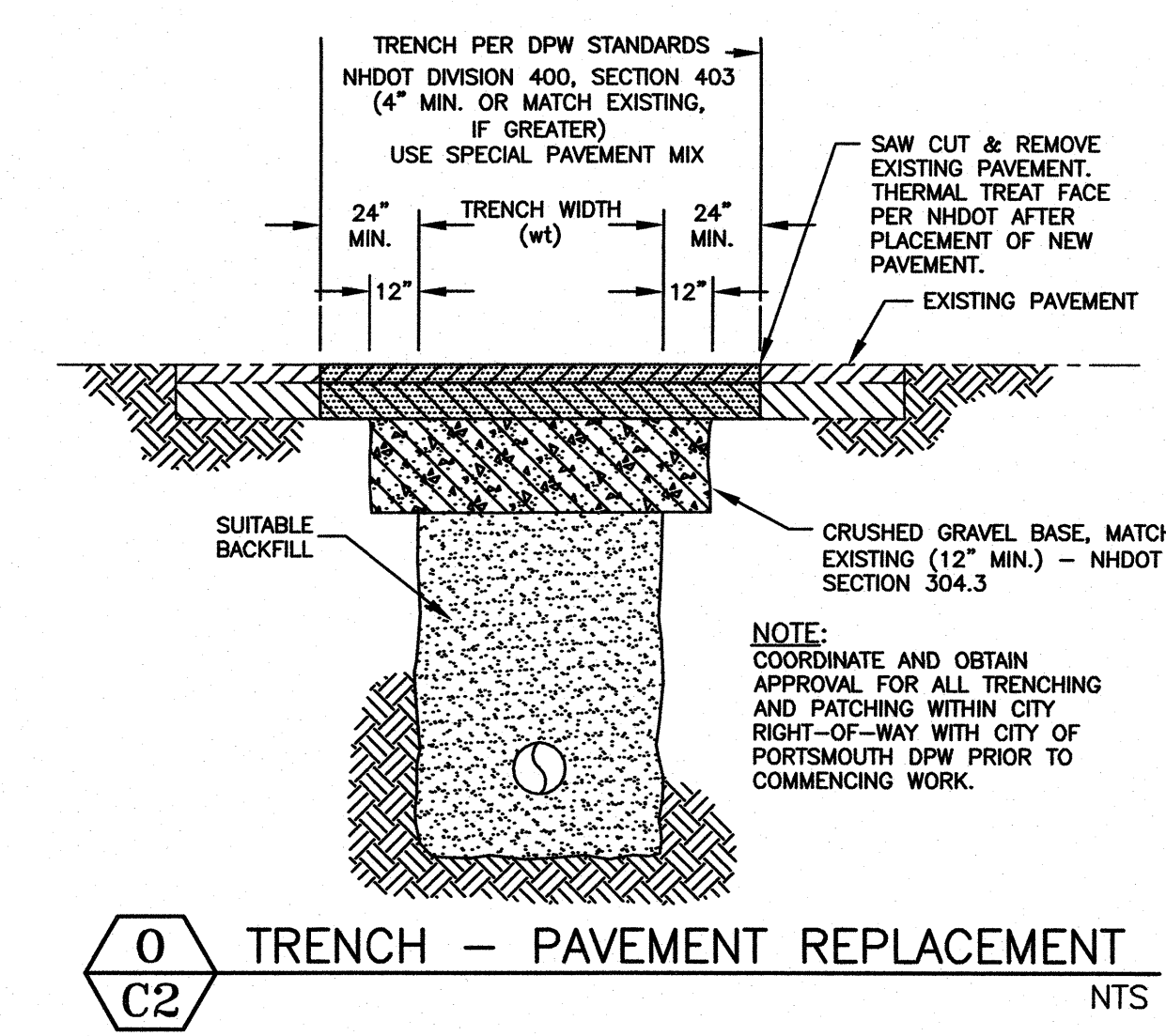
E) ALL PAVEMENT CUTS SHALL BE REPAIRED BY THE INFRARED HEAT METHOD.



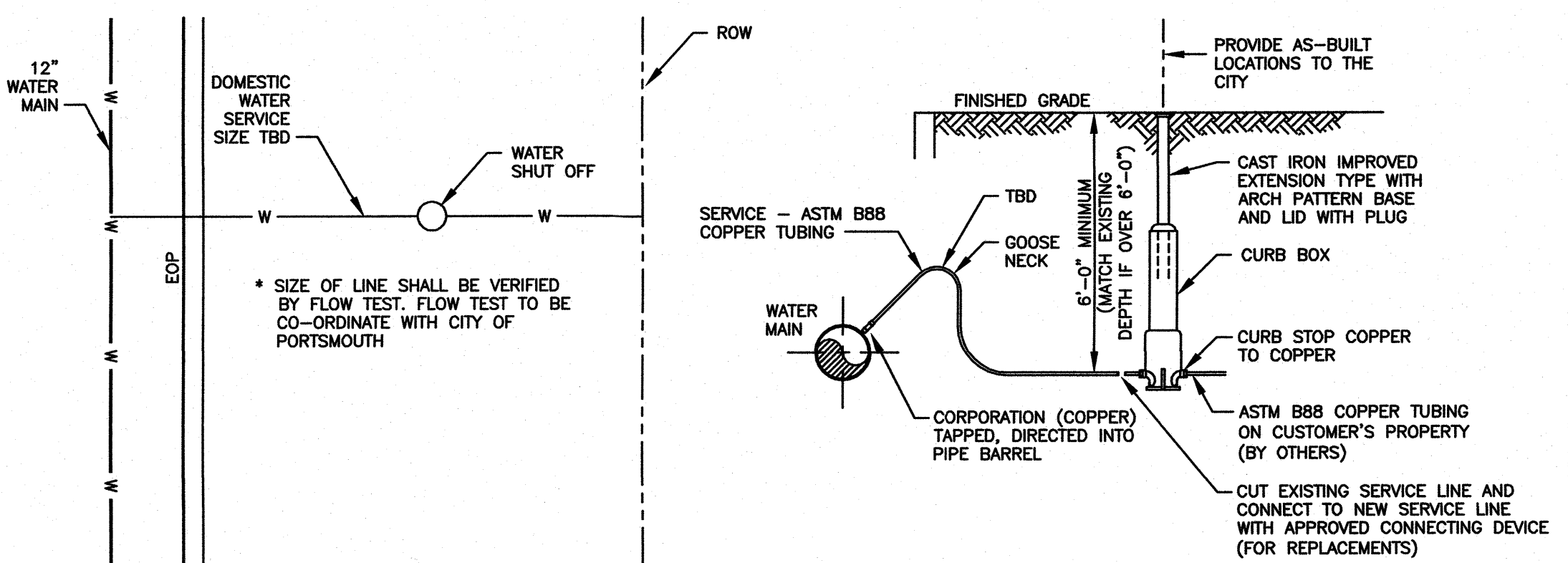
L TYPE "A" SEWER SERVICE CONNECTION
 C2 NTS



N FULL DEPTH PAVEMENT SECTION AND PAVEMENT JOINT DETAIL
 C4 NTS



O TRENCH - PAVEMENT REPLACEMENT
 C2 NTS



K TYPICAL WATER SERVICE CONNECTION
 C2 NTS

PROVIDE AS-BUILT LOCATIONS TO THE CITY

CAST IRON IMPROVED EXTENSION TYPE WITH ARCH PATTERN BASE AND LID WITH PLUG

CURB BOX

CURB STOP COPPER TO COPPER

ASTM B88 COPPER TUBING ON CUSTOMER'S PROPERTY (BY OTHERS)

CUT EXISTING SERVICE LINE AND CONNECT TO NEW SERVICE LINE WITH APPROVED CONNECTING DEVICE (FOR REPLACEMENTS)

FINISHED GRADE

6" MINIMUM EXISTING DEPTH (MATCH IF OVER 6'-0")

GOOSE NECK

TBD

SERVICE - ASTM B88 COPPER TUBING

WATER MAIN

WATER SHUT OFF

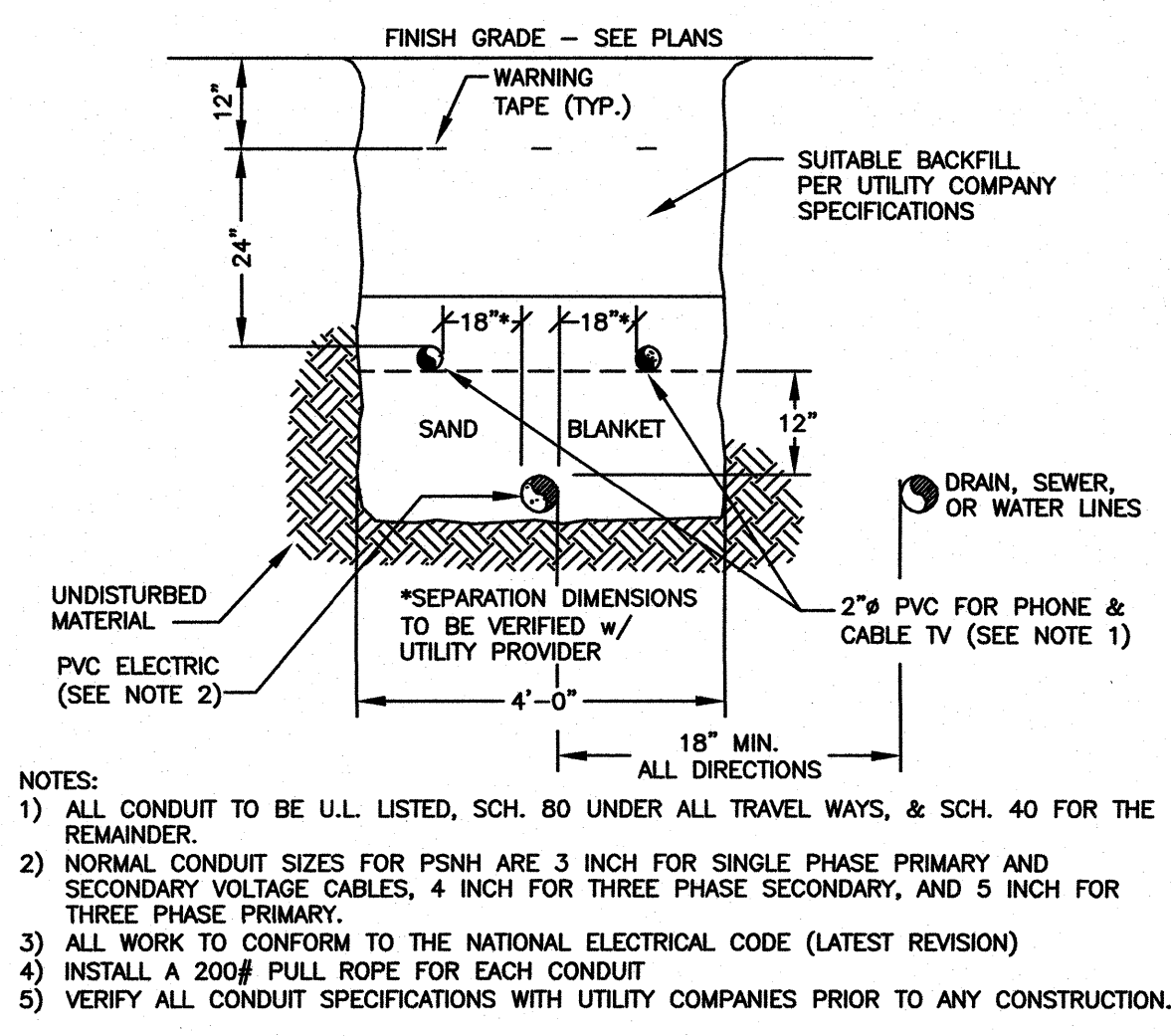
DOMESTIC WATER SERVICE SIZE TBD

12" WATER MAIN

ROW

EDP

* SIZE OF LINE SHALL BE VERIFIED BY FLOW TEST. FLOW TEST TO BE CO-ORDINATE WITH CITY OF PORTSMOUTH



M UTILITY TRENCH
 C2 NTS

FINISH GRADE - SEE PLANS

WARNING TAPE (TYP.)

SUITABLE BACKFILL PER UTILITY COMPANY SPECIFICATIONS

18" MIN. ALL DIRECTIONS

4'-0"

2" PVC FOR PHONE & CABLE TV (SEE NOTE 1)

DRAIN, SEWER, OR WATER LINES

SAND

BLANKET

12"

18" x 18"

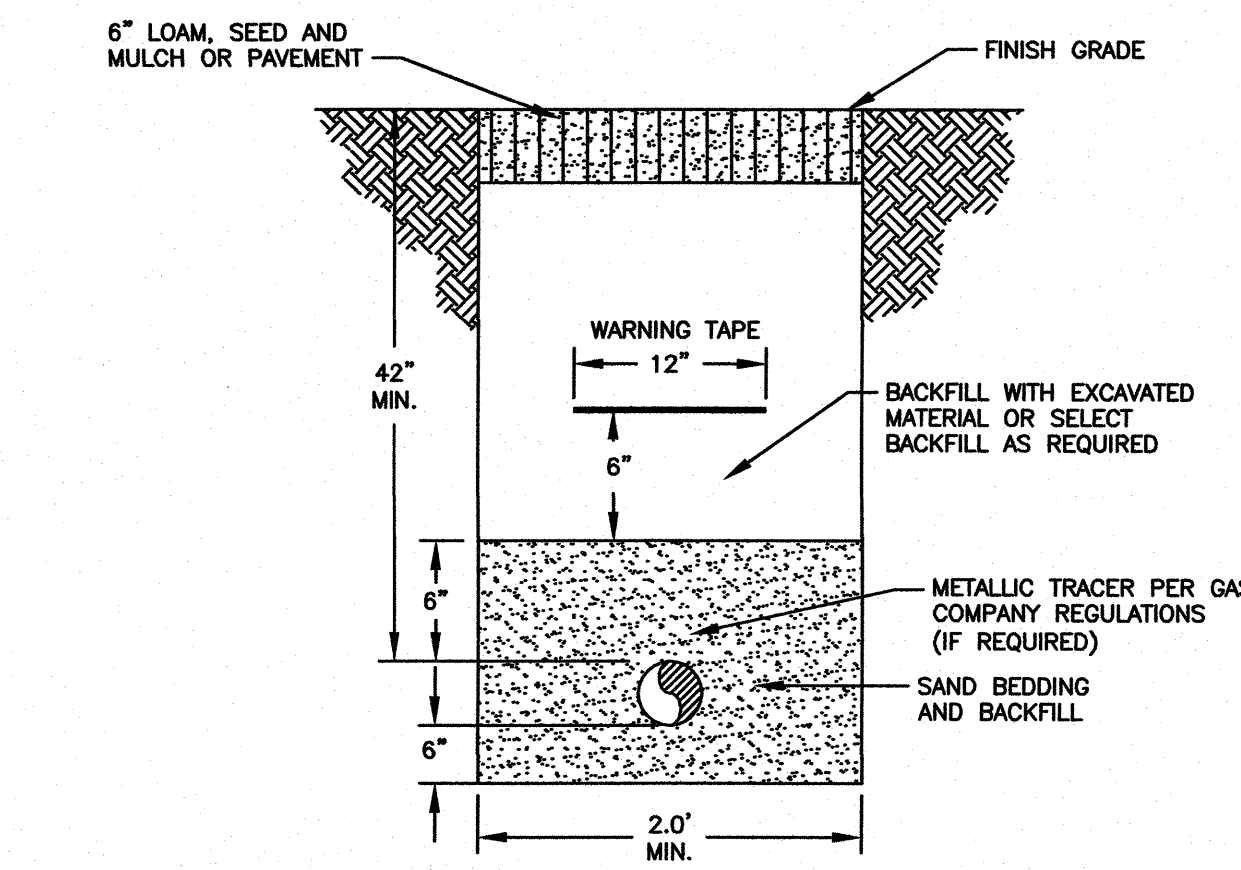
*SEPARATION DIMENSIONS TO BE VERIFIED W/ UTILITY PROVIDER

UNDISTURBED MATERIAL

PVC ELECTRIC (SEE NOTE 2)

NOTES:

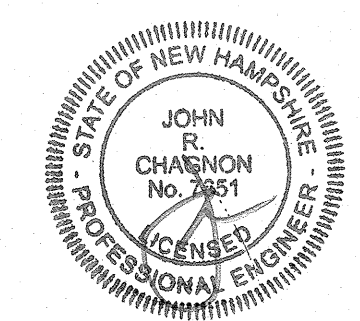
- 1) ALL CONDUIT TO BE U.L LISTED, SCH. 80 UNDER ALL TRAVEL WAYS, & SCH. 40 FOR THE REMAINDER.
- 2) NORMAL CONDUIT SIZES FOR PSNH ARE 3 INCH FOR SINGLE PHASE PRIMARY AND SECONDARY VOLTAGE CABLES, 4 INCH FOR THREE PHASE SECONDARY, AND 5 INCH FOR THREE PHASE PRIMARY.
- 3) ALL WORK TO CONFORM TO THE NATIONAL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



P GAS SERVICE TRENCH
 C2 NTS

CLEWS SUBDIVISION
799 SOUTH STREET
PORTSMOUTH, N.H.

0	ISSUED FOR COMMENT	6/17/19
NO.	DESCRIPTION	DATE
REVISIONS		



SCALE: AS SHOWN JUNE 2019

DETAILS **D3**



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

SAND SPECIFICATION

SIEVE SIZE	ASTM C33 FINE AGGREGATE SPECIFICATION
3/8"	100
#4	95-100
#8	80-100
#10	50-85
#16	50-85
#30	25-60
#40	50-85
#50	5-30
#100	0-10

INFILTRATION BASIN MEDIA

- ① WET MEADOW SEED MIX
- ② SOIL FILTER LAYER: 20% - 30% MULCH BY VOLUME, MIXED THOROUGHLY WITH LOAMY, COARSE SAND (70% - 80% BY VOLUME) MEETING THE FOLLOWING GRADATION:

SIEVE NO.	% BY WEIGHT, PASSING
10	85 - 100
20	70 - 100
60	15 - 40
200	8 - 15
- ③ 3/8" PEA STONE
- ④ 0.75" - 1.5" CRUSHED STONE, WASHED.

FILL BELOW INFILTRATION BASIN

SOILS: SOILS PLACED BELOW FILTER BASIN SHALL BE BANK RUN GRAVEL, MANUFACTURED SAND OR MODIFIED 304.1 BEDDING THE MATERIAL SHALL BE TESTED FOR HYDRAULIC CONDUCTIVITY IN TWO PLACES BY A EITHER BOREHOLE TESTING, DOUBLE RING INFILTRATOR TEST, OR AN AMMOZEMETER IN ACCORDANCE WITH NHDES REGULATIONS ENV-WQ 1500. TO ENSURE THE MIN. KSAT = 10 IN/HR.

INFILTRATION BASIN CONSTRUCTION

SOILS: DO NOT COMPACT SOIL. EXCAVATE BASIN, HAND RAKE STONE, PEA STONE AND MULCH LAYERS.

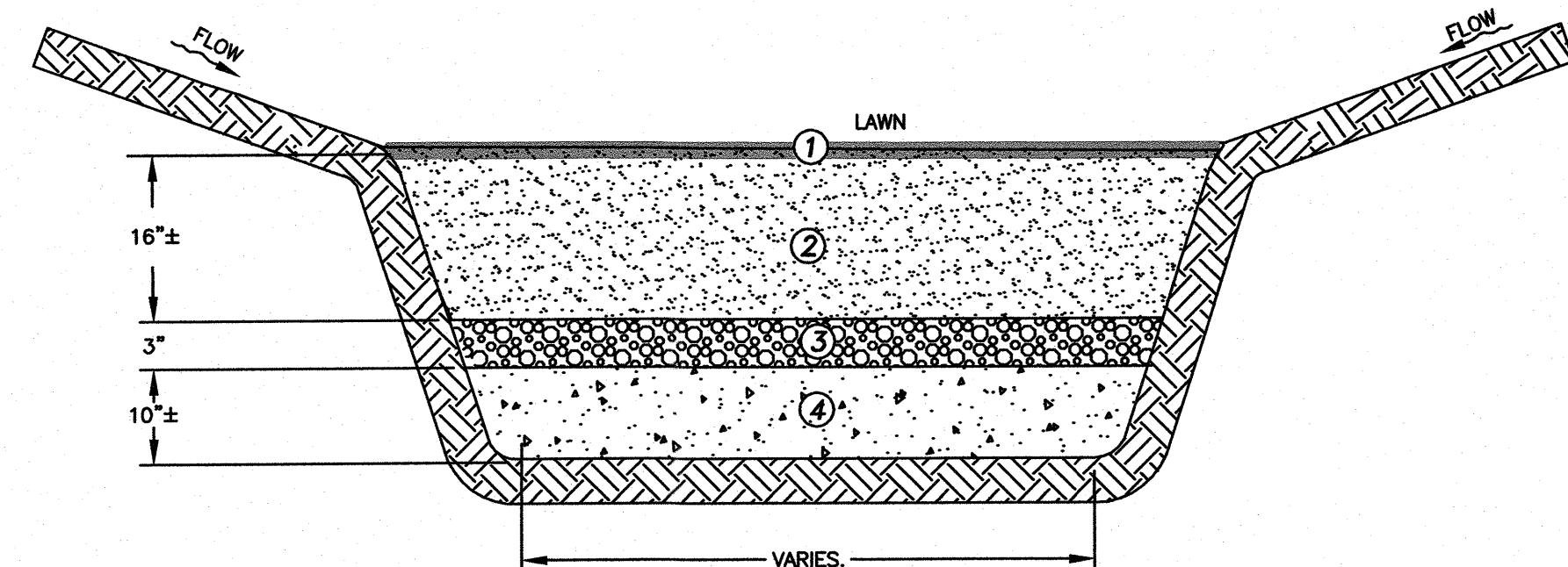
INFILTRATION BASIN CONSTRUCTION INSPECTION

INSPECT EACH LAYER OF CONSTRUCTION: CONTACT THE DESIGN ENGINEER FOR INSPECTIONS DURING THE CONSTRUCTION PROCESS. CALL FOR INSPECTION BEFORE FILLING EXCAVATION WITH STONE, PEA STONE AND MULCH.

INFILTRATION BASIN MAINTENANCE

SOILS: VISUALLY INSPECT AND REPAIR EROSION MONTHLY. USE SMALL STONES TO STABILIZE EROSION ALONG DRAINAGE PATHS. CHECK THE pH ONCE OR TWICE A YEAR. APPLY AN ALKALINE PRODUCT, SUCH AS LIMESTONE, IF NEEDED.

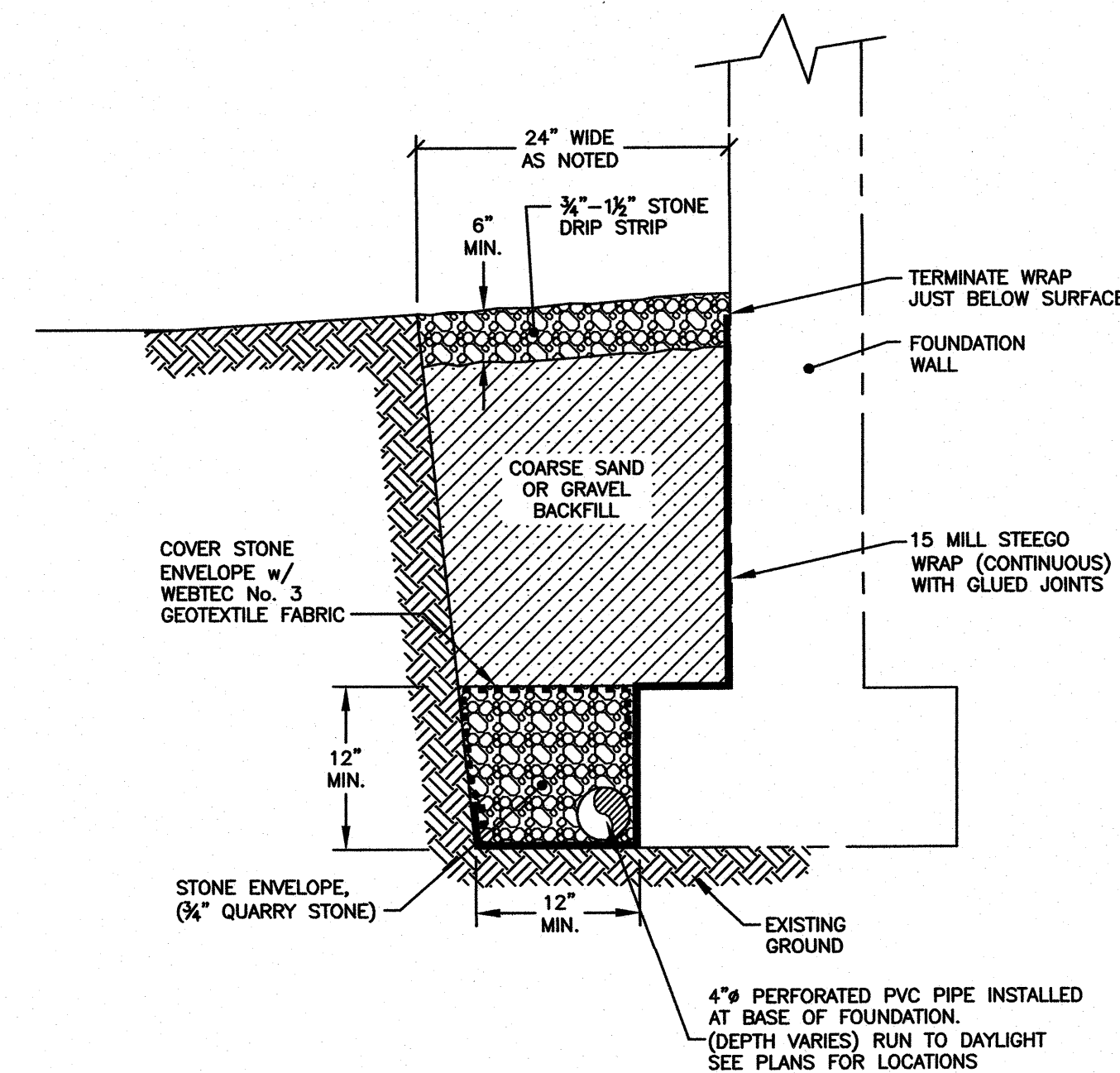
IF INFILTRATION BASIN FAILS TO EMPTY 72 AFTER A RAINFALL, THE BASIN SHALL BE INSPECTED. IF AFTER INSPECTION IT IS DETERMINED THAT THE ENGINEERED SOIL HAS CLOGGED, THE ENGINEERED SOIL SHALL BE REPLACED. IN THE EVENT OF SOIL REPLACEMENT IN THE INFILTRATION BASIN, AN AIRSPADE SHALL BE USED, TO CAREFULLY REMOVE THE SOILS SURROUNDING ANY TREE ROOTS. TREE ROOTS ARE TO BE PROTECTED FROM DRYING OUT DURING THE PLACEMENT OF NEW SOILS AND NEW SOILS ARE TO BE REPLACED IMMEDIATELY UPON EXPOSING THE ROOT SYSTEMS.



Q INFILTRATION BASIN DETAIL

C4

NTS

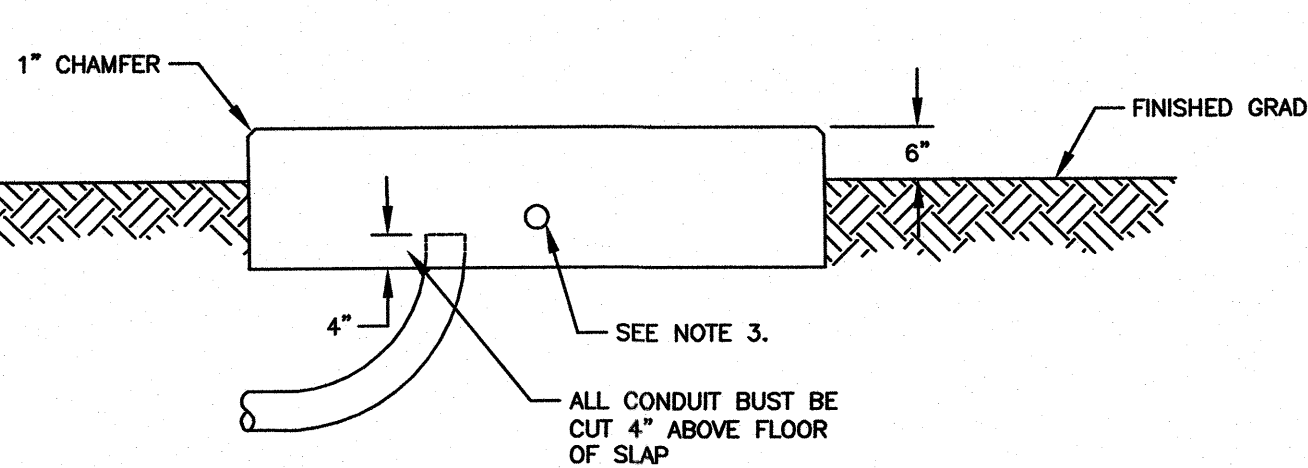
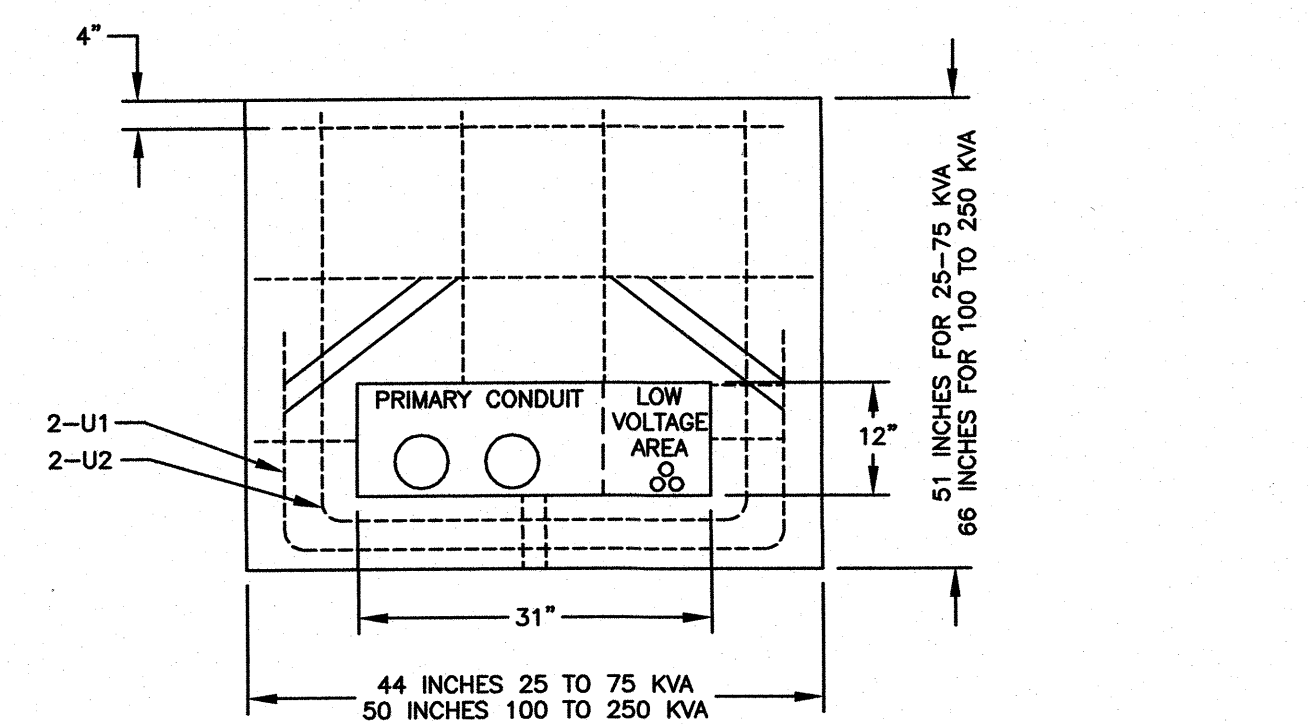


T STONE DRIP APRON

C4 (UNDER BUILDING DRIP LINE) NTS

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- 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).

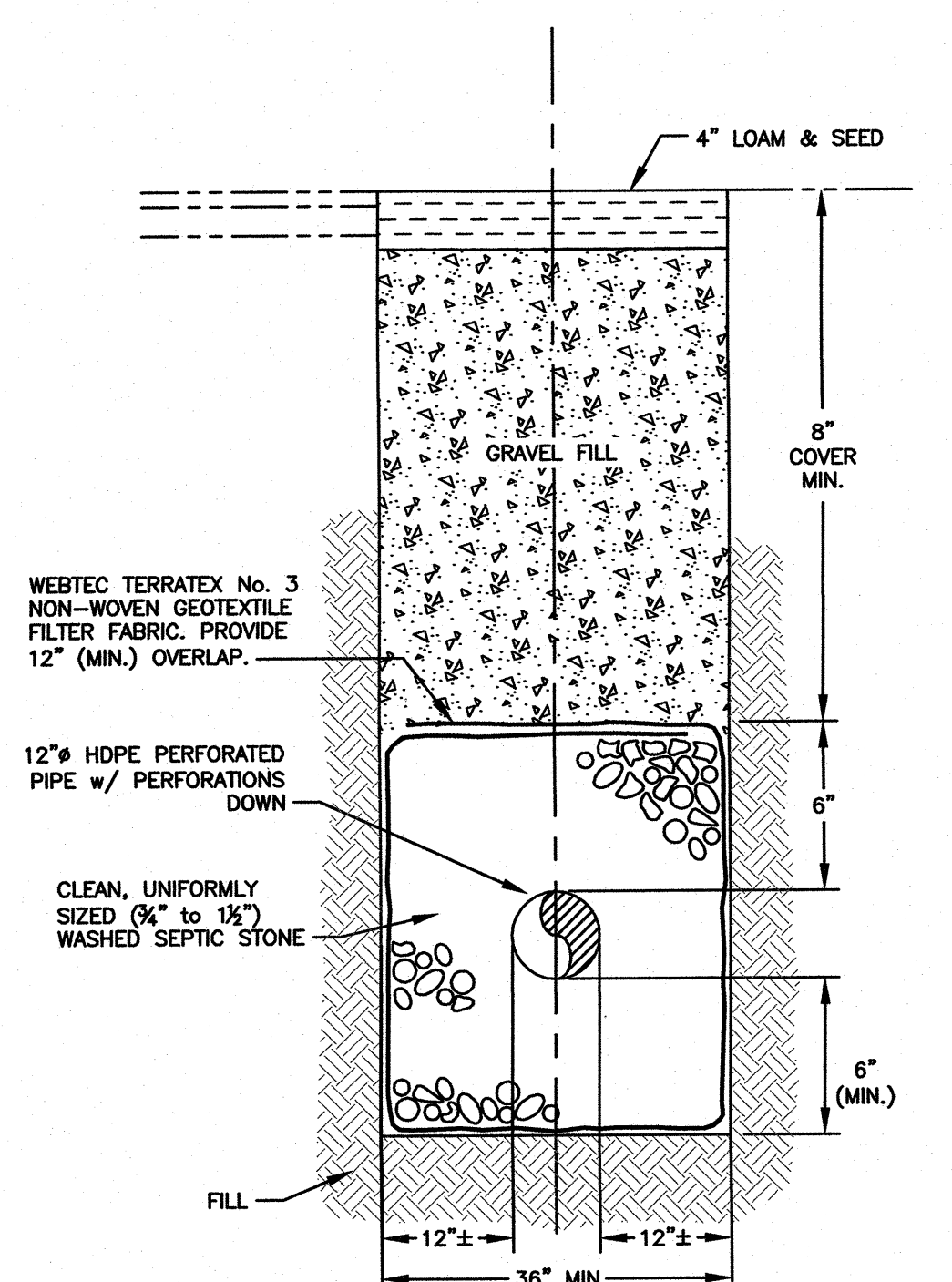


- NOTES**
1. SEE SHEET "REQUIREMENTS FOR PAD MOUNTED TRANSFORMER SLAB DETAILS", EVERSOURCE SPECIFICATIONS.
 2. SEE DTR 56.223 FOR GROUNDING GRID.
 3. 1" PVC CONDUIT SLEEVE FOR GROUND GRID LEADS.
 4. ALL REBAR TO BE #6.
 5. CONDUITS CUT 4" ABOVE SLAB BASE.

R TRANSFORMER FOUNDATION SINGLE PHASE

C3

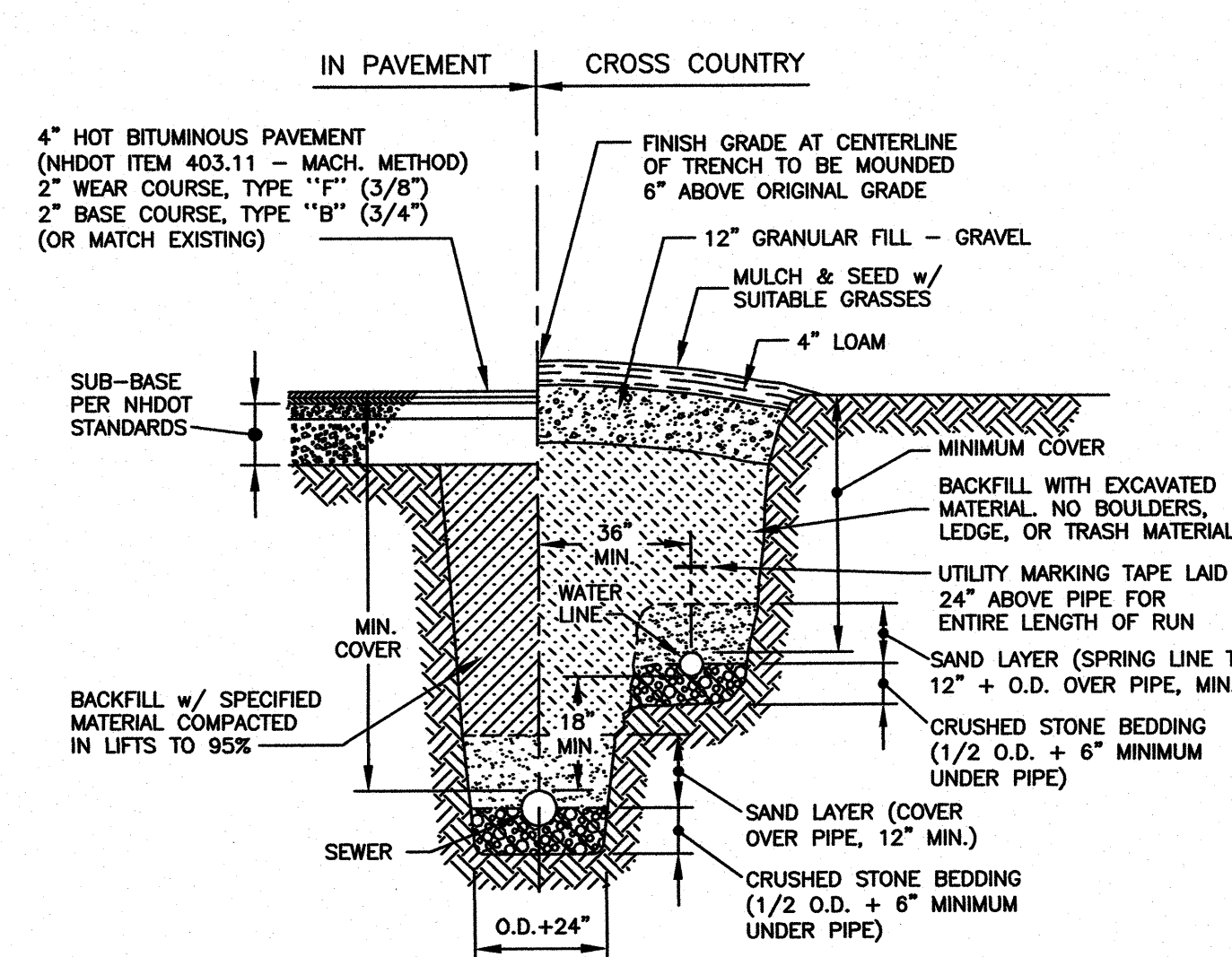
NTS



S INFILTRATION TRENCH DETAIL

C4

NTS



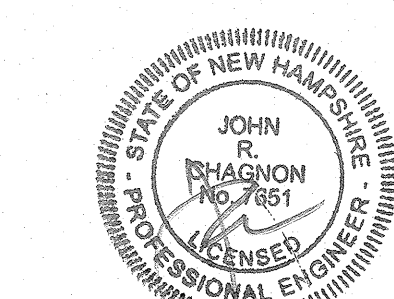
U WATER & SEWER IN COMMON TRENCH

C4

NTS

CLEWS SUBDIVISION
799 SOUTH STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	6/17/19



SCALE: AS SHOWN JUNE 2019

DETAILS **D4**



AMBIT ENGINEERING, INC. CIVIL ENGINEERS AND LAND SURVEYORS
200 Griffin Road, Unit 3, Portsmouth, NH 03801 Phone (603) 430-9282 Fax 436-2315

17 June 2019

Juliet Walker, Planning Director
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

**RE: Request for TAC Approval of the Clews Subdivision located at 799 South Street,
Tax Map 132 / Lot 24**

Dear Ms. Walker:

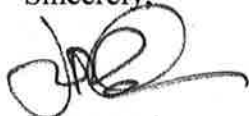
On behalf of the Noele M. Clews Revocable Trust we hereby submit a request for TAC Approval (as a part of the Subdivision Application) at 799 South Street. The project team met with the TAC Committee on March 12, 2019 at a TAC Workshop to review the proposal. Comments from the workshop, along with responses are listed below:

1. The TAC Committee asked if we could provide test pits on Lot's 1 and 3 to review soil drainage properties. **Ambit arranged and witnessed test pits; Results are shown on Sheet C1.**
2. The TAC Committee asked if we could provide preliminary proposed building footprints to assess site runoff. **The Concept and Grading Plan Sheet C4 shows conceptual footprints. A drainage analysis, to show the construction on the lots would not impact abutting properties, and to address any drainage concerns from adjacent properties, has also been provided.**
3. The existing 30 inch tree in the South Street right-of-way was discussed; removal would increase sight distance and make the Lot 3 driveway safer. Removal of this tree would require the approval of the City's Trees and Greenery Committee. **This tree has been identified as a Camperdown Elm, which is a unique specimen. After discussion with the Trees and Greenery Committee as well as the applicant, a decision was made to combine the proposed driveways for Lot 2 and Lot 3 into one shared entrance to South Street. This eliminates the issue with sight lines conflicting with the tree.**
4. Driveway sight distances were reviewed. The TAC Committee asked if we could provide a speed study to determine the actual travel speeds on South Street. **The applicant engaged Steve Pernaw to perform a speed study and assist in safe driveway placements. The results of the study are included in this submission.**

5. The TAC Committee asked if we could provide an exact location of the existing sewer connection for 799 South Street. **A utility location was performed and the existing sewer pipe location has been added to the plans. The sewer exits the rear of the building and travels west to Union Street.**
6. The current sidewalk type and location was discussed. The TAC Committee asked if we could provide a 3 foot easement beyond the current sidewalk edge to allow for widening when re-built. **This would impact a portion of Lot 2 as well as Lot 3. The applicant is willing to discuss the possibility of granting an easement and adding a note as such to the plan, as long as all of the easement paperwork would be generated by the City, in a timely manner.**
7. The Fire Department asked if we could provide number identification (street address sign) for the Lot 2 (rear) building to be visible from South Street; such as a sign at the end of the driveway. **The requested sign is shown on Sheet C2.**
8. The Fire Department asked if we could show fire truck access to Lot 2. **Included in this submission is a fire truck turning template, showing safe access on to the site. In order to provide the access and keep the visual appearance of the driveway clean we detailed a section of "Grass Pave" to flair the entrance.**

We are available to meet with you or City Staff should you have any questions or concerns. We look forward to your approval of this proposed subdivision.

Sincerely,



John R. Chagnon, PE

CC: Christopher Kit Clews, Bernie Pelech



City of Portsmouth, New Hampshire

Subdivision Application Checklist

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

Applicant Responsibilities (Section III.C): Applicable fees are due upon application submittal along with required number of copies of the Preliminary or final plat and supporting documents and studies. Please consult with Planning staff for submittal requirements.

Owner: _____ Date Submitted: _____

Applicant: _____

Phone Number: _____ E-mail: _____

Site Address 1: _____ Map: _____ Lot: _____

Site Address 2: _____ Map: _____ Lot: _____

Application Requirements			
	Required Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>			
<input type="checkbox"/>	Completed Application form. (III.C.2-3)		N/A
<input type="checkbox"/>	All application documents, plans, supporting documentation and other materials provided in digital Portable Document Format (PDF) on compact disc, DVD or flash drive. (III.C.4)		N/A

Requirements for Preliminary/Final Plat			
	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat
<input checked="" type="checkbox"/>			
<input type="checkbox"/>	Name and address of record owner, any option holders, descriptive name of subdivision, engineer and/or surveyor or name of person who prepared the plat. (Section IV.1/V.1)		<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat

Requirements for Preliminary/Final Plat				
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input type="checkbox"/>	<p>Preliminary Plat Names and addresses of all adjoining property owners. (Section IV.2)</p> <p>Final Plat Names and addresses of all abutting property owners, locations of buildings within one hundred (100) feet of the parcel, and any new house numbers within the subdivision. (Section V.2)</p>		<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input type="checkbox"/>	North point, date, and bar scale. (Section IV.3/V3)	Required on all Plan Sheets	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input type="checkbox"/>	Zoning classification and minimum yard dimensions required. (Section IV.4/V.4)		<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input type="checkbox"/>	<p>Preliminary Plat Scale (not to be smaller than one hundred (100) feet = 1 inch) and location map (at a scale of 1" = 1000'). (Section IV.5)</p> <p>Final Plat Scale (not to be smaller than 1"=100'), Location map (at a scale of 1"=1,000') showing the property being subdivided and its relation to the surrounding area within a radius of 2,000 feet. Said location map shall delineate all streets and other major physical features that my either affect or be affected by the proposed development. (Section V.5)</p>		<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input type="checkbox"/>	Location and approximate dimensions of all existing and proposed property lines including the entire area proposed to be subdivided, the areas of proposed lots, and any adjacent parcels in the same ownership. (Section IV.6)		<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input type="checkbox"/>	Dimensions and areas of all lots and any and all property to be dedicated or reserved for schools, parks, playgrounds, or other public purpose. Dimensions shall include radii and length of all arcs and calculated bearing for all straight lines. (Section V.6/ IV.7)		<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input type="checkbox"/>	Location, names, and present widths of all adjacent streets, with a designation as to whether public or private and approximate location of existing utilities to be used. Curbs and sidewalks shall be shown. (Section IV.8/V.7)	Utility Plan- C2	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	

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

Requirements for Preliminary/Final Plat				
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input type="checkbox"/>	Dates and permit numbers of all necessary permits from governmental agencies from which approval is required by Federal or State law. (Section V.10)		<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input type="checkbox"/>	For subdivisions involving greater than five (5) acres or fifty (50) lots, the final plat shall show hazard zones and shall include elevation data for flood hazard zones. (Section V.11)		<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input type="checkbox"/>	Location of all permanent monuments. (Section V.12)		<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	

General Requirements¹

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1. Basic Requirements: (VI.1) a. Conformity to Official Plan or Map b. Hazards c. Relation to Topography d. Planned Unit Development		
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	2. Lots: (VI.2) a. Lot Arrangement b. Lot sizes c. Commercial and Industrial Lots		
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	3. Streets: (VI.3) a. Relation to adjoining Street System b. Street Rights-of-Way c. Access d. Parallel Service Roads e. Street Intersection Angles f. Merging Streets g. Street Deflections and Vertical Alignment h. Marginal Access Streets i. Cul-de-Sacs j. Rounding Street Corners k. Street Name Signs l. Street Names m. Block Lengths n. Block Widths o. Grade of Streets p. Grass Strips		
<input type="checkbox"/>	4. Curbing: (VI.4)		
<input type="checkbox"/>	5. Driveways: (VI.5)		
<input type="checkbox"/>	6. Drainage Improvements: (VI.6)		
<input type="checkbox"/>	7. Municipal Water Service: (VI.7)		
<input type="checkbox"/>	8. Municipal Sewer Service: (VI.8)		
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	9. Installation of Utilities: (VI.9) a. All Districts b. Indicator Tape		
<input type="checkbox"/>	10. On-Site Water Supply: (VI.10)		
<input type="checkbox"/>	11. On-Site Sewage Disposal Systems: (VI.11)		
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	12. Open Space: (VI.12) a. Natural Features b. Buffer Strips c. Parks d. Tree Planting		
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	13. Flood Hazard Areas: (VI.13) a. Permits b. Minimization of Flood Damage c. Elevation and Flood-Proofing Records d. Alteration of Watercourses		
<input type="checkbox"/>	14. Erosion and Sedimentation Control (VI.14)		

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	15. Easements (VI.15) a. Utilities b. Drainage		
<input type="checkbox"/>	16. Monuments: (VI.16)		
<input type="checkbox"/>	17. Benchmarks: (VI.17)		
<input type="checkbox"/>	18. House Numbers (VI.18)		

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

Applicant's/Representative's Signature: _____ Date: _____

¹ See City of Portsmouth, NH Subdivision Rules and Regulations for details.
Subdivision Application Checklist/January 2018

MEMORANDUM

Ref: 1911A

To: John Chagnon, P.E., LLS
Ambit Engineering

From: Stephen G. Pernaw, P.E., PTOE

Subject: Clews Subdivision
Portsmouth, New Hampshire

Date: June 5, 2019

As requested, our office conducted a travel speed survey on South Street, for the Clews Subdivision in Portsmouth, New Hampshire for the purpose of evaluating the minimum safe stopping sight distance requirements for vehicles approaching the two proposed residential driveways on South Street. The plan entitled “*Driveway Plan,*” Sheet C3, dated March 2019 (revised 5/9/19) that was prepared by your office indicates that the available sight distances at the Lot 1 Driveway are 226-feet looking right, and 345-feet looking left. Similarly, the sight distances at the Lot 2&3 Driveway are 437 feet looking right and 324 feet looking left (see Attachment 1). The purpose of this memorandum is to summarize the results of our survey, analysis, and findings.

Vehicle Speeds - The speed survey was conducted on South Street adjacent to the subject site in March 2019. The speed limit is posted at 20 mph on this section of South Street. The results of the speed survey are summarized below and show that both the average and 85th percentile speeds exceed the posted speed limit:

Travel Speed Summary - March 2019

Day	85th Percentile Speeds		Average Speeds	
	Eastbound	Westbound	Eastbound	Westbound
Monday*	30.0	33.5	26.6	28.8
Tuesday	30.7	33.7	26.8	29.1
Wednesday	30.6	33.8	26.7	29.3
Thursday	30.9	33.7	26.9	29.3
Friday*	30.6	34.3	26.5	29.8
Average	30.6	33.8	26.7	29.3
	mph	mph	mph	mph

*Partial Days

The raw speed data and other statistical summaries are attached (see Attachments 2-11).

Sight Distance Evaluation - The minimum safe stopping sight distance calculations contained herein are comprised of the distance traveled during the “perception-reaction time” plus the distance traveled during “braking.” These computations are based on the 85th percentile approach speeds and the average approach grades on South Street (where braking occurs). The attached calculations (see Attachments 12 & 13) demonstrate that the available stopping sight distances looking left and looking right from both residential driveways exceeds the minimum stopping sight distance requirements for the 85th percentile speed.



Attachments

AMBIT ENGINEERING, INC.
 Civil Engineers & Land Surveyors
 200 Collins Way, Unit 2
 Portsmouth, NH 03801
 Tel: (603) 430-2888
 Fax: (603) 430-2874

- NOTES:**
- 1) THE CONTRACTOR SHALL NOTIFY DE SAFE AT 1-888-062-SAFE (1-888-344-7233) AT LEAST 72 HOURS BEFORE ANY EXCAVATION OR PILING ON PRIVATE PROPERTY.
 - 2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON RECORD DRAWINGS AND FIELD SURVEY. THE CONTRACTOR SHALL VERIFY THE LOCATION AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY LOCATIONS SHOULD BE REPORTED AT ONCE TO THE DESIGN ENGINEER.
 - 3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES THROUGHOUT THE CONSTRUCTION PERIOD. EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED THROUGHOUT CONSTRUCTION. EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHRS DECEMBER 2009).
 - 4) REQUIRED PARKING FOR LOT 2:
 UNIT 1: 2,119 SF, 1.3 SPACES
 UNIT 2: 503 SF, 1.3 SPACES
 UNIT 3: 1,111 SF, 1.3 SPACES
 UNIT 4: 1,493 SF, 1.3 SPACES
 TOTAL REQUIRED: 5 SPACES
 PROVIDED: 7 SPACES
 - 5) THE PURPOSE OF THIS PLAN IS TO SHOW PROPOSED DRIVEWAY LOCATIONS AND SIGN DISTANCES FOR THE CLEWS SUBDIVISION.

**CLEWS SUBDIVISION
 799 SOUTH STREET
 PORTSMOUTH, N.H.**

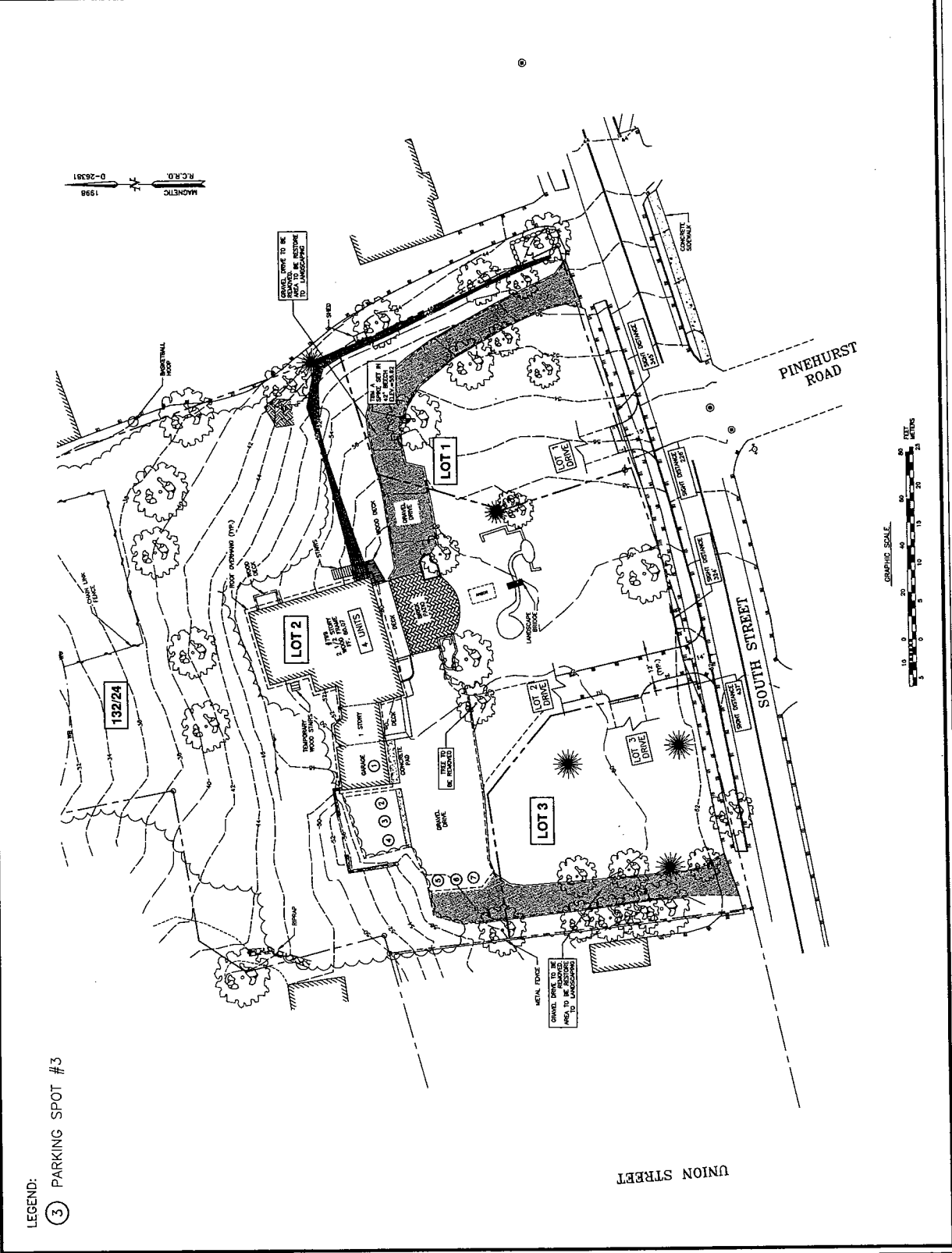
NO.	DESCRIPTION	DATE
1	DRIVE LOCATIONS, SIGN DISTANCE	5/9/19
0	ISSUED FOR COMMENT	4/5/19
	REVISIONS	



SCALE 1" = 20' MARCH 2019

DRIVEWAY PLAN **C3**

19 289 PG 23 1758



Daily Eastbound Speeds (MPH)

Study Date: Monday, 03/18/2019

Unit ID: SGP12

Location: South Street, Portsmouth, NH

Posted Speed: 20

	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-99	Total
00:00 - 00:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
01:00 - 01:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02:00 - 02:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03:00 - 03:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
04:00 - 04:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05:00 - 05:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06:00 - 06:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07:00 - 07:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08:00 - 08:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 - 09:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:59	1	4	29	33	5	0	0	1	0	0	0	0	0	0	0	73
15:00 - 15:59	1	6	105	183	32	2	0	1	0	0	0	0	0	0	0	330
16:00 - 16:59	1	9	82	181	38	1	1	0	0	0	0	0	0	0	0	313
17:00 - 17:59	0	6	63	126	34	2	0	0	0	0	0	0	0	0	0	231
18:00 - 18:59	0	5	42	114	32	2	0	1	0	1	0	0	0	0	0	197
19:00 - 19:59	0	3	33	45	20	1	0	0	1	0	0	0	0	0	0	103
20:00 - 20:59	0	3	17	24	8	3	0	1	0	0	0	0	0	0	0	56
21:00 - 21:59	0	1	9	20	8	1	0	0	0	0	0	0	0	0	0	39
22:00 - 22:59	0	2	9	8	8	1	0	0	0	0	0	0	0	0	0	28
23:00 - 23:59	0	1	4	9	2	0	0	0	0	0	0	0	0	0	0	16
Totals	3	40	393	743	187	13	1	4	1	1	0	0	0	0	0	1386
ercent of Total	0.2	2.9	28.4	53.6	13.5	0.9	0.1	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	100
ercent of AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100
ercent of PM	0.2	2.9	28.4	53.6	13.5	0.9	0.1	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	100

Standard Deviation:	4.3 MPH	Ten Mile Pace:	20 to 29 MPH	85th Percentile:	30.0 MPH
Mean Speed:	26.6 MPH	Percent in Ten Mile Pace:	82.0%	15th Percentile:	22.1 MPH
Median Speed:	26.7 MPH			90th Percentile:	31.8 MPH
Modal Speed:	27.5 MPH			95th Percentile:	33.7 MPH

Daily Eastbound Speeds (MPH)

Study Date: Tuesday, 03/19/2019

Unit ID: SGP12

Location: South Street, Portsmouth, NH

Posted Speed: 20

	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-99	Total
00:00 - 00:59	0	0	3	5	2	1	0	0	0	0	0	0	0	0	0	11
01:00 - 01:59	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3
02:00 - 02:59	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00 - 03:59	0	1	3	1	1	0	1	0	0	0	0	0	0	0	0	7
04:00 - 04:59	0	0	10	10	4	1	0	0	0	0	0	0	0	0	0	25
05:00 - 05:59	1	1	18	19	9	2	0	0	0	0	0	0	0	0	0	50
06:00 - 06:59	0	6	29	70	12	2	0	0	0	0	0	0	0	0	0	119
07:00 - 07:59	0	13	79	133	38	4	2	0	0	1	0	0	0	0	0	270
08:00 - 08:59	1	13	116	149	35	2	1	1	0	0	0	0	0	0	1	319
09:00 - 09:59	2	2	57	104	37	2	1	0	0	0	0	0	0	0	0	205
10:00 - 10:59	0	8	41	89	30	3	0	0	0	1	0	0	0	0	0	172
11:00 - 11:59	0	9	64	96	39	2	0	0	0	0	0	0	0	0	0	210
12:00 - 12:59	0	9	62	119	41	1	0	0	0	0	0	0	1	0	0	233
13:00 - 13:59	2	5	44	123	36	3	0	0	1	0	0	0	0	0	0	214
14:00 - 14:59	0	8	64	137	36	4	0	1	0	0	0	1	0	0	1	252
15:00 - 15:59	1	14	91	156	56	1	0	0	0	0	0	0	1	0	0	320
16:00 - 16:59	0	4	75	201	37	0	2	0	0	0	0	0	0	0	0	319
17:00 - 17:59	0	8	54	128	45	4	0	0	0	0	0	0	0	0	0	239
18:00 - 18:59	0	6	47	104	26	2	0	0	0	0	0	0	0	0	0	185
19:00 - 19:59	0	3	32	51	15	1	0	0	0	0	0	0	0	0	0	102
20:00 - 20:59	1	1	18	31	12	1	0	0	0	0	0	0	0	0	0	64
21:00 - 21:59	0	0	12	25	9	1	0	0	0	0	0	0	0	0	0	47
22:00 - 22:59	1	2	8	12	5	2	0	0	0	0	0	0	0	0	0	30
23:00 - 23:59	0	1	8	7	2	0	0	0	0	0	0	0	0	0	0	18
Totals	9	115	935	1774	527	39	7	2	1	2	0	1	2	0	2	3416
ercent of Total	0.3	3.4	27.4	51.9	15.4	1.1	0.2	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.1	100
ercent of AM	0.3	3.9	30.2	48.8	14.9	1.4	0.4	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	100
ercent of PM	0.2	3.0	25.5	54.1	15.8	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	100

Standard Deviation:	4.8 MPH	Ten Mile Pace:	20 to 29 MPH	85th Percentile:	30.7 MPH
Mean Speed:	26.8 MPH	Percent in Ten Mile Pace:	79.3%	15th Percentile:	22.1 MPH
Median Speed:	26.8 MPH			90th Percentile:	32.3 MPH
Modal Speed:	27.5 MPH			95th Percentile:	33.9 MPH

Daily Eastbound Speeds (MPH)

Study Date: Wednesday, 03/20/2019

Unit ID: SGP12

Location: South Street, Portsmouth, NH

Posted Speed: 20

	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-99	Total
00:00 - 00:59	0	0	3	4	1	2	0	0	0	0	0	0	0	0	0	10
01:00 - 01:59	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	3
02:00 - 02:59	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2
03:00 - 03:59	0	2	3	1	0	1	0	0	0	0	0	0	0	0	0	7
04:00 - 04:59	0	1	6	7	3	2	0	0	0	0	0	0	0	0	0	19
05:00 - 05:59	0	4	13	22	6	1	0	0	0	0	0	0	0	0	0	46
06:00 - 06:59	0	7	28	60	25	1	0	0	0	0	0	0	0	0	0	121
07:00 - 07:59	1	6	67	146	47	3	0	0	0	0	0	0	0	1	0	271
08:00 - 08:59	0	11	105	163	39	2	2	0	0	0	0	0	0	0	0	322
09:00 - 09:59	1	10	65	103	30	4	0	1	0	0	0	0	0	0	0	214
10:00 - 10:59	0	8	56	101	32	2	0	0	0	0	0	0	0	0	0	199
11:00 - 11:59	0	4	36	137	51	3	0	0	1	0	0	0	0	0	0	232
12:00 - 12:59	0	10	75	134	41	1	0	0	0	0	1	1	0	0	0	263
13:00 - 13:59	1	5	67	111	32	2	0	1	0	0	0	0	0	0	0	219
14:00 - 14:59	1	6	78	125	32	2	0	0	0	0	0	0	1	0	1	246
15:00 - 15:59	1	12	107	171	32	1	0	0	0	0	0	0	0	0	0	324
16:00 - 16:59	0	7	70	149	61	1	0	0	0	0	0	0	0	0	0	288
17:00 - 17:59	0	7	78	140	36	2	0	0	0	0	0	0	0	0	0	263
18:00 - 18:59	0	7	48	89	26	4	0	0	0	0	0	0	0	0	0	174
19:00 - 19:59	0	8	62	62	25	0	0	0	1	1	0	0	0	0	0	159
20:00 - 20:59	0	1	21	46	9	0	0	0	0	0	0	0	0	0	0	77
21:00 - 21:59	0	3	14	24	7	0	0	0	0	0	0	0	0	0	0	48
22:00 - 22:59	0	0	4	10	10	1	1	0	1	0	0	0	0	0	0	27
23:00 - 23:59	0	1	7	13	6	1	0	0	1	0	0	0	0	0	0	29
Totals	5	120	1014	1820	552	37	3	2	4	1	1	1	1	1	1	3563
ercent of Total	0.1	3.4	28.5	51.1	15.5	1.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	100
ercent of AM	0.1	3.7	26.5	51.6	16.3	1.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	100
ercent of PM	0.1	3.2	29.8	50.7	15.0	0.7	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	100

Standard Deviation:	4.7 MPH	Ten Mile Pace:	20 to 29 MPH	85th Percentile:	30.6 MPH
Mean Speed:	26.7 MPH	Percent in Ten Mile Pace:	79.5%	15th Percentile:	22.0 MPH
Median Speed:	26.8 MPH			90th Percentile:	32.2 MPH
Modal Speed:	27.5 MPH			95th Percentile:	33.9 MPH

Daily Eastbound Speeds (MPH)

Study Date: Thursday, 03/21/2019

Unit ID: SGP12

Location: South Street, Portsmouth, NH

Posted Speed: 20

	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-99	Total
00:00 - 00:59	0	0	4	2	2	2	1	0	0	0	0	0	0	0	0	11
01:00 - 01:59	0	0	2	2	1	1	0	0	0	0	0	0	0	0	0	6
02:00 - 02:59	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	4
03:00 - 03:59	0	1	1	3	2	1	0	0	0	0	0	0	0	0	0	8
04:00 - 04:59	0	0	3	4	3	2	0	0	0	0	0	0	0	0	0	12
05:00 - 05:59	0	1	17	34	9	0	0	0	0	0	0	0	0	0	0	61
06:00 - 06:59	0	1	30	54	23	3	0	0	0	0	0	0	0	0	0	111
07:00 - 07:59	0	4	65	153	41	3	0	0	0	0	0	0	0	0	0	266
08:00 - 08:59	0	9	104	190	47	1	0	0	0	0	0	0	0	0	0	351
09:00 - 09:59	0	10	59	117	36	1	0	0	1	0	0	0	0	0	0	224
10:00 - 10:59	1	9	51	121	48	2	1	0	0	0	0	0	0	0	0	233
11:00 - 11:59	1	5	32	115	35	3	0	0	0	0	0	0	0	0	0	191
12:00 - 12:59	0	5	52	125	35	2	0	0	0	0	0	0	0	0	0	219
13:00 - 13:59	1	6	53	126	30	4	0	0	1	0	0	0	0	0	1	222
14:00 - 14:59	2	8	83	121	40	2	0	1	0	0	0	0	0	0	0	257
15:00 - 15:59	0	9	91	160	43	3	0	0	0	0	0	0	0	0	0	306
16:00 - 16:59	1	6	70	144	53	2	0	0	1	0	0	0	0	0	0	277
17:00 - 17:59	1	6	58	132	45	4	0	0	1	0	0	0	0	0	0	247
18:00 - 18:59	0	3	53	124	35	3	1	0	0	0	0	0	0	0	0	219
19:00 - 19:59	0	1	66	58	18	2	0	0	0	0	0	0	0	0	0	145
20:00 - 20:59	0	0	29	35	16	2	0	0	0	0	0	0	0	0	0	82
21:00 - 21:59	0	3	17	24	12	1	0	0	0	0	0	0	0	0	0	57
22:00 - 22:59	0	2	7	16	8	0	0	0	0	0	0	0	0	0	0	33
23:00 - 23:59	1	3	6	19	2	1	0	0	0	0	0	0	0	0	0	32
Totals	8	92	953	1882	585	45	3	1	4	0	0	0	0	0	1	3574
ercent of Total	0.2	2.6	26.7	52.7	16.4	1.3	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	100
ercent of AM	0.1	2.7	24.9	54.0	16.8	1.3	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	100
ercent of PM	0.3	2.5	27.9	51.7	16.1	1.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	100

Standard Deviation:	4.4 MPH	Ten Mile Pace:	20 to 29 MPH	85th Percentile:	30.9 MPH
Mean Speed:	26.9 MPH	Percent in Ten Mile Pace:	79.3%	15th Percentile:	22.3 MPH
Median Speed:	26.9 MPH			90th Percentile:	32.4 MPH
Modal Speed:	27.5 MPH			95th Percentile:	33.9 MPH

Daily Eastbound Speeds (MPH)

Study Date: Friday, 03/22/2019

Unit ID: SGP12

Location: South Street, Portsmouth, NH

Posted Speed: 20

	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-99	Total
00:00 - 00:59	0	1	2	7	1	0	0	0	0	0	0	0	0	0	0	11
01:00 - 01:59	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	5
02:00 - 02:59	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	4
03:00 - 03:59	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	3
04:00 - 04:59	0	0	2	11	2	2	0	0	0	0	0	0	0	0	0	17
05:00 - 05:59	0	2	12	20	7	1	0	0	0	0	0	0	0	0	0	42
06:00 - 06:59	0	6	32	56	13	1	0	0	0	0	0	0	0	0	0	108
07:00 - 07:59	0	9	62	108	32	4	0	0	0	0	0	0	0	0	0	215
08:00 - 08:59	1	6	25	47	18	0	0	0	0	0	0	0	0	0	0	97
09:00 - 09:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00 - 10:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 - 11:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 - 12:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:00 - 13:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:00 - 14:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15:00 - 15:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00 - 16:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17:00 - 17:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18:00 - 18:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19:00 - 19:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20:00 - 20:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21:00 - 21:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22:00 - 22:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23:00 - 23:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals	1	25	139	252	76	9	0	0	0	0	0	0	0	0	0	502
ercent of Total	0.2	5.0	27.7	50.2	15.1	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100
ercent of AM	0.2	5.0	27.7	50.2	15.1	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100
ercent of PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100

Standard Deviation:	4.4 MPH	Ten Mile Pace:	20 to 29 MPH	85th Percentile:	30.6 MPH
Mean Speed:	26.5 MPH	Percent in Ten Mile Pace:	77.9%	15th Percentile:	21.8 MPH
Median Speed:	26.7 MPH			90th Percentile:	32.3 MPH
Modal Speed:	27.5 MPH			95th Percentile:	33.9 MPH

Daily Westbound Speeds (MPH)

Study Date: Monday, 03/18/2019

Unit ID: SGP12

Location: South Street, Portsmouth, NH

Posted Speed: 20

	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-99	Total
00:00 - 00:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
01:00 - 01:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02:00 - 02:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03:00 - 03:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
04:00 - 04:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05:00 - 05:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06:00 - 06:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07:00 - 07:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08:00 - 08:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 - 09:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:59	0	6	8	25	31	3	0	0	0	0	0	0	0	0	0	73
15:00 - 15:59	0	4	39	133	94	13	1	1	0	0	0	0	0	0	0	285
16:00 - 16:59	0	5	33	127	109	13	1	0	0	0	0	0	0	0	0	288
17:00 - 17:59	1	2	42	184	94	11	0	0	0	0	0	0	0	0	0	334
18:00 - 18:59	0	5	29	116	92	11	2	0	0	0	0	0	0	0	0	255
19:00 - 19:59	0	4	16	65	54	11	0	0	0	0	0	0	0	0	0	150
20:00 - 20:59	0	2	18	49	29	2	0	0	0	0	0	0	0	0	0	100
21:00 - 21:59	0	0	10	39	16	1	0	0	0	0	0	0	0	0	0	66
22:00 - 22:59	0	0	9	13	12	2	0	0	0	0	0	0	0	0	0	36
23:00 - 23:59	0	0	3	7	6	2	1	0	0	0	0	0	0	0	0	19
Totals	1	28	207	758	537	69	5	1	0	0	0	0	0	0	0	1606
ercent of Total	0.1	1.7	12.9	47.2	33.4	4.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100
ercent of AM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100
ercent of PM	0.1	1.7	12.9	47.2	33.4	4.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100

Standard Deviation:	4.4 MPH	Ten Mile Pace:	25 to 34 MPH	85th Percentile:	33.5 MPH
Mean Speed:	28.8 MPH	Percent in Ten Mile Pace:	80.6%	15th Percentile:	25.0 MPH
Median Speed:	28.7 MPH			90th Percentile:	34.2 MPH
Modal Speed:	27.5 MPH			95th Percentile:	34.9 MPH

Daily Westbound Speeds (MPH)

Study Date: Tuesday, 03/19/2019

Unit ID: SGP12

Location: South Street, Portsmouth, NH

Posted Speed: 20

	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-99	Total
00:00 - 00:59	0	0	2	5	5	0	0	0	0	0	0	0	0	0	0	12
01:00 - 01:59	0	0	0	5	4	1	0	0	0	0	0	0	0	0	0	10
02:00 - 02:59	0	0	1	2	0	2	0	0	0	0	0	0	0	0	0	5
03:00 - 03:59	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	4
04:00 - 04:59	0	0	2	5	2	1	0	0	0	0	0	0	0	0	0	10
05:00 - 05:59	0	1	2	5	2	2	0	0	0	0	0	0	0	0	0	12
06:00 - 06:59	0	1	12	36	33	5	0	0	0	0	0	0	0	0	0	87
07:00 - 07:59	0	2	26	89	78	17	3	0	0	0	0	0	0	0	0	215
08:00 - 08:59	5	15	41	132	55	9	0	0	1	0	0	1	0	0	0	259
09:00 - 09:59	0	1	14	79	80	8	2	0	0	0	0	0	0	0	0	184
10:00 - 10:59	0	2	14	87	75	17	0	0	0	0	0	0	0	0	0	195
11:00 - 11:59	1	1	25	96	67	7	0	1	0	0	0	0	0	0	0	198
12:00 - 12:59	0	1	14	106	68	12	1	0	0	0	0	0	0	0	0	202
13:00 - 13:59	0	5	20	92	89	10	0	0	0	0	0	0	0	0	1	217
14:00 - 14:59	0	4	16	134	104	11	0	0	0	0	0	0	0	0	0	269
15:00 - 15:59	3	7	27	126	79	21	1	0	0	0	0	0	0	0	1	265
16:00 - 16:59	0	5	35	137	101	9	2	0	1	1	0	0	0	0	0	291
17:00 - 17:59	0	2	27	158	102	12	1	0	0	0	0	0	0	0	0	302
18:00 - 18:59	1	2	15	84	82	17	1	0	0	0	0	0	0	0	0	202
19:00 - 19:59	0	1	21	84	54	6	0	0	0	0	0	0	0	0	0	166
20:00 - 20:59	2	1	22	62	31	2	0	0	0	0	0	0	0	0	0	120
21:00 - 21:59	1	0	9	45	13	4	1	0	0	0	0	0	0	0	0	73
22:00 - 22:59	0	0	4	14	13	2	0	0	0	0	0	0	0	0	0	33
23:00 - 23:59	0	0	4	5	6	3	1	0	0	0	0	0	0	0	0	19
Totals	13	51	354	1589	1145	178	13	1	2	1	0	1	0	0	2	3350
ercent of Total	0.4	1.5	10.6	47.4	34.2	5.3	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	100
ercent of AM	0.5	1.9	11.8	45.5	33.8	5.8	0.4	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	100
ercent of PM	0.3	1.3	9.9	48.5	34.4	5.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	100

Standard Deviation:	4.8 MPH	Ten Mile Pace:	25 to 34 MPH	85th Percentile:	33.7 MPH
Mean Speed:	29.1 MPH	Percent in Ten Mile Pace:	81.6%	15th Percentile:	25.3 MPH
Median Speed:	29.0 MPH			90th Percentile:	34.4 MPH
Modal Speed:	27.5 MPH			95th Percentile:	35.8 MPH

Daily Westbound Speeds (MPH)

Study Date: Wednesday, 03/20/2019

Unit ID: SGP12

Location: South Street, Portsmouth, NH

Posted Speed: 20

	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-99	Total
00:00 - 00:59	0	0	0	7	1	0	0	0	0	0	0	0	0	0	0	8
01:00 - 01:59	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	4
02:00 - 02:59	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
03:00 - 03:59	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	4
04:00 - 04:59	0	0	1	3	3	3	0	0	0	0	0	0	0	0	0	10
05:00 - 05:59	0	1	2	9	2	5	0	0	0	0	0	0	0	0	0	19
06:00 - 06:59	0	1	7	25	45	10	1	0	0	0	0	0	0	0	0	89
07:00 - 07:59	0	3	13	92	80	14	1	1	0	0	0	0	0	0	0	204
08:00 - 08:59	0	4	28	125	78	15	0	1	0	0	0	0	0	0	0	251
09:00 - 09:59	0	1	17	74	77	20	2	0	0	0	0	1	0	0	0	192
10:00 - 10:59	0	1	8	82	70	6	2	0	0	0	0	0	0	0	0	169
11:00 - 11:59	0	1	13	101	77	18	1	0	0	0	0	0	0	0	0	211
12:00 - 12:59	0	3	25	87	67	16	0	0	0	0	0	0	0	0	0	198
13:00 - 13:59	1	3	27	115	79	7	0	0	0	0	0	0	0	0	0	232
14:00 - 14:59	0	2	16	130	104	10	1	0	0	0	0	0	0	0	0	263
15:00 - 15:59	1	5	33	137	97	9	2	0	0	0	0	0	0	0	0	284
16:00 - 16:59	0	2	36	118	111	15	1	0	0	0	0	0	0	0	0	283
17:00 - 17:59	0	4	36	195	105	16	1	0	0	0	0	0	0	0	0	357
18:00 - 18:59	1	2	19	92	107	12	1	0	0	0	0	0	0	0	0	234
19:00 - 19:59	3	3	22	61	35	4	2	0	0	0	0	0	0	0	0	130
20:00 - 20:59	0	8	22	64	30	1	0	0	0	0	0	0	0	0	0	125
21:00 - 21:59	0	2	19	29	36	3	0	0	0	0	0	0	0	0	0	89
22:00 - 22:59	0	0	3	22	10	5	0	0	0	0	0	0	0	0	0	40
23:00 - 23:59	0	0	4	14	14	3	0	0	0	0	0	0	0	0	0	35
Totals	6	46	352	1587	1231	192	15	2	0	0	0	1	0	0	0	3432
ercent of Total	0.2	1.3	10.3	46.2	35.9	5.6	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100
ercent of AM	0.0	1.0	7.7	45.0	37.5	7.8	0.6	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	100
ercent of PM	0.3	1.5	11.5	46.9	35.0	4.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100

Standard Deviation:	4.4 MPH	Ten Mile Pace:	25 to 34 MPH	85th Percentile:	33.8 MPH
Mean Speed:	29.3 MPH	Percent in Ten Mile Pace:	82.1%	15th Percentile:	25.3 MPH
Median Speed:	29.1 MPH			90th Percentile:	34.5 MPH
Modal Speed:	27.5 MPH			95th Percentile:	36.0 MPH

Daily Westbound Speeds (MPH)

Study Date: Thursday, 03/21/2019

Unit ID: SGP12

Location: South Street, Portsmouth, NH

Posted Speed: 20

	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-99	Total
00:00 - 00:59	0	1	0	5	2	0	0	0	0	0	0	0	0	0	0	8
01:00 - 01:59	0	0	0	3	2	1	2	0	0	0	0	0	0	0	0	8
02:00 - 02:59	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	4
03:00 - 03:59	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	3
04:00 - 04:59	0	0	1	4	1	0	0	0	0	0	0	0	0	0	0	6
05:00 - 05:59	0	0	2	5	7	0	0	0	0	0	0	0	0	0	0	14
06:00 - 06:59	1	0	9	40	31	11	0	0	0	0	0	0	0	0	0	92
07:00 - 07:59	0	0	10	92	69	17	0	0	0	0	0	0	0	0	0	188
08:00 - 08:59	0	2	15	107	113	9	0	0	0	0	0	0	0	0	0	246
09:00 - 09:59	0	2	21	84	72	13	0	0	0	0	0	0	0	0	0	192
10:00 - 10:59	1	5	26	87	65	9	1	0	0	0	0	0	0	0	0	194
11:00 - 11:59	0	1	27	95	87	8	0	0	0	0	0	0	0	0	0	218
12:00 - 12:59	0	8	14	93	87	20	1	0	0	0	0	0	0	0	0	223
13:00 - 13:59	1	1	27	106	83	8	0	0	0	0	0	0	0	0	0	226
14:00 - 14:59	0	2	15	101	106	10	1	0	0	0	0	0	0	0	0	235
15:00 - 15:59	1	6	33	136	101	11	2	0	0	0	0	0	0	0	0	290
16:00 - 16:59	0	6	28	150	106	13	0	0	1	0	0	0	0	0	0	304
17:00 - 17:59	0	3	29	147	131	20	1	0	0	0	0	0	0	0	0	331
18:00 - 18:59	1	3	8	113	105	10	1	0	0	0	1	0	0	0	0	242
19:00 - 19:59	0	1	30	106	39	2	0	0	0	0	0	0	0	0	0	178
20:00 - 20:59	0	2	16	58	32	4	0	0	0	0	0	0	0	0	0	112
21:00 - 21:59	1	3	8	33	24	1	0	1	0	0	0	0	0	0	0	71
22:00 - 22:59	0	0	6	21	14	3	2	0	0	0	0	0	0	0	0	46
23:00 - 23:59	0	1	7	17	14	1	0	0	0	0	0	0	0	0	0	40
Totals	6	47	333	1606	1293	172	11	1	1	0	1	0	0	0	0	3471
ercent of Total	0.2	1.4	9.6	46.3	37.3	5.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100
ercent of AM	0.2	0.9	9.5	44.8	38.4	5.9	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100
ercent of PM	0.2	1.6	9.6	47.0	36.6	4.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100

Standard Deviation:	4.3 MPH	Ten Mile Pace:	25 to 34 MPH	85th Percentile:	33.7 MPH
Mean Speed:	29.3 MPH	Percent in Ten Mile Pace:	83.5%	15th Percentile:	25.4 MPH
Median Speed:	29.2 MPH			90th Percentile:	34.4 MPH
Modal Speed:	27.5 MPH			95th Percentile:	35.3 MPH

Daily Westbound Speeds (MPH)

Study Date: Friday, 03/22/2019

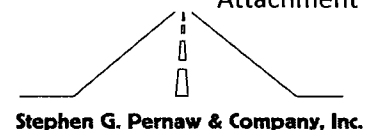
Unit ID: SGP12

Location: South Street, Portsmouth, NH

Posted Speed: 20

	5-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-99	Total
00:00 - 00:59	0	0	2	5	3	2	0	0	0	0	0	0	0	0	0	12
01:00 - 01:59	0	1	0	1	3	0	0	0	0	0	0	0	0	0	0	5
02:00 - 02:59	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	4
03:00 - 03:59	0	0	1	0	2	1	1	0	0	0	0	0	0	0	0	5
04:00 - 04:59	0	0	2	5	2	0	0	0	0	0	0	0	0	0	0	9
05:00 - 05:59	0	0	1	10	3	1	1	0	0	0	0	0	0	0	0	16
06:00 - 06:59	0	1	4	31	41	5	0	0	0	0	0	0	0	0	0	82
07:00 - 07:59	0	3	16	68	52	13	2	0	0	0	0	0	0	0	0	154
08:00 - 08:59	0	1	6	26	24	8	0	0	0	0	0	0	0	0	0	65
09:00 - 09:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10:00 - 10:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 - 11:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 - 12:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13:00 - 13:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14:00 - 14:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15:00 - 15:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00 - 16:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17:00 - 17:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18:00 - 18:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19:00 - 19:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20:00 - 20:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21:00 - 21:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22:00 - 22:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23:00 - 23:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals	0	6	32	148	132	30	4	0	0	0	0	0	0	0	0	352
ercent of Total	0.0	1.7	9.1	42.0	37.5	8.5	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100
ercent of AM	0.0	1.7	9.1	42.0	37.5	8.5	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100
ercent of PM	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100

Standard Deviation:	4.6 MPH	Ten Mile Pace:	25 to 34 MPH	85th Percentile:	34.3 MPH
Mean Speed:	29.8 MPH	Percent in Ten Mile Pace:	79.5%	15th Percentile:	25.5 MPH
Median Speed:	29.6 MPH			90th Percentile:	34.9 MPH
Modal Speed:	27.5 MPH			95th Percentile:	37.7 MPH



Sight Distance Calculations - South Street / Proposed Lot 1 Driveway

May 30, 2019

Given:

- A. 85th percentile EB speed = 30.6 mph (Pernaw & Co., Inc. speed survey)
- B. 85th percentile WB speed = 33.8 mph (Pernaw & Co., Inc. speed survey)
- C. Available sight distance "looking right" = 226 feet (Ambit "Driveway Plan," Sheet C3, dated March 2019, revised 5/9/19.)
- D. Available sight distance "looking left" = 345 feet (Ambit "Driveway Plan," Sheet C3, dated March 2019, revised 5/9/19.)

Calculate distance traveled during perception-reaction time

$$\begin{aligned} \text{EB} &= 1.47 \times 30.6 \times 2.5 = 112.5 \text{ feet (113' rounded)} \\ \text{WB} &= 1.47 \times 33.8 \times 2.5 = 124.2 \text{ feet (125' rounded)} \end{aligned}$$

Calculate average grade during braking distance

$$\begin{aligned} \text{EB average roadway grade} &= (62 - 56) / 104' = -0.058\% \\ \text{WB average roadway grade} &= (54 - 46) / 90' = +0.089\% \end{aligned}$$

Calculate braking distance

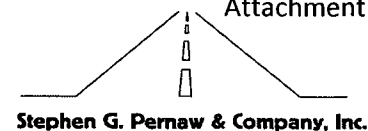
$$\begin{aligned} \text{EB} &= \frac{(30.6)^2}{30 (11.2 / 32.2 - .058)} = 107.7 \text{ feet (108' rounded)} \\ \text{WB} &= \frac{(33.8)^2}{30 (11.2 / 32.2 + .089)} = 87.2 \text{ feet (88' rounded)} \end{aligned}$$

Calculate required stopping sight distance:

EB: Distance during perception-reaction time =	113 feet
EB: Braking distance =	<u>108</u> feet
EB: Total SSD =	221 feet
WB: Distance during perception-reaction time =	125 feet
WB: Braking distance =	<u>88</u> feet
WB: Total SSD =	213 feet

Conclusions:

1. The available stopping sight distance looking right from the Lot 1 Driveway (226 feet) exceeds the minimum stopping sight distance for 85th percentile speed (221 feet) and is therefore adequate.
2. The available stopping sight distance looking left from the Lot 1 Driveway (345 feet) exceeds the minimum stopping sight distance for 85th percentile speed (213 feet) and is therefore adequate.



Stephen G. Pernaw & Company, Inc.

Sight Distance Calculations - South Street / Proposed Lot 2&3 Driveway

May 30, 2019

Given:

- A. 85th percentile EB speed = 30.6 mph (Pernaw & Co., Inc. speed survey)
- B. 85th percentile WB speed = 33.8 mph (Pernaw & Co., Inc. speed survey)
- C. Available sight distance "looking right" = 437 feet (Ambit "Driveway Plan," Sheet C3, dated March 2019, revised 5/9/19.)
- D. Available sight distance "looking left" = 324 feet (Ambit "Driveway Plan," Sheet C3, dated March 2019, revised 5/9/19.)

Calculate distance traveled during perception-reaction time

$$\begin{aligned} \text{EB} &= 1.47 \times 30.6 \times 2.5 = 112.5 \text{ feet (113' rounded)} \\ \text{WB} &= 1.47 \times 33.8 \times 2.5 = 124.2 \text{ feet (125' rounded)} \end{aligned}$$

Calculate average grade during braking distance

$$\begin{aligned} \text{EB average roadway grade} &= 0.0\% \\ \text{WB average roadway grade} &= (61 - 52) / 120' = +0.075\% \end{aligned}$$

Calculate braking distance

$$\begin{aligned} \text{EB} &= \frac{(30.6)^2}{30 (11.2 / 32.2 - .000)} = 89.7 \text{ feet (90' rounded)} \\ \text{WB} &= \frac{(33.8)^2}{30 (11.2 / 32.2 + .075)} = 90.1 \text{ feet (91' rounded)} \end{aligned}$$

Calculate required stopping sight distance:

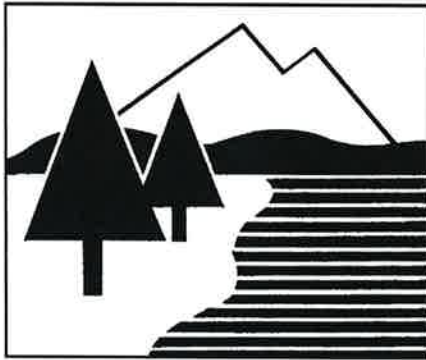
EB: Distance during perception-reaction time =	113 feet
EB: Braking distance =	<u>90</u> feet
EB: Total SSD =	203 feet
WB: Distance during perception-reaction time =	125 feet
WB: Braking distance =	<u>91</u> feet
WB: Total SSD =	216 feet

Conclusions:

1. The available stopping sight distance looking right from the Lot 2&3 Driveway (437 feet) exceeds the minimum stopping sight distance for 85th percentile speed (203 feet) and is therefore adequate.
2. The available stopping sight distance looking left from the Lot 2&3 Driveway (324 feet) exceeds the minimum stopping sight distance for 85th percentile speed (216 feet) and is therefore adequate.

DRAINAGE ANALYSIS
CLEWS SUBDIVISION

699 SOUTH STREET
PORTSMOUTH, NH



JUNE 17, 2019



Ambit Engineering, Inc.

Civil Engineers and Land Surveyors
200 Griffin Road, Unit 3
Portsmouth, NH 03801
Phone: 603.430.9282; Fax: 436.2315
E-mail: djl@ambitengineering.com

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ATTACHMENTS

1. Plan of Existing Subcatchments - W1
2. Plan of Proposed Subcatchments - W2
3. NRCS Soil Survey
4. Precipitation Table
5. Stormwater Management, Maintenance and Inspection Plan – D1

APPENDIX A

1. Results of Drainage Analysis Calculations from the HydroCAD Program Analysis

EXECUTIVE SUMMARY

This drainage analysis examines the existing and proposed condition stormwater drainage patterns for construction of two single residential structures on South Street in Portsmouth, as shown on the City of Portsmouth Assessor's Map 132, Lot 24, proposed lot 1, 2 and 3. The sum of the lot 1, 2 and 3 is 76,889 square-feet (1.7651 ac).

The development will add two single-family residences, with buried utilities and a partially paved and partially driveway on proposed lots 1, 2 and 3. The future development of Lot 1 and 3 has been added in the post construction drainage model. We have used the maximum allowable impervious building area of 25% on lots 1 and 3 to be safe. Lots 1, 2 and 3 will be serviced by City water and sewer.

The development has the potential to increase stormwater runoff to adjacent properties, and therefore must be designed in a manner to prevent that occurrence. This will be done primarily by removing a large portion of gravel driveway and adding infiltration around each new structure.

The design of the stormwater management system not only detains runoff but treats it to the maximum extent possible via infiltration.

DRAINAGE ANALYSIS

PROPOSED SINGLE FAMILY RESIDENCE

799 SOUTH STREET

PORTSMOUTH, NH

INTRODUCTION

This drainage report is designed to assist the owner, planning board, contractor, regulatory reviewer, and others in understanding the impact of the proposed development project on local surface water runoff and quality. The project site is shown on City of Portsmouth Assessor's Map 132 as Lot 24. The proposed development will construct two new single family residences, a paved driveway aprons, and gravel driveways and other improvements.

This report includes information about the existing site and the proposed site necessary to analyze stormwater runoff and design mitigation. The report includes maps of existing and proposed subcatchments and calculations of runoff. The report will provide a brief narrative description of the storm water runoff and describe numerically and graphically the surface water runoff patterns for this site. Proposed stormwater management and treatment structures and methods will also be described. To fully understand the proposed site development the reader should review a complete site plan set as well as this report.

Runoff from the impervious areas will be diverted to a infiltrating stone drip edges that infiltrate cool and outlet stormwater runoff. The design infiltration rate used for design and modeling purposes is 6" per hour. In situ tests performed on similar sites suggest a much higher infiltration rate, however, the average hydraulic conductivity value of 12 was used and a safety factor of 2 was applied for design purposes.

METHODOLOGY

This report uses the US Soil Conservation Service Method for prediction of storm water runoff. The SCS method is published in The National Engineering Handbook, Section 4 "Hydrology", in Technical Release No. 20, (TR-20) "Computer Program for Project Formulation Hydrology", and Technical Release-55 (TR-55) "Urban Hydrology for

Small Watersheds”. This report uses the HydroCAD program, written by Applied Microcomputer Systems, Chocorua, N.H., to apply these methods. Rainfall data is taken from the Extreme Precipitation Tables, Northeast Regional Climate Center, Cornell University x 1.15 safety factor for NH Seacoast Communities. Runoff curve numbers are taken from the Stormwater Management and Erosion and Sediment Control Handbook for Urban and Developing areas in NH.

SITE SPECIFIC INFORMATION

Located on South Street in Portsmouth, the existing 1.765-acre site (three lots) had soils examined via test pits by Douglas J. LaRosa of Ambit Engineering, Inc. on May 30, 2019.

The soils were typical of the soils shown on the site SCS soil maps.

According to the SCS soils the site is exclusively 799 Canton complex, 3 to 15 percent slopes. The existing site is approximately 14.99%% impervious. The “developed” sites is approximated to have impervious cover of 18.49% or a lot 3.50% increase in impervious across the three lots.

The building sites will be located on the east and of the exiting building. Existing driveways will be removed, and two new driveways will be constructed in the area of greatest site distance. A common drive will be used to access lot 3 and the exiting building. This drive will be sloped away from the street. Runoff from this new driveway will be captured in a new rain garden located in rear of the new home (see sheet W2).

DRAINAGE ANALYSIS

This drainage analysis consists of two sections, an analysis of the stormwater runoff from the site in the existing or pre-developed condition, and an analysis of the stormwater runoff from the same area along with the associated proposed development. Areas and drainage information were taken from an existing conditions plan, and site topographic map prepared by Ambit Engineering. Test pits to determine soils and depth to

groundwater were carried out by Douglas LaRosa on May 5, 2019 and SCS Ksat values were used to determine infiltration potential for the Stone Drip Edges.

Existing or Pre-Developed Site Runoff

The existing conditions for this site can be defined by subcatchments (ES1-ES5). Subcatchments were delineated by topography and critical areas of concern. In the pre-developed or existing conditions.

The flow paths used in the stormwater model for this site are primarily shallow concentrated flow due to the small size of the lot and a lack of any well defined drainage channels. The flow paths chosen in both the pre and post developed analysis are meant to be the longest time of concentration flow paths (woods or porous surfaces have longer times of concentration as compared to pavement or lawns), not the longest length of flow path.: See "**Preconstruction Drainage Plan**" – W1.

Proposed or Post-Developed Site Runoff

The lot will be developed to construct two single family residences with a driveway, walkways and a patio. This will increase impervious area that will generate more stormwater runoff. To offset this increase, the stormwater will be infiltrated, so that the post development peak runoff is similar to the pre-developed conditions.

The proposed conditions for this site are defined by seven subcatchments (Ps1, Ps2, Ps2a Ps3, Ps4, Ps4a, and Ps5).

The proposed plan was designed to mimic the existing drainage patterns to the greatest extent possible.

Subcatchment Ps1d is the porous paver patio area behind the house. Subcatchment Ps1e is the area west and behind the house, including the rear roof of the garage that flows into Level Lip Spreader P1e.

The total amount of impervious area on Lot 2 after the lot is developed will be 19.1% (7,054 s.f.). Runoff from 72.8% of Lots 1 and 2 that will be captured and treated.

See the attached drainage calculation for postconstruction drainage analysis

Peak Flow Rates

One of the main goals of any stormwater runoff analysis is to maintain peak runoff amounts at or below pre-developed levels. For this development, this is accomplished at all property boundaries using a Stone Drip Edges and infiltration trenches which detain and infiltrate and treat runoff. The following summary describes the peak flow and runoff from the existing to developed conditions:

Design Point	Q2 (CFS)		Q10 (CFS)		Q25 (CFS)		Q50 (CFS)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
DP1	0.26	0.10	0.65	0.30	1.01	0.50	1.36	0.69
DP2	1.03	0.30	2.46	2.25	3.73	3.59	4.96	4.91
DP3	0.01	0.01	0.03	0.03	0.06	0.06	0.09	0.09
DP4	0.13	0.14	0.52	0.48	0.88	0.81	1.24	1.14
DP5	0.28	0.22	0.76	0.61	1.21	0.97	1.64	1.33

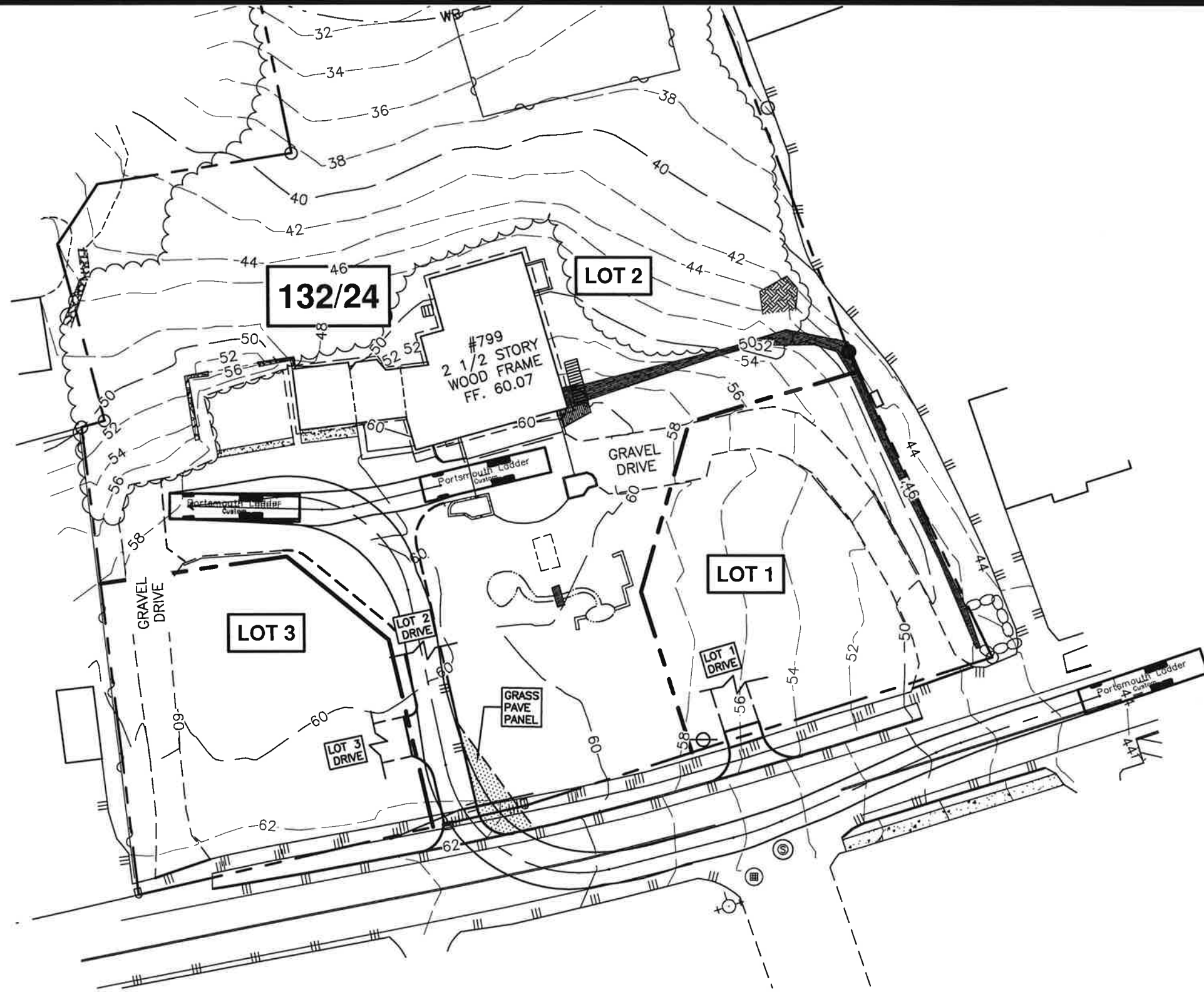
The 2, 10, 25 and 50 year Post development peak rate of run-off shows a decrease from Pre-development peak rate of run-off which complies with City of Portsmouth requirements.

Conclusion

The proposed Clews Subdivision can be developed with the proposed site improvements and stormwater features described herein and create no negative impacts on abutting properties. The undeveloped Lots 1 and 3 can be developed with no negative impacts on abutting properties. This is possible because runoff from the site is being detained and infiltrated. This is consistent with NHDES goals of infiltrating runoff from new developments. This meets the requirements of the City of Portsmouth in terms of stormwater management and treatment.

J:\JOBS\1\UN17305\UN17305\1736\2018 Subdivision\Plans & Specs\Site\Fire Truck Turn\1736 SUBDIVISION AUTOTURN CAD 2018.dwg. TURN

1998
MAGNETIC
R.C.R.D.
D-26381



FIRE TRUCK TURNING PLAN
FOR

CLEWS SUBDIVISION
799 SOUTH STREET
PORTSMOUTH, N.H.

SCALE: 1" = 40'

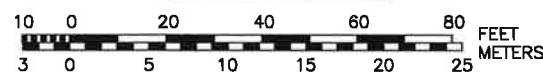
MAY 2019



AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors

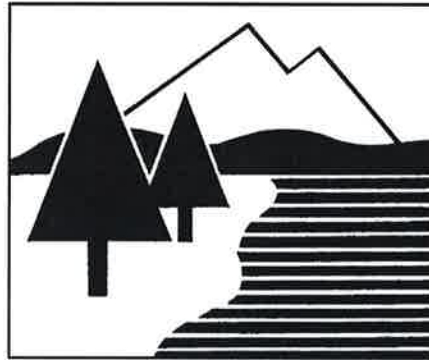
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

GRAPHIC SCALE



DRAINAGE ANALYSIS
CLEWS SUBDIVISION

799 SOUTH STREET
PORTSMOUTH, NH



JUNE 17, 2019



Ambit Engineering, Inc.

Civil Engineers and Land Surveyors
200 Griffin Road, Unit 3
Portsmouth, NH 03801
Phone: 603.430.9282; Fax: 436.2315
E-mail: djl@ambitengineering.com

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Site Specific Information	3
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Peak Flow Rates	5
Conclusion	5

ATTACHMENTS

1. Plan of Existing Subcatchments - W1
2. Plan of Proposed Subcatchments - W2
3. NRCS Soil Survey
4. Precipitation Table
5. Stormwater Management, Maintenance and Inspection Plan – D1

APPENDIX A

1. Results of Drainage Analysis Calculations from the HydroCAD Program Analysis

EXECUTIVE SUMMARY

This drainage analysis examines the existing and proposed condition stormwater drainage patterns for construction of two single residential structures on South Street in Portsmouth, as shown on the City of Portsmouth Assessor's Map 132, Lot 24. The plan is to subdivide 1 lot into Proposed Lot 1, 2 and 3. The existing lot is 76,889 square-feet (1.7651 ac) in area.

The development will add two single-family residences, with buried utilities and a partially paved and partially graveled driveway on proposed Lots 1, 2 and 3. The future development of Lot 1 and 3 has been added in the post construction drainage model in a conceptual design. We have used the maximum allowable impervious building area of 25% on Lots 1 and 3 to be conservative. Lots 1, 2 and 3 will be serviced by City water and sewer.

The development has the potential to increase stormwater runoff to adjacent properties, and therefore must be designed in a manner to prevent that occurrence. This will be done primarily by removing a large portion of gravel driveway and adding infiltration around each new structure.

The design of the stormwater management system not only detains runoff but treats it to the maximum extent possible via infiltration.

DRAINAGE ANALYSIS
PROPOSED SINGLE FAMILY RESIDENCE
799 SOUTH STREET
PORTSMOUTH, NH

INTRODUCTION

This drainage report is designed to assist the owner, planning board, contractor, regulatory reviewer, and others in understanding the impact of the proposed development project on local surface water runoff and quality. The project site is shown on City of Portsmouth Assessor's Map 132 as Lot 24. The proposed development will construct two new single family residences, paved driveway aprons, gravel driveways, and other improvements.

This report includes information about the existing site and the proposed site necessary to analyze stormwater runoff and design mitigation. The report includes maps of existing and proposed subcatchments and calculations of runoff. The report will provide a brief narrative description of the storm water runoff and describe numerically and graphically the surface water runoff patterns for this site. Proposed stormwater management and treatment structures and methods will also be described. To fully understand the proposed site development the reader should review a complete site plan set as well as this report.

Runoff from the impervious roof areas will be diverted to a stone drip edges that will infiltrate, cool, and outlet stormwater runoff. The design infiltration rate used for design and modeling purposes is 6" per hour. In situ tests performed on similar sites suggest a much higher infiltration rate, however, the average hydraulic conductivity value of 12 was used and a safety factor of 2 was applied for design purposes.

METHODOLOGY

This report uses the US Soil Conservation Service Method for prediction of storm water runoff. The SCS method is published in The National Engineering Handbook, Section 4 "Hydrology", in Technical Release No. 20, (TR-20) "Computer Program for Project Formulation Hydrology", and Technical Release-55 (TR-55) "Urban Hydrology for

Small Watersheds”. This report uses the HydroCAD program, written by Applied Microcomputer Systems, Chocorua, N.H., to apply these methods. Rainfall data is taken from the Extreme Precipitation Tables, Northeast Regional Climate Center, Cornell University x 1.15 safety factor for NH Seacoast Communities. Runoff curve numbers are taken from the Stormwater Management and Erosion and Sediment Control Handbook for Urban and Developing areas in NH.

SITE SPECIFIC INFORMATION

Located on South Street in Portsmouth, the existing 1.765-acre site (three proposed lots) had soils examined via test pits by Douglas J. LaRosa of Ambit Engineering, Inc. on May 30, 2019.

The soils were typical of the soils shown on the site SCS soil maps.

According to the SCS soils the site is exclusively 799 Canton complex, 3 to 15 percent slopes. The existing site is approximately 14.99% impervious. The “developed” sites is approximated to have impervious cover of 18.49% or a lot 3.50% increase in impervious across the three lots.

The building sites will be located east and west of the existing building in the front yard. Existing driveways will be removed, and two new driveways will be constructed in the area of greatest sight distance. A common drive will be used to access Lot 3 and the existing building. This drive will be sloped away from the street. Runoff from this new driveway will be captured in an infiltration basin located in rear of the new home (see sheet W2).

DRAINAGE ANALYSIS

This drainage analysis consists of two sections, an analysis of the stormwater runoff from the site in the existing or pre-developed condition, and an analysis of the stormwater runoff from the same area along with the associated proposed development. Areas and drainage information were taken from an existing conditions plan, and site topographic

map prepared by Ambit Engineering. Test pits to determine soils and depth to groundwater were carried out by Douglas LaRosa on May 5, 2019 and SCS Ksat values were used to determine infiltration potential for the Stone Drip Edges.

Existing or Pre-Developed Site Runoff

The existing conditions for this site can be defined by subcatchments (ES1-ES5). Subcatchments were delineated by topography and critical areas of concern. In the pre-developed or existing conditions.

The flow paths used in the stormwater model for this site are primarily shallow concentrated flow due to the small size of the lot and a lack of any well defined drainage channels. The flow paths chosen in both the pre and post developed analysis are meant to be the longest time of concentration flow paths (woods or porous surfaces have longer times of concentration as compared to pavement or lawns), not the longest length of flow path. See "**Preconstruction Drainage Plan**" – W1.

Proposed or Post-Developed Site Runoff

The lot will be developed with the additions of two single family residences with a driveway, walkways and associated development. This will increase impervious area that will generate more stormwater runoff. To offset this increase, the stormwater will be infiltrated, so that the post development peak runoff is similar to the pre-developed conditions.

The proposed conditions for this site are defined by seven subcatchments (Ps1, Ps2, Ps2a Ps3, Ps4, Ps4a, and Ps5).

The proposed plan was designed to mimic the existing drainage patterns to the greatest extent possible.

See the attached drainage calculation for postconstruction drainage analysis.

Peak Flow Rates

One of the main goals of any stormwater runoff analysis is to maintain peak runoff amounts at or below pre-developed levels. For this development, this is accomplished at all property boundaries using a Stone Drip Edges and infiltration trenches which detain and infiltrate and treat runoff. The following summary describes the peak flow and runoff from the existing to developed conditions:

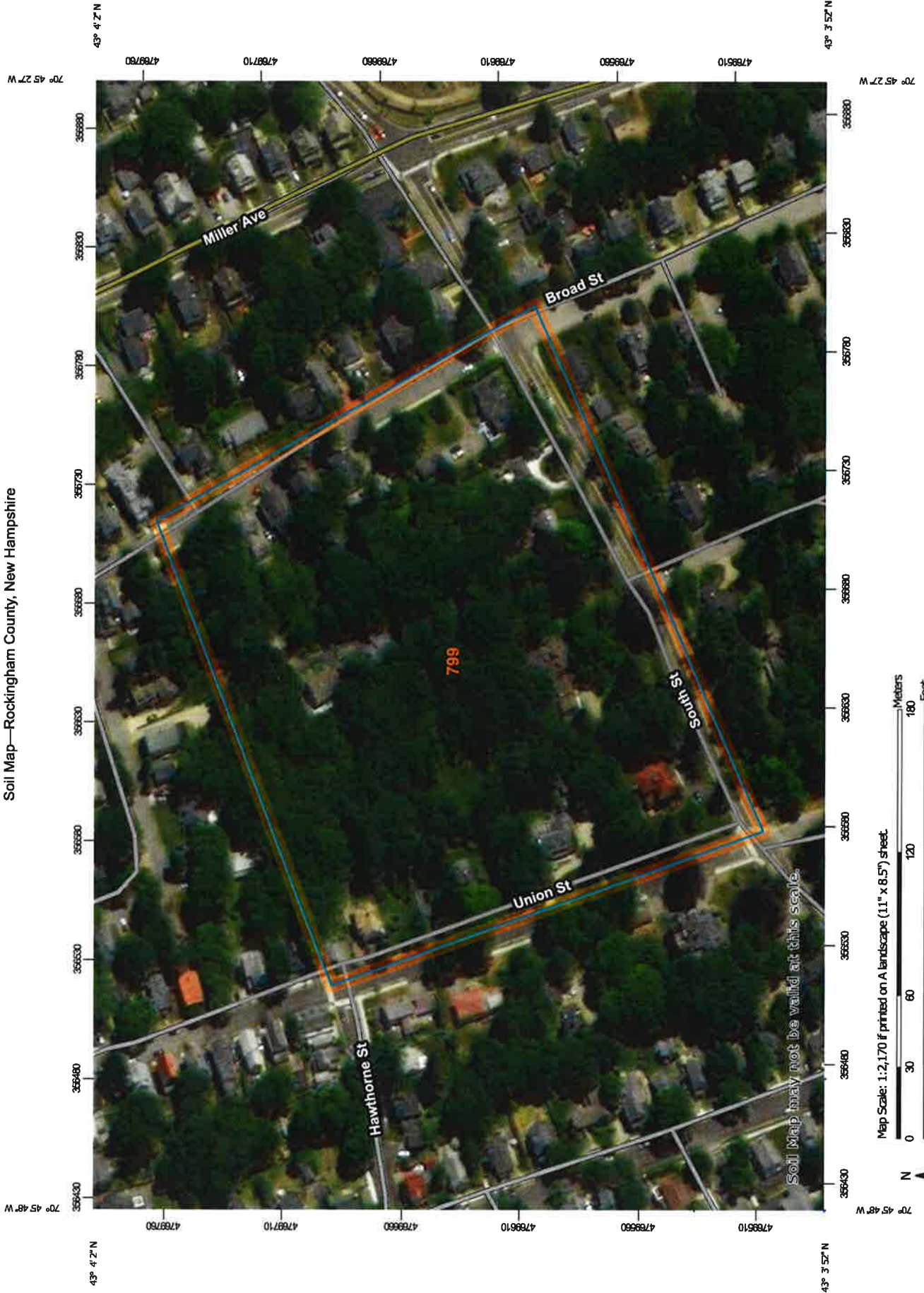
Design Point	Q2 (CFS)		Q10 (CFS)		Q25 (CFS)		Q50 (CFS)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
DP1	0.26	0.10	0.65	0.30	1.01	0.50	1.36	0.69
DP2	1.03	0.30	2.46	2.25	3.73	3.59	4.96	4.91
DP3	0.01	0.01	0.03	0.03	0.06	0.06	0.09	0.09
DP4	0.13	0.14	0.52	0.48	0.88	0.81	1.24	1.14
DP5	0.28	0.22	0.76	0.61	1.21	0.97	1.64	1.33

The 2, 10, 25 and 50 year Post development peak rate of run-off shows a decrease from Pre-development peak rate of run-off which complies with City of Portsmouth requirements.

Conclusion

The proposed Clews Subdivision can be developed with the proposed site improvements and stormwater features described herein and create no negative impacts on abutting properties. The undeveloped Lots 1 and 3 can be developed with no negative impacts on abutting properties. This is possible because runoff from the site is being detained and infiltrated. This is consistent with NHDES goals of infiltrating runoff from new developments. This meets the requirements of the City of Portsmouth in terms of stormwater management and treatment.

Soil Map—Rockingham County, New Hampshire



Map Scale: 1:2,170 if printed on A landscape (11" x 8.5") sheet



MAP LEGEND

- Area of Interest (AOI)
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points
- Special Point Features**
 - Blowout
 - Borrow Pit
 - Clay Spot
 - Closed Depression
 - Gravel Pit
 - Gravelly Spot
 - Landfill
 - Lava Flow
 - Marsh or swamp
 - Mine or Quarry
 - Miscellaneous Water
 - Perennial Water
 - Rock Outcrop
 - Saline Spot
 - Sandy Spot
 - Severely Eroded Spot
 - Sinkhole
 - Slide or Slip
 - Sodic Spot
- Water Features**
 - Streams and Canals
- Transportation**
 - Rails
 - Interstate Highways
 - US Routes
 - Major Roads
 - Local Roads
- Background**
 - Aerial Photography
- Spot Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Rockingham County, New Hampshire
 Survey Area Data: Version 20, Sep 7, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Jun 14, 2017

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres In AOI	Percent of AOI
799	Urban land-Canton complex, 3 to 15 percent slopes	10.5	100.0%
Totals for Area of Interest		10.5	100.0%

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	71.050 degrees West
Latitude	42.993 degrees North
Elevation	0 feet
Date/Time	Mon, 03 Jun 2019 11:04:40 -0400

Storm Event	Rainfall(Inches)	X	1.15	=	Adjusted (inches)
2	3.14	X	1.15	=	3.61
10	4.79	X	1.15	=	5.51
25	6.10	X	1.15	=	7.02
50	7.32	X	1.15	=	8.42

Extreme Precipitation Estimates

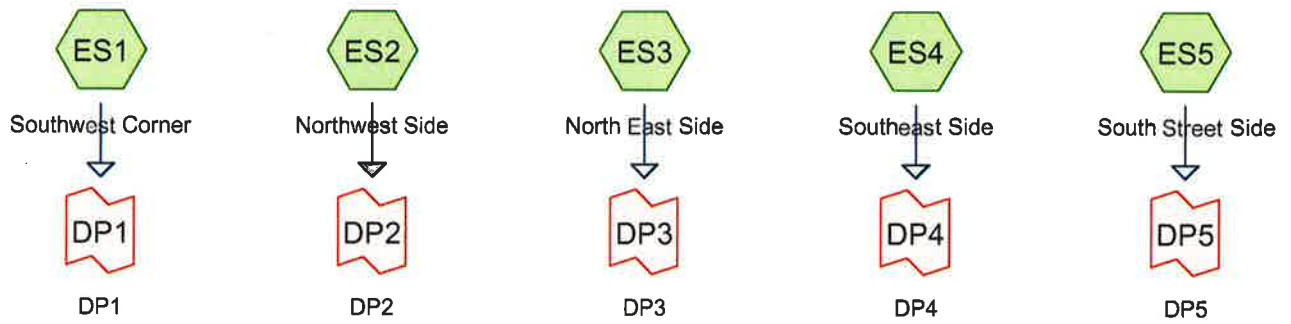
	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.66	0.82	1.04	1yr	0.71	0.99	1.21	1.56	2.02	2.63	2.82	1yr	2.33	2.71	3.12	3.82	4.43	1yr
2yr	0.32	0.50	0.62	0.81	1.02	1.30	2yr	0.88	1.18	1.51	1.92	2.45	3.14	3.48	2yr	2.78	3.35	3.86	4.58	5.22	2yr
5yr	0.37	0.58	0.73	0.98	1.25	1.61	5yr	1.08	1.47	1.89	2.42	3.11	4.00	4.48	5yr	3.54	4.30	4.92	5.85	6.61	5yr
10yr	0.42	0.66	0.83	1.13	1.46	1.90	10yr	1.26	1.73	2.24	2.89	3.72	4.79	5.42	10yr	4.24	5.21	5.92	7.05	7.91	10yr
25yr	0.49	0.77	0.98	1.36	1.80	2.37	25yr	1.56	2.15	2.80	3.64	4.72	6.10	6.98	25yr	5.40	6.71	7.55	9.02	10.04	25yr
50yr	0.55	0.88	1.12	1.57	2.11	2.80	50yr	1.82	2.54	3.34	4.36	5.66	7.32	8.45	50yr	6.48	8.13	9.08	10.88	12.04	50yr
100yr	0.61	0.99	1.28	1.81	2.48	3.32	100yr	2.14	3.00	3.97	5.21	6.78	8.79	10.24	100yr	7.78	9.85	10.93	13.14	14.43	100yr
200yr	0.70	1.14	1.47	2.11	2.91	3.93	200yr	2.51	3.55	4.72	6.22	8.12	10.56	12.41	200yr	9.35	11.93	13.15	15.88	17.32	200yr
500yr	0.82	1.35	1.76	2.56	3.60	4.92	500yr	3.11	4.44	5.93	7.87	10.33	13.46	16.01	500yr	11.91	15.39	16.80	20.41	22.05	500yr

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.24	0.36	0.44	0.60	0.73	0.89	1yr	0.63	0.87	0.98	1.27	1.54	2.19	2.54	1yr	1.94	2.44	2.86	3.52	3.96	1yr
2yr	0.31	0.49	0.60	0.81	1.00	1.18	2yr	0.86	1.16	1.36	1.80	2.31	3.05	3.35	2yr	2.70	3.22	3.73	4.39	5.02	2yr
5yr	0.36	0.55	0.68	0.93	1.19	1.41	5yr	1.02	1.38	1.61	2.11	2.71	3.63	4.01	5yr	3.21	3.86	4.42	5.48	6.00	5yr
10yr	0.39	0.60	0.75	1.05	1.35	1.62	10yr	1.17	1.58	1.81	2.39	3.05	4.12	4.58	10yr	3.65	4.40	5.03	6.42	6.79	10yr

APPENDIX A

HydroCAD Pre & Post Runoff Models



Routing Diagram for 1736-Pre
 Prepared by AMBIT ENGINEERING, INC
 HydroCAD® 10.00 s/n 00801 © 2013 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.350	61	>75% Grass cover, Good, HSG B (ES1, ES2)
0.162	96	Gravel surface, HSG B (ES1, ES2, ES5)
0.115	98	Paved parking, HSG B (ES1, ES2, ES5)
0.104	98	Roofs, HSG B (ES2, ES4, ES5)
0.020	98	Unconnected pavement, HSG B (ES4, ES5)
0.026	98	Unconnected roofs, HSG B (ES2)
0.995	58	Woods/grass comb., Good, HSG B (ES1, ES2, ES3, ES4, ES5)
1.773	68	TOTAL AREA

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.773	HSG B	ES1, ES2, ES3, ES4, ES5
0.000	HSG C	
0.000	HSG D	
0.000	Other	
1.773		TOTAL AREA

Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment ES1: Southwest Corner Runoff Area=12,869 sf 4.56% Impervious Runoff Depth=0.97"
Flow Length=168' Tc=10.6 min CN=68 Runoff=0.26 cfs 0.024 af

Subcatchment ES2: Northwest Side Runoff Area=37,092 sf 23.88% Impervious Runoff Depth=1.08"
Flow Length=325' Tc=5.2 min UI Adjusted CN=70 Runoff=1.03 cfs 0.076 af

Subcatchment ES3: North East Side Runoff Area=1,130 sf 0.00% Impervious Runoff Depth=0.50"
Flow Length=141' Tc=10.5 min CN=58 Runoff=0.01 cfs 0.001 af

Subcatchment ES4: Southeast Side Runoff Area=12,325 sf 11.47% Impervious Runoff Depth=0.62"
Flow Length=126' Tc=6.0 min UI Adjusted CN=61 Runoff=0.15 cfs 0.015 af

Subcatchment ES5: South Street Side Runoff Area=13,799 sf 5.20% Impervious Runoff Depth=0.86"
Flow Length=141' Tc=5.6 min CN=66 Runoff=0.28 cfs 0.023 af

Link DP1: DP1 Inflow=0.26 cfs 0.024 af
Primary=0.26 cfs 0.024 af

Link DP2: DP2 Inflow=1.03 cfs 0.076 af
Primary=1.03 cfs 0.076 af

Link DP3: DP3 Inflow=0.01 cfs 0.001 af
Primary=0.01 cfs 0.001 af

Link DP4: DP4 Inflow=0.15 cfs 0.015 af
Primary=0.15 cfs 0.015 af

Link DP5: DP5 Inflow=0.28 cfs 0.023 af
Primary=0.28 cfs 0.023 af

Total Runoff Area = 1.773 ac Runoff Volume = 0.139 af Average Runoff Depth = 0.94"
85.01% Pervious = 1.507 ac 14.99% Impervious = 0.266 ac

Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment ES1: Southwest Corner Runoff Area=12,869 sf 4.56% Impervious Runoff Depth=2.25"
 Flow Length=168' Tc=10.6 min CN=68 Runoff=0.65 cfs 0.055 af

Subcatchment ES2: Northwest Side Runoff Area=37,092 sf 23.88% Impervious Runoff Depth=2.42"
 Flow Length=325' Tc=5.2 min UI Adjusted CN=70 Runoff=2.46 cfs 0.172 af

Subcatchment ES3: North East Side Runoff Area=1,130 sf 0.00% Impervious Runoff Depth=1.46"
 Flow Length=141' Tc=10.5 min CN=58 Runoff=0.03 cfs 0.003 af

Subcatchment ES4: Southeast Side Runoff Area=12,325 sf 11.47% Impervious Runoff Depth=1.69"
 Flow Length=126' Tc=6.0 min UI Adjusted CN=61 Runoff=0.52 cfs 0.040 af

Subcatchment ES5: South Street Side Runoff Area=13,799 sf 5.20% Impervious Runoff Depth=2.08"
 Flow Length=141' Tc=5.6 min CN=66 Runoff=0.76 cfs 0.055 af

Link DP1: DP1 Inflow=0.65 cfs 0.055 af
 Primary=0.65 cfs 0.055 af

Link DP2: DP2 Inflow=2.46 cfs 0.172 af
 Primary=2.46 cfs 0.172 af

Link DP3: DP3 Inflow=0.03 cfs 0.003 af
 Primary=0.03 cfs 0.003 af

Link DP4: DP4 Inflow=0.52 cfs 0.040 af
 Primary=0.52 cfs 0.040 af

Link DP5: DP5 Inflow=0.76 cfs 0.055 af
 Primary=0.76 cfs 0.055 af

Total Runoff Area = 1.773 ac Runoff Volume = 0.325 af Average Runoff Depth = 2.20"
85.01% Pervious = 1.507 ac 14.99% Impervious = 0.266 ac

Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment ES1: Southwest Corner Runoff Area=12,869 sf 4.56% Impervious Runoff Depth=3.43"
 Flow Length=168' Tc=10.6 min CN=68 Runoff=1.01 cfs 0.084 af

Subcatchment ES2: Northwest Side Runoff Area=37,092 sf 23.88% Impervious Runoff Depth=3.64"
 Flow Length=325' Tc=5.2 min UI Adjusted CN=70 Runoff=3.73 cfs 0.258 af

Subcatchment ES3: North East Side Runoff Area=1,130 sf 0.00% Impervious Runoff Depth=2.42"
 Flow Length=141' Tc=10.5 min CN=58 Runoff=0.06 cfs 0.005 af

Subcatchment ES4: Southeast Side Runoff Area=12,325 sf 11.47% Impervious Runoff Depth=2.72"
 Flow Length=126' Tc=6.0 min UI Adjusted CN=61 Runoff=0.88 cfs 0.064 af

Subcatchment ES5: South Street Side Runoff Area=13,799 sf 5.20% Impervious Runoff Depth=3.22"
 Flow Length=141' Tc=5.6 min CN=66 Runoff=1.21 cfs 0.085 af

Link DP1: DP1 Inflow=1.01 cfs 0.084 af
 Primary=1.01 cfs 0.084 af

Link DP2: DP2 Inflow=3.73 cfs 0.258 af
 Primary=3.73 cfs 0.258 af

Link DP3: DP3 Inflow=0.06 cfs 0.005 af
 Primary=0.06 cfs 0.005 af

Link DP4: DP4 Inflow=0.88 cfs 0.064 af
 Primary=0.88 cfs 0.064 af

Link DP5: DP5 Inflow=1.21 cfs 0.085 af
 Primary=1.21 cfs 0.085 af

Total Runoff Area = 1.773 ac Runoff Volume = 0.497 af Average Runoff Depth = 3.36"
85.01% Pervious = 1.507 ac 14.99% Impervious = 0.266 ac

Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment ES1: Southwest Corner Runoff Area=12,869 sf 4.56% Impervious Runoff Depth=4.59"
 Flow Length=168' Tc=10.6 min CN=68 Runoff=1.36 cfs 0.113 af

Subcatchment ES2: Northwest Side Runoff Area=37,092 sf 23.88% Impervious Runoff Depth=4.83"
 Flow Length=325' Tc=5.2 min UI Adjusted CN=70 Runoff=4.96 cfs 0.343 af

Subcatchment ES3: North East Side Runoff Area=1,130 sf 0.00% Impervious Runoff Depth=3.42"
 Flow Length=141' Tc=10.5 min CN=58 Runoff=0.09 cfs 0.007 af

Subcatchment ES4: Southeast Side Runoff Area=12,325 sf 11.47% Impervious Runoff Depth=3.77"
 Flow Length=126' Tc=6.0 min UI Adjusted CN=61 Runoff=1.24 cfs 0.089 af

Subcatchment ES5: South Street Side Runoff Area=13,799 sf 5.20% Impervious Runoff Depth=4.35"
 Flow Length=141' Tc=5.6 min CN=66 Runoff=1.64 cfs 0.115 af

Link DP1: DP1 Inflow=1.36 cfs 0.113 af
 Primary=1.36 cfs 0.113 af

Link DP2: DP2 Inflow=4.96 cfs 0.343 af
 Primary=4.96 cfs 0.343 af

Link DP3: DP3 Inflow=0.09 cfs 0.007 af
 Primary=0.09 cfs 0.007 af

Link DP4: DP4 Inflow=1.24 cfs 0.089 af
 Primary=1.24 cfs 0.089 af

Link DP5: DP5 Inflow=1.64 cfs 0.115 af
 Primary=1.64 cfs 0.115 af

Total Runoff Area = 1.773 ac Runoff Volume = 0.667 af Average Runoff Depth = 4.51"
85.01% Pervious = 1.507 ac 14.99% Impervious = 0.266 ac

Summary for Subcatchment ES1: Southwest Corner

Runoff = 0.65 cfs @ 12.15 hrs, Volume= 0.055 af, Depth= 2.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YRX Rainfall=5.51"

Area (sf)	CN	Description
587	98	Paved parking, HSG B
2,003	96	Gravel surface, HSG B
8,903	61	>75% Grass cover, Good, HSG B
1,376	58	Woods/grass comb., Good, HSG B
12,869	68	Weighted Average
12,282		95.44% Pervious Area
587		4.56% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	100	0.0147	0.16		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.61"
0.2	68	0.1191	5.56		Shallow Concentrated Flow, Shallow concentrated Unpaved Kv= 16.1 fps
10.6	168	Total			

Summary for Subcatchment ES2: Northwest Side

Runoff = 2.46 cfs @ 12.08 hrs, Volume= 0.172 af, Depth= 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YRX Rainfall=5.51"

Area (sf)	CN	Adj	Description
4,056	98		Paved parking, HSG B
3,686	98		Roofs, HSG B
2,732	96		Gravel surface, HSG B
6,335	61		>75% Grass cover, Good, HSG B
19,166	58		Woods/grass comb., Good, HSG B
1,117	98		Unconnected roofs, HSG B
37,092	71	70	Weighted Average, UI Adjusted
28,233			76.12% Pervious Area
8,859			23.88% Impervious Area
1,117			12.61% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	100	0.0292	0.51		Sheet Flow, Sheet flow Fallow n= 0.050 P2= 3.61"
1.9	225	0.1504	1.94		Shallow Concentrated Flow, Shallow concentrated Woodland Kv= 5.0 fps
5.2	325	Total			

Summary for Subcatchment ES3: North East Side

Runoff = 0.03 cfs @ 12.16 hrs, Volume= 0.003 af, Depth= 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YRX Rainfall=5.51"

Area (sf)	CN	Description
1,130	58	Woods/grass comb., Good, HSG B
1,130		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.1159	0.17		Sheet Flow, Sheet flow Woods: Light underbrush n= 0.400 P2= 3.61"
0.5	41	0.0834	1.44		Shallow Concentrated Flow, Shallow Concentrated Woodland Kv= 5.0 fps
10.5	141	Total			

Summary for Subcatchment ES4: Southeast Side

Runoff = 0.52 cfs @ 12.10 hrs, Volume= 0.040 af, Depth= 1.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YRX Rainfall=5.51"

Area (sf)	CN	Adj	Description
632	98		Roofs, HSG B
10,911	58		Woods/grass comb., Good, HSG B
782	98		Unconnected pavement, HSG B
12,325	63	61	Weighted Average, UI Adjusted
10,911			88.53% Pervious Area
1,414			11.47% Impervious Area
782			55.30% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	50	0.1665	0.17		Sheet Flow, Sheet flow Woods: Light underbrush n= 0.400 P2= 3.61"
1.0	76	0.0711	1.33		Shallow Concentrated Flow, Shallow Concentrated Flow Woodland Kv= 5.0 fps
6.0	126	Total			

Summary for Subcatchment ES5: South Street Side

Runoff = 0.76 cfs @ 12.09 hrs, Volume= 0.055 af, Depth= 2.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YRX Rainfall=5.51"

Area (sf)	CN	Description
388	98	Paved parking, HSG B
220	98	Roofs, HSG B
2,309	96	Gravel surface, HSG B
10,772	58	Woods/grass comb., Good, HSG B
110	98	Unconnected pavement, HSG B
13,799	66	Weighted Average
13,081		94.80% Pervious Area
718		5.20% Impervious Area
110		15.32% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.3	100	0.0803	0.32		Sheet Flow, Sheet flow Grass: Short n= 0.150 P2= 3.61"
0.3	41	0.1054	2.27		Shallow Concentrated Flow, Shallow Concentrated Short Grass Pasture Kv= 7.0 fps
5.6	141	Total			

Summary for Link DP1: DP1

Inflow Area = 0.295 ac, 4.56% Impervious, Inflow Depth = 2.25" for 10YRX event
 Inflow = 0.65 cfs @ 12.15 hrs, Volume= 0.055 af
 Primary = 0.65 cfs @ 12.15 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Summary for Link DP2: DP2

Inflow Area = 0.852 ac, 23.88% Impervious, Inflow Depth = 2.42" for 10YRX event
 Inflow = 2.46 cfs @ 12.08 hrs, Volume= 0.172 af
 Primary = 2.46 cfs @ 12.08 hrs, Volume= 0.172 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Summary for Link DP3: DP3

Inflow Area = 0.026 ac, 0.00% Impervious, Inflow Depth = 1.46" for 10YRX event
 Inflow = 0.03 cfs @ 12.16 hrs, Volume= 0.003 af
 Primary = 0.03 cfs @ 12.16 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Summary for Link DP4: DP4

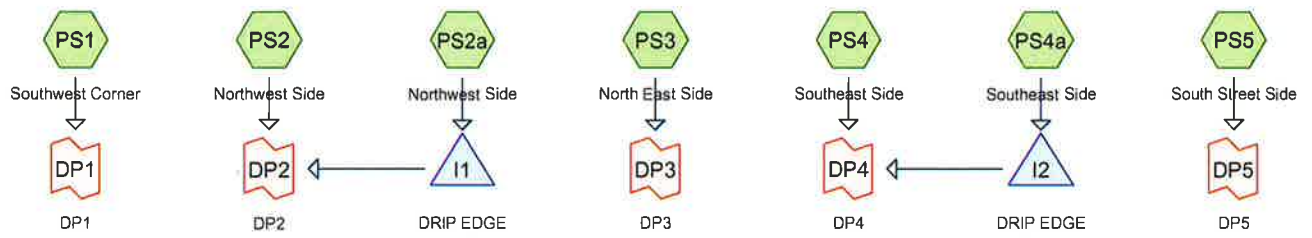
Inflow Area = 0.283 ac, 11.47% Impervious, Inflow Depth = 1.69" for 10YRX event
 Inflow = 0.52 cfs @ 12.10 hrs, Volume= 0.040 af
 Primary = 0.52 cfs @ 12.10 hrs, Volume= 0.040 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Summary for Link DP5: DP5

Inflow Area = 0.317 ac, 5.20% Impervious, Inflow Depth = 2.08" for 10YRX event
Inflow = 0.76 cfs @ 12.09 hrs, Volume= 0.055 af
Primary = 0.76 cfs @ 12.09 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs



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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.160	61	>75% Grass cover, Good, HSG B (PS1, PS2, PS4, PS5)
0.023	50	Drip Edge, HSG B (PS2, PS4)
0.001	50	Dripe Edge, HSG B (PS5)
0.043	96	Gravel surface, HSG B (PS1, PS4, PS5)
0.037	98	Paved parking, HSG B (PS1, PS2, PS5)
0.207	98	Roofs, HSG B (PS2, PS4, PS4a, PS5)
0.015	98	Unconnected pavement, HSG B (PS5)
0.077	98	Unconnected roofs, HSG B (PS2, PS2a)
1.261	58	Woods/grass comb., Good, HSG B (PS1, PS2, PS3, PS4, PS5)
1.824	66	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.824	HSG B	PS1, PS2, PS2a, PS3, PS4, PS4a, PS5
0.000	HSG C	
0.000	HSG D	
0.000	Other	
1.824		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.160	0.000	0.000	0.000	0.160	>75% Grass cover, Good	PS1, PS2, PS4, PS5
0.000	0.023	0.000	0.000	0.000	0.023	Drip Edge	PS2, PS4
0.000	0.001	0.000	0.000	0.000	0.001	Dripe Edge	PS5
0.000	0.043	0.000	0.000	0.000	0.043	Gravel surface	PS1, PS4, PS5
0.000	0.037	0.000	0.000	0.000	0.037	Paved parking	PS1, PS2, PS5
0.000	0.207	0.000	0.000	0.000	0.207	Roofs	PS2, PS4, PS4a, PS5
0.000	0.015	0.000	0.000	0.000	0.015	Unconnected pavement	PS5
0.000	0.077	0.000	0.000	0.000	0.077	Unconnected roofs	PS2, PS2a
0.000	1.261	0.000	0.000	0.000	1.261	Woods/grass comb., Good	PS1, PS2, PS3, PS4, PS5
0.000	1.824	0.000	0.000	0.000	1.824	TOTAL AREA	

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Type III 24-hr 2YRX Rainfall=3.61"

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Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PS1: Southwest Corner	Runoff Area=7,502 sf 5.51% Impervious Runoff Depth=0.71" Flow Length=168' Tc=10.6 min CN=63 Runoff=0.10 cfs 0.010 af
Subcatchment PS2: Northwest Side	Runoff Area=41,920 sf 18.46% Impervious Runoff Depth=0.81" Flow Length=325' Tc=5.2 min CN=65 Runoff=0.80 cfs 0.065 af
Subcatchment PS2a: Northwest Side	Runoff Area=2,250 sf 100.00% Impervious Runoff Depth>3.31" Flow Length=325' Tc=5.2 min CN=98 Runoff=0.19 cfs 0.014 af
Subcatchment PS3: North East Side	Runoff Area=1,130 sf 0.00% Impervious Runoff Depth=0.50" Flow Length=141' Tc=10.5 min CN=58 Runoff=0.01 cfs 0.001 af
Subcatchment PS4: Southeast Side	Runoff Area=12,938 sf 4.88% Impervious Runoff Depth=0.62" Flow Length=176' Tc=9.7 min CN=61 Runoff=0.14 cfs 0.015 af
Subcatchment PS4a: Southeast Side	Runoff Area=2,250 sf 100.00% Impervious Runoff Depth>3.31" Tc=5.0 min CN=98 Runoff=0.19 cfs 0.014 af
Subcatchment PS5: South Street Side	Runoff Area=11,475 sf 12.27% Impervious Runoff Depth=0.81" Flow Length=149' Tc=5.6 min UI Adjusted CN=65 Runoff=0.22 cfs 0.018 af
Pond I1: DRIP EDGE	Peak Elev=55.02' Storage=0.001 af Inflow=0.19 cfs 0.014 af Outflow=0.17 cfs 0.014 af
Pond I2: DRIP EDGE	Peak Elev=51.59' Storage=0.002 af Inflow=0.19 cfs 0.014 af Outflow=0.06 cfs 0.014 af
Link DP1: DP1	Inflow=0.10 cfs 0.010 af Primary=0.10 cfs 0.010 af
Link DP2: DP2	Inflow=0.80 cfs 0.065 af Primary=0.80 cfs 0.065 af
Link DP3: DP3	Inflow=0.01 cfs 0.001 af Primary=0.01 cfs 0.001 af
Link DP4: DP4	Inflow=0.14 cfs 0.015 af Primary=0.14 cfs 0.015 af
Link DP5: DP5	Inflow=0.22 cfs 0.018 af Primary=0.22 cfs 0.018 af

Total Runoff Area = 1.824 ac Runoff Volume = 0.138 af Average Runoff Depth = 0.91"
81.51% Pervious = 1.487 ac 18.49% Impervious = 0.337 ac

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Type III 24-hr 10YRX Rainfall=5.51"

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Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PS1: Southwest Corner	Runoff Area=7,502 sf 5.51% Impervious Runoff Depth=1.84" Flow Length=168' Tc=10.6 min CN=63 Runoff=0.30 cfs 0.026 af
Subcatchment PS2: Northwest Side	Runoff Area=41,920 sf 18.46% Impervious Runoff Depth=2.00" Flow Length=325' Tc=5.2 min CN=65 Runoff=2.25 cfs 0.161 af
Subcatchment PS2a: Northwest Side	Runoff Area=2,250 sf 100.00% Impervious Runoff Depth>5.12" Flow Length=325' Tc=5.2 min CN=98 Runoff=0.29 cfs 0.022 af
Subcatchment PS3: North East Side	Runoff Area=1,130 sf 0.00% Impervious Runoff Depth=1.46" Flow Length=141' Tc=10.5 min CN=58 Runoff=0.03 cfs 0.003 af
Subcatchment PS4: Southeast Side	Runoff Area=12,938 sf 4.88% Impervious Runoff Depth=1.69" Flow Length=176' Tc=9.7 min CN=61 Runoff=0.48 cfs 0.042 af
Subcatchment PS4a: Southeast Side	Runoff Area=2,250 sf 100.00% Impervious Runoff Depth>5.12" Tc=5.0 min CN=98 Runoff=0.29 cfs 0.022 af
Subcatchment PS5: South Street Side	Runoff Area=11,475 sf 12.27% Impervious Runoff Depth=2.00" Flow Length=149' Tc=5.6 min UI Adjusted CN=65 Runoff=0.61 cfs 0.044 af
Pond I1: DRIP EDGE	Peak Elev=55.03' Storage=0.001 af Inflow=0.29 cfs 0.022 af Outflow=0.26 cfs 0.022 af
Pond I2: DRIP EDGE	Peak Elev=52.35' Storage=0.005 af Inflow=0.29 cfs 0.022 af Outflow=0.06 cfs 0.022 af
Link DP1: DP1	Inflow=0.30 cfs 0.026 af Primary=0.30 cfs 0.026 af
Link DP2: DP2	Inflow=2.25 cfs 0.161 af Primary=2.25 cfs 0.161 af
Link DP3: DP3	Inflow=0.03 cfs 0.003 af Primary=0.03 cfs 0.003 af
Link DP4: DP4	Inflow=0.48 cfs 0.042 af Primary=0.48 cfs 0.042 af
Link DP5: DP5	Inflow=0.61 cfs 0.044 af Primary=0.61 cfs 0.044 af

Total Runoff Area = 1.824 ac Runoff Volume = 0.320 af Average Runoff Depth = 2.10"
81.51% Pervious = 1.487 ac 18.49% Impervious = 0.337 ac

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Type III 24-hr 25YRX Rainfall=7.02"

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Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PS1: Southwest Corner	Runoff Area=7,502 sf 5.51% Impervious Runoff Depth=2.92" Flow Length=168' Tc=10.6 min CN=63 Runoff=0.50 cfs 0.042 af
Subcatchment PS2: Northwest Side	Runoff Area=41,920 sf 18.46% Impervious Runoff Depth=3.12" Flow Length=325' Tc=5.2 min CN=65 Runoff=3.59 cfs 0.250 af
Subcatchment PS2a: Northwest Side	Runoff Area=2,250 sf 100.00% Impervious Runoff Depth>6.56" Flow Length=325' Tc=5.2 min CN=98 Runoff=0.37 cfs 0.028 af
Subcatchment PS3: North East Side	Runoff Area=1,130 sf 0.00% Impervious Runoff Depth=2.42" Flow Length=141' Tc=10.5 min CN=58 Runoff=0.06 cfs 0.005 af
Subcatchment PS4: Southeast Side	Runoff Area=12,938 sf 4.88% Impervious Runoff Depth=2.72" Flow Length=176' Tc=9.7 min CN=61 Runoff=0.81 cfs 0.067 af
Subcatchment PS4a: Southeast Side	Runoff Area=2,250 sf 100.00% Impervious Runoff Depth>6.56" Tc=5.0 min CN=98 Runoff=0.37 cfs 0.028 af
Subcatchment PS5: South Street Side	Runoff Area=11,475 sf 12.27% Impervious Runoff Depth=3.12" Flow Length=149' Tc=5.6 min UI Adjusted CN=65 Runoff=0.97 cfs 0.068 af
Pond I1: DRIP EDGE	Peak Elev=55.04' Storage=0.001 af Inflow=0.37 cfs 0.028 af Outflow=0.33 cfs 0.028 af
Pond I2: DRIP EDGE	Peak Elev=53.03' Storage=0.007 af Inflow=0.37 cfs 0.028 af Outflow=0.06 cfs 0.028 af
Link DP1: DP1	Inflow=0.50 cfs 0.042 af Primary=0.50 cfs 0.042 af
Link DP2: DP2	Inflow=3.59 cfs 0.250 af Primary=3.59 cfs 0.250 af
Link DP3: DP3	Inflow=0.06 cfs 0.005 af Primary=0.06 cfs 0.005 af
Link DP4: DP4	Inflow=0.81 cfs 0.067 af Primary=0.81 cfs 0.067 af
Link DP5: DP5	Inflow=0.97 cfs 0.068 af Primary=0.97 cfs 0.068 af

Total Runoff Area = 1.824 ac Runoff Volume = 0.489 af Average Runoff Depth = 3.22"
81.51% Pervious = 1.487 ac 18.49% Impervious = 0.337 ac

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Type III 24-hr 50YRX Rainfall=8.42"

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Time span=5.00-30.00 hrs, dt=0.01 hrs, 2501 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PS1: Southwest Corner	Runoff Area=7,502 sf 5.51% Impervious Runoff Depth=4.00" Flow Length=168' Tc=10.6 min CN=63 Runoff=0.69 cfs 0.057 af
Subcatchment PS2: Northwest Side	Runoff Area=41,920 sf 18.46% Impervious Runoff Depth=4.24" Flow Length=325' Tc=5.2 min CN=65 Runoff=4.91 cfs 0.340 af
Subcatchment PS2a: Northwest Side	Runoff Area=2,250 sf 100.00% Impervious Runoff Depth>7.89" Flow Length=325' Tc=5.2 min CN=98 Runoff=0.44 cfs 0.034 af
Subcatchment PS3: North East Side	Runoff Area=1,130 sf 0.00% Impervious Runoff Depth=3.42" Flow Length=141' Tc=10.5 min CN=58 Runoff=0.09 cfs 0.007 af
Subcatchment PS4: Southeast Side	Runoff Area=12,938 sf 4.88% Impervious Runoff Depth=3.77" Flow Length=176' Tc=9.7 min CN=61 Runoff=1.14 cfs 0.093 af
Subcatchment PS4a: Southeast Side	Runoff Area=2,250 sf 100.00% Impervious Runoff Depth>7.89" Tc=5.0 min CN=98 Runoff=0.44 cfs 0.034 af
Subcatchment PS5: South Street Side	Runoff Area=11,475 sf 12.27% Impervious Runoff Depth=4.24" Flow Length=149' Tc=5.6 min UI Adjusted CN=65 Runoff=1.33 cfs 0.093 af
Pond I1: DRIP EDGE	Peak Elev=55.04' Storage=0.001 af Inflow=0.44 cfs 0.034 af Outflow=0.40 cfs 0.034 af
Pond I2: DRIP EDGE	Peak Elev=53.68' Storage=0.010 af Inflow=0.44 cfs 0.034 af Outflow=0.06 cfs 0.034 af
Link DP1: DP1	Inflow=0.69 cfs 0.057 af Primary=0.69 cfs 0.057 af
Link DP2: DP2	Inflow=4.91 cfs 0.340 af Primary=4.91 cfs 0.340 af
Link DP3: DP3	Inflow=0.09 cfs 0.007 af Primary=0.09 cfs 0.007 af
Link DP4: DP4	Inflow=1.14 cfs 0.093 af Primary=1.14 cfs 0.093 af
Link DP5: DP5	Inflow=1.33 cfs 0.093 af Primary=1.33 cfs 0.093 af

Total Runoff Area = 1.824 ac Runoff Volume = 0.659 af Average Runoff Depth = 4.33"
81.51% Pervious = 1.487 ac 18.49% Impervious = 0.337 ac

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Type III 24-hr 10YRX Rainfall=5.51"

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Summary for Subcatchment PS1: Southwest Corner

Runoff = 0.30 cfs @ 12.16 hrs, Volume= 0.026 af, Depth= 1.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YRX Rainfall=5.51"

Area (sf)	CN	Description
413	98	Paved parking, HSG B
303	96	Gravel surface, HSG B
2,586	61	>75% Grass cover, Good, HSG B
4,200	58	Woods/grass comb., Good, HSG B
7,502	63	Weighted Average
7,089		94.49% Pervious Area
413		5.51% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	100	0.0147	0.16		Sheet Flow, Sheet Flow Grass: Short n= 0.150 P2= 3.61"
0.2	68	0.1191	5.56		Shallow Concentrated Flow, Shallow concentrated Unpaved Kv= 16.1 fps
10.6	168	Total			

Summary for Subcatchment PS2: Northwest Side

Runoff = 2.25 cfs @ 12.08 hrs, Volume= 0.161 af, Depth= 2.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YRX Rainfall=5.51"

Area (sf)	CN	Description
685	98	Paved parking, HSG B
5,936	98	Roofs, HSG B
* 686	50	Drip Edge, HSG B
3,428	61	>75% Grass cover, Good, HSG B
30,068	58	Woods/grass comb., Good, HSG B
1,117	98	Unconnected roofs, HSG B
41,920	65	Weighted Average
34,182		81.54% Pervious Area
7,738		18.46% Impervious Area
1,117		14.44% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	100	0.0292	0.51		Sheet Flow, Sheet flow Fallow n= 0.050 P2= 3.61"
1.9	225	0.1504	1.94		Shallow Concentrated Flow, Shallow concentrated Woodland Kv= 5.0 fps
5.2	325	Total			

Summary for Subcatchment PS2a: Northwest Side

Runoff = 0.29 cfs @ 12.07 hrs, Volume= 0.022 af, Depth> 5.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YRX Rainfall=5.51"

Area (sf)	CN	Description
2,250	98	Unconnected roofs, HSG B
2,250		100.00% Impervious Area
2,250		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	100	0.0292	0.51		Sheet Flow, Sheet flow Fallow n= 0.050 P2= 3.61"
1.9	225	0.1504	1.94		Shallow Concentrated Flow, Shallow concentrated Woodland Kv= 5.0 fps
5.2	325	Total			

Summary for Subcatchment PS3: North East Side

Runoff = 0.03 cfs @ 12.16 hrs, Volume= 0.003 af, Depth= 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YRX Rainfall=5.51"

Area (sf)	CN	Description
1,130	58	Woods/grass comb., Good, HSG B
1,130		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.1159	0.17		Sheet Flow, Sheet flow Woods: Light underbrush n= 0.400 P2= 3.61"
0.5	41	0.0834	1.44		Shallow Concentrated Flow, Shallow Concentrated Woodland Kv= 5.0 fps
10.5	141	Total			

Summary for Subcatchment PS4: Southeast Side

Runoff = 0.48 cfs @ 12.15 hrs, Volume= 0.042 af, Depth= 1.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YRX Rainfall=5.51"

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Type III 24-hr 10YRX Rainfall=5.51"

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Area (sf)	CN	Description
632	98	Roofs, HSG B
* 308	50	Drip Edge, HSG B
509	96	Gravel surface, HSG B
471	61	>75% Grass cover, Good, HSG B
11,018	58	Woods/grass comb., Good, HSG B
12,938	61	Weighted Average
12,306		95.12% Pervious Area
632		4.88% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.7	100	0.1665	0.19		Sheet Flow, Sheet flow Woods: Light underbrush n= 0.400 P2= 3.61"
1.0	76	0.0711	1.33		Shallow Concentrated Flow, Shallow Concentrated Flow Woodland Kv= 5.0 fps
9.7	176	Total			

Summary for Subcatchment PS4a: Southeast Side

Runoff = 0.29 cfs @ 12.07 hrs, Volume= 0.022 af, Depth> 5.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YRX Rainfall=5.51"

Area (sf)	CN	Description
2,250	98	Roofs, HSG B
2,250		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry, TR55 Min

Summary for Subcatchment PS5: South Street Side

Runoff = 0.61 cfs @ 12.09 hrs, Volume= 0.044 af, Depth= 2.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YRX Rainfall=5.51"

1736-POST

Type III 24-hr 10YRX Rainfall=5.51"

Prepared by AMBIT ENGINEERING, INC

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Area (sf)	CN	Adj	Description
535	98		Paved parking, HSG B
220	98		Roofs, HSG B
* 36	50		Dripe Edge, HSG B
1,041	96		Gravel surface, HSG B
464	61		>75% Grass cover, Good, HSG B
8,526	58		Woods/grass comb., Good, HSG B
653	98		Unconnected pavement, HSG B
11,475	66	65	Weighted Average, UI Adjusted
10,067			87.73% Pervious Area
1,408			12.27% Impervious Area
653			46.38% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	50	0.0248	0.17		Sheet Flow, Sheet flow Grass: Short n= 0.150 P2= 3.61"
0.7	99	0.1100	2.32		Shallow Concentrated Flow, Shallow Concentrated Short Grass Pasture Kv= 7.0 fps
5.6	149	Total			

Summary for Pond I1: DRIP EDGE

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.052 ac, 100.00% Impervious, Inflow Depth > 5.12" for 10YRX event
 Inflow = 0.29 cfs @ 12.07 hrs, Volume= 0.022 af
 Outflow = 0.26 cfs @ 12.11 hrs, Volume= 0.022 af, Atten= 10%, Lag= 2.2 min
 Discarded = 0.26 cfs @ 12.11 hrs, Volume= 0.022 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 55.03' @ 12.11 hrs Surf.Area= 0.088 ac Storage= 0.001 af

Plug-Flow detention time= 2.8 min calculated for 0.022 af (100% of inflow)
 Center-of-Mass det. time= 2.7 min (764.1 - 761.4)

Volume	Invert	Avail.Storage	Storage Description
#1	55.00'	0.212 af	24.00'W x 160.00'L x 6.00'H Prismatic 0.529 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	55.00'	6.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 54.00'

Discarded OutFlow Max=0.55 cfs @ 12.11 hrs HW=55.03' (Free Discharge)
 ↑1=Exfiltration (Controls 0.55 cfs)

Summary for Pond I2: DRIP EDGE

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.052 ac, 100.00% Impervious, Inflow Depth > 5.12" for 10YRX event
 Inflow = 0.29 cfs @ 12.07 hrs, Volume= 0.022 af
 Outflow = 0.06 cfs @ 11.73 hrs, Volume= 0.022 af, Atten= 79%, Lag= 0.0 min
 Discarded = 0.06 cfs @ 11.73 hrs, Volume= 0.022 af

Routing by Stor-Ind method, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs
 Peak Elev= 52.35' @ 12.47 hrs Surf.Area= 0.009 ac Storage= 0.005 af

Plug-Flow detention time= 19.0 min calculated for 0.022 af (100% of inflow)
 Center-of-Mass det. time= 18.9 min (780.1 - 761.2)

Volume	Invert	Avail.Storage	Storage Description
#1	51.00'	0.022 af	2.00'W x 200.00'L x 6.00'H Prismatic 0.055 af Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	51.00'	0.06 cfs Exfiltration at all elevations

Discarded OutFlow Max=0.06 cfs @ 11.73 hrs HW=51.06' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.06 cfs)

Summary for Link DP1: DP1

Inflow Area = 0.172 ac, 5.51% Impervious, Inflow Depth = 1.84" for 10YRX event
 Inflow = 0.30 cfs @ 12.16 hrs, Volume= 0.026 af
 Primary = 0.30 cfs @ 12.16 hrs, Volume= 0.026 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Summary for Link DP2: DP2

Inflow Area = 1.014 ac, 22.61% Impervious, Inflow Depth = 1.90" for 10YRX event
 Inflow = 2.25 cfs @ 12.08 hrs, Volume= 0.161 af
 Primary = 2.25 cfs @ 12.08 hrs, Volume= 0.161 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Summary for Link DP3: DP3

Inflow Area = 0.026 ac, 0.00% Impervious, Inflow Depth = 1.46" for 10YRX event
 Inflow = 0.03 cfs @ 12.16 hrs, Volume= 0.003 af
 Primary = 0.03 cfs @ 12.16 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Summary for Link DP4: DP4

Inflow Area = 0.349 ac, 18.98% Impervious, Inflow Depth = 1.44" for 10YRX event
Inflow = 0.48 cfs @ 12.15 hrs, Volume= 0.042 af
Primary = 0.48 cfs @ 12.15 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

Summary for Link DP5: DP5

Inflow Area = 0.263 ac, 12.27% Impervious, Inflow Depth = 2.00" for 10YRX event
Inflow = 0.61 cfs @ 12.09 hrs, Volume= 0.044 af
Primary = 0.61 cfs @ 12.09 hrs, Volume= 0.044 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-30.00 hrs, dt= 0.01 hrs

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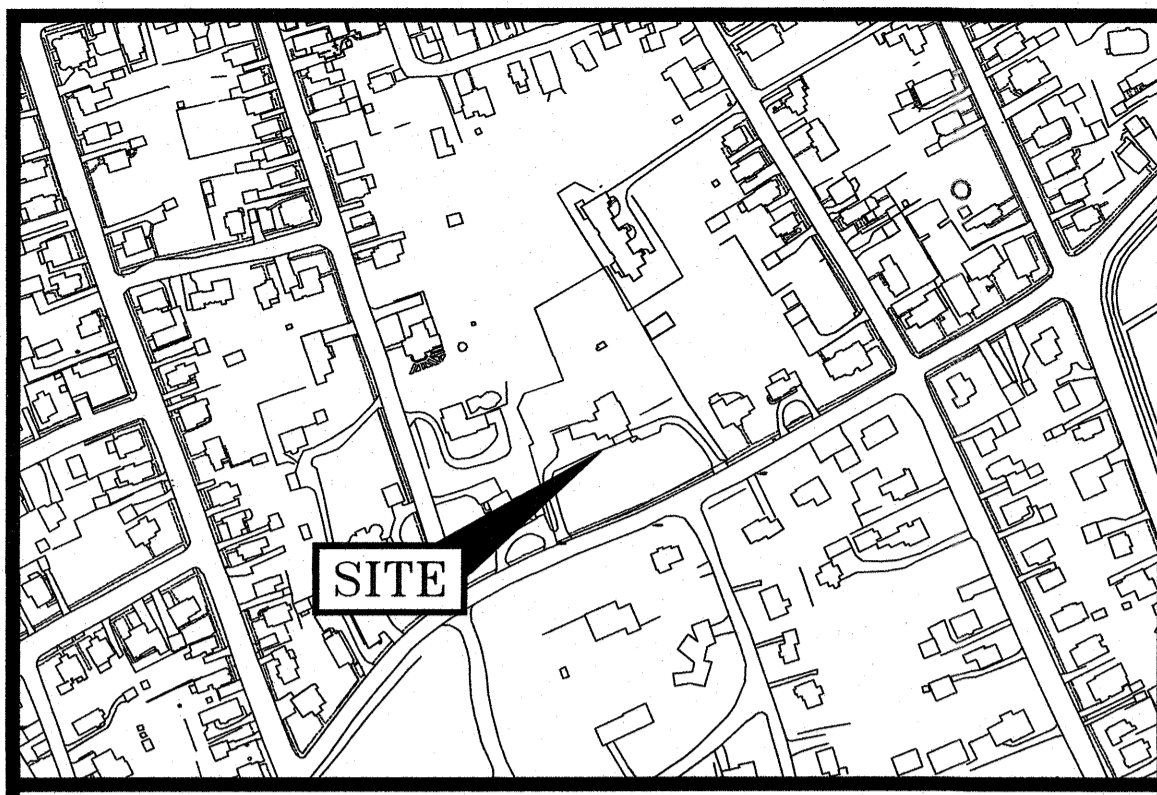
799 South Street

Portsmouth, NH

Area Calculation Worksheet

Done	Soils	Canton B
6/17/19	B	ksat=6

									Area check
Subcatchment.	Pavement	Building	Drip Edge	Gravel	Grass	Woods/grass	Misc. Impervious	Total	
ES1	587	-	-	2,003	8,903	1,376	-	12,869	12,869
ES2	4,056	3,686	-	2,732	6,335	19,166	1,117	37,092	37,092
ES3	-	-	-	-	-	1,130	-	1,130	1,130
ES4	-	632	-	-	-	10,911	782	12,325	12,325
ES5	388	220	-	2,309	2,949	7,823	110	13,799	13,799
TOTAL	5,031	4,538		7,044	18,187	40,406	2,009	77,215	77,215
total lot	77,215								
Subcatchment.	Pavement	Building	Drip Edge	Gravel	Grass	Woods/grass	Misc. Impervious	Total	
PS1	413	-	-	303	2,586	4,200	-	7,502	7,502
PS2	685	3,686	686	3,428	-	30,068	1,117	39,670	39,670
PS2a		2,250						2,250	2,250
PS3	-	-	-	-	-	1,130	-	1,130	1,130
PS4	-	632	308	509	471	11,018	-	12,938	12,938
PS4a		2,250						2,250	2,250
PS5	535	220	36	1,041	464	8,526	653	11,475	11,475
TOTAL	1,633	9,038		5,281	3,521	54,942	1,770	77,215	77,215
77,215	77,215								

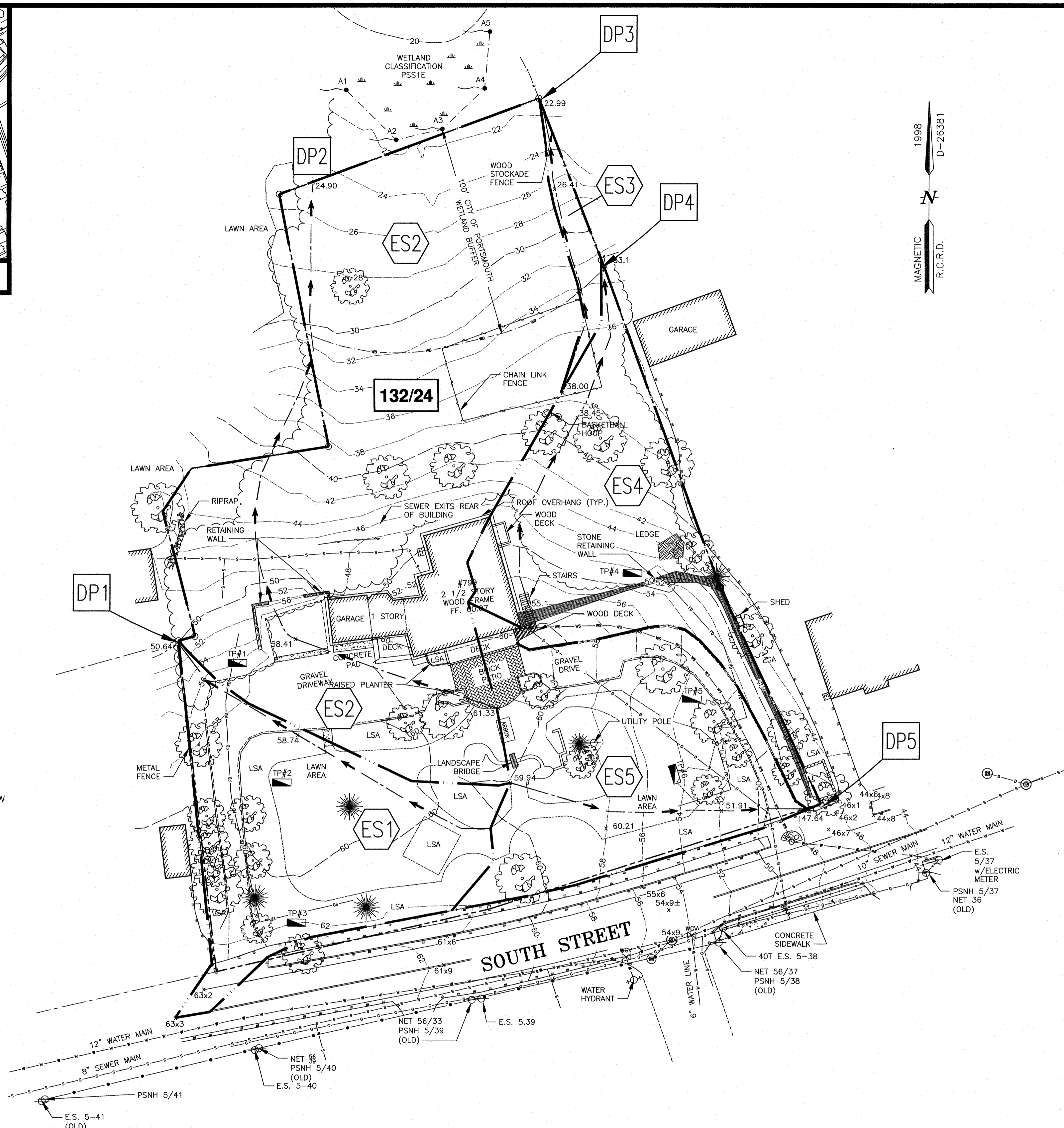


LOCATION MAP

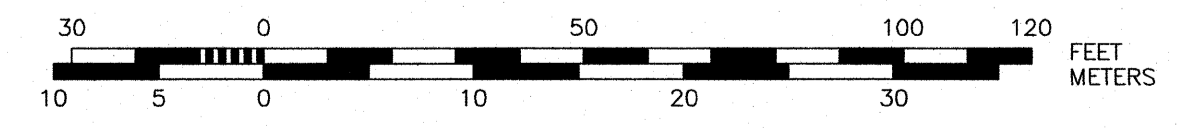
1"=300'

LEGEND

EXISTING	PROPOSED	
- - - D - - -	- - - D - - -	PROPERTY LINE
- - - D - - -	- - - D - - -	STORM DRAIN
- - - 100 - - -	- - - 100 - - -	SILT FENCE
- - - 97x3 - - -	- - - 96x0 - - -	CONTOUR
- - -	- - -	SPOT ELEVATION
- - -	- - -	EDGE OF PAVEMENT (EP)
- - -	- - -	SUBCATCHMENT LINE
ES1	PS1	SUBCATCHMENT NUMBER
1234	1234	AREA IN SQUARE FEET
WOODS	WOODS	DESCRIPTION OF COVER
1	1	POND (DESIGN MODEL)
DP1	DP1	REACH (DESIGN MODEL)
- - -	- - -	DRAINAGE VECTOR
- - -	- - -	EDGE OF WOODS / TREES
■	■	CATCH BASIN
⊙	⊙	DRAIN MANHOLE
⊙	⊙	WELL
EL.	EL.	ELEVATION
EP	EP	EDGE OF PAVEMENT
FF	FF	FINISHED FLOOR
INV	INV	INVERT
TBM	TBM	TEMPORARY BENCH MARK
TYP	TYP	TYPICAL
TYP	TYP	Tc PATH
SF	SF	SHEET FLOW
SCF	SCF	SHALLOW CONCENTRATED FLOW
CHANNEL	CHANNEL	CHANNEL FLOW
H5G	H5G	HYDROLOGIC SOIL GROUP



GRAPHIC SCALE



TEST PIT 1, ELEV.: 56.0
 Date: 5/30/19
 Logged by: DOUG LAROSA
 ESHWT: NONE
 Observed Water: NONE
 Restrictive layer: NONE
 REFUSAL: LEDGE AT 42"
 DEPTH DESCRIPTION
 0" - 42" 10YR 3/3 FINE SANDY LOAM, MASSIVE, FRIABLE, 20% GRAVEL

TEST PIT 2, ELEV. 59.1
 Date: 5/30/19
 Logged by: DOUG LAROSA
 ESHWT: 49" MOTTLES 5YR 7/8
 Observed Water: NONE
 Percolation Rate: 5 MIN/INCH; 12 INCH/HR
 Restrictive layer: NONE
 REFUSAL: LEDGE AT 64"
 DEPTH DESCRIPTION
 0" - 30" 10YR 3/3 FINE SANDY LOAM, MASSIVE, FRIABLE, 15% GRAVEL
 30" - 64" 10YR 5/6 FINE SANDY LOAM, GRANULAR, FRIABLE, 20% COBBLES

TEST PIT 3, ELEV.: 62.0
 Date: 5/30/19
 Logged by: DOUG LAROSA
 ESHWT: NONE
 Observed Water: NONE
 Percolation Rate: 5 MIN/INCH; 12 INCH/HR
 Restrictive layer: NONE
 REFUSAL: LEDGE AT 37"
 DEPTH DESCRIPTION
 0" - 18" 10YR 3/3 FINE SANDY LOAM, MASSIVE, FRIABLE, 20% GRAVEL
 18" - 37" 10YR 5/6 FINE SANDY LOAM, GRANULAR, FRIABLE, ROOTS 36"

TEST PIT 4, ELEV. 48.4
 Date: 5/30/19
 Logged by: DOUG LAROSA
 ESHWT: NONE
 Observed Water: NONE
 Restrictive layer: NONE
 REFUSAL: LEDGE AT 29"
 DEPTH DESCRIPTION
 0" - 13" 10YR 4/3 FINE SANDY LOAM, MASSIVE, FRIABLE
 13" - 29" 10YR 4/6 FINE SANDY LOAM, GRANULAR, FRIABLE, ROOTS 26"

TEST PIT 5, ELEV. 53.5
 Date: 5/30/19
 Logged by: DOUG LAROSA
 ESHWT: NONE
 Observed Water: NONE
 Percolation Rate: 5 MIN/INCH; 12 INCH/HR
 Restrictive layer: NONE
 REFUSAL: LEDGE AT 25"
 DEPTH DESCRIPTION
 0" - 46" 10YR 3/3 FINE SANDY LOAM, MASSIVE, FRIABLE
 46" - 72" 10YR 5/6 FINE SANDY LOAM, GRANULAR, FRIABLE, 20% GRAVEL, ROOTS 65"

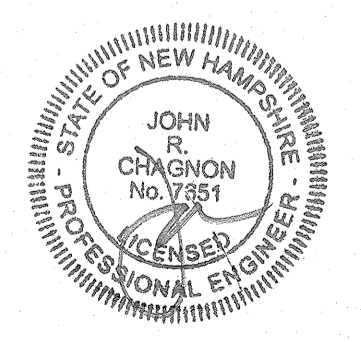
TEST PIT 6, ELEV. 54.5
 Date: 5/30/19
 Logged by: DOUG LAROSA
 ESHWT: NONE
 Observed Water: NONE
 Percolation Rate: 5 MIN/INCH; 12 INCH/HR
 Restrictive layer: NONE
 REFUSAL: LEDGE AT 42"
 DEPTH DESCRIPTION
 0" - 42" 10YR 3/3 FINE SANDY LOAM, MASSIVE, FRIABLE

AMBIT ENGINEERING, INC.
 Civil Engineers & Land Surveyors
 200 Griffin Road - Unit 3
 Portsmouth, N.H. 03801-7114
 Tel (603) 430-9282
 Fax (803) 436-2315

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

CLEWS SUBDIVISION
799 SOUTH STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	6/17/19
REVISIONS		



SCALE 1" = 30' JUNE 2019

PRE-CONSTRUCTION DRAINAGE PLAN
W1

EROSION CONTROL NOTES

CONSTRUCTION SEQUENCE

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

INSTALL PERIMETER CONTROLS, I.E., SILT FENCING OR SILT/SOXX AROUND THE LIMITS OF DISTURBANCE BEFORE ANY EARTH MOVING OPERATIONS. THE USE OF HAY BALES IS NOT ALLOWED.

CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE.

PERFORM CLEARING & GRUBBING

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

BULLDOZE TOPSOIL INTO STOCKPILES, AND CIRCLE WITH SILT FENCING OR SILT/SOXX. IF EROSION IS EXCESSIVE, THEN COVER WITH MULCH.

CONSTRUCT FILTRATION BASINS AND OUTLET, BUT DO NOT ALLOW INFLOW UNTIL ALL CONTRIBUTING AREAS ARE STABILIZED AND EROSION-FREE. ROUGH GRADE SITE. REMOVE AND CRUSH LEDGE, THEN BACKFILL WITH ONSITE SOILS OR GRAVEL IN 12" LIFTS, TYP. ROUGH GRADE SITE. IN LANDSCAPED AREAS OUT OF THE WAY OF SUBSEQUENT CONSTRUCTION ACTIVITY, INSTALL TOPSOIL, MULCH, SEED AND FERTILIZER. STABILIZE STEEPER SLOPES PER DETAILS.

CONSTRUCT FOUNDATIONS.

CONSTRUCT WALLS.

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

CONSTRUCT BUILDING FOUNDATIONS.

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

BUILDING EXTERIOR WORK: LIGHT FIXTURES

INSTALL EXTERIOR LIGHT POLE BASES, AND MAKE FINAL CONNECTIONS TO CONDUIT.

ALL PERMANENT FILTRATION BASINS, DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.

AFTER BUILDING IS COMPLETED FINISH ALL REMAINING LANDSCAPED WORK.

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 SITE.

GENERAL CONSTRUCTION NOTES

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

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

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

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

SILT FENCES AND SILT/SOXX SHALL BE PERIODICALLY INSPECTED DURING THE LIFE OF THE PROJECT AND AFTER EACH STORM. ALL DAMAGED SILT FENCES AND SILT/SOXX SHALL BE REPAIRED. SEDIMENT DEPOSITS SHALL BE PERIODICALLY 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 SILT/SOXX AROUND TOPSOIL STOCKPILE.

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

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

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

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

FILL MATERIAL SHALL NOT BE PLACED ON FROZEN FOUNDATION SUBGRADE.

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

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

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

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

VEGETATIVE PRACTICE

FOR PERMANENT MEASURES AND PLANTINGS:

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

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

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

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

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

GENERAL COVER	PROPORTION	SEEDING RATE
CREeping RED FESCUE	50%	100 LBS/ACRE
KENTUCKY BLUEGRASS	50%	
SLOPE SEED (USED ON ALL SLOPES GREATER THAN OR EQUAL TO 3:1)		
CREeping RED FESCUE	42%	
TALL FESCUE	42%	48 LBS/ACRE
BIRDSFOOT TREFLOID	16%	

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

FOR TEMPORARY PROTECTION OF DISTURBED AREAS:
 MULCHING AND SEEDING SHALL BE APPLIED AT THE FOLLOWING RATES:

PERENNIAL RYE:	0.7 LBS/1,000 S.F.
MULCH:	1.5 TONS/ACRE

MAINTENANCE AND PROTECTION

THE CONTRACTOR SHALL MAINTAIN ALL LOAM & SEED AREAS UNTIL FINAL ACCEPTANCE AT THE COMPLETION OF THE CONTRACT. MAINTENANCE SHALL INCLUDE WATERING, WEEDING, REMOVAL OF STONES AND OTHER FOREIGN OBJECTS OVER 1/2 INCHES IN DIAMETER WHICH MAY APPEAR AND THE FIRST TWO (2) CUTTINGS OF GRASS NO CLOSER THAN 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 RESEDED 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 RESEDED AS NECESSARY TO INSURE VEGETATIVE ESTABLISHMENT.

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

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

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

WINTER NOTES

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

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

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

INSPECTION AND MAINTENANCE PLAN

INTRODUCTION

THE INTENT OF THIS IS TO PROVIDE THE 799 SOUTH STREET LOT OWNERS WITH A LIST OF PROCEDURES THAT DOCUMENT THE INSPECTION AND MAINTENANCE REQUIREMENTS OF THE STORMWATER MANAGEMENT SYSTEM FOR THIS DEVELOPMENT. SPECIFICALLY, THE FILTRATION BASINS AND ASSOCIATED STRUCTURES ON THE PROJECT SITE (COLLECTIVELY REFERRED TO AS THE "STORMWATER MANAGEMENT SYSTEM")

THE FOLLOWING INSPECTION AND MAINTENANCE PROGRAM IS NECESSARY TO KEEP THE STORMWATER MANAGEMENT SYSTEM FUNCTIONING PROPERLY. THESE MEASURES WILL ALSO HELP MINIMIZE POTENTIAL ENVIRONMENTAL IMPACTS. BY FOLLOWING THE ENCLOSED PROCEDURES, THE OWNER WILL BE ABLE TO MAINTAIN THE FUNCTIONAL DESIGN OF THE STORMWATER MANAGEMENT SYSTEM AND MAXIMIZE ITS ABILITY TO REMOVE SEDIMENT AND OTHER CONTAMINANTS FROM THE SITE GENERATED STORMWATER RUNOFF.

STORMWATER MANAGEMENT SYSTEM COMPONENTS

THE STORMWATER MANAGEMENT SYSTEM IS DESIGNED TO MITIGATE BOTH THE QUANTITY AND QUALITY OF SITE-GENERATED RUNOFF. AS THE RESULT, THE DESIGN INCLUDES THE FOLLOWING ELEMENTS:

NON-STRUCTURAL BMP'S

NON-STRUCTURAL BEST MANAGEMENT PRACTICES (BMP'S) INCLUDE TEMPORARY AND PERMANENT MEASURES THAT TYPICALLY REQUIRE LESS LABOR AND CAPITAL INPUTS AND ARE INTENDED TO PROVIDE PROTECTION AGAINST EROSION OF SOILS. EXAMPLES OF NON-STRUCTURAL BMP'S ON THIS PROJECT INCLUDE BUT ARE NOT LIMITED TO: TEMPORARY AND PERMANENT MULCHING, TEMPORARY AND PERMANENT GRASS COVER, TREES, SHRUBS AND GROUND COVERS, MISCELLANEOUS LANDSCAPE PLANTINGS, DUST CONTROL, TREE PROTECTION, TOPSOILING, SEDIMENT BARRIERS, AND DURING CONSTRUCTION, STABILIZED CONSTRUCTION ENTRANCES.

STRUCTURAL BMP'S

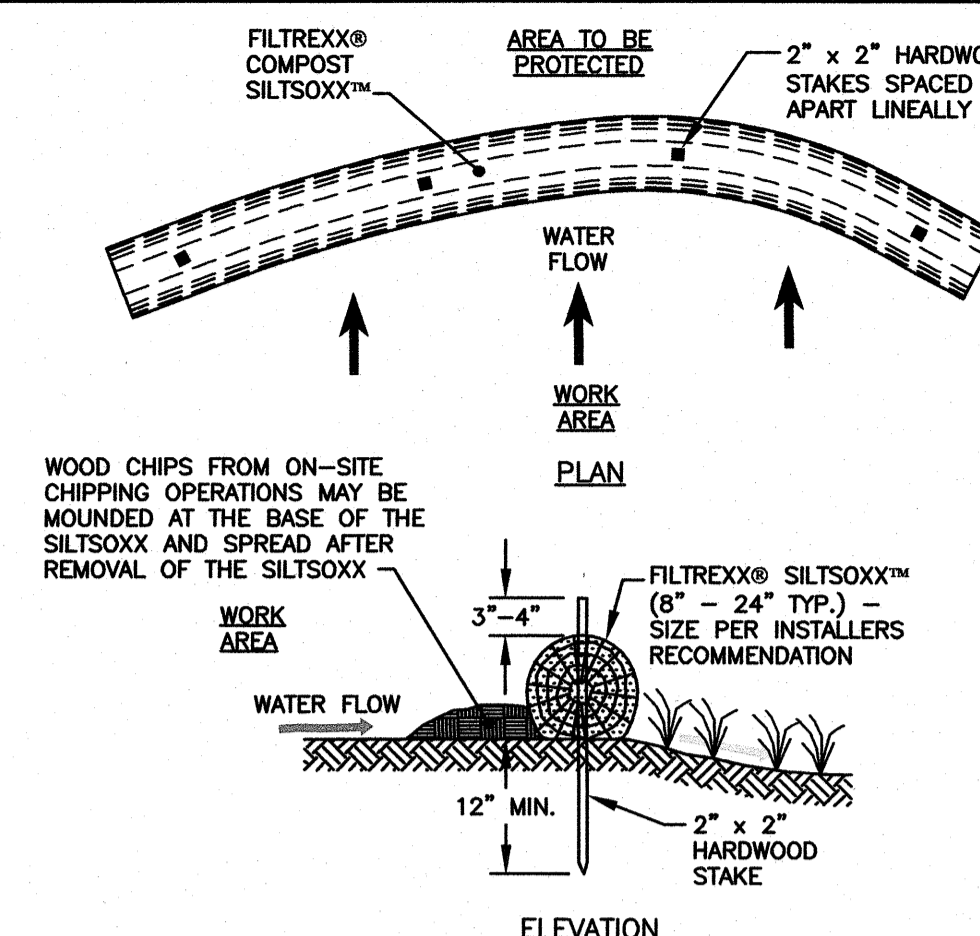
STRUCTURAL BMP'S REQUIRE MORE SPECIALIZED PERSONNEL TO INSTALL. EXAMPLES ON THE PROJECT INCLUDE BUT ARE NOT LIMITED TO: STORM DRAINS, THE FILTRATION BASIN, AND ASSOCIATED OUTLET CONTROL STRUCTURES, AND INFILTRATION TRENCH DETAIL.

INSPECTION AND MAINTENANCE REQUIREMENTS

THE FOLLOWING SUMMARIZES THE INSPECTION AND MAINTENANCE REQUIREMENTS FOR THE VARIOUS BMP'S THAT MAY BE FOUND ON THIS PROJECT:

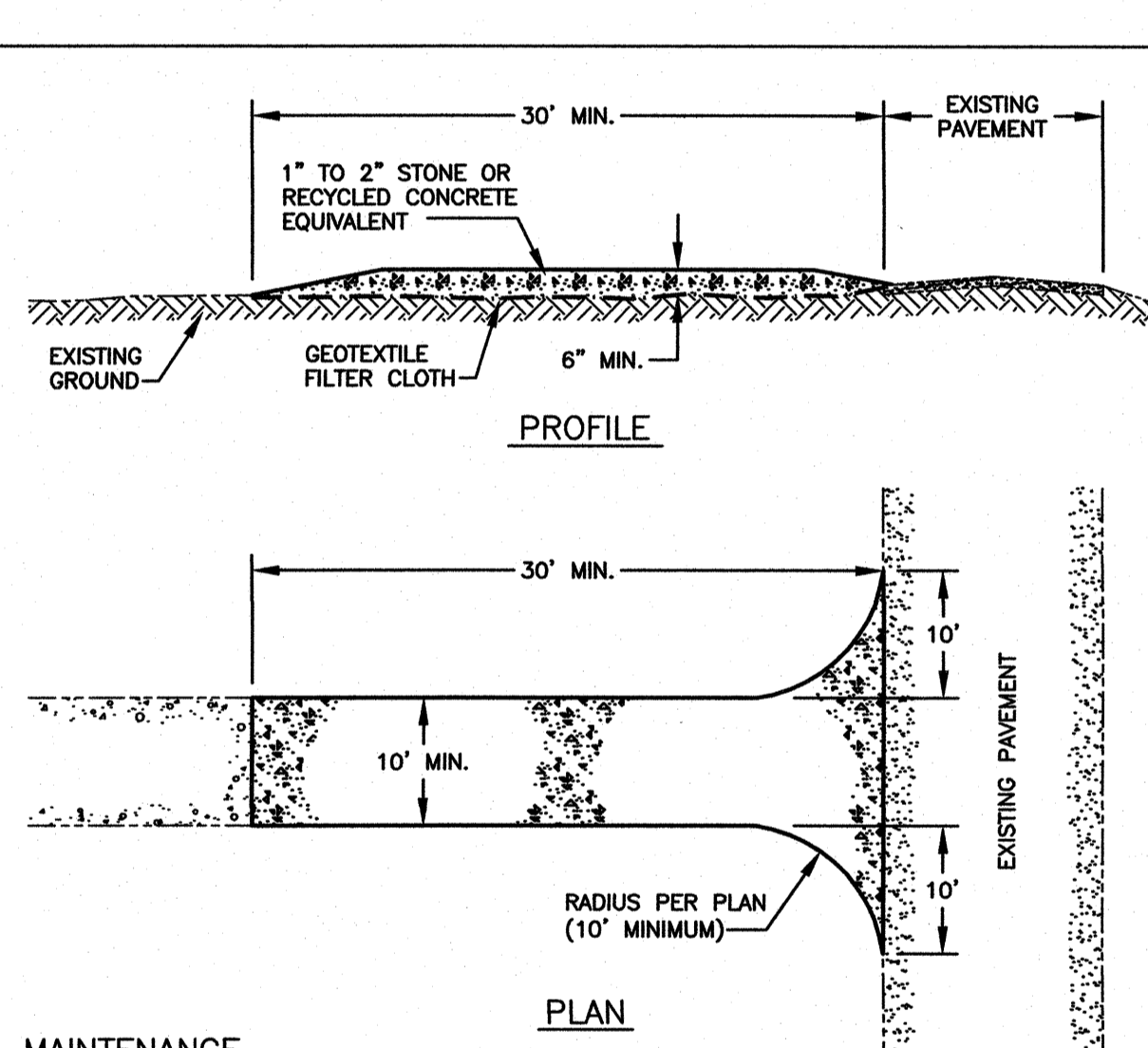
1. GRASSED AREAS: AFTER EACH RAIN EVEN OF 0.5" OR MORE DURING A 24 HOUR PERIOD, INSPECT GRASS AREAS FOR SIGNS OF DISTURBANCE, SUCH AS EROSION. IF DAMAGED AREAS ARE DISCOVERED, IMMEDIATELY REPAIR THE DAMAGE. REPAIRS MAY INCLUDE ADDING NEW TOPSOIL, LIME, SEED, FERTILIZER AND MULCH.
2. PLANTINGS: PLANTING AND LANDSCAPING (TREES, SHRUBS) SHALL BE MONITORED BI-MONTHLY DURING THE FIRST YEAR TO INSURE VIABILITY AND VIGOROUS GROWTH. REPLACE DEAD OR DYING VEGETATION WITH NEW STOCK AND MAKE ADJUSTMENTS TO THE CONDITIONS THAT CAUSED THE DEAD OR DYING VEGETATION. DURING DRYER TIMES OF THE YEAR, PROVIDED WEEKLY WATERING OR IRRIGATION DURING THE ESTABLISHMENT PERIOD OF THE FIRST YEAR. MAKE NECESSARY ADJUSTMENTS TO ENSURE LONG-TERM HEALTH OF VEGETATED COVER, I.E. PROVIDE MORE PERMANENT MULCH OR COMPOST OR OTHER MEANS OF PROTECTION.
3. STORM DRAIN OUTLETS AND OUTLET CONTROL STRUCTURES: MONITOR DRAIN INLETS AND OUTLET APRONS FOR EXCESSIVE ACCUMULATION OF SEDIMENTS OR MISSING STONE. REMOVE SEDIMENTS AS REQUIRED TO MAINTAIN FILTERING CAPABILITIES OF THE STONE.
4. FILTRATION BASIN: AFTER ACCEPTANCE OF THE FILTRATION BASIN, PERFORM THE FOLLOWING INSPECTIONS ON A SEMI-ANNUAL BASIS OR AFTER SIGNIFICANT RAINFALL EVENTS (10 YEAR, 24 HR STORMS, OR BACK TO BACK 2 YEAR, 24 HOUR STORMS):
 - a. MONITOR FOR EXCESSIVE OR CONCENTRATED ACCUMULATIONS OF DEBRIS, OR EXCESSIVE EROSION. REMOVE DEBRIS AS REQUIRED.
 - b. MONITOR THE OUTFALL STRUCTURE FOR PROBLEMS WITH CLOGGED PIPES. REPAIR OR REMOVE CLOGS AS REQUIRED, AND DETERMINE CAUSE OF CLOGGING. PIPES SHOULD BE INSPECTED ANNUALLY AND AFTER EVERY MAJOR RAINSTORM. BROKEN OR DAMAGED PIPES SHOULD BE REPAIRED OR REPLACED AS NECESSARY.
 - c. MONITOR SIDE SLOPES OF POND FOR DAMAGES OR EROSION - REPAIR AS NECESSARY.
 - d. MONITOR TURF HEALTH AND KEEP PROTECTED FROM FIRE, GRAZING, TRAFFIC AND DENSE WEED GROWTH. LIME AND FERTILIZER SHOULD BE APPLIED AS NECESSARY TO PROMOTE GOOD GROWTH AS DETERMINED BY SOIL TESTS. MOWING THE VEGETATED AREAS OF THE BASIN SHOULD BE CARRIED OUT AS NECESSARY.
 - e. SEDIMENT ACCUMULATION SHOULD BE CONTINUALLY CHECKED IN THE BASIN. SEDIMENT SHOULD BE REMOVED AS IT IS DISCOVERED PARTICULARLY IF IT HAS ACCUMULATED NEAR THE OUTLET OF THE BASIN.
 - f. THE OUTLET CONTROL STRUCTURE SHOULD BE INSPECTED ANNUALLY AND AFTER EVERY MAJOR RAINSTORM.

THE OUTLET CONTROL STRUCTURE HAS WITHIN IT A WIER STRUCTURE WITH VARIOUS SIZE ORIFICES FOR CONTROLLING FLOW OUT OF BASIN. THESE ORIFICES SHOULD BE KEPT CLEAR AND UNCLOGGED. ANY SEDIMENT OR DEBRIS THAT HS BUILT UP INSIDE THE OUTLET CONTROL STRUCTURE SHOULD BE REMOVED WHEN DISCOVERED.
5. INVASIVE SPECIES
 MONITOR STORMWATER MANAGEMENT SYSTEM FOR SIGNS OF INVASIVE SPECIES GROWTH. IF CAUGHT EARLIER ENOUGH, THEIR ERADICATION IS MUCH EASIER. THE MOST LIKELY PLACES WHERE INVASIONS START ARE IN WETTER, DISTURBED SOILS OR DETENTION PONDS. SPECIES SUCH AS PHRAGMITES AND PURPLE LOOSE-STRIPE ARE COMMON INVADERS IN THESE WETTER AREAS. IF THEY ARE FOUND THEN THE OWNER SHALL CONTACT A WETLAND SCIENTIST WITH EXPERIENCE IN INVASIVE SPECIES CONTROL TO IMPLEMENT A PLAN OF ACTION TO ERADICATE THE INVADERS. MEASURES THAT DO NOT REQUIRE THE APPLICATION OF CHEMICAL HERBICIDES SHOULD BE THE FIRST LINE OF DEFENSE.



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

A FILTREXX® SILT/SOXX™ FILTRATION SYSTEM (AS NEEDED) NTS



- MAINTENANCE
- 1) MUD AND SOIL PARTICLES WILL EVENTUALLY CLOG THE VOIDS IN THE GRAVEL AND THE EFFECTIVENESS OF THE GRAVEL PAD WILL NOT BE SATISFACTORY. WHEN THIS OCCURS, THE PAD SHOULD BE TOP DRESSED WITH NEW STONE. COMPLETE REPLACEMENT OF THE PAD MAY BE NECESSARY WHEN THE PAD BECOMES COMPLETELY CLOGGED.
 - 2) IF WASHING FACILITIES ARE USED, THE SEDIMENT TRAPS SHOULD BE CLEANED OUT AS OFTEN AS NECESSARY TO ASSURE THAT ADEQUATE TRAPPING EFFICIENCY AND STORAGE VOLUME IS AVAILABLE. VEGETATIVE FILTER STRIPS SHOULD BE MAINTAINED TO INSURE A VIGOROUS STAND OF VEGETATION AT ALL TIMES.

CONSTRUCTION SPECIFICATIONS

- 1) STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 2 TO 4 INCH STONE, RECLAIMED STONE, OR RECYCLED CONCRETE EQUIVALENT.
- 2) THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 30 FEET FOR A SINGLE RESIDENTIAL LOT.
- 3) THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
- 4) THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICHEVER IS GREATER.
- 5) GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENCE LOT.
- 6) ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
- 7) THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
- 8) WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY, WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

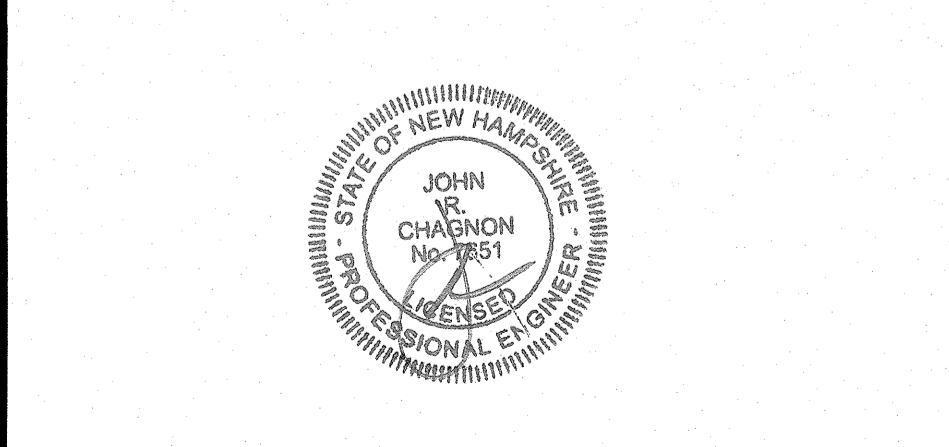
B STABILIZED CONSTRUCTION ENTRANCE (AS NEEDED) NTS

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

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

CLEWS SUBDIVISION 799 SOUTH STREET PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
0	ISSUED FOR COMMENT	6/17/19
REVISIONS		



SCALE: AS SHOWN JUNE 2019

EROSION CONTROL NOTES AND DETAILS D1

J:\Jobs\UNT700a\UNT730a\Subdivision\Plans & Specs\Site\736 DETAILS.dwg, DETAILS D1



City of Portsmouth, New Hampshire

Subdivision Application Checklist

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

Applicant Responsibilities (Section III.C): Applicable fees are due upon application submittal along with required number of copies of the Preliminary or final plat and supporting documents and studies. Please consult with Planning staff for submittal requirements.

Owner: _____ Date Submitted: _____

Applicant: _____

Phone Number: _____ E-mail: _____

Site Address 1: _____ Map: _____ Lot: _____

Site Address 2: _____ Map: _____ Lot: _____

Application Requirements			
	Required Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>			
<input type="checkbox"/>	Completed Application form. (III.C.2-3)		N/A
<input type="checkbox"/>	All application documents, plans, supporting documentation and other materials provided in digital Portable Document Format (PDF) on compact disc, DVD or flash drive. (III.C.4)		N/A

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

Requirements for Preliminary/Final Plat				
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input type="checkbox"/>	<p>Preliminary Plat Names and addresses of all adjoining property owners. (Section IV.2)</p> <p>Final Plat Names and addresses of all abutting property owners, locations of buildings within one hundred (100) feet of the parcel, and any new house numbers within the subdivision. (Section V.2)</p>		<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input type="checkbox"/>	North point, date, and bar scale. (Section IV.3/V3)	Required on all Plan Sheets	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input type="checkbox"/>	Zoning classification and minimum yard dimensions required. (Section IV.4/V.4)		<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input type="checkbox"/>	<p>Preliminary Plat Scale (not to be smaller than one hundred (100) feet = 1 inch) and location map (at a scale of 1" = 1000'). (Section IV.5)</p> <p>Final Plat Scale (not to be smaller than 1"=100'), Location map (at a scale of 1"=1,000') showing the property being subdivided and its relation to the surrounding area within a radius of 2,000 feet. Said location map shall delineate all streets and other major physical features that my either affect or be affected by the proposed development. (Section V.5)</p>		<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input type="checkbox"/>	Location and approximate dimensions of all existing and proposed property lines including the entire area proposed to be subdivided, the areas of proposed lots, and any adjacent parcels in the same ownership. (Section IV.6)		<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input type="checkbox"/>	Dimensions and areas of all lots and any and all property to be dedicated or reserved for schools, parks, playgrounds, or other public purpose. Dimensions shall include radii and length of all arcs and calculated bearing for all straight lines. (Section V.6/ IV.7)		<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	N/A
<input type="checkbox"/>	Location, names, and present widths of all adjacent streets, with a designation as to whether public or private and approximate location of existing utilities to be used. Curbs and sidewalks shall be shown. (Section IV.8/V.7)	Utility Plan- C2	<input checked="" type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	

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

Requirements for Preliminary/Final Plat				
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Required for Preliminary / Final Plat	Waiver Requested
<input type="checkbox"/>	Dates and permit numbers of all necessary permits from governmental agencies from which approval is required by Federal or State law. (Section V.10)		<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input type="checkbox"/>	For subdivisions involving greater than five (5) acres or fifty (50) lots, the final plat shall show hazard zones and shall include elevation data for flood hazard zones. (Section V.11)		<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	
<input type="checkbox"/>	Location of all permanent monuments. (Section V.12)		<input type="checkbox"/> Preliminary Plat <input checked="" type="checkbox"/> Final Plat	

General Requirements¹

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1. Basic Requirements: (VI.1) a. Conformity to Official Plan or Map b. Hazards c. Relation to Topography d. Planned Unit Development		
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	2. Lots: (VI.2) a. Lot Arrangement b. Lot sizes c. Commercial and Industrial Lots		
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	3. Streets: (VI.3) a. Relation to adjoining Street System b. Street Rights-of-Way c. Access d. Parallel Service Roads e. Street Intersection Angles f. Merging Streets g. Street Deflections and Vertical Alignment h. Marginal Access Streets i. Cul-de-Sacs j. Rounding Street Corners k. Street Name Signs l. Street Names m. Block Lengths n. Block Widths o. Grade of Streets p. Grass Strips		
<input type="checkbox"/>	4. Curbing: (VI.4)		
<input type="checkbox"/>	5. Driveways: (VI.5)		
<input type="checkbox"/>	6. Drainage Improvements: (VI.6)		
<input type="checkbox"/>	7. Municipal Water Service: (VI.7)		
<input type="checkbox"/>	8. Municipal Sewer Service: (VI.8)		
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	9. Installation of Utilities: (VI.9) a. All Districts b. Indicator Tape		
<input type="checkbox"/>	10. On-Site Water Supply: (VI.10)		
<input type="checkbox"/>	11. On-Site Sewage Disposal Systems: (VI.11)		
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	12. Open Space: (VI.12) a. Natural Features b. Buffer Strips c. Parks d. Tree Planting		
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	13. Flood Hazard Areas: (VI.13) a. Permits b. Minimization of Flood Damage c. Elevation and Flood-Proofing Records d. Alteration of Watercourses		
<input type="checkbox"/>	14. Erosion and Sedimentation Control (VI.14)		

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input type="checkbox"/>	15. Easements (VI.15) a. Utilities b. Drainage		
<input type="checkbox"/>	16. Monuments: (VI.16)		
<input type="checkbox"/>	17. Benchmarks: (VI.17)		
<input type="checkbox"/>	18. House Numbers (VI.18)		

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

Applicant's/Representative's Signature: _____ Date: _____

¹ See City of Portsmouth, NH Subdivision Rules and Regulations for details.
Subdivision Application Checklist/January 2018