CATE STREET

CATE STREET · PORTSMOUTH · NEW HAMPSHIRE ROADWAY PLANS

MAY, 2019

PREPARED FOR

CATE STREET DEVELOPMENT, LLC

11 ELKINS STREET, SUITE 420 BOSTON, MA 02127 987.490.5278

SHEET No.

CS-100-CS-104

CG-100-CG-104

GI-001

CS-001

CG-001

CU-001

CD-520

CD-540

CD-550

CT-101-CT-107

L1.00-L1.04

SHEET INDEX

SHEET TITLE

COVER SHEET

TYPICAL ROADWAY SECTIONS

ROADWAY PLANS & PROFILES

ROADWAY DRAINAGE STRUCTURE

GRADING, DRAINAGE & EROSION

ROADWAY SEWER STRUCTURE

WATER & MISC. DETAILS

CN-001-CN-002 GENERAL NOTES & LEGEND

CP-100-CP-102 SITE PREPARATION PLANS

TABLE

TABLE

CU-100-CU-106 UTILITY PLANS

CD-530-CD-531 SEWER DETAILS

SURVEY PLANS PLAN OF LAND

SURVEY PLANS TOPOGRAPHICAL PLANS

CD-510-CD-513 DRAINAGE DETAILS

CONTROL PLANS

UTILITY DETAILS

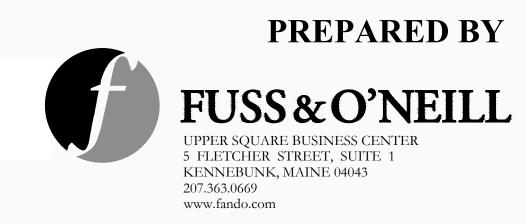
TURNING MOVEMENTS

LANDSCAPE PLANS

LIGHTING PLANS

SITE DETAILS

CD-560-CD-562 EROSION CONTROL DETAILS



PROJECT TEAM

ARCHITECT

PRELLWITZ CHILINSKI ASSOCIATES 221 HAMPSHIRE STREET CAMBRIDGE, MA. 02139 617.547.8120

LANDSCAPE ARCHITECTS

SITE SOLUTIONS, LLC 3715 NORTHSIDE PARKWAY 300 NORTH CREEK, SUITE 720 ATLANTA, GA. 303227 404.705.9411

NATURAL RESOURCES CONSULTANT

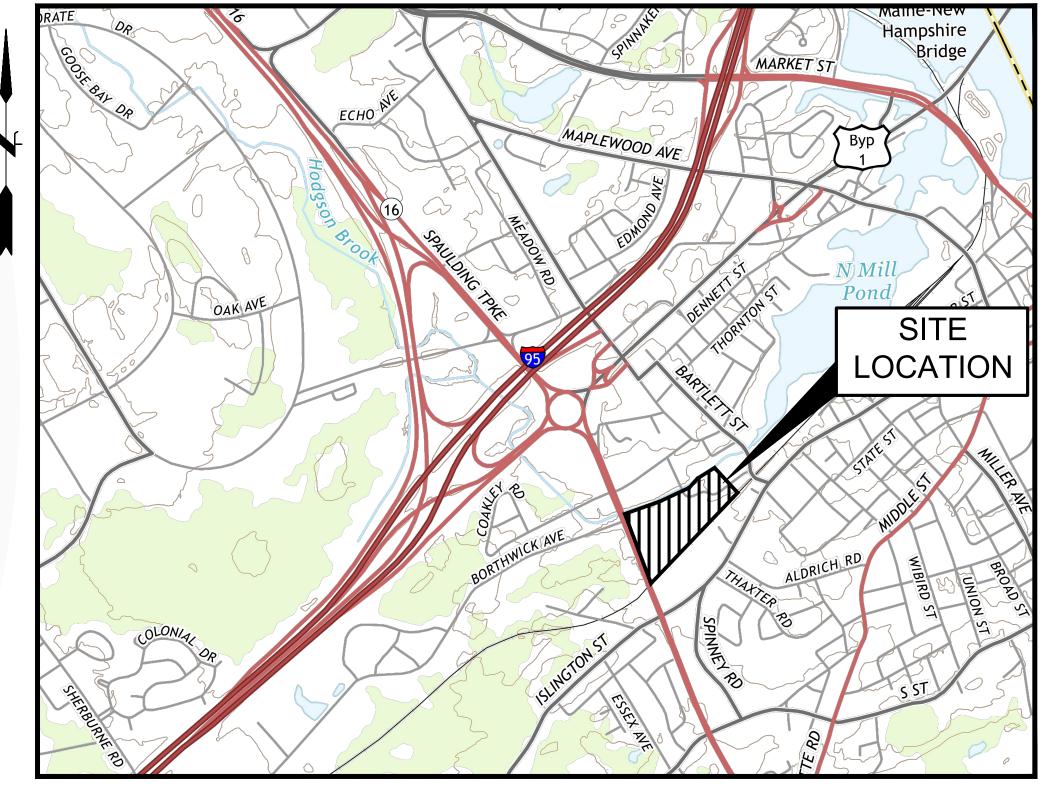
GOVE ENVIRONMENTAL SERVICES, INC 8 CONTINENTAL DRIVE BUILDING 2, SUITE H EXETER, NH. 03833-7507 603.778.0644

GEOTECHNICAL ENGINEERS McPHAIL ASSOCIATES, LLC

2269 MASSACHUSETTS AVENUE CAMBRIDGE, MA. 02140 617.868.1420

LAND SURVEYOR

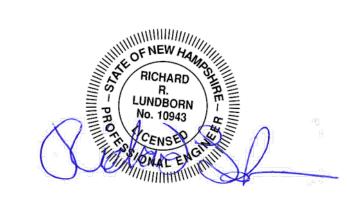
DOUCET SURVEY, INC 102 KENT PLACE NEWMARKET, NH. 03857 603.659.6560



LOCATION MAP SCALE: 1" = 1200'



THE LOCATION OF ANY UTILITY INFORMATION SHOWN ON THIS PLAN IS APPROXIMATE. CLD CONSULTING ENG. INC. MAKES NO CLAIM TO THE ACCURACY OR COMPLETENESS OF UTILITIES SHOWN. 72 HOURS PRIOR TO ANY EXCAVATION ON SITE, THE CONTRACTOR SHALL CONTACT DIG—SAFE AT 1—888—DIG—SAFE.



PROJ. No.: 20180317.A10 DATE: MAY 2019

GI-001

- 1. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SHOWN ON THE DRAWINGS TO SCALE OR TO THEIR ACTUAL DIMENSION OR LOCATION. COORDINATE DETAIL SHEET DIMENSIONS. MANUFACTURERS' LITERATURE. SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
- 2. DO NOT RELY SOLELY ON ELECTRONIC VERSIONS OF DRAWINGS, SPECIFICATIONS, AND DATA FILES THAT ARE PROVIDED BY THE ENGINEER. FIELD VERIFY LOCATION
- 3. PERFORM NECESSARY CONSTRUCTION NOTIFICATIONS, APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK AS REQUIRED BY THE CONTRACT DOCUMENTS.
- 4. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS OF BUILDINGS AND ADJACENT SITE ELEMENTS INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
- 5. PLEASE READ ALL OTHER NOTES ON THIS PAGE. THEY CONTAIN INFORMATION RELATED TO AND ASSOCIATED WITH THIS PROJECT AND DESIGN.
- 6. IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT DEFICIENCIES EXIST IN THE APPROVED DRAWINGS, THE OWNER SHALL BE REQUIRED TO CORRECT THE DEFICIENCIES TO MEET THE REQUIREMENTS OF THE REGULATIONS AT NO EXPENSE TO THE CITY.
- 7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE SITE AND EXISTING CONDITIONS SURROUNDING IT AND THEREON. THE CONTRACTOR SHALL ADVISE THE APPROPRIATE AUTHORITY OF HIS INTENTIONS AT LEAST 48 HOURS IN ADVANCE.
- 8. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE CITY OF PORTSMOUTH SITE PLAN REGULATIONS. CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS, AND THE LATEST EDITION OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. ALL CONSTRUCTION DETAILS SHALL BE IN ACCORDANCE WITH THE CITY OF PORTSMOUTH.
- 9. THE CONTRACTOR SHALL BID AND PERFORM THE WORK IN ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES, SPECIFICATIONS, REGULATIONS, AND STANDARDS.
- 10. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY FUSS & O'NEILL DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR OR ENGINEER HERE ON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.

WORK RESTRICTIONS

- 16.DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, FIRE HYDRANTS, AND UTILITIES WITHOUT APPROPRIATE PERMITS.
- 2. WORK IS RESTRICTED TO THE HOURS OF TO THE HOURS (TIME) TO (TIME) ON (DAY) THROUGH (DAY)

REGULATORY REQUIREMENTS

- WITHIN LOCAL RIGHTS-OF-WAY, PERFORM THE WORK IN ACCORDANCE WITH LOCAL MUNICIPAL STANDARDS.
- 2. WITHIN STATE RIGHTS-OF-WAY, PERFORM THE WORK IN ACCORDANCE WITH THE LATEST EDITION OF THE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS AND ISSUED REVISIONS/SUPPLEMENTS.
- 3. PROVIDE TRAFFIC SIGNAGE AND PAVEMENT MARKINGS IN CONFORMANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- 4. BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. PERFORM CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
- 5. DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.
- 6. THIS PROJECT DISTURBS MORE THAN ONE ACRE OF LAND AND FALLS WITHIN THE NEW HAMPSHIRE DEP STORMWATER AND DEWATERING WASTEWATER FROM CONSTRUCTION ACTIVITIES GENERAL PERMIT PROCESS. (NAME OF APPLICANT) HAS SUBMITTED INFORMATION TO THE DEP TO SATISFY THIS GENERAL PERMIT. THE CONTRACTOR MUST HAVE A COPY OF THIS GENERAL PERMIT ON SITE AT ALL TIMES.

EROSION AND SEDIMENT CONTROL

- INSTALL EROSION CONTROL MEASURES PRIOR TO STARTING ANY WORK ON THE SITE. REFER TO THE EROSION AND SEDIMENT CONTROL DRAWINGS.
- 2. IMPLEMENT ALL NECESSARY MEASURES REQUIRED TO CONTROL STORMWATER RUNOFF, DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE. PERFORM CORRECTIVE ACTION AS NEEDED FOR EROSION CLEANUP AND REPAIRS TO OFF SITE AREAS, IF ANY, AT NO COST TO OWNER.
- 3. INSPECT AND MAINTAIN EROSION CONTROL MEASURES PER THE SCHEDULE IN THE EROSION AND SEDIMENT CONTROL DRAWINGS. DISPOSE OF SEDIMENT IN AN UPLAND AREA. DO NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
- 4. PERFORM CONSTRUCTION SEQUENCING IN SUCH A MANNER TO CONTROL EROSION AND TO MINIMIZE THE TIME THAT EARTH MATERIALS ARE EXPOSED BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED.
- 5. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, REMOVE AND DISPOSE OF TEMPORARY EROSION CONTROL MEASURES. CLEAN SEDIMENT AND DEBRIS FROM TEMPORARY MEASURES AND FROM PERMANENT STORM DRAIN AND SANITARY SEWER SYSTEMS.

DEMOLITION

- 1. REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS AND UNSUITABLE MATERIAL BENEATH AND FOR A DISTANCE OF 10 FEET BEYOND THE PROPOSED BUILDING FOOTPRINT INCLUDING EXTERIOR COLUMNS, UNLESS OTHERWISE NOTED. **CONSTRUCTION LAYOUT**
- PROVIDE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED SITE IMPROVEMENTS. FIELD VERIFY EXISTING PAVEMENT AND GROUND ELEVATIONS AT THE INTERFACE WITH PROPOSED PAVEMENTS AND DRAINAGE STRUCTURES BEFORE START OF CONSTRUCTION.
- 2. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, FIELD VERIFY PROPOSED UTILITY ROUTES AND IDENTIFY ANY INTERFERENCES OR OBSTRUCTIONS WITH EXISTING UTILITIES OR PUBLIC RIGHTS-OF-WAY.
- 3. IMMEDIATELY INFORM THE ENGINEER IN WRITING IF EXISTING UTILITY CONDITIONS CONFLICT OR DIFFER FROM THAT INDICATED AND IF THE WORK CANNOT BE COMPLETED AS INDICATED.
- 4. DIMENSIONS ARE FROM FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS NOTED OTHERWISE.
- 5. BOUNDS OR MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.

EARTHWORK

- NOTIFY UTILITY LOCATOR SERVICE AT LEAST 72 HOURS BEFORE STARTING EXCAVATION.
- CALL DIGSAFE: 1-888-DIG-SAFE
- 2. STOP WORK IN THE VICINITY OF SUSPECTED CONTAMINATED SOIL, GROUNDWATER OR OTHER MEDIA. IMMEDIATELY NOTIFY THE OWNER SO THAT APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN. RESUME WORK IN THE IMMEDIATE VICINITY ONLY UPON DIRECTION BY THE OWNER.
- 3. WITHIN THE LIMITS OF THE BUILDING FOOTPRINT, PERFORM EARTHWORK OPERATIONS TO SUBGRADE ELEVATIONS. SEE DRAWINGS BY OTHERS FOR WORK ABOVE SUBGRADE.

- 1. TERMINATE EXISTING UTILITIES IN CONFORMANCE WITH LOCAL, STATE AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. COORDINATE UTILITY SERVICE DISCONNECTS WITH UTILITY REPRESENTATIVES.
- 2. THE TYPE, SIZE AND LOCATION OF DEPICTED UNDERGROUND UTILITIES ARE APPROXIMATE REPRESENTATIONS OF INFORMATION OBTAINED FROM FIELD LOCATIONS OF VISIBLE FEATURES, EXISTING MAPS AND PLANS OF RECORD, UTILITY MAPPING, AND OTHER SOURCES OF INFORMATION OBTAINED BY THE ENGINEER. ASSUME NO GUARANTEE AS TO THE COMPLETENESS, SERVICEABILITY, EXISTENCE, OR ACCURACY OF UNDERGROUND FACILITIES. FIELD VERIFY THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES.
- 3. PAY ALL FEES AND COSTS ASSOCIATED WITH UTILITY MODIFICATIONS AND CONNECTIONS, REGARDLESS OF THE ENTITY THAT PERFORMS THE WORK.
- 4. COORDINATE THE WORK AND WORK SCHEDULE WITH UTILITY COMPANIES. PROVIDE ADEQUATE NOTICE TO UTILITIES TO PREVENT DELAYS IN CONSTRUCTION.
- 5. INTERIOR DIAMETERS OF STORM DRAIN AND SANITARY SEWER STRUCTURES SHALL BE DETERMINED BY THE PRECAST MANUFACTURER, BASED ON THE INDICATED PIPE SYSTEM LAYOUT AND LOCAL MUNICIPAL STANDARDS.

MINIMUM INTERIOR DIAMETERS: O TO 20 FEET DEEP; 4 FEET. 20 FEET OR GREATER; 5 FEET.

- 5. RIM ELEVATIONS FOR MANHOLES, VALVE COVERS, GATE AND PULL BOXES, AND OTHER STRUCTURES ARE APPROXIMATE. SET OR RESET RIM ELEVATIONS AS FOLLOWS:
 - IN PAVEMENTS AND CONCRETE SURFACES: FLUSH IN SURFACES ALONG ACCESSIBLE ROUTES: FLUSH IN LANDSCAPE, SEEDED, AND OTHER EARTH SURFACE AREAS: 1 INCH ABOVE SURROUNDING AREA; TAPER EARTH TO RIM ELEVATION.
- 6. INSTALL PROPOSED PRIVATE UTILITY SERVICES ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY THE AUTHORITY HAVING JURISDICTION (WATER, SEWER, GAS, TELEPHONE, ELECTRIC, FIRE ALARM, ETC.). COORDINATE FINAL DESIGN LOADS AND LOCATIONS WITH OWNER AND ARCHITECT.

PAVEMENT

1. AT A MINIMUM, CONSTRUCT ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS AND WALKWAYS IN CONFORMANCE WITH THE FEDERAL AMERICANS WITH DISABILITIES ACT AND WITH STATE AND LOCAL LAWS AND REGULATIONS (WHICHEVER ARE MORE STRINGENT).

GENERAL SITE RESTORATION

- PROVIDE 6 INCHES OF TOPSOIL AND SEED TO AREAS DISTURBED DURING CONSTRUCTION AND NOT DESIGNATED TO BE RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) UNLESS OTHERWISE NOTED.
- 2. REPAIR DAMAGES RESULTING FROM CONSTRUCTION LOADS, AT NO ADDITIONAL COST TO OWNER.
- 3. RESTORE AREAS DISTURBED BY CONSTRUCTION OPERATIONS TO THEIR ORIGINAL CONDITION OR BETTER, AT NO ADDITIONAL COST TO OWNER.

STREAM BUFFER RESTORATION SEQUENCE NOTES:

- 1. EROSION CONTROL WILL BE PLACED AROUND ALL JURISDICTIONAL WETLANDS PRIOR TO THE START OF WORK.
- 2. INITIAL WORK FOR INVASIVE SPECIES REMOVAL WILL BE PERFORMED WITH GUIDANCE BY STAFF FROM GES INC.
- 3. INVASIVE SPECIES REMOVAL WILL IDEALLY BE DONE ONCE THE VEGETATION IS MATURE DURING THE LATE SPRING OR EARLY SUMMER TO AID IN IDENTIFICATION. INVASIVE SPECIES VEGETATION WILL INITAILLY BE CUT AS NEEDED TO AVOID THE POTENTIAL SPREAD OF SEEDS. ANY MATERIAL IN "SEED" WILL BE BAGGED AND DISPOSED OF PROPERLY.
- 4. ALL WORK WILL BE PERFORMED FROM THE UPPER AREA OF THE SITE BY LONG REACH EXCAVATORS. ANY SMALL-SCALE WORK WILL BE DONE BY HAND TO REDUCE BANK IMPACTS AND ELIMINATE ANY UNNEEDED WEEKENING OF THE STABILITY OF THE BANK. NO WORK WILL BE PERFORMED FROM
- 5. EXCAVATION WORK WILL BEGIN BY REMOVING REMAINING ROOT MATERIAL AND "SEED BANK" FROM THE SLOPE AND ANY DEBRIS.
- 6. ALL FILL MATERIAL, INCLUDING PAVEMENT, CINDER BLOCKS, CEMENT, TRASH, I.E, BUCKETS, COUCHES, APPLIANCES, EXERCISE EQUIPMENT, ETC., WILL BE REMOVED AND DISPOSED OF PROPERLY.
- 7. ANY CULVERTS EXISTING IN THE BANK TO BE REMOVED WILL BE SAW CUT OR CRUSHED AND REMOVED. THE REMANING PORTIONS OF CULVERTS WILL BE LEFT IN PLACE AND WILL BE FILLED WITH CEMENT TO CLOSE THEM OFF. THIS WILL REDUCE THE ADDITIONAL BANK IMPACT RESULTING FROM THEIR REMOVAL ENTIRELY.
- 8. ANY DEBRIS REMOVAL NEAR MATURE TREE ROOTS WILL BE PERFORMED BY HAND SHOVEL OR SMALL MACHINE TO REDUCE DAMAGE TO ROOT STRUCTURE.
- 9. CLEAN TOP SOIL WILL BE ADDED TO AREAS OF REMOVED MATERIALS, INCLUDING CULVERT ENDS. THIS MATERIAL WILL BE LEVELED TO CREATE A SMOOTH BANK TO BE PLANTED.
- 10. THE FOLLOWING SPECIES WILL BE PLANTED IN RANDOM SPACING AT THE SPECIFIED NUMBERS AND SPACING IN EACH RESTORATION AREA BELOW:

HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM), WINTERBERRY (ILEX VERTICILATTA), SWEET PEPPER BUSH (CLETHERA ALNIFOLIA).

ANY EXPOSED AREAS WILL BE SEEDED WITH AN EROSION CONTROL SEED MIX @ 35lbs/ACRE. THIS WORK WILL BE PERFOMRED BY HAND TOOLS. ALL PLANTS ARE TO BE IN 1-2 GALLON POTS AS AVAILABLE AT THE TIME OF THE PLANTING. PLANTS WILL BE LAID OUT PER THE RESTORATION PLAN IN RANDOM ORDER. HOLES WILL BE DUG BY HAND FOR PLANTING. ONCE PLANTED THE HOLES WILL BE BROUGHT LEVEL WITH ADDITIONAL SOIL. THE ENTIRE EXPOSED SLOPES WILL BE SEEDED AS SPECIFIED AND WILL BE COVERED WITH JUTE MATTING AFTER TO ELIMINATE EROSION. SUPPLEMENTAL WATERING WILL OCCUR SHOULD THERE NOT BE SIGNIFICANT RAINFALL.

IMPACT AREA 1 WILL HAVE 1,875 SF OF DISTURBANCE. THIS WILL BE PLANTED WITH A TOTAL OF 117 PLANTS AT A SPACING OF 4' OC

39- HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM), 39- WINTERBERRY (ILEX VERTICILATTA)

39- SWEET PEPPER BUSH (CLETHERA ALNIFOLIA),

IMPACT AREA 2 WILL HAVE 148 SF OF DISTURBANCE. THIS WILL BE PLANTED WITH A TOTAL OF 9 PLANTS AT A SPACING OF 4' OC

- 3- HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM),
- 3- WINTERBERRY (ILEX VERTICILATTA) 3- SWEET PEPPER BUSH (CLETHERA ALNIFOLIA),
- IMPACT AREA 3 WILL HAVE 344 SF OF DISTURBANCE. THIS WILL BE PLANTED WITH 21 TOTAL PLANTS AT 4' OC SPACING
- 7- HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM),
- 7- WINTERBERRY (ILEX VERTICILATTA)
- 7- SWEET PEPPER BUSH (CLETHERA ALNIFOLIA),
- IMPACT AREA 4 WILL HAVE 3,412 SF OF DISTURBANCE. THIS WILL BE PLANTED WITH A TOTAL OF 96 PLANTS AT A SPACING OF 6' OC.
- 32- HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM),
- 32- WINTERBERRY (ILEX VERTICILATTA) 32- SWEET PEPPER BUSH (CLETHERA ALNIFOLIA),
- 11. MONITORING OF THE RESTORATION AREAS WILL BE DONE UNDER THE DIRECTION OF THE NHDES

1. PARKING CALCULATIONS: COMMERCIAL BUILDING REQUIREMENT REQUIRED <u>PROVIDED</u> 1/100 SF EATING AND DRINKING 13,600SF 136 ___ RETAIL 5800SF 1/300 SF 20 --**OFFICE** 15900SF 1/350 SF TOTAL

202

<u>PROVIDED</u>

WETLANDS BUREAU, AS THESE AREAS FALL UNDER THEIR JURISDICTON.

PER 10.112.60 SHARED PA	RKING WEEKD	AY EVENINGS:	CHADED	
EATING AND DRINKING RETAIL OFFICE	REQUIRED 136 20 46	SHARED % 90% 90% 20%	SHARED REQUIRED 136 20 10	PROVIDED
TOTAL BICYCLE PARKING HANDICAP ACCESSIBLE =		1/10 PARKING	166	170 17
RESIDENTIAL A AND B: UNITS <750 SQ. FT. UNITS >750 SQ. FT. TOTAL BICYCLE PARKING IS INTER HANDICAP ACCESSIBLE =	· · · · -	REQUIREMENT 1/UNIT 1.3/UNIT	REQUIRED 144 106 282	PROVIDED 284

REQUIREMENT REQUIRED TOWNHOMES: <u>UNITS</u> UNITS >750 SQ. FT. 23 1.3/UNIT BICYCLE PARKING IS INTERNAL

SITE NOTES:

1. REFERENCE: TAX MAP 163, LOT 33 TAX MAP 163, LOT 34 TAX MAP 165, LOT 2 TAX MAP 172, LOT 1

2. TOTAL PARCEL AREA: TAX MAP 163, LOT 33-12,230 SQ. FT. OR 0.28 AC. TAX MAP 163, LOT 34-64,109 SQ. FT. OR 1.47 AC. COMBINED AREA-451,572 SQ. FT. OR 10.37 AC. TAX MAP 165, LOT 2

TAX MAP 173, LOT 2

TAX MAP 172, LOT 1 TAX MAP 173, LOT 2

OWNER OF RECORD:

CATE STREET DEVELOPMENT, LLC 60 K STREET BOSTON, MA 02127 RCRD BOOK5929, PAGE 109

3. ZONES: G-1-GATEWAY NEIGHBORHOOD MIXED USE

COMMUNITY SPACE

DIMENSIONAL REQUIREMENTS, DEVELOPMENT SITE STANDARDS: <u>REQUIRED</u> <u>PROPOSED</u> MIN. DEVELOPMENT AREA 20,000 sq.ft. 579,856 SF MIN. SITE WIDTH 100 ft. VARIES > 100 ft. MIN. LOT DEPTH 100 ft. VARIES > 100 ft. MIN. PERIMETER BUFFER 75 ft. FROM RES. N/A DIST., MIXED RES., OR CD4-L1 DIST. MAX. DEV. BLOCK 800 ft. LENGTH, 610 ft. 2,200 LINEAR ft. 227 ft. MIN. FRONTAGE 50 ft. MAX. BUILDING HEIGHT 45 ft. 45 ft. 25-FT STEP BACK 70 % 18.6 % MAX. BUILDING COVERAGE MIN. OPEN SPACE 32.7 % 20 %

WETLAND SETBACKS 100 ft. 390,471 sq. ft. (67.3%) IMPERVIOUS COVER

ALL TYPES

ZONING INFORMATION LISTED HEREON IS BASED ON THE CITY OF PORTSMOUTH ZONING ORDINANCE DATED JULY 11, 2016 AS AVAILABLE ON THE CITY WEBSITE ON DECEMBER 15, 2016. ADDITIONAL REGULATIONS APPLY, AND REFERENCE IS HEREBY MADE TO THE EFFECTIVE ZONING ORDINANCE. THE LAND OWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE MUNICIPAL, STATE AND FEDERAL REGULATIONS.

- 5. FIELD SURVEY PERFORMED BY P.J.S. & J.C.M. DURING NOVEMBER 2016 USING A TRIMBLE S6 TOTAL STATION, A TRIMBLE R8 SURVEY GRADE GPS UNIT, A TRIMBLE TSC3 DATA COLLECTOR AND A SOKKIA B21 AUTO LEVEL. BY L.P.S. & S.N.F. DURING JULY 2018 AND T.M.M. & J.C.M. IN SEPTEMBER & OCTOBER 2018 USING A TRIMBLE S6 TOTAL STATION WITH A TRIMBLE TSC3 DATA COLLECTOR. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS. ADDITONAL FIELD SURVEY PERFORMED BY M.C. DURING NOVEMBER 2016 AND OCTOBER 2018 USING A LEICA HDS SCANNER.
- 6. THE LIMITS OF JURISDICTIONAL WETLANDS WERE DELINEATED BY MARC JACOBS IN NOVEMBER OF 2016 AND REVIEWED BY GOVE ENVIRONMENTAL SERVICES, INC. DURING APRIL 2018 IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL TECHNICAL REPORT Y-87-1, JANUARY 1987 AND REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL; NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0 JANUARY 2012 AND FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4. MAY 2017, NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE.
- 7. FLOOD HAZARD ZONE: "X", PER FIRM MAP #33015C0259E, DATED 5/17/05.
- 8. VERTICAL DATUM IS BASED ON NGVD29 PER DISK V 28 1942 ELEV. 25.59.
- 9. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE(2800) NAD83(2011) DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNÉT GPS VRS

10. REFERENCE PLANS: REFER TO THE PLAN OF LAND AT THE END OF THIS PACKAGE FOR ALL REFERENCE PLANS AND EASEMENTS THAT THE PARCELS ARE SUBJECT TO.

- 11. IF, DURING CONSTRUCTION, IT BECOMES APPARENT THAT ADDITIONAL EROSION CONTROL MEASURES ARE REQUIRED TO STOP ANY EROSION ON THE CONSTRUCTION SITE, THE PROPERTY OWNER SHALL BE REQUIRED TO INSTALL THE NECESSARY EROSION PROTECTION AT NO EXPENSE TO THE CITY.
- 12. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REGULATIONS.
- 13. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF
- 14. ALL IMPROVEMENTS SHOWN ON THE SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR

MALS- PROF

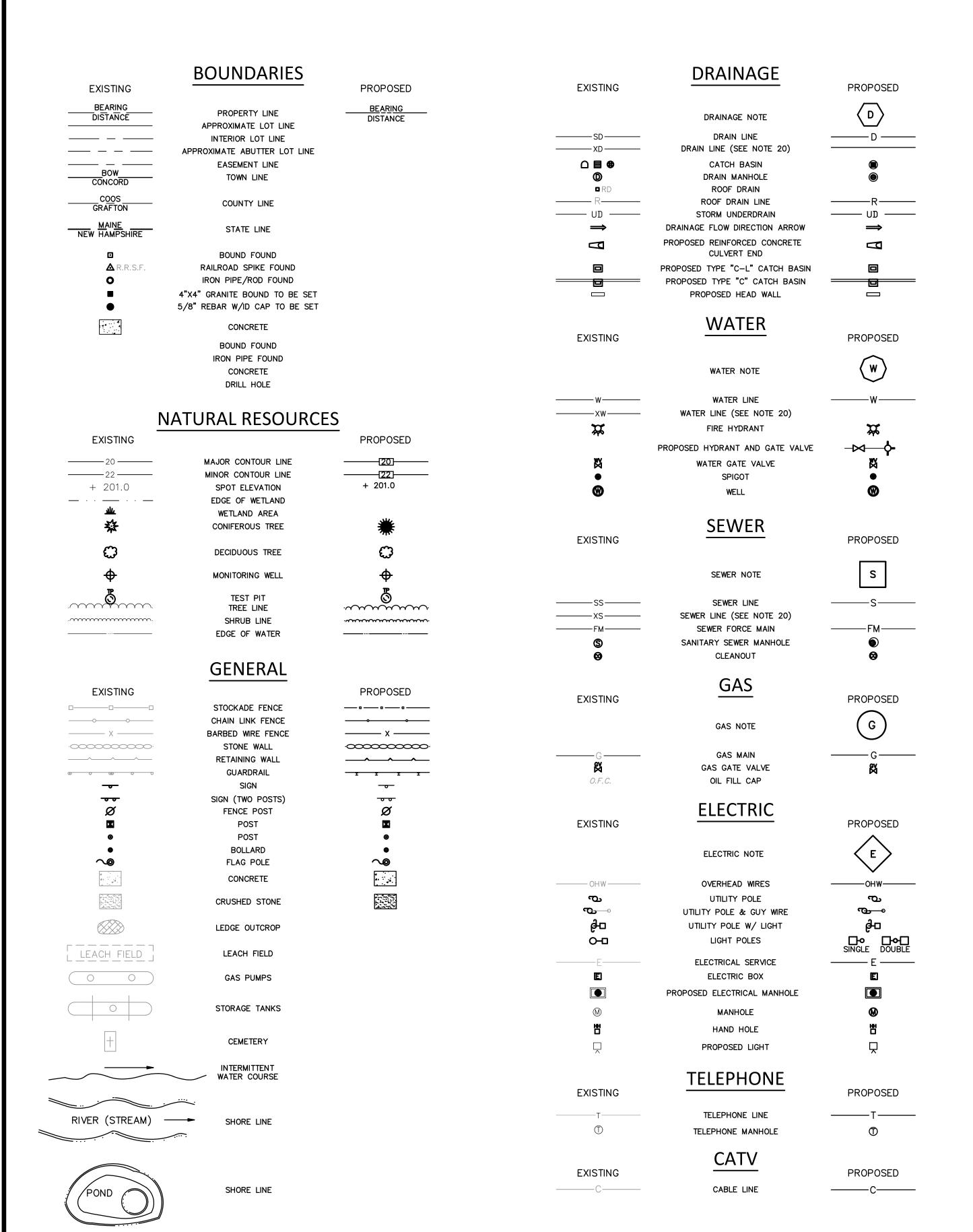
NEIL

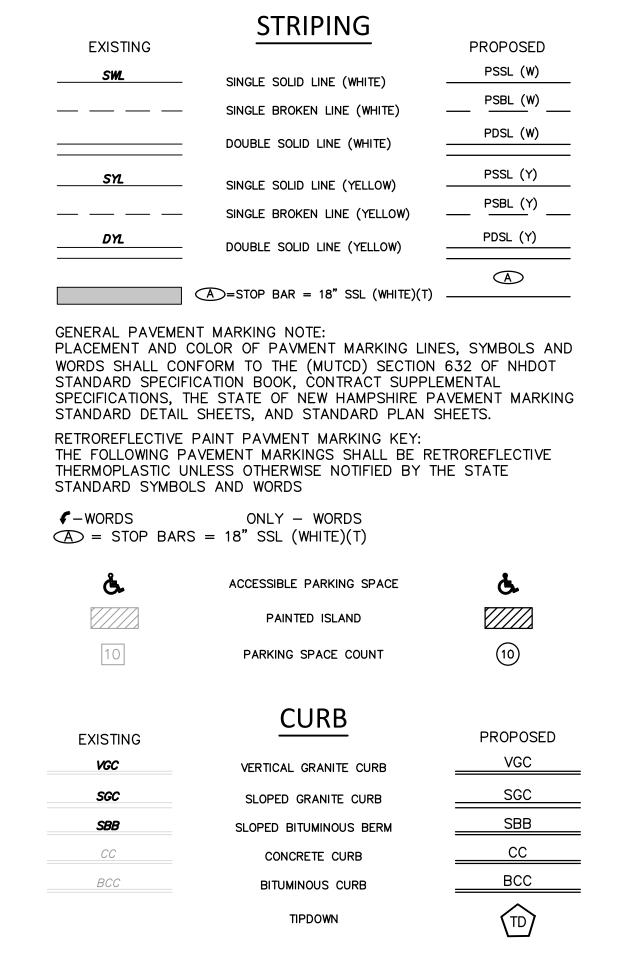




NOTES REET

ENER

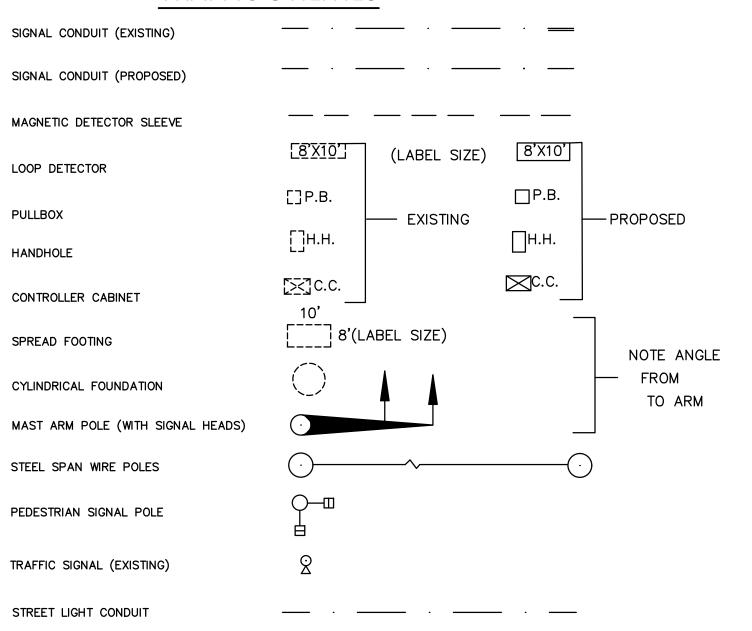




EROSION CONTROL

PROPOSED SILT FENCE	SF
PROPOSED HAY BALES	∰.
PROPOSED HAYBALE CHECK DAM	
PROPOSED SILT SOCKS	0 0 0
PROPOSED EROSION CONTROL MAT	
PROPOSED INLET PROTECTION	
PROPOSED OUTLET PROTECTION	
PROPOSED STONE CHECK DAM	
PROPOSED LIMIT OF DISTURBANCE	——LOD ——

TRAFFIC UTILITIES



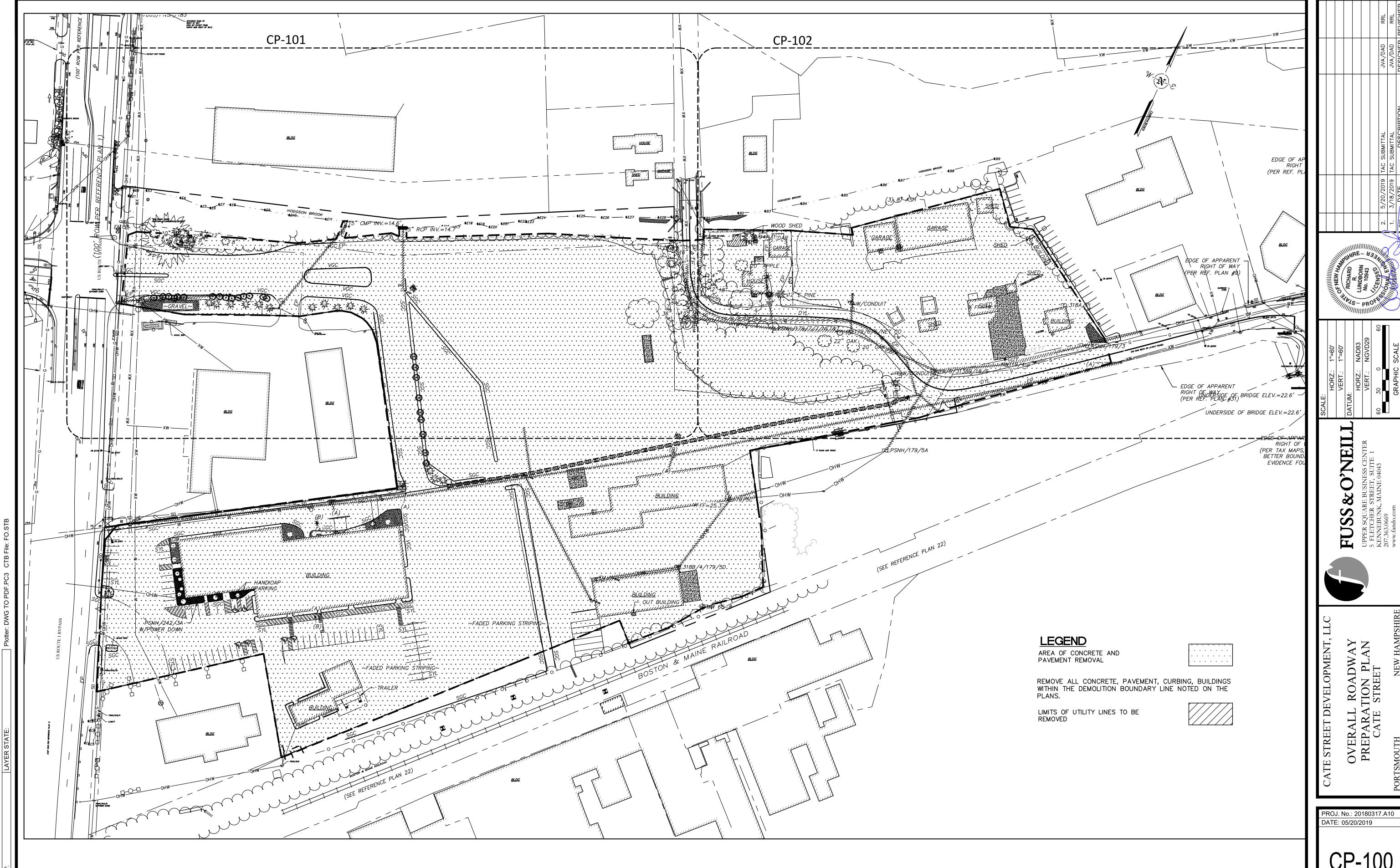
EEGEND

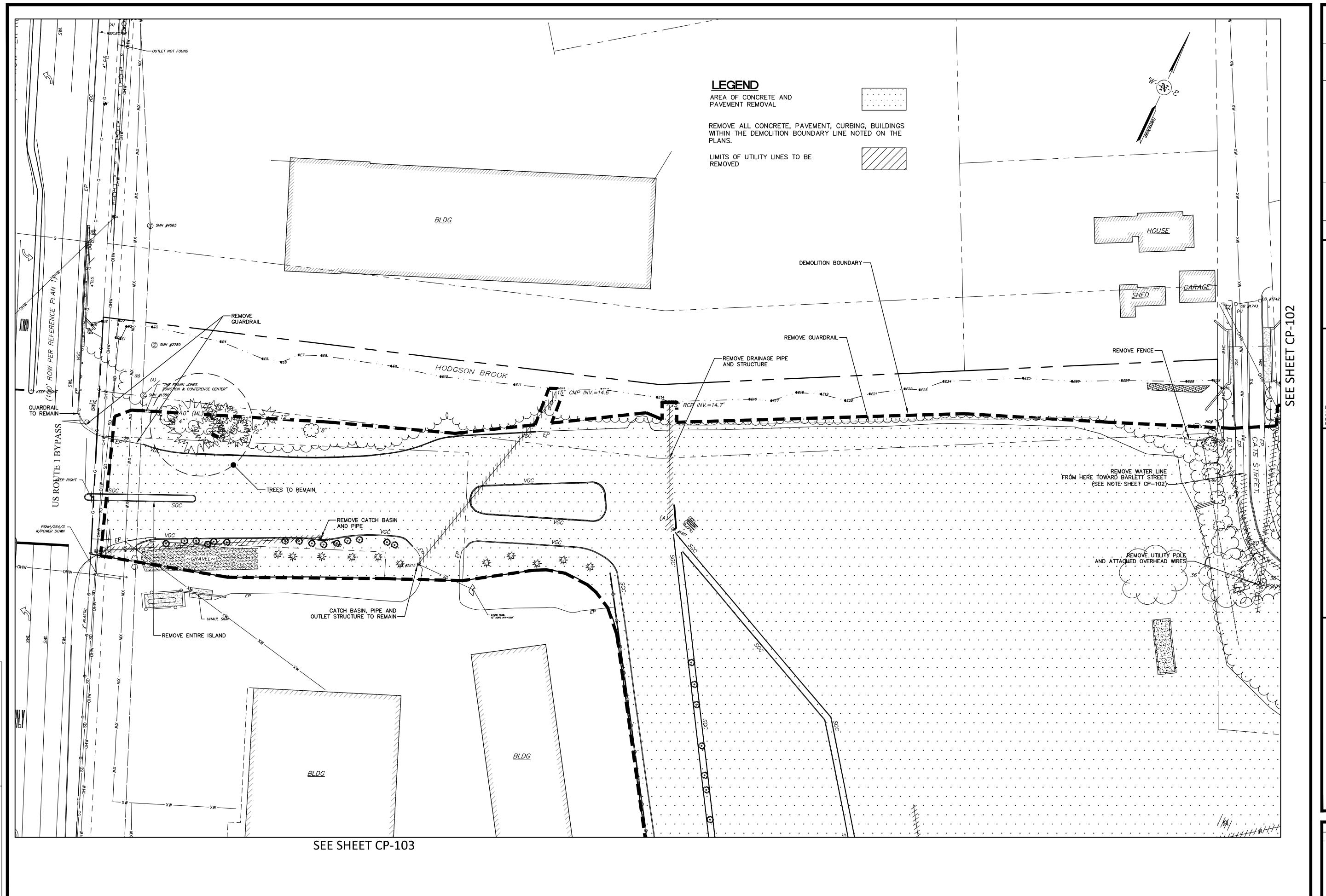
CATE STREET

CATE STREE

PROJ. No.: 20180317.A10 DATE: 05/20/2019

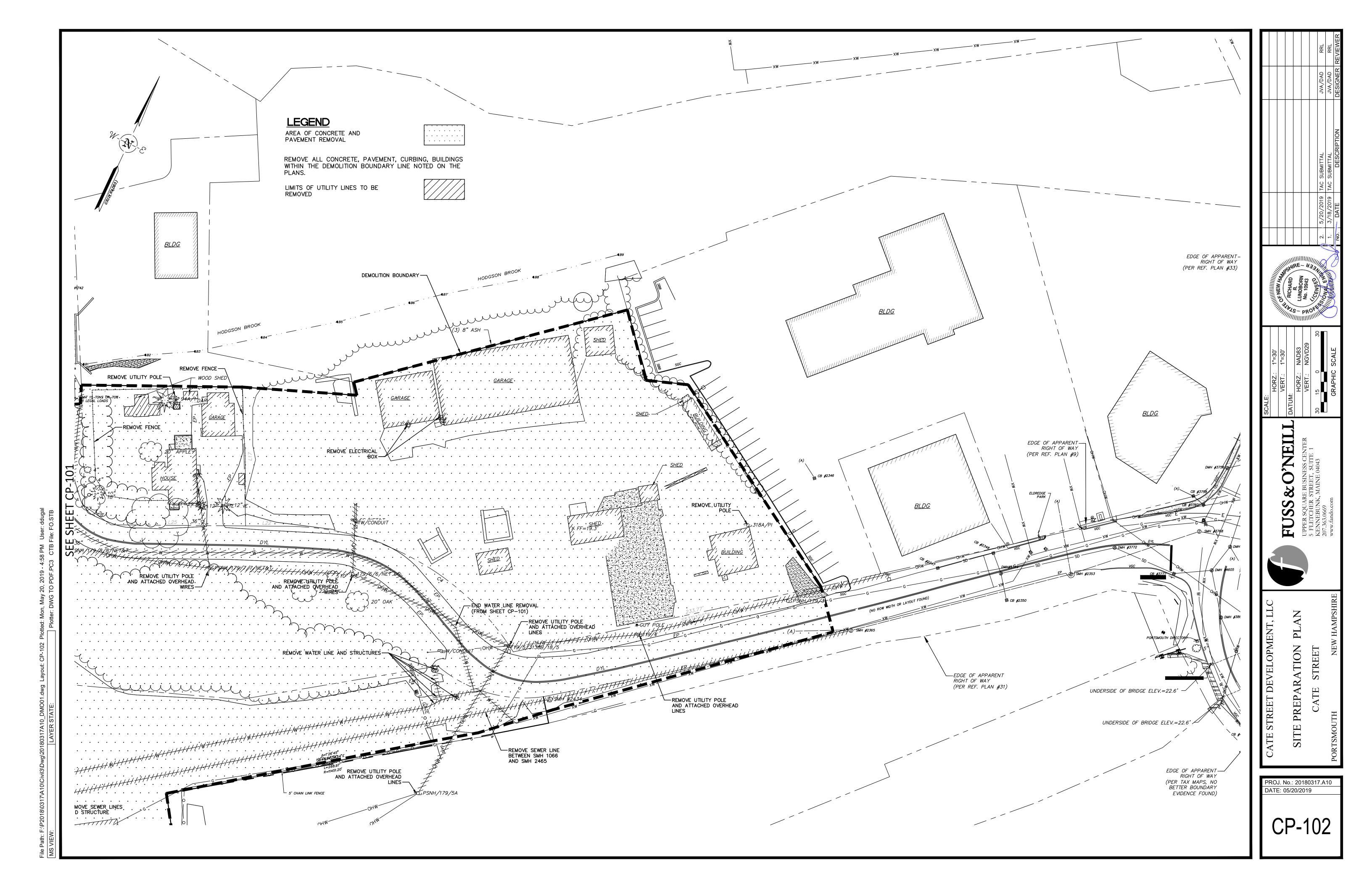
CN-002



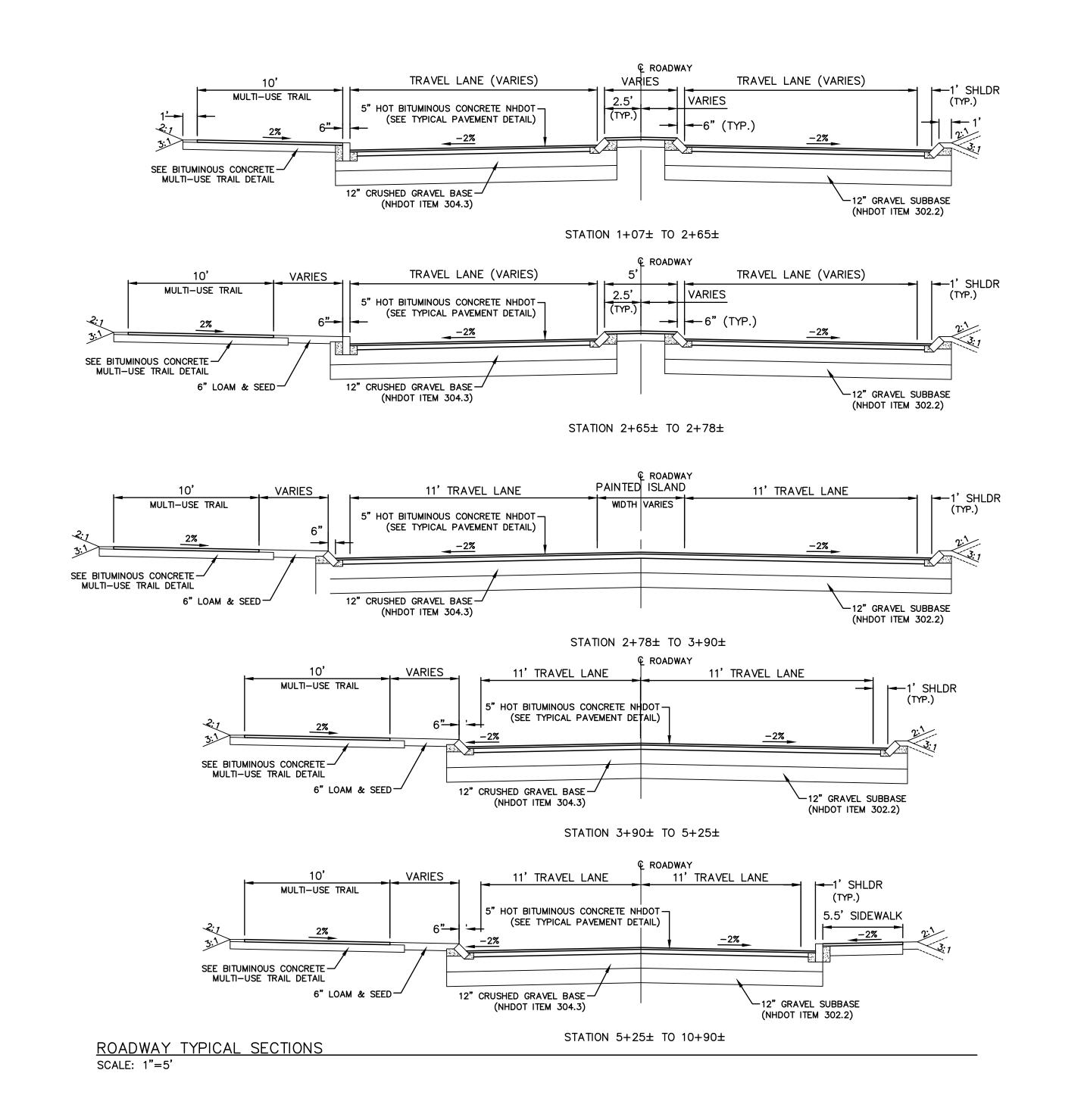


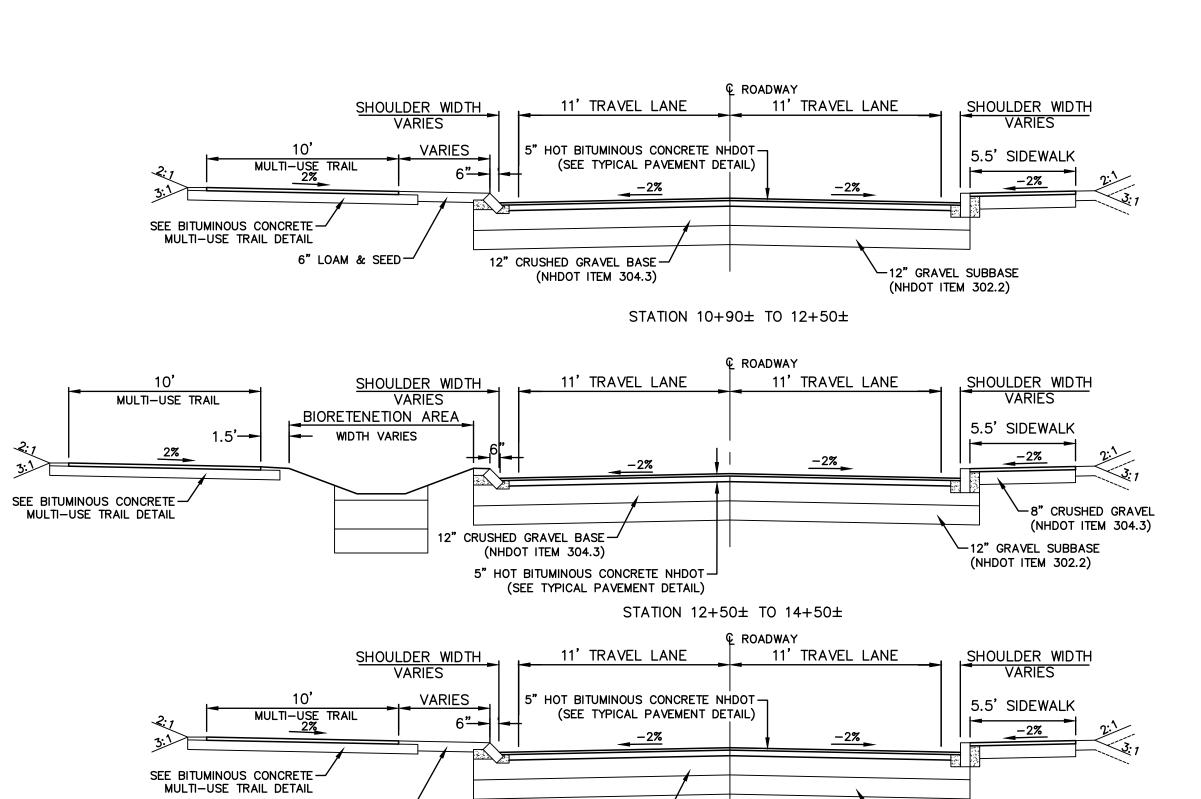
PROJ. No.: 20180317.A10 DATE: 05/20/2019

CP-101









12" CRUSHED GRAVEL BASE — (NHDOT ITEM 304.3)

STATION 14+50± TO 15+20±

12" GRAVEL SUBBASE (NHDOT ITEM 302.2)

6" LOAM & SEED -

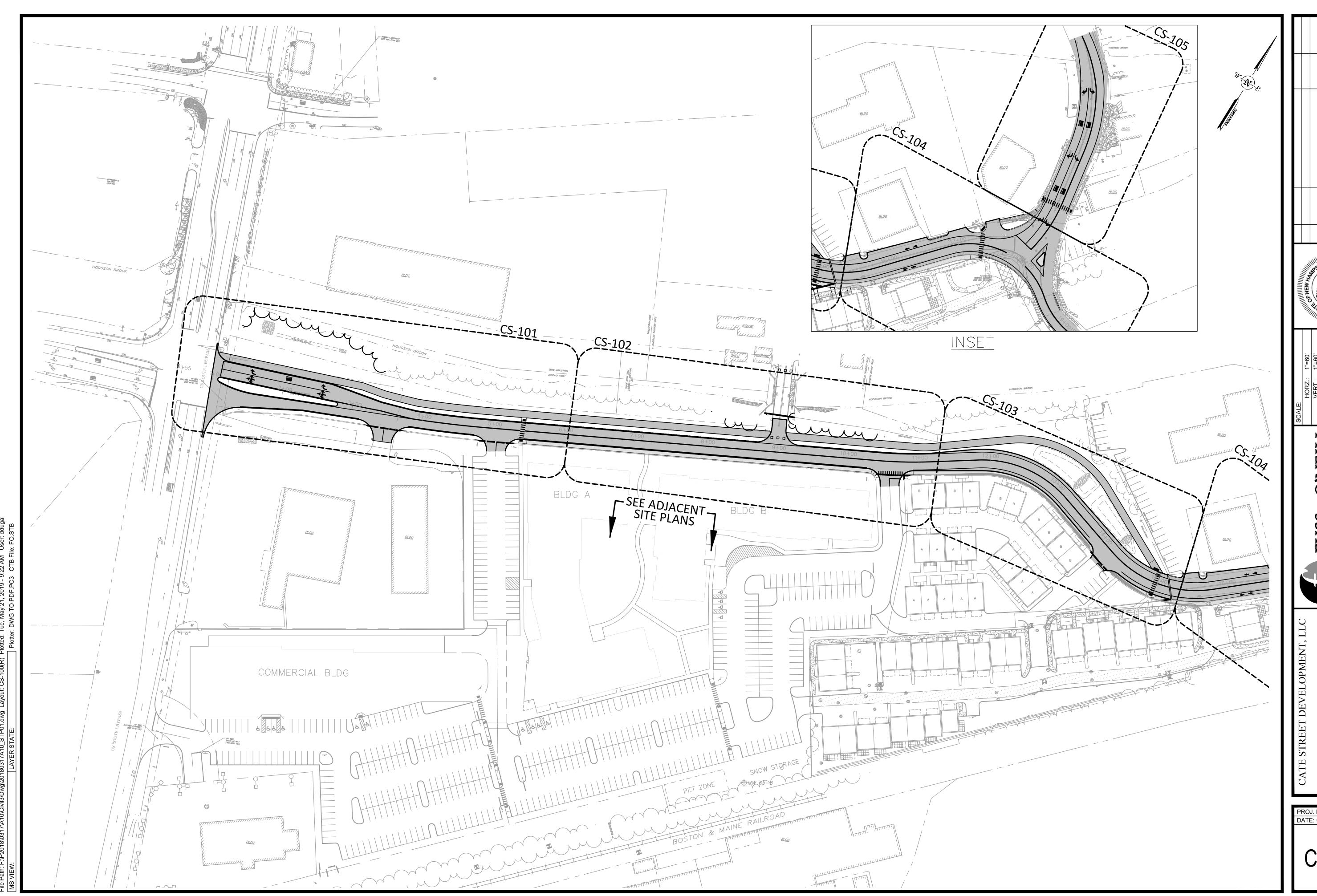


O'NEILL

SEC

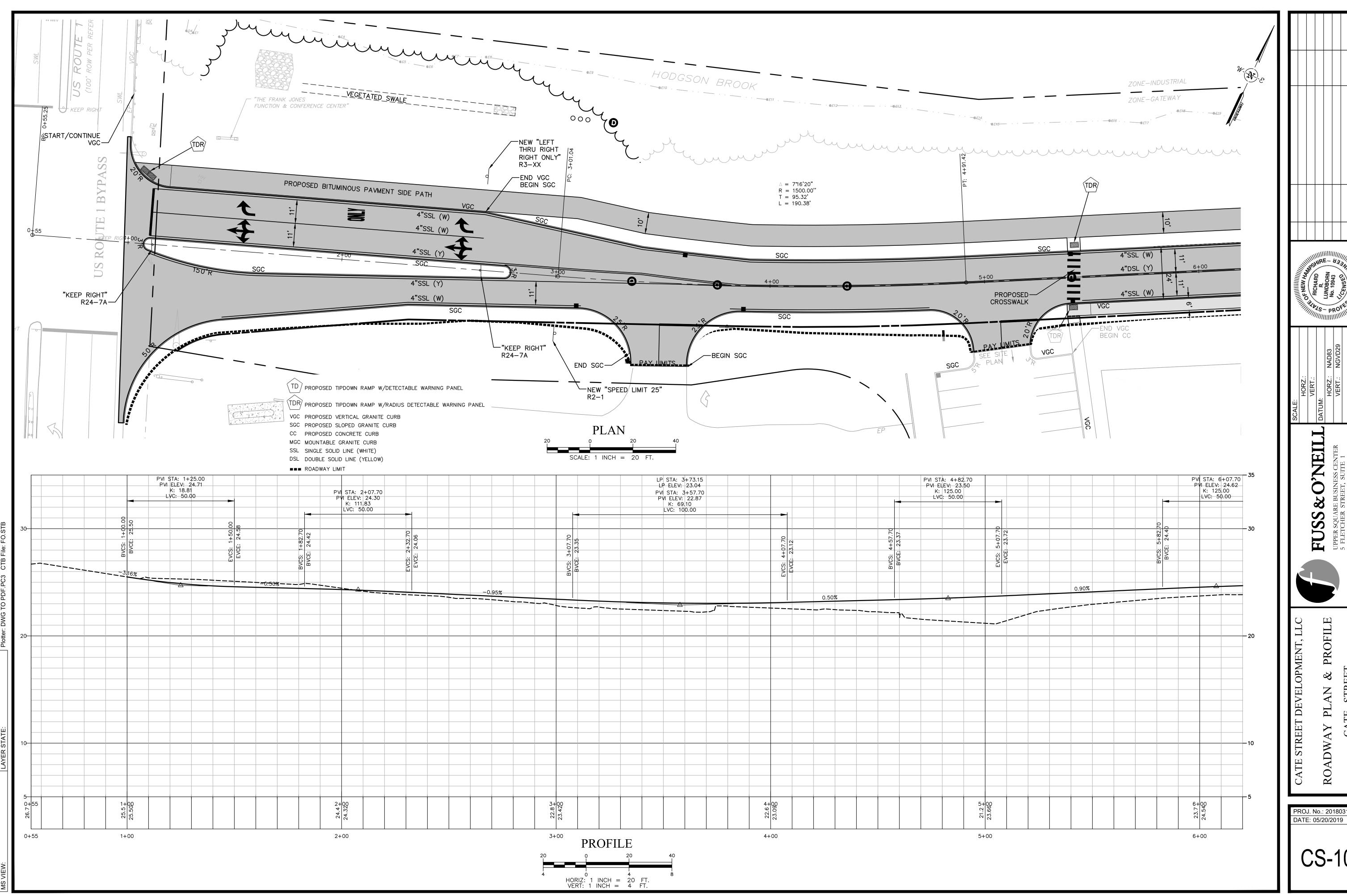
PROJ. No.: 20180317.A10 DATE: 05/20/2019

CS-001



FUSS UPPER SQUAR 5 FLETCHER KENNEBUNK, 207.363.0669 www.fando.com ROADWAY PL PROJ. No.: 20180317.A10 DATE: 05/20/2019

CS-100

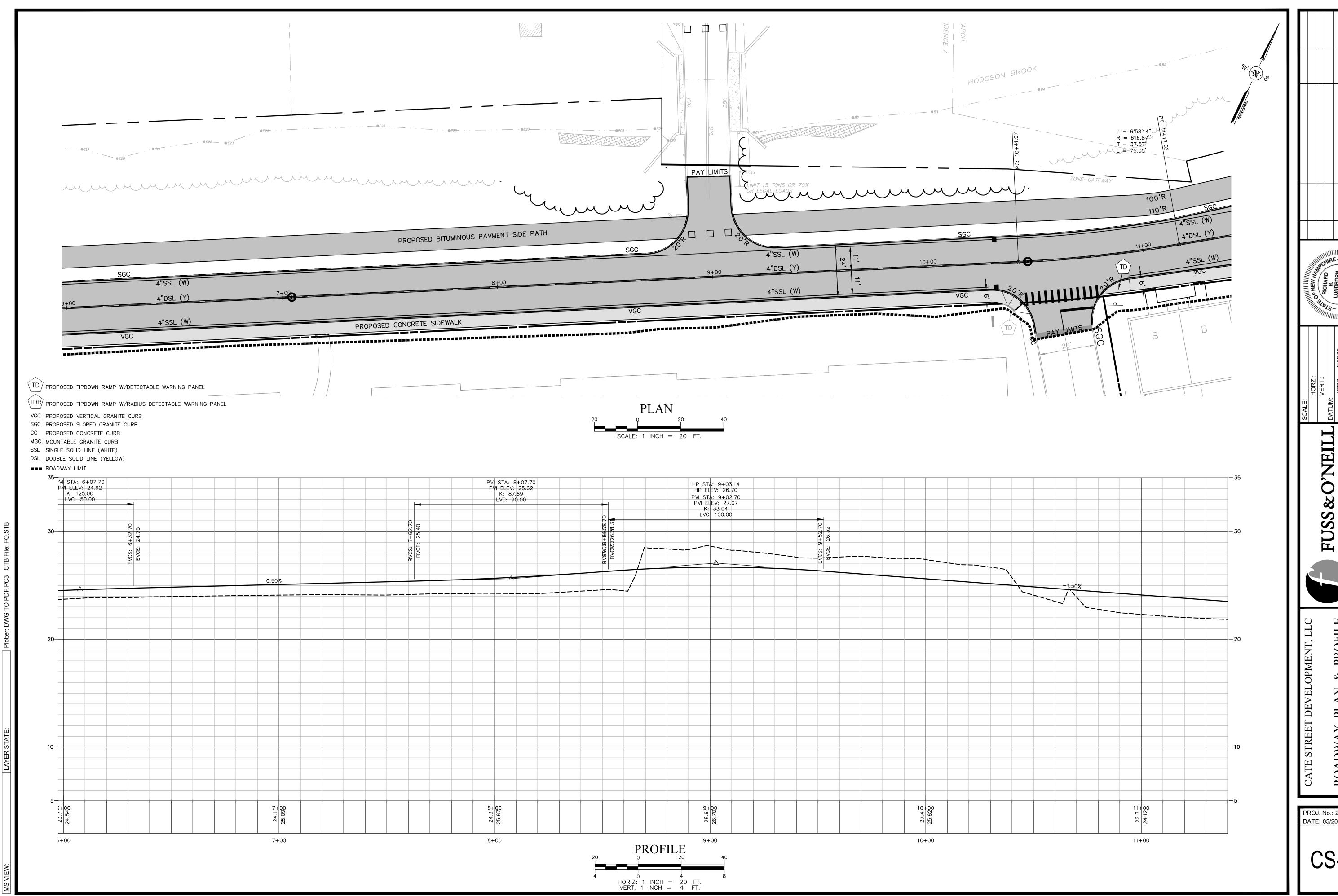


O'NEILL FUSS

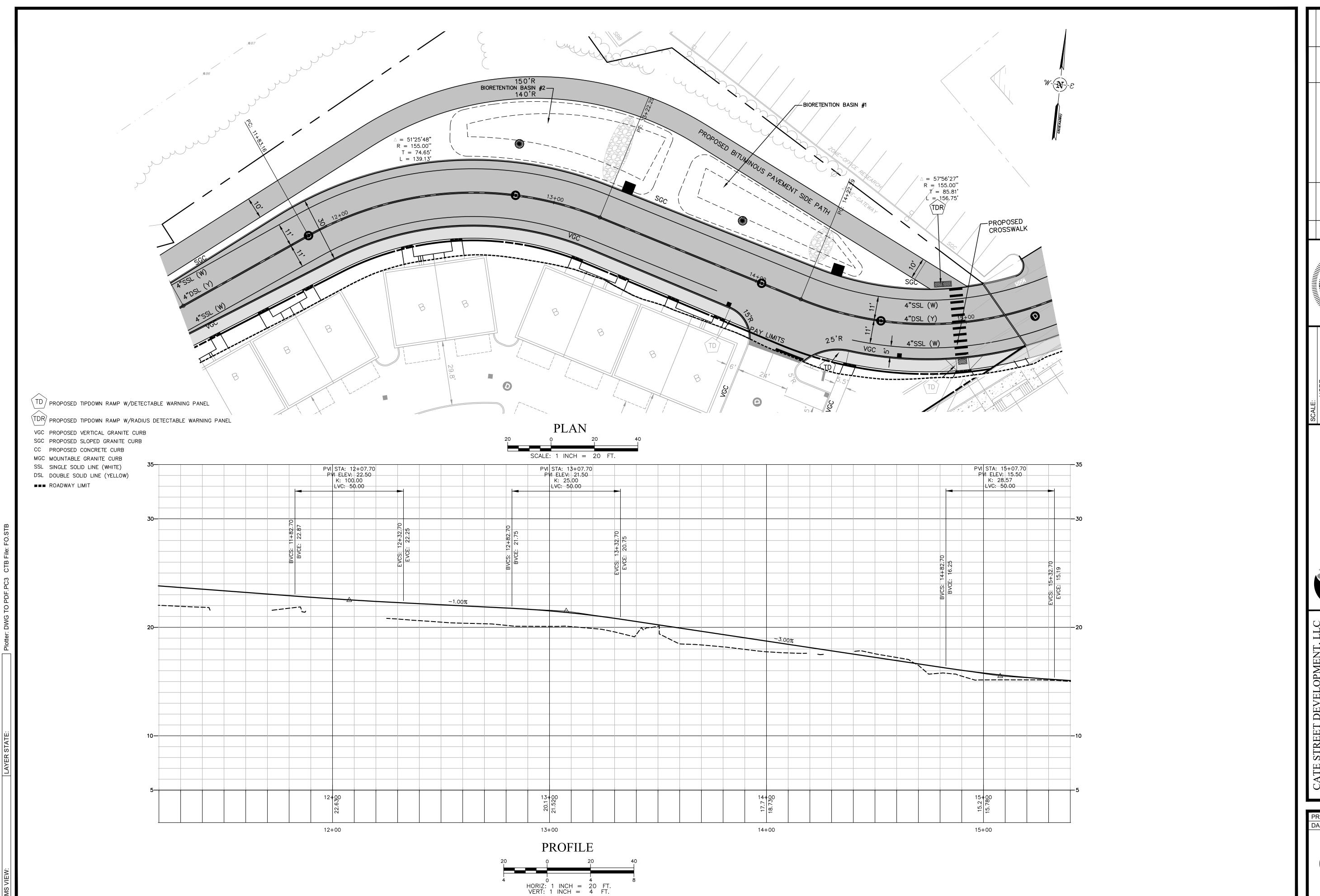
UPPER SQUAR

5 FLETCHER

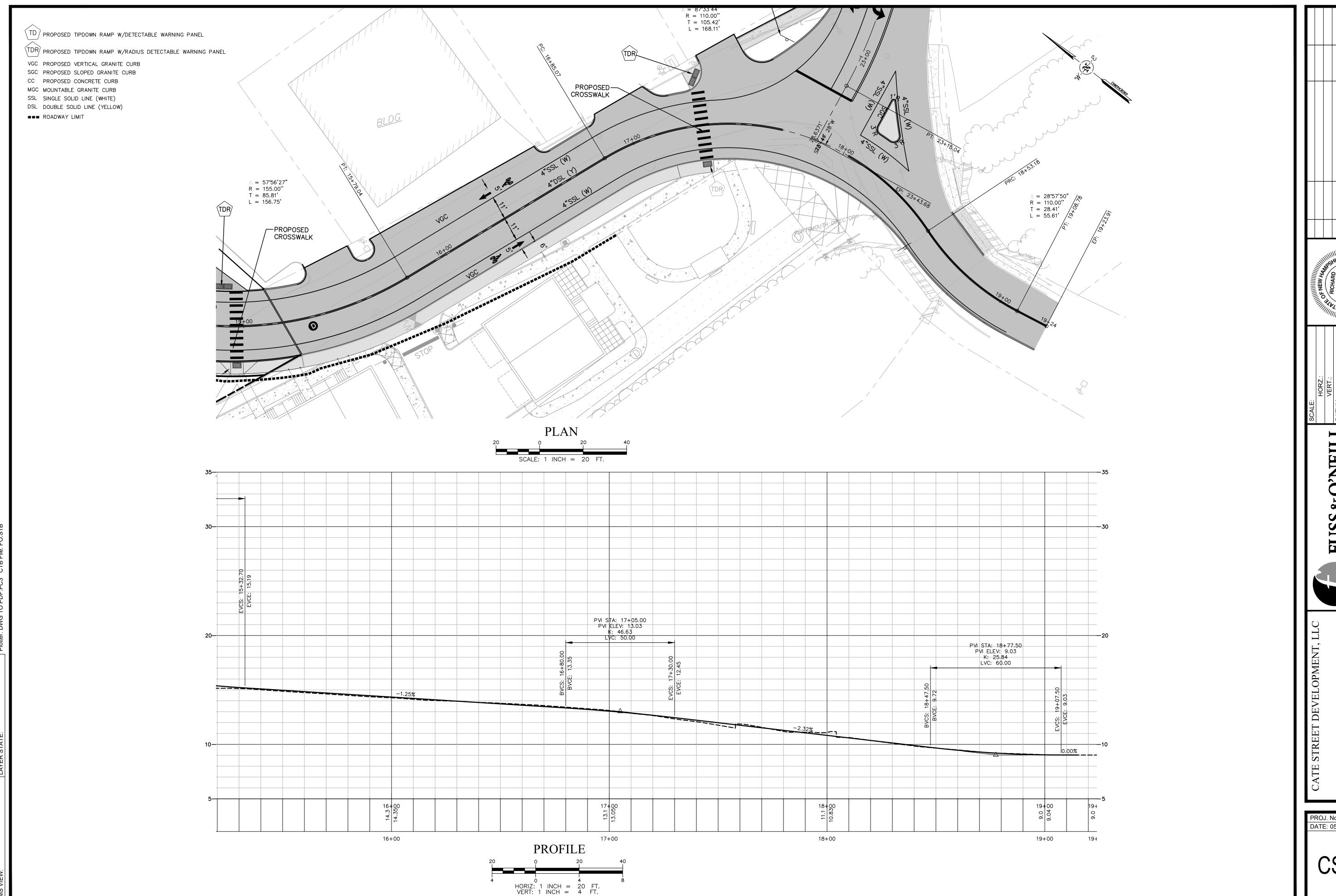
PROJ. No.: 20180317.A10



&O'NEILL



O'NEILL FUSS UPPER SQUAR 5 FLETCHER KENNEBUNK, 207.363.0669 www.fando.com



O'NEILL FUSS UPPER SQUAR 5 FLETCHER KENNEBUNK, 207.363.0669 www.fando.com

> PROJ. No.: 20180317.A10 DATE: 05/20/2019

CS-104

FUSS & O'NEILL UPPER SQUARE BUSINESS CENTER 5 FLETCHER STREET, SUITE 1 KENNEBUNK, MAINE 04043

OADWAY PLAN & PROFII

PROJ. No.: 20180317.A10 DATE: 05/20/2019

CS-105

CONSTRUCT 25 LF x 24" HDPE S=0.0050 PROPOSED 4' DIA. DMH STA. 3+22.21, L 73.28' RIM = 22.61(3) 24" HDPE INV IN = 16.36(1) 24" HDPE INV OUT = 16.26CONSTRUCT 9 LF x 24" HDPE S=0.0050 PROPOSED 4' DIA. DMH STA. 3+35.51, 0.00' RIM = 23.14(4) 12" HDPE INV IN = 17.71(6) 24" HDPE INV IN = 16.81(5) 12" HDPE INV IN = 17.43(2) 24" HDPE INV OUT = 16.71 CONSTRUCT 71 LF x 24" HDPE S=0.0050 PROPOSED 4' DIA. CB STA. 3+10.50, R 13.04' RIM = 23.06(3) 12" HDPE INV OUT = 18.56CONSTRUCT 25 LF x 12" HDPE S=0.0349 EXISTING 4' DIA. CB STA. 3+35.51, R 37.35' RIM = 45.50(3) 12" HDPE INV OUT = 17.60 CONSTRUCT 34 LF x 12" HDPE S=0.0051 PROPOSED 4' DIA. DMH STA. 3+75.44, 0.00' RIM = 23.04(7) 12" HDPE INV IN = 17.49(8) 12" HDPE INV IN = 17.49(9) 24" HDPE INV IN = 17.09 (3) 24" HDPE INV OUT = 16.99 CONSTRUCT 36 LF x 24" HDPE S=0.0050 PROPOSED 4' DIA. CB STA. 3+59.92, L 13.44' RIM = 22.78(6) 12" HDPE INV OUT = 18.28CONSTRUCT 17 LF x 12" HDPE S=0.0479 PROPOSED 4' DIA. CB STA. 3+87.81, R 11.00' RIM = 22.83(6) 12" HDPE INV OUT = 17.83CONSTRUCT 13 LF x 12" HDPE S=0.0268 PROPOSED 4' DIA. DMH STA. 4+35.90, 0.00' RIM = 23.27(11) 18" HDPE INV IN = 17.87 (10) 12" HDPE INV IN = 18.37(6) 24" HDPE INV OUT = 17.37CONSTRUCT 57 LF x 24" HDPE S=0.0050 PROPOSED 4' DIA. CB STA. 4+76.81, R 42.70' RIM = 23.37(9) 12" HDPE INV OUT = 18.87CONSTRUCT 56 LF x 12" HDPE S=0.0090 PROPOSED 4' DIA. DMH STA. 5+40.69, 0.00' RIM = 24.02(13) 12" HDPE INV IN = 18.87 (12) 12" HDPE INV IN = 18.87 (14) 18" HDPE INV IN = 18.47(9) 18" HDPE INV OUT = 18.37CONSTRUCT 101 LF x 18" HDPE S=0.0050 PROPOSED 4' DIA. CB STA. 5+40.69, L 11.00' RIM = 23.80(11) 12" HDPE INV OUT = 19.30CONSTRUCT 8 LF x 12" HDPE S=0.0586 PROPOSED 4' DIA. CB STA. 5+40.69, R 11.00' | RIM = 23.80 |(11) 12" HDPE INV OUT = 19.30CONSTRUCT 8 LF x 12" HDPE S=0.0593 PROPOSED 4' DIA. DMH STA. 7+04.52, 0.00' RIM = 25.11(15) 18" HDPE INV IN = 19.37(11) 18" HDPE INV OUT = 19.27 CONSTRUCT 160 LF x 18" HDPE S=0.0050 PROPOSED 4' DIA. DMH STA. 7+14.28, R 125.49' RIM = 27.35(17) 12" HDPE INV IN = 20.5015 (16) 12" HDPE INV IN = 20.50

(14) 18" HDPE INV OUT = 20.00

CONSTRUCT 122 LF x 18" HDPE S=0.0050

STRUCTURES 1-16

WATER QUALITY STRUCTURE STA. 3+05.93, L 73.93'

(2) 24" HDPE INV IN = 16.22

(SWALE) 24" HDPE INV OUT = 16.12

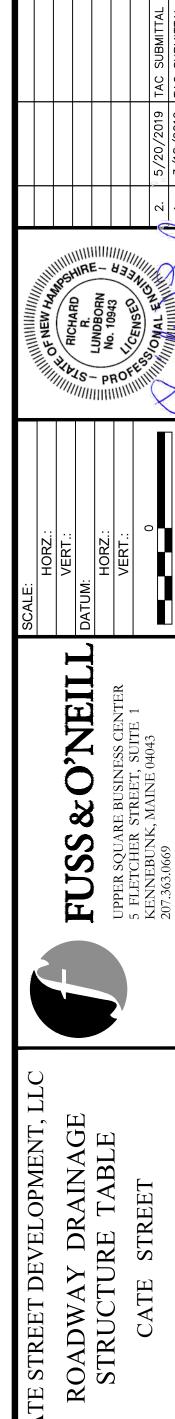
RIM = 18.41

STRUCTURE DETAILS

STRUCTURE

	STRUCTURES 17-50
STRUCTURE	STRUCTURE DETAILS
21	PROPOSED 4' DIA. DMH STA. 15+31.21, R 4.24' RIM = 15.12 (22) 24" HDPE INV IN = 10.39 (E2349) 24" HDPE INV OUT = 10.29 CONSTRUCT 119 LF x 24" HDPE S=0.0050
22	PROPOSED 4' DIA. DMH STA. 14+60.59, 0.00' RIM = 16.91 (23) 12" HDPE INV IN = 13.13 (25) 24" HDPE INV IN = 10.83 (24) 12" HDPE INV IN = 13.53 (21) 24" HDPE INV OUT = 10.73 CONSTRUCT 68 LF x 24" HDPE S=0.0050
23	PROPOSED 4' DIA. CB STA. 14+70.34, R 15.00' RIM = 16.20 (22) 12" HDPE INV OUT = 13.20 CONSTRUCT 15 LF x 12" HDPE S=0.0050
24	PROPOSED 4' DIA. CB STA. 14+44.77, R 38.92' RIM = 18.42 (22) 12" HDPE INV OUT = 13.92 CONSTRUCT 39 LF x 12" HDPE S=0.0100
25	PROPOSED 4' DIA. DMH STA. 14+02.77, 0.00' RIM = 18.65 (26) 12" HDPE INV IN = 12.20 (40) 24" HDPE INV IN = 11.20 (27) 12" HDPE INV IN = 12.30 (28) 18" HDPE INV IN = 12.31 (22) 24" HDPE INV OUT = 11.10 CONSTRUCT 54 LF x 24" HDPE S=0.0050
26	PROPOSED 4' DIA. CB STA. 13+92.48, R 14.71' RIM = 18.55 (25) 12" HDPE INV OUT = 13.00 CONSTRUCT 15 LF x 12" HDPE S=0.0573
27	RG #1 OVERFLOW STA. 13+83.80, L 23.38' RIM = 16.72 (25) 12" HDPE INV OUT = 12.43 CONSTRUCT 27 LF x 12" HDPE S=0.0050
28	PROPOSED 4' DIA. DMH STA. 14+21.92, R 52.02' RIM = 20.33 (29) 12" HDPE INV IN = 12.67 (35) 12" HDPE INV IN = 15.94 (25) 18" HDPE INV OUT = 12.57 CONSTRUCT 52 LF x 18" HDPE S=0.0050
40	PROPOSED 4' DIA. DMH STA. 12+82.01, 0.00' RIM = 21.76 (41) 12" HDPE INV IN = 14.33 (42) 24" HDPE INV IN = 11.88 (25) 24" HDPE INV OUT = 11.78 CONSTRUCT 117 LF x 24" HDPE S=0.0050
41	RG #2 OVERFLOW STA. 12+80.96, L 23.76' RIM = 22.87 (40) 12" HDPE INV OUT = 14.43 CONSTRUCT 20 LF x 12" HDPE S=0.0050
42	PROPOSED 4' DIA. DMH STA. 11+83.16, 0.00' RIM = 22.87 (43) 24" HDPE INV IN = 12.45 (40) 24" HDPE INV OUT = 12.35 CONSTRUCT 94 LF x 24" HDPE S=0.0050
43	PROPOSED 4' DIA. DMH STA. 10+46.27, R 0.01' RIM = 24.92 (44) 12" HDPE INV IN = 18.50 (45) 12" HDPE INV IN = 18.50 (46) 18" HDPE INV IN = 13.61 (42) 24" HDPE INV OUT = 13.11 CONSTRUCT 133 LF x 24" HDPE S=0.0050
44	PROPOSED 4' DIA. CB STA. 10+31.20, R 11.00' RIM = 24.93 (43) 12" HDPE INV OUT = 19.50 CONSTRUCT 15 LF x 12" HDPE S=0.0682
4 5	PROPOSED 4' DIA. CB STA. 10+31.20, L 11.00' RIM = 24.93 (43) 12" HDPE INV OUT = 19.50 CONSTRUCT 15 LF x 12" HDPE S=0.0682
46	PROPOSED 4' DIA. DMH STA. 10+58.58, R 122.62' RIM = 21.21 (47) 18" HDPE INV IN = 14.31 (43) 18" HDPE INV OUT = 14.21 CONSTRUCT 120 LF x 18" HDPE S=0.0050

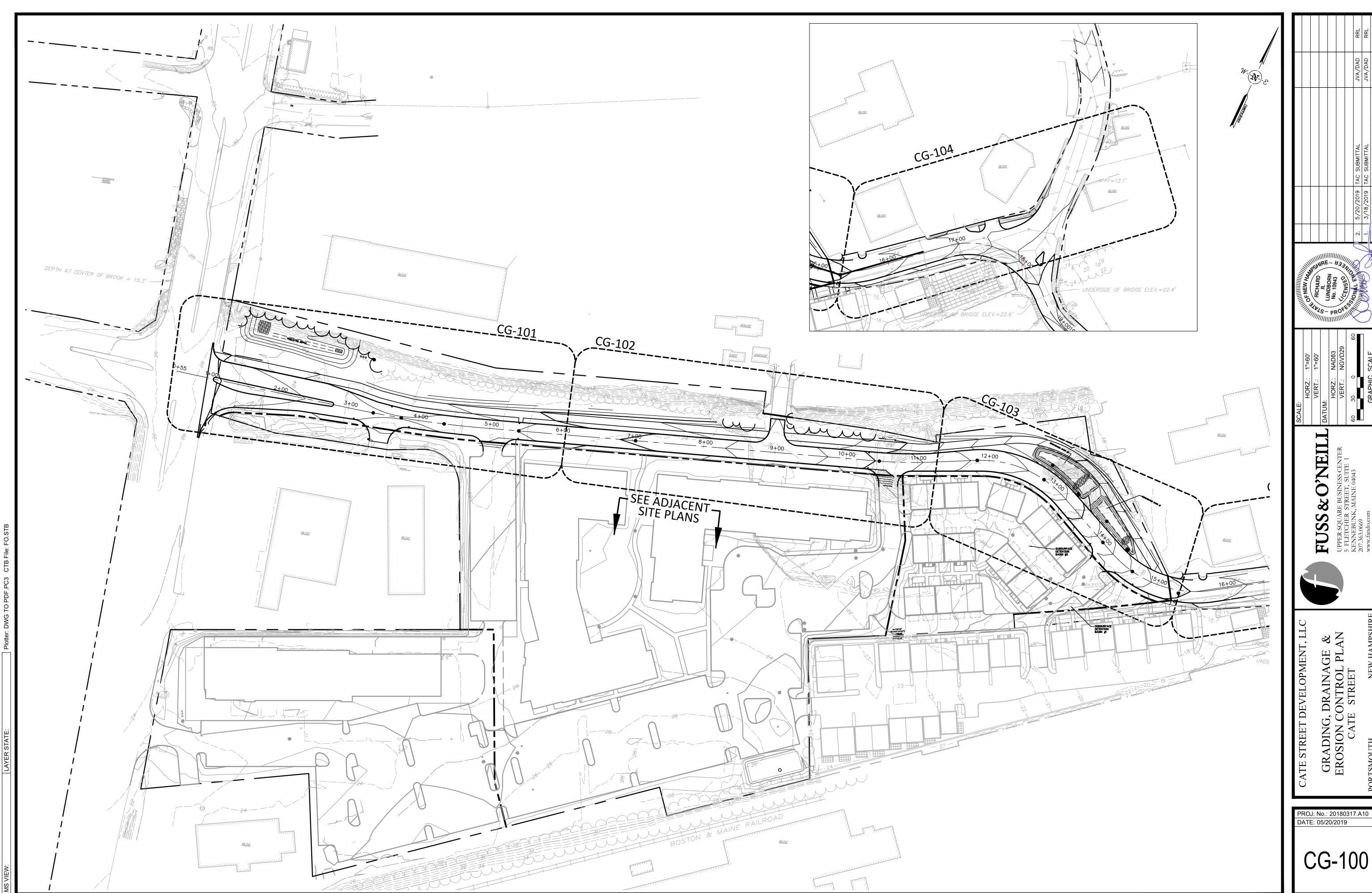
LIGHT TABLE ENTRIES FROM SITE PLAN PROVIDED FOR REFERENCE ONLY



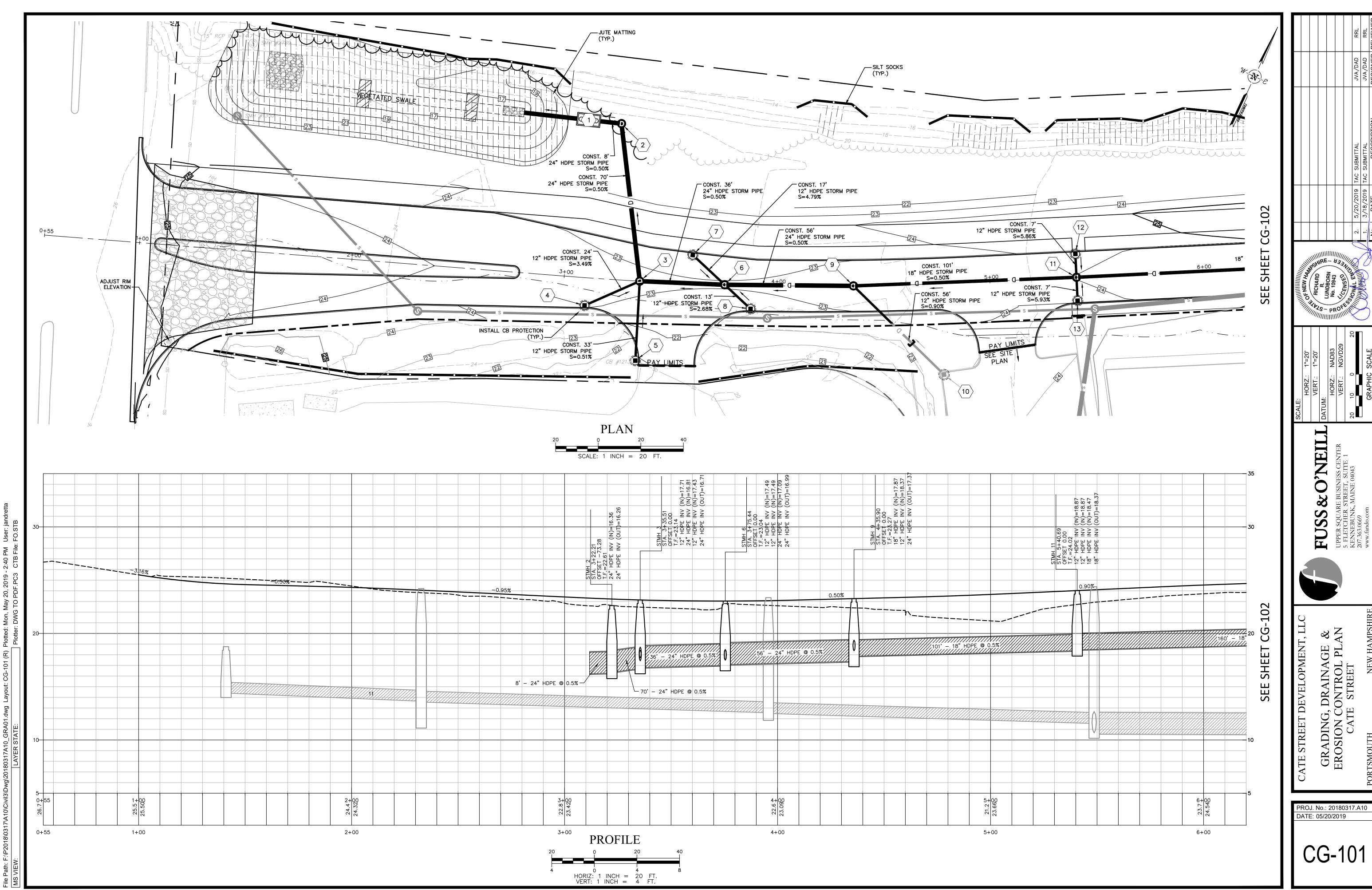
PROJ. No.: 20180317.A10

CG-001

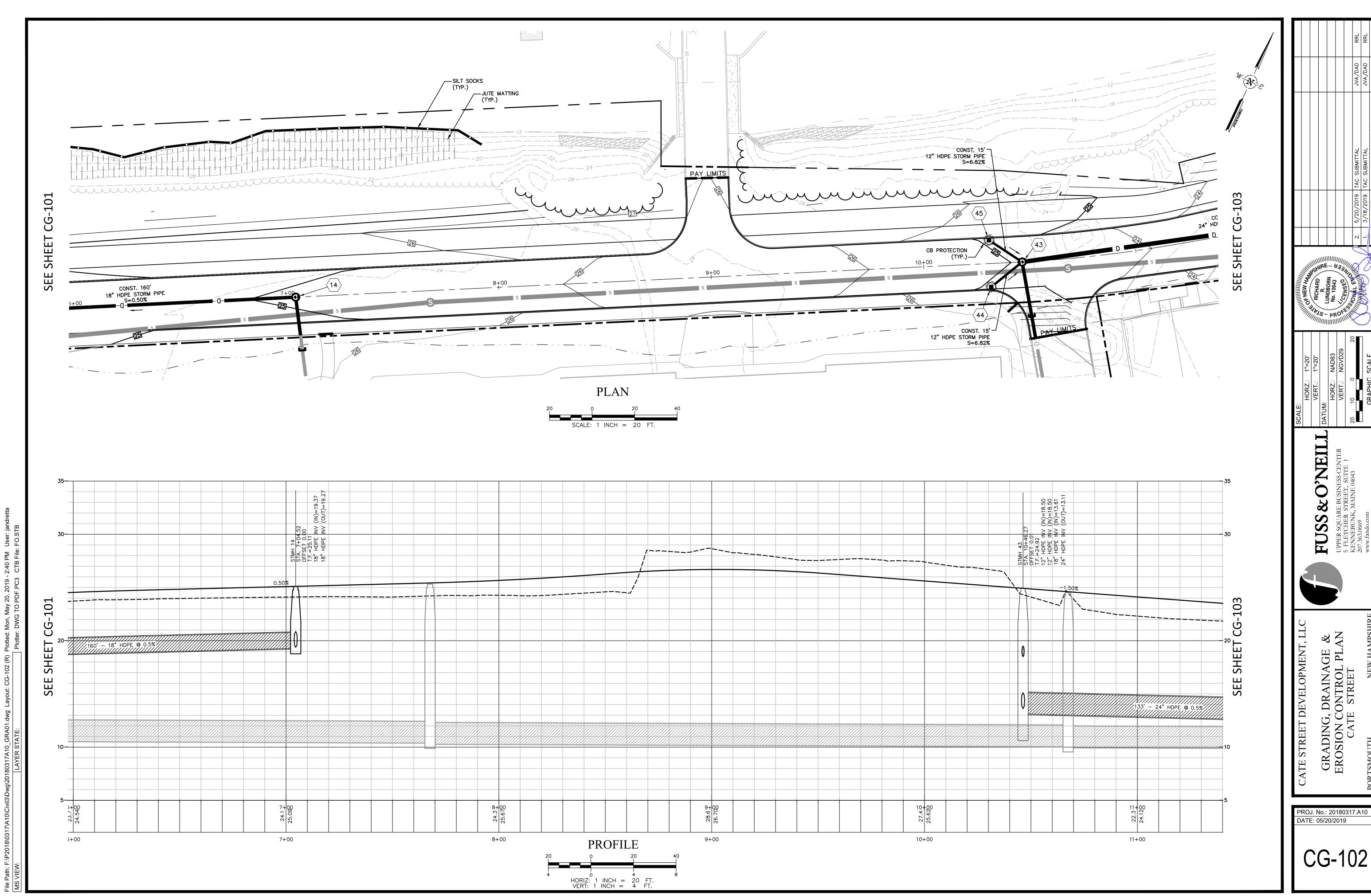
DATE: 05/20/2019



FUSS UPPER SQUAR 5 FLETCHER KENNEBUNK, 207.363.0669 www.fando.com GRADING, DRAINAGE & EROSION CONTROL PLA PROJ. No.: 20180317.A10 DATE: 05/20/2019



O'NEILL FUSS (UPPER SQUAR 5 FLETCHER 8 KENNEBUNK, 207.363.0669 www.fando.com GRADING, DRAINAGE A EROSION CONTROL PLA CATE STREET



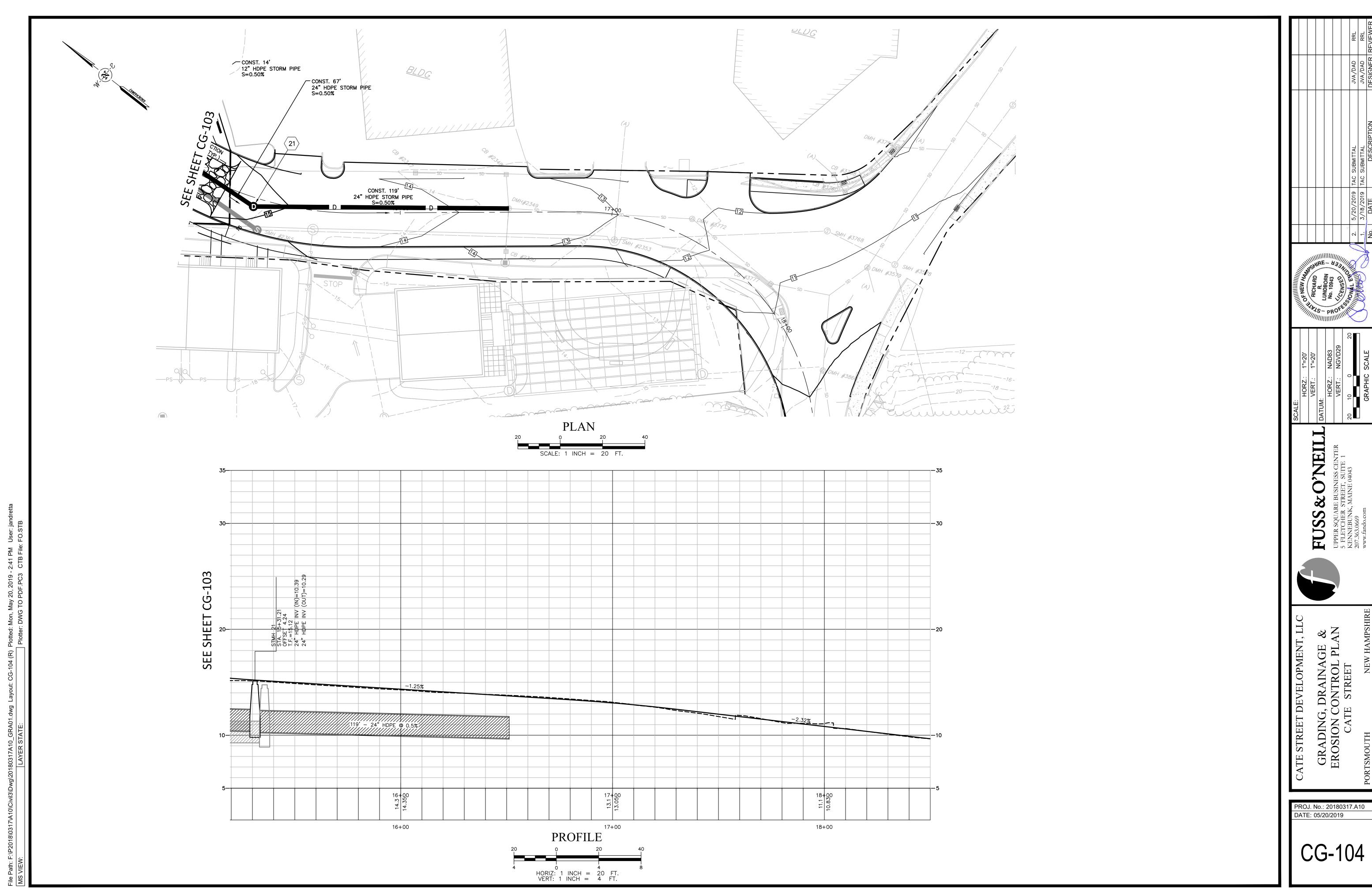
FUSS & O'NEILL

UPPER SQUARE BUSINESS CENTER
5 FLETCHER STREET, SUITE 1
KENNEBUNK, MAINE 04043 ATE STREET DEVELOPMENT, LI GRADING, DRAINAGE & EROSION CONTROL PLAN CATE STREET PROJ. No.: 20180317.A10 DATE: 05/20/2019

GRADING, DRAINAGE & EROSION CONTROL PLAN

PROJ. No.: 20180317.A10 DATE: 05/20/2019

CG-103

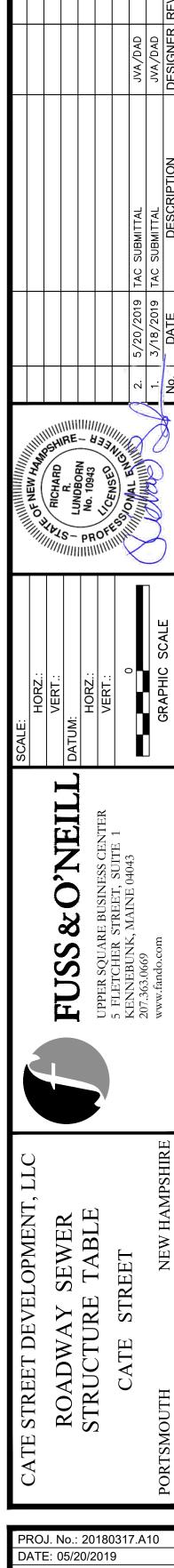


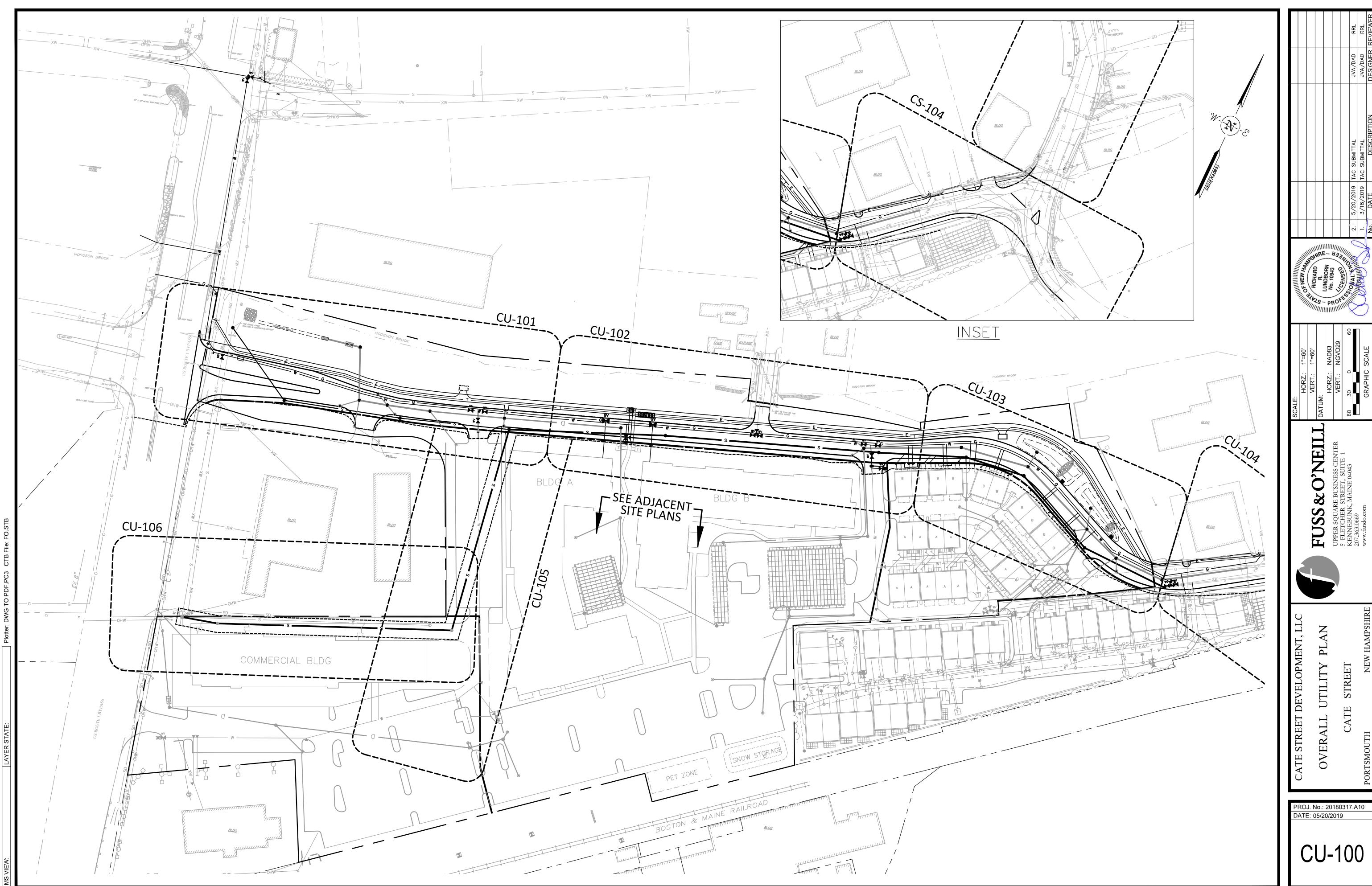
FUSS & O'NEILL

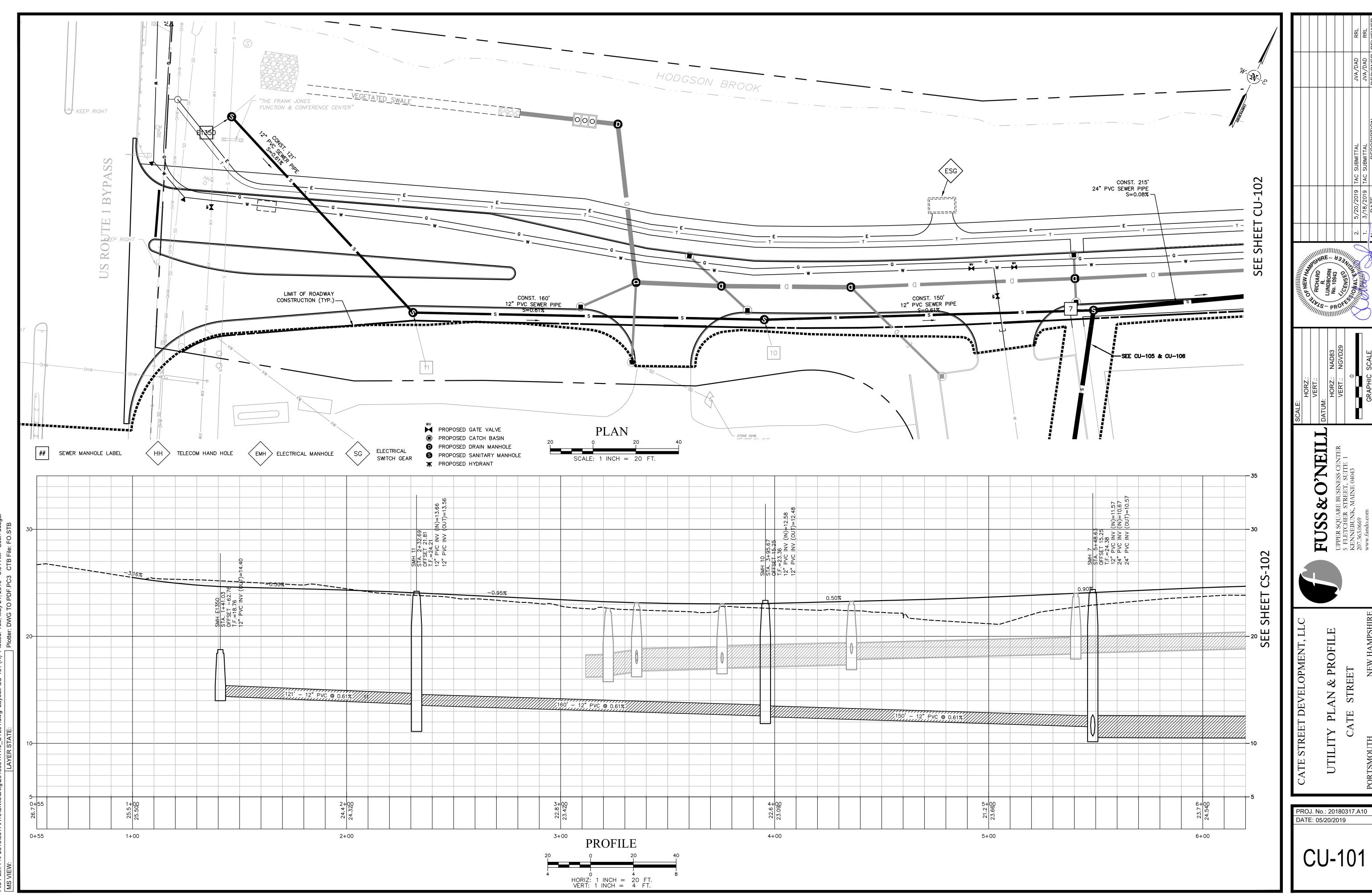
UPPER SQUARE BUSINESS CENTER
5 FLETCHER STREET, SUITE 1
KENNEBUNK, MAINE 04043
207.363.0669
www.fando.com GRADING, DRAINAGE & EROSION CONTROL PLAN CATE STREET

	CEWED CYCTEM
CTDLICTURE	SEWER SYSTEM
STRUCTURE E1350	STRUCTURE DETAILS PROPOSED 4' DIA. SEWER MANHOLE STA. 1+41.03, L 62.76' RIM = 18.76 (11) 12" PVC INV OUT = 14.40 CONSTRUCT 121 LF x 12" PVC S=0.0061
E1066	PROPOSED 4' DIA. SEWER MANHOLE STA. 0+00.00, 0.00' RIM = 23.34 (9) 24" PVC INV OUT = 11.50 CONSTRUCT 47 LF x 24" PVC S=0.0030
1	PROPOSED 4' DIA. SEWER MANHOLE STA. 15+35.74, R 14.36' RIM = 14.76 (2) 24" PVC INV IN = 9.30
2	PROPOSED 4' DIA. SEWER MANHOLE STA. 14+20.31, R 19.24' RIM = 17.71 (3) 24" PVC INV IN = 9.50 (1) 24" PVC INV OUT = 9.40 CONSTRUCT 121 LF x 24" PVC S=0.0008
3	PROPOSED 4' DIA. SEWER MANHOLE STA. 12+84.64, R 13.75' RIM = 21.37 (4) 24" PVC INV IN = 9.70 (2) 24" PVC INV OUT = 9.60 CONSTRUCT 129 LF x 24" PVC S=0.0008
4	PROPOSED 4' DIA. SEWER MANHOLE STA. 11+89.84, R 13.75' RIM = 22.41 (5) 24" PVC INV IN = 9.87 (12) 8" PVC INV IN = 11.10 (3) 24" PVC INV OUT = 9.77 CONSTRUCT 82 LF x 24" PVC S=0.0008
5	PROPOSED 4' DIA. SEWER MANHOLE STA. 10+67.47, R 4.59' RIM = 24.51 (6) 24" PVC INV IN = 10.06 (4) 24" PVC INV OUT = 9.96 CONSTRUCT 119 LF x 24" PVC S=0.0008
6	PROPOSED 4' DIA. SEWER MANHOLE STA. 7+67.66, R 5.51' RIM = 25.32 (7) 24" PVC INV IN = 10.40 (5) 24" PVC INV OUT = 10.30 CONSTRUCT 297 LF x 24" PVC S=0.0008
7	PROPOSED 4' DIA. SEWER MANHOLE STA. 5+48.63, R 15.25' RIM = 24.38 (10) 12" PVC INV IN = 11.57 (8) 24" PVC INV IN = 10.67 (6) 24" PVC INV OUT = 10.57 CONSTRUCT 216 LF x 24" PVC S=0.0008
8	PROPOSED 4' DIA. SEWER MANHOLE STA. 3+78.94, 0.00' RIM = 25.57 (9) 24" PVC INV IN = 11.00 (7) 24" PVC INV OUT = 10.90 CONSTRUCT 289 LF x 24" PVC S=0.0008
9	PROPOSED 4' DIA. SEWER MANHOLE STA. 0+50.41, 0.00' RIM = 25.61 (E1066) 24" PVC INV IN = 11.36 (8) 24" PVC INV OUT = 11.26 CONSTRUCT 325 LF x 24" PVC S=0.0008
10	PROPOSED 4' DIA. SEWER MANHOLE STA. 3+95.67, R 15.25' RIM = 23.36 (11) 12" PVC INV IN = 12.58 (7) 12" PVC INV OUT = 12.48 CONSTRUCT 150 LF x 12" PVC S=0.0061
11	PROPOSED 4' DIA. SEWER MANHOLE STA. 2+32.69, R 21.81' RIM = 24.21 (E1350) 12" PVC INV IN = 13.66 (10) 12" PVC INV OUT = 13.56 CONSTRUCT 161 LF x 12" PVC S=0.0061
12	PROPOSED 4' DIA. SEWER MANHOLE STA. 11+90.56, R 72.89' RIM = 23.20 (13) 8" PVC INV IN = 11.48 (4) 8" PVC INV OUT = 11.38 CONSTRUCT 56 LF x 8" PVC S=0.0050
13	PROPOSED 4' DIA. SEWER MANHOLE STA. 12+10.56, R 148.42' RIM = 20.94 (12) 8" PVC INV OUT = 11.84 CONSTRUCT 72 LF x 8" PVC S=0.0050

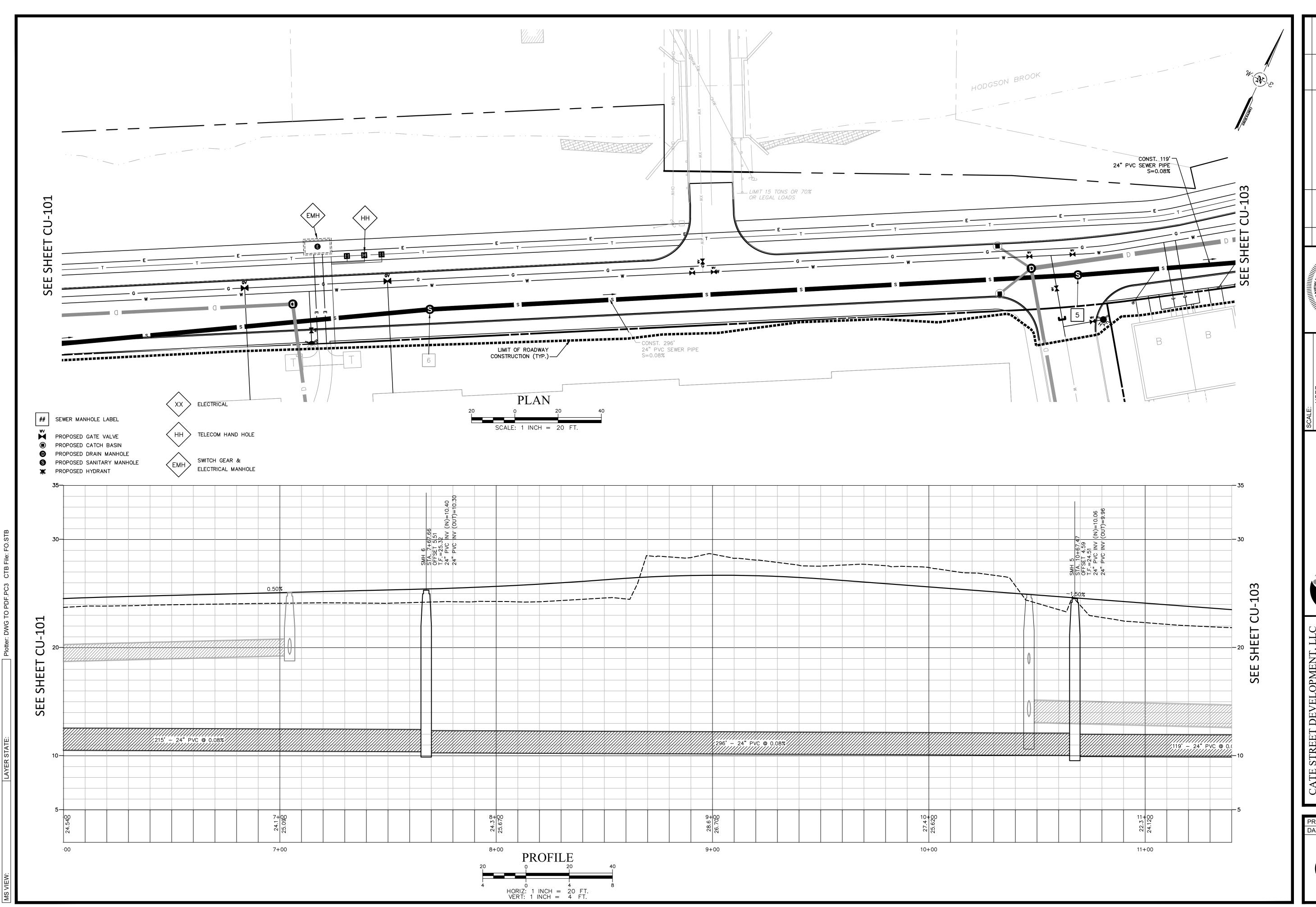
LIGHT TABLE ENTRIES FROM SITE PLAN PROVIDED FOR REFERENCE ONLY



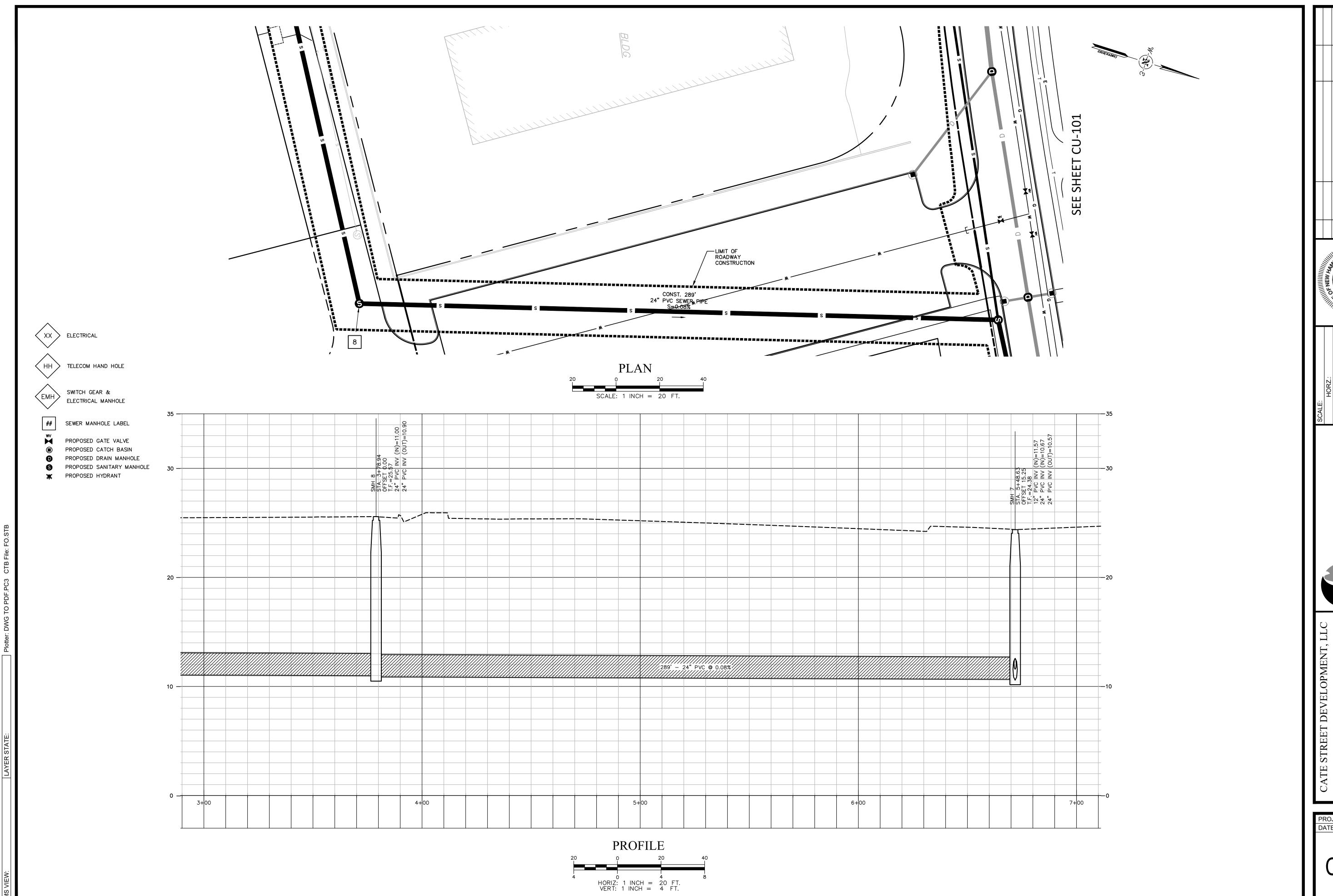




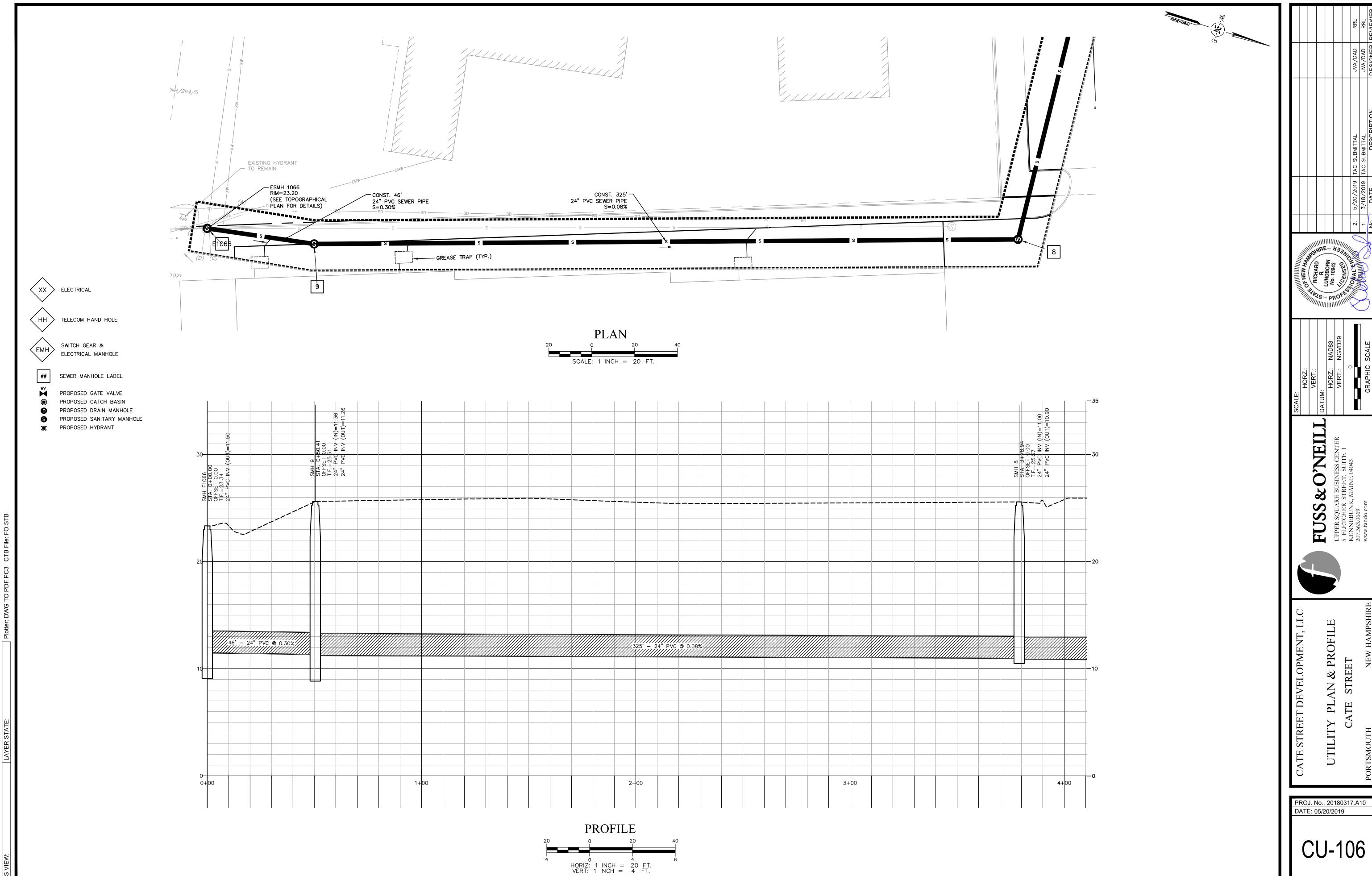
O'NEILL FUSS (UPPER SQUARE) 5 FLETCHER SKENNEBUNK, AN & PROFILE STREET



&O'NEILL FUSS AN & PROFILE STREET PROJ. No.: 20180317.A10 DATE: 05/20/2019



FUSS & O'NEILL I UPPER SQUARE BUSINESS CENTER 5 FLETCHER STREET, SUITE 1 KENNEBUNK, MAINE 04043 207.363.0669 www.fando.com



&O'NEILL FUSS (UPPER SQUAR) 5 FLETCHER SKENNEBUNK,

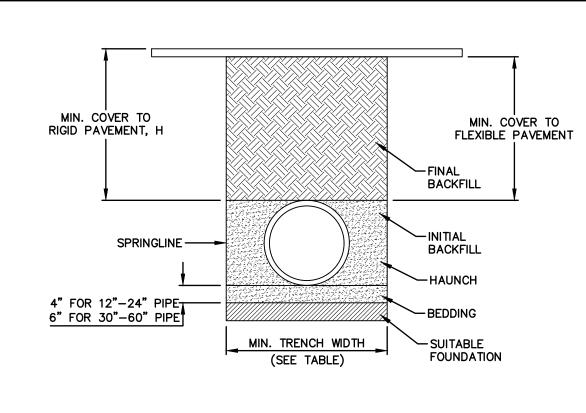


TABLE 1, RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH	
12" (300mm) 15"	30" (762mm)	
(375mm)	34" (864mm)	
18" (450mm)	39" (991mm)	
24" (600mm)	48" (1219mm)	
30" (750mm)	56" (1422mm)	
36" (900mm) 42"	64" (1626mm)	
(1050mm)	72" (1829mm)	
48" (1200mm)	80" (2032mm)	
60" (1500mm)	96" (2438mm)	

TABLE 2. MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

	SURFACE LIVE LOAD CONDITION		
PIPE DIAM.	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD)*	
12"-48" (300mm-1200mm)	12" (305mm)	12" (305mm)	
60" (1500mm)	24" (610mm)	60" (152 4 mm)	
*VEHICLE IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER			

28"-30" DIA.

CLEAR OPENING

TABLE 3, MAXIMUM COVER FOR ADS HP STORM PIPE, FT.

(8.5m)(6.4m)(4.9m)(6.4m)(4.9m)(4.9m)

29" 24" 16" 21" 16" 16" (8.8m) (6.4m) (4.9m) (6.4m) (4.9m)

30" 24" 16" 22" 17" 16" (9.1m) (6.4m) (4.9m) (6.7m) (5.2m) (4.9m)

26" 18" 14" 19" 14" 14" (7.9m) (5.5m) (4.3m) (5.8m) (4.3m) (4.3m)

27" 19" 14" 19" 15" 14" (8.2m) (5.8m) (4.3m) (5.8m) (4.3m)

20" 14" 10" 28" 11" 10" (6.1m) (4.3m) (3.0m) (8.5m) (3.4m) (3.0m)

(6.4m)(4.3m)(3.0m)(4.6m)(3.4m)(3.0m)

|(6.1m)|(4.3m)|(2.7m)|(4.3m)|(3.0m)|(3.0m)

|(6.1m)|(4.3m)|(2.7m)|(4.3m)|(3.0m)|(2.7m)

CLASS II

| PIPE DIA. | COMPACTED | 95% | 90% | 85% | 95% | 90% | 95%

FILL HEIGHT TABLE GENERATED USING AASHTO SECTION

12, LOAD RESISTANCE FACTOR DESIGN (LRFD) PROCEDURE

18" (450mm)

44" (13.4m)

WITH THE FOLLOWING ASSUMPTIONS:

UNIT WEIGHT OF SOIL (ys) - PCF

-MANHOLE FRAME AND COVER SHALL BE

JORDAN IRON WORKS HINGE COVER PER

CITY OF PORTSMOUTH STANDARD

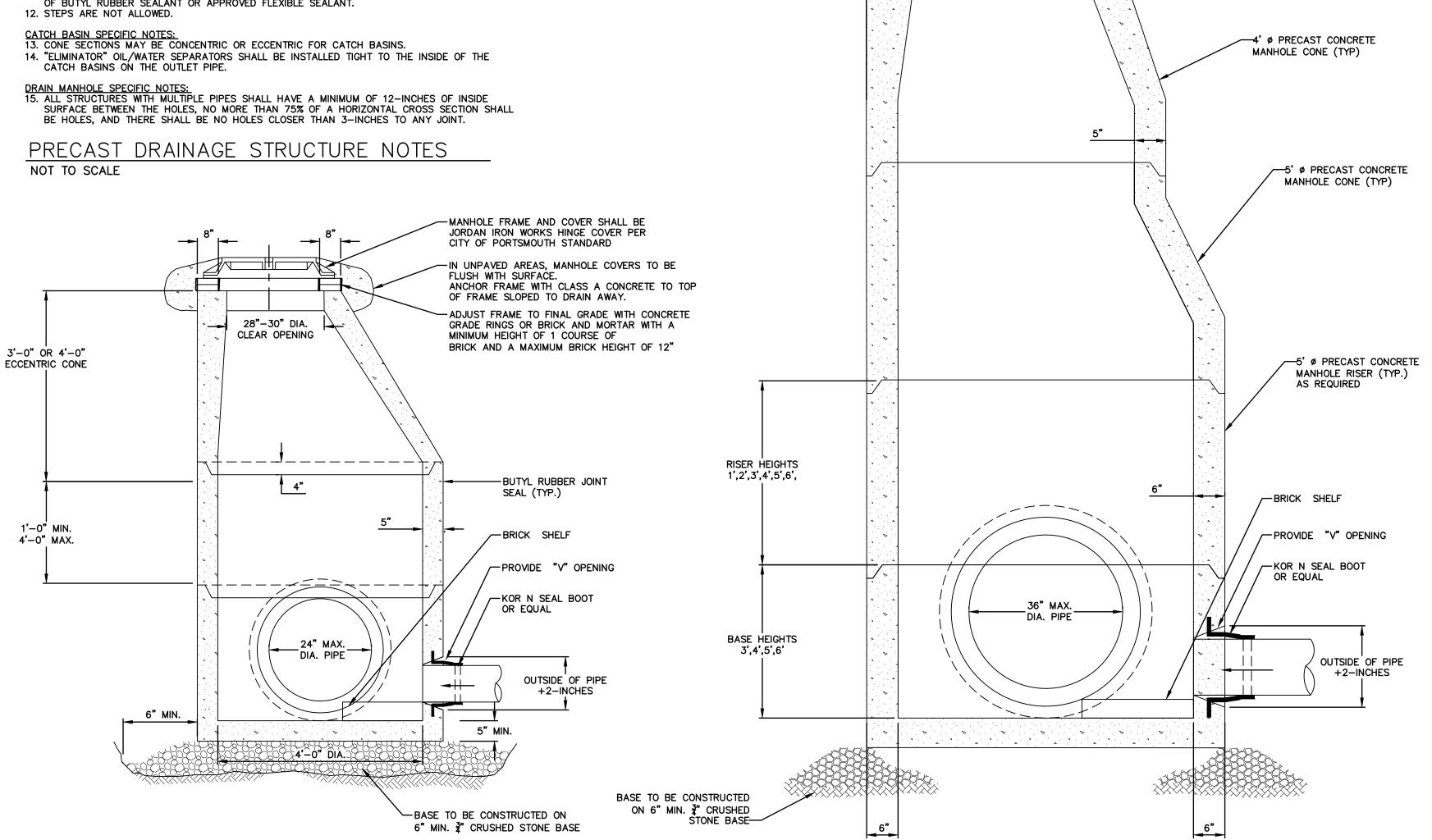
NO HYDROSTATIC PRESSURE

CLASS III

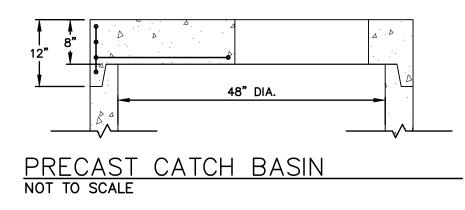
- 1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D3221, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATOINS", LATEST ADDITION WITH THE EXCEPTION THAT THE INITIAL BACKFILL MAY EXTEND TO THE CROWN OF THE PIPE. SOIL CLASSIFICATIONS ARE PER THE LATEST VERSION OF ASTM D2321. CLASS IVB MATERIALS (MH, CH) AS DEFINED IN PREVIOUS VERSIONS OF ASTM D2321 ARE NOT APPROPRIATE BACKFILL MATERIALS.
- 2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
- 3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND PLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGIEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
- 4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II, III OR IV. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED, UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 12"-24" (300mm-600mm) DIAMETER PIPE; 6" (150mm) FOR 30"-60" (750mm-150mm) DIAMETER PIPE. THE MIDDLE 1/3 BENEATH THE PIPE INVERT SHALL BE LOOSELY PLACED.
- 5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II, III OR IV IN THE PIPE ZONE EXTENDING TO THE CROWN OF THE PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICATION FILL HEIGHTS LISTED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF A SOIL EXPERT.
- MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" (300mm) FROM THE TOP OF PIPE TO GROUND SURFACE, ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS; CLASS I OR II MATERIAL COMPACTED TO 90% SPD AND CLASS III COMPACTED TO 95% SPD IS REQUIRED. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" (300mm) UP TO 48" (1200mm) DIAMETER PIPE AND 24" (600mm) OF COVER FOR 60" (1500mm) DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OF TO TOP OF RIGID PAVEMENT.
- 7. FOR ADDITIONAL INFORMATION SEE TECHNICAL NOTE 2.04.

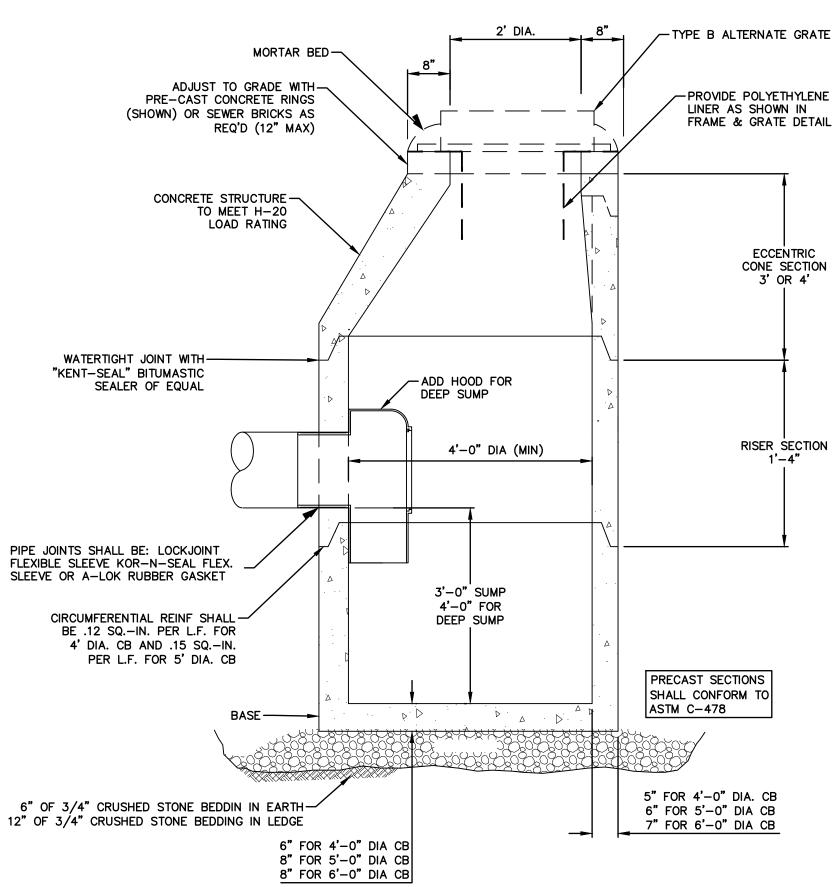
HP STORM TRENCH INSTALLATION DETAIL NOT TO SCALE

- ALL SECTIONS SHALL BE CONCRETE, CLASS AA (4,000 PSI) CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER L.F. IN ALL SECTIONS AND
- SHALL BE PLACED IN THE CENTER THIRD OF THE WALL. THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL
- REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER L.F.
- RISERS OF 1'-4" MAY BE USED TO REACH THE DESIRED ELEVATION.
- THE STRUCTURES SHALL BE DESIGNED FOR H-20 LOADING. ADJUSTING THE FRAME TO GRADE MAY BE DONE WITH PRECAST CONCRETE GRADE RINGS OR
- CLAY BRICKS (2 COURSES MAX.). FRAME TO BE SET IN A FULL BED OF MORTAR. 8. SLAB TOPS MAY BE USED WHERE PIPE WOULD OTHERWISE ENTER INTO THE CONE SECTION OF
- THE STRUCTURE AND WHERE PERMITTED.
- 9. PIPE ELEVATIONS SHOWN ON THE PLAN SHALL BE FIELD VERIFIED PRIOR TO PRECASTING. 10. PIPE ENDS SHALL PROJECT NO MORE THAN 3-INCHES BEYOND THE INSIDE WALL OF THE
- 11. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT 4-INCHES HIGH AT AN 11°
- ANGLE CENTERED IN THE WIDTH OF THE WALL AND SHALL BE ASSEMBLED USING ONE STRIP OF BUTYL RUBBER SEALANT OR APPROVED FLEXIBLE SEALANT.



5' PRECAST DRAIN MANHOLE SCALE: N.T.S.





PRECAST CATCH BASIN

NOT TO SCALE

PROJ. No.: 20180317.A10 DATE: 05/20/2019

DETAILS

DRAINAGE

STREET

STREET

O'NEILI

FUSS

SCALE: N.T.S.

4' PRECAST DRAIN MANHOLE

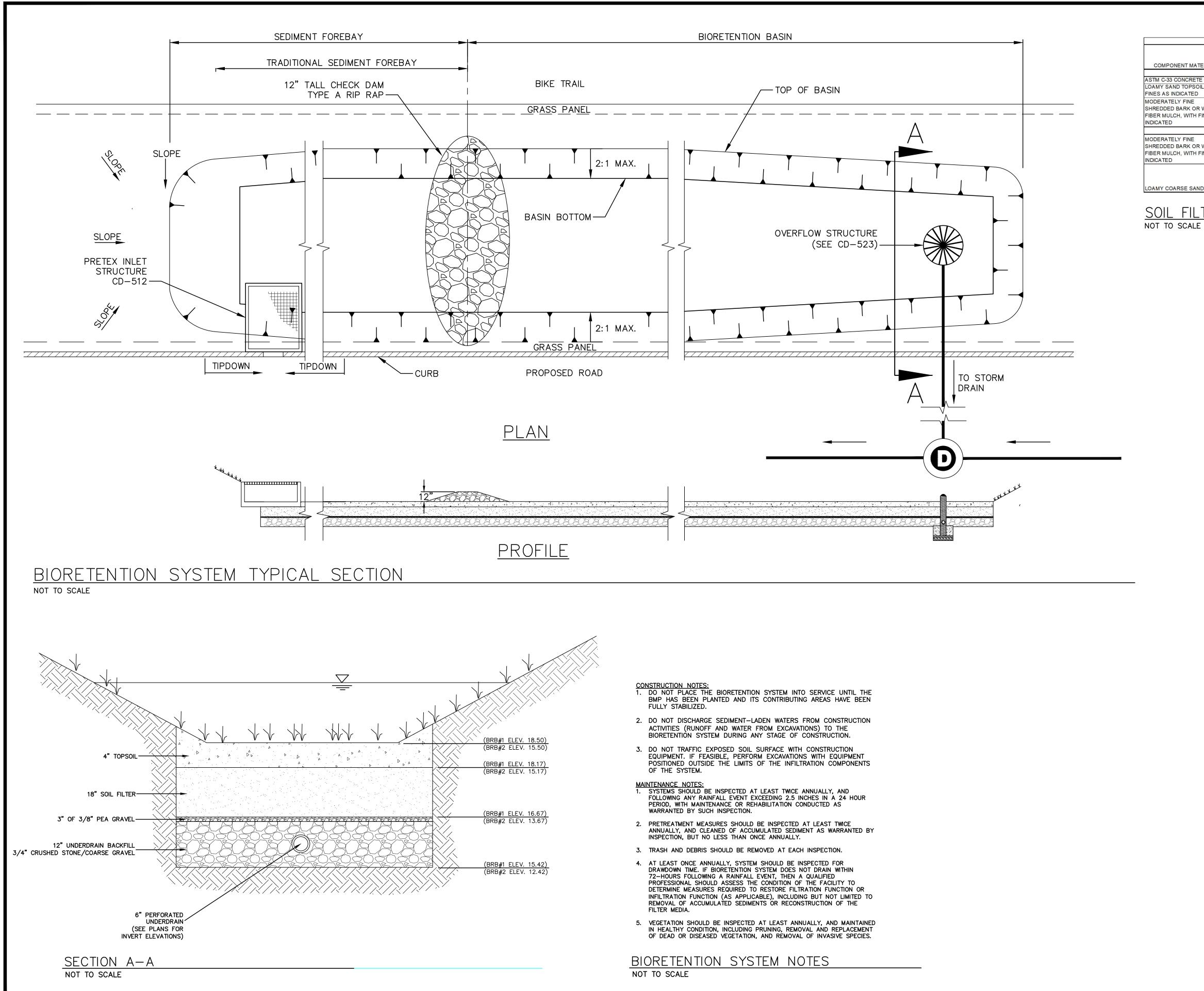


TABLE 4-3 FILTER MIXTURES PERCENT OF PERCENT BY WEIGHT SIEVE NO. STANDARD SIEVE MIXTURE BY VOLUME FILTER MEDIA OPTION A ASTM C-33 CONCRETE SAND LOAMY SAND TOPSOIL, WITH FINES AS INDICATED 15 TO 25 MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS FILTER MEDIA OPTION B MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS 85 TO 100 70 TO 100 15 TO 40 8 TO 15 LOAMY COARSE SAND

SOIL FILTER MIXTURES

O'NEILL SS

> DETAILS TREET

DRAINAGE

PRETX SPECIFICATIONS

A. <u>GENERAL</u> PRETX SYSTEMS ARE A PRE-FILTER AND CRITICAL MAINTENANCE DEVICE THAT EXTENDS THE OPERATING LIFE AND REDUCES THE MAINTENANCE BURDEN OF BIORETENTION SYSTEMS, RAIN GARDENS, BIOSWALES AND OTHER TYPES OF SURFACE BEST MANAGEMENT PRACTICES BY FILTERING OUT SEDIMENT, TRASH AND DEBRIS AT THE INLET.

PRETX IS AVAILABLE IN 3 MODELS THAT MANAGE MOST BIORETENTIOIN INLET CONFIGURATIONS: CURB, DROP, AND INLINE.

PRETX-CURB IS FOR EDGE OF PAVEMENT RUNOFF AT A CURB CUT IN LIEU OF A STONE SPREADER.

PRETX-DROP IS FOR USE AS A DROP INLET CONFIGURATION ALONG A CURB LINE AND WOULD BE INSTALLED WITH A STANDARD DROP INLET GRATE. PRETX-INLINE IS FOR USE WITH SUBSURFACE INLET AND OUTLET PIPE.

PRETX IS SIZED TO PRETREAT WATER QUALITY FLOWS AND BYPASS LARGER FLOWS THAT HAVE MINIMAL TRASH AND DEBRIS. PRETX CAN BE USED BOTH IN RETROFIT OR NEW INSTALLATIONS.

ACCEPTABLE SYSTEM SUPPLIER: CONVERGENT WATER TECHNOLOGIES, INC. OR ITS AUTHORIZED VALUE-ADDED RESELLER

(800) 711-5428

WWW.CONVERGENTWATER.COM C. SUBMITTALS

SUBMIT PROPOSED LAYOUT DRAWINGS. DRAWINGS SHALL INCLUDE TYPICAL SECTION DETAILS ANNOTED WITH SYSTEM ELEVATIONS (E.G., RIM, PIPE INVERTS, OUTSIDE BOTTOM OF STRUCTURE, ETC.).

SUBMIT MATERIAL CERTIFICATES FOR FRAMES AND COVERS

ANY PROPOSED EQUAL ALTERNATE PRODUCT SUBSTITUION TO THIS SPECIFICATON MUST BE SUBMITTED FOR REVIEW AND APPROVED PRIOR TO BID OPENING.

D. EXECUTION

All PUBLIC STORM DRAINAGE SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE DEPARTMENT OF

TRANSPORTATION STANDARDS AND SPECIFICATIONS AND ACCORDING TO LOCAL MUNICIPAL REQ UIREME NTS. All STORM DRAINAGE SYSTEM CONSTRUCTION IS SUBJECT TO INSPECTION AND APPROVAL BY THE PROJECT ENGINEER

THE CONTRACTOR SHALL NOTIFYTHE PROJECT ENGINEER A MINIMUM OF TWO FULL BUSINESS DAYS PRIOR TO THE START OF CONSTRUCTIO N.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND OBTAINING APPROVAL FROM DIG-SAFE AND DETERMINING THE LOCATION OF AII UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION/ EXCAVATI ON AND SHALL NOTIFY THE PROJECT ENGINEER OF ANY POTENTIAL

TO PROTECT STORMWATER FLOW CONTROL AND QUALITY TREATMENT FACILITIES FROM SEDIMENTATION, THEY SHALL BE CONNECTED TO THE STORM CONVEYANCE SYSTEM ONLY AFTER ALL SITE WORK, ROAD CONSTRUCTION, UTILITY WORK AND LANDSCAPING ARE IN PLACE IN ALL AREAS ABOVE AND

THE EXISTING STORM SEWER SYSTEM SHALL STAY ISOLATED FROM THE NEW SYSTEM UNTIL THE NEW SYSTEM IS CLEANED, AND APPROVED FOR USE. THERE SHALL BE NO DEBRIS IN THE LINES OR FURTHER CLEANING WIII BE REQUIRED PRIOR TO ACCEPTANCE.

PROVIDE A 1.5" MINIMUM GAP BETWEEN THE KNOCKOUT WALL AND THE OUTSIDE OF THE PIPE. AFTER THE PIPE IS INSTALLED, FILL THE GAP WITH JOINT

THE OPENING SHALL BE MEASURED ATTHE TOP OF THE PRECAST BASE SECTION.

9. All PICKUP HOLES SHALL BE GROUTED FULL AFTER THE BASIN HAS BEEN PLACED.

10. STANDARD CURB INLETS AND TIPDOWNS SHALL BE PRECAST CONCRETE OR ASPHALT.

11. PIPE ENDS SHALL BE FLUSH WITH THE INNER WALL OR 1" MAXIMUM INTRUSION. MASONRY, CINDER BLOCKS, OR SIMILIAR MATERIALS MAY BE USED TO

ADJUST THE RISERS TO GRADE PRIOR TO GROUTING. 12. GROUTING SHALL BE SUFFICIENTTO PREVENT LEAKS BETWEEN THE PRECAST COMPONENTS OF THE COMPLETED STRUCTURE & SHALL BE PERFORMED INSIDE, BETWEEN & OUTSIDE OF All RISERS, JOINTS & PIPE PENETRATIONS.

13. MANHOLES TO BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M-199 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE STANDARD

14. All REINFORCED CAST IN PLACE CONCRETE SHALL BE CLASS 4000. All PRECAST CONCRETE SHALL BE CLASS 4000.

15. RECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM.

16. MATING SURFACES OF MANHOLE RINGS AND COVERSSHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITIONS.

E. CONSTRUCTION AND SEQUENCING

A. VERIFY LAYOUT AND ORIENTATION OF PRE-TX SYSTEM AREA INCLUDING EDGE OF PAVEMENT, TIP DOWN, CURBS AND SIDEWALK, BIOFILTRATION

B. VERIFY EXCAVATION BASE IS READY TO RECEIVE WORK AND EXCAVATIONS, DIMENSIONS, AND ELEVATIONS ARE AS INDICATED ON DRAWINGS. PREPARATION

A. CALL DIG SAFE AND RECEIVE APPROVAL BEFORE PERFORMING WORK.

B. REQUEST UNDERGROUND UTILITIES TO BE LOCATED AND MARKED WITHIN AND SURROUNDING CONSTRUCTION AREAS.

C. IDENTIFY REQUIRED LINES, LEVELS, CONTOURS, AND DATUM.

D. CLEAR AND GRUB THE PROPOSED PRE-TX SYSTEM AREA.

EXCAVATION AND INSTALLATION

A. THE FOLLOWING CONSTRUCTION SEQUENCE IS TO BE USED AS A GENERAL GUIDELINE. COORDINATE WITH THE OWNER, AND ENGINEERS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.

B. INSTALL TEMPORARY EROSION AND SEDIMENT CONTROLS TO DIVERT STORM WATER AWAY FROM THE PRE-TX SYSTEM AREA.

C. EXCAVATE TO THE BOTTOM INVERT OF THE SYSTEM.

D. TO MINIMIZE COMPACTION OF ADJACENT BIOFILTRATION SYSTEMS, WORK EXCAVATORS OR BACKHOES FROM THE SIDES TO EXCAVATE THE PRE-TX SYSTEM AREA TO ITS APPROPRIATE DESIGN DEPTH AND DIMENSIONS.

E. ROUGH GRADE THE PRE-TX SYSTEM AREA DURING GENERAL CONSTRUCTION. EXCAVATE THE PRE-TX SYSTEM FACILITIES TO WITHIN 1 FOOT OF STRUCTURE BOTTOM.

F. PLACE 1 FOOT BED OF COARSE STONE TO ELEVATION OF BASE OF STRUCTURE.

G. ESTABLISH ELEVATIONS FOR ADJACENT CURBS, EDGE OF PAVEMENT AND TIP DOWN, SIDEWALK, PIPE INVERTS FOR INLETS AND OUTLETS AS

INDICATED ON DRAWINGS. INSTALLATION

A. PLACE THE PRECAST SYSTEM TO NECESSARY ELEVATION.

B. VERIFY ELEVATIONS FOR ADJACENT CURBS, EDGE OF PAVEMENT, PAVEMENT GRADING FOR INLET GRATE FOR PRETX-DROP, SIDEWALK, PIPE INVERTS

FOR INLETS AND OUTLETS, OUTLET INVERT FOR KNEE WALL.

C. FOR PRETX-SURFACE:

a. VERIFY ELEVATIONS FOR ADJACENT CURBS.

b. VERIFY EDGE OF PAVEMENT TIP DOWN PAVEMENT GRADING FOR INLET GRATE.

c. VERIFY CURB ELEVATION IN RELATION TO PAVEMENT AND TIP DOWN. d. VERIFY OUTLET INVERT FOR KNEE WALL IN RELATION TO FILTER MEDIA.

D. FOR PRETX-DROP:

a. VERIFY ALL INLET PIPES ENTER THE STRUCTURE UPSTREAM OF BAFFLE.

b. VERIFY FRAME AND GRATE OFFSET ON INLET SIDE AND UPSTREAM OF BAFFLE.

c. VERIFY CURB LOCATION WITH RESPECT TO FRAME AND GRATE ORIENTATION.

E. INSTALL BAFFLES, WEIR, AND SCREENS AS INDICATED ON DRAWINGS.

F. VERIFY MAINTENANCE ACCESS THROUGH GRATE OR COVER AND CLEARANCE FOR VACTOR. G. INSTALL TOP OF STRUCTURE LEVEL WITH ADJACENT CURB OR SIDEWALK AS PER MANUFACTURERS SPECIFICATIONS. ENGINEER FIELD VISIT REQUIRED PRIOR TO BACKFILLING.

BACKFILLING A. BACKFILL WITH APPROVED SOIL AND STONE TO THE DESIGN GRADE AS SPECIFIED IN THE DRAWINGS.

B. BACKFILL WITH 12" OF NO. 57 STONE AROUND REAR, LEFT, AND RIGHT SIDES TO LEVEL WITH TOP OF HDPE SCREEN.

C. BACKFILL WITH BIORETENTION SOIL MIX BEYOND STONE BACKFILL TO EQUAL ELEVATION OF THE TOP OF HDPE SCREEN.

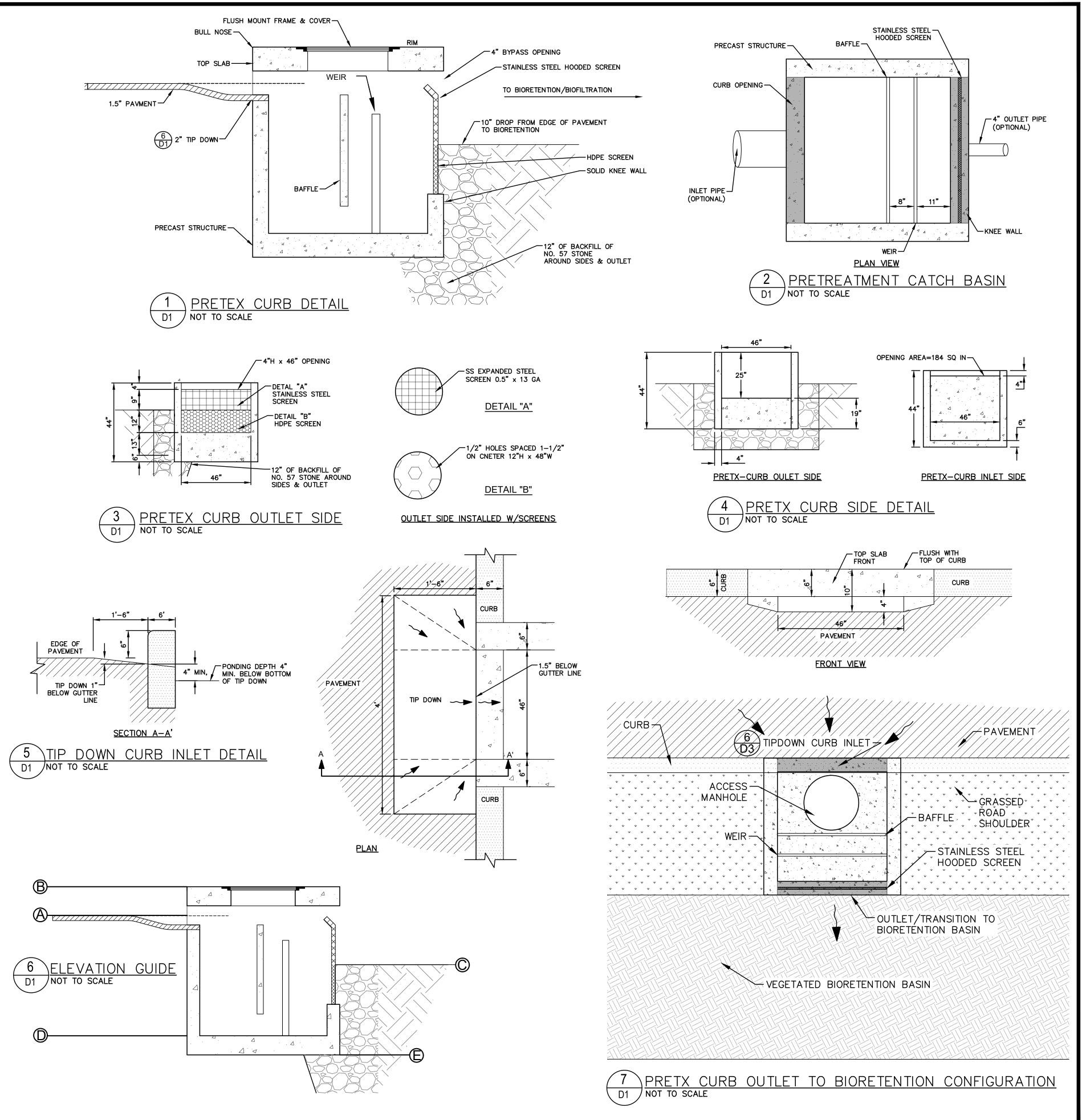
D. DO NOT BACKFILL SOIL OR STONE AGAINST STAINLESS SCREEN.

E. DO NOT COMPACT ADJACENT FILTRATION SYSTEM SOIL WITH MECHANICAL EQUIPMENT.

F. STABILIZE All REMAINING DISTURBED AREAS AND SIDE SLOPES WITH SEEDING, HYDROSEEDING, AND/ OREROSION CONTROL BLANKETS AS INDICATED ON DRAWINGS.

A. AFTER COMPLETION OF THE WORK, REMOVE AND PROPERLY DISPOSE ALL DEBRIS, CONSTRUCTION MATERIA LS, RUBBISH, EXCESS SOIL, ETC., FROM THE PROJECT SITE. REPAIR PROMPTL Y ANY IDENTIFIED DEFICIENCIES AND LEAVE THE PROJECT SITE IN A CLEAN AND SATISFACTORY CONDITION.

	PRETX-CURB	ELEVATION GUIDE
POINT	DESCRIPTION	HEIGHT IN REFERENCE TO PT. A
Α	EDGE OF PAVEMENT	0 INCHES
В	OUTSIDE TOP SLAB	8 INCHES
С	TOP OF BIORETENTION	12 INCHES
D	SUMP INVERT	36 INCHES
E	OUTSIDE BOTTOM	42 INCHES



PROJ. No.: 20180317.A10 DATE: 05/20/2019

DETAIL

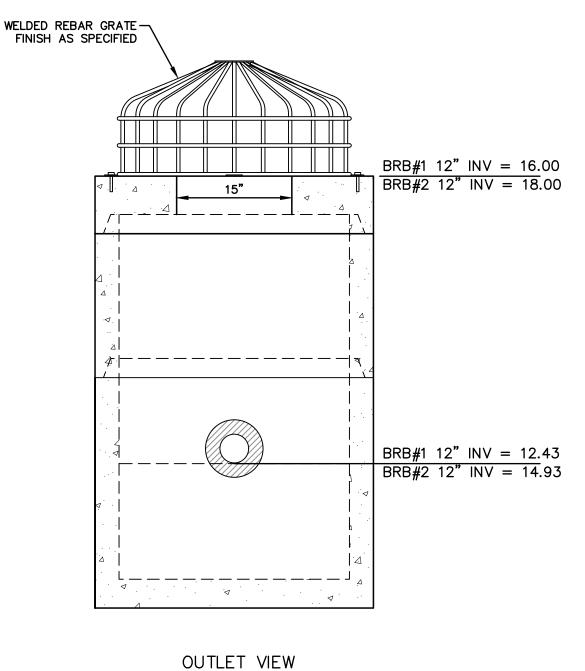
AINAGE

STREET

O'NEIL

S

ORIFICE INLET(S)-



OVERFLOW OUTLET CONTROL STRUCTURE (4'ø) W/PEAKED TOP GRATE

NOT TO SCALE

DIVERSION DIVERSION OR PIPE NOT TO EXCEED 1% GRADE SLOPE GRADE 0% - 6" LAYER OF LOOSE LAID STONE (2" TO 3" UNIFORMLY GRADED WASHED STONE). PLACE STONE ON UNDISTURBED SURFACE

CONSTRUCTION SPECIFICATIONS

1. SPREADERS SHALL BE INSTALLED WITH LEVEL INSTRUMENT, CONSTRUCT LEVEL UP TO 0% GRADE TO ENSURE UNIFORM SHEET FLOW, LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL (NOT

SELECT GEOTEXTILE FABRIC BASED ON UNDISTURBED

SOILS (SAND, SILTS, CLAY, ETC.) PLACE 6" LAYER OF UNIFORMLY GRADED STONE 2" TO 3" IN DIAMETER. TAKE TO FORM SMOOTH UNIFORM

SURFACE. DO NOT FILL VOIDS IN STONE.
THE INLET DITCH SHALL NOT EXCEED A 1% GRADE FOR AT LEAST 20 FEET BEFORE ENTERING THE

STORM RUN-OFF CONVERTED TO SHEET FLOW ACROSS OUTLET APRON SHALL FLOW ONTO STABILIZED AREA. RUN-OFF SHALL NOT BE RECONCENTRATED IMMEDIATELY BELOW THE POINT OF

CONSTRUCTION OF LEVEL LIP SPREADER SHALL BE UPHILL SIDE ONLY. LEVEL LIP AND AREA BELOW SPREADER SHALL BE AT EXISTING GRADE AND UNDISTURBED BY EARTHWORK OR EQUIPMENT. CONSTRUCT SPREADER WITH LIP AT EXISTING

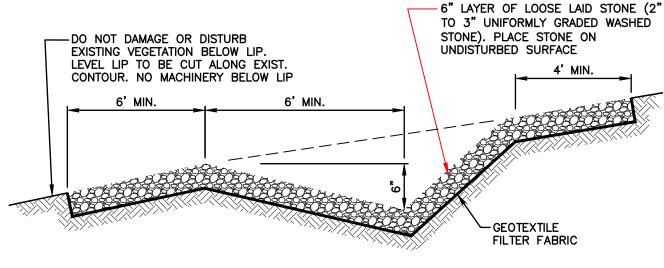
ELEVATION AS SPECIFIED. DOWN GRADIENT RECEIVING AREA MUST BE NATURALLY WELL VEGETATED.

MAINTENANCE NOTES:

1. THE LEVEL SPREADER SHOULD BE CHECKED
PERIODICALLY AND AFTER EVERY MAJOR STORM TO DETERMINE IF THE LIP HAS BEEN DAMAGED AND TO DETERMINE THAT THE DESIGN CONDITIONS HAVE NOT CHANGED.

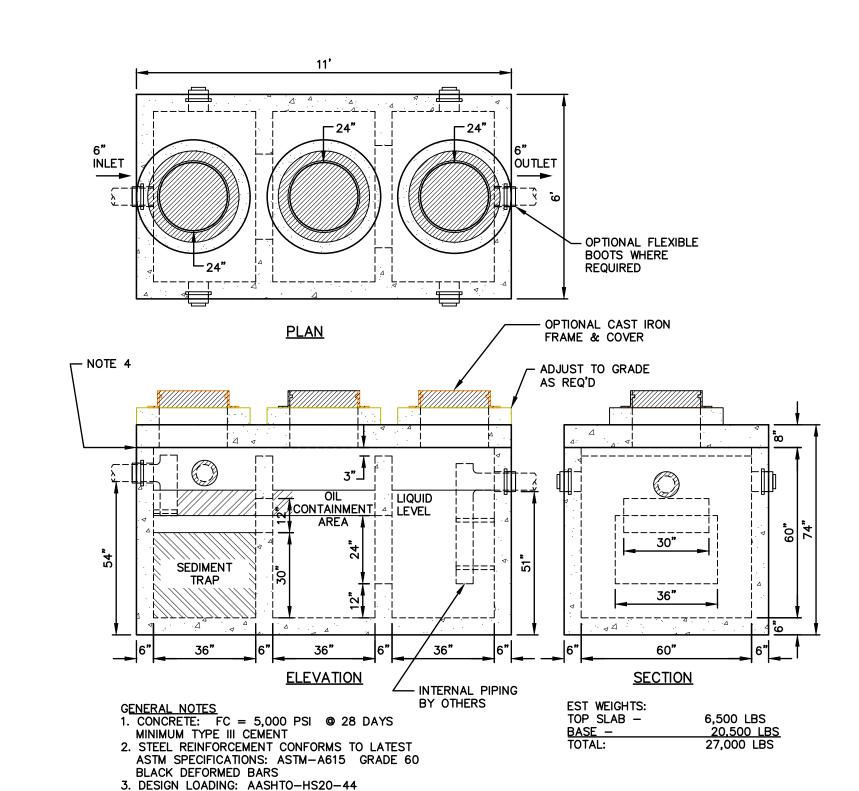
SHOULD BE REMOVED.
IF RILLING HAS TAKEN PLACE ON THE LIP, THEN THE DAMAGE SHOULD BE REPAIRED AND RE-VEGETATED.

THE VEGETATION SHOULD BE MOWED OCCASIONALLY TO CONTROL WEEDS AND THE ENCROACHMENT OF WOODY VEGETATION. CLIPPINGS SHOULD BE REMOVED AND DISPOSED OF OUTSIDE THE SPREADER AND AWAY FROM THE OUTLET AREA.



STONE LINED LEVEL SPREADER

NOT TO SCALE



1,500 GALLON 3-COMPARTMENT HS-20 OIL & SEDIMENT

SEPARATOR (PHOENIX PRECAST PRODUCTS)

DESIGN SPECIFIED AS ACI 318-08, AASHTO-1992 4. BUTYL RUBBER JOINT SEALANT PROVIDED

5. FLEXIBLE SLEEVES PROVIDED ALL PIPE

6. PIPE SIZES AND COMPARTMENT CONFIGURATIONS PER JOB SPECIFICATIONS

CONNECTIONS

NOT TO SCALE

PROJ. No.: 20180317.A10 DATE: 05/20/2019

CD-513

PLAN VIEW

ANY DETRIMENTAL ACCUMULATION OF SEDIMENTS

CROSS SECTION

O'NEILL

FUSS



DETAILS STREET DRAINAGE

BEDDING AND -D/2 BACKFILL MATERIAL -SPRING LINE UNDISTURBED -3'-0" MIN. OR D+2 (WHICHEVER IS GREATER)

LOAM AREA PAVED AREA

-SEE PAVEMENT DETAIL

BASE*

ELECTRICAL AND COMMUNICATION CONDUIT NOT TO SCALE

WATER TRENCH SECTION NOT TO SCALE

WARNING TRACER TAPE — CENTERED OVER PIPE

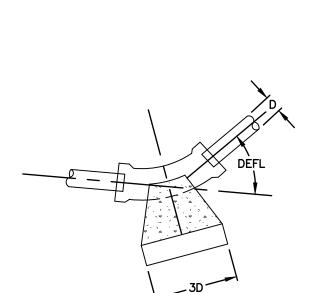
COMPACTED -GRANULAR FILL

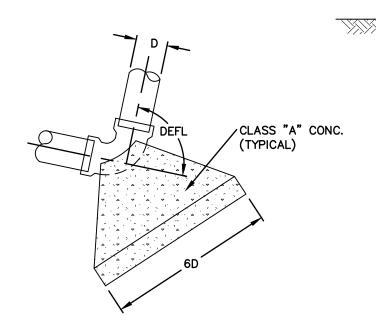
SEE PLANS (VARIES) HYDRANT-GROUND LINE --ROADWAY SURFACE -VALVE BOX EARTH - HYDRANT CONNECTION PIECE FILTER CLOTH TO COVER STONE FILL 12" CRUSHED -THRUST BLOCK — * (SEE DETAIL) WATER MAIN HYDRANT WASTE ORIFICE 6" GATE — VALVE ─ CRUSHED STONE RETAINER GLAND -18"x18"x6" -CONCRETE BASE (TYP.) DRAIN PIT - 3'ø x 2'-BELOW HYDRANT

FIRE HYDRANT NOT TO SCALE

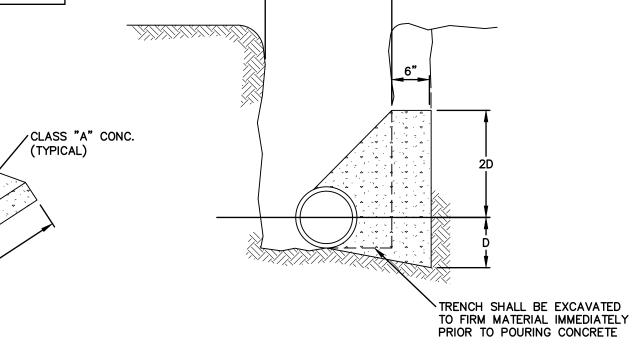
PPE DIA. (INCHES)	MINIMUM THRUST BLOCK VOLUME (CUBIC YARDS)
4	0.2
6	0.25
8	0.3
10	0.35
12	0.4
16	0.7

PPE DIA. (INCHES)		MINIMUM THRUST BLOCK VOLUME (CUBIC YARDS)
4	4	0.25
•	5	0.3
8	3	0.5
1	0	0.7
1	2	1.0
1	6	1.6





<u>PLAN ELBOW — DEFL.</u> <u>MORE THAN 50</u>

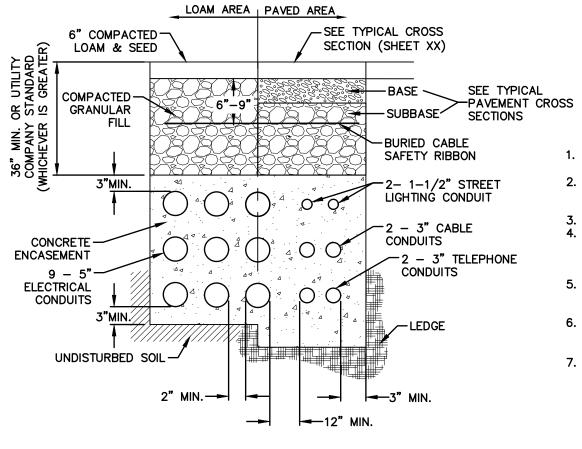


NORMAL TRENCH WIDTH

<u>SECTION</u>

<u>PLAN ELBOW — DEFL.</u> <u>LESS THAN 50</u>

CONCRETE THRUST BLOCKS
NOT TO SCALE



NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL OR AS SHOWN ON CONDUIT PLAN.

2. DIMENSIONS SHOWN REPRESENTS OWNER'S MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT MAY

NOT BE LESS THAN SHOWN.

3. NO CONDUIT SHALL EXCEED 360 DEGREES IN TOTAL BENDS.

4. A SUITABLE PULLING STRING, CAPABLE OF 200 POUNDS OF PULL MUST BE INSTALLED IN THE CONDUIT BEFORE UTILITY COMPANY IS NOTIFIED TO INSTALL CABLE. THE STRING SHOULD BE BLOWN INTO THE CONDUIT AFTER THE RUN IS ASSEMBLED TO AVOID BONDING THE STRING TO THE CONDUIT.

5. UTILITY COMPANY MUST BE GIVEN THE OPPORTUNITY TO INSPECT THE CONDUIT PRIOR TO BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS SHOULD THE UTILITY COMPANY BE UNABLE TO INSTALL ITS CABLE IN A SUITABLE MANNER.

6. ALL CONDUIT INSTALL ATIONS MUST CONFORM TO THE CURRENT EDITION OF THE

NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND, WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE.

7. ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL. SWEEPS WITH A 35"

6. ALL CONDUIT INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE

NOT BE LESS THAN SHOWN.

TO 48" RADIUS.?????

O'NEILL

FUSS

& UTILITY DETAILS

- 1. ALL PIPES SHALL BE CUT FLUSH WITH INSIDE WALL OF STRUCTURE.
- 2. MANHOLES SHALL BE PLACED ON 8" MINIMUM CRUSHED STONE BASE.
- 3. MORTAR IN LIFTING HOLES AFTER INSTALLING RUBBER PLUGS.
- 4. MANHOLES SHALL RECEIVE A BITUMINOUS DAMP-PROOFING PRIOR TO DELIVERY TO THE SITE.
- 5. PROVIDE WATERTIGHT STUB AND FLEXIBLE SLEEVE AS NOTED ON THE DRAWING OR AS DIRECTED BY THE ENGINEER.
- 6. PIPE TO MANHOLE JOINTS SHALL BE SEALED WATERTIGHT BY USE OF PRE-MOLDED ELASTOMERIC SEALED JOINTS CAST INTO CONCRETE MANHOLE BASE AND SHALL CONFORM TO ASTM C 443 AND
- MANHOLE FRAME AND COVERS SHALL BE OF THE TYPE INDICATED BELOW OR APPROVED EQUAL, UNLESS OTHERWISE SPECIFIED.

LOCATION GUTTERS, LOW BOLTED & GASKETED

LYING, WET

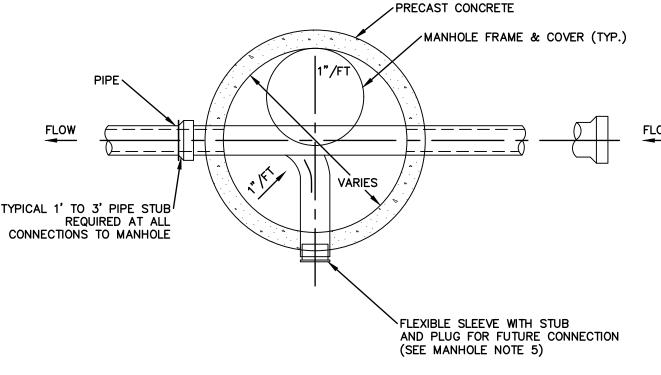
(BOLTS SHALL BE 1/2" STAINLESS STEEL.) UNPAVED AREAS

STANDARD

NORMALLY DRY UNPAVED AND PAVED AREAS

VALVE STRUCTURES WATERTIGHT THE COVER SHALL HAVE THE WORDS "SANITARY SEWER", "CONFINED SPACE PERMIT REQUIRED" CAST INTO THE COVER IN 2" LETTERS.

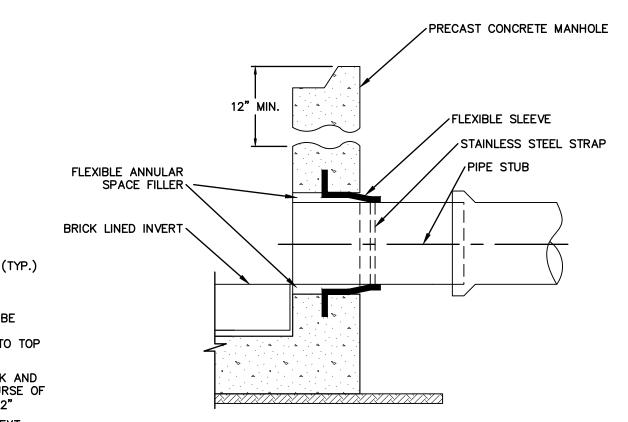
- 8. MANHOLE STEPS SHALL BE STEEL REINFORCED POLYPROPYLENE OR ALUMINUM.
- 9. WHERE THE DIFFERENCE IN ELEVATION BETWEEN THE INCOMING SEWER AND THE MANHOLE INVERT IS 24" OR LESS, THE INVERT SHALL BE FILLETED.
- 10. PAYMENT DEPTHS ARE MEASURED FROM TOP OF CONE TO INVERT OF STRUCTURE.



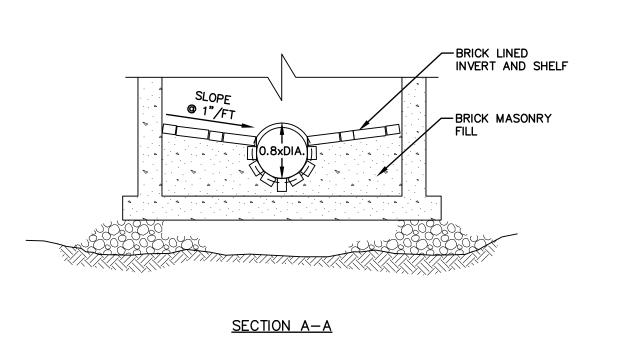
MANHOLE PLAN VIEW SCALE: N.T.S.

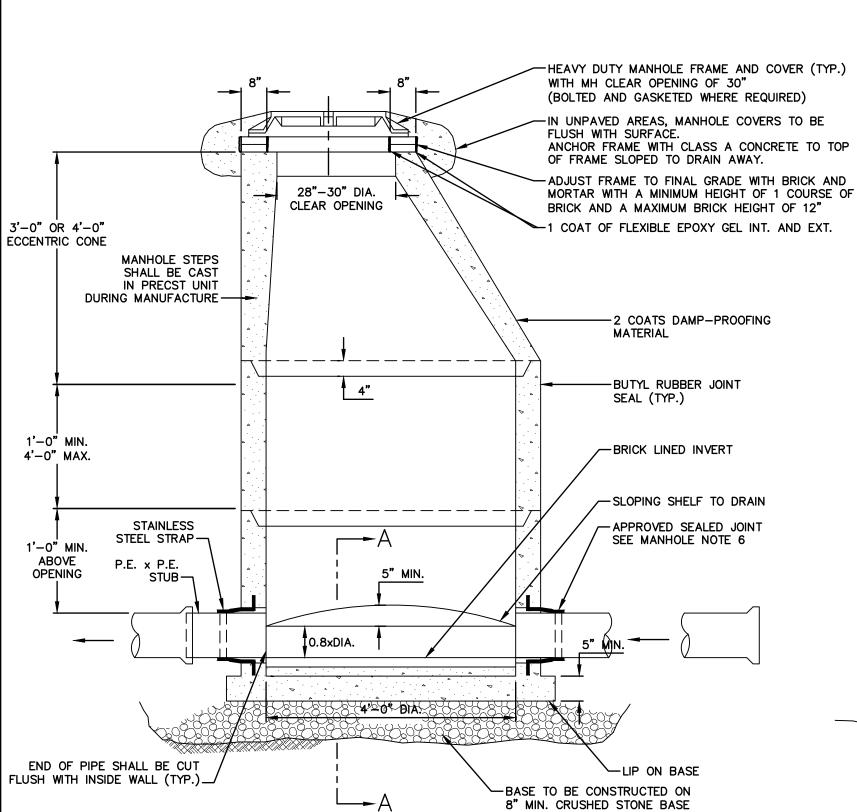
MANHOLE NOTES

SCALE: N.T.S.



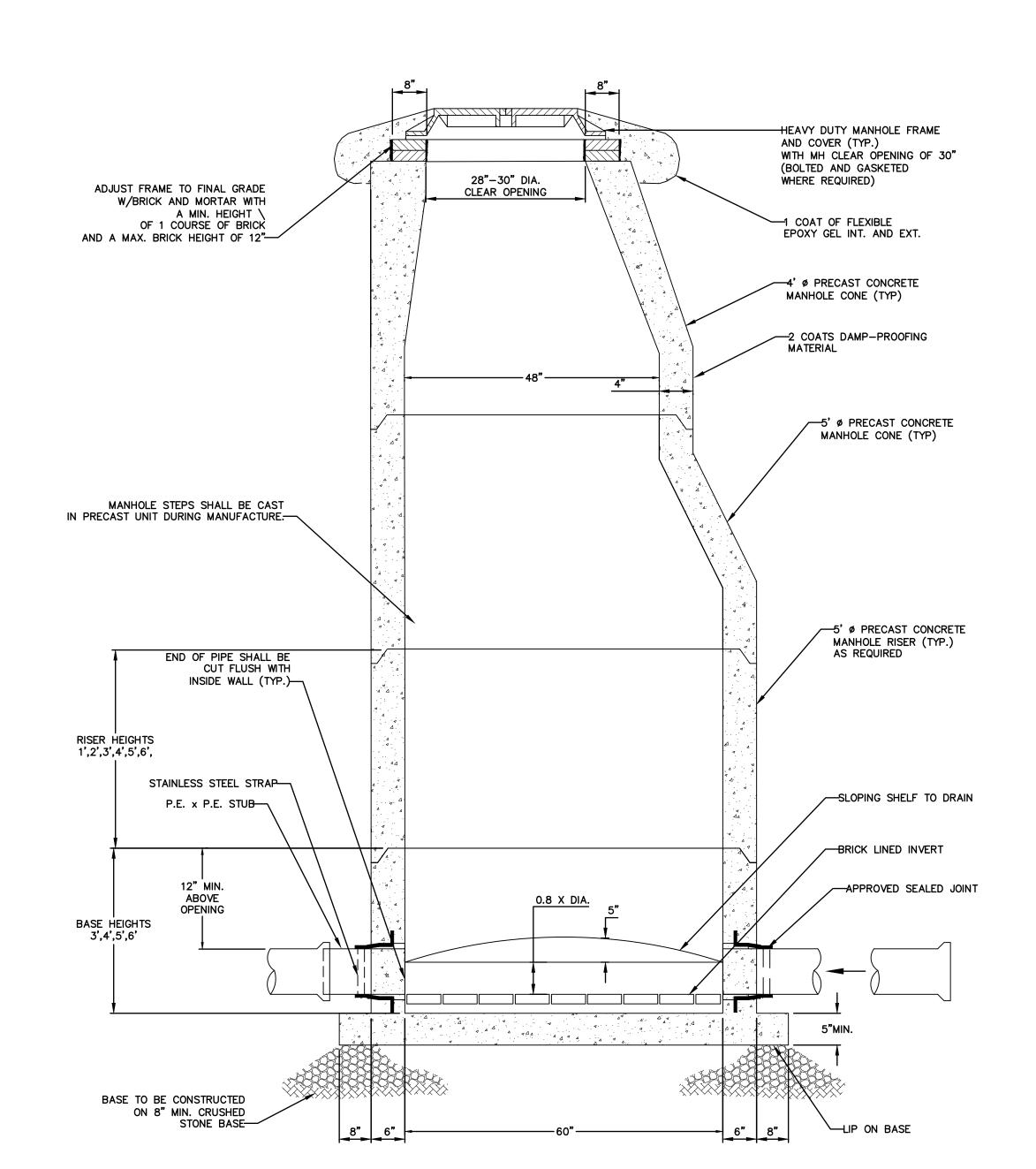
FLEXIBLE SLEEVE SCALE: N.T.S.











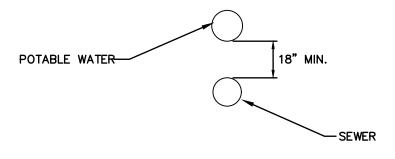
O'NEILI FUSS

PROJ. No.: 20180317.A10

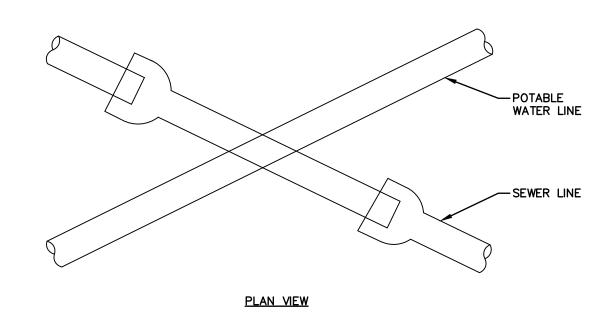
DETAILS

SEWER

DATE: 05/20/2019



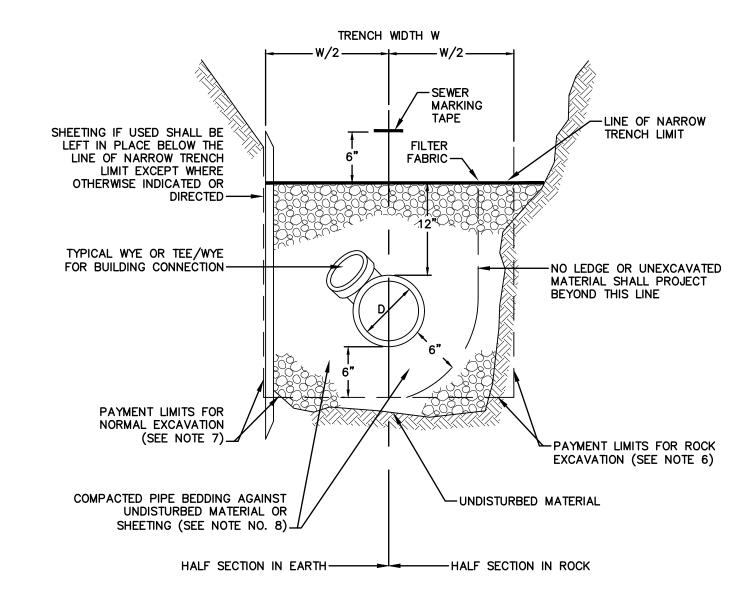
SECTION VIEW



SEWER AND WATER CROSSING NOTES

- 1. SEWER JOINTS SHALL BE EQUIDISTANT FROM AND LOCATED AS FAR AS POSSIBLE AWAY FROM THE
- 2. IF THE VERTICAL SEPARATION BETWEEN THE BOTTOM OF THE WATER MAIN AND THE TOP OF THE SEWER IS LESS THAN 18 INCHES (WATER MAIN IS ABOVE SEWER), USE ONE OF THE FOLLOWING PROCEDURES: A) THE WATER MAIN SHALL BE RECONSTRUCTED FOR A DISTANCE OF 10 FEET ON EACH SIDE OF SEWER WITH RUBBER-GASKETED MECHANICAL JOINT PIPE ONE FULL LENGTH WATER MAIN SHOULD BE CENTERED OVER SEWER, B) CONSTRUCT BOTH THE WATER & SEWER PIPE OF RUBBER-GASKETED, CEMENT-LINED DUCTILE IRON PIPE OR EQUIVALENT AND PRESSURE TEST BOTH PIPES, OR C) ENCASE BOTH PIPES IN CONCRETE.

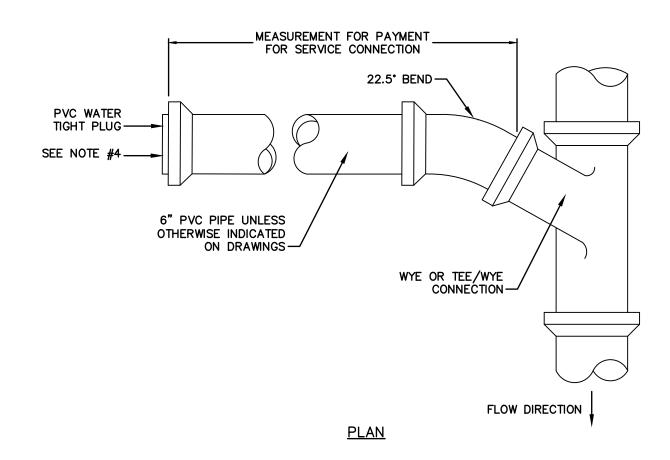
CROSSING OF SEWER & POTABLE WATER LINES NOT TO SCALE



TYPICAL SEWER TRENCH NOT TO SCALE

SEWER MARKING TAPE 6" ABOVE BEDDING (TYP.)_ ___2"x3" LUMBER END MARKER. SET VERTICAL, AND LEAVE TOP EXPOSED IF FEASIBLE. PROVIDE FERROUS METALLIC TOP ALLOWING MAGNETIC DETECTION. FILTER FABRIC SLOPE 1/4"/FT. MIN. OR AS DIRECTED __ 22.5° BEND BY ENG. __SEWER TRENCH WALL -PROVIDE PIPE BEDDING TO 1' ABOVE PIPE AND 3' BEYOND PIPE END. ROCK WITHIN 3' OF THE PIPE END WYE OR TEE/WYE OR WYE END SHALL BE REMOVED. CONNECTION CRUSHED STONE PIPE BEDDING UNDER FULL LENGTH OF CONNECTION

ELEVATION



- 1. NO LEDGE OR UNEXCAVATED MATERIAL SHALL PROJECT WITHIN 6" OF THE PIPE IN
- 2. EXACT LOCATION AND ELEVATION OF SERVICE CONNECTIONS TO BE DETERMINED AND SET IN THE FIELD DURING CONSTRUCTION
- 3. EXACT LOCATION OF WYES/TEES, WHERE DIRECTED TO BE INSTALLED, SHALL BE SET IN THE FIELD DURING CONSTRUCTION

SERVICE CONNECTIONS

NOT TO SCALE

SANITARY SEWER PIPE TRENCH NOTES

- 1. DEPTH OF SEWER SHALL BE AS SHOWN ON DRAWINGS.
- 2. SEWER TRENCHES MAY BE EXCAVATED WIDER THAN TRENCH WIDTH W ABOVE THE "LINE OF NARROW TRENCH LIMIT." AT THE CONTRACTORS EXPENSE.
- 3. BELOW THE "LINE OF NARROW TRENCH LIMIT" THE TRENCH SHALL NOT BE EXCAVATED BEYOND THE TRENCH WIDTH W.
- 4. IF EXCAVATION AND BACKFILL BELOW NORMAL DEPTH IS REQUIRED, SHEETING MAY BE
- 5. SHEETING, IF USED, IN ALL CASES SHALL BE LEFT IN PLACE BELOW A LINE 1'-0" ABOVE THE TOP OF THE SEWER PIPE, UNLESS OTHERWISE INDICATED OR DIRECTED BY THE ENGINEER.
- 6. ALL ROCK WITHIN 3'-0" HORIZONTALLY OF THE ENDS OF BUILDING CONNECTIONS, BRANCHES AND STUBS, AND DOWN TO A HORIZONTAL PLANE 6" BELOW THE BOTTOMS OF SUCH ITEMS SHALL BE REMOVED.
- 7. TRENCH WIDTHS AND PAYMENT LIMIT SHALL BE AS FOLLOWS:

NUMBER OF PIPE IN TRENCH	DIAMETER PIPE "D"	TRENCH WIDTH "W"	PAYMENT LIMIT
ONE	12" AND SMALLER	4'-0"	4'-0"
TWO	12" AND SMALLER	7'-0"	7'-0"

- 8. WHERE CONCRETE ENCASEMENT IS CALLED FOR BY THE PLANS, OR WHEN DIRECTED BY THE ENGINEER, REPLACE BEDDING AND BACKFILL BELOW THE "LINE OF NARROW TRENCH LIMIT" WITH CLASS "A" CONCRETE.
- 9. SEWER MARKING TAPE SHALL BE INSTALLED A MINIMUM OF 18" ABOVE THE SANITARY SEWER, FORCE MAIN AND SERVICE CONNECTION PIPE.
- 10. SANITARY SEWER PIPE AND SERVICE CONNECTION PIPE SHALL HAVE FILTER FABRIC INSTALLED ON TOP OF THE PIPE BEDDING AS SHOWN ON THE DETAILS.

SANITARY SEWER PIPE TRENCH NOTES SCALE: N.T.S.

O'NEILI

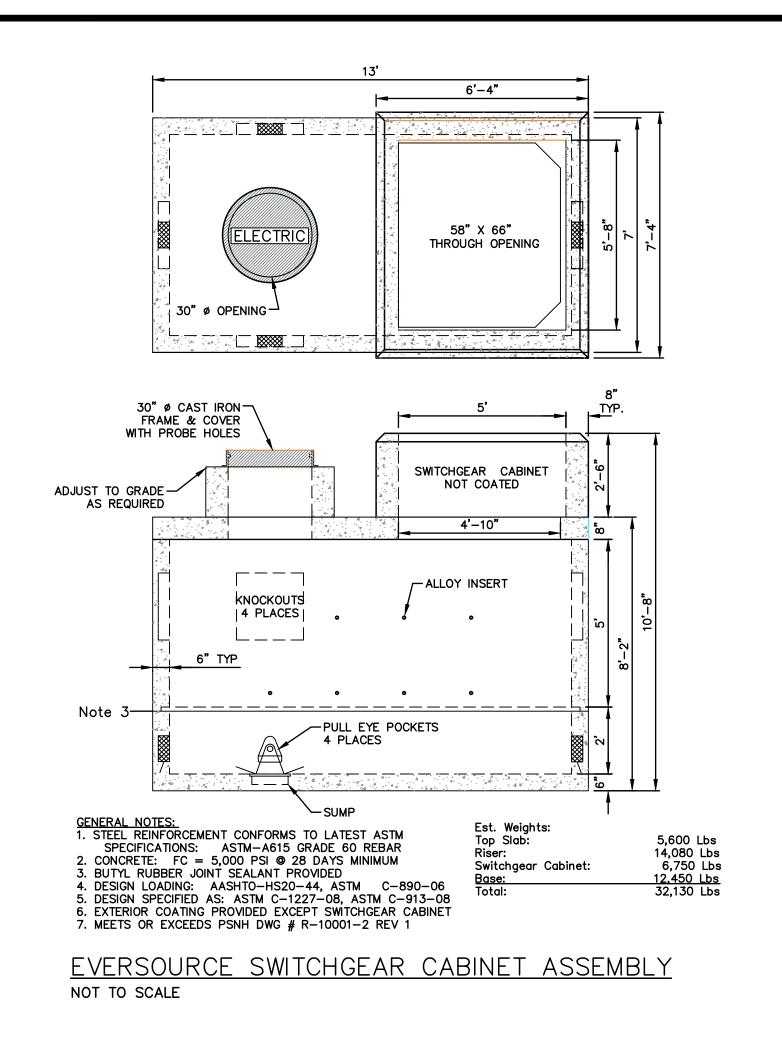
FUSS

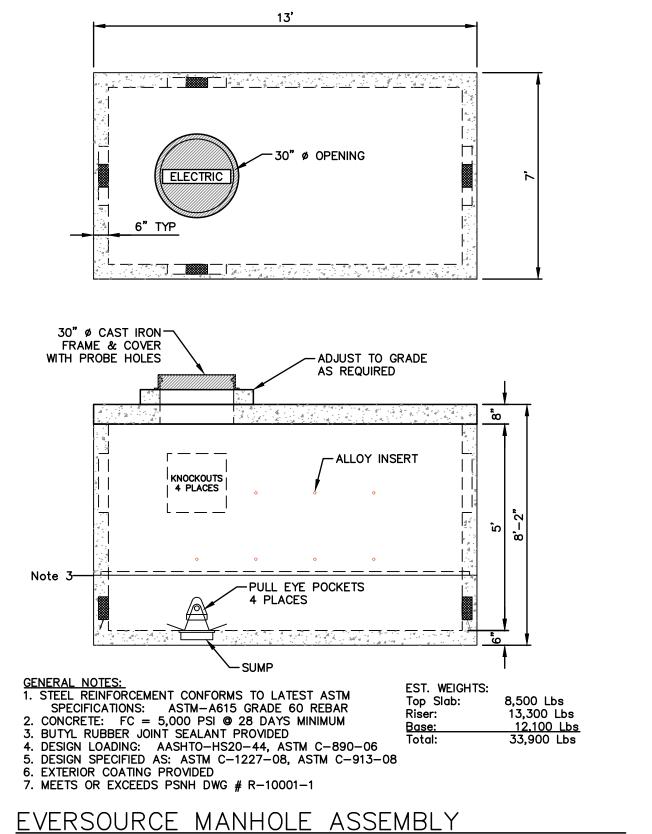
DETAILS STREET SEWER

PROJ. No.: 20180317.A10

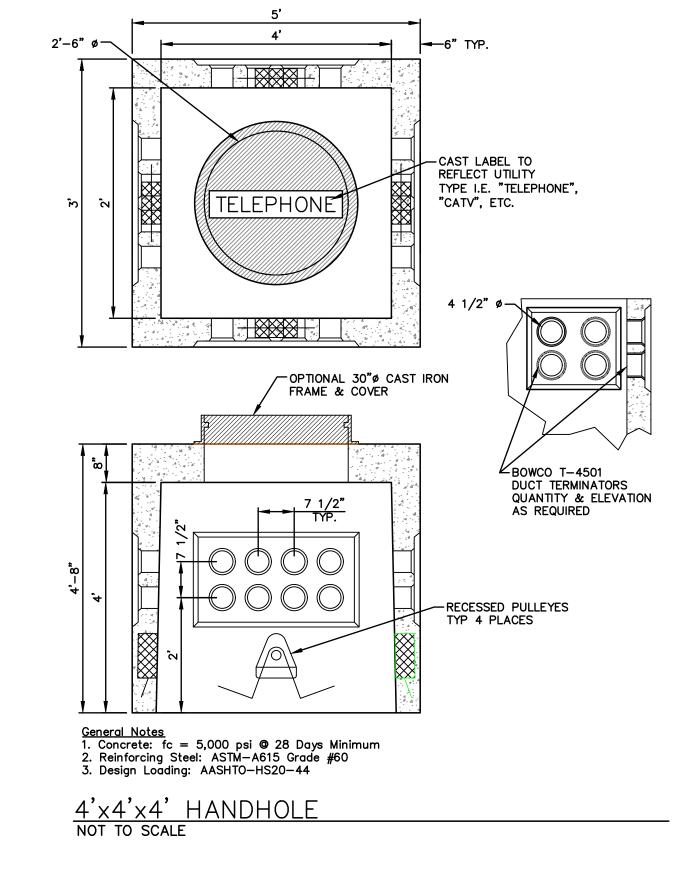
DATE: 05/20/2019

- 4. PROVIDE DI TO PVC TRANSITION COUPLING AT END OF DI SERVICE CONNECTION





NOT TO SCALE



RECESSED -**HANDLES** 2 PLACES

12" x 31" Opening

SINGLE-PHASE TRANSFORMER PAD
NOT TO SCALE 25-75 KVA

1"ø PVC ─\

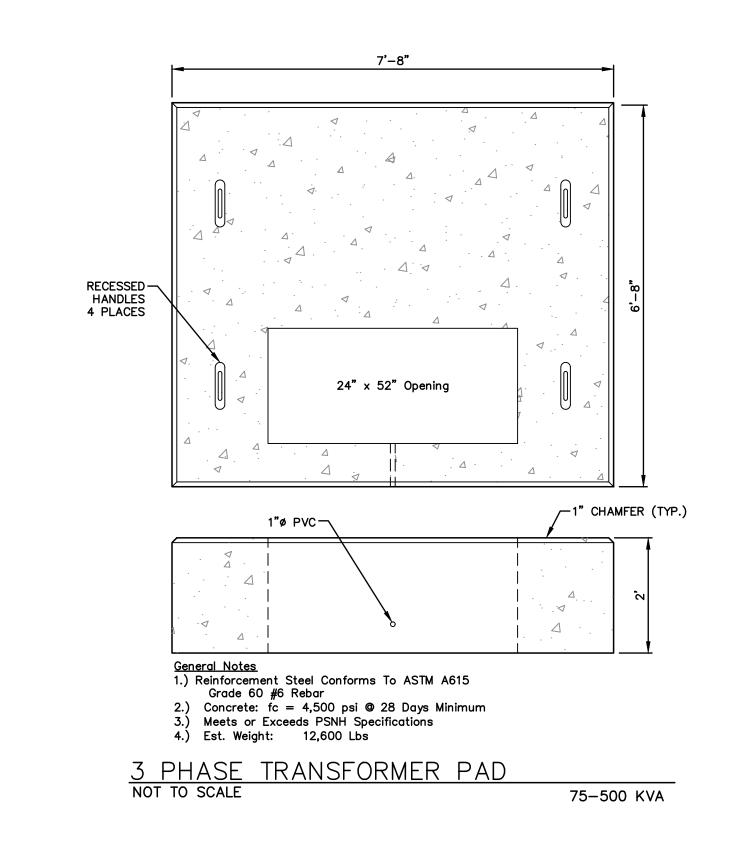
G<u>eneral Notes</u>
1.) Reinforcement Steel Conforms To ASTM A615
Grade 60 #6 Rebar

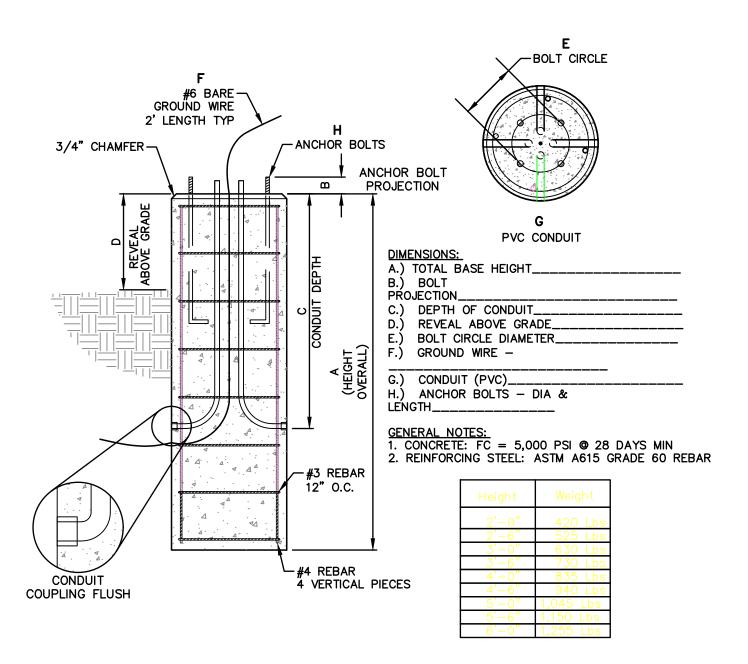
4.) Est. Weight: 1,950 Lbs

2.) Concrete: fc = 4,000 psi @ 28 Days Minimum
3.) Meets or Exceeds PSNH Specifications

-1" CHAMFER (TYP.)

25-75 KVA





16" Ø LIGHT POLE BASE NOT TO SCALE

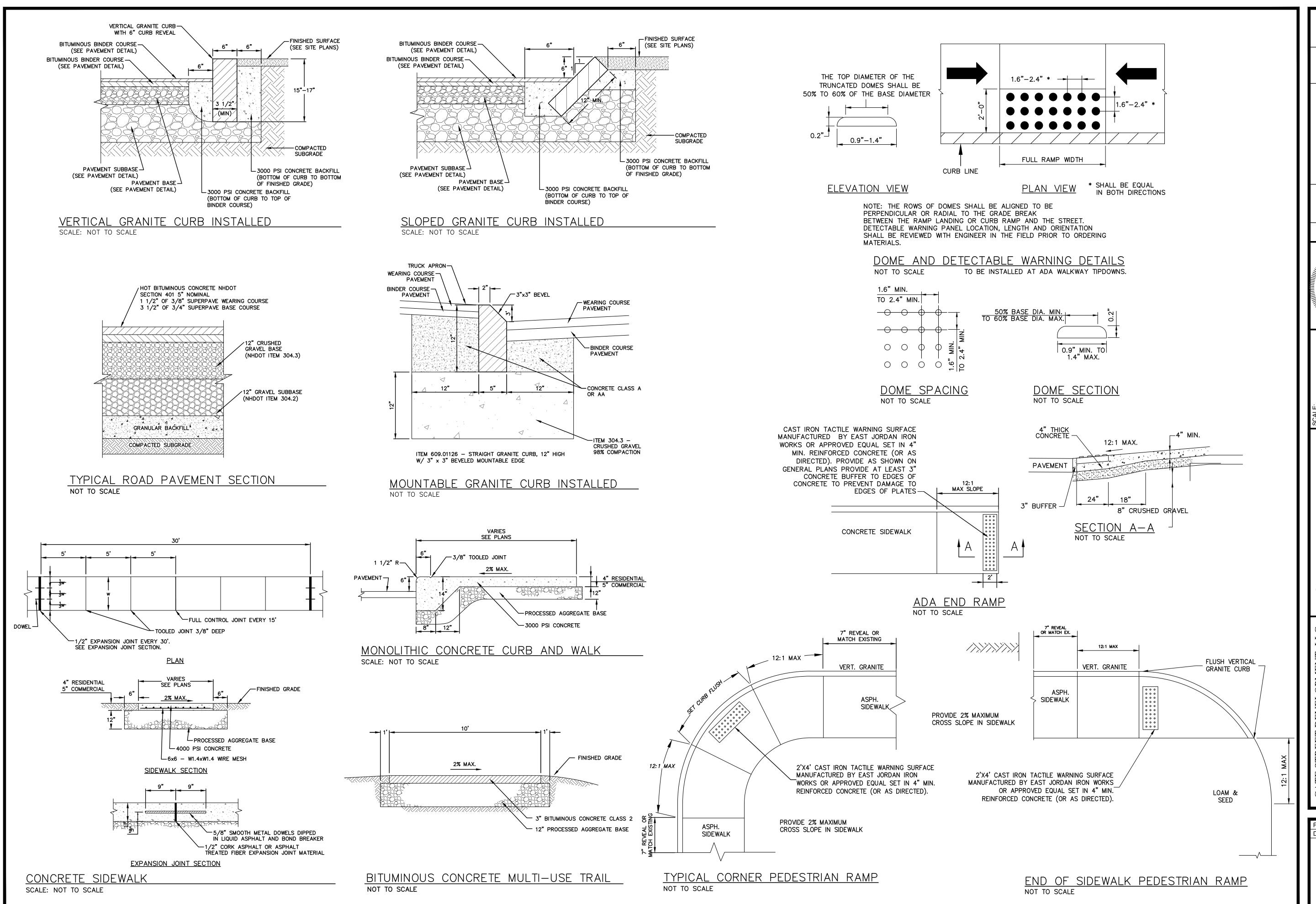
NOTES:

1. ALL PRECAST CONCRETE STRUCTURES TO BE PHOENIX PRECAST PRODUCTS OR EQUAL.

PHOENIX PRECAST PRODUCTS 77 REGIONAL DRIVE CONCORD, NH 03301 1.800.639.2199 info@phoenixprecast.com

> O'NEILL FUSS

DETAILS ELECTRIC



PROJ. No.: 20180317.A10 DATE: 05/20/2019

O'NEILL

FUSS

DETAILS

SITE

CD-550

FENCES SHOULD BE INSPECTED AND MAINTAINED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALLS;

SEDIMENT DEPOSITION SHOULD BE REMOVED. AT A MINIMUM, WHEN DEPOSITION ACCUMULATES TO ONE-HALF THE HEIGHT OF THE FENCE, AND MOVED TO AN APPROPRIATE LOCATION SO THE SEDIMENT IS NOT READILY TRANSPORTED BACK TOWARD THE SILT FENCE.

3. SILT FENCES SHOULD BE REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHOULD BE REPLACED WITH A TEMPORARY CHECK DAM.

4. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL IS NECESSARY; THE FABRIC SHOULD BE REPLACED

ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE PREPARED AND SEEDED.

6. IF THERE IS EVIDENCE OF END FLOW ON PROPERLY INSTALLED BARRIERS, EXTEND BARRIERS UPHILL OR CONSIDER REPLACING THEM WITH OTHER MEASURES, SUCH AS TEMPORARY DIVERSIONS AND SEDIMENT

7. SILT FENCES HAVE A USEFUL LIFE OF ONE SEASON. ON LONGER CONSTRUCTION PROJECTS, SILT FENCE SHOULD BE REPAIRED PERIODICALLY AS REQUIRED TO MAINTAIN EFFECTIVENESS.

FENCES SHOULD BE USED IN AREAS WHERE EROSION WILL OCCUR ONLY IN THE FORM OF SHEET EROSION AND THERE IS NO CONCENTRATION OF WATER IN A CHANNEL OR DRAINAGE WAY ABOVE THE FENCE. SEDIMENT BARRIERS SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM.

2. THE MAXIMUM CONTRIBUTING DRAINAGE AREA ABOVE THE FENCE SHOULD BE LESS THAN 1A ACRE PER 100 LINEAR FEET OF FENCE;

- 3. THE MAXIMUM LENGTH OF SLOPE ABOVE THE FENCE SHOULD BE 100 FEET;
- THE MAXIMUM SLOPE ABOVE THE FENCE SHOULD BE 2:1;
- FENCES SHOULD BE INSTALLED FOLLOWING THE CONTOUR OF THE LAND AS CLOSELY AS POSSIBLE, AND A. THE ENDS OF THE FENCE SHOULD BE FLARED UPSLOPE: THE FABRIC SHOULD BE EMBEDDED A MINIMUM OF 8 INCHES IN DEPTH AND 4 INCHES IN WIDTH IN A TRENCH EXCAVATED INTO THE GROUND, OR IF SITE CONDITIONS INCLUDE FROZEN GROUND, LEDGE, O THE PRESENCE OF HEAVY ROOTS, THE BASE OF THE FABRIC SHOULD BE EMBEDDED WITH A MINIMUM THICKNESS OF 8 INCHES OF 3/4-INCH STONE;

 THE SOIL SHOULD BE COMPACTED OVER THE EMBEDDED FABRIC; D. SUPPORT POSTS SHOULD BE SIZED AND ANCHORED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS WITH MAXIMUM POST SPACING OF 6 FEET;

E. ADJOINING SECTIONS OF THE FENCE SHOULD BE OVERLAPPED BY A MINIMUM OF 6 INCHES (24 INCHES IS PREFERRED), FOLDED AND STAPLED TO A SUPPORT POST. IF METAL POSTS ARE USED, FABRIC SHOULD BE WIRE-TIED DIRECTLY TO THE POSTS WITH THREE DIAGONAL TIES.

SILT FENCING SHOULD NOT BE STAPLED OR NAILED TO TREES.

THE FILTER FABRIC SHOULD BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHOULD BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER.

THE FILTER FABRIC SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 DEGREES FAHRENHEIT TO 120 DEGREES FAHRENHEIT.

POSTS FOR SILT FENCES SHOULD BE EITHER 4-INCH DIAMETER WOOD OR 1.33 POUNDS PER LINEAR FOOT STEEL WITH A MINIMUM LENGTH OF 5 FEET. STEEL POSTS SHOULD HAVE, PROJECTIONS FOR FASTENING WIRE TO THEM. POSTS SHOULD BE PLACED ON THE DOWN SLOPE SIDE OF THE FABRIC.

10. THE HEIGHT OF A SILT FENCE SHOULD NOT EXCEED 36 INCHES AS HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.

11. THE FILTER FABRIC SHOULD BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS, WHEN JOINTS ARE NECESSARY: FILTER CLOTH SHOULD BE SPLICED TOGETHER ONLY AT SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY SEALED.

12. A MANUFACTURED SILT FENCE SYSTEM WITH INTEGRAL POSTS MAY BE USED.

13. POST SPACING SHOULD NOT EXCEED 6 FEET.

14. A TRENCH SHOULD BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP ALONG THE LINE OF POSTS AND UP GRADIENT FROM THE BARRIER.

15. THE STANDARD STRENGTH OF FILTER FABRIC SHOULD BE STAPLED OR WIRED TO THE POST, AND 8 INCHES OF THE FABRIC SHOULD BE EXTENDED INTO THE TRENCH. THE FABRIC SHOULD NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

16. THE TRENCH SHOULD BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.

17. SILT FENCE MAY BE INSTALLED BY "SLICING" USING MECHANICAL EQUIPMENT SPECIFICALLY DESIGNED FOR THIS PROCEDURE. THE SLICING METHOD USES AN IMPLEMENT TOWED BEHIND A TRACTOR TO "PLOW" OR SLICE THE SILT FENCE MATERIAL INTO THE SOIL. THE SLICING METHOD MINIMALLY DISRUPTS THE SOIL UPWARD AND SLIGHTLY DISPLACES THE SOIL, MAINTAINING THE SOIL'S PROFILE AND CREATING AN OPTIMAL CONDITION FOR SUBSEQUENT MECHANICAL COMPACTION.

18. SILT FENCES SHOULD BE INSTALLED WITH "SMILES" OR "J-HOOKS" TO REDUCE THE DRAINAGE AREA THAT ANY SEGMENT WILL IMPOUND.

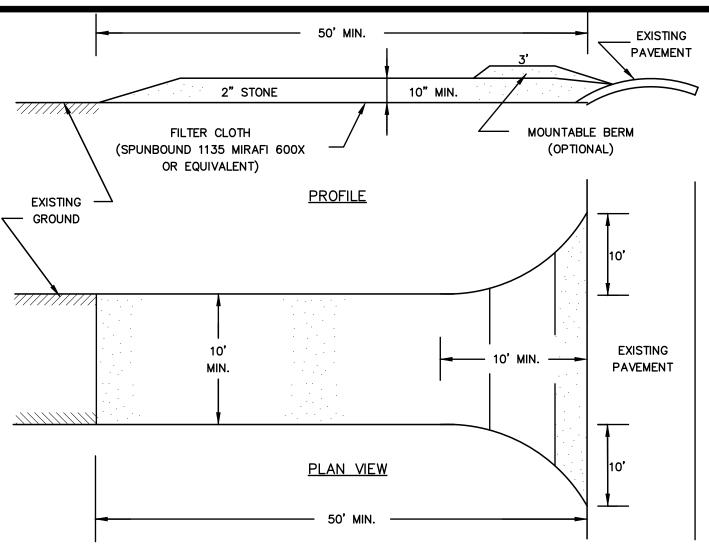
19. THE ENDS OF THE FENCE SHOULD BE TURNED UPHILL.

20. SILT FENCES PLACED AT THE TOE OF A SLOPE SHOULD BE SET AT LEAST 6 FEET FROM THE TOE M ALLOW SPACE FOR SHALLOW PONDING AND TO ALLOW FOR MAINTENANCE ACCESS WITHOUT DISTURBING

21. SILT FENCES SHOULD BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.

SILT FENCE BARRIER

NOT TO SCALE



WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHOULD BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL, REGRADED ON SITE, AND STABILIZED. THE ENTRANCE SHOULD TEN BE THE CONTRACTOR SHOULD SWEEP THE PAVEMENT AT EXITS WHENEVER SOIL MATERIALS ARE TRACKED

ONTO THE ADJACENT PAVEMENT OR TRAVELED WAY. WHEN WHEEL WASHING IS REQUIRED, IT SHOULD BE CONDUCTED ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT-TRAPPING DEVICE. ALL SEDIMENT SHOULD BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

CONSTRUCTION SPECIFICATIONS THE MINIMUM STONE USED SHOULD BE 3-INCH CRUSHED STONE.

THE MINIMUM LENGTH OF THE PAD SHOULD BE 75 FEET, EXCEPT THAT THE MINIMUM LENGTH MAY BE REDUCED TO 50 FEET IF A 3-INCH TO 6-INCH BERM IS INSTALLED AT THE ENTRANCE OF THE PROJECT

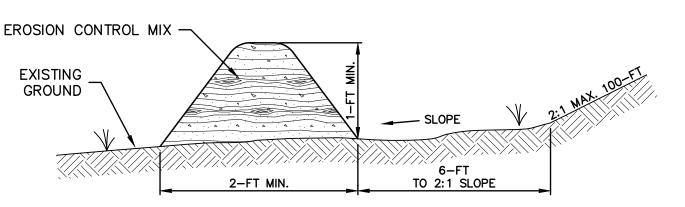
THE PAD SHOULD BE THE FULL WIDTH OF CONSTRUCTION ACCESS ROAD OR 10 FEET, WHICHEVER IS GREATER.

THE PAD SHOULD SLOPE AWAY FROM THE EXISTING ROADWAY. THE PAD SHOULD BE AT LEAST 6 INCHES THICK.

THE GEOTEXTILE FILTER FABRIC SHOULD BE PLACED BETWEEN THE STONE PAD AND THE EARTH SURFACE RELOW THE PAD. THE PAD SHOULD BE MAINTAINED OR REPLACED WHEN MUD AND SOIL PARTICLES CLOG THE VOIDS IN

THE STONE SUCH THAT MUD AND SOIL PARTICLES ARE TRACKED OFF-SITE. NATURAL DRAINAGE THAT CROSSES THE LOCATION OF THE STONE PAD SHOULD BE INTERCEPTED AND PIPED BENEATH THE PAD. AS NECESSARY, WITH SUITABLE OUTLET PROTECTION.

JSDA—SCS STABILIZED CONSTRUCTION ENTRANCE NOT TO SCALE



EROSION CONTROL MIX BERM CROSS SECTION

NOT TO SCALE

MAINTENANCE REQUIREMENTS: EROSION CONTROL MIX BERMS SHOULD BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST

DAILY DURING PROLONGED RAINFALL. 2. EROSION CONTROL MIX BERMS SHOULD BE REPAIRED IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM.

3. IF THERE ARE SIGNS OF BREACHING OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, THE EROSION CONTROL MIX BERMS SHOULD BE REPLACED WITH OTHER MEASURES TO INTERCEPT AND TRAP SEDIMENT (SUCH AS A DIVERSION BERM DIRECTING RUNOFF TO A SEDIMENT TRAP OR BASIN). SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT.

5. SEDIMENT DEPOSITS MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE THIRD (1/3) OF THE HFIGHT OF THE BARRIER.

EROSION CONTROL MIX BERMS SHOULD BE RESHAPED OR REAPPLIED AS NEEDED. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE BARRIER IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

CONSTRUCTION SPECIFICATIONS:

1. EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF OF THE PROJECT SITE. 2. EROSION CONTROL MIX MUST CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE

MANUFACTURED PRODUCTS. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.

COMPOSITION OF THE EROSION CONTROL MIX SHOULD BE AS FOLLOWS: A. EROSION CONTROL MIX SHALL BE A WELL GRADED MIXTURE OF PARTICLE SIZES FREE OF REFUSE, PHYSICAL CONTAMINANTS, MATERIAL TOXIC TO PLANT GROWTH AND MAY NOT CONTAIN ROCKS LESS THAN 4-INCHES IN DIAMETER:

B. ORGANIC MATTER = 25-65% DRY WEIGHT BASIS C. PARTICLES PASSING BY WEIGHT: PASSING BY WEIGHT: SCREEN:

3-INCH 1-INCH 90-100% 3/4-INCH 70-100%

30-75% 1 /4-INCH D. THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED. E. THE MIX SHOULD CONTAIN NO SILTS, CLAYS OR FINE SANDS.

F. SOLUBLE SALTS CONTENT < 4.0 mmhos/cm G. pH OF THE MIX SHOULD BE BETWEEN 5.0 AND 8.0 THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR. 6. IT MAY BE NECESSARY TO CUT TALL GRASSES AND WOODY VEGETATION TO AVOID CREATING VOIDS AND

BRIDGES IN THE BARRIER THAT WOULD ENABLE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS. THE BARRIER MUST BE A MINIMUM OF 12-INCHES TALL AS MEASURED ON THE UPHILL SIDE OF THE BARRIER. 8. THE BARRIER MUST BE A MINIMUM OF 2-FT WIDE.

CONTINUOUS CONTAINED BERM (ALTERNATIVE):

1. AN ALTERNATIVE PRODUCT, THE CONTINUOUS CONTAINED BERM (OR "FILTER SOCK") CAN BE AN EFFECTIVE SEDIMENT BARRIER AS IT ADDS CONTAINMENT AND STABILITY TO A BERM OF EROSION CONTROL MIX. IN THE EVENT THAT USE OF CONTINUOUS CONTAINED BERM IS DESIRED, THE PRODUCT SELECTED SHOULD BE REVIEWED AND APPROVED BY THE DESIGN ENGINEER.

3. INSTALLATION OF CONTINUOUS CONTAINED BERMS SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE MANUFACTURER.

EROSION CONTROL MIX BERM DETAIL

WINTER STABILIZATION & CONSTRUCTION PRACTICES:

MAINTENANCE REQUIREMENTS: MAINTENANCE MEASURES SHOULD BE PERFORMED THROUGHOUT CONSTRUCTION, INCLUDING OVER THE WINTER PERIOD. AFTER EACH RAINFALL, SNOWSTORM, OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHOULD CONDUCT INSPECTION OF ALL INSTALLED EROSION CONTROL PRACTICES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUED FUNCTION.

2. FOR ANY AREA STABILIZED BY TEMPORARY OR PERMANENT SEEDING PRIOR TO THE ONSET OF THE WINTER SEASON, THE CONTRACTOR SHOULD CONDUCT AN INSPECTION IN THE SPRING TO ASCERTAIN THE CONDITION OF THE VEGETATION AND REPAIR ANY DAMAGED AREAS OR BARE SPOTS AND RESEED AS REQUIRED TO ACHIEVE AN ESTABLISHED VEGETATIVE COVER (AT LEAST 85% OF AREA VEGETATED WITH HEALTHY,

THE FOLLOWING STABILIZATION TECHNIQUES SHOULD BE EMPLOYED DURING THE PERIOD FROM OCTOBER 15 THROUGH MAY 15.

THE AREA OF EXPOSED, UNSTABILIZED SOIL SHOULD BE LIMITED TO 1-ACRE AND SHOULD BE PROTECTED AGAINST EROSION BY THE METHODS DISCUSSED IN NHSMM, VOL. 3 AND ELSEWHERE IN THIS PLAN SET, PRIOR TO ANY THAW OR SPRING MELT EVENT. STABILIZATION AS FOLLOWS SHOULD BE COMPLETED WITHIN A DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5

ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF LESS THAN 15% WHICH DO NOT EXHIBIT A MINIMUM 85% VEGETATIVE GROWTH BY OR ARE DISTURBED AFTER OCTOBER 15, SHOULD BE SEEDED AND COVERED WITH 3 TO 4 TONS OF HAY OR STRAW MULCH PER ACRE SECURED WITH ANCHORED NETTING, OR 2 INCHES OF EROSION CONTROL MIX (REFER TO NHSMM, VOL. 3 FOR SPECIFICATION)

ALL PROPOSED VEGETATED AREAS HAVING A SLOPE OF GREATER THAN 15% WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OR ARE DISTURBED AFTER OCTOBER 15 SHOULD BE SEEDED AND COVERED WITH A PROPERLY INSTALLED EROSION CONTROL BLANKET OR WITH A MINIMUM OF 4 INCHES OF EROSION CONTROL MIX, UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER. NOTE THAT COMPOST BLANKETS SHOULD NOT EXCEED 2 INCHES IN THICKNESS OR THEY MAY OVERHEAT. ALL STONE COVERED SLOPES MUST BE CONSTRUCTED AND STABILIZED BY OCTOBER 15.

5. INSTALLATION OF ANCHORED HAY MULCH OR EROSION CONTROL MIX SHOULD NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH.

6. ALL MULCH APPLIED DURING WINTER SHOULD BE ANCHORED (I.E. BY NETTING, TRACKING, WOOD CELLULOSE

WITHIN 24 HOURS OF STOCKPILING SOIL MATERIALS SHOULD BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A 4 INCH LAYER OF EROSION CONTROL MIX. MULCH SHOULD BE RE-ESTABLISHED PRIOR TO ANY RAIN OR SNOWFALL. NO SOIL STOCKPILE SHOULD BE PLACED (EVEN COVERED WITH MULCH) WITHIN 100-FT OF ANY WETLAND OR OTHER WATER RESOURCE

8. FROZEN MATERIAL (I.E. FROST LAYER REMOVED DURING WINTER CONSTRUCTION) SHOULD BE STOCKPILED SEPARATELY AND IN A LOCATION AWAY FROM ANY AREA NEEDING PROTECTION. FROZEN MATERIAL STOCKPILES CAN MELT IN SPRING AND BECOME UNWORKABLE AND DIFFICULT TO TRANSPORT DUE TO HIGH SOIL MOISTURE CONTENT

9. INSTALLATION OF EROSION CONTROL BLANKETS SHOULD NOT OCCUR OVER SNOW OF GREATER THAN 1 INCH IN DEPTH OR ON FROZEN GROUND.

10. ALL GRASS-LINED DITCHES AND CHANNELS SHOULD BE CONSTRUCTED BY SEPTEMBER 1. ALL DITCHES AND SWALES WHICH DO NOT EXHIBIT 85% VEGETATIVE GROWTH BY OR ARE DISTURBED AFTER OCTOBER 15, SHOULD BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS AS DETERMINED BY A PROFESSIONAL ENGINEER. IF STONE LINING IS NECESSARY, THE CONTRACTOR MAY NEED TO RE-GRADE THE DITCH AS REQUIRED TO PROVIDE ADEQUATE CROSS-SECTION AFTER ALLOWING FOR PLACEMENT OF THE STONE.

11. ALL STONE LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY OCTOBER 15. 12. AFTER NOVEMBER 15, INCOMPLETE ROAD OR PARKING AREAS WHERE ACTIVE CONSTRUCTION HAS STOPPED FOR THE WINTER SHOULD BE PROTECTED WITH A MINIMUM 3 INCH LAYER OF SAND AND GRAVEL WITH A GRADATION THAT IS LESS THAN 12% OF THE SAND PORTION, OR MATERIAL PASSING THE NUMBER 4 SIEVE, BY WEIGHT, PASSES THE NUMBER 200 SIEVE.

13. SEDIMENT BARRIERS THAT ARE INSTALLED DURING FROZEN CONDITIONS SHOULD CONSIST OF EROSION CONTROL MIX BERMS. OR CONTINUOUS CONTAINED BERMS. SILT FENCES AND HAY BALES SHOULD NOT BE INSTALLED WHEN FROZEN CONDITIONS PREVENT PROPER EMBEDMENT OF THESE BARRIERS.

CONTROL PRACTICES:

1. APPLY DUST CONTROL MEASURES AS NECESSARY TO MAINTAIN CONTROL OF DUST ON SITE.

() MOISTEN EXPOSED SOIL SURFACES PERIODICALLY WITH ADEQUATE WATER TO CONTROL DUST. B) AVOID EXCESSIVE APPLICATION OF WATER THAT WOULD RESULT IN MOBILIZING SEDIMENT AND SUBSEQUENT DEPOSITION IN NATURAL WATERBODIES.

3. STONE APPLICATION:

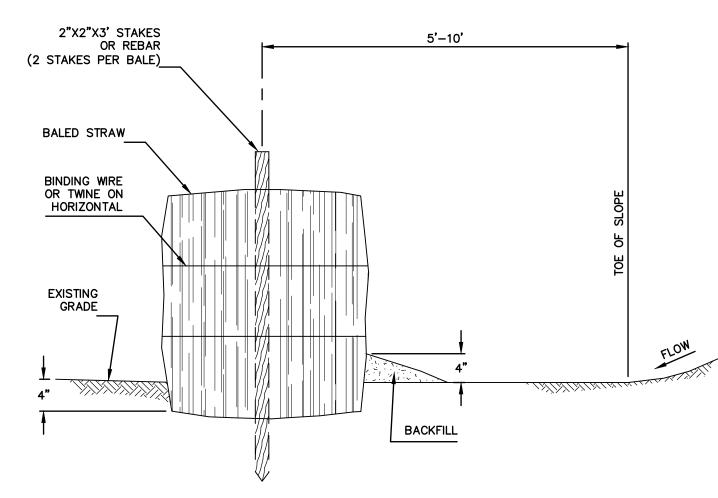
WATER APPLICATION:

A) COVER SURFACE WITH CRUSHED OR COARSE GRAVEL. B) IN AREAS NEAR WATERWAYS USE ONLY CHEMICALLY STABILIZED OR WASHED AGGREGATE.

4. REFER TO "NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL. VOLUME 3 CONSTRUCTION PHASE EROSION AND SEDIMENT CONTROLS, DECEMBER 2008" FOR OTHER ALLOWABLE DUST CONTROL PRACTICES (I.E. COMMERCIAL TACKIFIERS OR CHEMICAL TREATMENTS SUCH AS CALCIUM CHLORIDE, ETC.)

INVASIVE SPECIES NOTE:

THE CONTRACTOR SHALL TAKE STEPS TO PREVENT THE SPREAD OF INVASIVE PLANT, INSECT. AND FUNGAL SPECIES BY MEETING THE REQUIREMENTS AND INTENT OF RSA 430:53 AND AGR 3800 RELATIVE TO INVASIVE SPECIES. http://gencourt.state.nh.us/rules/state_agencies/agr3800.html



TOE OF SLOPE STRAW BALE BARRIER NOT TO SCALE

GENERAL CONSTRUCTION PHASING:

STABILIZATION:
A SITE IS DEEMED STABILIZED WHEN IT IS IN A CONDITION IN WHICH THE SOIL ON SITE WILL NOT EXPERIENCE ACCELERATED OR UNNATURAL EROSION UNDER THE CONDITIONS OF A 10-YEAR STORM EVENT. SUCH AS BUT NOT LIMITED TO:

A) IN AREAS THAT WILL NOT BE PAVED: i) A MINIMUM OF 85% VEGETATIVE COVER HAS BEEN ESTABLISHED;

ii) A MINIMUM OF 3-INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR A CERTIFIED COMPOST BLANKET HAS BEEN INSTALLED, OR;

iii) EROSION CONTROL BLANKETS HAVE BEEN INSTALLED

B) IN AREAS TO BE PAVED: i) BASE COURSE GRAVELS HAVE BEEN INSTALLED.

2. <u>TEMPORARY STABILIZATION:</u>
ALL AREAS OF EXPOSED OR DISTURBED SOIL SHOULD BE TEMPORARILY STABILIZED AS SOON AS

PRACTICABLE BUT NO LATER THAN 45 DAYS FROM THE TIME OF INITIAL DISTURBANCE, UNLESS A SHORTER TIME IS SPECIFIED BY LOCAL AUTHORITIES, THE CONSTRUCTION SEQUENCE APPROVED AS PART OF THE ISSUED PERMIT OR AN INDEPENDENT MONITOR.

PERMANENT STABILIZATION:
ALL AREAS OF EXPOSED OR DISTURBED SOIL SHOULD BE PERMANENTLY STABILIZED AS SOON AS PRACTICABLE BUT NO LATER THAN 3 DAYS FOLLOWING FINAL GRADING.

4. MAXIMUM AREA OF DISTURBANCE: THE AREA OF UNSTABILIZED SOIL SHOULD NOT EXCEED 5 ACRES AT ANY TIME.

5. ONLY DISTURB, CLEAR, OR GRADE AREAS NECESSARY FOR CONSTRUCTION.

A) FLAG OR OTHERWISE DELINEATE AREAS NOT TO BE DISTURBED.

B) EXCLUDE VEHICLES AND CONSTRUCTION EQUIPMENT FROM THESE AREAS TO PRESERVE NATURAL VEGETATION.

ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHOULD BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN DEPICTED

7. ALL EROSION AND SEDIMENT CONTROL PRACTICES AND MEASURES SHOULD BE CONSTRUCTED, APPLIED

8. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHOULD BE STOCKPILED IN THE AMOUNT NECESSARY TO COMPLETE FINISHED GRADING AND BE PROTECTED FROM EROSION.

AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN

9. STOCKPILES, BORROW AREAS AND SPOILS SHALL BE STABILIZED AS DESCRIBED UNDER "SOIL STOCKPILE PRACTICES".

SLOPES SHOULD NOT BE CREATED SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJOINING PROPERTIES WITHOUT ADEQUATE PROTECTION AGAINST SEDIMENTATION, EROSION, SLIPPAGE, SETTLEMENT SUBSIDENCE OR OTHER RELATED DAMAGE.

11. AREAS TO BE FILLED SHOULD BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND/OR OTHER OBJECTIONABLE MATERIALS.

12. AREAS SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF 3-INCHES PRIOR TO PLACEMENT OF TOPSOIL. TOPSOIL SHOULD BE PLACED WITHOUT SIGNIFICANT COMPACTION TO PROVIDE A LOOSE BEDDING FOR

13. ALL FILLS SHOULD BE COMPACTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS TO REDUCE EROSION

SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, SITE UTILITIES, CONDUITS AND OTHER FACILITIES, SHOULD BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES. 14. IN GENERAL, FILLS SHOULD BE COMPACTED IN LAYERS RANGING FROM 6 TO 24 INCHES IN THICKNESS.

THE CONTRACTOR SHOULD REVIEW THE PROJECT GEOTECHNICAL REPORT AND/OR THE "PROJECT SPECIFIC PHASING NOTES" FOR SPECIFIC GUIDANCE.

15. ANY AND ALL FILL MATERIAL SHOULD BE FREE OF BRUSH, RUBBISH, ROCKS (LARGER THAN 3/4 THE

DEPTH OF THE LIFT BEING INSTALLED), LOGS, STUMPS, BUILDING DEBRIS, FROZEN MATERIAL AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY

16. FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE (I.E. CLAY, SILT) MATERIALS ARE SUSCEPTIBLE TO ACCELERATED SETTLEMENT AND POTENTIAL ACCELERATED EROSION. WORK IN AREAS OF THESE MATERIALS SHOULD BE PERFORMED UNDER THE DIRECTION OF A PROFESSIONAL ENGINEER.

THE OUTER FACE OF THE FILL SLOPE SHOULD BE ALLOWED TO STAY LOOSE, NOT ROLLED OR COMPACTED, OR BLADE SMOOTHED. A BULLDOZER MAY RUN UP AND DOWN THE FILL SLOPE SO THE DOZER TREADS (CLEAT TRACKS) CREATE GROOVES PERPENDICULAR TO THE SLOPE. IF THE SOIL IS NOT TOO MOIST, EXCESSIVE COMPACTION WILL NOT OCCUR. SEE "SURFACE ROUGHENING" IN THE

18. ROUGHEN THE SURFACE OF ALL SLOPES DURING THE CONSTRUCTION OPERATION TO RETAIN WATER, INCREASE INFILTRATION AND FACILITATE VEGETATION ESTABLISHMENT.

19. USE SLOPE BREAKS, SUCH AS DIVERSIONS, BENCHES, OR CONTOUR FURROWS AS APPROPRIATE TO REDUCE THE LENGTH OF CUT-FILL SLOPES TO LIMIT SHEET AND RILL EROSION AND PREVENT GULLY EROSION. ALL BENCHES SHOULD BE KEPT FREE OF SEDIMENT DURING ALL PHASES OF CONSTRUCTION.

20. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHOULD BE EVALUATED BY A PROFESSIONAL ENGINEER (PREFERABLY THE DESIGN ENGINEER) TO DETERMINE IF THE PROPOSED DESIGN SHOULD BE REVISED TO PROPERLY MANAGE THE CONDITION.

21. STABILIZE ALL GRADED AREAS (AS ABOVE) WITH VEGETATION, CRUSHED STONE, COMPOST BLANKET, OR OTHER GROUND COVER AS SOON AS GRADING IS COMPLETE OR IF WORK IS INTERRUPTED FOR 21 WORKING DAYS OR MORE. USE MULCH OR OTHER APPROVED METHODS TO STABILIZE AREAS TEMPORARILY WHERE FINAL GRADING MUST BE DELAYED.

22. ALL GRADED AREAS SHOULD BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING. ABOVE NOTES EXCERPTED, ADAPTED AND REFERENCED FROM "NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3 CONSTRUCTION PHASE EROSION AND SEDIMENT CONTROLS, DECEMBER 2008" (NHSMM, VOL. 3)

STOCKPILE PRACTICES

1. LOCATE STOCKPILES A MINIMUM OF 50-FT. AWAY FROM CONCENTRATED FLOWS OF STORMWATER, DRAINAGE COURSES OR INLETS.

2. PROTECT ALL STOCKPILES FROM STORMWATER RUN-ON USING TEMPORARY PERIMETER MEASURES SUCH AS DIVERSIONS, BERMS, SANDBAGS OR OTHER APPROVED PRACTICES. 3. STOCKPILES SHOULD BE SURROUNDED BY SEDIMENT BARRIERS AS DESCRIBED ON THE PLANS AND IN

4. IMPLEMENT WIND EROSION CONTROL PRACTICES AS APPROPRIATE ON ALL STOCKPILED MATERIAL.

NHSMM VOL. 3. TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE

5. PLACE BAGGED MATERIALS ON PALLETS OR UNDERCOVER.

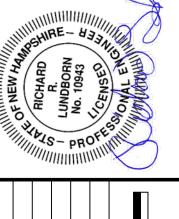
6. INACTIVE SOIL STOCKPILES SHOULD BE COVERED WITH ANCHORED TARPS OR PROTECTED WITH SOIL STABILIZATION MEASURES (TEMPORARY SEED AND MULCH OR OTHER TEMPORARY STABILIZATION PRACTICE) AND TEMPORARY PERIMETER SEDIMENT BARRIERS (I.E. SILT FENCE, ETC.) AT ALL TIMES.

INACTIVE STOCKPILES OF CONCRETE RUBBLE, ASPHALT CONCRETE RUBBLE, AGGREGATE MATERIALS, AND SIMILAR MATERIALS SHOULD BE PROTECTED WITH TEMPORARY SEDIMENT PERIMETER BARRIERS (I SILT FENCE, ETC.) AT ALL TIMES. IF THE MATERIALS ARE A SOURCE OF DUST, THEY SHOULD ALSO E

PROTECTION OF ACTIVE STOCKPILES:

8. ALL STOCKPILES SHOULD BE SURROUNDED WITH TEMPORARY LINEAR SEDIMENT BARRIERS (I.E. SILT FENCE, ETC.) PRIOR TO THE ONSET OF PRECIPITATION. PERIMETER BARRIERS SHOULD BE MAINTAINED AT ALL TIMES, AND ADJUSTED AS NEEDED TO ACCOMMODATE THE DELIVERY AND REMOVAL OF MATERIAL FROM THE STOCKPILE. THE INTEGRITY OF THE BARRIER SHOULD BE INSPECTED AT THE END OF EACH WORKING DAY.

WHEN A STORM IS PREDICTED, STOCKPILES SHOULD BE PROTECTED WITH AN ANCHORED PROTECTIVE COVERING.

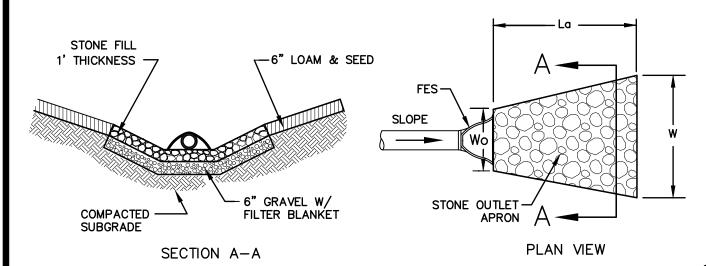


NEIL

S

DET

EROSION



STONE: D50 = 6" WELL GRADED WITH SUFFICIENT SAND AND GRAVEL TO FILL THE VOIDS

THE HEIGHT OF THE STRUCTURAL LINING ALONG THE CHANNEL SIDES SHALL BEGIN AT THE ELEVATION EQUAL TO THE TOP OF THE CONDUIT AND TAPER DOWN TO THE CHANNEL BOTTOM THROUGH THE LENGTH OF THE APRON.

. ALL PIPE CULVERTS SHALL HAVE END SECTIONS OR HEADWALLS. END SECTION MATERIAL AND MANUFACTURER SHALL MATCH THAT OF THE PIPE CULVERT.

THE LARGEST RIP-RAP SIZE DETERMINED DURING HYDROLOGIC ANALYSIS HAS BEEN USED FOR ALL OUTLETS FOR ECONOMY AND SIMPLICITY. APRON LENGTHS, WIDTHS AND THICKNESSES HAVE BEEN ROUNDED UP TO WHOLE NUMBERS FOR EASE OF CONSTRUCTION.

PREPARE THE SUB-GRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIP-RAP TO THE GRADES

SHOWN ON THE PLANS. MINIMUM 6" SAND/GRAVEL BEDDING OR GEOTEXTILE FABRIC REQUIRED UNDER ALL ROCK RIP-RAP. THE ROCK OR GRAVEL USED FOR FILTER OR RIP-RAP SHALL CONFORM TO THE SPECIFIED GRADATION. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING THE PLACEMENT OF ROCK RIP-RAP. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC

OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO (2) PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES. STONE FOR THE RIP-RAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT SEGREGATION OF THE

RIP-RAP SIZE CHOSEN FOR THE WORST CASE OF ALL OUTLETS. ALL RIP-RAP USED FOR PIPE OUTLET PROTECTION WILL HAVE THE SAME GRADATION AND THICKNESS.

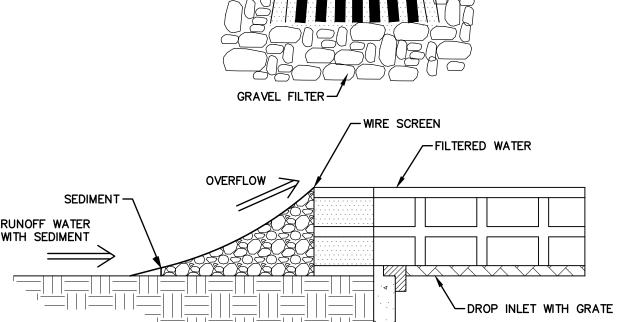
OUTLETS SHALL BE INSPECTED AND CLEANED ANNUALLY AND AFTER ANY MAJOR STORM EVENT. ANY EROSION OR DAMAGE TO THE RIP-RAP SHALL BE REPAIRED IMMEDIATELY.

THE CHANNEL IMMEDIATELY DOWNSTREAM FROM THE OUTLET SHOULD BE CHECKED TO SEE THAT NO EROSION IS OCCURRING THE DOWNSTREAM CHANNEL SHOULD BE KEPT CLEAR OF OBSTRUCTIONS SUCH AS FALLEN TREES, DEBRIS, AND SEDIMENT THAT COULD CHANGE FLOW PATTERNS AND/OR TAILWATER DEPTHS ON THE PIPES. REPAIRS

RIP RAP APRON OUTLET PROTECTION

CONCRETE BLOCK-

NOT TO SCALE



BLOCK AND GRAVEL INLET SEDIMENT FILTER NOT TO SCALE

CONSTRUCTION SPECIFICATIONS: PLACE CONCRETE BLOCKS LENGTHWISE ON THEIR SIDE IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET, WITH THE ENDS OF ADJACENT BLOCKS ABUTTING. THE HEIGHT OF THE BARRIER CAN BE VARIED, DEPENDING ON DESIGN NEEDS, BY STACKING COMBINATIONS OF 4-INCH, 8-INCH AND 12-INCH WIDE BLOCKS. THE BARRIER OF BLOCKS SHALL BE AT LEAST 12 INCHES HIGH AND NO GREATER THAN 24 INCHES HIGH

WIRE MESH SHALL BE PLACED OVER THE OUTSIDE VERTICAL FACE (WEBBING) OF THE CONCRETE BLOCKS TO PREVENT STONE FROM BEING WASHED THROUGH THE HOLES IN THE BLOCKS. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS SHALL BE USED.

STONE SHALL BE PILED AGAINST THE WIRE TO THE TOP OF THE BLOCK BARRIER, AS SHOWN ABOVE. STONE GRADATION SHALL BE WELL GRADED WITH THE MAXIMUM STONE SIZE OF 6 INCHES AND MINIMUM

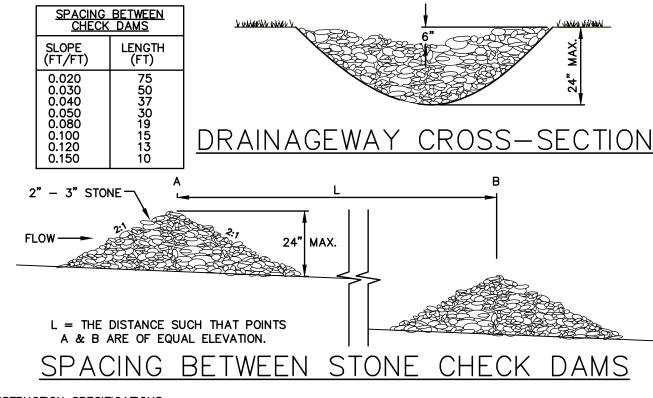
IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONE MUST BE PULLED AWAY FROM THE BLOCKS, CLEANED AND REPLACED.

MAINTENANCE NOTES: 1. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.

SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.

STRUCTURES SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

<u>SEDIMENTATION CONTROL AT CATCH BASINS</u> NOT TO SCALE



CONSTRUCTION SPECIFICATIONS:

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

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

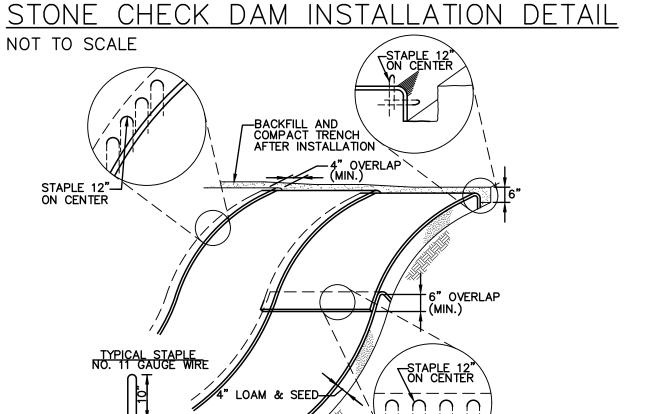
3. STRUCTURES SHALL BE REMOVED FROM THE CHANNEL WHEN THEIR USEFUL LIFE HAS BEEN COMPLETED.

TEMPORARY GRADE STABILIZATION STRUCTURES SHOULD BE INSPECTED AFTER EACH STORM AND DAILY DURING PROLONGED STORM EVENTS. ANY DAMAGE TO THE STRUCTURES SHALL BE REPAIRED IMMEDIATELY.

PARTICULAR ATTENTION SHOULD BE GIVEN TO END RUN AND EROSION AT THE DOWNSTREAM TOE OF THE

WHEN REMOVING THE STRUCTURES, THE DISTURBED AREAS SHALL BE BROUGHT UP TO EXISTING CHANNEL GRADE AND THE AREAS PREPARED, SEEDED AND MULCHED

SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRUCTURES WHEN IT REACHES 1/2 THE ORIGINAL HEIGHT OF THE STRUCTURE.



SLOPE INSTALLATION

ALL BLANKET AND MATS SHOULD BE INSPECTED WEEKLY DURING THE CONSTRUCTION PERIOD, AND AFTER ANY RAINFALL EVENT EXCEEDING 1/2 INCH IN A 24-HOUR PERIOD.

2. ANY FAILURE SHOULD BE REPAIRED IMMEDIATELY. IF WASHOUT OF THE SLOPE, DISPLACEMENT OF THE MAT, OR DAMAGE TO THE MAT OCCURS, THE AFFECTED SLOPE SHALL BE REPAIRED AND RESEEDED, AND THE AFFECTED AREA OF MAT SHALL BE RE-INSTALLED.

CONSTRUCTION SPECIFICATIONS:

MANUFACTURE'S INSTALLATION INSTRUCTIONS: A. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL—O—SEED DO NOT SEED PREPARED AREA. CELL—O—SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.

BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF RECP'S EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP'S WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP's.

ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.

D. THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM -12.5 CM) OVERLAP DEPENDING ON RECP's TYPE.

CONSECUTIVE RECP'S SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP's WIDTH. NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP's.

PROPER SITE PREPARATION IS ESSENTIAL TO ENSURE COMPLETE CONTACT OF THE PROTECTION MATTING WITH THE SOIL

GRADE AND SHAPE AREA IF INSTALLATION. REMOVE ALL ROCKS, CLODS, TRASH, VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKETS WILL HAVE DIRECT CONTACT WITH THE SOIL.

PREPARE SEEDBED BY LOOSENING 2-3 INCHES OF TOPSOIL ABOVE FINAL GRADE. INCORPORATE AMENDMENTS, SUCH AS LIME AND FERTILIZER, INTO SOIL ACCORDING TO SOIL TEST AND THE SEEDING PLAN.

A. SEED AREA BEFORE BLANKET INSTALLATION FOR EROSION CONTROL AND REVEGETATION. SEEDING AFTER MAT INSTALLATION IS OFTEN SPECIFIED FOR TURF REINFORCEMENT APPLICATIONS. WHEN SEEDING PRIOR TO BLANKET INSTALLATION, ALL CHECK SLOTS AND OTHER AREAS DISTURBED DURING INSTALLATION MUST BE RESEEDED. WHEN SOIL FILLING IS SPECIFIED. SEED THE MATTING AND THE ENTIRE DISTURBED AREA AFTER

INSTALLATION AND PRIOR TO FILLING THE MAT WITH SOIL. EROSION CONTROL — BLANKET <u>SLOPE PROTECTION</u> NOT TO SCALE

PERMANENT VEGETATION:

SPECIFICATIONS:

INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS, AND SEDIMENT TRAPS.

2. GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.

3. RUNOFF SHOULD BE DIVERTED FROM THE SEEDBED AREA.

4. ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHOULD INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR O THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OPERATION SHOULD

REMOVE FROM THE SURFACE ALL STONES 2INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, CONCRETE CLODS, LUMPS, TRASH OR OTHER UNSUITABLE

BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM, FINE SEEDBED IS

PREPARED. ALL BUT CLAY AND SILT SOILS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.

3. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED; THE AREA MUST BE TILLED AND FIRMED AS ABOVE.

WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.

5. IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHOULD BE APPLIED DURING THE GROWING

APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL FERTILIZER AND LIMESTONE MAY BE APPLIED AT THE FOLLOWING RATES:

LIMESTONE APPLICATION RATE = 3 TONS/ACRE (138 LB./1,000-SF)*

*EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE

FERTILIZER APPLICATION RATE = 600 LB./ACRE (13.8 LB./1,000-SF)*

*LOW PHOSPHATE FERTILIZER (N-P205-K20) OR EQUIVALENT

FERTILIZER SHOULD BE RESTRICTED TO LOW PHOSPHATE, SLOW RELEASE NITROGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 AND 250-FT FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHOULD BE APPLIED WITHIN 25-FT OF A SURFACE WATER BODY. THESE ARE THE REQUIREMENTS FOR ANY WATER BODY PROTECTED BY THE COMPREHENSIVE SHORELAND PROTECTION ACT.

SEEDING:
1. INOCULATE ALL LEGUME SEED WITH THE CORRECT TYPE OF INOCULANT.

2. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL CULTIPACKER TYPE SEEDER OR HYDROSEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE.

WHERE FEASIBLE EXCEPT WHERE EITHER CULTIPACKER TYPE SEEDER OR HYDROSEEDER IS USED, THE SEEDBED SHOULD BE FIRMED FOLLOWING SEEDING OPERATIONS WITH A ROLLER, OR LIGHT DRAG.

SPRING SEEDING USUALLY GIVES THE BEST RESULTS FOR ALL SEED MIXES OR WITH LEGUMES. PERMANENT SEEDING SHOULD BE COMPLETED 45 DAYS PRIOR TO FIRST KILLING FROST. WHEN CROWN VETCH IS SEEDED IN LATE SUMMER AT LEAST 35% OF THE SEED SHOULD BE HARD SEED (UNSCARIFIED). IF SEEDING CANNOT BE DONE WITHIN THE SPECIFIED SEEDING DATES. MULCH ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NHSSM, VOL 3. AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED

AREAS SEEDED BETWEEN MAY 15 AND AUGUST 15 SHOULD BE COVERED WITH HAY OR STRAW MULCH, ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NHSSM, VOL 3.

6. VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHOULD BE ACHIEVED PRIOR TO OCTOBER 15. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT OTHER TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION.

WHEN HYDROSEEDING (HYDRAULIC APPLICATION), PREPARE THE SEEDBED AS SPECIFIED ABOVE OR BY HAND RAKING TO LOOSEN AND SMOOTH THE SOIL AND REMOVE SURFACE STONES LARGER THAN 2 INCHES IN

2. SLOPES BUST BE NO STEEPER THAN 2:1 (2 FEET HORIZONTALLY BY 1 FOOT VERTICALLY.

3. LIME AND FERTILIZER MAY BE APPLIED SIMULTANEOUSLY WITH THE SEED. THE USE OF FIBER MULCH ON CRITICAL AREAS IS NOT RECOMMENDED (UNLESS IT IS USED TO HOLD STRAW OR HAY). BETTER PROTECTION IS GAINED BY USING STRAW MULCH AND HOLDING IT WITH ADHESIVE MATERIALS OR 500 POUNDS PER ACRE OF WOOD FIBER MULCH.

4. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.

MAINTENANCE REQUIREMENTS:

1. PERMANENT SEEDED AREAS SHOULD BE INSPECTED AT LEAST MONTHLY DURING THE COURSE OF CONSTRUCTION. INSPECTION, MAINTENANCE AND CORRECTIVE ACTIONS SHOULD CONTINUE UNTIL THE OWNER ASSUMES PERMANENT OPERATION OF THE SITE.

SEEDED AREAS SHOULD BE MOWED AS REQUIRED TO MAINTAIN A HEALTHY STAND OF VEGETATION. MOWING

HEIGHT AND FREQUENCY DEPEND OF TYPE OF GRASS COVER.

4. AT A MINIMUM 85% OF THE SOIL SURFACE SHOULD BE COVERED BY VEGETATION.

5. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS SHOULD BE RESEEDED, WITH OTHER TEMPORARY MEASURES (I.E. MULCH, ETC.) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.

3. BASED ON INSPECTION, AREAS SHOULD BE RESEEDED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS.

PERMANENT VEGETATION SEEDING RECOMMENDATIONS

USE	MIXTURE	SPECIES	LBS./ACRE	LBS./ 1,000-SF
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	A	TALL FESCUE CREEPING RED FESCUE REDTOP TOTAL	20 20 2 42	0.45 0.45 0.05 0.95
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER	A	TALL FESCUE CREEPING RED FESCUE REDTOP TOTAL	20 20 2 42	0.45 0.45 0.05 0.95
LIGHTLY USED PARKING LOTS, ODD AREAS, UNUSED LANDS, AND LOW INTENSITY RECREATION SITES	A	TALL FESCUE CREEPING RED FESCUE REDTOP TOTAL	20 20 2 42	0.45 0.45 0.05 0.95
PLAY AREAS AND ATHLETIC FIELDS (TOPSOIL ESSENTIAL FOR GOOD TURF)	F	CREEPING RED FESCUE KENTUCKY BLUEGRASS TOTAL	50 50 100	1.15 1.15 2.30

NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3, TABLES 4-2 AND 4-3 MINNICK, E.L. AND H.T. MARSHALL, (AUGUST 1992)

TEMPORARY VEGETATION:

1. INSTALL NEEDED EROSION AND SEDIMENT CONTROL MEASURES SUCH AS SILTATION BARRIERS, DIVERSIONS AND SEDIMENT TRAPS

2. GRADE AS NEEDED FOR THE ACCESS OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING.

3. RUNOFF SHOULD BE DIVERTED FROM THE SEEDBED AREA.

4. ON SLOPES 4:1 OR STEEPER, THE FINAL PREPARATION SHOULD INCLUDE CREATING HORIZONTAL GROOVES PERPENDICULAR O THE DIRECTION OF THE SLOPE TO CATCH SEED AND REDUCE RUNOFF.

SEEDBED PREPARATION:
1. STONES AND TRASH SHOULD BE REMOVED SO AS NOT TO INTERFERE WITH THE SEEDING AREA.

2. WHERE THE SOIL HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.

3. IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHOULD BE APPLIED DURING THE GROWING

4. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS. IF SOIL TESTING IS NO FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL FERTILIZER AND LIMESTONE MAY BE APPLIED AT THE FOLLOWING RATES:

LIMESTONE APPLICATION RATE = 3 TONS/ACRE (138 LB./1,000-SF)*

*EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE

INCREASED BY 10% WHEN HYDROSEEDING.

FERTILIZER APPLICATION RATE = 600 LB./ACRE (13.8 LB./1,000-SF)*

*LOW PHOSPHATE FERTILIZER (N-P205-K20) OR EQUIVALENT

5. FERTILIZER SHOULD BE RESTRICTED TO LOW PHOSPHATE, SLOW RELEASE NITROGEN FERTILIZER WHEN APPLIED TO AREAS BETWEEN 25 AND 250-FT FROM A SURFACE WATER BODY. NO FERTILIZER EXCEPT LIMESTONE SHOULD BE APPLIED WITHIN 25-FT OF A SURFACE WATER BODY. THESE ARE THE REQUIREMENTS FOR ANY WATER BODY PROTECTED BY THE COMPREHENSIVE SHORELAND PROTECTION ACT.

1. APPLY SEED UNIFORMLY BY HAND, CYCLONE SEEDER, DRILL CULTIPACKER TYPE SEEDER OR HYDRO SEEDER (SLURRY INCLUDING SEED AND FERTILIZER). NORMAL SEEDING DEPTH IS FROM 1/4 TO 1/2 INCH. HYDROSEÈDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE

2. TEMPORARY SEED SHOULD TYPICALLY OCCUR PRIOR TO SEPTEMBER 15.

3. AREAS SEEDED BETWEEN MAY 15 AND AUGUST 15 SHOULD BE COVERED WITH HAY OR STRAW MULCH. ACCORDING TO THE "TEMPORARY AND PERMANENT MULCHING" PRACTICE DESCRIBED IN THE NHSSM. VOL

4. VEGETATED GROWTH COVERING AT LEAST 85% OF THE DISTURBED AREA SHOULD BE ACHIEVED PRIOR TO OCTOBER 15. IF THIS CONDITION IS NOT ACHIEVED, IMPLEMENT OTHER TEMPORARY STABILIZATION MEASURES FOR OVERWINTER PROTECTION.

MAINTENANCE REQUIREMENTS: TEMPORARY SEEDING SHOULD BE INSPECTED WEEKLY AFTER ANY RAINFALL EXCEEDING 1/2 INCH IN 24 HOURS ON ACTIVE CONSTRUCTION SITES. TEMPORARY SEEDING SHOULD BE INSPECTED JUST PRIOR TO SEPTEMBER 15, TO ASCERTAIN WHETHER ADDITIONAL SEEDING IS REQUIRED TO PROVIDE STABILIZATION OVER THE WINTER PERIOD.

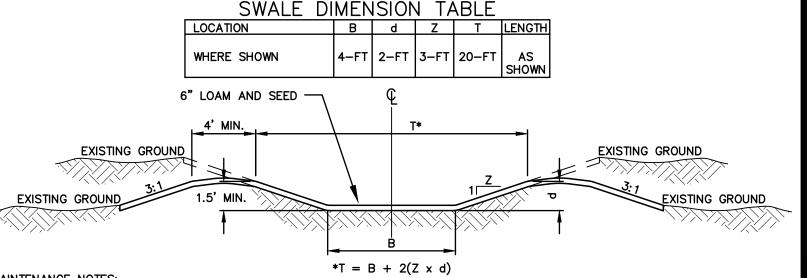
2. BASED ON INSPECTION, AREAS SHOULD BE RESEEDED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS. IF IT IS TOO LATE IN THE PLANTING SEASON TO APPLY ADDITIONAL SEED, THEN OTHER TEMPORARY STABILIZATION MEASURES SHOULD BE IMPLEMENTED.

3. IF ANY EVIDENCE OF EROSION OR SEDIMENTATION IS APPARENT, REPAIRS SHOULD BE MADE AND AREAS SHOULD BE RESEEDED, WITH OTHER TEMPORARY MEASURES (I.E. MULCH, ETC.) USED TO PROVIDE EROSION PROTECTION DURING THE PERIOD OF VEGETATION ESTABLISHMENT.

TEMPORARY VEGETATION SEEDING RECOMMENDATIONS

SPECIES	PER ACRE BUSHELS (BU) OR POUNDS (LBS.)	PER 1,000-SF	REMARKS
WINTER RYE	2.5 BU OR 112 LBS.	2.5 LBS.	BEST FOR FALL SEEDING. SEED FROM AUGUST 15 TO SEPTEMBER 15 FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.
OATS	2.5 BU OR 80 LBS.	2.0 LBS.	BEST FOR SPRING SEEDING. SEED NO LATER THAN MAY 15 FOR SUMMER PROTECTION. SEED TO A DEPTH OF 1 INCH.
ANNUAL RYEGRASS	40 LBS.	1.0 LB.	GROWS QUICKLY, BUT IS OF SHORT DURATION. USE WHERE APPEARANCES ARE IMPORTANT. SEED EARLY SPRING AND/OR BETWEEN AUGUST 15 AND SEPTEMBER 15. COVER THE SEED WITH NO MORE THAN 0.25 INCH OF SOIL.
PERENNIAL RYEGRASS	30 LBS.	0.7 LBS.	BEST FOR FALL SEEDING. SEED FROM AUGUST 15 TO SEPTEMBER 15 FOR BEST COVER. SEED TO A DEPTH OF 1 INCH.

NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3, TABLE MINNICK, E.L. AND H.T. MARSHALL, (AUGUST 1992)



MAINTENANCE NOTES:

1. THE SWALE(S) SHALL BE MOWED WITH THE REST OF THE SITES LAWN AREAS TO PROMOTE HEALTHY GROWTH AND PREVENT THE ENCROACHMENT OF WEEDS AND WOODY VEGETATION. DO NOT MOW GRASS IN SWALE(S) TOO SHORT. THIS WILL

REDUCE THE SWALES FILTERING ABILITY. 2. THE SWALE(S) SHOULD BE FERTILIZED ON AN AS NECESSARY BASIS, TO KEEP THE GRASS HEALTHY. OVER FERTILIZATION COULD RESULT IN THE SWALE(S) BECOMING A SOURCE OF POLLUTION TO THE SURROUNDING WETLAND AREAS. 3. THE SWALE(S) SHOULD BE INSPECTED PERIODICALLY AND AFTER EVERY MAJOR STORM. RILLS AND DAMAGED AREAS

VEGETATED SWALE DETAIL

SHOULD BE PROMPTLY REPAIRED AND RE-VEGETATED AS NECESSARY TO PREVENT FURTHER DETERIORATION.

NOT TO SCALE

MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON. WIRE SCREEN-

AII DET

JIRE- 435"

VS- PRO

NEIL

S

DEWATERING BAG NOT TO SCALE

12" OF MODIFIED RIPRAP -ONE ROW OF STAKED STRAW BALES — STAKES -SECURE
DEWATERING HOSE
ON STRAW BALE — OVERFLOW DISCHARGE TO VEGETATIVE DISCHARGE HOSE FROM DEWATERING PUMP — FILTER OR OTHER STABLE OUTLET 15' MIN. SQUARE SEE SIZING FORMULA

SIZING FORMULA: CUBIC FT. OF REQUIRED STORAGE = PUMP DISCHARGE RATE (GPM) x 16

<u>PLAN</u> PUMP SETTLING BASIN TYPE I

ORANGE PLASTIC SAFETY FENCE — METAL OR WOOD POST. DRIVE FLUSH WITH TOP OF FENCE 2'-0" MIN. FINISHED GRADE

FOR TREE PROTECTION FENCE SHALL BE PLACED AT DRIPLINE OF TREES.

PROTECTIVE SAFETY FENCE SCALE: N.T.S.

18" MAX CATCH BASIN <u>SECTION</u>

<u>PLAN</u>

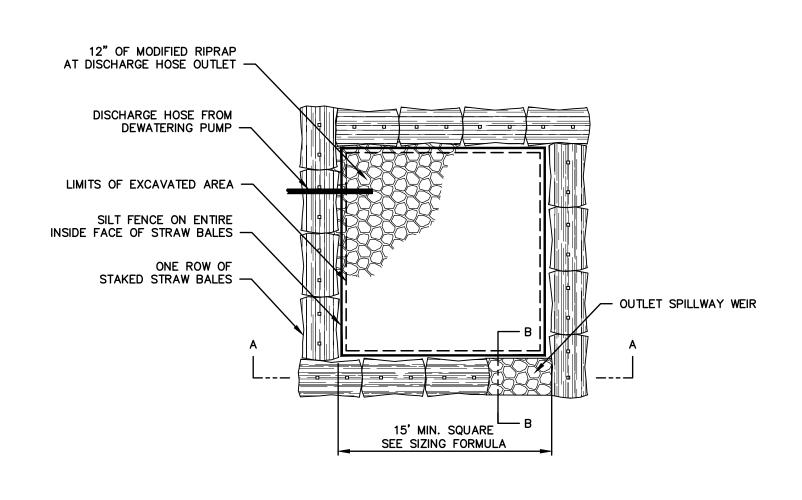
EXISTING GRADE

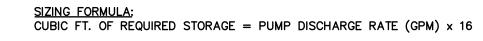
LOW POINT STONE CHECK DAM NOT TO SCALE

STONE: CT DOT NO.3 SPEC M.01.01

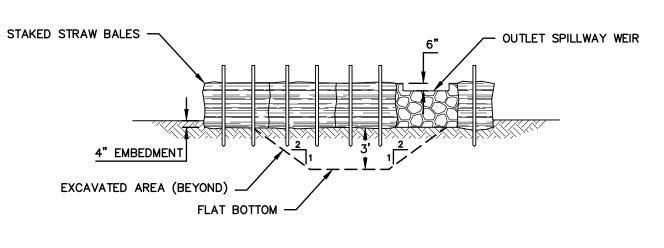
FLOW

FILTER FABRIC WRAPPED AROUND GRATE

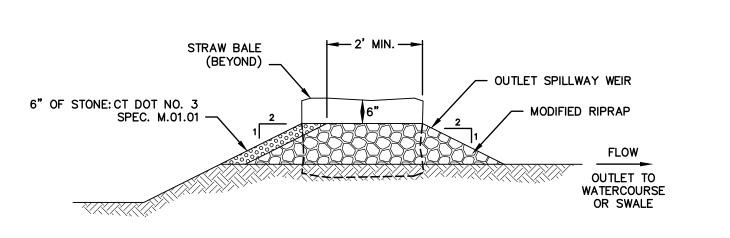




<u>PLAN</u> PUMP SETTLING BASIN TYPE II NOT TO SCALE



SECTION A-A



SECTION B-B

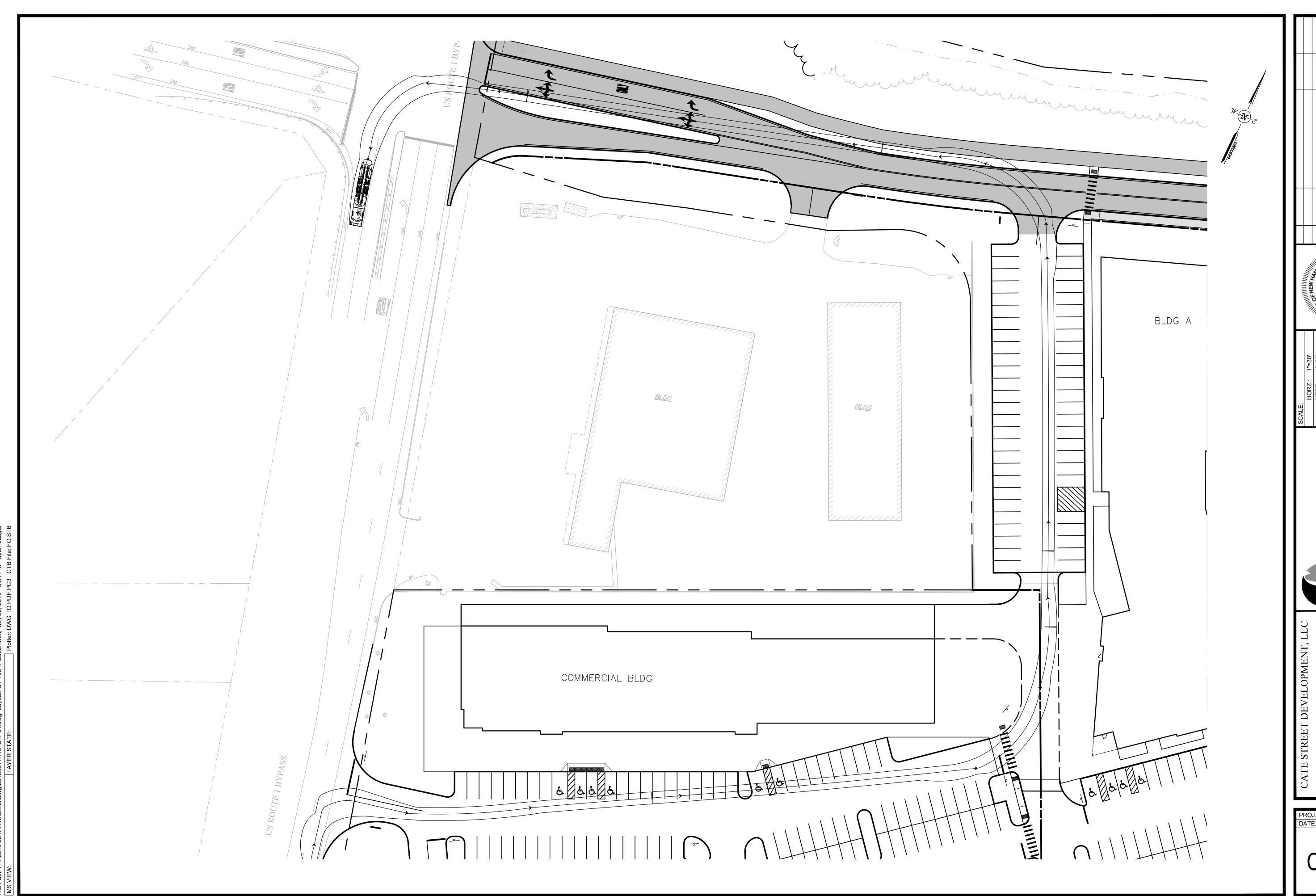
FUSS EROSION CONTROL DETAILS

O'NEILL

PROJ. No.: 20180317.A10 DATE: 05/20/2019



O'NEILL FUSS (UPPER SQUARU 5 FLETCHER SKENNEBUNK, 207.363.0669 www.fando.com SU-40 BOX TRUCK TURNING MOVEMENTS CATE STREET/ WEST END YARDS CATE STREET DEVELOPMENT, LLC PROJ. No.: 20180317.A10 DATE: 05/20/2019



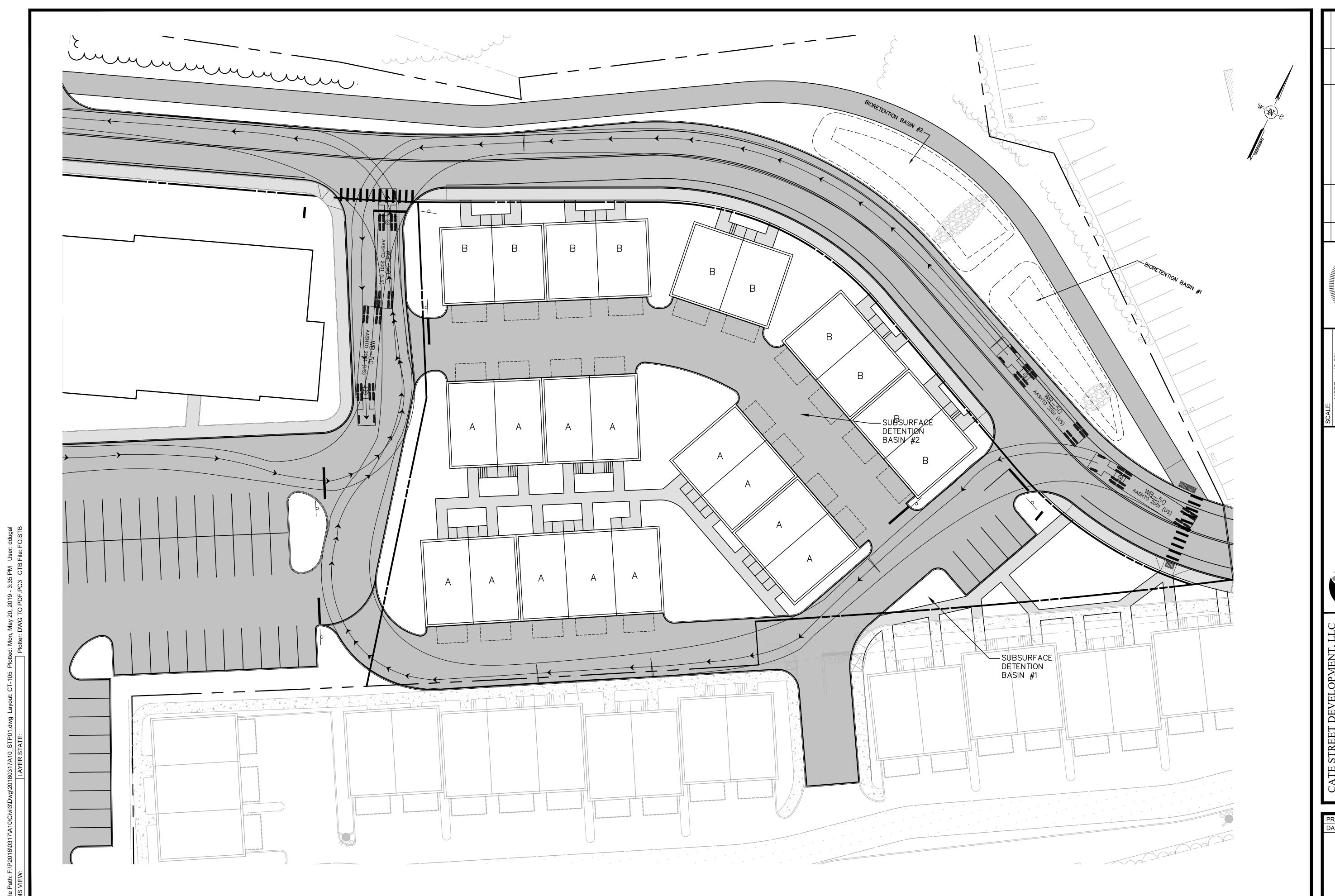
FUSS & O'NEILL I UPPER SQUARE BUSINESS CENTER 5 FLETCHER STREET, SUITE 1 KENNEBUNK, MAINE 04043
207.363.0669
www.fond. WB-50 TRUCK
TURNING MOVEMENTS
CATE STREET/ WEST END YARDS

PROJ. No.: 20180317.A10 DATE: 05/20/2019

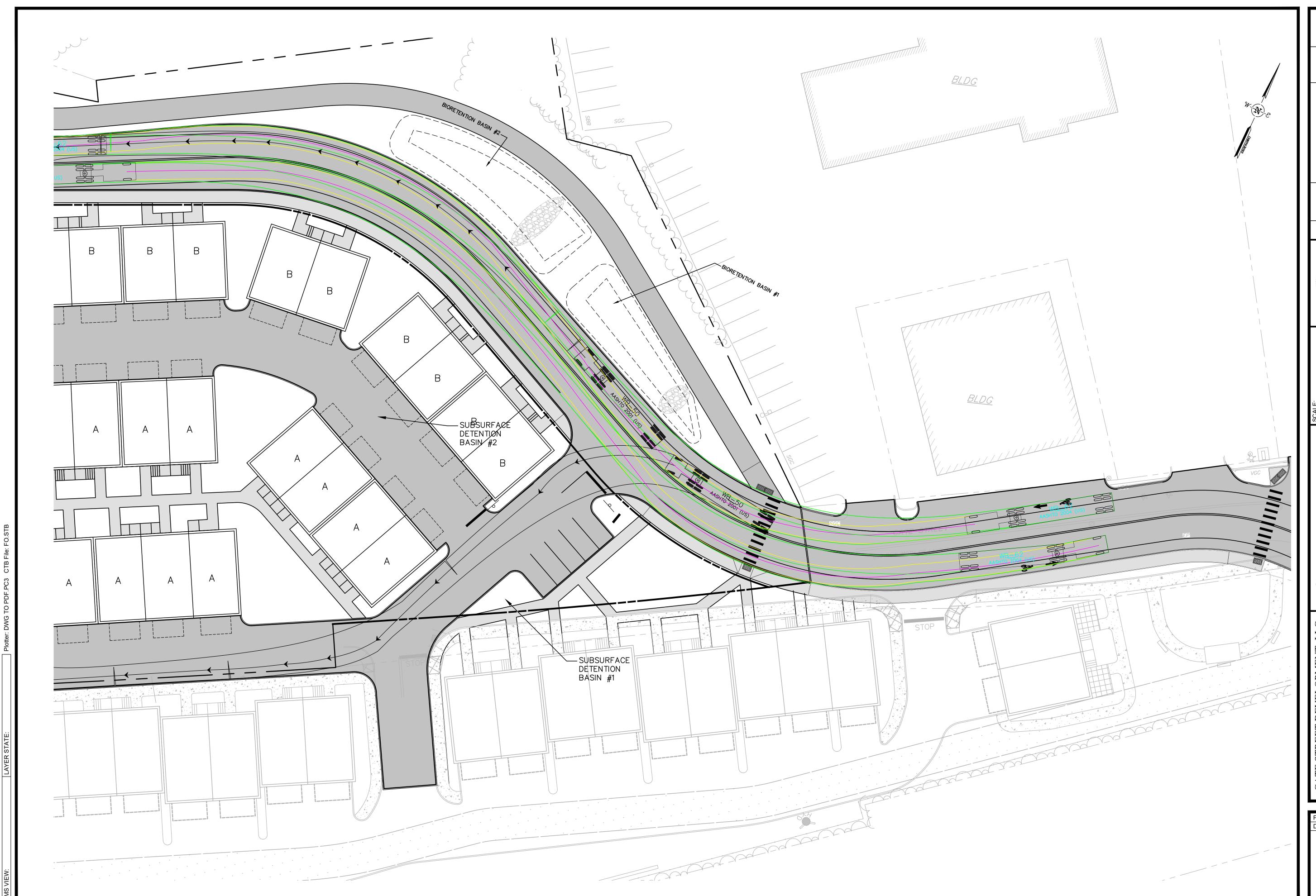
CT-103



O'NEILL FUSS (UPPER SQUARIS FLETCHER SKENNEBUNK, 207.363.0669 www.fando.... WB-50 TRUCK
TURNING MOVEMENTS
CATE STREET/ WEST END YARDS
NEW HAMPSHIRE PROJ. No.: 20180317.A10 DATE: 05/20/2019



SUSINESS CENTER
SEET, SUITE 1
AINE 04043 FUSS UPPER SQUAR 5 FLETCHER KENNEBUNK, 207.363.0669 www.fando.com WB-50 TRUCK TURNING MOVEMENTS ATE STREET/ WEST END YARDS PROJ. No.: 20180317.A10 DATE: 05/20/2019 CT-105

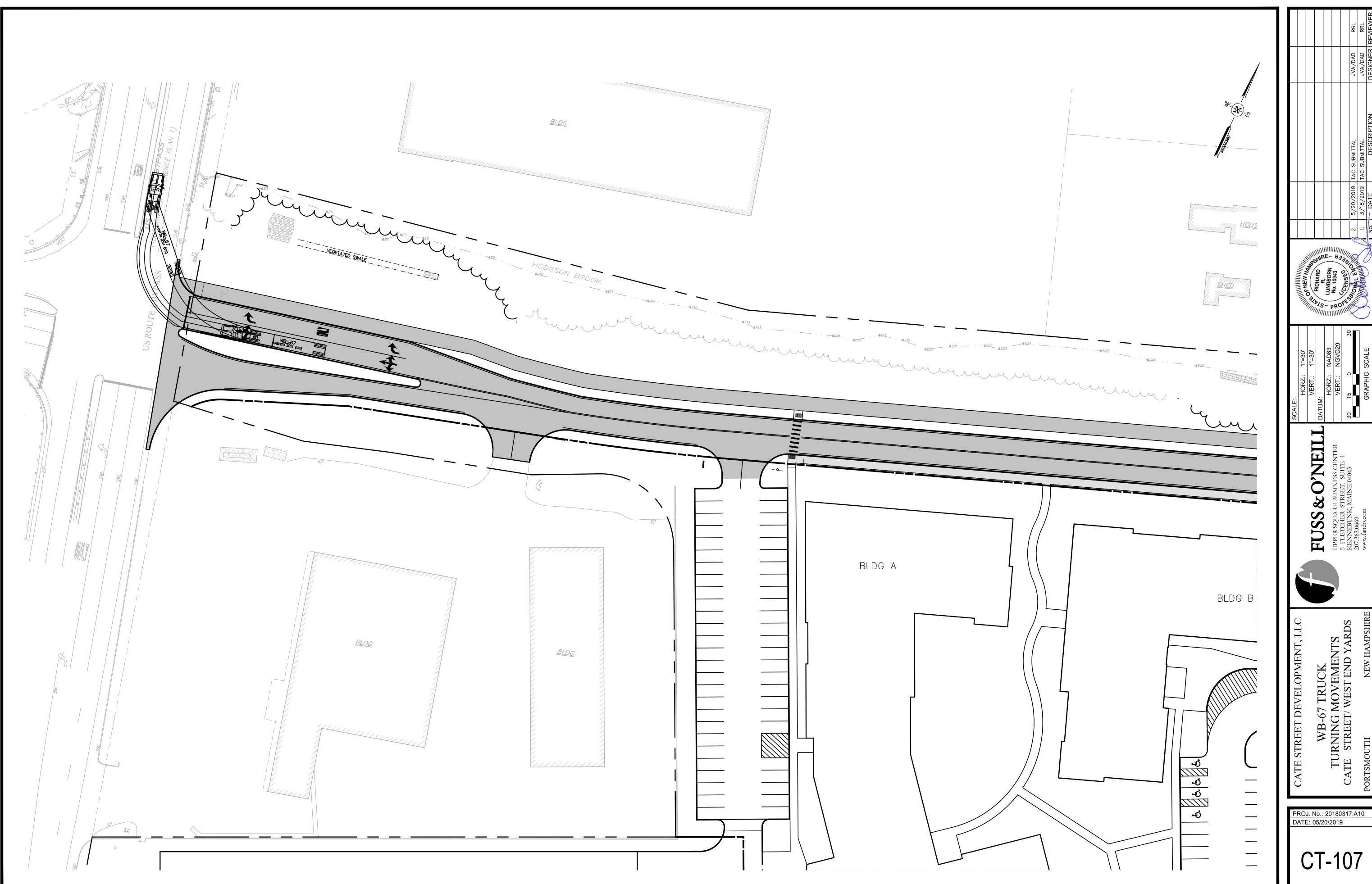


FUSS (UPPER SQUARUS FLETCHER SKENNEBUNK, 207.363.0669)

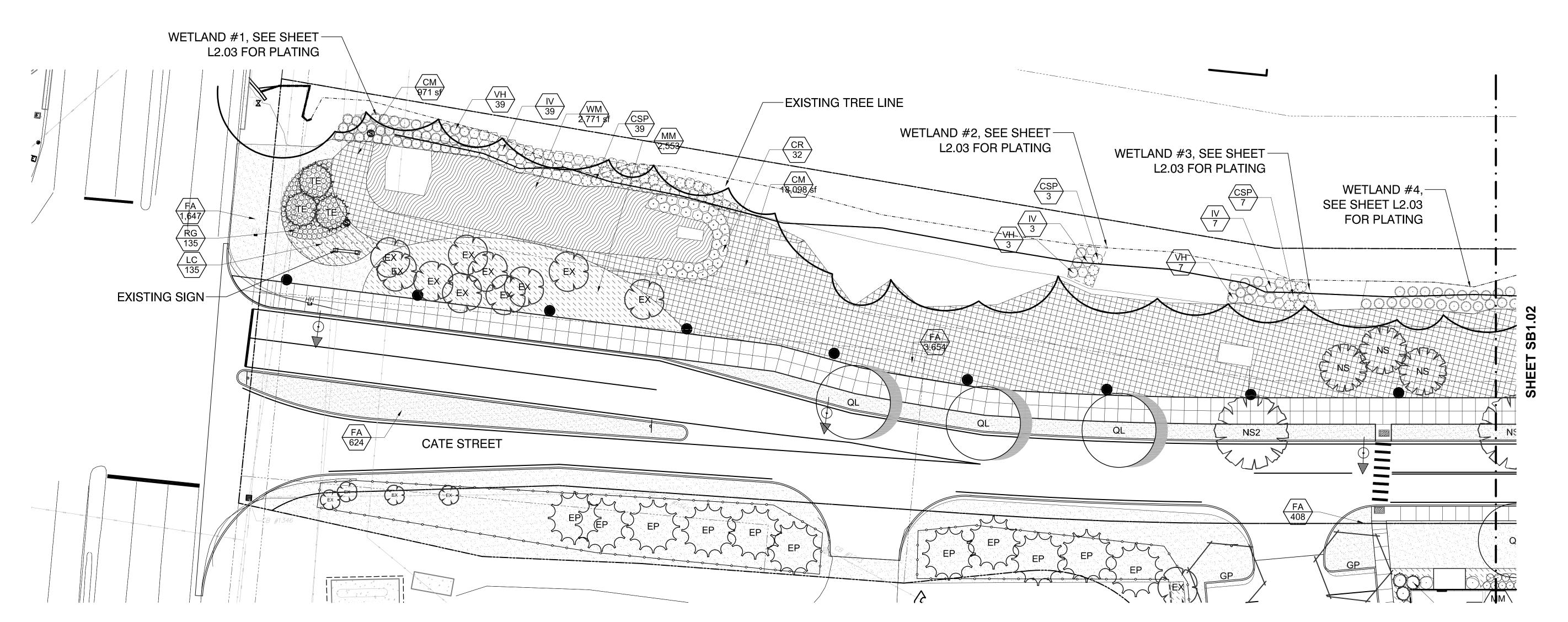
WB-62 TRUCK TURNING MOVEMENTS ATE STREET/ WEST END YARDS

PROJ. No.: 20180317.A10 DATE: 05/20/2019

CT-106

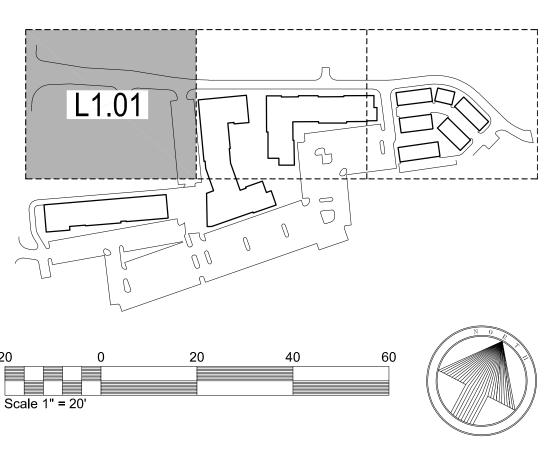


FUSS & O'NEILL I UPPER SQUARE BUSINESS CENTER 5 FLETCHER STREET, SUITE 1 KENNEBUNK, MAINE 04043 207.363.0669 www.fando.com



NOTE: FOR AREA OF INVASIVE SPECIES REMOVAL, SEE DETAIL SHEET L2.03 FOR PLANT LIST





SITE solutions

LANDSCAPE ARCHITECTURE+ LAND PLAN

3715 Northside Parkway 300 Northcreek, Bldg. 300 F: 404.705.949 Atlanta, Georgia 30327 www.sitesolutionsla.com

COPYRIGHT C 2005 BY SITE solutions, LLC. LANDSCAPE ARCHITECTS. ALL RIGHTS RESERVED. THIS DOCUMENT (INCLUDING ELECTRONIC AND REPRODUCTIONS) IS THE PROPERTY OF SITE solutions, LLC. AND ONLY FOR USE ON THE PROJECT SPECIFIED HEREIN. IT IS NOT TO BE USED ON OTHER PROJECTS OR EXTENSIONS TO THIS PROJECT, IN WHOLE OR IN PART, EXCEPT BY THE EXPRESSED WRITTEN AGREEMENT WITH SITE solutions, LLC. THIS DOCUMENT AND REPRODUCTIONS SHALL NOT BE CONSIDERED A CERTIFIED DOCUMENT.

PROFESSIONAL STAMP:

T **V K T T L**SREPARED FOR

STREET DEVELOPMENT LLC

CATE

 SHEET STATUS

 MARK
 DATE
 BY
 RELEASE

 A
 03/18/2019
 SS
 TAC SUBMITTAL

 B
 05/20/2019
 SS
 TAC RE-SUBMITTAL

B 05/20/2019 SS TAC RE-SUBMITTAL

SHEET TITLE:

LANDSCAPE PLAN

PROJECT NUMBER: 18041.00

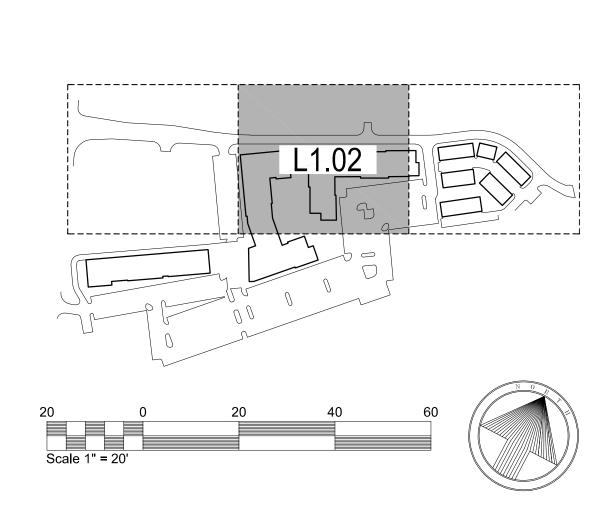
L1.01

DATE: 03.18.2019
PERMIT ISSUE

WETLAND #A, SEE SHEET L2.03 FOR PLATING WETLAND #A, SEE SHEET L2.03 FOR PLATING CATE STREET CATE STREET CATE STREET CATE STREET

NOTE: FOR AREA OF INVASIVE SPECIES REMOVAL,
SEE DETAIL SHEET L2.03 FOR PLANT LIST

TREES	QTY	BOTANICAL NAME / COMMON NAME	SIZE	ROOT	SPACING	REMARKS
AR	12	Acer rubrum / Red Maple	8 - 10` HT, #10		As Shown	
BN	3	Betula nigra / River Birch Multi-Trunk	2.5" cal.			
EX	10	Existing Tree / Existing Tree	-			
NS	6	Nyssa sylvatica / Sour Gum	1.5" cal.	B & B		
NS2	9	Nyssa sylvatica / Sour Gum	3" cal.	B & B		
QL	12	Quercus robur x bicolor `Long` / Regal Prince Oak	3" cal.	B & B		
TE	5	Thuja occidentalis `Emerald` / Emerald Arborvitae	6` min.	B & B	6` hgt.	
SHRUBS	QTY	BOTANICAL NAME / COMMON NAME	CONTAINER	MIN. SIZE	SPACING	REMARKS
CA	46	Clethra alnifolia / Summersweet Clethra	1 gal		36" o.c.	
CR	73	Cornus sericea / Red Twig Dogwood	1 gal		48" o.c.	
CS	101	Clethra alnifolia `Ruby Spice` / Ruby Spice Clethra	3 gal		3` o.c.	
CSP	81	Clethra alnifolia / Sweet Pepper Clethra	3 gal		4` o.c.	
HA	78	Hydrangea arborescens / Wild Hydrangea	3 gal		4` o.c.	
IG	68	Ilex glabra / Inkberry Holly	3 gal		3` o.c.	
IV	81	Ilex verticillata / Winterberry	2 gal.		4` o.c.	
IW	95	Ilex verticillata / Winterberry	1 gal		42" o.c.	
MP	81	Myrica pensylvanica / Northern Bayberry	3 gal		36" o.c.	
RG	135	Rhus aromatica `Gro-Low` / Gro-Low Fragrant Sumac	3 gal.		24" o.c.	
VH	135	Vaccinium corymbosum / Highbush Blueberry	2 gal.		4` o.c.	
GROUND COVERS	QTY	BOTANICAL NAME / COMMON NAME	CONTAINER	MIN. SIZE	SPACING	REMARKS
CM	31,424 sf	Conservation Seed Mix / Conservation Seed	SF		1	Hydroseed
FA	10,962	Festuca arundinacea / Tall Fescue Seed Mix	SF			
LC	135	Liriope spicata / Creeping Lily Turf	1 gal.		18" o.c.	
MM	2,553	Mulch / Hardwood Mulch	SF		12" o.c.	
WM	4.631 sf	Wetland Seed Mix / Wetland Seed	SF			Hydroseed



SITE

LANDSCAPE ARCHITECTURE+ LAND PLANNING

3715 Northside Parkway T: 404.705.9411 300 Northcreek, Bldg. 300 F: 404.705.9491 Atlanta, Georgia 30327 www.sitesolutionsla.com

COPYRIGHT C 2005 BY SITE solutions, LLC. LANDSCAPE ARCHITECTS. ALL RIGHTS RESERVED. THIS DOCUMENT (INCLUDING ELECTRONIC AND REPRODUCTIONS) IS THE PROPERTY OF SITE solutions, LLC. AND ONLY FOR USE ON THE PROJECT SPECIFIED HEREIN. IT IS NOT TO BE USED ON OTHER PROJECTS OR EXTENSIONS TO THIS PROJECT, IN WHOLE OR IN PART, EXCEPT BY THE EXPRESSED WRITTEN AGREEMENT WITH SITE solutions, LLC. THIS DOCUMENT AND REPRODUCTIONS SHALL NOT BE CONSIDERED A CERTIFIED DOCUMENT.

PROFESSIONAL STAMP:

STREET

Ш

PREPARED FOR

DEVELOPMENT LLC

STREET

CATE

SHEET STATUS

MARK DATE BY RELEASE

A 03/18/2019 SS TAC SUBMITTAL

B 05/20/2019 SS TAC RE-SUBMITTAL

STREAM BUFFER PLAN

PROJECT NUMBER: 18041.00

L1.02

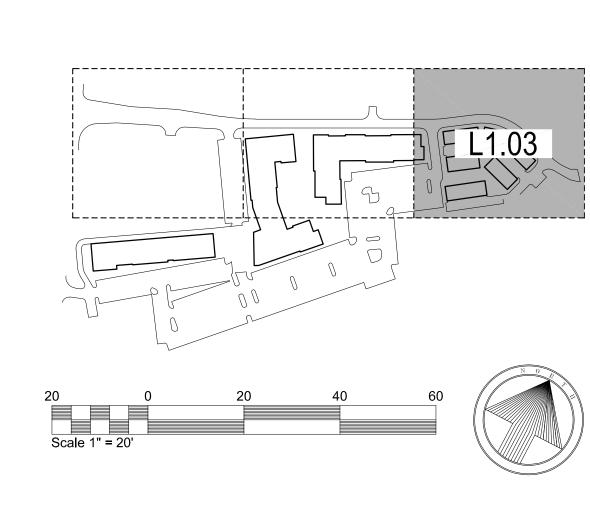
DATE: 03.18.2019



FLAINT 30		E CATE STREET				
TREES	QTY	BOTANICAL NAME / COMMON NAME	SIZE	ROOT	SPACING	REMARKS
AR	12	Acer rubrum / Red Maple	8 - 10` HT, #10		As Shown	
BN	3	Betula nigra / River Birch Multi-Trunk	2.5" cal.			
EX	10	Existing Tree / Existing Tree	-			
NS	6	Nyssa sylvatica / Sour Gum	1.5" cal.	B & B		
NS2	9	Nyssa sylvatica / Sour Gum	3" cal.	B & B		
QL	12	Quercus robur x bicolor `Long` / Regal Prince Oak	3" cal.	B & B		
TE	5	Thuja occidentalis `Emerald` / Emerald Arborvitae	6` min.	В&В	6` hgt.	
SHRUBS	QTY	BOTANICAL NAME / COMMON NAME	CONTAINER	MIN. SIZE	SPACING	REMARKS
CA	46	Clethra alnifolia / Summersweet Clethra	1 gal		36" o.c.	
CR	73	Cornus sericea / Red Twig Dogwood	1 gal		48" o.c.	
CS	101	Clethra alnifolia `Ruby Spice` / Ruby Spice Clethra	3 gal		3` o.c.	
CSP	81	Clethra alnifolia / Sweet Pepper Clethra	3 gal		4` o.c.	
HA	78	Hydrangea arborescens / Wild Hydrangea	3 gal		4` o.c.	
IG	68	Ilex glabra / Inkberry Holly	3 gal		3` o.c.	
IV	81	Ilex verticillata / Winterberry	2 gal.		4` o.c.	
IW	95	Ilex verticillata / Winterberry	1 gal		42" o.c.	
MP	81	Myrica pensylvanica / Northern Bayberry	3 gal		36" o.c.	
RG	135	Rhus aromatica `Gro-Low` / Gro-Low Fragrant Sumac	3 gal.		24" o.c.	
VH	135	Vaccinium corymbosum / Highbush Blueberry	2 gal.		4` o.c.	
GROUND COVERS	QTY	BOTANICAL NAME / COMMON NAME	CONTAINER	MIN. SIZE	SPACING	REMARKS
CM	31,424 sf	Conservation Seed Mix / Conservation Seed	SF			Hydroseed
FA	10,962	Festuca arundinacea / Tall Fescue Seed Mix	SF			
LC	135	Liriope spicata / Creeping Lily Turf	1 gal.		18" o.c.	
MM	2,553	Mulch / Hardwood Mulch	SF		12" o.c.	
WM	4,631 sf	Wetland Seed Mix / Wetland Seed	SF			Hydroseed

SB1.02

SHEET



ANDSCAPE ARCHITECTURE+ LAND PLANNING

3715 Northside Parkway T: 404.705.9411 300 Northcreek, Bldg. 300 F: 404.705.9491 Atlanta, Georgia 30327 www.sitesolutionsla.com

COPYRIGHT C 2005 BY SITE solutions, LLC. LANDSCAPE ARCHITECTS. ALL RIGHTS RESERVED. THIS DOCUMENT (INCLUDING ELECTRONIC AND REPRODUCTIONS) IS THE PROPERTY OF SITE solutions, LLC. AND ONLY FOR USE ON THE PROJECT SPECIFIED HEREIN. IT IS NOT TO BE USED ON OTHER PROJECTS OR EXTENSIONS TO THIS PROJECT, IN WHOLE OR IN PART, EXCEPT BY THE EXPRESSED WRITTEN AGREEMENT WITH SITE solutions, LLC. THIS DOCUMENT AND REPRODUCTIONS SHALL NOT BE CONSIDERED A CERTIFIED DOCUMENT.

PROFESSIONAL STAMP:

DEVELOPMENT LLC STREET CATE

SHEET STATUS MARK DATE BY RELEASE A 03/18/2019 SS TAC SUBMITTAL 05/20/2019 SS TAC RE-SUBMITTAL

SHEET TITLE:

STREAM BUFFER PLAN

PROJECT NUMBER: 18041.00

DATE: 03.18.2019 PERMIT ISSUE

LANDSCAPE & SCREENING NOTES:

A) "THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR AND REPLACEMENT OF ALL REQUIRED SCREENING AND LANDSCAPE MATERIALS."

B) "ALL REQUIRED PLANT MATERIALS SHALL BE TENDED AND MAINTAINED IN A HEALTHY GROWING CONDITION, REPLACED WHEN NECESSARY, AND KEPT FREE OF REFUSE AND DEBRIS. ALL REQUIRED FENCES AND WALLS SHALL BE MAINTAINED IN GOOD REPAIR."

C) "THE PROPERTY OWNER SHALL BE RESPONSIBLE TO REMOVE AND REPLACE DEAD OR DISEASED PLANT MATERIALS IMMEDIATELY WITH THE SAME TYPE, SIZE AND QUANTITY OF PLANT MATERIALS AS ORIGINALLY INSTALLED, UNLESS ALTERNATIVE PLANTINGS ARE REQUESTED, JUSTIFIED AND APPROVED BY THE PLANNING BOARD OR PLANNING DIRECTOR."

CITY OF PORTSMOUTH PLANTING SPECIFICATIONS:

- ALL PLANTING HOLES SHALL BE HAND DUG- NO MACHINES-NO EXCEPTIONS.
- 2. ALL WIRE CAGE AND BURLAP SHALL BE REMOVED FROM TREE AND PLANTING HOLE.
- 3. THE ROOT COLLAR OF THE TREE SHALL BE 2"-3" ABOVE GRADE.
- 4. ALL PLANTINGS SHALL BE BACKFILLED WITH SOIL FROM THE SITE AND AMENDED NO MORE THAN 20% WITH **ORGANIC** COMPOST.
- 5. ALL PLANTINGS SHALL BE BACKFILLED IN LIFTS AND ALL LIFTS SHALL BE WATERED SO THAT THE PLANTING WILL BE SET AND FREE FROM AIR POCKETS.
- 6. A RING OF SOIL SHALL BE CREATED AROUND THE PERIMETER OF THE HOLE TO CREATE A WELL FOR WATERING.
- 7. AT THE TIME THE PLANTING IS COMPLETE THE PLANTING SHALL RECEIVE ADDITIONAL WATER TO ENSURE THOROUGH HYDRATION OF THE ROOTS AND BACKFILL MATERIAL.
- 8. 2"-3" OF COMPOSTED WOODCHIPS SHALL BE PLACED OVER THE PLANTING AREA.
- 9. STAKES AND GUYS SHALL BE USED WHERE APPROPRIATE AND/OR NECESSARY. GUY MATERIAL SHALL BE NON-DAMAGING TO THE TREE.

SITE PLAN NOTE:

ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.

LANDSCAPE NOTES:

1) ALL SHRUBS ON PARKING LOT ISLANDS SHOULD BE MAINTAINED AT A HEIGHT OF NO MORE THAN 3 FEET, TO ENSURE SIGHT LINES AT INTERSECTIONS.

	CATE STREET AND STREAM BUFFER DETAILED PLANT SCHEDULE					
Quantity	Botanical Name / Common Name	Plant Size at Installation	Plant Size at maturity	Growth Habit	Salt Tolerance (soil)	Notes
Trees						
12	Acer rubrum / Red Maple	8 - 10` HT.	45' ht.	Broadly Pyramidal	Low	Native
3	Betula nigra / River Birch Multi-Trunk	2.5" cal.	40-70' ht.	Rounded to Pyramidal	Low	Tolerates Salt Spray
10	Existing Tree / Existing Tree	-				
6	Nyssa sylvatica / Sour Gum	1.5" cal.	40-70' ht.	Pyramidal	Medium	
9	Nyssa sylvatica / Sour Gum	3" cal.	40-70' ht.	Pyramidal	Medium	
12	Quercus robur x bicolor `Long` / Regal Prince Oak	3" cal.	60' ht.	Columnar	Medium	
5	Thuja occidentalis `Emerald` / Emerald Arborvitae	6` min.	40' ht.	Conically Pyramidal	High	Native
Shrubs						
46	Clethra alnifolia / Summersweet Clethra	1 gal	6' ht.	Spreading / Open	High	Native, Tolerates salt spray
73	Cornus sericea / Red Twig Dogwood	1 gal	4-8' ht.	Rounded		Native, Tolerates salt spray
101	Clethra alnifolia `Ruby Spice` / Ruby Spice Clethra	3 gal	6' ht.	Spreading / Open	High	Native, Tolerates salt spray
81	Clethra alnifolia / Sweet Pepper Clethra	3 gal	6' ht.	Spreading / Open	High	Native, Tolerates salt spray
78	Hydrangea arborescens / Wild Hydrangea	3 gal	4-6' ht.	Spreading / Open		
68	Ilex glabra / Inkberry Holly	3 gal	4-8' ht.	Rounded		Native, Tolerates salt spray
81	Ilex verticillata / Winterberry	2 gal.	6-8' ht.	Spreading / Open		Native. Tolerates salt spray
95	Ilex verticillata / Winterberry	1 gal	6-8' ht.	Spreading / Open		Native. Tolerates salt spray
81	Myrica pensylvanica / Northern Bayberry	3 gal	6'-8' ht.	Rounded	High	Native, Tolerates salt spray
135	Rhus aromatica `Gro-Low` / Gro-Low Fragrant Sumac	3 gal.	2' ht.	Low Spreading	High	
	Vaccinium corymbosum / Highbush Blueberry	2 gal.	4-8' ht.	Rounded		Native. Two varieties required to improve pollination.
Ground Cov			1 2			
	Conservation Seed Mix / Conservation Seed	SF				
	Festuca arundinacea / Tall Fescue Grass	SF				
	Liriope spicata / Creeping Lily Turf	1 gal.	12" ht.	Spreading	Low	
	Mulch / Hardwood Mulch	SF				
	Wetland Seed Mix / Wetland Seed	SF				

LANDSCAPE ARCHITECTURE+ LAND PLANNIN

300 Northcreek, Bldg. 300

COPYRIGHT C 2005 BY SITE solutions, LL LANDSCAPE ARCHITECTS. ALL RIGHTS RESERVED. THIS DOCUMENT (INCLUDING ELECTRONIC AND REPRODUCTIONS) IS THE PROPERTY OF SITE solutions, LLC. AND ONL' FOR USE ON THE PROJECT SPECIFIED HEREIN IT IS NOT TO BE USED ON OTHER PROJECTS OR EXTENSIONS TO THIS PROJECT, IN WHOLE OR IN PART, EXCEPT BY THE EXPRESSED WRITTEN AGREEMENT WITH SITE solutions. LLC THIS DOCUMENT AND REPRODUCTIONS SHALL NOT BE CONSIDERED A CERTIFIED DOCUMENT

PROFESSIONAL STAMP:

DEVELOPMENT

CATE

SHEET STATUS IARK DATE BY

A 03/18/2019 SS TAC SUBMITTAL 05/20/2019 SS TAC RE-SUBMITTA

LANDSCAPE **NOTES & PLANT** SCHDULES

PROJECT NUMBER: 18041.00

DATE: 03.18.2019

PERMIT ISSUE

NEW ENGLAND WETLAND PLANTS, INC

820 WEST STREET, AMHERST, MA 01002

PHONE: 413-548-8000 FAX 413-549-4000 EMAIL: INFO@NEWP.COM WEB ADDRESS: WWW.NEWP.COM

New England Erosion Control/Restoration Mix For Detention Basins and Moist Sites

Botanical Name	Common Name	Indicator
Elymus riparius	Riverbank Wild Rye	FACW
Schizachyrium scoparium	Little Bluestem	FACU
Festuca rubra	Red Fescue	FACU
Andropogon gerardii	Big Bluestem	FAC
Panicum virgatum	Switch Grass	FAC
Vernonia noveboracensis	New York Ironweed	FACW+
Agrostis perennans	Upland Bentgrass	FACU
Bidens cernua	Nodding Bur Marigold	OBL
Eupatorium maculatum (Eutrochium maculatum)	Spotted Joe Pye Weed	OBL
Eupatorium perfoliatum	Boneset	FACW
Aster novae-angliae (Symphyotrichum novae-anglia	New England Aster	FACW-
Scirpus cyperinus	Wool Grass	FACW
Juncus effusus	Soft Rush	FACW+
PRICE PER LB. \$34.00 MIN. QUANITY 3	LBS. TOTAL: \$102.00	APPLY: 35 LBS/ACRE :

The New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites contains a selection of native grasses and wildflowers designed to colonize generally moist, recently disturbed sites where quick growth of vegetation is desired to stabilize the soil surface. It is an appropriate seed mix for ecologically sensitive restorations that require stabilization as well as long-term establishment of native vegetation. This mix is particularly appropriate for detention basins that do not hold standing water. Many of the plants in this mix can tolerate infrequent inundation, but not constant flooding. The mix may be applied by hand, by mechanical spreader, or by hydroseeder. After sowing, lightly rake, roll or cultipack to insure good seed-to-soil contact. Best results are obtained with a Spring or late Summer seeding. Late Fall and Winter dormant seeding requires an increase in the application rate. A light mulching of clean, weed-free

New England Wetland Plants, Inc. may modify seed mixes at any time depending upon seed availability. The design criteria and ecological function of the mix will remain unchanged. Price is \$/bulk pound, FOB warehouse, Plus SH and applicable taxes.

PROPOSED TREE, TYP.-

PROPOSED SHRUBS, TYP.—

HYDROSEED SLOPES WITH -

CONSERVATION SEED MIX

- HYDROSEED BASIN WITH

PERIODIC PONDING DEPTH

DETAIL: WATER CONSERVATION POND

HERBACEOUS PLANTS & GRASSES

- 8" WETLAND SOIL

In level a fall a fall beach a fall a

SPEC: WETLAND SEED MIX

NEW ENGLAND WETLAND PLANTS, INC

820 WEST STREET, AMHERST, MA 01002

PHONE: 413-548-8000 FAX 413-549-4000 EMAIL: INFO@NEWP.COM WEB ADDRESS: WWW.NEWP.COM New England Conservation/Wildlife Mix

Botanical Name	Common Name	Indicator
Elymus virginicus	Virginia Wild Rye	FACW-
Schizachyrium scoparium	Little Bluestem	FACU
Andropogon gerardii	Big Bluestem	FAC
Festuca rubra	Red Fescue	FACU
Sorghastrum nutans	Indian Grass	UPL
Panicum virgatum	Switch Grass	FAC
Chamaecrista fasciculata	Partridge Pea	FACU
Desmodium paniculatum	Panicledleaf Tick Trefoil	
Verbena hastata	Blue Vervain	FACW
Asclepias tuberosa	Butterfly Milkweed	NI
Rudbeckia hirta	Black Eyed Susan	FACU-
Helenium autumnale	Common Sneezeweed	FACW+
Aster pilosus (Symphyotrichum pilosum)	Heath Aster	UPL
Solidago juncea	Early Goldenrod	
Agrostis perennans	Upland Bentgrass	FACU
PRICE PER IR \$36.50 MIN OLIANITY	2 LRS TOTAL: \$73.00	APPLV: 25 LRS/ACRE :1750 :

APPLY: 25 LBS/ACRE :1750 sq ft/lb PRICE PER LB \$36.50 MIN. QUANITY 2 LBS. **TOTAL:** \$73.00 The New England Conservation/Wildlife Mix provides a permanent cover of grasses, wildflowers, and legumes For both good erosion control and wildlife habitat value. The mix is designed to be a no maintenance seeding, and is appropriate for cut

and fill slopes, detention basin side slopes, and disturbed areas adjacent to commercial and residential projects. New England Wetland Plants, Inc. may modify seed mixes at any time depending upon seed availability. The design criteria and ecological function of the mix will remain unchanged. Price is \$/bulk pound, FOB warehouse, Plus SH and applicable taxes.

SPEC: CONSERVATION SEED MIX

SLOPE 3:1

City of Portsmouth Tree Planting Requirements

The base of the City of Portsmouth Tree Planting Requirements is the ANSI A300 Part 6 Standard Practices for Planting and Transplanting. ANSI A300 Part 6 lays out terms and basic standards as set forth by industry but it is NOT the "end all" for the City of Portsmouth. The following are the City of Portsmouth, NH Tree Planting Requirements that are in addition to or that go beyond the ANSI A300 Part 6.

1. All planting holes shall be dug by hand- NO MACHINES. The only exceptions are new construction where new planting pits, planting beds with granite curbing, and planting sites with Silva Cells are being created. If a machine is used to dig in any of these situations and planting depth needs to be raised the material in the bottom of the planting hole MUST be firmed with machine to prevent sinking of the root

- 3. The root ball of the tree shall be worked so that the root collar of the tree is visible and no girdling
- 4. The root collar of the tree shall be 2"-3" above grade of planting hole for finished depth.
- 5. All plantings shall be backfilled with soil from the site and amended no more than 20% with Organic Compost. The only exceptions are new construction where engineered soil is being used in conjunction
- 6. All plantings shall be backfilled in three lifts and ALL lifts shall be watered so the planting will be set and free of air pockets- NO EXCEPTIONS.
- 7. An earth berm shall be placed around the perimeter of the planting hole except where curbed planting beds or pits are being used.
- 9. At the time the planting is complete the planting shall receive additional water to ensure complete hydration of the roots, backfill material and mulch layer.
- 10. Stakes and guys shall be used where appropriate and/or necessary. Guy material shall be nondamaging to the tree.
- 11. All planting stock shall be specimen quality, free of defects, and disease or injury. The City of Portsmouth, NH reserves the right to refuse/reject any plant material or planting action that fails to meet the standards set forth in the ANSI A300 Part 6 Standard Practices for Planting and Transplanting and/or The City of Portsmouth, NH Planting Requirements.

DETAIL: CITY OF PORTSMOUTH TREE PLANTING REQUIREMENTS

- 2. ALL Wire and Burlap shall be removed from the root ball AND planting hole.
- roots are present.
- with Silva Cells and where new planting beds are being created.
- 8. 2"-3" of mulch shall be placed over the planting area.

RESTORATION SEQUENCE NOTES:

- 1. EROSION CONTROL WILL BE PLACED AROUND ALL JURISDICTIONAL WETLANDS PRIOR TO THE START OF WORK.
- INITIAL WORK FOR INVASIVE SPECIES REMOVAL WILL BE PERFORMED WITH GUIDANCE BY STAFF FROM GES INC.
- INVASIVE SPECIES REMOVAL WILL IDEALLY BE DONE ONCE THE VEGETATION IS MATURE DURING THE LATE SPRING OR EARLY SUMMER TO AID IN IDENTIFICATION. INVASIVE SPECIES VEGETATION WILL INITAILLY BE CUT AS NEEDED TO AVOID THE POTENTIAL SPREAD OF SEEDS. ANY MATERIAL IN "SEED" WILL BE BAGGED AND DISPOSED OF PROPERLY.
- 4. ALL WORK WILL BE PERFORMED FROM THE UPPER AREA OF THE SITE BY LONG REACH EXCAVATORS. ANY SMALL-SCALE WORK WILL BE DONE BY HAND TO REDUCE BANK IMPACTS AND ELIMINATE ANY UNNEEDED WEEKENING OF THE STABILITY OF THE BANK. NO WORK WILL BE PERFORMED FROM WITHIN THE STREAM.
- 5. EXCAVATION WORK WILL BEGIN BY REMOVING REMAINING ROOT MATERIAL AND "SEED BANK" FROM THE SLOPE AND ANY DEBRIS.
- ALL FILL MATERIAL, INCLUDING PAVEMENT, CINDER BLOCKS, CEMENT, TRASH, I.E, BUCKETS, COUCHES, APPLIANCES, EXERCISE EQUIPMENT, ETC., WILL BE REMOVED AND DISPOSED OF PROPERLY.
- 7. ANY CULVERTS EXISTING IN THE BANK TO BE REMOVED WILL BE SAW CUT OR CRUSHED AND REMOVED. THE REMANING PORTIONS OF CULVERTS WILL BE LEFT IN PLACE AND WILL BE FILLED WITH CEMENT TO CLOSE THEM OFF. THIS WILL REDUCE THE ADDITIONAL BANK IMPACT RESULTING FROM THEIR REMOVAL ENTIRELY.
- 8. ANY DEBRIS REMOVAL NEAR MATURE TREE ROOTS WILL BE PERFORMED BY HAND SHOVEL OR SMALL MACHINE TO REDUCE DAMAGE TO ROOT STRUCTURE.
- 9. CLEAN TOP SOIL WILL BE ADDED TO AREAS OF REMOVED MATERIALS, INCLUDING CULVERT ENDS. THIS MATERIAL WILL BE LEVELED TO CREATE A SMOOTH BANK TO BE PLANTED.
- 10. THE FOLLOWING SPECIES WILL BE PLANTED IN RANDOM SPACING AT THE SPECIFIED NUMBERS AND SPACING IN EACH RESTORATION AREA BELOW: HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM), WINTERBERRY (ILEX VERTICILATTA), SWEET PEPPER BUSH (CLETHERA ALNIFOLIA). ANY EXPOSED AREAS WILL BE SEEDED WITH AN EROSION

CONTROL SEED MIX @ 35LBS/ACRE. THIS WORK WILL BE PERFOMRED BY HAND TOOLS. ALL PLANTS ARE TO BE IN 1-2 GALLON POTS AS AVAILABLE AT THE TIME OF THE PLANTING. PLANTS WILL BE LAID OUT PER THE RESTORATION PLAN IN RANDOM ORDER. HOLES WILL BE DUG BY HAND FOR PLANTING. ONCE PLANTED THE HOLES WILL BE BROUGHT LEVEL WITH ADDITIONAL SOIL. THE ENTIRE EXPOSED SLOPES WILL BE SEEDED AS SPECIFIED AND WILL BE COVERED WITH JUTE MATTING AFTER TO ELIMINATE EROSION. SUPPLEMENTAL WATERING WILL OCCUR SHOULD THERE NOT BE SIGNIFICANT RAINFALL.

IMPACT AREA 1 WILL HAVE 1,875 SF OF DISTURBANCE. THIS WILL BE PLANTED WITH A TOTAL OF 117 PLANTS AT A SPACING OF 4' OC

- 39- HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM),
- 39- WINTERBERRY (ILEX VERTICILATTA)
 - 39- SWEET PEPPER BUSH (CLETHERA ALNIFOLIA)

IMPACT AREA 2 WILL HAVE 148 SF OF DISTURBANCE. THIS WILL BE PLANTED WITH A TOTAL OF 9 PLANTS AT A SPACING OF 4' OC

- 3- HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM),
- 3- WINTERBERRY (ILEX VERTICILATTA)
 - 3- SWEET PEPPER BUSH (CLETHERA ALNIFOLIA),

IMPACT AREA 3 WILL HAVE 344 SF OF DISTURBANCE. THIS WILL BE PLANTED WITH 21 TOTAL PLANTS AT 4' OC SPACING

- 7- HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM),
- 7- WINTERBERRY (ILEX VERTICILATTA)
 - 7- SWEET PEPPER BUSH (CLETHERA ALNIFOLIA),

IMPACT AREA 4 WILL HAVE 3,412 SF OF DISTURBANCE. THIS WILL BE PLANTED WITH A TOTAL OF 96 PLANTS AT A SPACING OF 6' OC.

- 32- HIGHBUSH BLUEBERRY (VACCINIUM CORYMBOSUM),
- 32- WINTERBERRY (ILEX VERTICILATTA)
- 32- SWEET PEPPER BUSH (CLETHERA ALNIFOLIA),
- 10. MONITORING OF THE RESTORATION AREAS WILL BE DONE UNDER THE DIRECTION OF THE NHDES WETLANDS BUREAU, AS THESE AREAS FALL UNDER THEIR JURISDICTON.

DETAIL: RESTORATION SEQUENCE NOTES

ANDSCAPE ARCHITECTURE+ LAND PLANNING

3715 Northside Parkway 300 Northcreek, Bldg. 300 Atlanta, Georgia 30327 www.sitesolutionsla.com COPYRIGHT C 2005 BY SITE solutions, LLC

LANDSCAPE ARCHITECTS. ALL RIGHTS RESERVED. THIS DOCUMENT (INCLUDING LECTRONIC AND REPRODUCTIONS) IS THE PROPERTY OF SITE solutions, LLC. AND ONLY FOR USE ON THE PROJECT SPECIFIED HEREIN. T IS NOT TO BE USED ON OTHER PROJECTS OR EXTENSIONS TO THIS PROJECT, IN WHOLE OR IN PART, EXCEPT BY THE EXPRESSED WRITTEN AGREEMENT WITH SITE solutions, LLC THIS DOCUMENT AND REPRODUCTIONS SHALL NOT BE CONSIDERED A CERTIFIED DOCUMENT

PROFESSIONAL STAMP:

STREE

C

EVELOPMENT

口

SHEET STATUS RK DATE BY RELEASE

03/06/2019 SS TAC SUBMITTAL TAC RE-SUBMITTA

SHEET TITLE:

STREAM BUFFER **DETAILS**

PROJECT NUMBER: 18041.00

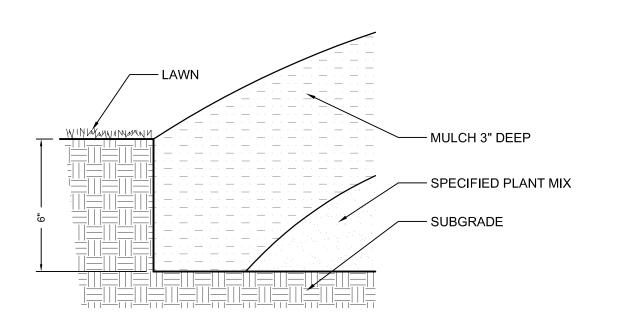
DATE: 03.18.2019 NOT FOR CONSTRUCTION

INSTALLATION NOTES:

- 1. GENERAL CONTRACTOR TO PROVIDE GRADES TO WITHIN TWO TENTH OF A FOOT FOR PROPOSED GRADES.
- 2. CULTIVATE TO A DEPTH OF 6".
- 3. FINE GRADE AS REQUIRED TO REACH FINISH GRADE PER CIVIL DRAWINGS.
- 4. APPLY LIME AND FERTILIZER, AS SPECIFIED. 5. APPLY PRE-EMERGENT HERBICIDE PER MANUFACTURE'S RECOMMENDATION.
- 6. LAY SOD & ROLL LEVEL.
- 7. WATER ENTIRE AREA THOROUGHLY. 8. 1. INSTALL SOD SO THAT THE TOP OF SOIL & ROOT LAYER IS LEVEL WITH TOP

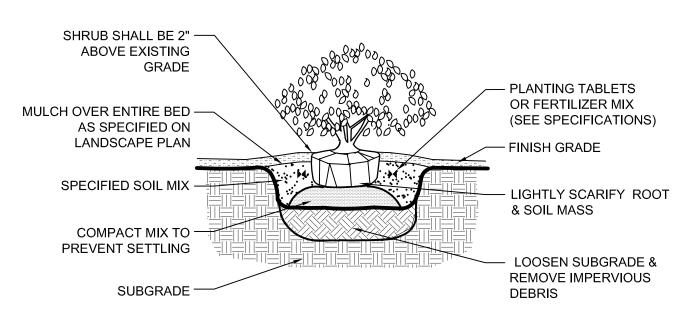
SECTION: TYP. SOD INSTALLATION

OF PAVEMENT



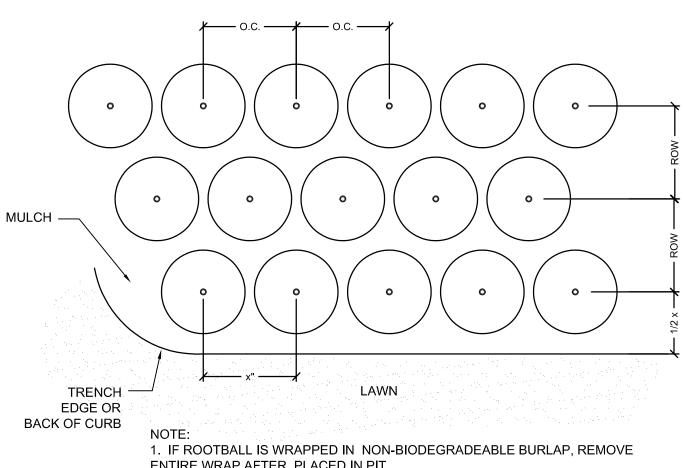
TRENCH EDGE IS TO BE LOCATED BETWEEN ALL PLANTING BEDS & LAWN AREAS.





1. IF ROOTBALL IS WRAPPED IN NON-BIODEGRADEABLE BURLAP, REMOVE ENTIRE WRAP AFTER PLACED IN PIT.

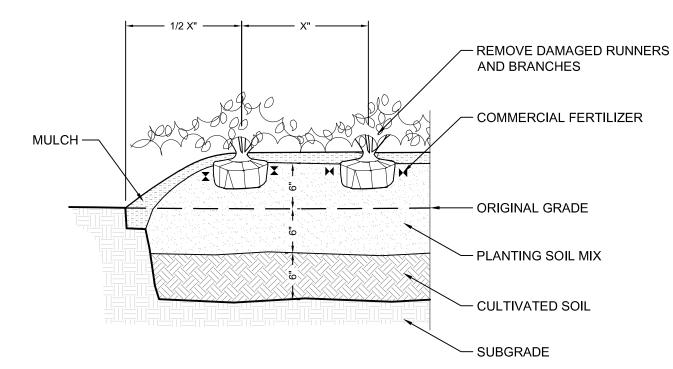
SECTION: TYP. CONTAINERIZED SHRUB PLANTING



ENTIRE WRAP AFTER PLACED IN PIT. 2. 'X'= TYP. ON CENTER SPACING AS SHOWN ON PLANT SCHEDULE

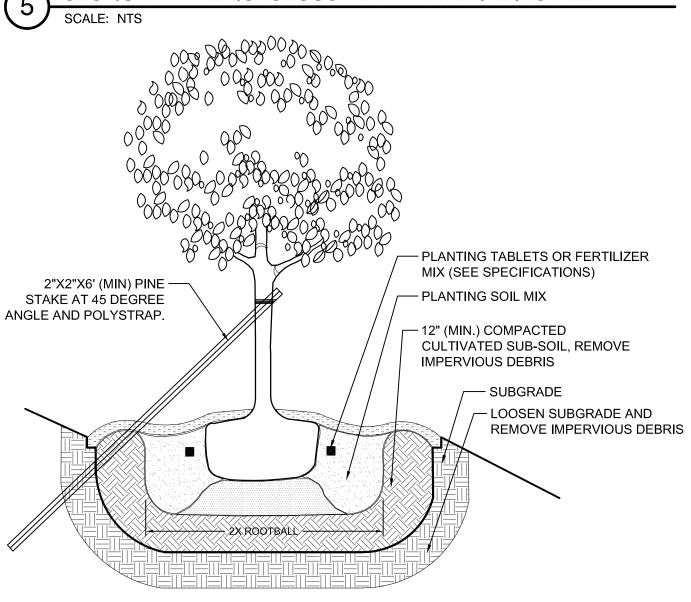
3. ALL ROWS TO BE STRAIGHT AND PARALLEL PLAN: TYP. PLAN MASS SPACING

SCALE: NTS



- 1. IF ROOTBALL IS WRAPPED IN NON-BIODEGRADEABLE BURLAP, REMOVE ENTIRE
- WRAP AFTER PLACED IN PIT.
- 2. 'X'= TYP. ON CENTER SPACING AS SHOWN ON PLANT SCHEDULE ALL ROWS TO BE STRAIGHT AND PARALLEL
- 4. TYP. BED INSTALLATION DETAIL FOR ERICACEOUS PLANT MATERIAL (RHODODENDRON, AZALEAS, PIERIS, ECT.)

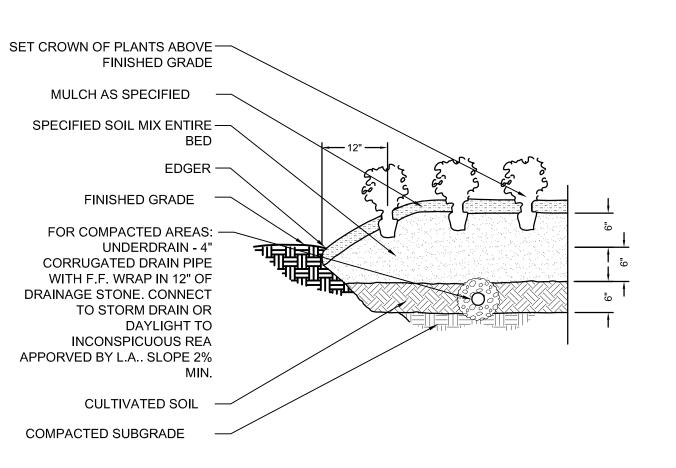
SECTION: TYP. ERICACEOUS PLANT MATERIAL INSTALL.



TREE PLANTING NOTES & PROCEDURES

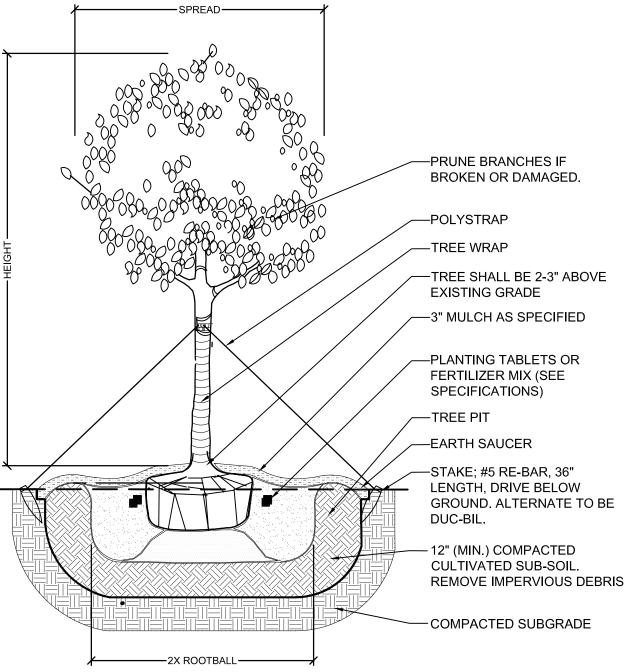
- 1. DRIVE STAKE 30" INTO GRADE AT A 45 DEGREE ANGLE.
- ALL STAKES AND INSTALLATION TO MATCH.
- PROVIDE TREE SAUCER TO EACH TREE.
- SECURE STAKE TO TREE WITH #4 GALVANIZED WIRE & POLYSTRAPS.
- MINIMUM ONE STAKE PER TREE UNDER 2" CALIPER. STAKE TO BE 2"X2"
- 6. MINIMUM ONE GUY PER TREE ALL TREES OVER 2" CALIPER. SEE TREE PLANTING NOTES.
- 7. IF ROOTBALL IS WRAPPED IN NON-BIODEGRADEABLE BURLAP, REMOVE ENTIRE WRAP AFTER PLACED IN PIT.
- 8. SEE TYPICAL TREE PLANTING DETAIL

SECTION: TYP. TREE PLANTING ON SLOPE



1. REFER TO SPECIFICATIONS FOR FERTILIZATION REQUIREMENTS.

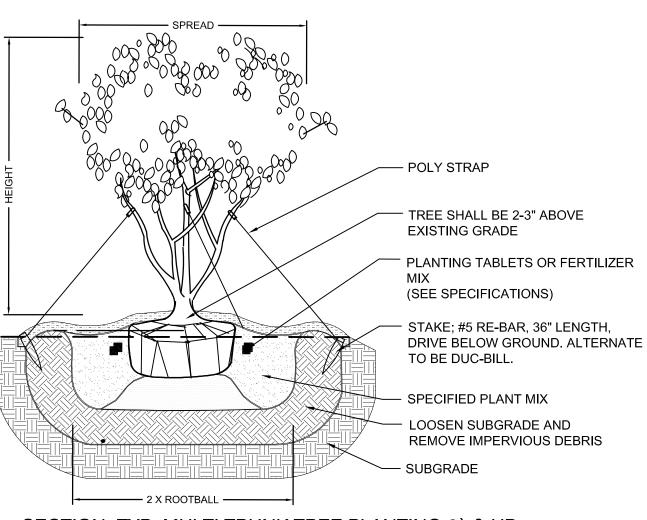
SECTION: SEASONAL COLOR & PERENNIAL BED PREP.



TREE PLANTING NOTES & PROCEDURES

- 1. EXCAVATE TREE PIT TO A DEPTH EQUAL TO DEPTH OF ROOTBALL PLUS 24", AND A WIDTH EQUAL TO TWO (2) TIMES THE DIAMETER OF THE ROOTBALL.
- 2. FILL TREE PIT WITH WATER AND CONFIRM PERCOLATION RATE. (NOTIFY LANDSCAPE ARCHITECT IF POOR DRAINAGE CON DITIONS EXIST.)
- 3. INSTALL TREE PER DETAIL AVOIDING DAMAGE TO ROOTBALL OR TREE TRUNK.
- 4. ADD SPECIFIED FERTILIZER TABLETS & MYCORRHIZAL TRANSPLANT INOCULANT. 5. REMOVE BURLAP ON TOP 1/3 OF TREE ROOTBALL. REMOVE BURLAP ON TOP 1/3 OF TREE
- 6. IMMEDIATELY SOAK TREE PIT WITH WATER AND REMOVE ANY AIR POCKETS THAT MAY HAVE OCCURRED DURING BACKFILLING.

SECTION: TYPICAL TREE PLANTING



SECTION: TYP. MULTI TRUNK TREE PLANTING 6` & UP

1. Contractor to carefully examine the contract documents and existing conditions before submitting bid proposal or commencing work.

2. Damage to existing utilities or site improvements caused by the contractor are the full responsibility of

3. Contractor's base bid to include all materials, labor, permits, equipment, tools, insurance, ETC. to perform the work as described in the contract documents.

4. Contractor to complete work within schedule established by owner.

- 5. Contractor to provide one year warranty for all material from date of substantial completion.
- 6. Provide unit price for all materials (installed cost) listed on the plant schedule.
- 7. Contractor to provide interim maintenance (watering, pruning, fertilizing, guying, mowing, trimming, adequate drainage of ponding areas, edging, weeding, mulching, application of insecticides/herbicides, and general landscape clean-up) until substantial completion notice is provided by the owner or landscape architect.
- 8. Perform work in compliance with all applicable laws, codes, and regulations required by authorities having jurisdiction over such work and provide for permits required by local authorities. 9. Topsoil shall be natural, fertile, friable, sandy clay loam capable of sustaining plant growth, free of
- stones, stumps, ETC. 10. For all turf lawn areas spread 2-3" of topsoil into existing soil to a depth of 6" below finish grade. Hand rake finished grades to provide even contours.
- 11. All planted material shall be equivalent in quality to specimen grade or better, as noted by the American Association of Nurserymen, latest edition. All trees of lesser quality shall be rejected by the
- 12. Plant material to be free of disease, insect pests, eggs, or larvae. Damaged plant material shall be
- 13. Mulch to be clean, fresh, new, double shredded bark, 3 inches deep.
- 14. Test plant beds and plant pits for adequate drainage. Work shall be made by the contractor at no additional cost to owner. Hardpan or moisture barriers shall be broken, or drain pipes to be installed to provide proper drainage of plant areas. Plant pits shall be excavated to the bottom of the pit. Fill each plant pit with water and observe the pit for 2 hours. If the water has not dissipated by 50% within 2 hours, notify the landscape architect of such in writing before installing plants in the questionable area(s), otherwise contractor shall be held liable for the livability of the plant. In hardpan conditions where water does not drain within 2 hours, install drain pipes as per tree planting in compacted soil area detail. 15. Trees shall be installed 2-3" above finish grade in hardpan areas unless otherwise directed to provide
- 16. Plant beds shall be neatly edged using a 3" wide by 6" wide deep trench. Provide 2/1 side slope
- behind trench edge 17. Ground cover, shrub mass beds shall be cultivated to a depth of 12 inches below grade to break through compacted or hardpan soil. Remove all stones, roots, and inferior material. Add specified soil amendments and fertilizer. Elevate entire bed 6 inches above original grade. Rake to a consistent
- smooth surface. Install plants, edge bed area, mulch and water thoroughly.
- 18. Set all plants plumb and turned so that the most attractive side is viewed. 19. Plants shall be measured to their main structure, not tip to tip of branches.
- 20. Remove top one-third burlap of B & B wrapping. Remove all binding. If rootball is wrapped in non-biodegradeable burlap, remove entire wrap after placed in pit.
- 21. Tree pit and shrub pit to be twice the size of the root mass. Fill with plant mix. See details.
- 22. Broken root balls for trees shall be rejected. 23. Any plant materials shipped to site in uncovered vehicles/ trailer shall be rejected regardless of
- 24. Space shrubs, ground cover, and seasonal color evenly and in straight rows. 25. All tree scars over 1 -1/2" shall be rejected and tree to be replaced.
- 26. All shrubs to be dense and full. All trees to have a symmetrical growth habit (360 degrees) unless
- uncharacteristic to plant type. 27. Scarify root mass of shrubs and ground cover before installing.
- 28. Remove all excess growth of trees and shrubs as directed by landscape architect. Do not cut central
- 29. Layout all plant material according to landscape drawings. Receive approval of all layouts before installation. Adjustments to the layout shall be made by the landscape architect. Landscape contractor to make adjustments to layout at no additional cost to the owner. Landscape contractor responsible for adjustment of layout in order to avoid utilities. Notify landscape architect of contemplated adjustments to the layout and receive approval before commencing.
- 30. General contractor to provide grades to two-tenths (.20+) of a foot of proposed finish grades. 31. All shrubs shall be dense and well-branched from bottom to top and all sides. "Leggy" shrubs will be rejected by L.A.
- 32. Owner or landscape architecture shall review project at completion of installation for substantial completion. Final completion shall be given at the end of the warranty period if all items are completed to the owner's satisfaction. Contractor shall be notified in writing of substantial and final completion
- 33. See civil drawings for further information regarding: erosion sediment control information, locations of existing and proposed structures, paving, driveways, cut and fill areas, and retention areas, limits of construction, locations of existing and proposed utilities or easements.
- 34. Contractor shall collect three (3) soil samples of existing soil from areas on site to receive planting for testing. Each soil sample shall be approximately 1 kg. (1 gal. zip lock bag) in volume and will receive the following tests by A&L Agricultural Labs:
- s1-a - s3
- texture analysis
- infiltration
- 34. Sight lines may not be obstructed between a height of 30-inches and 84-inches above the crown of the roadway surface. The property owner must maintain all landscaping according to this requirement at all times.

solutions

ANDSCAPE ARCHITECTURE+ LAND PLANNING

300 Northcreek, Bldg. 300 Atlanta, Georgia 30327 www.sitesolutionsla.cor LANDSCAPE ARCHITECTS. ALL RIGHTS RESERVED. THIS DOCUMENT (INCLUDING

LECTRONIC AND REPRODUCTIONS) IS THE PROPERTY OF SITE solutions, LLC. AND ONLY FOR USE ON THE PROJECT SPECIFIED HEREIN IT IS NOT TO BE USED ON OTHER PROJECTS OR EXTENSIONS TO THIS PROJECT, IN WHOLE OR IN PART, EXCEPT BY THE EXPRESSED WRITTEN AGREEMENT WITH SITE solutions, LL THIS DOCUMENT AND REPRODUCTIONS SHALL

NOT BE CONSIDERED A CERTIFIED DOCUMENT

PROFESSIONAL STAMP:

C **EVELOPMENT**

口

S

SHEET STATUS

RK DATE BY RELEASE 03/06/2019 SS TAC SUBMITTAL 05/20/2019 SS TAC RE-SUBMITTAL

SHEET TITLE:

LANDSCAPE **DETAILS**

PROJECT NUMBER:

18041.00

DATE: 03.18.2019 NOT FOR CONSTRUCTION

New Hampshire Invasive Species Committee NH Invasive Plant Species Watch List Approved by the ISC April 11, 2018

The NH Invasive Plant Species Watch List is a non-regulatory reference tool that serves to:

- identify potentially invasive non-native plant species based on degree of invasive qualities (e.g., aggressive growth, rapid reproduction, and/or lack of natural herbivores) and presence (but not necessarily abundance) in NH and/or nearby elsewhere in New England;
- inform prevention (e.g., early detection/rapid response), monitoring, and management decisionmaking for species that may impact NH's ecosystems or economy; and
- c. increase awareness of invasive plant species.

Scientific Name	Synonyms	Common Name
Abutilon theophrasti Medik.		Velvetleaf Indian-mallow
Acer ginnala Maxim.		Amur maple
Agrostemma githago L. var. githago	Lychnis gitnago (L.) Scop.	Common corncockle
Aira caryophyllea L.	Aspris caryophyllea (L.) Nash	Common silver-hairgrass
Allium vineale L.		Crow garlic
Amorpha fruticosa L.	Amorpha fruticosa L. var. angustifolia Pursh; A. fruticosa L. var. oblongifolia Palmer; A. fruticosa L. var. tennesseensis (Shuttlw. ex Kunze) Palmer	False indigo-bush
Aralia elata (Miq.) Seem.	Dimorphanthus elatus Miq.	Japanese angelica-tree
Barbarea vulgaris Ait. f.	Barbarea arcuata (Opiz ex J. & K. Presl) Reichenb.; B. stricta, of authors not Andrz.; B. vulgaris var. arcuata (Opiz ex J. & K. Presl) Fries; Campe barbarea (L.) W. Wight ex Piper; C. stricta, of authors not (Andrz.) W. Wight ex Piper; Erysimum barbarea L.	Garden yellow-rocket
Brassica juncea (L.) Czern.	Brassica juncea (L.) Czern. var. crispifolia Bailey; Sinapis juncea L.	Chinese mustard
Brassica nigra (L.) W.D.J. Koch	Sinapis nigra L.	Black mustard
Bromus tectorum L.	Anisantha tectorum (L.) Nevski	Cheat brome
Cardamine impatiens L.		Narrow-leaved bitter-cress
Centaurea jacea L.	Centaurea debeauxii Gren. & Godr. ssp. thuillieri Dostál; C. jacea L. ssp. decipiens (Thuill.) Čelak.; C. jacea L. ssp. pratensis Čelak.; C. pratensis Thuill.; C. thuillieri (Dostál) J. Duvign. & Lambinon; Cyanus jacea (L.) P. Gaertn.; Jacea pratensis Lam.	Brown knapweed
Centaurea nigra L.	Jacea nigra (L.) Hill	Black knapweed
17.7	4: \(\pi\) \(\pi\) \(\pi\) \(\pi\) \(\pi\)	1.0

NH Invasive Plant Species Watch List: April 11, 2018

Scientific Name	Synonyms	Common Name
Rhinanthus minor L. ssp. minor	Rhinanthus crista-galli L., in part; R. crista-galli L. var. fallax (Wimmer & Grab.) Druce; R. stenophyllus (Schur) Schinz & Thellung	Little yellow-rattle
Rumex acetosella L. ssp. pyrenaicus (Pourret ex Lapeyr.) Akeroyd	Acetosella vulgaris (Koch) Fourr. ssp. pyrenaica (Pourret ex Lapeyr.) Á. Löve; Rumex acetosella L. var. pyrenaicus (Pourret ex Lapeyr.) Timbal-Lagrave; R. pyrenaicus Pourret ex Lapeyr.	Sheep dock
Securigera varia (L.) Lassen	Coronilla varia L.	Purple crown-vetch
Silphium perfoliatum L.		Cup-plant rosinweed
Sinapis arvensis L.	Brassica arvensis Rabenh.; B. kaber (DC.) L.C. Wheeler; B. kaber (DC.) L.C. Wheeler var. pinnatifida (Stokes) L.C. Wheeler	Corn charlock
Solanum carolinense L. var. carolinense		Carolina nightshade
Solanum dulcamara L.		Climbing nightshade
Sonchus arvensis L.	Sonchus arvensis L. ssp. uliginosus (Bieb.) Nyman; S. uliginosus Bieb.	Field sow-thistle
Sorbaria sorbifolia (L.) A. Braun	Schizonotus sorbifolius (L.) Lindl.; Spiraea sorbifolia L.	False spiraea
Tanacetum vulgare L.	Chrysanthemum uliginosum Pers.; C. vulgare (L.) Bernh.	Common tansy
Tussilago farfara L.		Coltsfoot
Typha ×glauca Godr.		Hybrid cattail
Valeriana officinalis L.		Common valerian
Vinca minor L.		Lesser periwinkle

Taxonomy: Haines, A. 2015 (November 17). Tracheophyte Checklist of New England. Website: http://www.arthurhaines.com/tracheophyte-checklist.

Scientific Name	Synonyms	Common Name
Chelidonium majus L.	Chelidonium majus L. var. Iaciniatum (P. Mill.) Syme; C. majus L. var. plenum Wehrhahn	Greater celandine
Cirsium palustre (L.) Scop.	Carduus palustris L.	Marsh thistle
Cirsium vulgare (Savi) Ten.	Carduus lanceolatus L.; C. vulgaris Savi; Cirsium lanceolatum (L.) Scop.	Common thistle
Convolvulus arvensis L	Strophocaulos arvensis (L.) Small	Field bindweed
Cytisus scoparius (L.) Link	Spartium scoparium L.	Scotch broom
Digitaria sanguinalis (L.) Scop.	Panicum sanguinale L.	Hairy crabgrass
Eichhornia crassipes (Mart.) Solms- Laubach	Eichhornia speciosa Kunth; Piaropus crassipes (Mart.) Raf.	Common water-hyacinth
Elymus repens (L.) Gould	Agropyron repens (L.) Gould; Elytrigia repens (L.) Desv. ex B.D. Jackson; Triticum repens L.	Creeping wild-rye
Epilobium hirsutum L.		Hairy willow-herb
Epipactis helleborine (L.) Crantz	Epipactis latifolia (L.) All.; Serapias helleborine L.	Broad-leaved helleborine
Euonymus europaeus L.		European spindle-tree
Euonymus fortunei (Turcz.) Hand Mazz	Euonymus fortunei (Turcz.) Hand Mazz var. radicans (Sieb. ex Miq.) Rehd.; E. fortunei (Turcz.) Hand Mazz var. vegetus (Rehd.) Rehd.; E. radicans Sieb. ex Miq.; E. radicans Sieb. ex Miq. var. vegetus Rehd.	Climbing spindle-tree
Festuca filiformis Pourret	Festuca capillata Lam.; F. ovina L. var. capillata (Lam.) Alef.; F. tenuifolia Sibthorp	Fine-leaved sheep fescue
Ficaria verna Huds. ssp. fertilis (Lawralrée ex Laegaard) Stace	Ficaria verna Huds. ssp. bulbifera A. & D. Löve; Ranunculus ficaria L. ssp. bulbilifer Lambinon; R. ficaria L. ssp. bulbifera (Marsden-Jones) Lawalree, an illegitimate name; R. ficaria var. bulbifera Marsden-Jones	Fig-crowfoot
Froelichia gracilis (Hook.) Moq.	Oplotheca gracilis Moq.	Slender cotton-weed
Galium mollugo L.		Whorled bedstraw
Glechoma hederacea L.	Glechoma hederacea L. var. micrantha Moric.; G. hederacea L. var. parviflora (Benth.) House; Nepeta hederacea (L.) Trevisan	Gill-over-the-ground
Hylotelephium telephium (L.) H. Ohba	Sedum purpureum (L.) J.A. Schultes; S. purpurascens W.D.J. Koch; S. telephium L.	Purple orpine
Kochia scoparia (L.) Schrad.	Bassia scoparia (L.) A.J. Scott; Chenopodium scoparium L.; Kochia scoparia (L.) Schrad. var. pubescens Fenzl; K. scoparia (L.) Schrad. var. subvillosa Moq.	Summer-cypress
Lamium amplexicaule L. var.		Common henbit

NH Invasive Plant Species Watch List: April 11, 2018

Fact Sheet: Prohibited Invasive Plant Species Rules, Agr 3800 New Hampshire

Department of Agriculture,

Markets & Food

Updated 01/31/2017

This fact sheet is a synopsis of the adopted rules on invasive plant species and is intended for general use by the nursery and landscape industry, plant growers, plant dealers, general public, State Agencies, and Municipalities. A complete copy of the rules can be accessed on the internet at http://agriculture.nh.gov/topics/plants_insects.htm.

In accordance with the Invasive Species Act, HB 1258-FN, the NH Department of Agriculture, Markets & Food, Division of Plant Industry is the lead state agency responsible for the evaluation, publication and development of rules on invasive plant species for the purpose of protecting the health of native species, the environment, commercial agriculture, forest crop production, or human health. The rule, Agr 3800, states "No person shall collect, transport, import, export, move, buy, sell, distribute, propagate or transplant any living and viable portion of any plant species, which includes all of their cultivars and varieties, listed in Table 3800.1, New Hampshire prohibited invasive species list".

New Hampshire Prohibited Invasive Plant Species List

Scientific name	Synonyms	Common name
Acer platanoides L.	Acer platanoides var. schwedleri Nichols.	Norway maple
Ailanthus altissima (P. Mill.) Swingle	Ailanthus glandulosa Desv.	Tree of heaven
Alliaria petiolata (Bieb.) Cavara & Grande	Alliaria alliaria (L.) Britt.; Alliaria officinalis Andrz. ex Bieb.; Erysimum alliaria L.; Sisymbrium alliaria (L.) Scop.	Garlic mustard
Alnus glutinosa (L.) Gaertn.	Alnus alnus (L.) Britt.; Betula alnus L. var. glutinosa L.	European black alder
Berberis thunbergii DC.		Japanese barberry
Berberis vulgaris L.		European barberry
Celastrus orbiculatus Thunb.		Oriental bittersweet
Centaurea stoebe L. ssp. micranthos (Gugler) Hayek	Centaurea biebersteinii DC.; Centaurea maculosa Lam., misapplied; Centaurea maculosa Lam. ssp. micranthos Gugler	Spotted knapweed
Cynanchum louiseae Kartesz & Gandhi	Cynanchum nigrum (L.) Pers.; Vincetoxicum nigrum (L.) Pers.	Black swallow-wort
Cynanchum rossicum (Kleopow) Borhidi	Cynanchum medium, of authors not R. Br.; Vincetoxicum medium, of authors not (R. Br.) Dcne.; Vincetoxicum rossicum (Kleopow) Barbarich	Pale swallow-wort
Elaeagnus umbellata Thunb. var. parvifolia (Royle) Schneid.	Elaeagnus parvifolia Royle	Autumn olive
Euonymus alatus (Thunb.) Sieb.	Celastrus alatus Thunb.	Burning bush
Frangula alnus P. Mill.	Rhamnus frangula L.	Glossy buckthorn
Glyceria maxima (Hartman) Holmb.	Glyceria spectabilis Mert. & Koch; Molinia maxima Hartman	Reed sweet grass
Heracleum mantegazzianum Sommier & Levier		Giant hogweed
Hesperis matronalis		Dames rocket

Scientific Name	Synonyms	Common Name
Lamium purpureum L.	Lamium dissectum With.; L. hybridum, of authors not Vill.	Red henbit
Lonicera xylosteum L.		Fly honeysuckle
Lupinus polyphyllus Lindl. var. polyphyllus	Lupinus pallidipes Heller; L. polyphyllus Lindl. var. albiflorus L.H. Bailey; L. polyphyllus Lindl. var. pallidipes (Heller) C.P. Sm.	Blue lupine
Lychnis flos-cuculi L. ssp. flos-cuculi	Coronaria flos-cuculi (L.) A. Braun; Silene flos-cuculi (L.) Clairville	Ragged robin lychnis
Lysimachia arvensis (L.) U. Manns & A. Anderb.	Anagallis arvensis L.; A. arvensis L. var. caerulea (Schreb.) Gren. & Godr.; A. caerulea Schreb.	Scarlet pimpernel
Lysimachia vulgaris L.		Garden yellow-loosestrife
Miscanthus sinensis Anderss.	Miscanthus sinensis Anderss. var. gracillimus A.S. Hitchc.	Chinese silvergrass
Mycelis muralis (L.) Dumort.	Lactuca muralis (L.) Fresen.	Wall-lettuce
Myosotis scorpioides L.	Myosotis palustris (L.) Hill	Water forget-me-not
Nasturtium microphyllum Boenn. ex Reichenb.	Nasturtium officinale Ait. f. var. microphyllum (Boenn. ex Reichenb.) Thellung; Rorippa microphylla (Boenn. ex Reichenb.) Hyl. ex A. & D. Löve	One-rowed water-cress
Nasturtium officinale Ait. f.	Baeumerta nasturtium-aquaticum (L.) Hayek; Rorippa nasturtium aquaticum (L.) Hayek; Sisymbrium nasturtium-aquaticum L.	Two-rowed water-cress
Oenanthe javanica (Blume) DC	<u> </u>	Java water dropwort
<i>Persicaria longiseta</i> (Bruijn) Kitagawa	Persicaria caespitosa (Blume) Nakai var. longiseta (Bruijn) Reed; Polygonum caespitosum Blume var. longisetum (Bruijn) Steward; P. longisetum Bruijn	Oriental lady's-thumb smartweed
Phellodendron amurense Rupr.	Phellodendron amurense Rupr. var. sachalinense F. Schmidt; P. japonicum Maxim.; P. sachalinense (F. Schmidt) Sarg.	Amur corktree
Poa compressa L.	, a 1536.	Flat-stemmed blue grass
Poa nemoralis L.		Wood blue grass
Populus alba L.	Populus alba L. var. bolleana Lauche	White poplar
Ranunculus repens L.	Ranunculus repens L. var. degenerates Schur; R. repens L. var. erectus DC.; R. repens L. var. glabratus DC.; R. repens L. var. pleniflorus Fern.; R. repens L. var. villosus Lamotte	Spot-leaved crowfoot
Raphanus raphanistrum L. ssp. raphanistrum		Wild radish

NH Invasive Plant Species Watch List: April 11, 2018

Impatiens glandulifera Royle	Impatiens roylei Walp.	Ornamental jewelweed
Iris pseudacorus L.		Water-flag
Lepidium latifolium L.	Cardaria latifolia (L.) Spach	Perennial pepperweed
Ligustrum obtusifolium Sieb. & Zucc. var. obtusifolium	Ligustrum obtusifolium var. leiocalyx (Nakai) H. Hara	Blunt-leaved privet
Ligustrum vulgare L.		Common privet
Lonicera japonica Thunb.	Nintooa japonica (Thunb.) Sweet	Japanese honeysuckle
Lonicera maackii (Rupr.) Herder*		Amur honeysuckle*
Lonicera morrowii Gray*		Morrow's honeysuckle*
Lonicera tatarica L.*		Tartarian honeysuckle*
Lonicera × bella Zabel*	Lonicera morrowii × L. tatarica	Bella honeysuckle*
Lysimachia nummularia L.		Moneywort
Microstegium vimineum (Trin.) A. Camus	Andropogon vimineum Trin.; Eulalia viminea (Trin.) Kuntze	Japanese stilt grass
Persicaria perfoliata (L.) H. Gross	Ampelygonum perfoliatum (L.) Roberty & Vautier; Polygonum perfoliatum L.	Mile-a-minute weed
Pueraria montana (Lour.) Merr. var. lobata (Willd.) Maesen & S. Almeida	Dolichos lobatus Willd.; Pueraria lobata (Willd.) Ohwi; Pueraria thunbergiana (Sieb. & Zucc.) Benth.	Kudzu
Reynoutria japonica Houtt. var. Japonica	Fallopia japonica (Houtt.) R. Decr.; Pleuropierus cuspidatus (Sieb. & Zucc.) Moldenke; Polygonum cuspidatum Sieb. & Zucc.	Japanese knotweed
Reynoutria sachalinensis (F. Schmidt ex Maxim.) Nakai	Fallopia sachalinensis (F.S. Petrop. ex Maxim.) R. Decr.; Polygonum sachalinense F. Schmidt ex Maxim.	Giant knotweed
Reynoutria × bohemica Chrtek & Chrtková	Fallopia japonica × F. sachalinensis; Fallopia × bohemica (Chrtek & Chrtková) J.P. Bailey; Polygonum × bohemicum (Chrtek & Chrtková) P.F. Zika & A.L. Jacobson	Bohemia knotweed
Rhamnus cathartica L.		Common buckthorn
Rosa multiflora Thunb. ex Murr.		Multiflora rose

<u>Variance</u>: Persons conducting temporary scientific studies, which may include hybridization of seedless species may apply for a variance to do so by contacting the NH Department of Agriculture, Markets & Food, Division of Plant Industry.



For additional Information

Douglas Cygan, Invasive Species Coordinator
New Hampshire Department of Agriculture
Division of Plant Industry
State Lab Building, Lab D
29 Hazen Drive
Concord, NH 03301
(603) 271-3488

douglas.cvgan@agr.nh.gov http://www.agriculture.nh.gov/divisions/plant-industry/invasive-plants.htm SITE

LANDSCAPE ARCHITECTURE+ LAND PLANNING
3715 Northside Parkway T: 404.705.9411
300 Northcreek, Bldg. 300 F: 404.705.9491
Atlanta, Georgia 30327 www.sitesolutionsla.com

COPYRIGHT C 2005 BY SITE solutions, LLC. LANDSCAPE ARCHITECTS. ALL RIGHTS RESERVED. THIS DOCUMENT (INCLUDING ELECTRONIC AND REPRODUCTIONS) IS THE PROPERTY OF SITE solutions, LLC. AND ONLY FOR USE ON THE PROJECT SPECIFIED HEREIN. IT IS NOT TO BE USED ON OTHER PROJECTS OR EXTENSIONS TO THIS PROJECT, IN WHOLE OR IN PART, EXCEPT BY THE EXPRESSED WRITTEN AGREEMENT WITH SITE solutions, LLC. THIS DOCUMENT AND REPRODUCTIONS SHALL NOT BE CONSIDERED A CERTIFIED DOCUMENT.

PROFESSIONAL STAMP:

ATE STREET

SHEET STATUS MARK DATE BY RELEASE A 03/06/2019 SS TAC SUBMITTAL B 05/20/2019 SS TAC RE-SUBMITTAL

DEVELOPMENT LLC

STREET

B 05/20/2019 SS TAC RE-SUBMITTAL

SHEET TITLE:

LANDSCAPE DETAILS

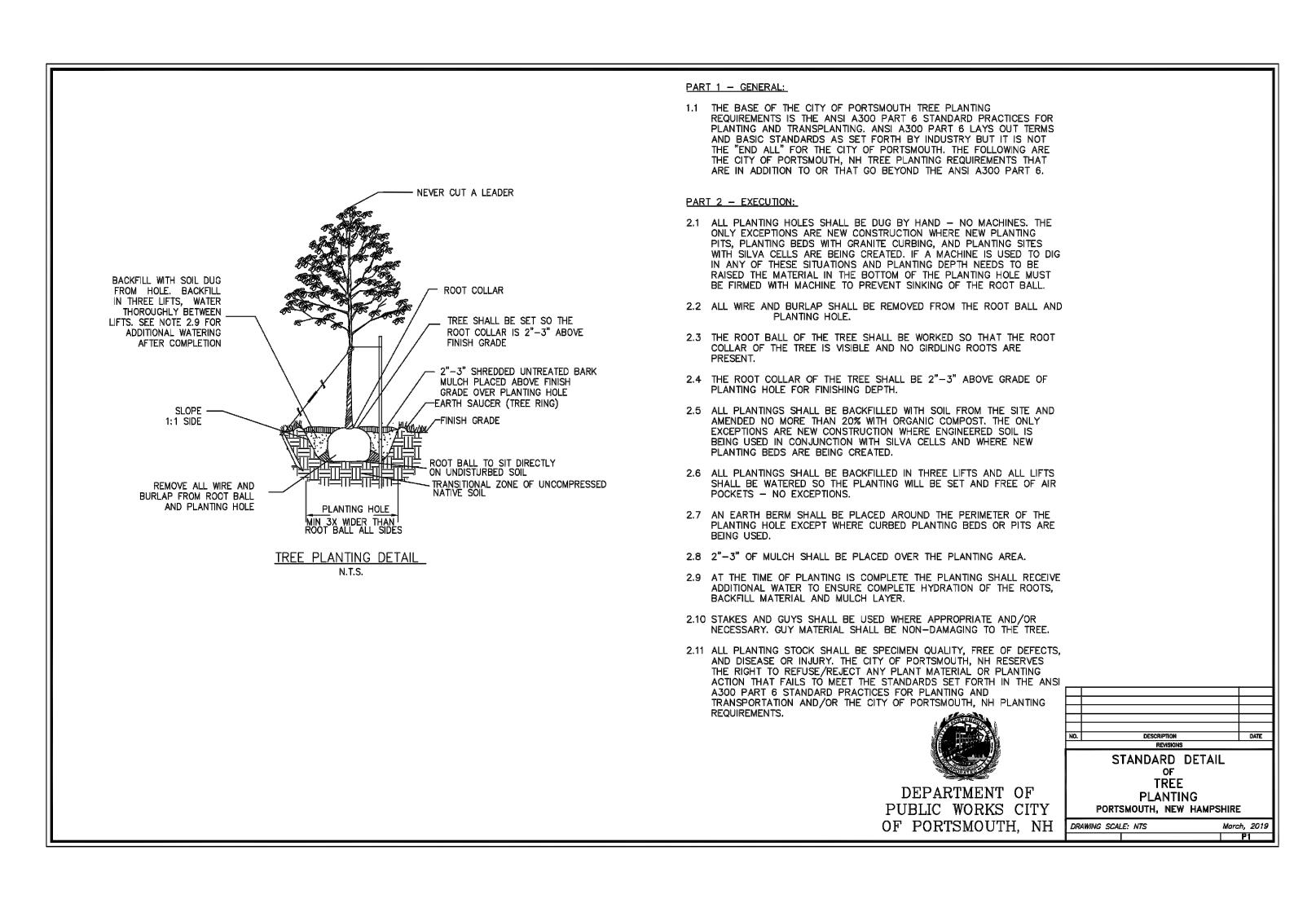
PROJECT NUMBER: 18041.00

L2.03

DATE: 03.18.2019

NOT FOR CONSTRUCTION

NH Invasive Plant Species Watch List: April 11, 2018



DETAIL: TREE PLANTING SCALE: NTS

LANDSCAPE ARCHITECTURE+ LAND PLANNING 3715 Northside Parkway

F: 404.705.9491 300 Northcreek, Bldg. 300 Atlanta, Georgia 30327 www.sitesolutionsla.com

COPYRIGHT C 2005 BY SITE solutions, LLC LANDSCAPE ARCHITECTS. ALL RIGHTS RESERVED. THIS DOCUMENT (INCLUDING ELECTRONIC AND REPRODUCTIONS) IS THE PROPERTY OF SITE solutions, LLC. AND ONLY FOR USE ON THE PROJECT SPECIFIED HEREIN. IT IS NOT TO BE USED ON OTHER PROJECTS OR EXTENSIONS TO THIS PROJECT, IN WHOLE OR IN PART, EXCEPT BY THE EXPRESSED WRITTEN AGREEMENT WITH SITE solutions, LLC THIS DOCUMENT AND REPRODUCTIONS SHALL NOT BE CONSIDERED A CERTIFIED DOCUMENT

PROFESSIONAL STAMP:

C

DEVELOPMENT

STRE

CATE

SHEET STATUS ARK DATE BY RELEASE A 03/06/2019 SS TAC SUBMITTAL

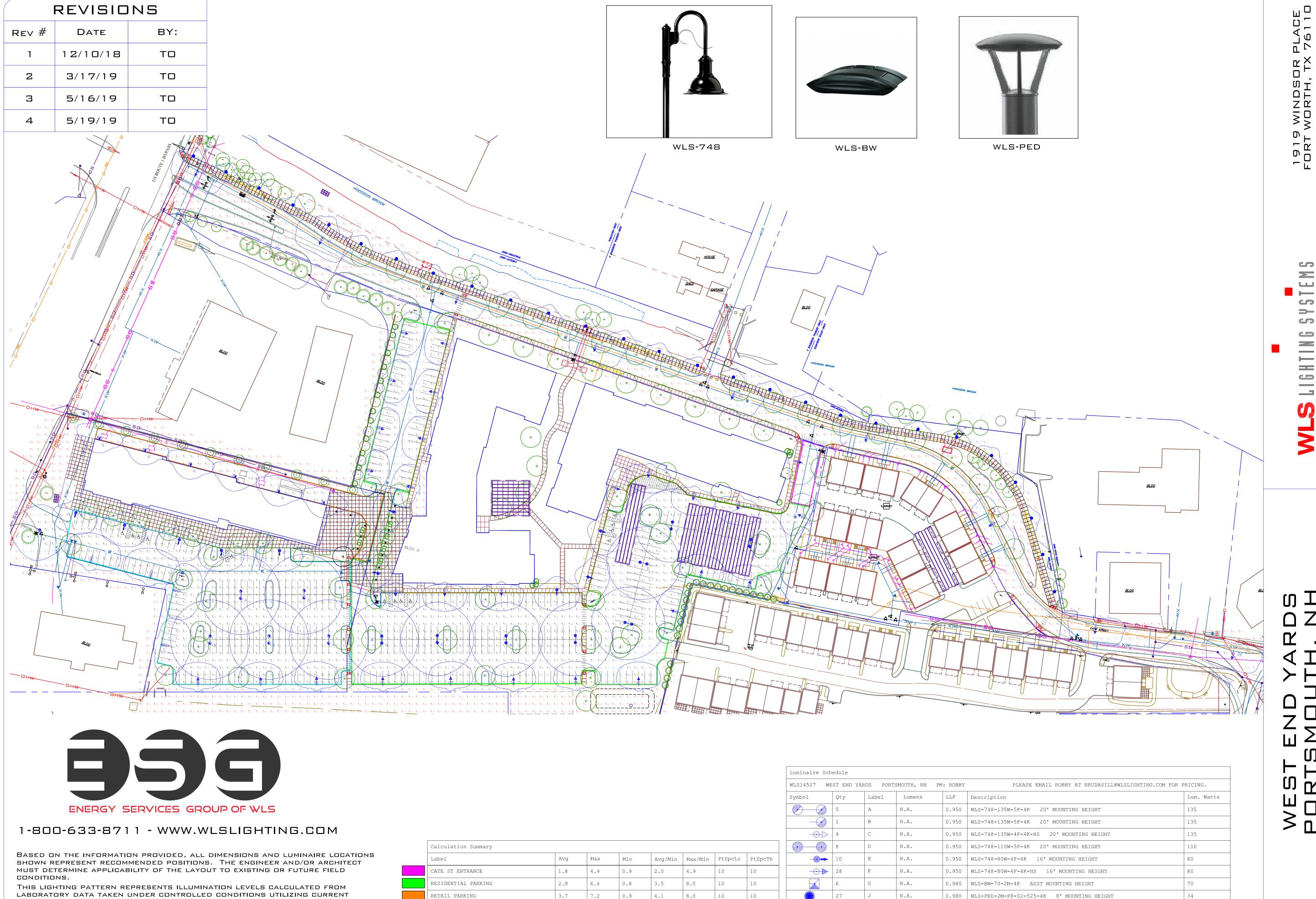
SHEET TITLE:

LANDSCAPE **DETAILS**

18041.00

DATE: 03.18.2019

NOT FOR CONSTRUCTION



RETAIL REAR AND SIDE

2.3

4.7

0.3

15.7

9

9316

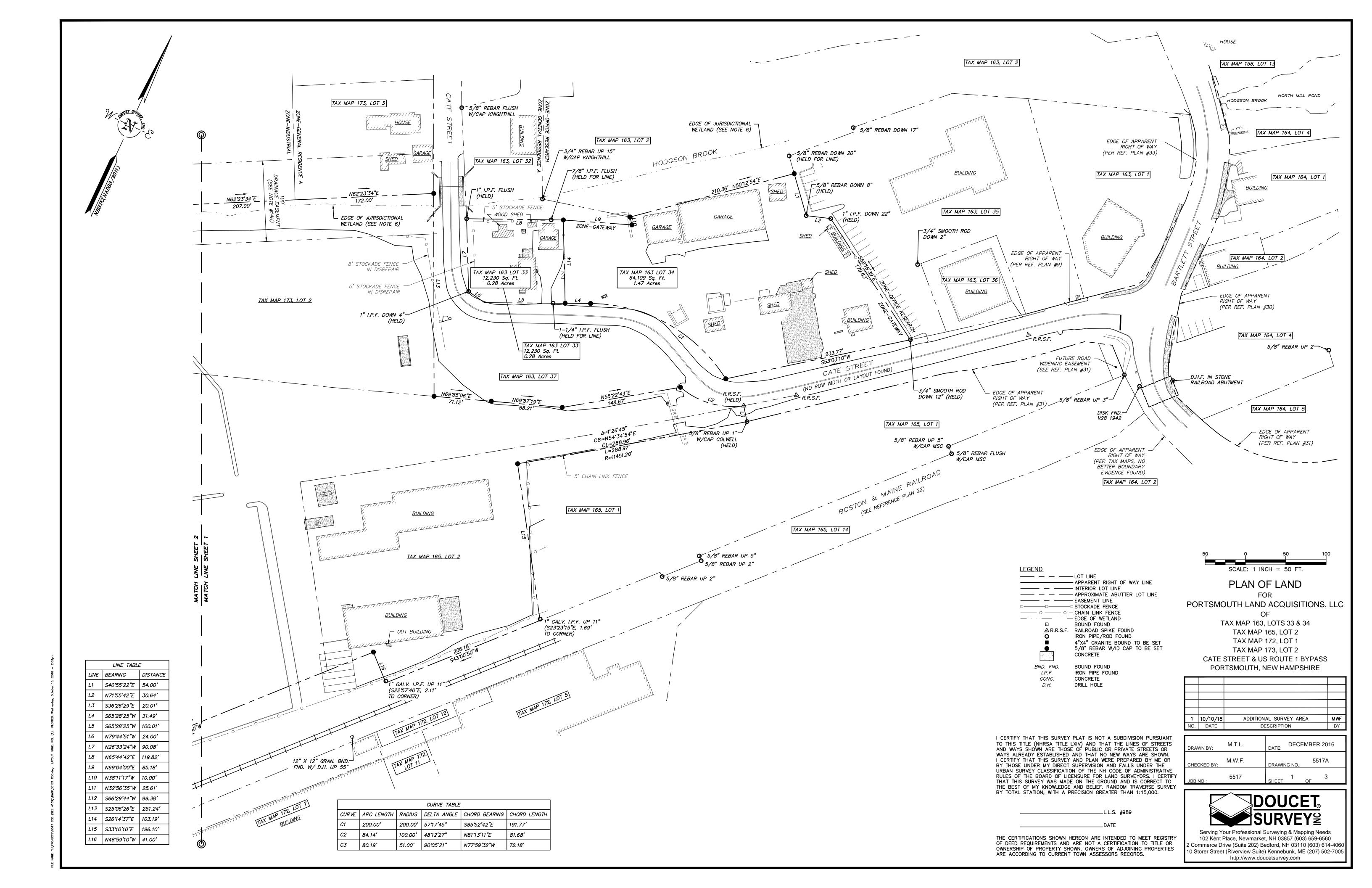
0.900 | AFFIN-S801-80W-30K-T2-10-M 25' MOUNTING HEIGHT

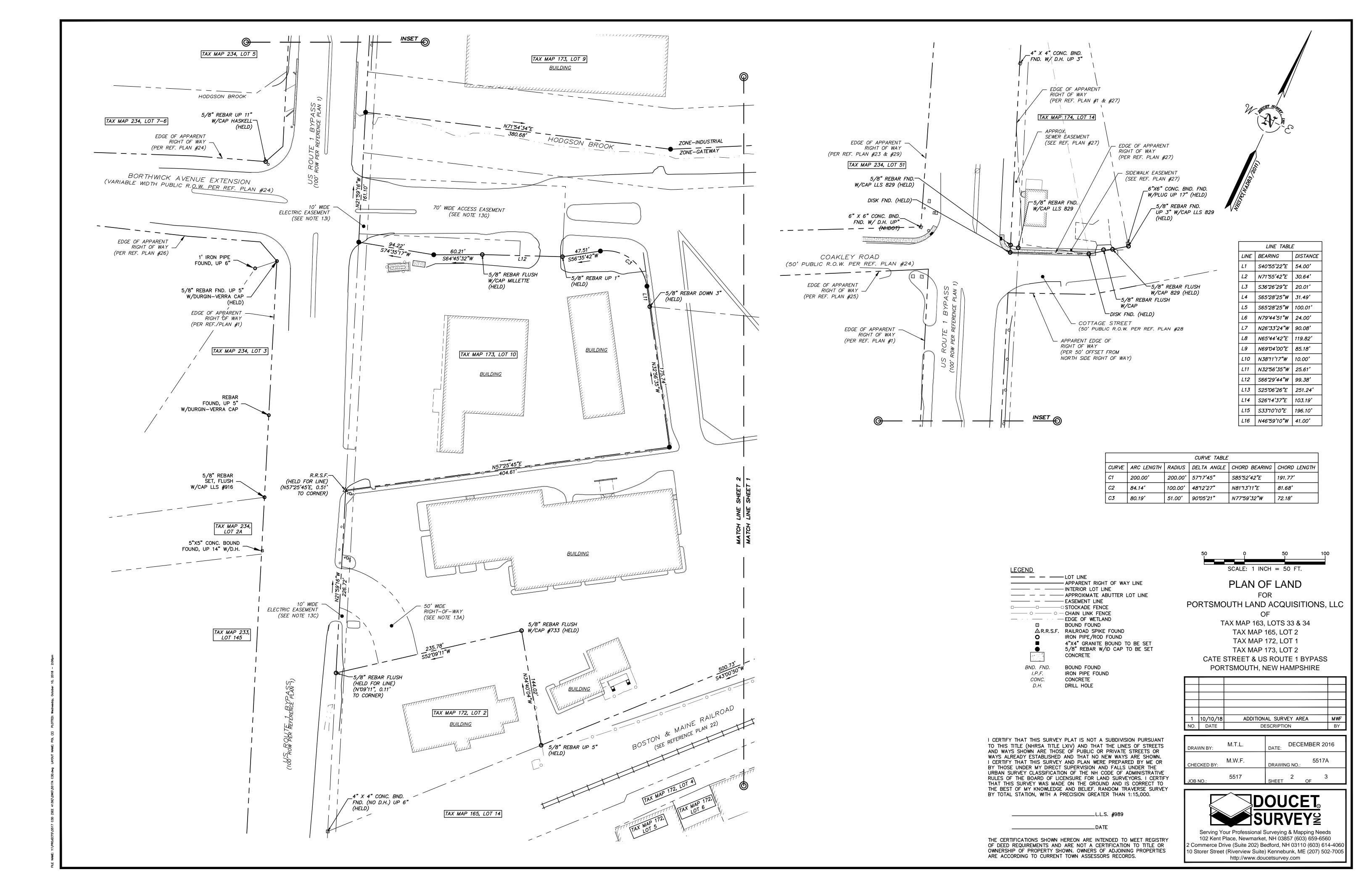
INDUSTRY STANDARD LAMP RATINGS IN ACCORDANCE WITH ILLUMINATING

TOLERANCE IN LAMPS AND OTHER VARIABLE FIELD CONDITIONS.

ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY

MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE,





TAX MAP 163, LOT 2

TAX MAP 163, LOT 1 M & B PROPERTIES, LLC 54 BARTLETT STREET PORTSMOUTH, NH 03801 R.C.R.D. BOOK 5794, PAGE 996

INDUSTRIAL RENTS-NH, LLC 6 WAYNE ROAD WESTFORD, MA 01886 R.C.R.D. BOOK 5606, PAGE 2334 TAX MAP 163, LOT 37

CITY OF PORTSMOUTH PO BOX 628 PORTSMOUTH, NH 03802 R.C.R.D. BOOK 2284 PAGE 812

TAX MAP 163, LOT 1 M & B PROPERTIES, LLC 54 BARTLETT ST PORTSMOUTH, NH 03801 R.C.R.D. BOOK 5794 PAGE 996

TAX MAP 163, LOT 2 INDUSTRIAL RENTS-NH, LLC 6 WAYNE RD WESTFORD, MA 01886 R.C.R.D. BOOK 5606 PAGE 2334

TAX MAP 163, LOT 32 SHARAN R. GROSS REV. TRUST 180 BIRCH HILL RD R.C.R.D BOOK 5261 PAGE 2208 R.C.R.D. BOOK 3406 PAGE 1383

TAX MAP 163, LOT 36

PORTSMOUTH, NH 0.3801

TAX MAP 164, LOT 1

105 BARTLETT STREET

TAX MAP 164, LOT 2

105 BARTLETT STREET

PORTSMOUTH, NH 03801

TAX MAP 164, LOT 4

BOSTON & MAINE CORP.

NO. BILLERICA, MA 01862

PORTSMOUTH, NH 03801

R.C.R.D. BOOK 3923 PAGE 202

R.C.R.D. BOOK 5372, PAGE 2606

R.C.R.D. BOOK 5808, PAGE 1379

IRON HORSE PARK, HIGH STREET

CST HOLDINGS, LLC

3 CATE ST

TAX MAP 164. LOT 12 TAX MAP 163, LOT 35 JOSEPH GOBBI SUPPLY CORP. ELDREDGE BREWERY REALTY PARTNERSHIP PO BOX 125 1 CATE ST PORTSMOUTH, NH 03802 PORTSMOUTH, NH 03801 R.C.R.D. BOOK 3233, PAGE 1949 R.C.R.D. BOOK 2572 PAGE 2635

TAX MAP 165, LOT 1 MERTON ALAN INVESTMENTS, LLC C/O JOAN RYAN & CASSASSA 459 LAFAYETTE RD HAMPTON, NH 03842 R.C.R.D. BOOK 4771 PAGE 1259

TAX MAP 164 LOT 5

HOUSTON HOLDINGS, LLC

653 ISLINGTON STREET

PORTSMOUTH, NH 03801

R.C.R.D. BOOK 3558, PAGE 464

TAX MAP 165, LOT 14 PORTSMOUTH LUMBER & HARDWARE, LLC BOSTON AND MAINE CORP IRON HORSE PK HIGH ST NO BILLERICA, MA 01862 R.C.R.D. BOOK PAGE

TAX MAP 172, LOT 2

PORTSMOUTH, NH 0.3801

224 CATE ST

PORTSMOUTH LUMBER & HARDWARE, LLC 406 HIGHWAY 1 PYPASS, LLC 549 US HIGHWAY 1 BYPASS PORTSMOUTH, NH 03801 R.C.R.D. BOOK 5671 PAGE 2150 TAX MAP 173, LOT 3 EDGAR W. & JANICE E. ANDERSON

R.C.R.D. BOOK 2956 PAGE 1071

TAX MAP 173, LOT 9 PAUL J. HOLLOWAY C/O COAST PONTIAC 500 US HYWY 1 BYPASS PORTSMOUTH, NH 03801 R.C.R.D. BOOK 2821 PAGE 2396

TAX MAP 173, LOT 10 AREC 13, LLC C/O U-HAUL INTERNATIONAL PO BOX 29046 PHOENIX, AZ 85038

R.C.R.D. BOOK 4575 PAGE 950 TAX MAP 174, LOT 14 COLMAN C. GARLAND 416 SADDLEBACK DRIVE FARIVIEW, TX 75069

R.C.R.D. BOOK 2232, PAGE 1002 TAX MAP 233, LOT 145 CITY OF PORTSMOUTH 1 JUNKINS AVENUE PORTSMOUTH, NH 03801 R.C.R.D. BOOK 5127, PAGE 2074

TAX MAP 234, LOT 2A PUBLIC SERVICE CO. OF NH PO BOX 270 HARTFORD, CT 06141 R.C.R.D. BOOK 1257, PAGE 324 TAX MAP 234, LOT 3

PUBLIC SERVICE CO. OF NH

R.C.R.D. BOOK 5548, PAGE 738

HARTFORD, CT 06141

PO BOX 270

TAX MAP 234, LOT 5 SEACOAST DEVELOPMENT GROUP, LLC 505 US ROUTE 1 BYPASS PORTSMOUTH, NH 03801 R.C.R.D. BOOK 3107, PAGE 950

TAX MAP 234, LOT 7-6 CREFIII WARAMAUG PORTSMOUTH, LLC C/O CTMI, LLC PO BOX 741328 DALLAS, TX 75374 R.C.R.D. BOOK 5620, PAGE 1675

TAX MAP 234, LOT 51 MEADOWBROOK INN CORP. C/O PORTSMOUTH CHEVROLET 549 ROUTE 1 BYPASS PORTSMOUTH, NH 03801 R.C.R.D. BOOK 2382, PAGE 1968 NOTES:

1. REFERENCE:

TAX MAP 163, LOT 33 TAX MAP 163, LOT 34 TAX MAP 165, LOT 2 **TAX MAP 172, LOT 1** TAX MAP 173, LOT 2

TAX MAP 163, LOT 33-12,230 SQ. FT. OR 0.28 AC. 2. TOTAL PARCEL AREA: TAX MAP 163, LOT 34-64,109 SQ. FT. OR 1.47 AC. <u>COMBINED AREA</u>-451,572 SQ. FT. OR 10.37 AC. TAX MAP 165, LOT 2

TAX MAP 172, LOT 1

TAX MAP 173, LOT 2

R.C.R.D. BOOK 5393, PAGE 2976

OWNER OF RECORD: PORTSMOUTH LAND ACQUISITIONS, LLC 300 GAY STREET MANCHESTER, NH 03103

100 ft.

4. ZONES: GW-GATEWAY **DIMENSIONAL REQUIREMENTS:**

WETLAND SETBACKS

43,560 sq.ft. MIN. LOT AREA MIN. FRONTAGE MIN. FRONT SETBACK MIN. SIDE SETBACK MIN. REAR SETBACK 50 ft. MAX. BUILDING HEIGHT 40 ft. MAX. BUILDING COVERAGE 30 **%**

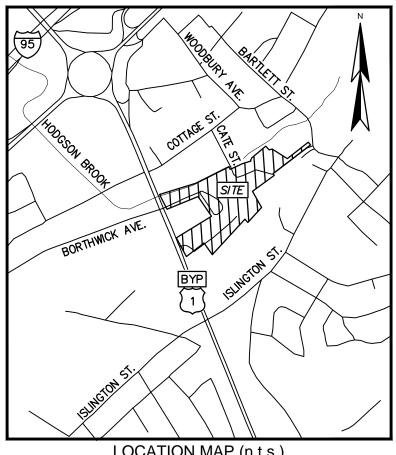
ZONING INFORMATION LISTED HEREON IS BASED ON THE CITY OF PORTSMOUTH ZONING ORDINANCE DATED JULY 11, 2016 AS AVAILABLE ON THE CITY WEBSITE ON DECEMBER 15, 2016. ADDITIONAL REGULATIONS APPLY, AND REFERENCE IS HEREBY MADE TO THE EFFECTIVE ZONING ORDINANCE. THE LAND OWNER IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE MUNICIPAL, STATE AND FEDERAL REGULATIONS.

- 5. FIELD SURVEY PERFORMED BY P.J.S. & J.C.M. DURING NOVEMBER 2016 USING A TRIMBLE S6 TOTAL STATION, A TRIMBLE R8 SURVEY GRADE GPS UNIT, A TRIMBLE TSC3 DATA COLLECTOR AND A SOKKIA B21 AUTO LEVEL, BY L.P.S. & S.N.F. DURING JULY 2018 AND T.M.M. & J.C.M. IN SEPTEMBER & OCTOBER 2018 USING A TRIMBLE S6 TOTAL STATION WITH A TRIMBLE TSC3 DATA COLLECTOR. TRAVERSE ADJUSTMENT BASED ON LEAST SQUARE ANALYSIS. ADDITONAL FIELD SURVEY PERFORMED BY M.C. DURING NOVEMBER 2016 AND OCTOBER 2018 USING A LEICA HDS SCANNER.
- 6. MANMADE AND NATURAL JURISDICTIONAL WETLAND BOUNDARIES WERE DELINEATED BY MARC JACOBS, CERTIFIED WETLAND SCIENTIST NUMBER 090, IN NOVEMBER 2016 ACCORDING TO THE STANDARDS OF THE US ARMY CORPS OF ENGINEERS — WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1, JANUARY 1987; THE U.S. ARMY CORPS OF ENGINEERS REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION 2012; THE CODE OF ADMINISTRATIVE RULES, NH DEPARTMENT OF ENVIRONMENTAL SERVICES - WETLANDS BUREAU - CHAPTER ENV-WT 100-900 AND THE CITY OF PORTSMOUTH ZONING ORDINANCE, ARTICLE 10. PREDOMINANT HYDRIC SOILS WERE IDENTIFIED UTILIZING THE FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND. VERSION 3. APRIL 2004 AND THE FIELD INDICATORS OF HYDRIC SOILS IN THE UNITED STATES. VERSION 7, 2010. THE STATUS OF VEGETATION AS HYDROPHYTIC WAS DETERMINED ACCORDING TO THE NORTHCENTRAL AND NORTHEAST 2016 REGIONAL WETLAND PLANT LIST -U.S. ARMY CORPS OF ENGINEERS. COPIES OF SITE PLANS DEPICTING THE WETLAND DELINEATION WHICH HAVE BEEN REVIEWED BY THE WETLAND SCIENTIST ARE INDIVIDUALLY STAMPED & SIGNED AND DATED. THIS NOTE HAS BEEN CUSTOMIZED FOR THIS SITE/PROJECT.
- 7. FLOOD HAZARD ZONE: "X", PER FIRM MAP #33015C0259E, DATED 5/17/05.
- 8. VERTICAL DATUM IS BASED ON NGVD29 PER DISK V 28 1942 ELEV. 25.59.
- 9. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE(2800) NAD83(2011) DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.
- 10. THE INTENT OF THIS PLAN IS TO SHOW THE LOCATION OF BOUNDARIES IN ACCORDANCE WITH AND IN RELATION TO THE CURRENT LEGAL DESCRIPTION, AND IS NOT AN ATTEMPT TO DEFINE UNWRITTEN RIGHTS, DETERMINE THE EXTENT OF OWNERSHIP, OR DEFINE THE LIMITS
- 11. DUE TO THE COMPLEXITY OF RESEARCHING ROAD RECORDS AS A RESULT OF INCOMPLETE, UNORGANIZED, INCONCLUSIVE, OBLITERATED, OR LOST DOCUMENTS, THERE IS AN INHERENT UNCERTAINTY INVOLVED WHEN ATTEMPTING TO DETERMINE THE LOCATION AND WIDTH OF A ROADWAY RIGHT OF WAY. THE EXTENT OF (THE ROAD(S)) AS DEPICTED HEREON IS/ARE BASED ON RESEARCH CONDUCTED AT THE PORTSMOUTH CITY HALL, PORTSMOUTH DEPARTMENT OF ENGINEERING, THE ROCKINGHAM COUNTY REGISTRY OF DEEDS, AND THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION.
- 12. FINAL MONUMENTATION MAY BE DIFFERENT THAN THE PROPOSED MONUMENTATION SHOWN HEREON. DUE TO THE FACT THAT SITE CONDITIONS WILL DICTATE THE ACTUAL LOCATION AND TYPE OF MONUMENTS INSTALLED IN THE FIELD. PLEASE REFER TO EITHER THE "MONUMENTATION LOCATION PLAN" TO BE RECORDED OR CONTACT DOUCET SURVEY. INC. FOR CLARIFICATION OF MONUMENTS SET. (A RECORDED PLAN WILL BE PRODUCED AT THE DISCRETION OF DOUCET SURVEY, INC.).
- 13. THE FOLLOWING LOTS ARE EITHER SUBJECT TO OR IN BENEFIT OF, BUT NOT LIMITED TO, THE FOLLOWING EASEMENTS/RIGHTS OF RECORD:
- TAX MAP 172, LOT 1 A. SUBJECT TO A 50' WIDE RIGHT OF WAY FOR THE BENEFIT OF TAX MAP 172, LOT 2 SEE R.C.R.D. BOOK 3127, PAGE 176 AND R.C.R.D. PLAN D-10722.
- B. EXCEPTING AN 8" WATER PIPE LOCATED UNDER SUBJECT PARCEL, SEE R.C.R.D. BOOK 2783, PAGE 560, LOCATION OF SUBJECT WATER PIPE UNKNOWN.
- C. SUBJECT TO A 10' WIDE ELECTRIC EASEMENT, SEE R.C.R.D. BOOK 1257, PAGE 324 AND R.C.R.D. PLAN D-19110.
- D. SUBJECT TO A WATER LINE EASEMENT, SEE R.C.R.D. BOOK 950, PAGE 174, LOCATION OF SUBJECT WATERLINE UNKNOWN.
- E. SUBJECT TO AN ELECTRIC EASEMENT, SEE R.C.R.D. BOOK 1374, PAGE 97, LOCATION OF SUBJECT EASEMENT UNKNOWN.
- SUBJECT TO AN ELECTRIC EASEMENT, SEE R.C.R.D. BOOK 2364, PAGE 397, LOCATION OF SUBJECT EASEMENT UNKNOWN.
- TAX MAP 173, LOT 2 G. SUBJECT TO A 70' WIDE ACCESS EASEMENT IN FAVOR OF TAX MAP 173, LOT 10, SEE
- R.C.R.D. BOOK 3204, PAGE 87 AND R.C.R.D. PLAN D-24912. H. SUBJECT TO A DRAINAGE EASEMENT TO THE UNITED STATES OF AMERICA, SEE
- R.C.R.D. BOOK 1423, PAGE 240. I. SUBJECT TO A 10' WIDE ELECTRIC EASEMENT, SEE R.C.R.D. BOOK 1257, PAGE 324.

SEE ALSO R.C.R.D. PLAN D-19110.

REFERENCE PLANS

- "MAINE-NEW HAMPSHIRE INTERSTATE BRIDGE AUTHORITY, PISCATAQUA RIVER BRIDGE, KITTERY, MAINE-PORTSMOUTH, NEW HAMPSHIRE, RIGHT OF WAY MAPS, N.H. APPROACH, BY ALBERT MOULTON, CE, DATED 1954, ON FILE A THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
- 2. "PLAT OF LAND U.S. ROUTE 1 BY-PASS PORTSMOUTH, NEW HAMPSHIRE FOR GRIFFIN FAMILY CORP.", BY DURGIN, VERRA AND ASSOCIATES, INC., DATED JANUARY 20, 1992, RECEIVED FROM THE OFFICE OF JAMES VERRA.
- 3. "LOT LINE REVISION U.S. ROUTE ONE BY-PASS, PORTSMOUTH, N.H. FOR WIGGIN, PARSONS, & O'BRIEN, BY JOHN W. DURGIN ASSOCIATES, INC., DATED JANUARY 22, 1982, R.C.R.D. PLAN D-10722.
- 4. "PLAN OF LAND FOR JOSEPH J. O'BRIEN JR.& SR., CATE STREET/ROUTE 1 BY-PASS, PORTSMOUTH, N.H., BY RICHARD P. MILLETTE AND ASSOCIATES, DATED NOVEMBER 17, 1988, R.C.R.D. PLAN D-19110.
- 5. "LAND IN PORTSMOUTH, N.H., BOSTON AND MAINE RAILROAD TO ALL STATE REALTY CORPORATION", BY BRENTON V. SCHOFIELD, DATED FEBRUARY 1964, R.C.R.D. PLAN
- 6. "LOT LINE RELOCATION PLAN FOR U-HAUL REAL ESTATE COMPANY AND FRANCIS J. COSTELLO CATE STREET/ROUTE 1 BY-PASS, PORTSMOUTH, N.H.", BY RICHARD P. MILLETTE AND ASSOCIATES, DATED MAY 25, 1995, R.C.R.D. PLAN D-24912.
- 7. "SUBDIVISION OF LAND HEIRS OF CORNELUS COAKLEY", BY MCKENNA ASSOCIATES, DATED JULY 26, 1972, R.C.R.D. PLAN D-3790.
- 8. "LOT LINE REVISION PORTSMOUTH, N.H. FOR MICHAEL A. PAGANO", BY JOHN W. DURGIN ASSOCIATES, DATED JUNE 26, 1981, R.C.R.D. PLAN D-10278.
- 9. "SITE PLAN OF ELDREDGE PARK WEST PREPARED FOR ELDREDGE BREWERY REALTY PARTNERSHIP", BY KIMBALL CHASE COMPANY, INC., DATED JULY 23, 1987, R.C.R.D.
- 10. "PLAN OF LAND OF FRANK JONES BREWING CORP. & PAUL C. BADGER & NORMAN E. RAND PORTSMOUTH, N.H.", BY JOHN W. DURGIN, CIVIL ENGINEERS, DATED SEPTEMBER 1950, R.C.R.D. PLAN 01635.
- 11. "LOT LINE ADJUSTMENT PLAN FOR LAND OWNED BY SHARON R. GROSS REVOCABLE TRUST, KNOWN AS TAX MAP 163, LOT 31 & 32 LOCATED ALONG #201 & 235 CATE STREET", BY KNIGHT HILL LAND SURVEYING SERVICES, INC., DATED JULY 28, 2011, R.C.R.D. PLAN D-37021.
- 12. "SITE REVIEW PLAN FOR LAND OWNED BY SHARON R. GROSS REVOCABLE TRUST, KNOWN AS TAX MAP 163, LOT 32 LOCATED ALONG #201 & CATE STREET", BY KNIGHT HILL LAND SURVEYING SERVICES, INC., DATED DECEMBER 2002, R.C.R.D.
- 13. "PLAN SHOWING DIVISION OF ELDREDGE BREWING CO. LOT IN PORTSMOUTH, N.H. OWNED BY ALBERT HISLOP", BY WM A. GROVER, DATED DECEMBER 11, 1918,
- 14. "PLAN OF LAND PORTSMOUTH, N.H. ATLANTIC REALTY CORP. TO KITTERY LAUNDRY, INC.", BY JOHN W. DURGIN, DATED AUGUST 1964, R.C.R.D. PLAN 300.
- 15. "CITY OF PORTSMOUTH, N.H. DEFENSE HOMES SEWER LOCATION PLAN", BY JOHN W. DURGIN DATED MAY 1961, R.C.R.D. PLAN 1106.
- 16. "LAND IN PORTSMOUTH, N.H. BOSTON AND MAINE RAILROAD TO M.H. PARSONS & SONS LUMBER COMPANY, INC.", R.C.R.D. BOOK 1267, PAGE 16.
- 17. "PLAN OF LAND PORTSMOUTH, N.H. FOR M.H. PARSONS REALTY CORP.", BY JOHN W. DURGIN, DATED DECEMBER 1956, R.C.R.D. BOOK 1431, PAGE 275.
- 18. "SITE PLAN PORTSMOUTH, N.H. PREPARED FOR U-HAUL OF N.H. AND VT., INC.", BY JOHN W. DURGIN, DATED JUNE 4, 1980, R.C.R.D. PLAN D-9642
- 19. "STANDARD PROPERTY SURVEY & PROPOSED SIDEWALK EASEMENT FOR THE CITY OF PORTSMOUTH FOR PROPERTY AT 185 COTTAGE STREET OWNED BY COLMAN C. GARLAND", BY EASTERLY SURVEYING, INC., SATED NOVEMBER 30, 2012, R.C.R.D.
- 20. "PLOT PLAN FOR MARIAN M. BADGER, PORTSMOUTH, N.H.", BY JOHN W. DURGIN, DATED JULY 1973, RECIEVED FROM THE OFFICE OF JAMES VERRA.
- 21. "LAND ON CATE STREET, PORTSMOUTH, N.H., BADGER & RAND TO PORTSMOUTH POWER CO.", BY JOHN W. DURGIN, DATED JANUARY 8, 1926, RECEIVED FROM THE OFFICE OF JAMES VERRA.
- 22. "RIGHT-OF-WAY AND TRACK MAP BOSTON AND MAINE R.R. OPERATED BY THE BOSTON & MAINE R.R., STATION 2928+05 TO 2966+20", DATED JUNE 30, 1914,
- 23. "ALTA/ACSM LAND TITLE SURVEY, TAX MAP 234, LOT 51 PROPERTY OF THE MEADOWBROOK INN CORPORATION", BY MSC CIVIL ENGINEERS & LAND SURVEYORS, DATED DECEMBER 2, 2018, R.C.R.D. PLAN D-36980.
- 24. "LOT LINE REVISION PLAN TAX MAP R-34 LOTS 6 & 7-6, LOCATED ON BORTHWICK AVE., COAKLEY ROAD AND U.S. ROUTE 1 BYPASS IN PORTSMOUTH,
- NH", BY KIMBALL CHASE, DATED OCTOBER 20, 1993, R.C.R.D. PLAN #D-22686 25. "PLAN OF LAND FOR SEACOAST DEVELOPMENT GROUP, LLC, US ROUTE 1 BYPASS & COAKLEY ROAD, PORTSMOUTH, NH", BY MILLETTE, SPRAGUE & COLWELL, INC.,
- DATED JUNE 7, 2002, R.C.R.D. PLAN #D-30041. 26. "LOT LINE REVISION PLAN LAND OF SEARAY REALTY, LLC", BY DOUCET SURVEY, INC., DATED MARCH 12, 2014, R.C.R.D. PLAN D-38435.
- 27. "STANDARD PROPERTY SURVEY & PROPOSED SIDEWALK EASEMENT FOR THE CITY OF PROTSMOUTH FOR PROPERTY AT 185 COTTAGE STREET PORTSMOUTH, NH OWNED BY COLMAN C. GARLAND", BY NORTH EASTERLY SURVEYING, INC., DATED NOVEMBER 30, 2012, R.C.R.D. PLAN #D-38017.
- 28. "PLAN OF A LOT OF LAND BELONGING TO FRANK JONES", DATED JULY 1901, R.C.R.D. PLAN #223.
- 29. "MEADOWBROOK INN CONDOMINIUM SITE PLAN, MAP 234, LOT 51 IN PORTSMOUTH. NH, PREPARED FOR THE MEADOWBROOK INN CORPORATION", BY VANASSE HANGEN BRUSTLIN, INC., DATED SEPTEMBER 25, 2009, R.C.R.D. PLAN #D-36162.
- 30. "PROPOSED EASEMENTS BARTLETT STREET, BARTLETT SEWER SEPARATION PROJECT OVER LAND OF PAN AM RAILWAYS, PORTSMOUTH, NH FOR CITY OF PORTSMOUTH", BY JAMES VERRA AND ASSOCIATES, INC., DATED OCTOBER 1, 2007, R.C.R.D. PLAN #D-35477.
- 31. "EASEMENT PLAN 653 ISLINGTON STREET, BARTLETT SEWER SEPARATION PROJECT OVER LAND OF HOUSTON HOLDINGS, LLC", BY JAMES VERRA AND ASSOCIATES, INC., DATED JUNE 22, 2009, R.C.R.D. PLAN #D-35957.
- 32. "LAND TRANSFER AND EASEMENT PLAN, 30 CATE STREET PORTSMOUTH, NH OWNED BY MERTON ALAN INVESTMENTS, LLC.", BY TF MORAN/MSC, DATED OCTOBER 31, 2017, R.C.R.D. PLAN #D-40742.
- 33. "LAND IN PORTSMOUTH, N.H. BARTLETT & CATE STREET", BY JOHN W. DURGIN CIVIL ENGINEER, DATED JULY 1924, R.C.R.D. PLAN #0133.



LOCATION MAP (n.t.s.)

PLAN OF LAND

PORTSMOUTH LAND ACQUISITIONS, LLC

TAX MAP 163, LOTS 33 & 34 TAX MAP 165, LOT 2 TAX MAP 172. LOT 1 TAX MAP 173, LOT 2 CATE STREET & US ROUTE 1 BYPASS PORTSMOUTH, NEW HAMPSHIRE

1	10/10/18	ADDITIONAL SURVEY AREA	М
NO.	DATE	DESCRIPTION	В

DRAWN BY:	M.T.L.	DECEMBER 2016
CHECKED BY:	M.W.F.	5517A DRAWING NO.:
JOB NO.:	5517	3 3 SHEET OF



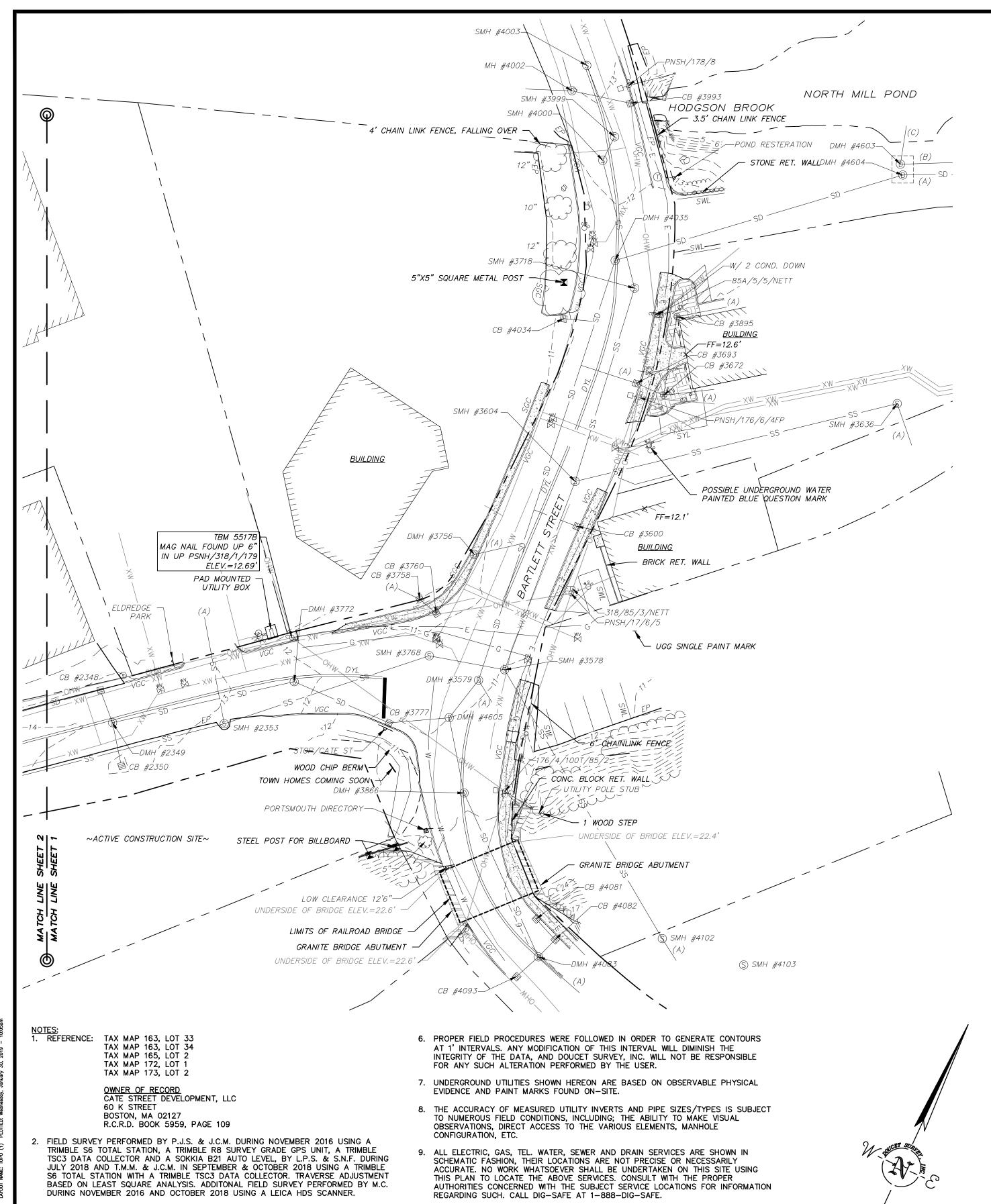
Serving Your Professional Surveying & Mapping Needs 102 Kent Place, Newmarket, NH 03857 (603) 659-6560 2 Commerce Drive (Suite 202) Bedford, NH 03110 (603) 614-4060 0 Storer Street (Riverview Suite) Kennebunk, ME (207) 502-7005 http://www.doucetsurvey.com

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE (NHRSA TITLE LXIV) AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN. I CERTIFY THAT THIS SURVEY AND PLAN WERE PREPARED BY ME OR BY THOSE UNDER MY DIRECT SUPERVISION AND FALLS UNDER THE URBAN SURVEY CLASSIFICATION OF THE NH CODE OF ADMINISTRATIVE RULES OF THE BOARD OF LICENSURE FOR LAND SURVEYORS. I CERTIFY THAT THIS SURVEY WAS MADE ON THE GROUND AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. RANDOM TRAVERSE SURVEY BY TOTAL STATION, WITH A PRECISION GREATER THAN 1:15,000.

__L.L.S. #989

__DATE

THE CERTIFICATIONS SHOWN HEREON ARE INTENDED TO MEET REGISTRY OF DEED REQUIREMENTS AND ARE NOT A CERTIFICATION TO TITLE OR OWNERSHIP OF PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE ACCORDING TO CURRENT TOWN ASSESSORS RECORDS.



10. UNDERGROUND UTILITY DATA WAS PROVIDED TO DOUCET SURVEY, INC. BY THE CITY

OF PORTSMOUTH GIS DEPARTMENT ON NOVEMBER 15, 2016. THIS DATA IS FOR

PLANNING PURPOSES ONLY AND DOUCET SURVEY DOES NOT GUARANTEE THE

BE CONDUCTED PRIOR FINAL DESIGN AND/OR CONSTRUCTION.

ACCURACY OR EXISTENCE OF THE DATA PROVIDED. ON-SITE INSPECTION SHOULD

3. THE LIMITS OF JURISDICTIONAL WETLANDS WERE DELINEATED BY MARC JACOBS IN

APRIL 2018 IN ACCORDING TO THE US ARMY CORPS OF ENGINEERS WETLAND

SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL:

4. VERTICAL DATUM IS BASED ON NGVD29 PER DISK V 28 1942 ELEV. 25.59..

NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE.

NOVEMBER 2016 AND REVIEWED BY GOVE ENVIRONMENTAL SERVICES, INC. DURING

DELINEATION MANUAL, TECHNICAL REPORT Y-87-1, JANUARY 1987 AND REGIONAL

NORTHCENTRAL AND NORTHEAST REGION, VERSION 2.0, JANUARY 2102 AND FIELD

. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE(2800) NAD83(2011)

DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNÉT GPS VRS

INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4, MAY 2017,

CB #1056	CB #1348	CB #3600	CB #4034
RIM ELEV.=23.3'	RIM ELEV.=24.6'	RIM ELEV.=11.1'	RIM ELEV.=10.8'
(A) 4" UNKN. INV.=17.6'	(1347) 12" RCP INV.=19.2'	12" PVC INV.=7.5'	12" PVC INV.=7.5'
(B) 4" UNKN. INV.=17.7'			
	CB #1742	CB #3672	DMH #4035
CB #1071	RIM ELEV.=24.7'	RIM ELEV.=11.9'	RIM ELEV.=11.7'
RIM ELEV.=22.7'	(1743) 12" RCP INV.=19.7"	(3693) 4" PVC INV.=8.2'	(NO VISIBLE PIPES)
(1072) 12" RCP INV.=17.3'		(3895) 4" PVC INV.=8.7'	SUMP=1.3'
	CB #1743	(A) 4" PVC INV.=8.3'	WATER LEVEL=1.8'
CB #1072	RIM ELEV.=24.7'		
RIM ELEV.=23.7'	(1742) 12" RCP INV.=19.5'	CB #3693	CB #4081
(A) 6" CMP INV.=17.6'	(A) 12" RCP INV.=19.5'	RIM ELEV.=11.0'	RIM ELEV.=8.7'
(1071) 12" RCP INV.=17.5'		(3672) 4" PVC INV.=8.2'	(4082) 12" HDPE INV.=5.8'
(1148) 12" CMP INV.=17.5'	CB #1926	(A) 12" PVC INV.=7.9'	
(1347) 15" RCP INV.=17.1'	RIM ELEV.=29.7'		CB #4082
(B) 15" RCP INV.=17.0'	8" PVC INV.=27.9' (OUTFALL)	DMH #3756	RIM ELEV.=8.7'
		RIM ELEV.=11.6'	(4081) 12" HDPE INV.=5.7'
CB #1128	CB #2346	(2360) 12" PVC INV.=7.8'	(4083) 12" HDPE INV.=5.9'
RIM ELEV.=22.7'	RIM ELEV.=15.6'	(A) 12" PVC INV.=7.8'	
(A) 6" PVC INV.=19.4'	(A) 12" RCP INV.=11.3'		DMH #4083
(1186) 12" CMP INV.=18.9'		DMH #3756	RIM ELEV.=8.9'
(1148) 12" CMP INV.=18.8'	CB #2347	RIM ELEV.=11.6'	(3866) 42"WX24H CMP INV.=5.0'
	RIM ELEV.=13.8'	(3760) 12" PVC INV.=7.7'	(4083) 12" HDPE INV.=5.7'
CB #1147	(2348) 15" HDPE INV.=9.7"	(A) 12" PVC INV.=7.8'	(4093) 12" HDPE INV.=5.6'
RIM ELEV.=22.2			(A) 42"WX24H CMP INV.=5.0'
(A) 6" PVC INV.=18.7'	CB #2348	CB #3758	
(B) 12" CMP INV.=18.3'	RIM ELEV.=13.6'	RIM ELEV.=10.9'	CB #4093
	(2347) 15" HDPE INV.=9.8'	(3760) 12" PVC INV.=8.0'	RIM ELEV.=9.0'
CB #1148	(2349) 15" HDPE INV.=9.8'	(A) 8" PVC INV.=7.9'	(4083) 12" HDPE INV.=5.9'
RIM ELEV.=22.4'			
(A) 6" PVC INV.=18.7'	CB #2349	CB #3760	CB #4181
(1128) 12" CMP INV.=18.1'	RIM ELEV.=13.8'	RIM ELEV.=10.7'	RIM ELEV.=24.7'
(1148) 12" CMP INV.=18.2'	(2348) 15" HDPE INV.=9.1'	(3756) 12" PVC INV.=8.0'	12" CMP INV.=19.7'
	(2350) 15" HDPE INV.=10.3'	(3758) 12" PVC INV.=8.0'	
CB #1186	(3772) 15" HDPE INV.=9.1'		CB #4239
RIM ELEV.=23.5'		DMH #3772	RIM ELEV.=25.0'
(1188) 12" CMP (NOT VISIBLE)	CB #2350	RIM ELEV.=12.2'	12" CMP INV.=20.3'
(1128) 12" CMP INV.=20.0'	RIM ELEV.=12.6'	(2349) 15" HDPE INV.=8.7'	
	(FULL OF SILT & DEBRIS)	(3777) 15" HDPE INV.=8.6'	CB #4545
CB #1188			RIM ELEV.=27.8'
RIM ELEV.=25.7'	CB #2993	CB #3777	(3281) 15" RCP INV.=22.0'
(1186) 8" PVC INV.=22.3'	RIM ELEV.=30.2	RIM ELEV.=10.7'	(A) 18" RCP INV.=21.3'
	(A) 15" RCP INV.=26.2'	(3772) 15" HDPE INV.=7.7'	
CB #1213	(B) 12" UNKN. INV.=26.1'	(4605) 15" HDPE INV.=7.6'	DMH #4603 & 4604
RIM ELEV.=20.3'	(3281) 15" RCP INV.=26.0'		RIM ELEV.=10.3'
(HDWL) 12" HDPE INV.=17.6'		DMH #3866	(4035) 42" RCP INV.=1.0'
	CB #3019	RIM ELEV.=10.2'	(A) 36" RCP INV. (RECESSED)
CB #1251	RIM ELEV.=28.8'	(4083) 42"WX24H CMP INV.=5.3'	(B) UNKN. (RECESSED)
RIM ELEV.=20.9'	(A) 6" PVC INV.=25.4'	(4605) 24" RCP INV.=5.4'	(C) 42" RCP INV.=1.2'
(A) 18" CMP INV.=16.5'		(A) 8" CI INV.=8.0'	
	CB #3065		DMH #4605
CB #1345	RIM ELEV.=31.5'	CB #3895	RIM ELEV.=11.0'
RIM ELEV.=23.3'	WATER ELEV.=27.4'	RIM ELEV.=11.9'	(3579) 24" RCP INV.=4.4'
(1346) 12" RCP INV.=19.1'	(NO PIPES VISIBLE)	(3672) 4" PVC INV.=9.7'	(3777) 15" CMP INV.=7.5'
OD #4746		(A) 4" PVC INV.=9.9'	(3866) 24" RCP INV.=4.6'
CB #1346	CB #3281	OD #7007	
RIM ELEV.=25'	RIM ELEV.=29.8'	CB #3993	
(1345) 12" RCP INV.=17.4'	(2993) 15" RCP INV.=24.3'	RIM ELEV.=12.6'	
(1347) 15" RCP INV.=15.9'	(4545) 15" RCP INV.=24.2'	(NO VISIBLE PIPES)	
(A) 15" RCP INV.=15.7'	DMI #7570	APPEARS TO OPEN TO BROOK	
OD #4747	DMH #3579	SUMP=1.5'	
CB #1347	RIM ELEV.=11.2'	WATER LEVEL=1.8'	
RIM ELEV.=23.9'	(4035) 36" BRICK TROUGH INV.=2.0'	CB #4003	
(1348) 12" RCP INV.=18.8'	(4605) 24" RCP INV.=4.2'	CB #4002	
(1072) 15" RCP INV.=15.9'	(A) UNKN. INV.=2.0'	RIM ELEV.=12.9'	
(1346) 15" RCP INV.=15.8'		(BOLTED SHUT)	•

INTERIOR LOT LINE
—— — — APPROXIMATE ABUTTER LOT LINE
EASEMENT LINE
$\circ\circ$ — Chain link fence
∞ ∘ ∘ ∘ ∘ GUARDRAIL
OHWOVERHEAD WIRES
SSSEWER LINE
G GAS LINE
W WATER LINE
— 20 — MAJOR CONTOUR LINE
— — — 22 — — — MINOR CONTOUR LINE
SHRUB LINE
— — EDGE OF WETLAND
XS-SEWER LINE (SEE NOTE 20)

UTILITY POLE & GUY WIRE

UTILITY POLE W/ LIGHT

LIGHT POLE

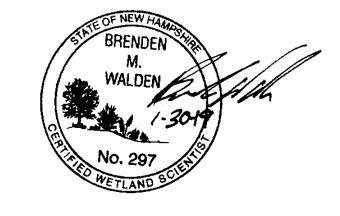
	SIGN
00	SIGN (TWO POSTS)
Ø	FENCE POST
×	POST
<u>-</u> ⊚	POST
•	BOLLARD
**	FIRE HYDRANT
≯ ∀0	TINE TITORANT
₩V	WATER GATE VALVE
₩	SPIGOT
GV	GAS GATE VALVE
0.F.C.	OIL FILL CAP
E	ELECTRIC BOX
	CATCH BASIN
	DRAIN MANHOLE
□ RD	ROOF DRAIN
· · -	
M	MANHOLE
<u> </u>	SEWER MANHOLE
© HH	CLEANOUT
	HAND HOLE
<u> 7117</u>	WETLAND AREA
\sim	FLAG POLE
Z.Z	CONIFEROUS TREE
<u> </u>	DECIDUOUS TREE
کوری	DECIDOOOS IREE

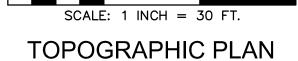
SYL

MONITORING WELL DRAINAGE FLOW DIRECTION ARROW CONCRETE CRUSHED STONE LEDGE OUTCROP ACCESSIBLE PARKING SPACE MAST ARM

JERSEY BARRIER TYPICAL FINISHED FLOOR ELECTRIC METER EDGE OF PAVEMENT VERTICAL GRANITE CURB SLOPED GRANITE CURB SLOPED BITUMINOUS BERM SINGLE WHITE LINE SINGLE YELLOW LINE DOUBLE YELLOW LINE

SEWER STRUCTURES			
SMH #1066	SMH #2434	SMH #3768	
RIM ELEV.=23.2'	RIM ELEV.=18.2'	RIM ELEV.=11.4'	
(A) 4" PVC INV.=18.5'	(2799) 10" UNKN. INV.=9.7'	(2353) 24" PVC INV.=6.0'	
(D) UNKN. INV.=12.3'	(2365) 12" UNKN. INV.=9.7'	(3578) 24" PVC INV.=5.9'	
(1152) 10" UNKN. INV.=11.8'			
(C) 4" PVC INV.=16.0'	SMH #2789	SMH #3999	
(D) 4" PVC INV.=16.0'	RIM ELEV.=20.1'	RIM ELEV.=12.6'	
(1350) UNKN. INV.=11.9'	(SUMP) INV.=9.9'	(4000) 10" PVC INV.=5.9'	
(E) UNKN. INV.=11.6'	NO PIPES VISIBLE	(4003) 12" PVC INV.=5.8'	
	1,10,11,10,11,11,11		
SMH #1152	SMH #2799	SMH #4000	
RIM ELEV.=22.6'	RIM ELEV.=23.8'	RIM ELEV.=12.3'	
(1066) 10" UNKN. INV.=11.3'	(A) 4" DI INV.=21.1'	(3718) 10" PVC INV.=5.8'	
(2799) 10" UNKN. INV.=11.2'	(B) 8" UNKN. INV.=12.1'	,	
(2799) 10 ONNIN. INV.=11.2	(1152) 10" UNKN. INV.=10.7'	(3999) 10" PVC INV.=5.8'	
	<u> ` </u>		
SMH #1350	(2434) 10" UNKN. INV.=10.6'	SMH #4003	
RIM ELEV.=25.5'		RIM ELEV.=13.3'	
(A) 8" CLAY INV.=14.9'	SMH #3280	(3999) 12" PVC INV.=6.5'	
(4565) UNKN. INV.=14.7'	RIM ELEV.=29.8'	(A) 10" CI INV.=6.6	
(1066) UNKN. INV.=14.4'	(1527) 8" CLAY DROP INLET INV.=21.1'		
	(4565) UNKN. INV.=16.4'	SMH #4102	
SMH #1470	(A) 4" CI INV.=23.3'	RIM ELEV.=11.3'	
RIM ELEV.=29.4'	(B) UNKN. INV.=16.5'	(3578) 30" PVC INV.=3.7'	
FULL OF DEBRIS		(A) 30" PVC INV.=3.6'	
	SMH #3578		
SMH #1527	RIM ELEV.=10.9'	SMH #4103	
RIM ELEV.=31.6'	(3604) 36" PVC INV.=3.0'	RIM ELEV.=10.5'	
(3280) 8" CLAY INV.=24.8'	(3768) 24" PVC INV.=5.8'	(NO VISIBLE PIPES, POSSIBL	
(A) 8" CLAY INV.=25.3'	(4102) 30" PVC INV=3.1'	ELECTRIC MANHOLE)	
(B) 8" CLAY INV.=24.7'			
	SMH #3604	SMH #4565	
SMH #2353	RIM ELEV.=11.3'	RIM ELEV.=26.4'	
RIM ELEV.=12.7'	(3578) 36" PVC INV.=2.5'	PIPES SUBMERGED	
(2365) 24" PVC INV.=6.5'	(3636) 36" PVC INV.=2.5'	WATER LEVEL=16.5'	
(3768) 24" PVC INV.=6.5'	(3718) 10" PVC INV.=4.7'	SUMP=15.4'	
(A) 6" PVC INV =7.2'			
	SMH #3636	SMH #4607	
SMH #2365	RIM ELEV.=10.3'	RIM ELEV.=33.2'	
RIM ELEV.=14.4'	(3604) 36" PVC INV.=2.3'	(A) 8" PVC INV.=17.9'	
(A) 10" CI INV.=9.3'	(A) 36" PVC INV.=2.2'	(B) 8" PVC INV.=17.7'	
(2434) 10" METAL INV.=9.2'	V. 1 00 1 VO 11 VV 2. Z	(5) 5 1 4 5 114417.7	
. ,	01111110740		
(2353) 24" METAL INV.=9.2'	SMH #3718		
	RIM ELEV.=11.5'		
	(3604) 10" PVC INV.=5.3'		
	(4000) 10" PVC INV.=5.5'		





CATE STREET DEVELOPMENT, LLC

TAX MAP 163, LOTS 33 & 34 TAX MAP 165, LOT 2 **TAX MAP 172, LOT 1** TAX MAP 173, LOT 2 CATE STREET & US ROUTE 1 BYPASS

PORTSMOUTH, NEW HAMPSHIRE

2	1/30/19	REVISE WETLAND NOTE & OWNER INFO.	M,
1	10/10/18	ADDITIONAL SURVEY AREA	М
NO.	DATE	DESCRIPTION	Е

	DRAWN BY:	M.T.L.	DATE:	DECE	EMBER	2016	
	CHECKED BY:	M.W.F.	DRAWIN	NG NO.:	55 ⁻	17A	
	JOB NO.:	5517	SHEET	1	OF	5	
•							



Serving Your Professional Surveying & Mapping Needs 102 Kent Place, Newmarket, NH 03857 (603) 659-6560 2 Commerce Drive (Suite 202) Bedford, NH 03110 (603) 614-4060 10 Storer Street (Riverview Suite) Kennebunk, ME (207) 502-7005 http://www.doucetsurvey.com

<u>LEGEND</u>	
	- APPROXIMATE LOT LINE
	-INTERIOR LOT LINE
	- APPROXIMATE ABUTTER LOT I
	-EASEMENT LINE
	□STOCKADE FENCE
0 0 -	- CHAIN LINK FENCE
~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ 	∘ GUARDRAIL
OHW	
SS	- SEWER LINE
———— SD ———	
——— G ———	00
——— W ———	
	- MAJOR CONTOUR LINE
	- MINOR CONTOUR LINE
.~~~~~~	
	J
	- EDGE OF WETLAND
	- SEWER LINE (SEE NOTE 20)
	- DRAIN LINE (SEE NOTE 20)
	- WATER LINE (SEE NOTE 20)
Q.	UTILITY POLE

