WEST END YARDS

CATE STREET · PORTSMOUTH · NEW HAMPSHIRE

SITE PLANS

MARCH, 2019

PREPARED FOR

CATE STREET DEVELOPMENT, LLC
60 K STREET
BOSTON, MA 02127
987.490.5278

PREPARED BY

FUSS & O'NEILL
UPPER SQUARE BUSINESS CENTER
5 FLETCHER STREET, SUITE 1
KENNEBUNK, MAINE 04043
207.363.0669
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SHEET INDEX

PROJECT TEAM

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CAMBRIDGE, MA. 02139
617.547.8120

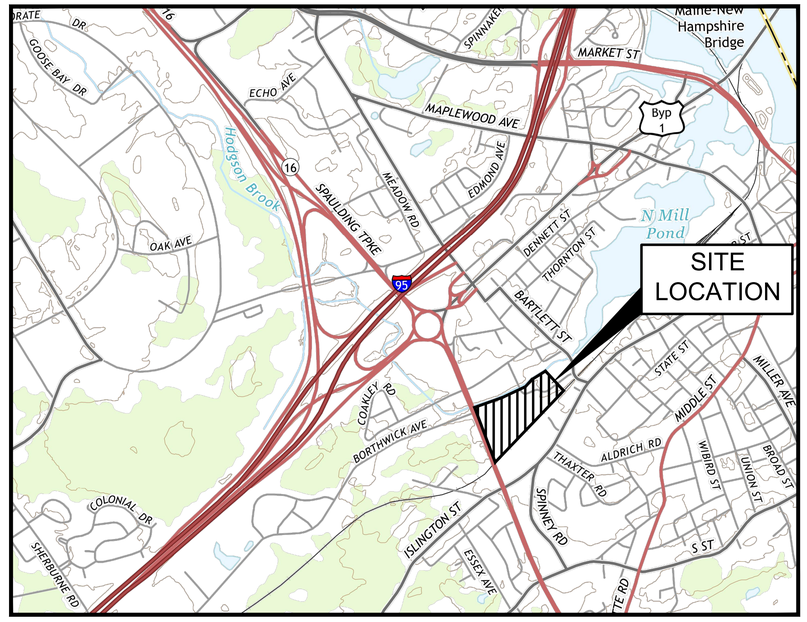
LANDSCAPE ARCHITECTS
SITE SOLUTIONS, LLC
3715 NORTHSIDE PARKWAY
300 NORTH CREEK, SUITE 720
ATLANTA, GA. 303227
404.705.9411

LIGHTING CONSULTANT
WLS LIGHTING
1919 WINDSOR PLACE
FORTH WORTH, TX. 76110
817.731.6020

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'

811 DigSafe MA·ME·NH·RI·VT

CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION

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.

STATE OF NEW HAMPSHIRE – RICHARD R. LUNDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER

PROJ. No.: 20170317.A10
DATE: MARCH 2019

GI-001

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GENERAL

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 OF PROJECT FEATURES.
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

1. 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

1. 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

1. 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

1. 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.

UTILITIES

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:
   0 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

1. 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 WEAKENING 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.
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 REMAINING 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 WETLANDS BUREAU, AS THESE AREAS FALL UNDER THEIR JURISDICTON.

SITE 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
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 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

DIMENSIONAL REQUIREMENTS,	DEVELOPMENT SITE STANDARDS:	
	REQUIRED	PROPOSED
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. DIST., MIXED RES., OR CD4-L1 DIST.	N/A
MAX. DEV. BLOCK	800 ft. LENGTH, 2,200 LINEAR ft.	610 ft.
MIN. FRONTAGE	50 ft.	227 ft.
MAX. BUILDING HEIGHT 25-FT STEP BACK	45 ft.	45 ft.
MAX. BUILDING COVERAGE	70 %	18.6 %
MIN. OPEN SPACE	20 %	32.7 %
COMMUNITY SPACE	ALL TYPES	
WETLAND SETBACKS	100 ft.	104 ft.
IMPERVIOUS COVER		390,471 sq. ft. (67.3%)

   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 KEYNET GPS VRS NETWORK.
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. PARKING CALCULATIONS:
12. 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.
13. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REGULATIONS.
14. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
15. 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

NO.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE - RICHARD R. LUNDBORN No. 10943 - LICENSED PROFESSIONAL ENGINEER

SCALE: HORZ.: NTS VERT.:
DATUM: HORZ.: VERT.:

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CATE STREET DEVELOPMENT, LLC
GENERAL NOTES
WEST END YARDS
PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CN-001

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MS VIEW: LAYER STATE: Plotter: DWG TO PDF.PC3 CTB File: FO.STB

BOUNDARIES

EXISTING		PROPOSED
BEARING DISTANCE	PROPERTY LINE	BEARING DISTANCE
	APPROXIMATE LOT LINE	
	INTERIOR LOT LINE	
	APPROXIMATE ABUTTER LOT LINE	
	EASEMENT LINE	
BOW / CONCORD	TOWN LINE	
COOS / GRAFTON	COUNTY LINE	
MAINE / NEW HAMPSHIRE	STATE LINE	
	BOUND FOUND	
R.R.S.F.	RAILROAD SPIKE FOUND	
	IRON PIPE/ROD FOUND	
	4"X4" GRANITE BOUND TO BE SET	
	5/8" REBAR W/ID CAP TO BE SET	
	CONCRETE	
	BOUND FOUND	
	IRON PIPE FOUND	
	CONCRETE	
	DRILL HOLE	

NATURAL RESOURCES

EXISTING		PROPOSED
20	MAJOR CONTOUR LINE	20
22	MINOR CONTOUR LINE	22
+ 201.0	SPOT ELEVATION	+ 201.0
	EDGE OF WETLAND	
	WETLAND AREA	
	CONIFEROUS TREE	
	DECIDUOUS TREE	
	MONITORING WELL	
	TEST PIT	
	TREE LINE	
	SHRUB LINE	
	EDGE OF WATER	

GENERAL

EXISTING		PROPOSED
	STOCKADE FENCE	
	CHAIN LINK FENCE	
X	BARBED WIRE FENCE	X
	STONE WALL	
	RETAINING WALL	
	GUARDRAIL	
	SIGN	
	SIGN (TWO POSTS)	
	FENCE POST	
	POST	
	POST	
	BOLLARD	
	FLAG POLE	
	CONCRETE	
	CRUSHED STONE	
	LEDGE OUTCROP	
LEACH FIELD	LEACH FIELD	
	GAS PUMPS	
	STORAGE TANKS	
	CEMETERY	
	INTERMITTENT WATER COURSE	
RIVER (STREAM)	SHORE LINE	
POND	SHORE LINE	

DRAINAGE

EXISTING		PROPOSED
	DRAINAGE NOTE	D
SD	DRAIN LINE	D
XD	DRAIN LINE (SEE NOTE 20)	
	CATCH BASIN	
D	DRAIN MANHOLE	
RD	ROOF DRAIN	
R	ROOF DRAIN LINE	R
UD	STORM UNDERDRAIN	UD
	DRAINAGE FLOW DIRECTION ARROW	
	PROPOSED REINFORCED CONCRETE CULVERT END	
	PROPOSED TYPE "C-L" CATCH BASIN	
	PROPOSED TYPE "C" CATCH BASIN	
	PROPOSED HEAD WALL	

WATER

EXISTING		PROPOSED
	WATER NOTE	W
W	WATER LINE	W
XW	WATER LINE (SEE NOTE 20)	
	FIRE HYDRANT	
	PROPOSED HYDRANT AND GATE VALVE	
	WATER GATE VALVE	
	SPIGOT	
W	WELL	

SEWER

EXISTING		PROPOSED
	SEWER NOTE	S
SS	SEWER LINE	S
XS	SEWER LINE (SEE NOTE 20)	
FM	SEWER FORCE MAIN	FM
S	SANITARY SEWER MANHOLE	
	CLEANOUT	

GAS

EXISTING		PROPOSED
	GAS NOTE	G
G	GAS MAIN	G
	GAS GATE VALVE	
O.F.C.	OIL FILL CAP	

ELECTRIC

EXISTING		PROPOSED
	ELECTRIC NOTE	E
OHW	OVERHEAD WIRES	OHW
	UTILITY POLE	
	UTILITY POLE & GUY WIRE	
	UTILITY POLE W/ LIGHT	
	LIGHT POLES	SINGLE DOUBLE
E	ELECTRICAL SERVICE	E
	ELECTRIC BOX	
	PROPOSED ELECTRICAL MANHOLE	
M	MANHOLE	M
	HAND HOLE	
	PROPOSED LIGHT	

TELEPHONE

EXISTING		PROPOSED
T	TELEPHONE LINE	T
T	TELEPHONE MANHOLE	T

CATV

EXISTING		PROPOSED
C	CABLE LINE	C

STRIPING

EXISTING		PROPOSED
SWL	SINGLE SOLID LINE (WHITE)	PSSL (W)
	SINGLE BROKEN LINE (WHITE)	PSBL (W)
	DOUBLE SOLID LINE (WHITE)	PDSL (W)
SYL	SINGLE SOLID LINE (YELLOW)	PSSL (Y)
	SINGLE BROKEN LINE (YELLOW)	PSBL (Y)
DYL	DOUBLE SOLID LINE (YELLOW)	PDSL (Y)
	(A)=STOP BAR = 18" SSL (WHITE)(T)	(A)

GENERAL PAVEMENT MARKING NOTE:
PLACEMENT AND COLOR OF PAVMENT MARKING LINES, SYMBOLS AND WORDS SHALL CONFORM TO THE (MUTCD) SECTION 632 OF NHDOT STANDARD SPECIFICATION BOOK, CONTRACT SUPPLEMENTAL SPECIFICATIONS, THE STATE OF NEW HAMPSHIRE PAVEMENT MARKING STANDARD DETAIL SHEETS, AND STANDARD PLAN SHEETS.

RETROREFLECTIVE PAINT PAVMENT MARKING KEY:
THE FOLLOWING PAVEMENT MARKINGS SHALL BE RETROREFLECTIVE THERMOPLASTIC UNLESS OTHERWISE NOTIFIED BY THE STATE STANDARD SYMBOLS AND WORDS

—WORDS ONLY — WORDS
(A) = STOP BARS = 18" SSL (WHITE)(T)

	ACCESSIBLE PARKING SPACE	
	PAINTED ISLAND	
10	PARKING SPACE COUNT	10

CURB

EXISTING		PROPOSED
VGC	VERTICAL GRANITE CURB	VGC
SGC	SLOPED GRANITE CURB	SGC
SBB	SLOPED BITUMINOUS BERM	SBB
CC	CONCRETE CURB	CC
BCC	BITUMINOUS CURB	BCC
	TIPDOWN	TD

TRAFFIC UTILITIES

SIGNAL CONDUIT (EXISTING)		
SIGNAL CONDUIT (PROPOSED)		
MAGNETIC DETECTOR SLEEVE		
LOOP DETECTOR	8'X10' (LABEL SIZE)	8'X10'
PULLBOX	P.B.	P.B.
HANDHOLE	H.H.	H.H.
CONTROLLER CABINET	C.C.	C.C.
	EXISTING	PROPOSED
SPREAD FOOTING	10' 8'(LABEL SIZE)	
CYLINDRICAL FOUNDATION		
MAST ARM POLE (WITH SIGNAL HEADS)		NOTE ANGLE FROM TO ARM
STEEL SPAN WIRE POLES		
PEDESTRIAN SIGNAL POLE		
TRAFFIC SIGNAL (EXISTING)		
STREET LIGHT CONDUIT		

EROSION CONTROL

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

NO.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE — ENGINEER — RICHARD R. LINDBORN No. 10943 LICENSED PROFESSIONAL

SCALE: HORZ.: NTS VERT.:
DATUM: HORZ.: VERT.:

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LEGEND

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CN-002

File Path: F:\P2018\03\17\A10\Civil\3\Dwg\20180317A10_COV01.dwg Layout: CN-002 Plotted: Mon, March 18, 2019 - 5:00 PM User: jandretta
Plotter: DWG TO PDF.PC3 CTB File: FO.STB
MS VIEW: LAYER STATE:

CP-101

CP-102

CP-103

CP-104

US ROUTE 1 BYPASS

HODGSON BROOK

BOSTON & MAINE RAILROAD

(SEE REFERENCE PLAN 22)

(100' ROW PER REFERENCE PLAN 1)

BLDG

HOUSE

SHED

GARAGE

WOOD SHED

TRAILER

BUILDING

OUT BUILDING

HANDICAP PARKING

~FADED PARKING STRIPING~

GRAVEL

EDGE OF APPARENT RIGHT OF WAY (PER REF. PLAN #3)

ELDREDGE PARK

UNDERSIDE OF BRIDGE ELEV.=22.6'

5' CHAIN LINK FENCE

LEGEND

AREA OF CONCRETE AND PAVEMENT REMOVAL

REMOVE ALL CONCRETE, PAVEMENT, CURBING, BUILDINGS WITHIN THE DEMOLITION BOUNDARY LINE NOTED ON THE PLANS.

LIMITS OF UTILITY LINES TO BE REMOVED

NO.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – RICHARD R. LIMBORN No. 13056 – LICENSED

SCALE: HORZ.: 1"=60' VERT.: 1"=60'

DATUM: HORZ.: NAD83 VERT.: NGVD29

GRAPHIC SCALE 60 30 0 60

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OVERALL SITE PREPARATION PLAN WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CP-100

File Path: F:\P20180317A10\Civil\3Dwg\20180317A10_DMO01.dwg Layout: CP-100 Plotted: Mon, March 18, 2019 - 4:02 PM User: ddugal
Plotter: DWG TO PDF.PC3 CTB File: FO.STB
LAYER STATE:
MS VIEW:

LEGEND

AREA OF CONCRETE AND PAVEMENT REMOVAL

REMOVE ALL CONCRETE, PAVEMENT, CURBING, BUILDINGS WITHIN THE DEMOLITION BOUNDARY LINE NOTED ON THE PLANS.

LIMITS OF UTILITY LINES TO BE REMOVED

APPARENT EDGE OF RIGHT OF WAY (PER 50' OFFSET FROM NORTH SIDE RIGHT OF WAY)

OUTLET NOT FOUND

US ROUTE 1 BYPASS (VARIABLE WIDTH) ROW PER REFERENCE PLAN 1

BLDG

HOUSE

GARAGE

SHED

DEMOLITION BOUNDARY

REMOVE GUARDRAIL

REMOVE DRAINAGE PIPE AND STRUCTURE

REMOVE FENCE

REMOVE CATCH BASIN AND PIPE

REMOVE ENTIRE ISLAND

REMOVE WATER LINE FROM HERE TOWARD BARLETT STREET (SEE NOTE SHEET CP-102)

REMOVE UTILITY POLE AND ATTACHED OVERHEAD WIRES

HODGSON BROOK

"THE FRANK JONES FUNCTION & CONFERENCE CENTER"

EDGE OF JURISDICTIONAL WETLAND (SEE NOTE 6)

GUARDRAIL TO REMAIN

KEEP RIGHT

PAVED ISLAND

TREES TO REMAIN

TURN LEFT

TURN RIGHT

STOP/DO NOT ENTER

~GRASS AREA~

~PAVED PARKING LOT~

~GRAVEL~

UHAUL SIGN

CATCH BASIN, PIPE AND OUTLET STRUCTURE TO REMAIN

8' STOCKADE FENCE IN DISREPAIR

6' STOCKADE FENCE IN DISREPAIR

PATH

CONCRETE LOADING RAMP

PSNH/264/3 W/POWER DOWN

SMH #4565

SMH #2798

SMH #4550

CB #1346

CB #1313

FENCE #1

CB #1

12" CMP INV.=14.6

RCP INV.=14.7

SEE SHEET CP-102

SEE SHEET CP-103

NO.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – RICHARD R. LINDBORG No. 9634 – LICENSED PROFESSIONAL ENGINEER

SCALE: HORZ.: 1"=30' VERT.: 1"=30'

DATUM: HORZ.: NAD83 VERT.: NGVD29

GRAPHIC SCALE 30 15 0 30

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SITE PREPARATION PLAN

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CP-101

File Path: F:\P20180317A10\Civil3Dwg\20180317A10_DMO01.dwg Layout: CP-101 Plotted: Mon, March 18, 2019 - 4:02 PM User: ddugal
Plotter: DWG TO PDF.PC3 CTB File: FO.STB
MS VIEW: LAYER STATE:

LEGEND

AREA OF CONCRETE AND PAVEMENT REMOVAL

REMOVE ALL CONCRETE, PAVEMENT, CURBING, BUILDINGS WITHIN THE DEMOLITION BOUNDARY LINE NOTED ON THE PLANS.

LIMITS OF UTILITY LINES TO BE REMOVED

DEED #4883

BLDG

TAX MAP 163, LOT 32

#1742

TAX MAP 163, LOT 2

EDGE OF JURISDICTIONAL WETLAND (SEE NOTE 6)

DEMOLITION BOUNDARY

HODGSON BROOK

CONCRETE BLOCK WALL

(3) 8" ASH

LOAM PILE

REMOVE FENCE

REMOVE UTILITY POLE

WOOD SHED

YARD WASTE PILE

GARAGE

SHED

LOAM & DEBRIS PILE

SAND PILE

BUILDING

SGC

SBB

REMOVE FENCE

REMOVE ELECTRICAL BOX

5' STOCKADE FENCE

ABOVEGROUND FUEL STORAGE TANK

CONCRETE BLOCK ENCLOSURE W/COVER

6' STOCKADE FENCE

STORAGE CONTAINER

STORAGE TRAILER

GATE

REMOVE UTILITY POLE #318A/PI

BOULDER PILE

WOOD & GRANITE PILE

1/2" DIA. IRON PIPE

APPLE

HOUSE

LOAM PILE

12" SITE 12" VC

SEE SHEET CP-101

REMOVE UTILITY POLE AND ATTACHED OVERHEAD WIRES

REMOVE UTILITY POLE AND ATTACHED OVERHEAD WIRES

20" OAK

END WATER LINE REMOVAL (FROM SHEET CP-101)

REMOVE UTILITY POLE AND ATTACHED OVERHEAD LINES

GUY POLE

TAX MAP 163, LOT 37

REMOVE WATER LINE AND STRUCTURES

JERSEY BARRIER PILE

SAND & GRAVEL PILE

WOOD PILE

GATE CONTROL BOX

SMH #2434

REMOVE UTILITY POLE AND ATTACHED OVERHEAD LINES

REMOVE SEWER LINE BETWEEN SMH 1152 AND SMH 2434

REMOVE UTILITY POLE AND ATTACHED OVERHEAD LINES

5' CHAIN LINK FENCE

MOVE SEWER LINES & STRUCTURE

TAX MAP 165, LOT 1

TAX MAP 163, LOT 2

TAX MAP 163, LOT 35

TAX MAP 163, LOT 1

TAX MAP 163, LOT 36

BLDG

EDGE OF APPARENT RIGHT OF WAY (PER REF. PLAN #33)

EDGE OF APPARENT RIGHT OF WAY (PER REF. PLAN #9)

ELDREDGE PARK

CATE STREET

(NO ROW WIDTH OR LAYOUT FOUND)

DMH #2349

SMH #2353

SMH #2365

SMH #3768

STOP/CATE ST

PORTSMOUTH DIRECTORY SIGN

EDGE OF APPARENT RIGHT OF WAY (PER REF. PLAN #31)

UNDERSIDE OF BRIDGE ELEV.=22.6'

UNDERSIDE OF BRIDGE ELEV.=22.6'

EDGE OF APPARENT RIGHT OF WAY (PER TAX MAPS, NO BETTER BOUNDARY EVIDENCE FOUND)

TAX MAP 164, LOT 2

NO.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – RICHARD R. LIMBERG No. 10964 LICENSED

SCALE: HORZ.: 1"=30' VERT.: 1"=30'

DATUM: HORZ.: NAD83 VERT.: NGVD29

GRAPHIC SCALE 30 15 0 30

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SITE PREPARATION PLAN

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CP-102

File Path: F:\P2018\0317A10\Civil3Dwg\20180317A10_DMOD1.dwg Layout: CP-102 Plotted: Mon, March 18, 2019 - 4:02 PM User: ddugal
Plotter: DWG TO PDF.PC3 CTB File: FO.STB
MS VIEW: LAYER STATE:

SEE SHEET CP-101

SEE SHEET CP-104

US ROUTE 1 BYPASS
(100' ROW PER REFERENCE PLAN 1)

DEMOLITION BOUNDARY

REMOVE STORM DRAIN AND LINES

SEWER MANHOLE AND SEWER LINE TO REMAIN

NO PARKING

STOP

REMOVE WATER LINE

FUEL PUMP ISLAND
REMOVE WATER LINE

REMOVE STORM DRAIN AND LINES

REMOVE SEWER LINE

EXISTING WATER LINE (XW) TO REMAIN TO HERE

REMOVE STORM DRAIN AND LINES

SMH #1152

SMH #1066

OVERHANG

COVER

FF=25.1

GRASS AREA

2" DIA. PIPE

FF=24.1'

FF=24.2

BUILDING

FIRE PULL BOX

HANDICAP PARKING

REMOVE STORM DRAIN AND LINES

PSNH/242/3A
W/POWER DOWN

REMOVE UTILITY POLE AND ATTACHED OVERHEAD LINES

STEEL STEPS

~ROW OF PINE TREES~

CONCRETE RETAINING WALL
REMOVE STORM DRAIN

RAMP

STACKED STORAGE CONTAINERS

~FADED PARKING STRIPING~

BLANK SIGN

PSNH/242/3X

PSNH/242/4
4/NETT

TRAILER

TAX MAP 172, LOT 2
BLDG

PSNH/242

BOSTON & MAINE RAILROAD
(SEE REFERENCE PLAN 22)

TAX MAP 172, LOT 7

TAX MAP 172, LOT 4

TAX MAP 172, LOT 6

TAX MAP 172, LOT 5

TAX MAP 165, LOT 14

1" GALV. I.P.F. L
(S22°57'40"E, 2.
TO CORNER)

LEGEND

AREA OF CONCRETE AND PAVEMENT REMOVAL

REMOVE ALL CONCRETE, PAVEMENT, CURBING, BUILDINGS WITHIN THE DEMOLITION BOUNDARY LINE NOTED ON THE PLANS.

LIMITS OF UTILITY LINES TO BE REMOVED

NO.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – RICHARD R. LIMBORN No. 13004 – LICENSED PROFESSIONAL ENGINEER

SCALE: HORZ.: 1"=30'
VERT.: 1"=30'
DATUM: HORZ.: NAD83
VERT.: NGVD29
GRAPHIC SCALE 30 0 15 30

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SITE PREPARATION PLAN

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

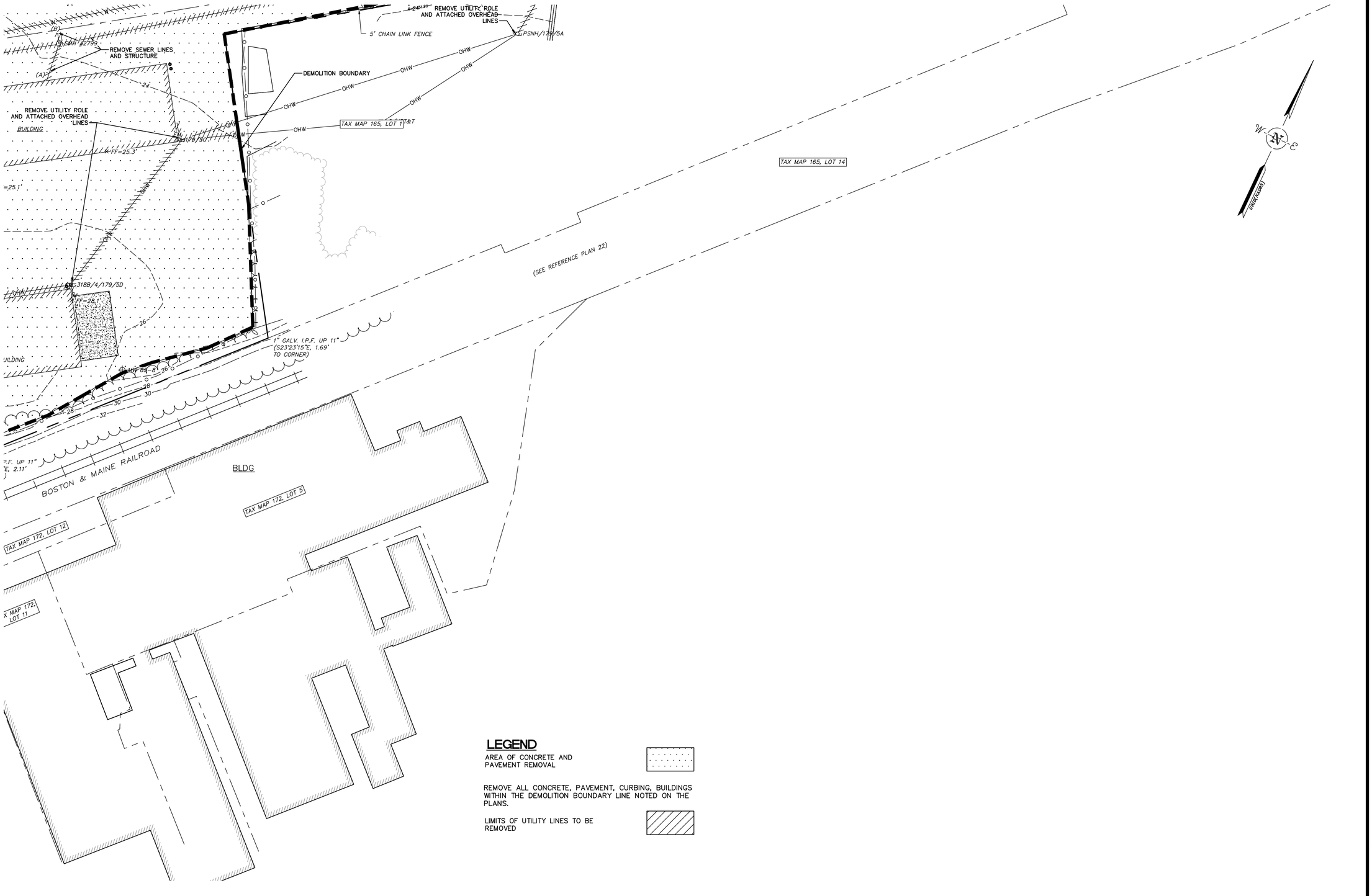
PROJ. No.: 20180317.A10
DATE: 03/18/2019

CP-103

File Path: F:\P2018\0317A10\Civil\3Dwg\20180317A10_DMO01.dwg Layout: CP-103 Plotted: Mon, March 18, 2019 - 4:02 PM User: ddugal
MS VIEW: LAYER STATE: Plotter: DWG TO PDF.PC3 CTB File: FO.STB

SEE SHEET CP-102

SEE SHEET CP-103



LEGEND

AREA OF CONCRETE AND PAVEMENT REMOVAL

REMOVE ALL CONCRETE, PAVEMENT, CURBING, BUILDINGS WITHIN THE DEMOLITION BOUNDARY LINE NOTED ON THE PLANS.

LIMITS OF UTILITY LINES TO BE REMOVED

NO.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – RICHARD R. LIMBOURN No. 10594 – LICENSED PROFESSIONAL ENGINEER

SCALE: HORZ.: 1"=30' VERT.: 1"=30'
DATUM: HORZ.: NAD83 VERT.: NGVD29
30 15 0 30
GRAPHIC SCALE

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SITE PREPARATION PLAN

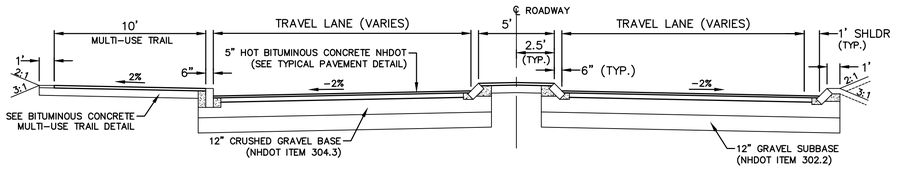
WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

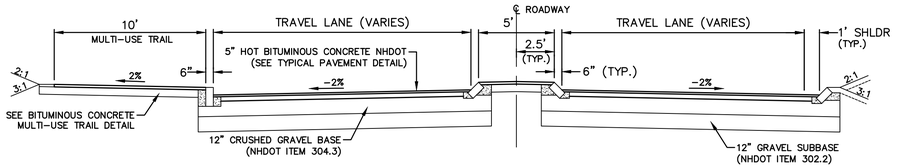
PROJ. No.: 20180317.A10
DATE: 03/18/2019

CP-104

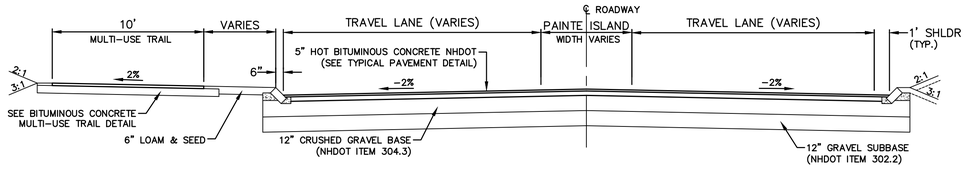
File Path: F:\P2018\0317A10\Civil3\Dwg\20180317A10_DMO01.dwg Layout: CP-104 Plotted: Mon, March 18, 2019 - 4:02 PM User: ddugal
MS VIEW: LAYER STATE: Plotter: DWG TO PDF.PC3 CTB File: FO.STB



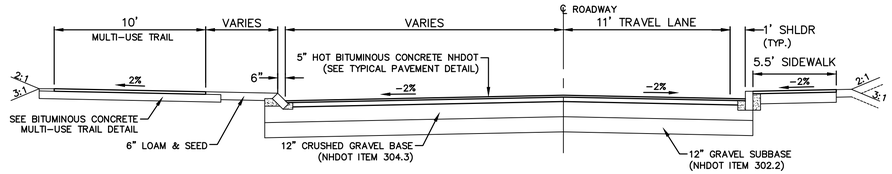
STATION 0+03± TO 0+99±



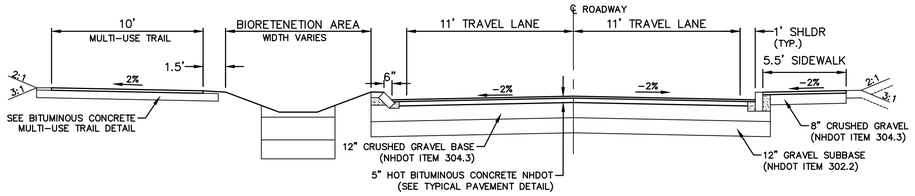
STATION 0+99± TO 1+61±



STATION 1+61± TO 4+32±



STATION 4+32± TO 11+40±



STATION 11+40± TO 13+55±

ROADWAY TYPICAL SECTIONS

SCALE: 1"=5'

File Path: F:\P2018\0317A10\Civil\3Dwg\20180317A10_STP01.dwg Layout: CS-001 Plotted: Mon, March 18, 2019 - 5:02 PM User: ddugal
MS VIEW: | LAYER STATE: | Plotter: DWG TO PDF.PC3 CTB File: FO.STB

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – RICHARD R. LUNDBORN No. 10943 (LICENSED)

SCALE: HORZ.: VERT.: DATUM: HORZ.: NAD83 VERT.: NAVD88 0 GRAPHIC SCALE

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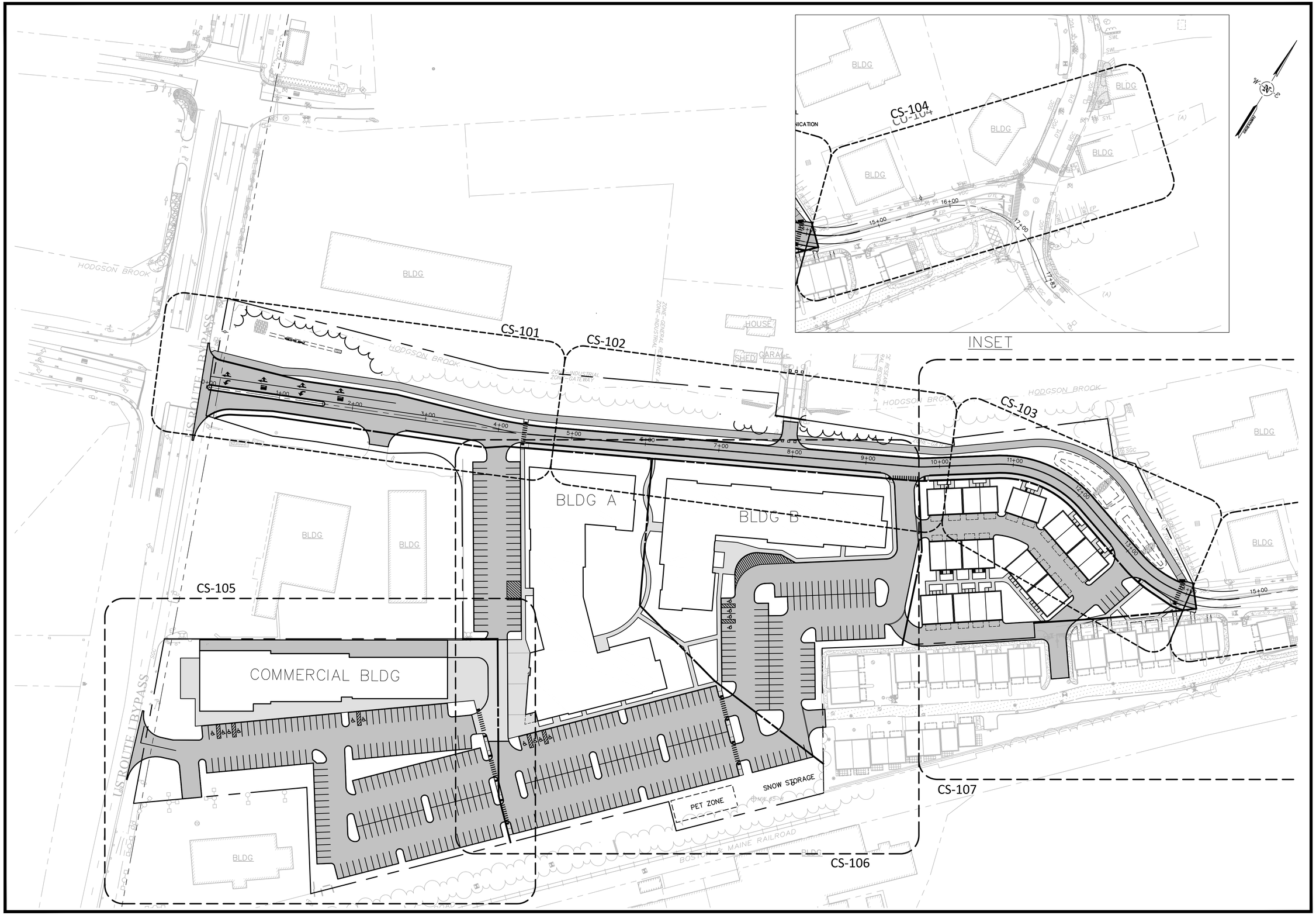
TYPICAL ROADWAY SECTIONS

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CS-001



No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – RICHARD R. LUNDBORN No. 10943 (LICENSED)

SCALE: HORZ.: 1"=60' VERT.: 1"=60'
DATUM: HORZ.: NAD83 VERT.: NAVD88
60 30 0 60
GRAPHIC SCALE

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OVERALL SITE PLAN

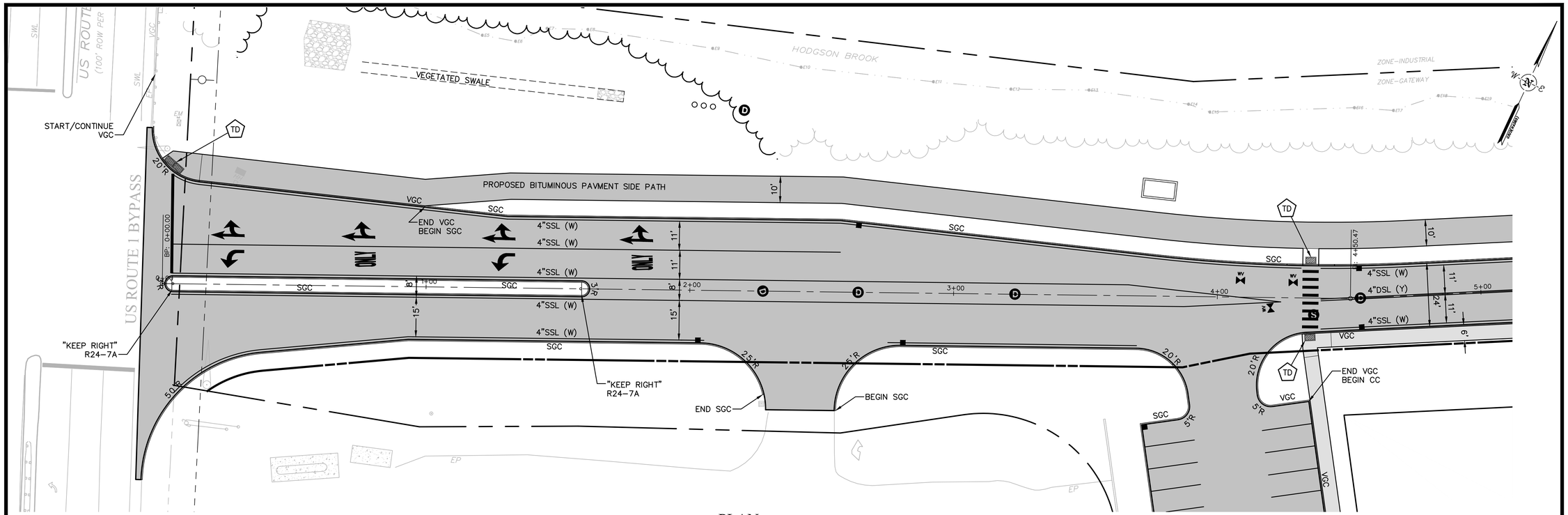
WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CS-100

File Path: F:\P2018\0317A10\Civil3\Dwg\20180317A10_STP01.dwg Layout: CS-100 Plotted: Mon. March 18, 2019 - 5:02 PM User: ddugal
MS VIEW: LAYER STATE: Plotter: DWG TO PDF.PC3 CTB File: FO.STB



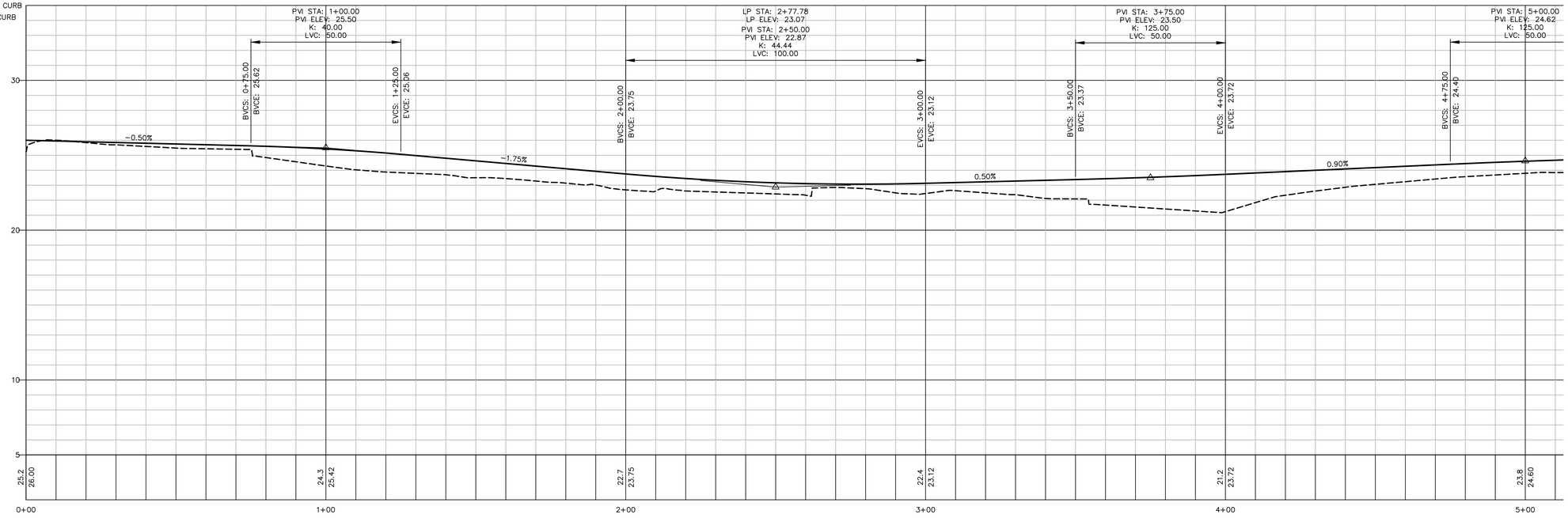
PLAN

SCALE: 1 INCH = 20 FT.

TD PROPOSED TIPDOWN RAMP W/DETECTABLE WARNING PANEL

TDR PROPOSED TIPDOWN RAMP W/RADIUS DETECTABLE WARNING PANEL

VGC PROPOSED VERTICAL GRANITE CURB
SGC PROPOSED SLOPED GRANITE CURB
CC PROPOSED CONCRETE CURB
SBB SLOPED BITUMINOUS BERM
SSL SINGLE SOLID LINE (WHITE)
DSL DOUBLE SOLID LINE (YELLOW)



PROFILE

SCALE: HORIZ: 1 INCH = 20 FT.
VERT: 1 INCH = 4 FT.

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – RICHARD R. LUNDBORN No. 10943 (LICENSE)

SCALE: HORZ.: VERT.: DATUM: HORZ.: NAD83 VERT.: NGVD29 GRAPHIC SCALE 0

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ROADWAY PLAN & PROFILE

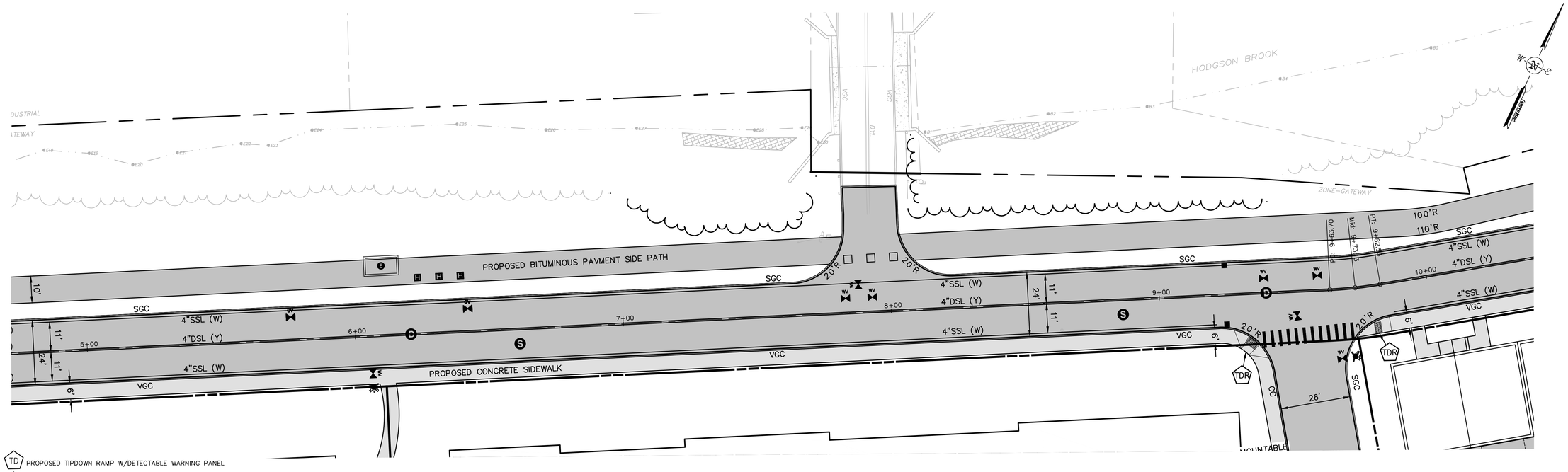
WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CS-101

File Path: F:\P2018\0317A10\Civil3\Dwg\20180317A10_STP01.dwg Layout: CS-101 Plotted: Mon, March 18, 2019 - 5:02 PM User: ddugal
Plotter: DWG TO PDF.PC3 CTB File: FO.STB
LAYER STATE:
MS VIEW:



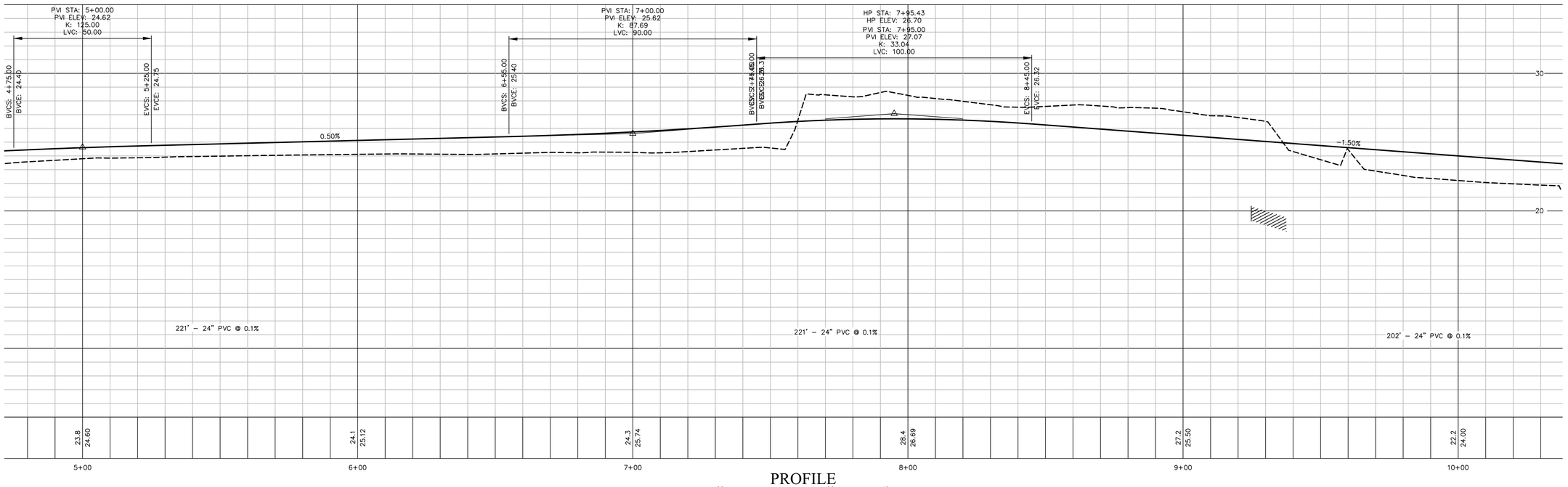
PLAN

SCALE: 1 INCH = 20 FT.

TD PROPOSED TIPDOWN RAMP W/DETECTABLE WARNING PANEL

TDR PROPOSED TIPDOWN RAMP W/RADIUS DETECTABLE WARNING PANEL

VGC PROPOSED VERTICAL GRANITE CURB
SGC PROPOSED SLOPED GRANITE CURB
CC PROPOSED CONCRETE CURB
SBB SLOPED BITUMINOUS BERM
SSL SINGLE SOLID LINE (WHITE)
DSL DOUBLE SOLID LINE (YELLOW)



PROFILE

HORIZ: 1 INCH = 20 FT.
VERT: 1 INCH = 4 FT.

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER
RICHARD R. LUNDBORN No. 10943 (LICENSE)

SCALE: HORZ.: VERT.: DATUM: HORZ.: NAD83 VERT.: NGVD29 GRAPHIC SCALE 0

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CATE STREET DEVELOPMENT, LLC

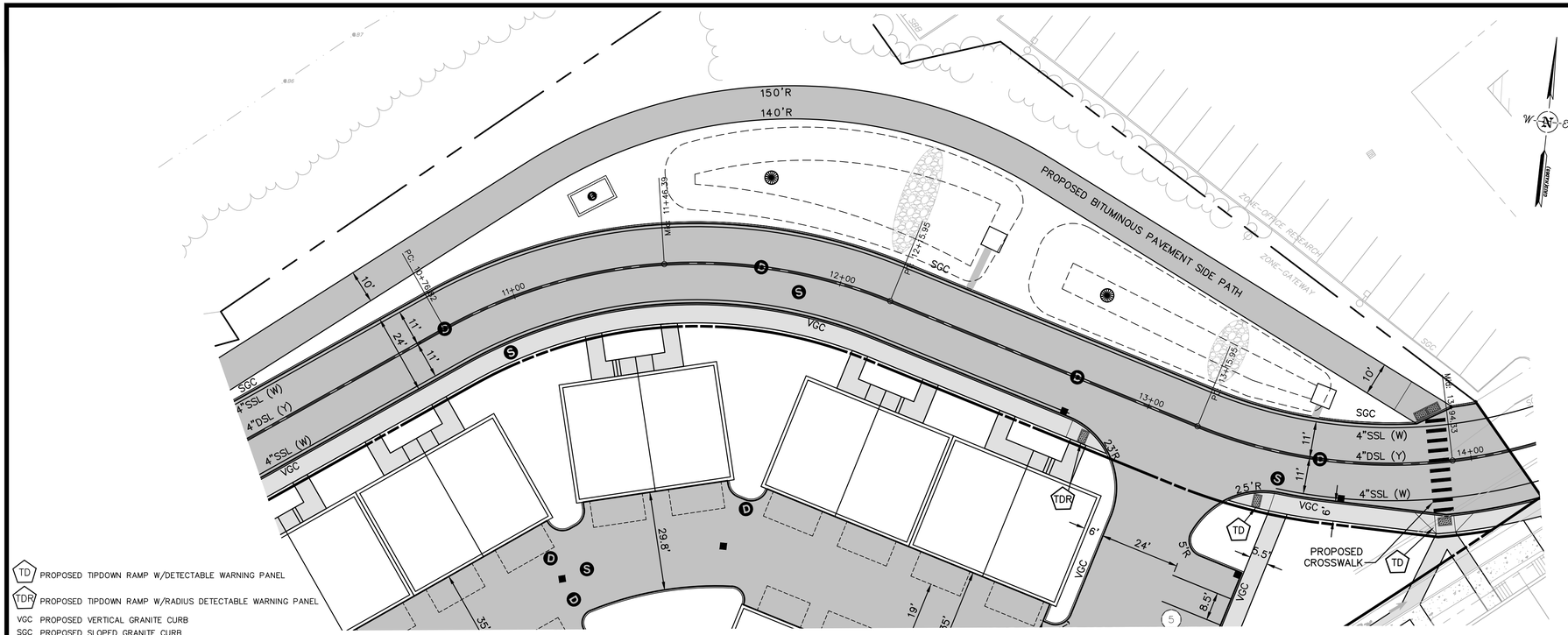
ROADWAY PLAN & PROFILE

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CS-102



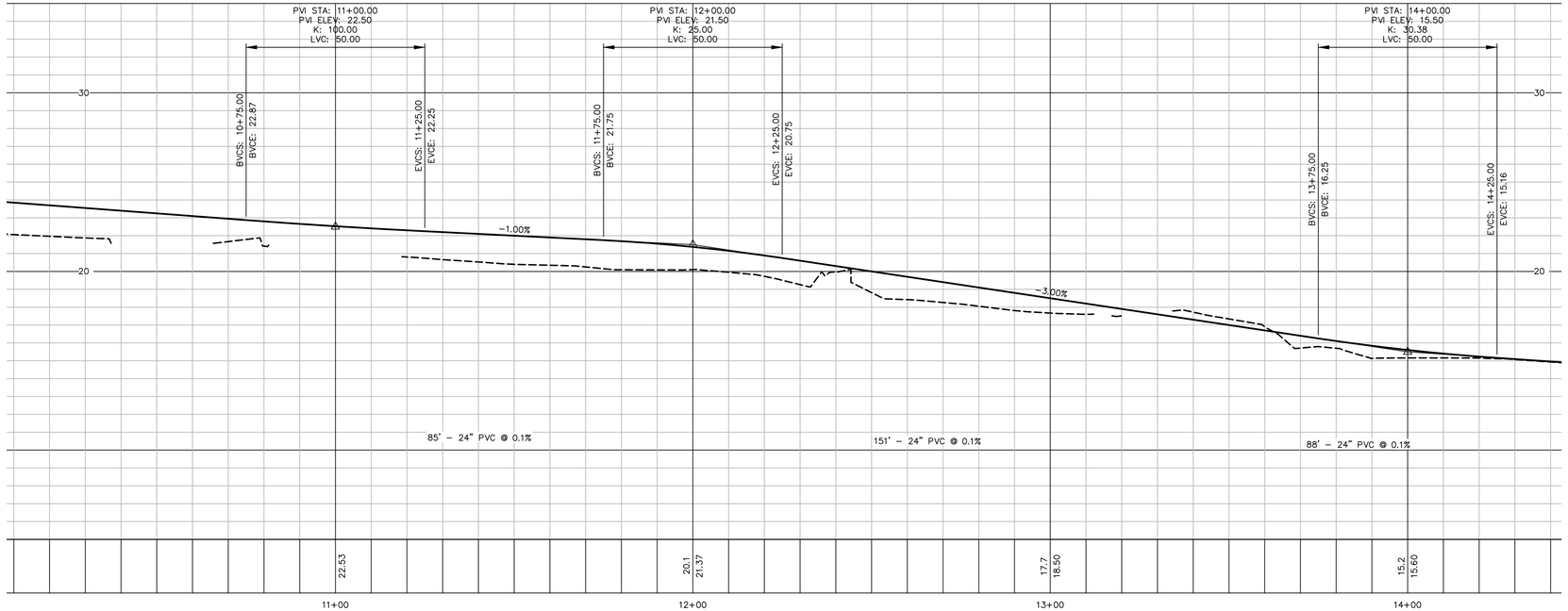
TD PROPOSED TIPDOWN RAMP W/DETECTABLE WARNING PANEL

TDR PROPOSED TIPDOWN RAMP W/RADIUS DETECTABLE WARNING PANEL

VGC PROPOSED VERTICAL GRANITE CURB
SGC PROPOSED SLOPED GRANITE CURB
CC PROPOSED CONCRETE CURB
SBB SLOPED BITUMINOUS BERM
SSL SINGLE SOLID LINE (WHITE)
DSL DOUBLE SOLID LINE (YELLOW)

PLAN

20 0 20 40
SCALE: 1 INCH = 20 FT.



PROFILE

20 0 20 40
4 0 4 8
HORIZ: 1 INCH = 20 FT.
VERT: 1 INCH = 4 FT.

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER
RICHARD R. LUNDBORN No. 10943 (LICENSE)

SCALE: HORZ.: VERT.:
DATUM: HORZ.: NAD83 VERT.: NGVD29
GRAPHIC SCALE 0

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ROADWAY PLAN & PROFILE
WEST END YARDS
PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

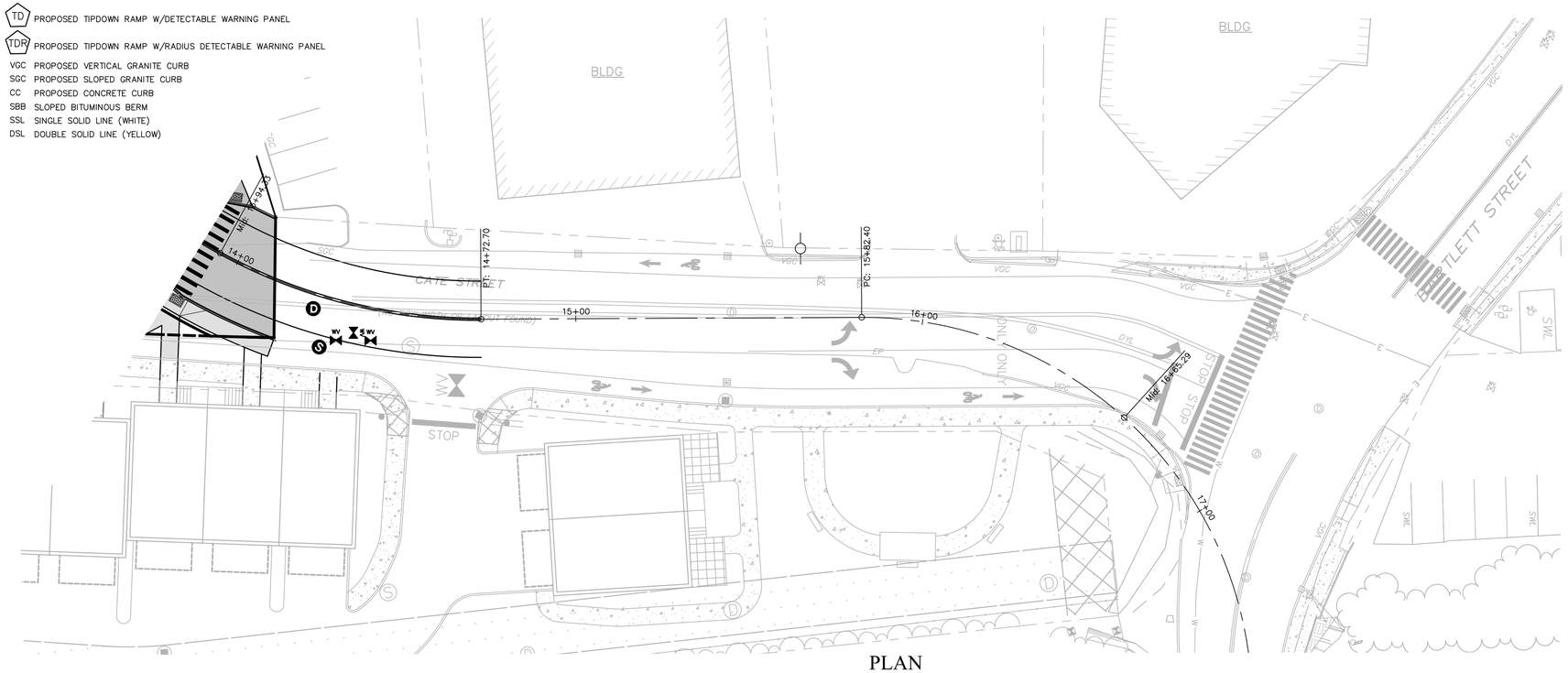
CS-103

File Path: F:\P2018\03177A10\Civil\3\Dwg\20180317A10_STP01.dwg Layout: CS-103 Plotted: Mon. March 18, 2019 - 5:02 PM User: ddugal
MS VIEW: LAYER STATE: Plotter: DWG TO PDF.PC3 CTB File: FO.STB

TD PROPOSED TIPDOWN RAMP W/DETECTABLE WARNING PANEL

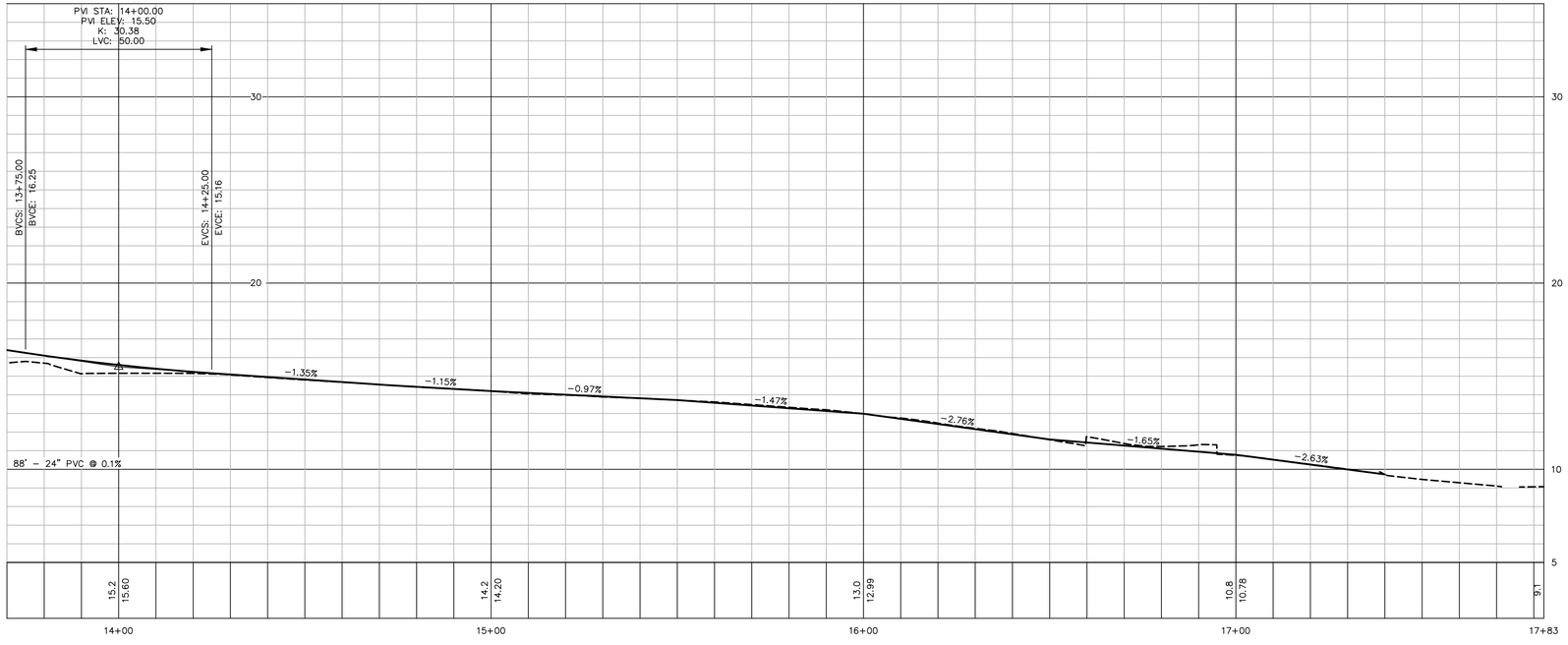
TDR PROPOSED TIPDOWN RAMP W/RADIUS DETECTABLE WARNING PANEL

VGC PROPOSED VERTICAL GRANITE CURB
SGC PROPOSED SLOPED GRANITE CURB
CC PROPOSED CONCRETE CURB
SBB SLOPED BITUMINOUS BERM
SSL SINGLE SOLID LINE (WHITE)
DSL DOUBLE SOLID LINE (YELLOW)



PLAN

20 0 20 40
SCALE: 1 INCH = 20 FT.



PROFILE

20 0 20 40
4 0 4 8
HORIZ: 1 INCH = 20 FT.
VERT: 1 INCH = 4 FT.

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER
RICHARD R. LUNDBORN No. 10943 (LICENSED)

SCALE: HORZ.: VERT.:
DATUM: HORZ.: NAD83 VERT.: NGVD29
GRAPHIC SCALE 0

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ROADWAY PLAN & PROFILE

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

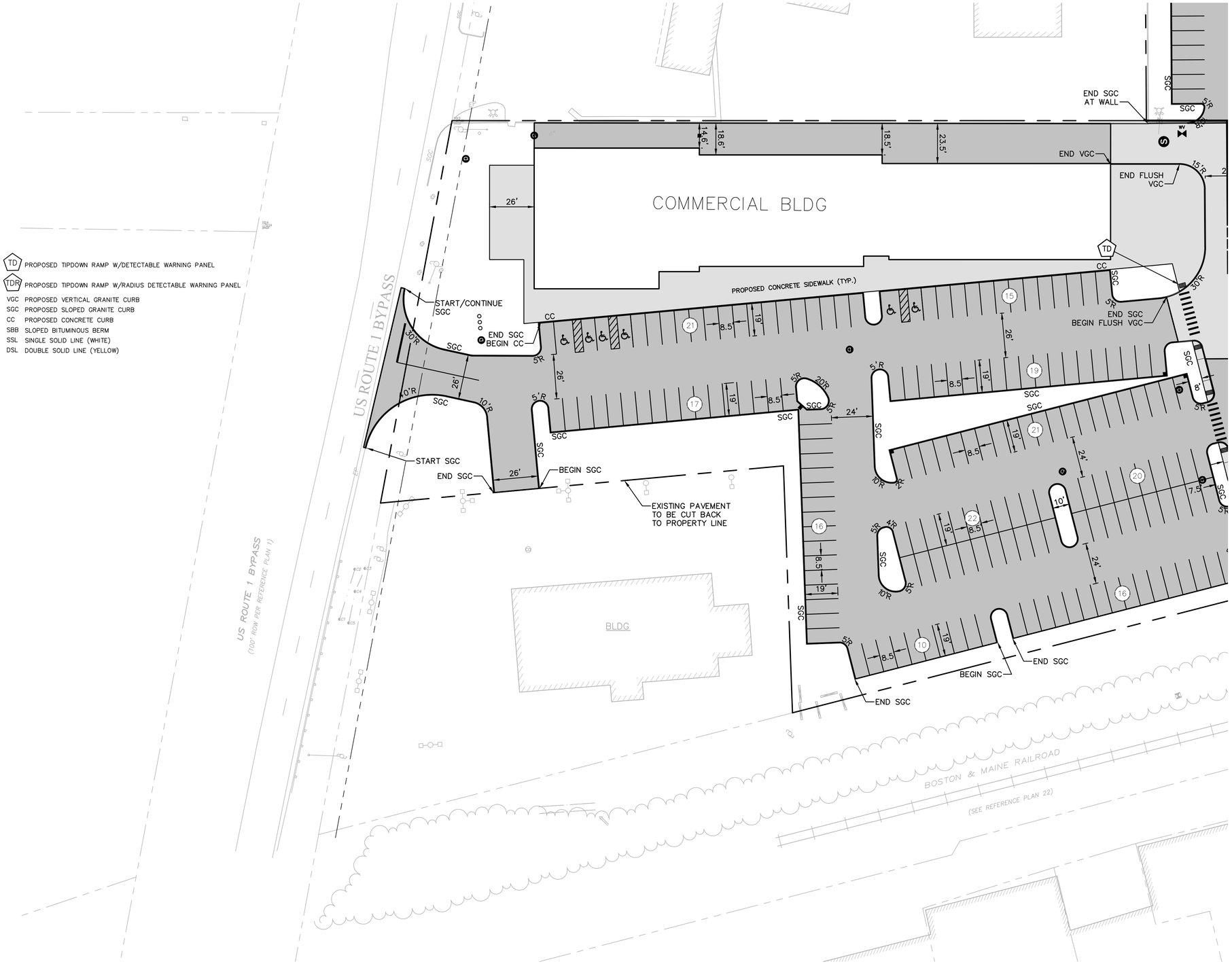
PROJ. No.: 20180317.A10
DATE: 03/18/2019

CS-104

TD PROPOSED TIPDOWN RAMP W/DETECTABLE WARNING PANEL

TDR PROPOSED TIPDOWN RAMP W/RADIUS DETECTABLE WARNING PANEL

VGC PROPOSED VERTICAL GRANITE CURB
SGC PROPOSED SLOPED GRANITE CURB
CC PROPOSED CONCRETE CURB
SBB SLOPED BITUMINOUS BERM
SSL SINGLE SOLID LINE (WHITE)
DSL DOUBLE SOLID LINE (YELLOW)



No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER
RICHARD R. LUNDBORN No. 10943 (LICENSED)

SCALE: HORZ.: 1"=30'
VERT.: 1"=30'
DATUM: HORZ.: NAD83
VERT.: NGVD29
30 15 0 30
GRAPHIC SCALE

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CATE STREET DEVELOPMENT, LLC

SITE PLAN
WEST END YARDS
PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CS-105

File Path: F:\P2018\0317A10\Civil\3Dwg\20180317A10_STP01.dwg Layout: CS-105 Plotted: Mon, March 18, 2019 - 5:02 PM User: ddugal
MS VIEW: LAYER STATE: Plotter: DWG TO PDF.PC3 CTB File: FO.STB

BLDG A

BLDG B

PROPOSED CONCRETE SIDEWALK

4"SSL (W)
4"DSL (Y)
4"SSL (W)
4"SSL (W)
4"DSL (Y)
4"SSL (W)

PROPOSED CROSS PAVEMENT SIDE PATH

TD PROPOSED TIPDOWN RAMP W/DETECTABLE WARNING PANEL

TDR PROPOSED TIPDOWN RAMP W/RADIUS DETECTABLE WARNING PANEL

VGC PROPOSED VERTICAL GRANITE CURB

SGC PROPOSED SLOPED GRANITE CURB

CC PROPOSED CONCRETE CURB

SBB SLOPED BITUMINOUS BERM

SSL SINGLE SOLID LINE (WHITE)

DSL DOUBLE SOLID LINE (YELLOW)

END VGC BEGIN CC

END CC BEGIN VGC

END SGC AT WALL

END FLUSH VGC

END SGC BEGIN CC

END CC BEGIN SGC

END SGC BEGIN FLUSH VGC

MOUNTABLE SBB CURB

PET ZONE

SNOW STORAGE

DRY WELL

BOSTON & MAINE RAILROAD

BLDG

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – RICHARD R. LUNDBORN No. 10943 (LICENSED)

SCALE: HORZ.: 1"=30' VERT.: 1"=30'
DATUM: HORZ.: NAD83 VERT.: NGVD29
GRAPHIC SCALE 30 15 0 30

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SITE PLAN
WEST END YARDS
PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CS-106

File Path: F:\P2018\0317A10\Civil3D\dwg\20180317A10_STP01.dwg Layout: CS-106 Plotted: Mon, March 18, 2019 - 5:02 PM User: ddugal
MS VIEW: LAYER STATE: Plotter: DWG TO PDF.PC3 CTB File: FO.STB

TD PROPOSED TIPDOWN RAMP W/DETECTABLE WARNING PANEL

TDR PROPOSED TIPDOWN RAMP W/RADIUS DETECTABLE WARNING PANEL

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SBB SLOPED BITUMINOUS BERM
SSL SINGLE SOLID LINE (WHITE)
DSL DOUBLE SOLID LINE (YELLOW)

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER
RICHARD R. LUNDBORN No. 10943 (LICENSE)

SCALE: HORZ.: 1"=30'
VERT.: 1"=30'
DATUM: HORZ.: NAD83
VERT.: NGVD29
GRAPHIC SCALE 30 0 15 20

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CATE STREET DEVELOPMENT, LLC

SITE PLAN
WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CS-107

File Path: F:\P20180317A10\Civil3\Dwg\20180317A10_STP01.dwg Layout: CS-107 Plotted: Mon. March 18, 2019 - 5:03 PM User: ddugal
Plotter: DWG TO PDF.PC3 CTB File: FO.STB
MS VIEW: LAYER STATE:

File Path: F:\P2018\0317\A10\Civil3\Dwg\20180317A10_STP01.dwg Layout: CT-101 Plotted: Mon, March 18, 2019 - 5:03 PM User: ddugal
MS VIEW: | LAYER STATE: | Plotter: DWG TO PDF.PC3 CTB File: FO.STB

CT-101

PROJ. No: 20180317A10
DATE: 03/18/2019

CATE STREET DEVELOPMENT, LLC

SU-40 BOX TRUCK
TURNING MOVEMENTS
WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

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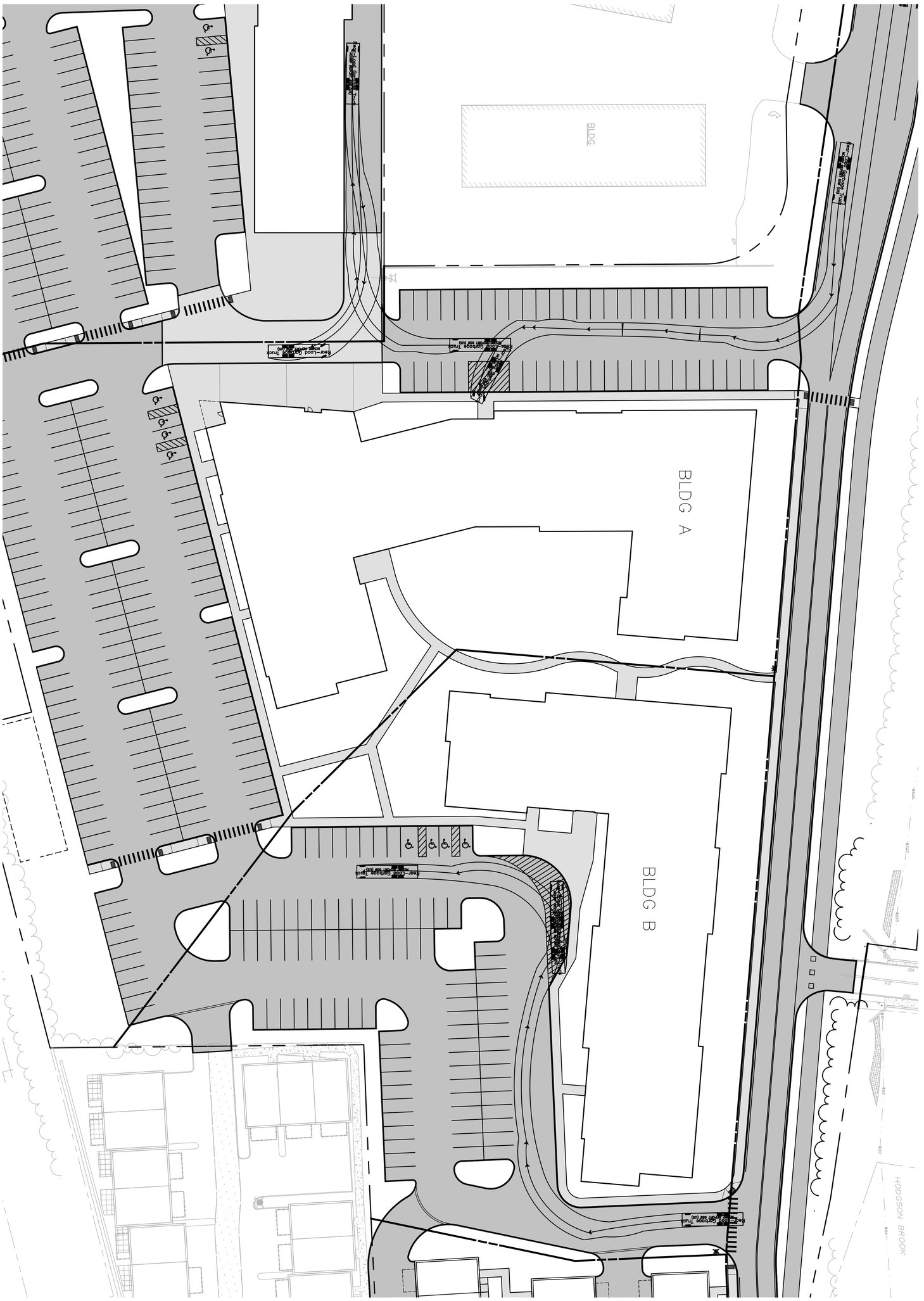
SCALE:
HORZ.: 1"=30'
VERT.: 1"=30'
DATUM:
HORZ.: NAD83
VERT.: NGVD29
30 15 0 30
GRAPHIC SCALE

STATE OF NEW HAMPSHIRE
RICHARD R. LUNDBORN
No. 10943
LICENSED
PROFESSIONAL ENGINEER

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

File Path: F:\P2018\0317\A10\Civil3\Dwg\20180317A10_STP01.dwg Layout: CT-102 Plotted: Mon, March 18, 2019 - 5:03 PM User: ddugal
MS VIEW: | LAYER STATE: | Plotter: DWG TO PDF.PC3 CTB File: FO.STB



CT-102

PROJ. No: 20180317A10
DATE: 03/18/2019

CATE STREET DEVELOPMENT, LLC

GARBAGE TRUCK
TURNING MOVEMENTS
WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

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SCALE:
HORZ.: 1"=30'
VERT.: 1"=30'
DATUM:
HORZ.: NAD83
VERT.: NGVD29
30 15 0 30
GRAPHIC SCALE

RICHARD R. LUNDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

File Path: F:\P2018\0317\A10\Civil3\Dwg\20180317A10_STP01.dwg Layout: CT-103 Plotted: Mon, March 18, 2019 - 5:03 PM User: ddugal
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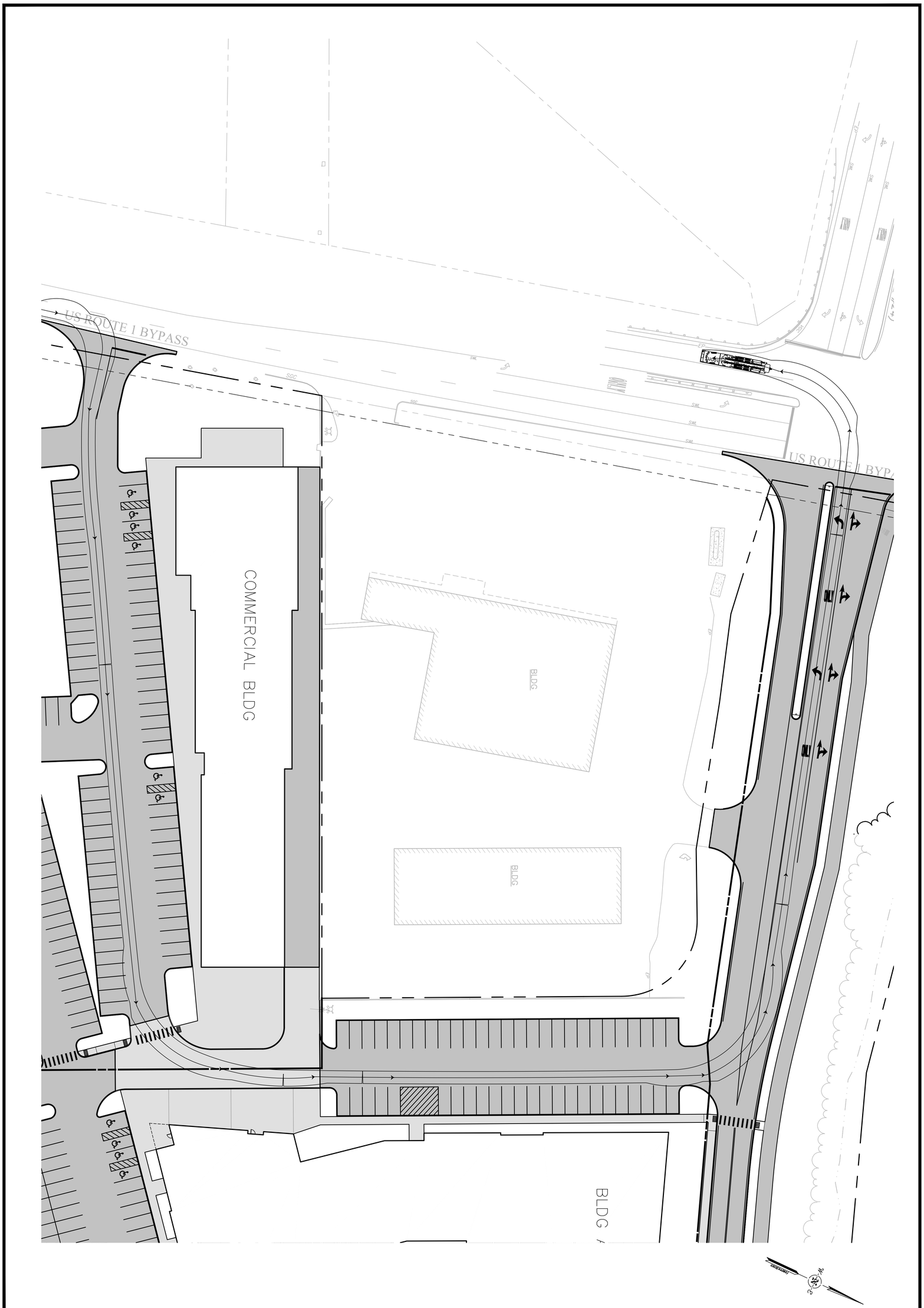

CT-103

PROJ. No.: 20180317A10
DATE: 03/18/2019

CATE STREET DEVELOPMENT, LLC

100' AERIAL LADDER TRUCK
TURNING MOVEMENTS
WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

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SCALE:
HORZ.: 1"=30'
VERT.: 1"=30'
DATUM:
HORZ.: NAD83
VERT.: NGVD29
30 15 0 30
GRAPHIC SCALE

STATE OF NEW HAMPSHIRE
RICHARD R. LUNDBORN
No. 10943
LICENSED
PROFESSIONAL ENGINEER

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

File Path: F:\P2018\0317\A10\Civil3\Dwg\20180317A10_STP01.dwg Layout: CT-104 Plotted: Mon, March 18, 2019 - 5:03 PM User: ddugal
MS VIEW: | LAYER STATE: | Plotter: DWG TO PDF.PC3 CTB File: FO.STB

CT-104

PROJ. No: 20180317A10
DATE: 03/18/2019

CATE STREET DEVELOPMENT, LLC

100' AERIAL LADDER TRUCK
TURNING MOVEMENTS
WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

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SCALE:
HORZ.: 1"=30'
VERT.: 1"=30'
DATUM:
HORZ.: NAD83
VERT.: NGVD29
30 15 0 30
GRAPHIC SCALE

STATE OF NEW HAMPSHIRE
RICHARD R. LUNDBORN
No. 10943
LICENSED
PROFESSIONAL ENGINEER

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

CT-105

PROJ. No.: 20180317A10
DATE: 03/18/2019

CATE STREET DEVELOPMENT, LLC

100' AERIAL LADDER TRUCK
TURNING MOVEMENTS
WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

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SCALE:
HORZ.: 1"=20'
VERT.: 1"=20'
DATUM:
HORZ.: NAD83
VERT.: NGVD29
20 10 0 20
GRAPHIC SCALE

STATE OF NEW HAMPSHIRE
RICHARD R. LUNDBORN No. 10943 LICENSED
PROFESSIONAL ENGINEER

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STRUCTURE 1–17	
STRUCTURE	STRUCTURE DETAILS
1	PROPOSED 4' DIA. DMH STA. 2+19.82, L 68.43' RIM = 22.61 (2) 24" HDPE INV IN = 16.51 (SEDIMENT TRAP) 24" HDPE INV OUT = 16.41 CONSTRUCT 9 LF x 24" HDPE S=0.005
2	PROPOSED 4' DIA. DMH STA. 2+27.69, 0.00' RIM = 23.35 (3) 12" HDPE INV IN = 17.85 (4) 18" HDPE INV IN = 17.35 (E1213) 12" HDPE INV IN = 17.40 (1) 24" HDPE INV OUT = 16.85 CONSTRUCT 65 LF x 24" HDPE S=0.005
3	PROPOSED 4' DIA. CB STA. 2+03.28, R 18.92' RIM = 23.32 (2) 12" HDPE INV OUT = 19.32 CONSTRUCT 27 LF x 12" HDPE S=0.048
4	PROPOSED 4' DIA. DMH STA. 2+63.79, 0.00' RIM = 23.30 (5) 12" HDPE INV IN = 18.32 (6) 12" HDPE INV IN = 18.91 (7) 18" HDPE INV IN = 17.92 (2) 18" HDPE INV OUT = 17.82 CONSTRUCT 33 LF x 18" HDPE S=0.013
5	PROPOSED 4' DIA. CB STA. 2+63.79, L 25.41' RIM = 22.58 (4) 12" HDPE INV OUT = 18.58 CONSTRUCT 22 LF x 12" HDPE S=0.010
6	PROPOSED 4' DIA. CB STA. 2+81.00, R 18.89' RIM = 22.69 (4) 12" HDPE INV OUT = 19.19 CONSTRUCT 22 LF x 12" HDPE S=0.011
7	PROPOSED 4' DIA. DMH STA. 3+23.25, L 0.06' RIM = 24.17 (9) 18" HDPE INV IN = 18.70 (8) 12" HDPE INV IN = 19.10 (4) 18" HDPE INV OUT = 18.60 CONSTRUCT 56 LF x 18" HDPE S=0.012
8	PROPOSED 4' DIA. CB STA. 3+73.07, R 49.63' RIM = 23.40 (7) 12" HDPE INV OUT = 19.90 CONSTRUCT 67 LF x 12" HDPE S=0.011
9	PROPOSED 4' DIA. DMH STA. 4+54.25, 0.00' RIM = 24.21 (10) 12" HDPE INV IN = 20.30 (11) 12" HDPE INV IN = 20.30 (14) 12" HDPE INV IN = 20.30 (7) 18" HDPE INV OUT = 20.20 CONSTRUCT 128 LF x 18" HDPE S=0.011
10	PROPOSED 4' DIA. CB STA. 4+54.25, R 11.02' RIM = 23.99 (9) 12" HDPE INV OUT = 20.99 CONSTRUCT 8 LF x 12" HDPE S=0.063
11	PROPOSED 4' DIA. CB STA. 4+54.29, L 11.30' RIM = 23.99 (9) 12" HDPE INV OUT = 20.99 CONSTRUCT 8 LF x 12" HDPE S=0.061
14	PROPOSED 4' DIA. DMH STA. 6+20.79, 0.00' RIM = 25.23 (15) 12" HDPE INV IN = 22.33 (9) 12" HDPE INV OUT = 22.23 CONSTRUCT 163 LF x 12" HDPE S=0.012
15	PROPOSED 4' DIA. DMH STA. 6+07.87, R 125.49' RIM = 27.35 (17) 12" HDPE INV IN = 22.71 (16) 12" HDPE INV IN = 22.54 (14) 12" HDPE INV OUT = 22.96 CONSTRUCT 123 LF x 12" HDPE S=0.005
16	PROPOSED 4' DIA. CB STA. ???, ??? ???' RIM = 27.00 (15) 12" HDPE INV OUT = 22.61 CONSTRUCT 136 LF x 12" HDPE S=0.001
17	PROPOSED 4' DIA. CB STA. ???, ??? ???' RIM = 26.00 (15) 12" HDPE INV OUT = 22.98 CONSTRUCT 68 LF x 12" HDPE S=0.004

STRUCTURE 22–47 & 60–64	
STRUCTURE	STRUCTURE DETAILS
22	PROPOSED 4' DIA. DMH RIM = 15.08 (23) 15" HDPE INV IN = 10.72 (E???) 18" HDPE INV OUT = 10.47 CONST. 119 LF x 18" HDPE S=0.0064
23	PROPOSED 4' DIA. DMH RIM = 16.87 (24) 12" HDPE INV IN = 11.41 (25) 15" HDPE INV IN = 11.26 (37) 12" HDPE INV IN = 11.41 (22) 15" HDPE INV OUT = 11.16 CONST. 68 LF x 15" HDPE S=0.0062
24	PROPOSED 4' DIA. CB RIM = 16.47 (23) 12" HDPE INV OUT = 12.08 CONST. 10 LF x 12" HDPE S=0.0500
25	PROPOSED 4' DIA. DMH RIM = 19.20 (26) 12" HDPE INV IN = 11.99 (28) 15" HDPE INV IN = 11.84 (27) 12" HDPE INV IN = 11.99 (23) 15" HDPE INV OUT = 11.74 CONST. 74 LF x 15" HDPE S=0.0062
26	PROPOSED 4' DIA. CB RIM = 18.97 (25) 12" HDPE INV OUT = 12.34 CONST. 8 LF x 12" HDPE S=0.0318
27	PROPOSED OVERFLOW STRUCTURE RIM = 16.60 (25) 12" HDPE INV OUT = 12.10 CONST. 23 LF x 12" HDPE S=0.0042
28	PROPOSED 4' DIA. DMH RIM = 21.74 (29) 12" HDPE INV IN = 12.72 (30) 12" HDPE INV IN = 12.72 (41) 12" HDPE INV IN = 12.72 (25) 15" HDPE INV OUT = 12.47 CONST. 97 LF x 15" HDPE S=0.0062
29	PROPOSED OVERFLOW STRUCTURE RIM = 18.29 (28) 12" HDPE INV OUT = 13.90 CONST. 24 LF x 12" HDPE S=0.0434
30	PROPOSED 4' DIA. DMH RIM = 22.16 (31) 12" HDPE INV IN = 17.24 (BASIN 4) 12" HDPE INV IN = 14.56 (28) 12" HDPE INV OUT = 14.46 CONST. 70 LF x 12" HDPE S=0.0238
31	PROPOSED 4' DIA. DMH RIM = 23.43 (BASIN #3) 12" HDPE INV IN = 17.64 (HDPE Pipe) 12" HDPE INV OUT = 17.54 CONST. 57 LF x 12" HDPE S=0.0050
32	PROPOSED 4' DIA. DMH RIM = 23.38 (34) 12" HDPE INV IN = 17.82 (33) 12" HDPE INV IN = 17.82 (BASIN #3) 12" HDPE INV OUT = 17.72 CONST. 7 LF x 12" HDPE S=0.0050
33	PROPOSED 4' DIA. CB RIM = 22.06 (32) 12" HDPE INV OUT = 18.06 CONST. 44 LF x 12" HDPE S=0.0050
34	PROPOSED 4' DIA. CB RIM = 22.56 (32) 12" HDPE INV OUT = 18.18 CONST. 4 LF x 12" HDPE S=0.0500
35	PROPOSED 4' DIA. DMH RIM = 19.85 (36) 12" HDPE INV IN = 15.14 (39) 12" HDPE INV IN = 15.14 (BASIN 4) 18" HDPE INV OUT = 14.64 CONST. 9 LF x 18" HDPE S=0.0050
36	PROPOSED 4' DIA. CB RIM = 20.03 (35) 12" HDPE INV OUT = 15.69 CONST. 8 LF x 12" HDPE S=0.0500

STRUCTURE 22–47 & 60–64	
STRUCTURE	STRUCTURE DETAILS
37	PROPOSED 4' DIA. CB RIM = 18.42 (23) 12" HDPE INV OUT = 13.55 CONST. 39 LF x 12" HDPE S=0.0500
39	PROPOSED 4' DIA. CB RIM = 18.56 (35) 12" HDPE INV OUT = 15.56 CONST. 82 LF x 12" HDPE S=0.0050
41	PROPOSED 4' DIA. DMH RIM = 22.91 (42) 12" HDPE INV IN = 17.59 (28) 12" HDPE INV OUT = 17.49 CONST. 94 LF x 12" HDPE S=0.0491
42	PROPOSED 4' DIA. DMH RIM = 24.90 (43) 12" HDPE INV IN = 18.37 (65) 12" HDPE INV IN = 18.37 (44) 12" HDPE INV IN = 18.37 (41) 12" HDPE INV OUT = 18.27 CONST. 133 LF x 12" HDPE S=0.0050
43	PROPOSED 4' DIA. CB RIM = 24.91 (42) 12" HDPE INV OUT = 19.30 CONST. 15 LF x 12" HDPE S=0.0500
44	PROPOSED 4' DIA. DMH RIM = 25.71 (45) 12" HDPE INV IN = 19.12 (42) 12" HDPE INV OUT = 19.02 CONST. 126 LF x 12" HDPE S=0.0050
45	PROPOSED 4' DIA. DMH RIM = 26.36 (BASIN 2) 12" HDPE INV IN = 19.42 (44) 12" HDPE INV OUT = 19.32 CONST. 36 LF x 12" HDPE S=0.0050
46	PROPOSED 4' DIA. DMH RIM = 25.34 (47) 12" HDPE INV IN = 19.57 (BLDG B RD) 6" HDPE INV IN = 20.07 (BASIN 2) 12" HDPE INV OUT = 19.47 CONST. 4 LF x 12" HDPE S=0.0050
47	PROPOSED 4' DIA. CB RIM = 23.88 (46) 12" HDPE INV OUT = 19.88 CONST. 58 LF x 12" HDPE S=0.0050
61	PROPOSED 4' DIA. DMH RIM = 25.83 (62) 12" HDPE INV IN = 19.68 (BASIN 2) 12" HDPE INV OUT = 19.58 CONST. 4 LF x 12" HDPE S=0.0260
62	PROPOSED 4' DIA. DMH RIM = 24.60 (63) 12" HDPE INV IN = 20.49 (64) 12" HDPE INV IN = 21.02 (61) 12" HDPE INV OUT = 20.39 CONST. 139 LF x 12" HDPE S=0.0050
63	PROPOSED 4' DIA. CB RIM = 23.74 (62) 12" HDPE INV OUT = 20.74 CONST. 47 LF x 12" HDPE S=0.0050
64	PROPOSED 4' DIA. CB RIM = 25.36 (62) 12" HDPE INV OUT = 21.36 CONST. 65 LF x 12" HDPE S=0.0050
65	PROPOSED 4' DIA. CB RIM = 24.91 (42) 12" HDPE INV OUT = 19.30 CONST. 15 LF x 12" HDPE S=0.0500

STRUCTURE 48–60 & 65–66	
STRUCTURE	STRUCTURE DETAILS
E1071	PROPOSED 4' DIA. DMH RIM = 24.58 (48B) 12" HDPE INV IN = 17.60
48	PROPOSED 4' DIA. DMH RIM = 23.89 (49) 12" HDPE INV IN = 18.28 (SDEIMENT TRAP) 12" HDPE INV OUT = 18.18 CONST. 4 LF x 12" HDPE S=0.0050
49	PROPOSED 4' DIA. DMH RIM = 24.57 (RETAIL RD) 6" HDPE INV IN = 19.85 (51) 12" HDPE INV IN = 19.45 (52) 12" HDPE INV IN = 19.45 (53) 12" HDPE INV IN = 19.45 (48) 12" HDPE INV OUT = 19.35 CONST. 211 LF x 12" HDPE S=0.0050
51	PROPOSED 4' DIA. CB RIM = 23.43 (49) 12" HDPE INV OUT = 19.67 CONST. 41 LF x 12" HDPE S=0.0050
52	PROPOSED 4' DIA. CB RIM = 24.03 (49) 12" HDPE INV OUT = 20.03 CONST. 61 LF x 12" HDPE S=0.0090
53	PROPOSED 4' DIA. DMH RIM = 25.23 (BASIN 1) 12" HDPE INV IN = 20.27 (49) 12" HDPE INV OUT = 20.17 CONST. 140 LF x 12" HDPE S=0.0050
54	PROPOSED 4' DIA. DMH RIM = 24.76 (58) 12" HDPE INV IN = 20.43 (55) 12" HDPE INV IN = 20.43 (BASIN 1) 12" HDPE INV OUT = 20.33 CONST. 5 LF x 12" HDPE S=0.0050
55	PROPOSED 4' DIA. DMH RIM = 25.19 (56) 12" HDPE INV IN = 20.80 (57) 12" HDPE INV IN = 20.80 (54) 12" HDPE INV OUT = 20.70 CONST. 51 LF x 12" HDPE S=0.0050
56	PROPOSED 4' DIA. CB RIM = 24.22 (55) 12" HDPE INV OUT = 20.84 CONST. 5 LF x 12" HDPE S=0.0050
57	PROPOSED 4' DIA. CB RIM = 24.28 (55) 12" HDPE INV OUT = 20.86 CONST. 9 LF x 12" HDPE S=0.0050
58	PROPOSED 4' DIA. DMH RIM = 25.48 (60) 12" HDPE INV IN = 20.85 (59) 12" HDPE INV IN = 20.85 (54) 12" HDPE INV OUT = 20.75 CONST. 60 LF x 12" HDPE S=0.0050
59	PROPOSED 4' DIA. CB RIM = 25.17 (58) 12" HDPE INV OUT = 21.01 CONST. 28 LF x 12" HDPE S=0.0050
60	PROPOSED 4' DIA. CB RIM = 24.69 (BLG A RD) 6" HDPE INV IN = 20.51 (58) 12" HDPE INV OUT = 21.01 CONST. 29 LF x 12" HDPE S=0.0050
65	PROPOSED 4' DIA. DMH RIM = 25.43
66	Storm Manholes RIM = 25.36

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – RICHARD R. LUNDBORN No. 10945 LICENSED

SCALE: HORZ.: VERT.: DATUM: HORZ.: VERT.: 0 GRAPHIC SCALE

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DRAINAGE STRUCTURE TABLE

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CG-001

File Path: F:\P2018\0317\A10\Civil3\Dwg\20180317A10_GRA01.dwg Layout: CG-100 Plotted: Mon, March 18, 2019 - 5:03 PM User: ddugal
MS VIEW: | LAYER STATE: | Plotter: DWG TO PDF.PC3 CTB File: FO.STB

CG-100

PROJ. No.: 20180317A10
DATE: 03/18/2019

CATE STREET DEVELOPMENT, LLC

GRADING, DRAINAGE & EROSION CONTROL PLAN
WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

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SCALE:
HORZ.: 1"=60'
VERT.: 1"=60'
DATUM:
HORZ.: NAD83
VERT.: NGVD29
60 30 0 60
GRAPHIC SCALE

STATE OF NEW HAMPSHIRE – RICHARD R. LUNDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

PLAN

SCALE: 1 INCH = 20 FT.

PROFILE

HORIZ: 1 INCH = 20 FT.
VERT: 1 INCH = 4 FT.

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – RICHARD R. LUNDBORN No. 10943 (LICENSED)

SCALE: HORZ.: VERT.:
DATUM: HORZ.: NAD83 VERT.: NGVD29
GRAPHIC SCALE 0

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GRADING, DRAINAGE & EROSION CONTROL PLAN
WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CG-101

File Path: F:\P2018\0317A10\Civil3Dwg\20180317A10_GRA01.dwg Layout: CG-101 Plotted: Mon, March 18, 2019 - 5:03 PM User: ddugal
MS VIEW: LAYER STATE: Plotter: DWG TO PDF.PC3 CTB File: FO.STB

SEE SHEET CG-101

SEE SHEET CG-103

SILT FENCE (TYP.)

JUTE MATTING (TYP.)

CONST. 163'
12" HDPE STORM PIPE
S=1.16%

CONST. 7'
" HDPE STORM PIPE
=6.26%

CONST. 122'
12" HDPE STORM PIPE
S=0.50%

CONST. 15'
12" HDPE STORM PIPE
S=5.00%

CONST. 15'
12" HDPE STORM PIPE
S=5.00%

CB PROTECTION (TYP.)

CONST. 15'
12" HDPE STORM PIPE
S=5.00%

SCALE: 1 INCH = 20 FT.

STNH 14
STA. 6+20.79
OFFSET 0.00
T.F. = 25.23
12" HDPE INV (IN)=22.33
12" HDPE INV (OUT)=22.23

STNH 42
STA. 9+39.87
OFFSET 0.00
T.F. = 28.40
12" HDPE INV (IN)=18.37
12" HDPE INV (IN)=18.37
12" HDPE INV (IN)=18.37
12" HDPE INV (OUT)=18.27

0.50%

-1.50%

163' – 12" HDPE @ 1.2%

221' – 24" PVC @ 0.1%

221' – 24" PVC @ 0.1%

202' – 24" PVC @ 0.1%

133' – 12" HDPE @ 0.5%

23.8	24.1	24.3	28.4	27.2	22.2
24.60	25.12	25.74	26.69	25.50	24.00

5+00 6+00 7+00 8+00 9+00 10+00

HORIZ: 1 INCH = 20 FT.
VERT: 1 INCH = 4 FT.

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER
RICHARD R. LUNDBORN No. 10943 (LICENSED)

SCALE: HORZ.: 1" = 20'
VERT.:
DATUM: HORZ.: NAD83
VERT.: NGVD29

GRAPHIC SCALE 0 20 40

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GRADING, DRAINAGE & EROSION CONTROL PLAN
WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

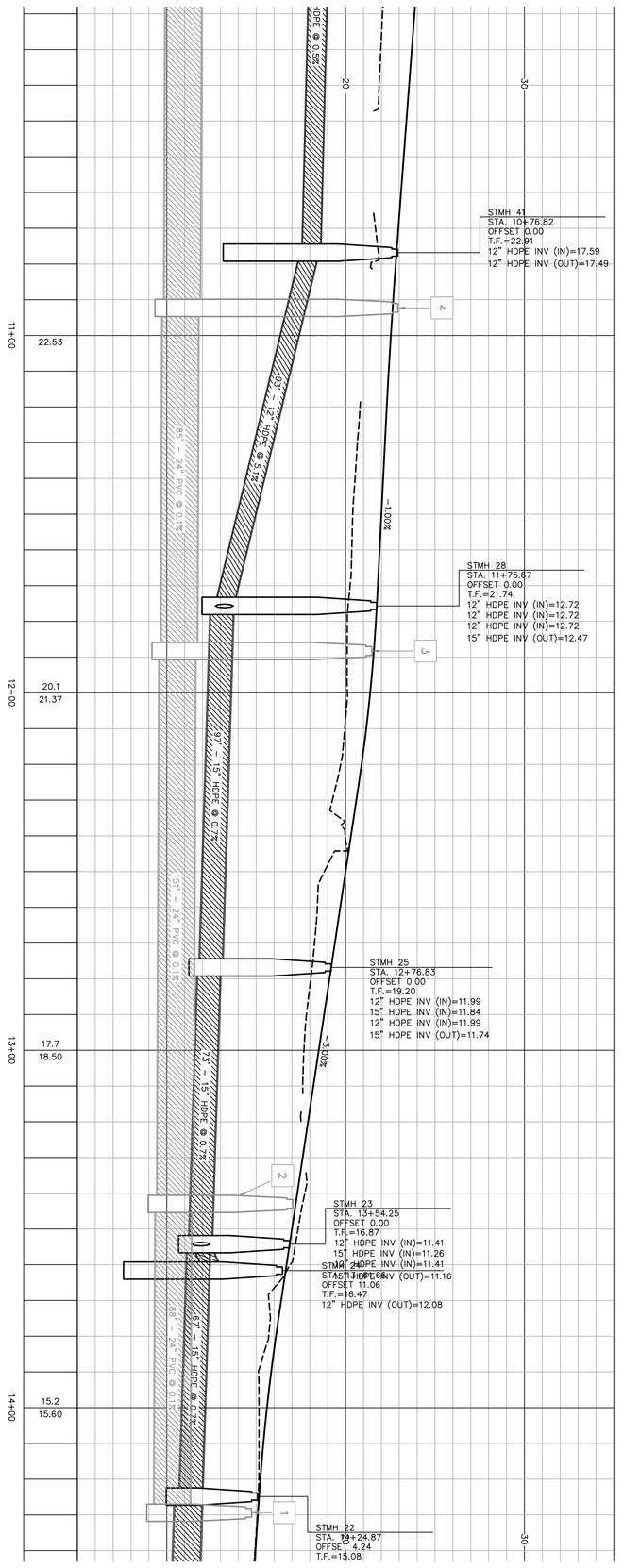
PROJ. No.: 20180317.A10
DATE: 03/18/2019

CG-102

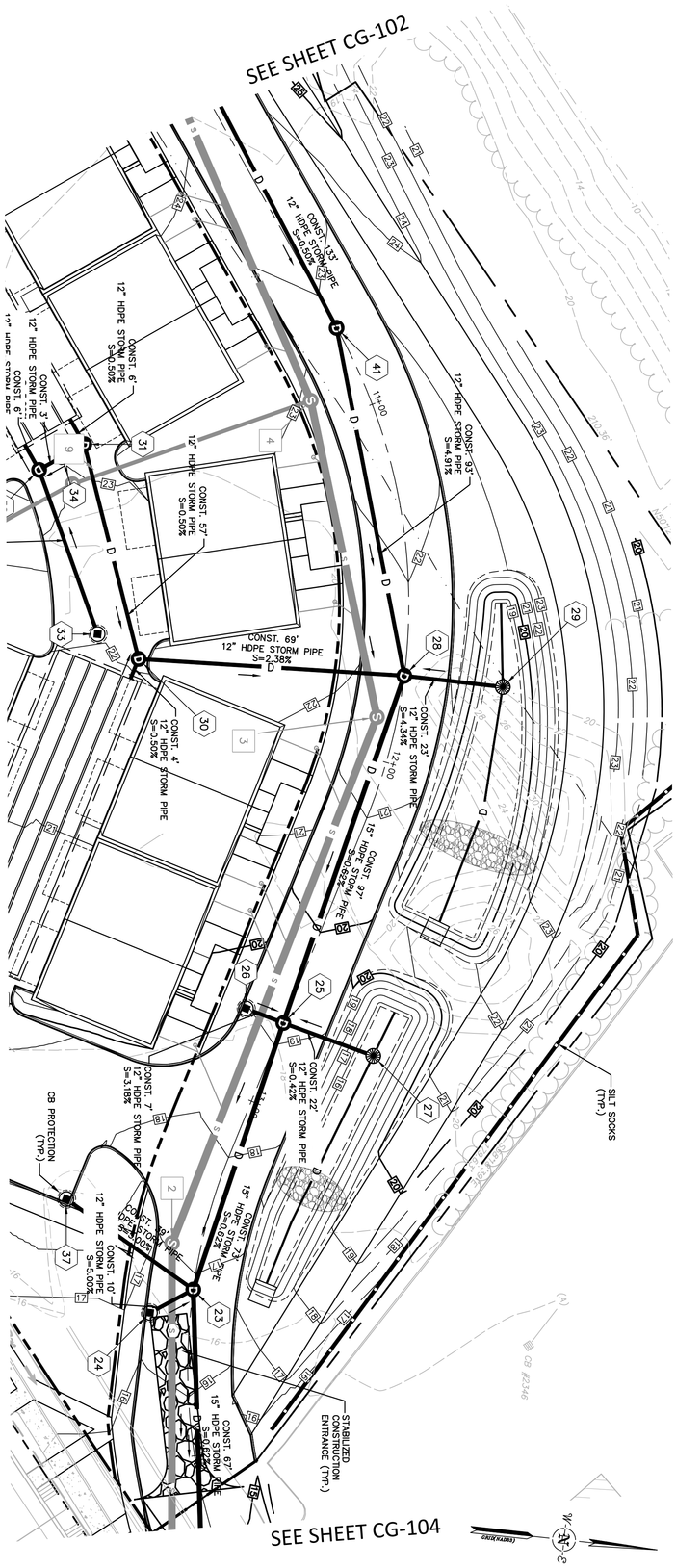
File Path: F:\P2018\03317A10\Civil\3Dwg\20180317A10_GRA01.dwg Layout: CG-102 Plotted: Mon, March 18, 2019 - 5:03 PM User: ddugal
Plotter: DWG TO PDF.PC3 CTB File: FO.STB
MS VIEW: LAYER STATE:

File Path: F:\P2018\0317\A10\Civil3\Dwg\20180317A10_GRA01.dwg Layout: CG-103 Plotted: Mon, March 18, 2019 - 5:03 PM User: ddugal
MS VIEW: | LAYER STATE: | Plotter: DWG TO PDF.PC3 CTB File: FO.STB

SEE SHEET CG-102



SEE SHEET CG-104



SEE SHEET CG-102

SEE SHEET CG-104

HORIZ.: 1 INCH = 20 FT.
VERT.: 1 INCH = 4 FT.

SCALE: 1 INCH = 20 FT.

CG-103

PROJ. No.: 20180317A10
DATE: 03/18/2019

CATE STREET DEVELOPMENT, LLC

GRADING, DRAINAGE & EROSION CONTROL PLAN
WEST END YARDS

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SCALE:
HORZ.:
VERT.:
DATUM:
HORZ.: NAD83
VERT.: NGVD29
0
GRAPHIC SCALE

STATE OF NEW HAMPSHIRE
RICHARD R. LUNDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

File Path: F:\P2018\0317\A10\Civil3\Dwg\20180317A10_GRA01.dwg Layout: CG-104 Plotted: Mon, March 18, 2019 - 5:04 PM User: ddugal
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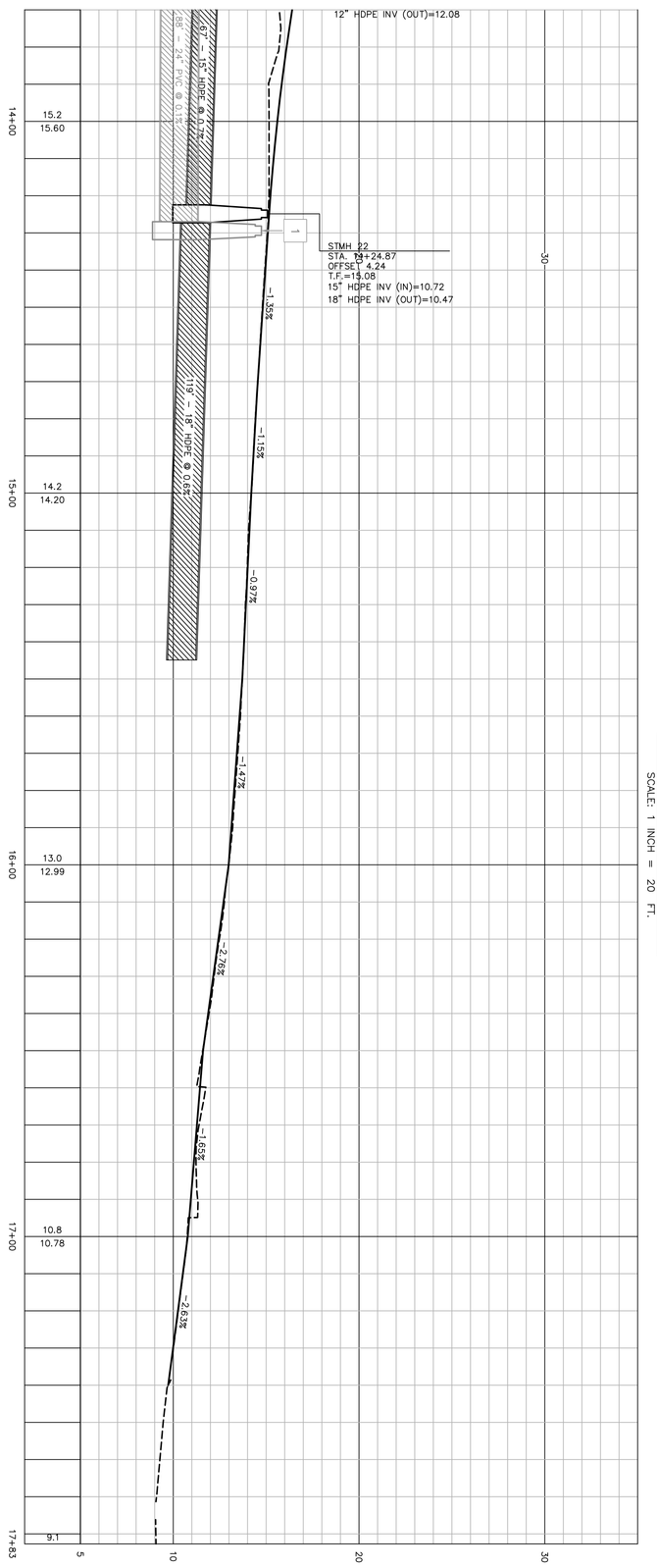
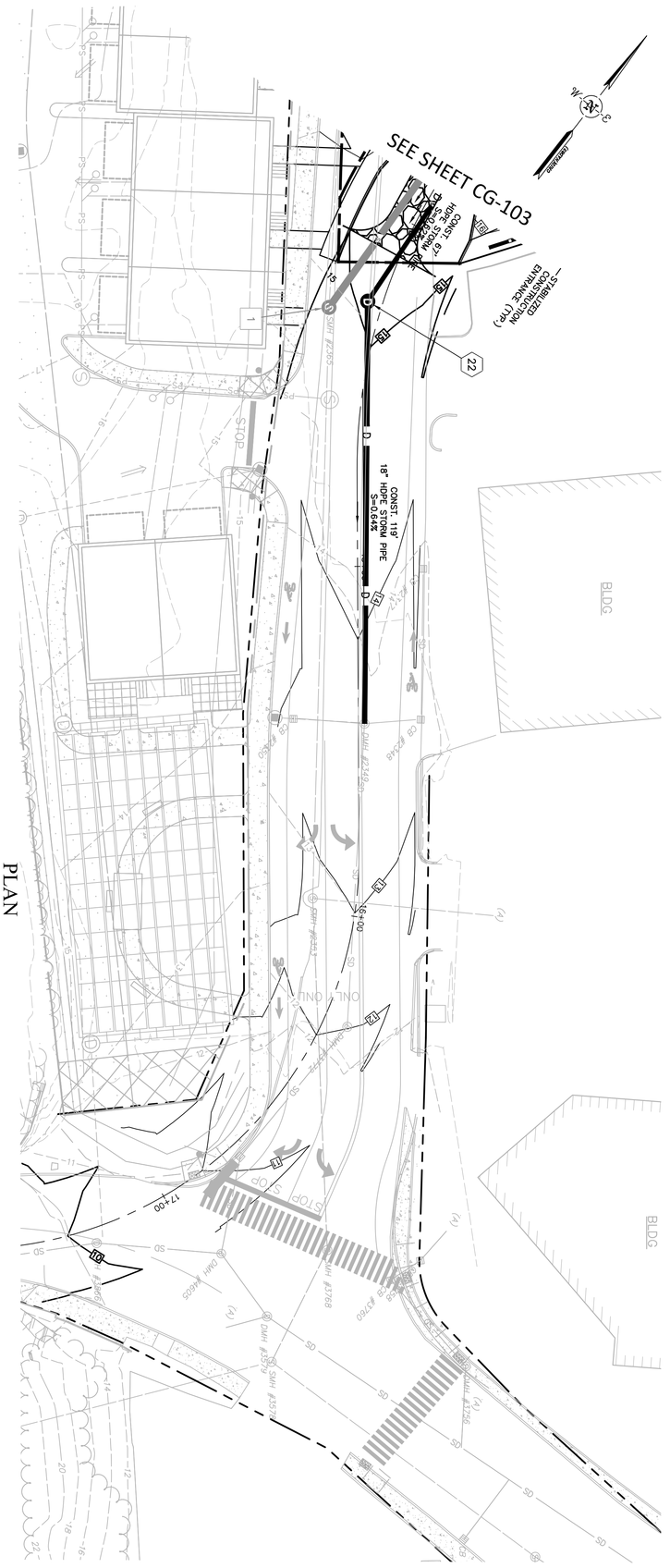


PROFILE

HORIZ: 1 INCH = 20 FT.
VERT: 1 INCH = 4 FT.



PLAN

SCALE: 1 INCH = 20 FT.

CG-104

PROJ. No.: 20180317A10
DATE: 03/18/2019

CATE STREET DEVELOPMENT, LLC

GRADING, DRAINAGE & EROSION CONTROL PLAN
WEST END YARDS

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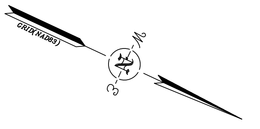
SCALE:
HORZ.:
VERT.:
DATUM:
HORZ.: NAD83
VERT.: NGVD29
0
GRAPHIC SCALE

STATE OF NEW HAMPSHIRE
RICHARD R. LUNDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

SEE SHEET CG-106



CG-105

PROJ. No: 20180317A10
DATE: 03/18/2019

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GRADING, DRAINAGE & EROSION CONTROL PLAN
WEST END YARDS

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SCALE:
HORZ.: 1"=30'
VERT.: 1"=30'
DATUM:
HORZ.: NAD83
VERT.: NGVD29
30 15 0 30
GRAPHIC SCALE

STATE OF NEW HAMPSHIRE – RICHARD R. LUNDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

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MS VIEW: | LAYER STATE: | Plotter: DWG TO PDF.PC3 CTB File: FO.STB

SEE SHEET CG-105

SEE SHEET CG-107

CG-106

PROJ. No: 20180317A10
DATE: 03/18/2019

CATE STREET DEVELOPMENT, LLC

GRADING, DRAINAGE & EROSION CONTROL PLAN
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SCALE:
HORZ.: 1"=30'
VERT.: 1"=30'
DATUM:
HORZ.: NAD83
VERT.: NGVD29
30 15 0 30
GRAPHIC SCALE

STATE OF NEW HAMPSHIRE – RICHARD R. LUNDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

File Path: F:\P2018\0317\A10\Civil3\Dwg\20180317A10_GRA01.dwg Layout: CG-107 Plotted: Mon, March 18, 2019 - 5:04 PM User: ddugal
MS VIEW: | LAYER STATE: | Plotter: DWG TO PDF.PC3 CTB File: FO.STB

SEE SHEET CG-106

CG-107

PROJ. No: 20180317.A10
DATE: 03/18/2019

CATE STREET DEVELOPMENT, LLC

GRADING, DRAINAGE & EROSION CONTROL PLAN
WEST END YARDS

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SCALE:
HORZ.: 1"=30'
VERT.: 1"=30'
DATUM:
HORZ.: NAD83
VERT.: NGVD29
30 15 0 30
GRAPHIC SCALE

STATE OF NEW HAMPSHIRE – RICHARD R. LUNDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

SEWER SYSTEM	
STRUCTURE	STRUCTURE DETAILS
1	EXISTING 4' SEWER MANHOLE STA. 14+29.41, R 14.36' RIM = 14.75 (2) 24" PVC INV IN = 9.30
2	PROPOSED 4' DIA. SEWER MANHOLE STA. 13+43.00, R 7.97' RIM = 17.05 (3) 24" PVC INV IN = 9.47 (1) 24" PVC INV OUT = 9.37 CONSTRUCT 88 LF x 24" PVC S=0.0008
3	PROPOSED 4' DIA. SEWER MANHOLE STA. 11+88.31, R 5.50' RIM = 21.47 (4) 24" PVC INV IN = 9.69 (2) 24" PVC INV OUT = 9.59 CONSTRUCT 151 LF x 24" PVC S=0.0008
4	PROPOSED 4' DIA. SEWER MANHOLE STA. 10+92.29, R 15.25' RIM = 22.93 (5) 24" PVC INV IN = 9.86 (3) 24" PVC INV OUT = 9.76 CONSTRUCT 85 LF x 24" PVC S=0.0008
5	PROPOSED 4' DIA. SEWER MANHOLE STA. 8+86.25, R 5.50' RIM = 25.60 (6) 24" PVC INV IN = 10.12 (4) 24" PVC INV OUT = 10.02 CONSTRUCT 202 LF x 24" PVC S=0.0008
6	PROPOSED 4' DIA. SEWER MANHOLE STA. 6+61.25, R 5.51' RIM = 25.32 (7) 24" PVC INV IN = 10.40 (5) 24" PVC INV OUT = 10.30 CONSTRUCT 222 LF x 24" PVC S=0.0008
7	PROPOSED 4' DIA. SEWER MANHOLE STA. 4+36.61, R 6.37' RIM = 23.93 (8) 24" PVC INV IN = 10.68 (6) 24" PVC INV OUT = 10.58 CONSTRUCT 222 LF x 24" PVC S=0.0008
8	PROPOSED 4' DIA. SEWER MANHOLE STA. 4+04.95, R 298.23' RIM = 25.61 (7) 24" PVC INV OUT = 11.03 CONSTRUCT 290 LF x 24" PVC S=0.0012

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – RICHARD R. LUNDBORN No. 10943 (LICENSED)

SCALE: HORZ.: VERT.: DATUM: HORZ.: VERT.: 0 GRAPHIC SCALE

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SEWER STRUCTURE TABLE

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CU-001

File Path: F:\P2018\0317A10\Civil\3Dwg\20180317A10_GRA01.dwg Layout: SEWER TABLE Plotted: Mon, March 18, 2019 - 5:04 PM User: ddugal
MS VIEW: LAYER STATE: Plotter: DWG TO PDF.PC3 CTB File: FO.STB

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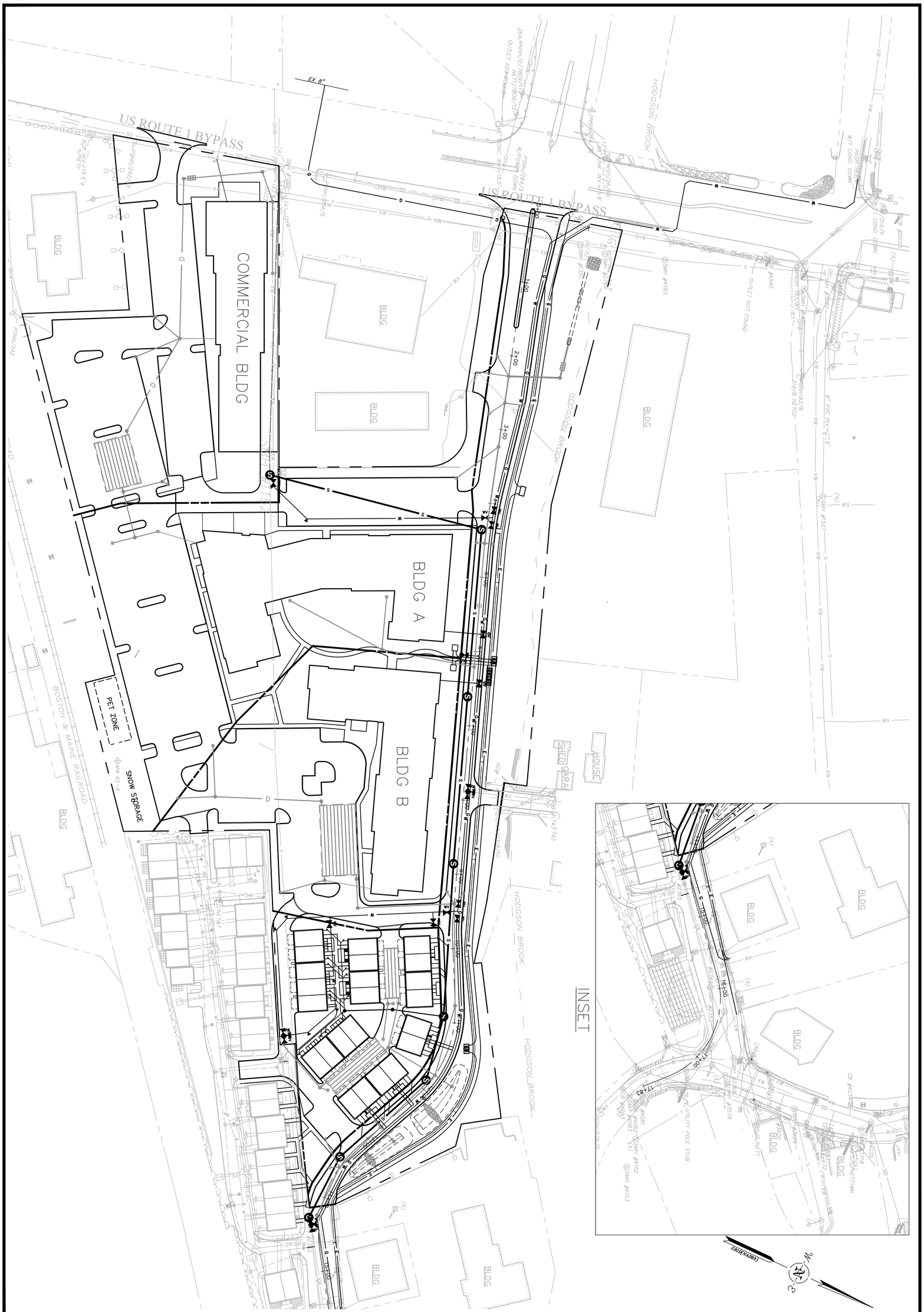

CU-100

PROJ. No: 20180317A10
DATE: 03/18/2019

CATE STREET DEVELOPMENT, LLC

OVERALL UTILITY PLAN

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

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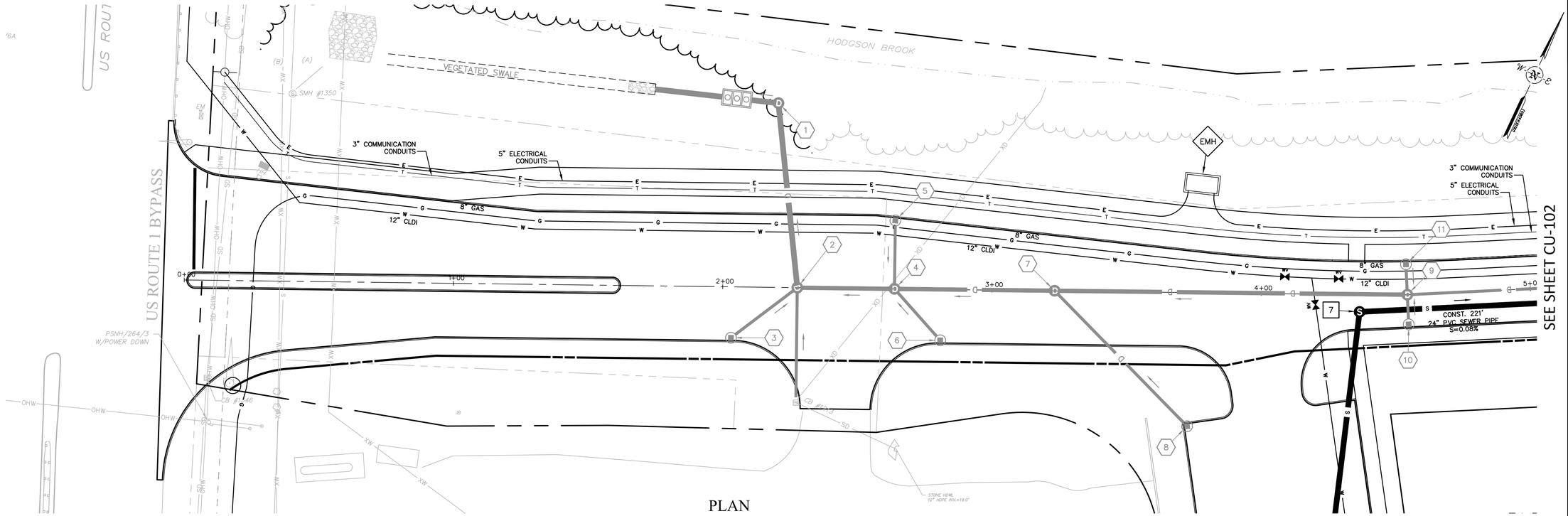
SCALE:
HORZ.: 1"=60'
VERT.: 1"=60'
DATUM:
HORZ.: NAD83
VERT.: NGVD29

60 30 0 60
GRAPHIC SCALE

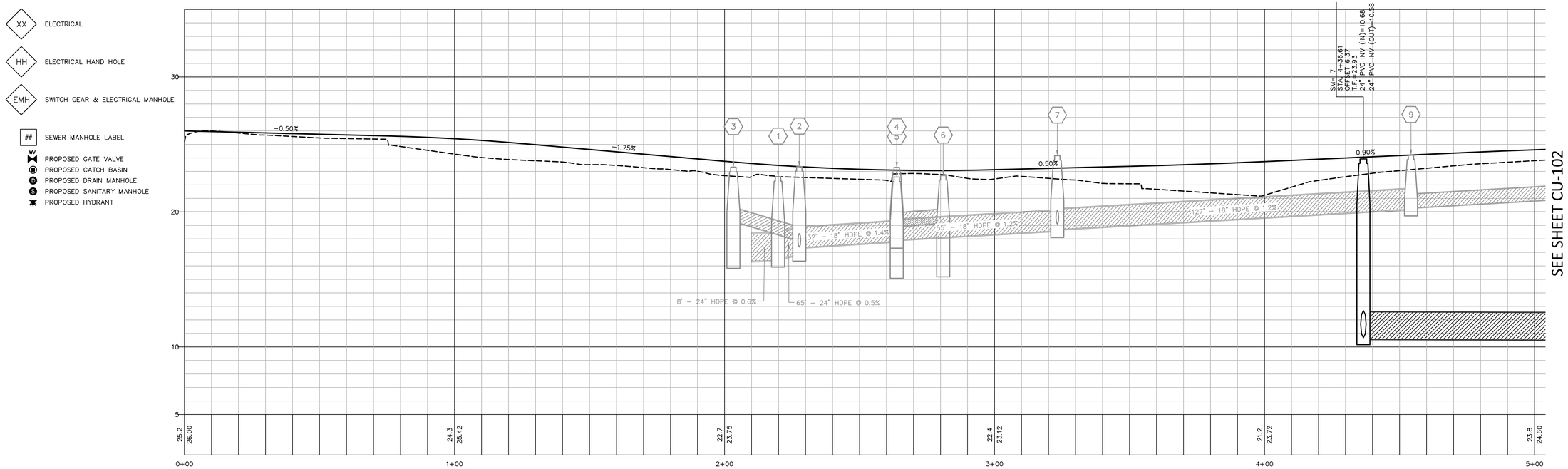
STATE OF NEW HAMPSHIRE – RICHARD R. LUNDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL



PLAN

SCALE: 1 INCH = 20 FT.



PROFILE

HORIZ: 1 INCH = 20 FT.
VERT: 1 INCH = 4 FT.

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – RICHARD R. LUNDBORN No. 10943 (LICENSED)

SCALE: HORZ.: VERT.:
DATUM: HORZ.: NAD83 VERT.: NGVD29
GRAPHIC SCALE 0

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CATE STREET DEVELOPMENT, LLC

UTILITY PLAN & PROFILE

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CU-101

File Path: F:\P2018\0317A10\Civil\3Dwg\20180317A10_UTL01.dwg Layout: CU-101 Plotted: Mon, March 18, 2019 - 5:04 PM User: ddugal
Plotter: DWG TO PDF.PC3 CTB File: FO.STB
MS VIEW: LAYER STATE:

SEE SHEET CU-101

SEE SHEET CU-103

COMMUNICATION CONDUITS

ELECTRICAL CONDUITS

EMH

HH

14

8" GAS

12" CLDI

5+00

6+00

7+00

8+00

9+00

3" COMMUNICATION CONDUITS

5" ELECTRICAL CONDUITS

65

42

43

5

6

HODGSON BROOK

J:\N&T\318\10

NO#

CONST. 221'
24" PVC SEWER PIPE
S=0.08%

CONST. 202'
24" PVC SEWER PIPE
S=0.08%

XX

1

25

23

29

SEWER MANHOLE LABEL

PROPOSED GATE VALVE

PROPOSED CATCH BASIN

PROPOSED DRAIN MANHOLE

PROPOSED SANITARY MANHOLE

PROPOSED HYDRANT

XX ELECTRICAL

HH ELECTRICAL HAND HOLE

EMH SWITCH GEAR & ELECTRICAL MANHOLE

PLAN

20 0 20 40

SCALE: 1 INCH = 20 FT.

SMH: 6
STA: 6+61.25
OFFSET: 5.51
T/F=25.32
24" PVC INV (IN)=10.40
24" PVC INV (OUT)=10.30

SMH: 5
STA: 9+86.25
OFFSET: 5.50
T/F=25.60
24" PVC INV (IN)=10.12
24" PVC INV (OUT)=10.02

0.50%

-1.50%

163' – 15" HDPE @ 1.2%

133' – 12" HDPE @ 0.5%

221' – 24" PVC @ 0.1%

221' – 24" PVC @ 0.1%

202' – 24" PVC @ 0.1%

30

20

23.8 24.60

24.1 25.12

24.3 25.74

28.4 26.69

27.2 25.50

22.2 24.00

5+00 6+00 7+00 8+00 9+00 10+00

20 0 20 40

4 0 4 8

HORIZ: 1 INCH = 20 FT.
VERT: 1 INCH = 4 FT.

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER
RICHARD R. LUNDBORN No. 10943 (LICENSED)

SCALE: HORZ.: VERT.:
DATUM: HORZ.: NAD83 VERT.: NGVD29
GRAPHIC SCALE 0

FUSS & O'NEILL
UPPER SQUARE BUSINESS CENTER
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KENNEBUNK, MAINE 04043
207.363.0669
www.fando.com

CATE STREET DEVELOPMENT, LLC

UTILITY PLAN & PROFILE

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CU-102

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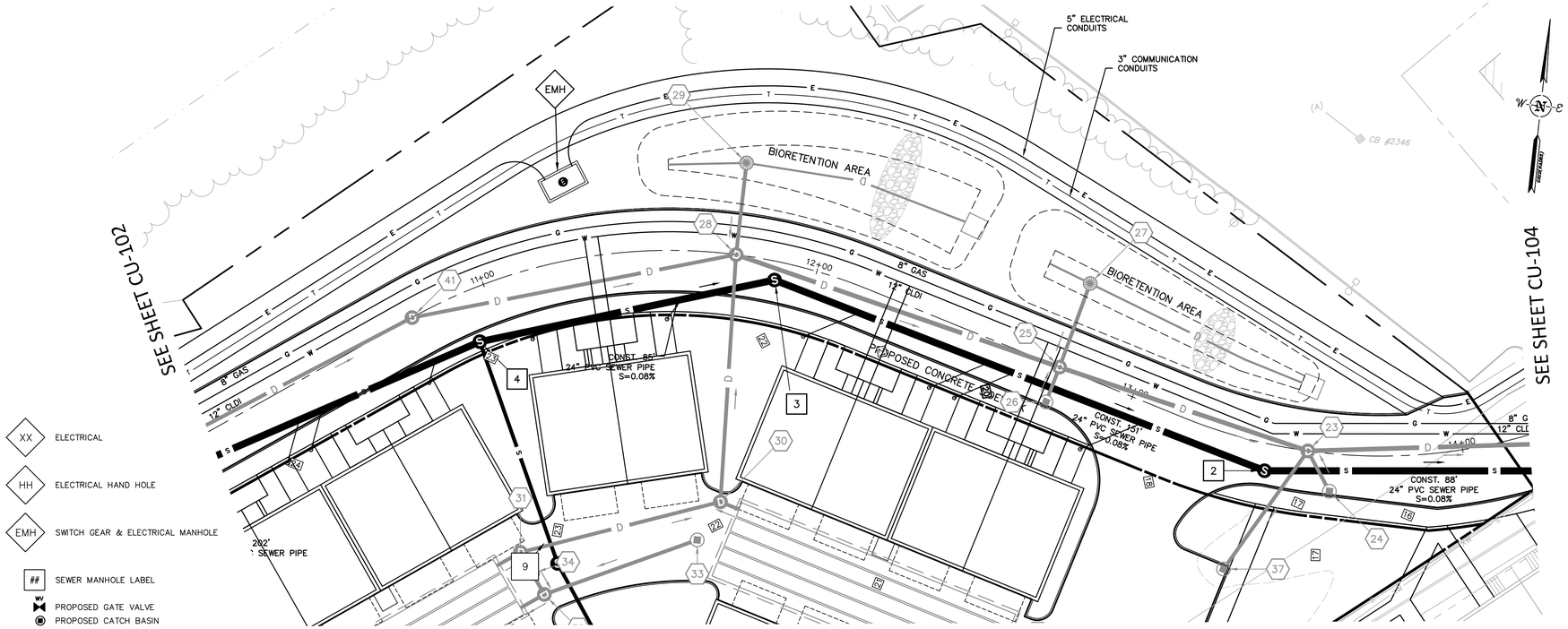
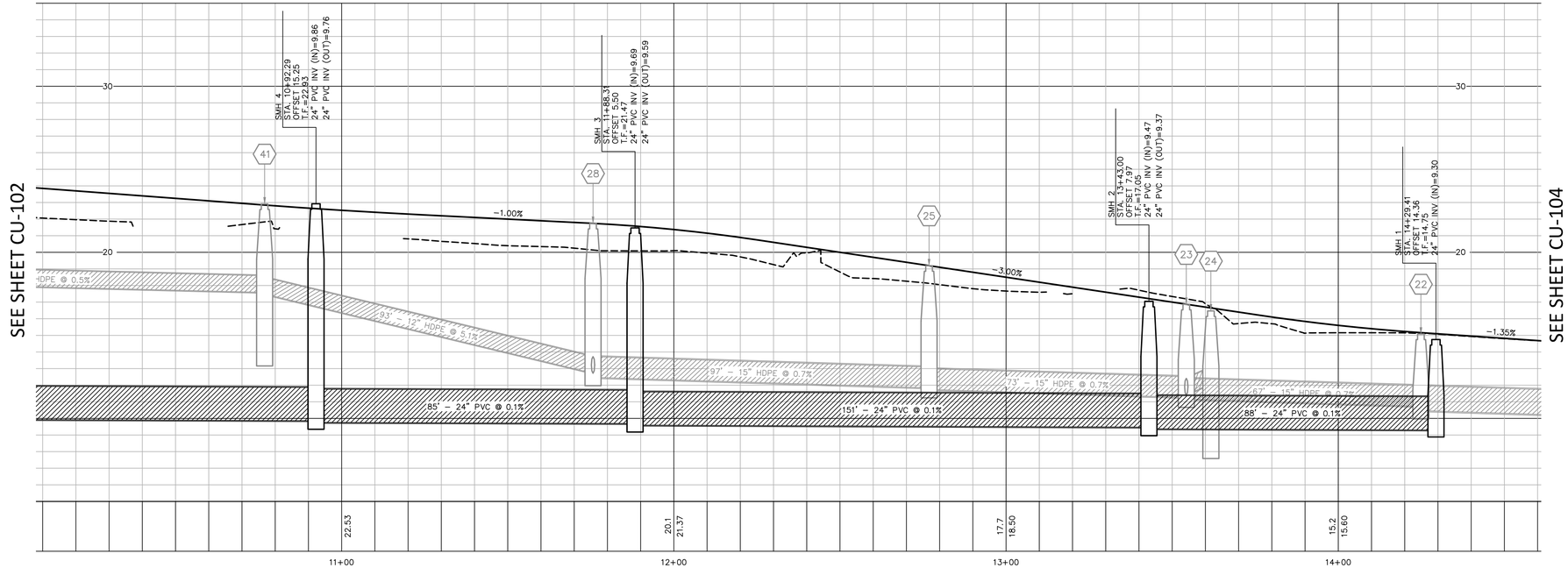


PLAN

SCALE: 1 INCH = 20 FT.



PROFILE

HORIZ: 1 INCH = 20 FT.
VERT: 1 INCH = 4 FT.

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER
RICHARD R. LUNDBORN No. 10943 (LICENSE)

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GRAPHIC SCALE 0

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UTILITY PLAN & PROFILE

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CU-103

File Path: F:\P2018\0317\A10\Civil3D\dwg\20180317A10_UTL01.dwg Layout: CU-103 Plotted: Mon, March 18, 2019 - 5:04 PM User: ddugal
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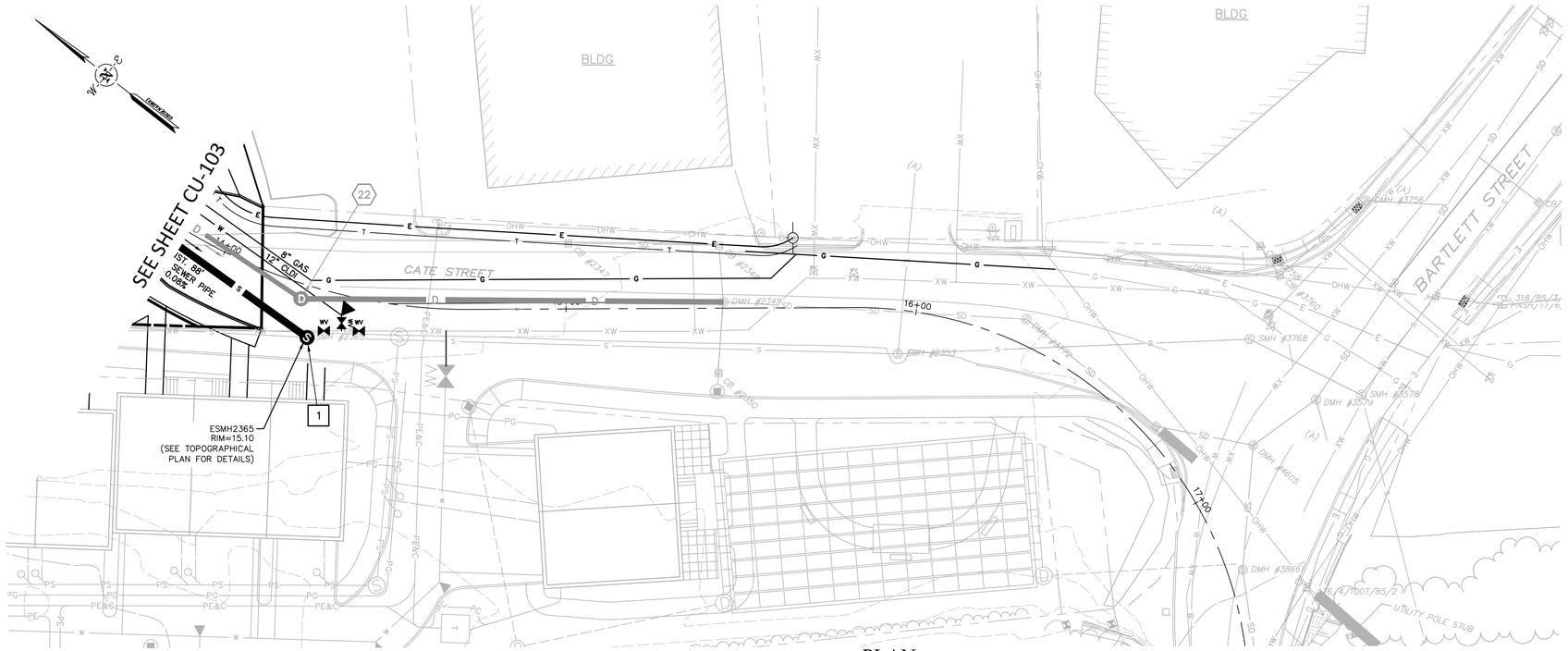


PLAN

SCALE: 1 INCH = 20 FT.

XX ELECTRICAL

HH ELECTRICAL HAND HOLE

EMH SWITCH GEAR & ELECTRICAL MANHOLE

SEWER MANHOLE LABEL

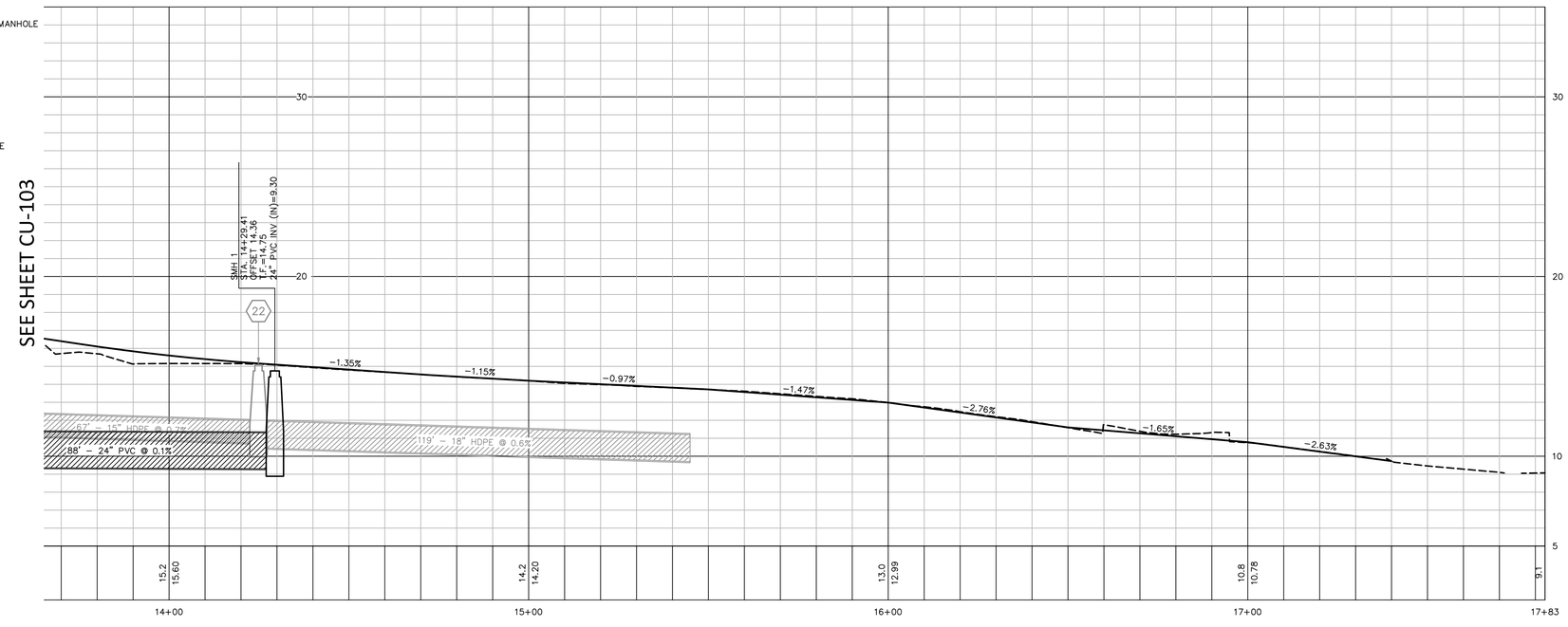
PROPOSED GATE VALVE

PROPOSED CATCH BASIN

PROPOSED DRAIN MANHOLE

PROPOSED SANITARY MANHOLE

PROPOSED HYDRANT



PROFILE

HORIZ: 1 INCH = 20 FT.
VERT: 1 INCH = 4 FT.

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER
RICHARD R. LUNDBORN No. 10943 (LICENSED)

SCALE: HORZ.: VERT.:
DATUM: HORZ.: NAD83 VERT.: NGVD29
GRAPHIC SCALE 0

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UTILITY PLAN & PROFILE

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CU-104

File Path: F:\P2018\0317\A10\Civil3\Dwg\20180317A10_UTL01.dwg Layout: CU-105 Plotted: Mon, March 18, 2019 - 5:04 PM User: ddugal
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PROPOSED HYDRANT
PROPOSED SANITARY MANHOLE
PROPOSED DRAIN MANHOLE
PROPOSED CATCH BASIN
PROPOSED GATE VALVE
SEWER MANHOLE LABEL
SWITCH GEAR & ELECTRICAL MANHOLE
ELECTRICAL HAND HOLE
ELECTRICAL

PROFILE

HORZ.: 1 INCH = 4 20 FT.
VERT.: 1 INCH = 4 20 FT.

3+00 24.5 24.53
5+00 24.1 24.10
6+00 24.2 24.16
7+00 25.7 25.66

SMH 8
STA. 4+04.95
OFFSET 298.23
T.F.=25.61
24" PVC INV (OUT)=11.03

SMH 7
STA. 4+36.61
OFFSET 6.37
T.F.=23.93
24" PVC INV (IN)=10.68
24" PVC INV (OUT)=10.58

24" CLDI @ 11.1%

PLAN

SCALE: 1 INCH = 20 FT.

EXISTING HYDRANT TO REMAIN
SMH #152
BLDG
12" CLDI
8" GAS
3+00
4+00

SEE SHEET CU-101

CU-105

PROJ. No.: 20180317A10
DATE: 03/18/2019

CATE STREET DEVELOPMENT, LLC

UTILITY PLAN & PROFILE
WEST END YARDS

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HORZ.:
VERT.:
DATUM:
HORZ.: NAD83
VERT.: NGVD29
0
GRAPHIC SCALE

STATE OF NEW HAMPSHIRE
RICHARD R LUNDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

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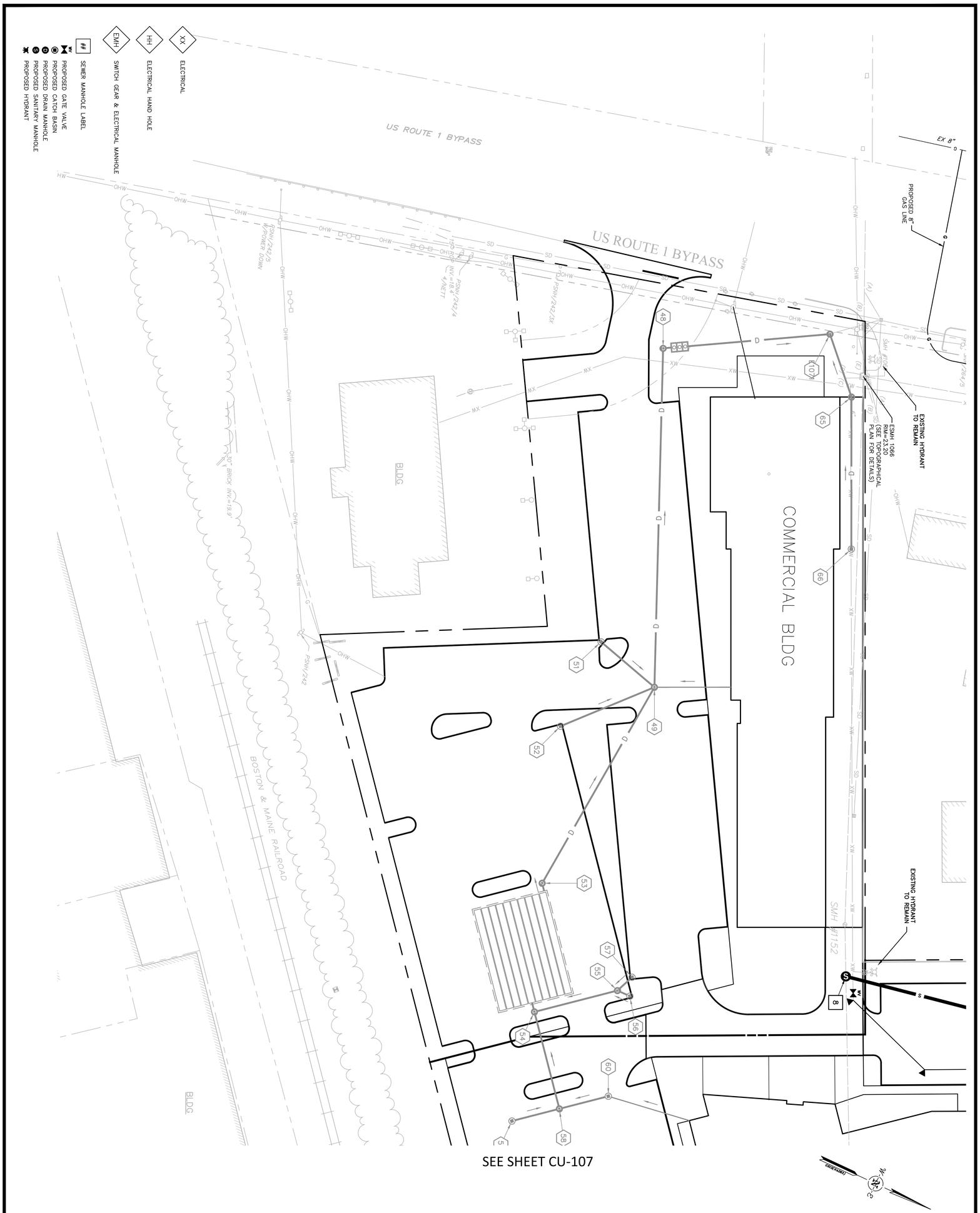

CU-106

PROJ. No.: 20180317A10
DATE: 03/18/2019

CATE STREET DEVELOPMENT, LLC

UTILITY PLAN

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

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SCALE:
HORZ.: 1" = 30'
VERT.: 1" = 30'
DATUM:
HORZ.: NAD83
VERT.: NGVD29
30 15 0 30
GRAPHIC SCALE

STATE OF NEW HAMPSHIRE
RICHARD R. LUNDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

File Path: F:\P2018\0317\A10\Civil3\Dwg\20180317A10_UTL01.dwg Layout: CU-107 Plotted: Mon, March 18, 2019 - 5:05 PM User: ddugal
MS VIEW: | LAYER STATE: | Plotter: DWG TO PDF.PC3 CTB File: FO.STB

PROPOSED HYDRANT
PROPOSED SANITARY MANHOLE
PROPOSED DRAIN MANHOLE
PROPOSED CATCH BASIN
PROPOSED GATE VALVE
SEWER MANHOLE LABEL
SWITCH GEAR & ELECTRICAL MANHOLE
ELECTRICAL HAND HOLE
ELECTRICAL

SEE SHEET CU-106

SEE SHEET CU-108

CU-107

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CATE STREET DEVELOPMENT, LLC

UTILITY PLAN
WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

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SCALE:
HORZ.: 1"=30'
VERT.: 1"=30'
DATUM:
HORZ.: NAD83
VERT.: NGVD29
30 15 0 30
GRAPHIC SCALE

STATE OF NEW HAMPSHIRE – RICHARD R. LUNDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

HODGSON BROOK

SEE SHEET CU-107

EMH

8" GAS

12" CI/DI

5" ELECTRICAL CONDUITS

3" COMMUNICATION CONDUITS

CONST. 302'
24" PVC SEWER PIPE
S=0.08%

CONST. 85'
24" PVC SEWER PIPE
S=0.08%

CONST. 151'
24" PVC SEWER PIPE
S=0.08%

CONST. 88'
24" PVC SEWER PIPE
S=0.08%

ESMH2365
RIM=15.10
(SEE TOPOGRAPHICAL PLAN FOR DETAILS)

BLDG

CATE STREET

BARTLETT ST

XX	ELECTRICAL
HH	ELECTRICAL HAND HOLE
EMH	SWITCH GEAR & ELECTRICAL MANHOLE
##	SEWER MANHOLE LABEL
WV	PROPOSED GATE VALVE
	PROPOSED CATCH BASIN
D	PROPOSED DRAIN MANHOLE
S	PROPOSED SANITARY MANHOLE
	PROPOSED HYDRANT

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER
RICHARD R. LUNDBORN No. 10943 (LICENSED)

SCALE: HORZ.: 1"=30'
VERT.: 1"=30'
DATUM: HORZ.: NAD83
VERT.: NGVD29
30 15 0 30
GRAPHIC SCALE

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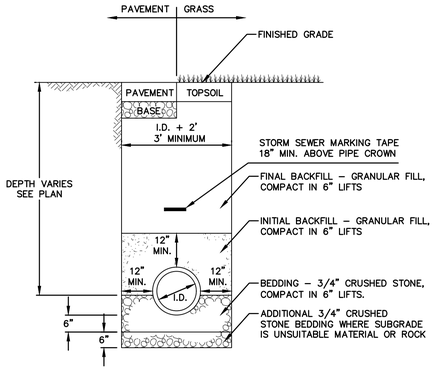
CATE STREET DEVELOPMENT, LLC

UTILITY PLAN
WEST END YARDS
PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CU-108



STORM SEWER TRENCH

NOT TO SCALE

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. 3FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"–24" (100mm–600mm); 6" (150mm) FOR 30"–60" (750mm–1500mm).
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR 1 IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM 02321, LATEST EDITION.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON–TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT. FOR TRAFFIC APPLICATIONS WITH LESS THAN FOUR FEET OF COVER, EMBEDMENT OF THE PIPE SHALL BE USING ONLY A CLASS I OR CLASS II BACKFILL.

HDPE DRAINAGE PIPE NOTES

NOT TO SCALE

1. ALL SECTIONS SHALL BE CONCRETE, CLASS AA (4,000 PSI)
2. 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.
3. THE TONGUE AND GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER L.F.
4. RISERS OF 1'–4" MAY BE USED TO REACH THE DESIRED ELEVATION.
5. THE STRUCTURES SHALL BE DESIGNED FOR H–20 LOADING.
6. 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 STRUCTURE.
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.
12. STEPS ARE NOT ALLOWED.

CATCH BASIN SPECIFIC NOTES:

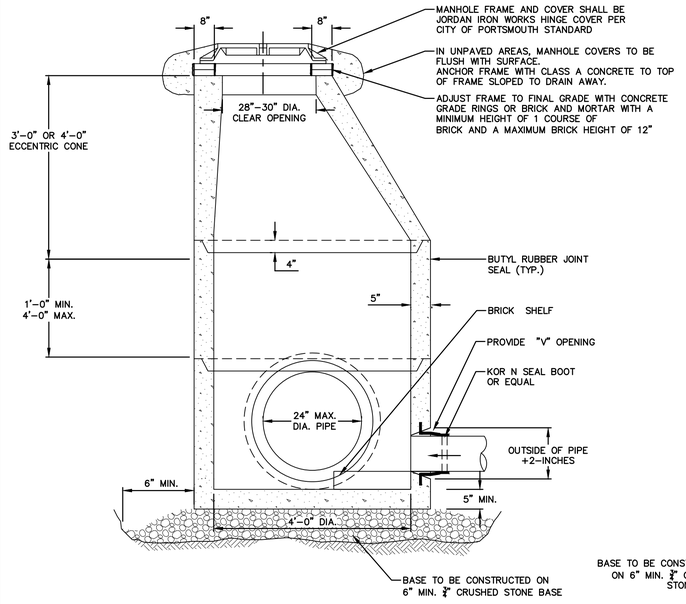
13. CONE SECTIONS MAY BE CONCENTRIC OR ECCENTRIC FOR CATCH BASINS.
14. "ELIMINATOR" OIL/WATER SEPARATORS SHALL BE INSTALLED TIGHT TO THE INSIDE OF THE CATCH BASINS ON THE OUTLET PIPE.

DRAIN MANHOLE SPECIFIC NOTES:

15. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12–INCHES OF INSIDE SURFACE BETWEEN THE HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3–INCHES TO ANY JOINT.

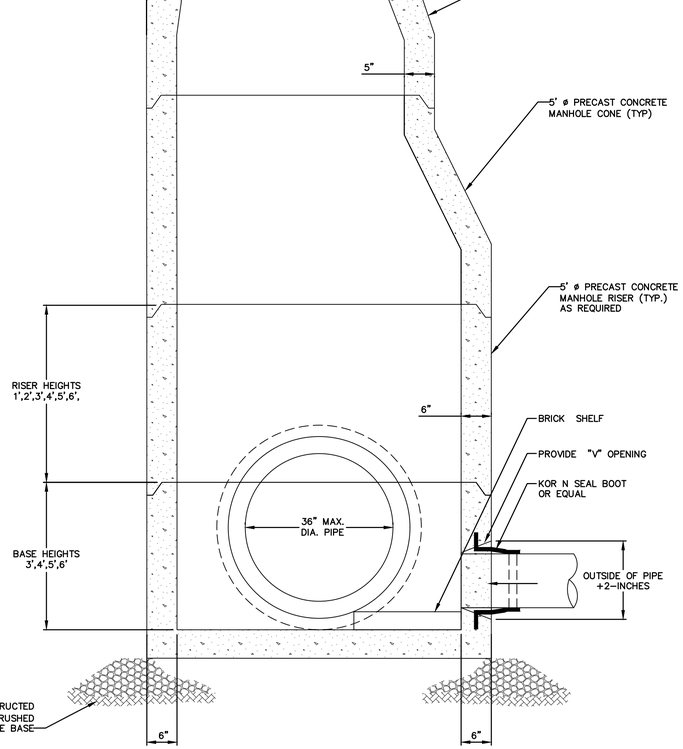
PRECAST DRAINAGE STRUCTURE NOTES

NOT TO SCALE



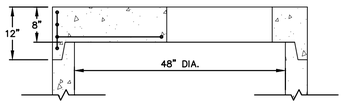
4' PRECAST DRAIN MANHOLE

SCALE: N.T.S.



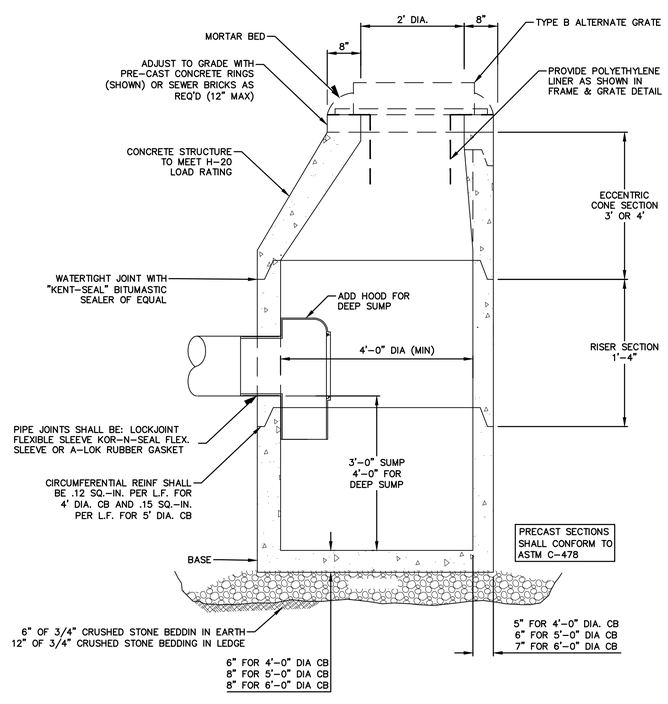
5' PRECAST DRAIN MANHOLE

SCALE: N.T.S.



PRECAST CATCH BASIN

NOT TO SCALE



PRECAST CATCH BASIN

NOT TO SCALE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – RICHARD R. LINDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER

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CATE STREET DEVELOPMENT, LLC

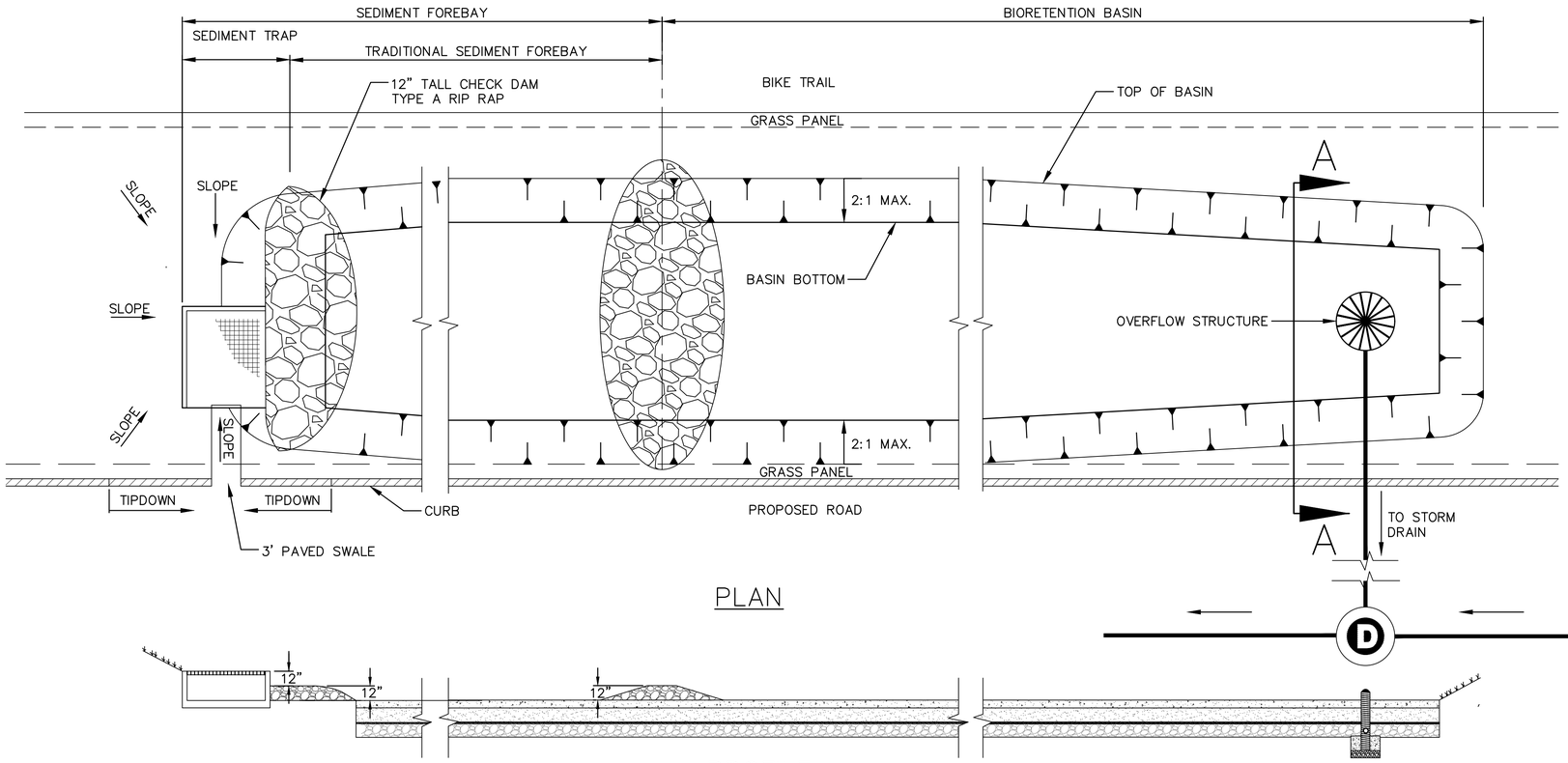
DRAINAGE DETAILS

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CD-510



PLAN

PROFILE

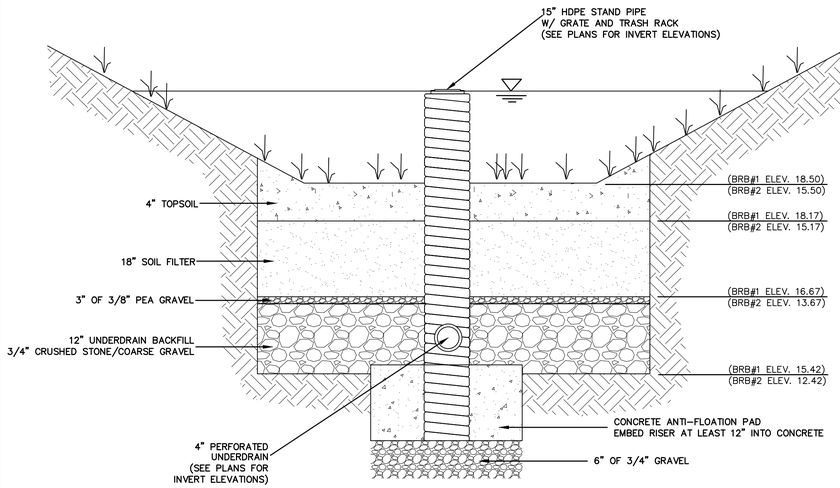
BIORETENTION SYSTEM TYPICAL SECTION

NOT TO SCALE

TABLE 4-3 FILTER MIXTURES			
COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL SIEVE NO.	PERCENT BY WEIGHT STANDARD SIEVE
FILTER MEDIA OPTION A			
ASTM C-33 CONCRETE SAND	50 TO 55		
LOAMY SAND TOPSOIL, WITH FINES AS INDICATED	20 TO 30	200	15 TO 25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED	20 TO 30	200	<5
FILTER MEDIA OPTION B			
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED	20 TO 30	200	<5
	70 TO 80	10	85 TO 100
		20	70 TO 100
		50	15 TO 40
LOAMY COARSE SAND		200	8 TO 15

SOIL FILTER MIXTURES

NOT TO SCALE



SECTION A–A

NOT TO SCALE

CONSTRUCTION NOTES:

1. DO NOT PLACE THE BIORETENTION SYSTEM INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
2. DO NOT DISCHARGE SEDIMENT–LADEN WATERS FROM CONSTRUCTION ACTIVITIES (RUNOFF AND WATER FROM EXCAVATIONS) TO THE BIORETENTION SYSTEM DURING ANY STAGE OF CONSTRUCTION.
3. DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.

MAINTENANCE NOTES:

1. SYSTEMS SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND FOLLOWING ANY RAINFALL EVENT EXCEEDING 2.5 INCHES IN A 24 HOUR PERIOD, WITH MAINTENANCE OR REHABILITATION CONDUCTED AS WARRANTED BY SUCH INSPECTION.
2. PRETREATMENT MEASURES SHOULD BE INSPECTED AT LEAST TWICE ANNUALLY, AND CLEANED OF ACCUMULATED SEDIMENT AS WARRANTED BY INSPECTION, BUT NO LESS THAN ONCE ANNUALLY.
3. TRASH AND DEBRIS SHOULD BE REMOVED AT EACH INSPECTION.
4. AT LEAST ONCE ANNUALLY, SYSTEM SHOULD BE INSPECTED FOR DRAWDOWN TIME. IF BIORETENTION SYSTEM DOES NOT DRAIN WITHIN 72–HOURS FOLLOWING A RAINFALL EVENT, THEN A QUALIFIED PROFESSIONAL SHOULD ASSESS THE CONDITION OF THE FACILITY TO DETERMINE MEASURES REQUIRED TO RESTORE FILTRATION FUNCTION OR INFILTRATION FUNCTION (AS APPLICABLE), INCLUDING BUT NOT LIMITED TO REMOVAL OF ACCUMULATED SEDIMENTS OR RECONSTRUCTION OF THE FILTER MEDIA.
5. VEGETATION SHOULD BE INSPECTED AT LEAST ANNUALLY, AND MAINTAINED IN HEALTHY CONDITION, INCLUDING PRUNING, REMOVAL AND REPLACEMENT OF DEAD OR DISEASED VEGETATION, AND REMOVAL OF INVASIVE SPECIES.

BIORETENTION SYSTEM NOTES

NOT TO SCALE

PLAN VIEW

SECTION VIEW

INLET END OUTLET END

GENERAL NOTES

1.) CONCRETE: fc = 4,000 PSI @ 28 DAYS MINIMUM
2.) STEEL REINFORCEMENT CONFORMS TO LATEST ASTM SPECIFICATIONS: ASTM A–615 GRADE 60 REBAR
3.) DESIGN LOADING: AASHTO–HS20–44
4.) PLASTIC PIPE SEALS TYPICAL 29 PLACES
5.) CLOSED END BOOT ON INLET SIDE FOR 4" OR 6" PIPE
6.) PIPE BUSHING REQUIRED FOR FORCE MAINS INTO D–BOX LESS THAN 4" DIA.
7.) EST WEIGHTS:
TOP SLAB: 2,665 LBS
BASE: 4,880 LBS
TOTAL: 7,545 LBS

BIORETENTION INLET STRUCTURE PHOENIX CAST MODIFIED HS–20 "D" BOX (6'x6') WITH SUMP

NOT TO SCALE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – RICHARD R. LINDBORN No. 10943 LICENSED

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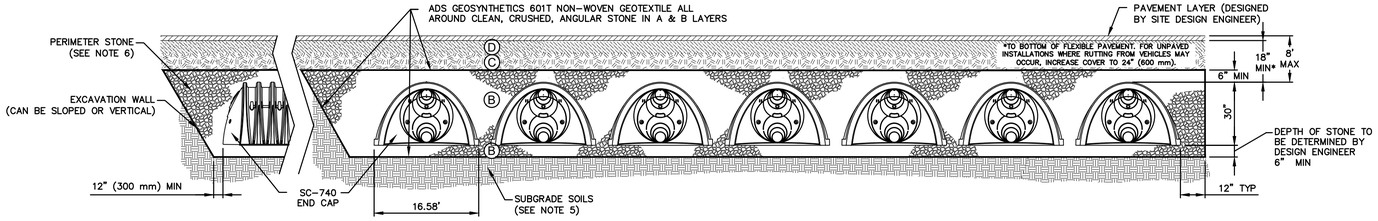
PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CD-511

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2,3]

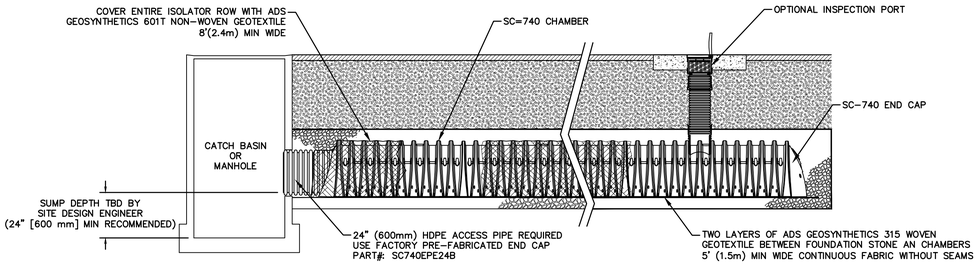
PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



SC-740 SECTION VIEW

NOTES:

1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
5. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
7. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



SC-740 ISOLATOR ROW DETAIL

INSPECTION & MAINTENANCE

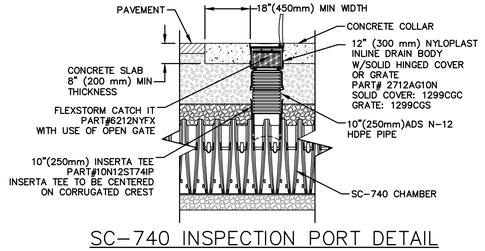
STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

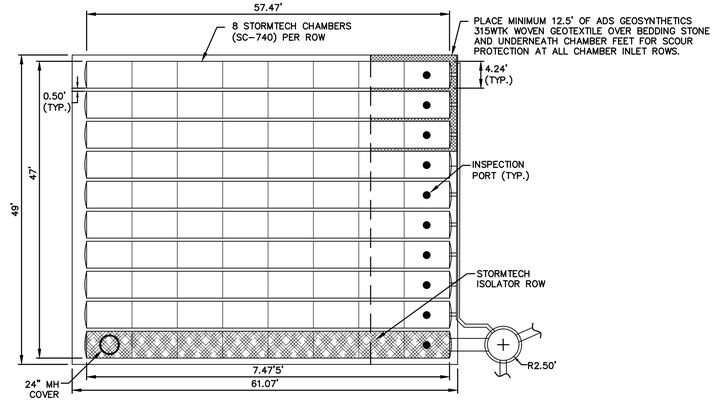
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES
1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

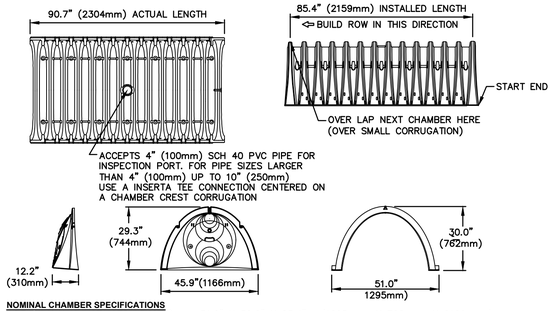


SC-740 INSPECTION PORT DETAIL



SC-740 PLAN VIEW

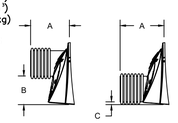
SC-740 TECHNICAL SPECIFICATON



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T / SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC74OEPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC74OEPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

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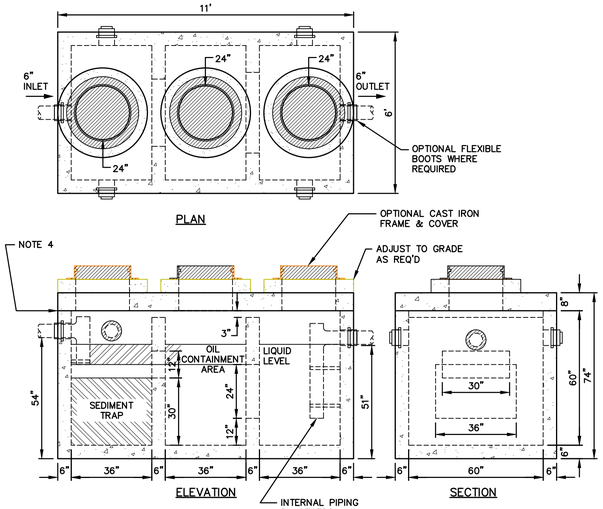

GENERAL NOTES
1. CONCRETE: FC = 5,000 PSI @ 28 DAYS MINIMUM TYPE III CEMENT
2. STEEL REINFORCEMENT CONFORMS TO LATEST ASTM SPECIFICATIONS: ASTM-A615 GRADE 60 BLACK DEFORMED BARS
3. DESIGN LOADING: AASHTO-HS20-44 DESIGN SPECIFIED AS ACI 318-08, AASHTO-1992
4. BUTYL RUBBER JOINT SEALANT PROVIDED
5. FLEXIBLE SLEEVES PROVIDED ALL PIPE CONNECTIONS
6. PIPE SIZES AND COMPARTMENT CONFIGURATIONS PER JOB SPECIFICATIONS

EST WEIGHTS:
TOP SLAB – 6,500 LBS
BASE – 20,500 LBS
TOTAL: 27,000 LBS

1,500 GALLON 3-COMPARTMENT HS-20 OIL & SEDIMENT SEPARATOR (PHOENIX PRECAST PRODUCTS)

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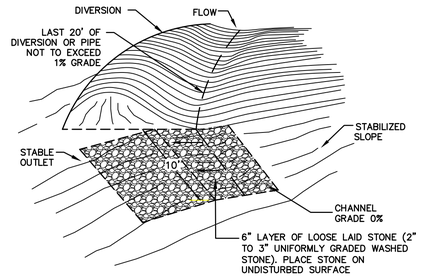
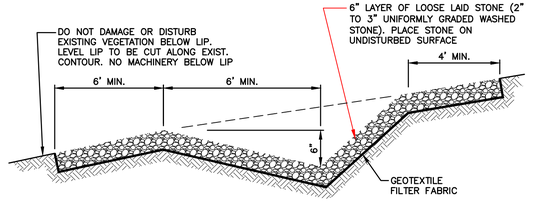


PLAN VIEW

CONSTRUCTION SPECIFICATIONS:
1. SPREADERS SHALL BE INSTALLED WITH LEVEL INSTRUMENT. CONSTRUCT LEVEL LIP TO 0% GRADE TO ENSURE UNIFORM SHEET FLOW. LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL (NOT FILL).
2. SELECT GEOTEXTILE FABRIC BASED ON UNDISTURBED SOILS (SAND, SILTS, CLAY, ETC.)
3. PLACE 6" LAYER OF UNIFORMLY GRADED STONE 2" TO 3" IN DIAMETER. TAKE TO FORM SMOOTH UNIFORM SURFACE. DO NOT FILL VOIDS IN STONE.
4. THE INLET DITCH SHALL NOT EXCEED A 1% GRADE FOR AT LEAST 20 FEET BEFORE ENTERING THE SPREADER.
5. 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 DISCHARGE.
6. 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.
7. CONSTRUCT SPREADER WITH LIP AT EXISTING ELEVATION AS SPECIFIED.
8. 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.
2. ANY DETRIMENTAL ACCUMULATION OF SEDIMENTS SHOULD BE REMOVED.
3. IF RILLING HAS TAKEN PLACE ON THE LIP, THEN THE DAMAGE SHOULD BE REPAIRED AND RE-VEGETATED.
4. 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.



CROSS SECTION

STONE LINED LEVEL SPREADER

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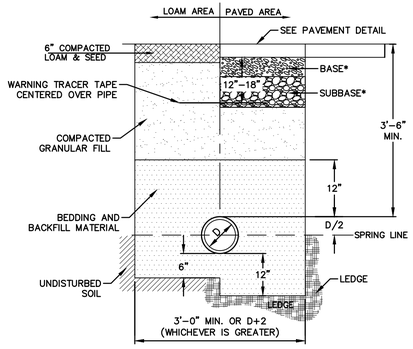

GAS TRENCH
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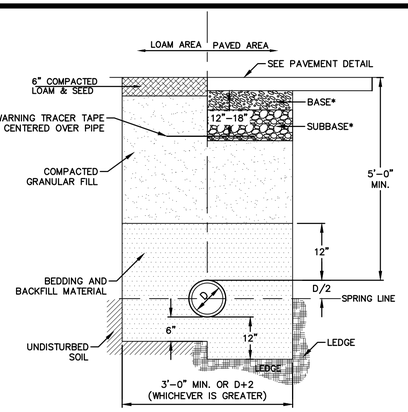

WATER TRENCH SECTION
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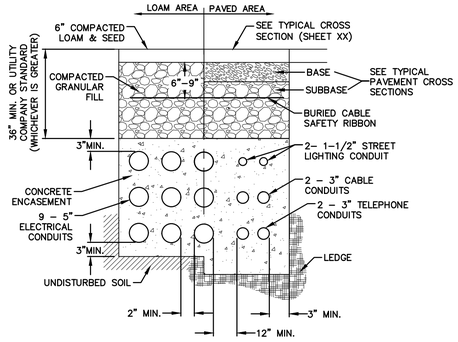
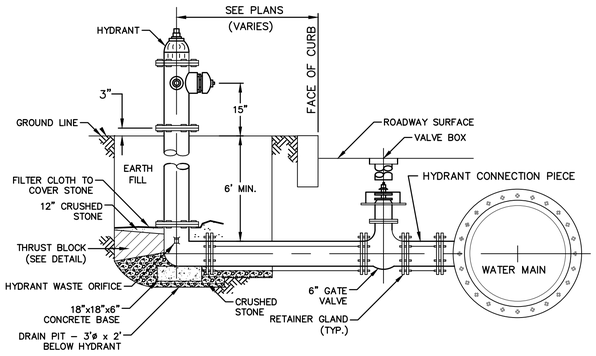


ELECTRICAL AND COMMUNICATION CONDUIT
NOT TO SCALE

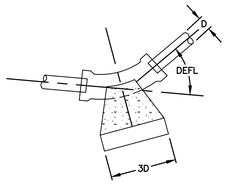
1. NUMBER, MATERIAL, AND SIZE OF UTILITY CONDUITS TO BE DETERMINED BY LOCAL OR AS SHOWN ON CONDUIT PLAN.
2. DIMENSIONS SHOWN REPRESENTS OWNER'S MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS MAY BE GREATER BASED ON UTILITY COMPANY STANDARDS, BUT MAY NOT BE LESS THAN SHOWN.
3. NO CONDUIT SHALL EXCEED 360 DEGREES 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 INSTALLATIONS MUST CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC SAFETY CODE, STATE AND LOCAL CODES AND ORDINANCES, AND, WHERE APPLICABLE, THE NATIONAL ELECTRIC CODE.
7. ALL 90° SWEEPS WILL BE MADE USING RIGID GALVANIZED STEEL. SWEEPS WITH A 35" TO 48" RADIUS.?????



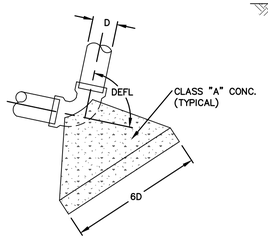
FIRE HYDRANT
NOT TO SCALE

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

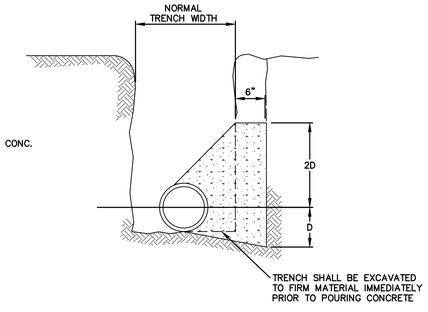
PPE DIA. (INCHES)	MINIMUM THRUST BLOCK VOLUME (CUBIC YARDS)
4	0.25
6	0.3
8	0.5
10	0.7
12	1.0
16	1.6



PLAN ELBOW – DEFL. LESS THAN 50



PLAN ELBOW – DEFL. MORE THAN 50



SECTION

CONCRETE THRUST BLOCKS
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MANHOLE NOTES

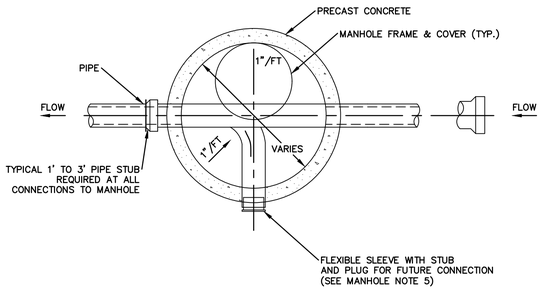
1. ALL PIPES SHALL BE CUT FLUSH WITH INSIDE WALL OF STRUCTURE.
2. MANHOLES SHALL BE PLACED ON 8" MINIMUM CRUSHED STONE BASE.
3. MORTAR IN LIFTING HOLES AFTER INSTALLING RUBBER PLUGS.
4. MANHOLES SHALL RECEIVE A BITUMINOUS DAMP-PROOFING PRIOR TO DELIVERY TO THE SITE.
5. PROVIDE WATERTIGHT STUB AND FLEXIBLE 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 ASTM C 923M.
7. MANHOLE FRAME AND COVERS SHALL BE OF THE TYPE INDICATED BELOW OR APPROVED EQUAL, UNLESS OTHERWISE SPECIFIED.

LOCATION	TYPE
GUTTERS, LOW LYING, WET UNPAVED AREAS	BOLTED & GASKETED (BOLTS SHALL BE 1/2" STAINLESS STEEL.)
NORMALLY DRY UNPAVED AND PAVED AREAS	STANDARD

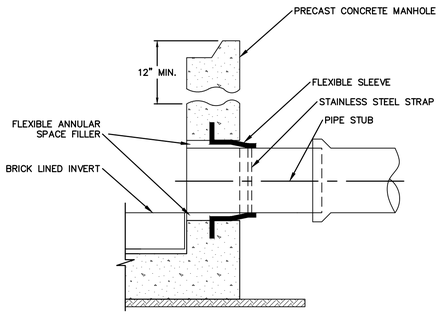
VALVE STRUCTURES WATERTIGHT
THE COVER SHALL HAVE THE WORDS "SANITARY SEWER", "CONFINED SPACE PERMIT REQUIRED" CAST INTO THE COVER IN 2" LETTERS.

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 NOTES
SCALE: N.T.S.



MANHOLE PLAN VIEW
SCALE: N.T.S.



FLEXIBLE SLEEVE
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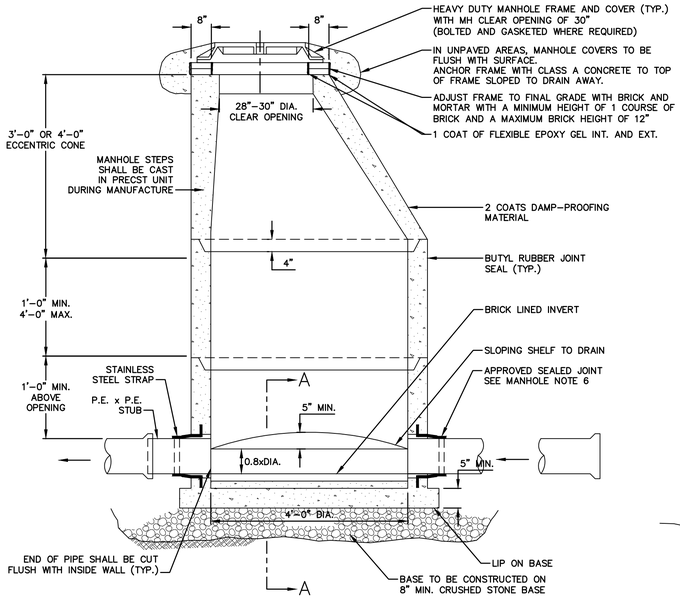
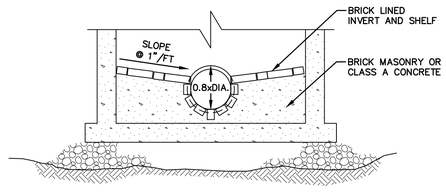
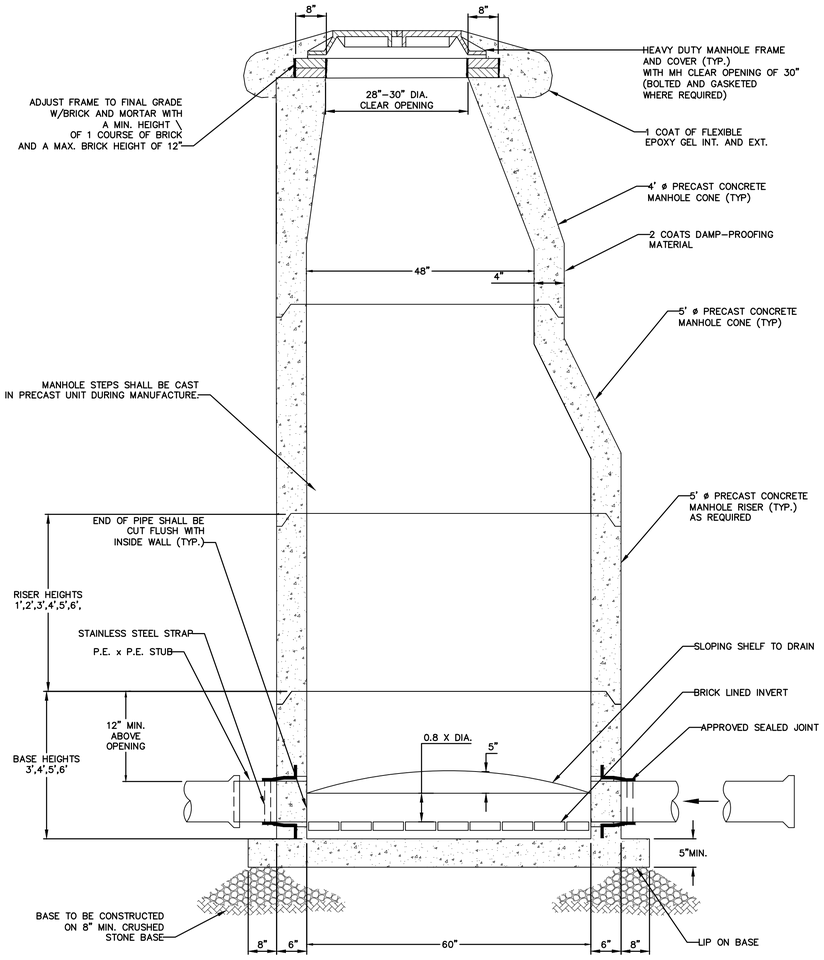




SECTION A-A

4' PRECAST MANHOLE
SCALE: N.T.S.



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

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – RICHARD R. LINDBORN No. 10943 LICENSED

SCALE: HORZ.: NTS VERT.:
DATUM: HORZ.: VERT.:
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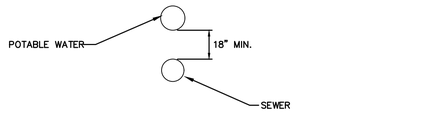
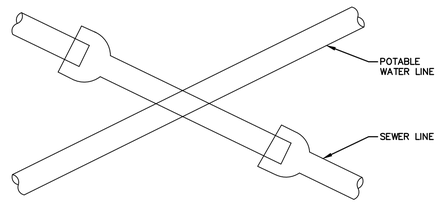
SEWER DETAILS
WEST END YARDS
PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CD-530



SECTION VIEW

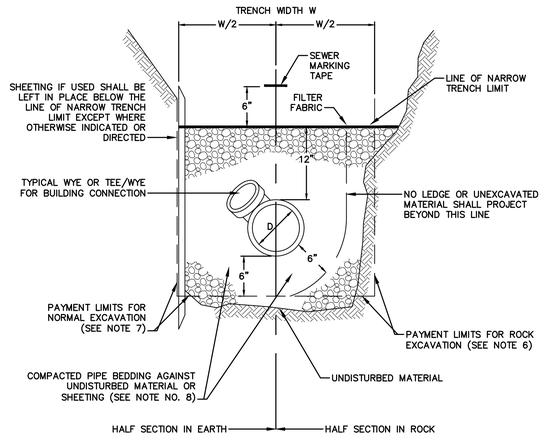


PLAN VIEW

SEWER AND WATER CROSSING NOTES

1. SEWER JOINTS SHALL BE EQUIDISTANT FROM AND LOCATED AS FAR AS POSSIBLE AWAY FROM THE WATER LINE
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

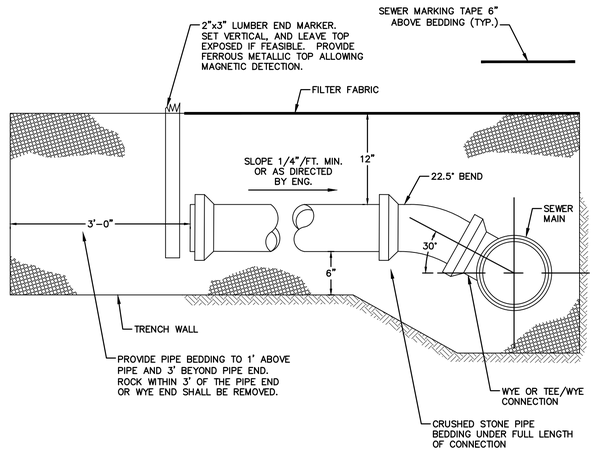
SANITARY SEWER PIPE TRENCH NOTES

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 ORDERED.
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:

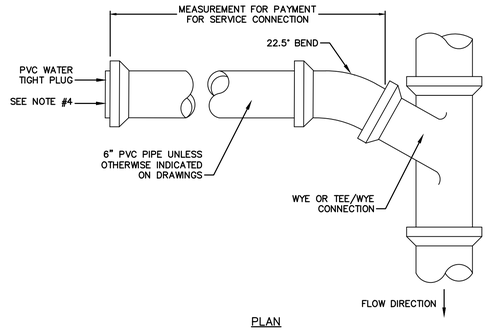
NUMBER OF PIPE IN TRENCH	DIAMETER PIPE "D"	TRENCH WIDTH "W"	PAYMENT LIMIT
ONE	12" AND SMALLER	4'-0"	4'-0"
TWO	12" AND SMALLER	7'-0"	7'-0"

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.



ELEVATION



PLAN

SERVICE CONNECTION NOTES

1. NO LEDGE OR UNEXCAVATED MATERIAL SHALL PROJECT WITHIN 6" OF THE PIPE IN ANY DIRECTION
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
4. PROVIDE DI TO PVC TRANSITION COUPLING AT END OF DI SERVICE CONNECTION

SERVICE CONNECTIONS
NOT TO SCALE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – RICHARD R. LINDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER

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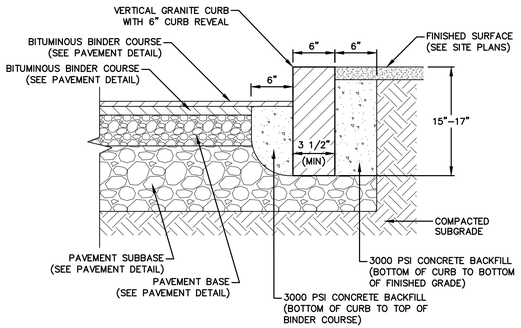
SEWER DETAILS

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

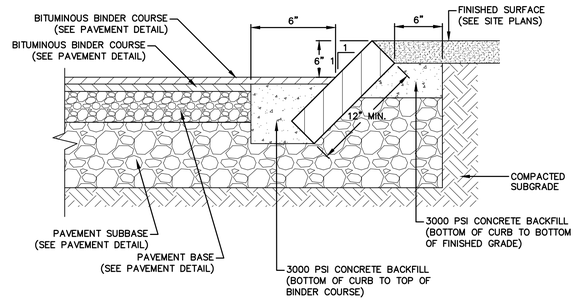
PROJ. No.: 20180317.A10
DATE: 03/18/2019

CD-531



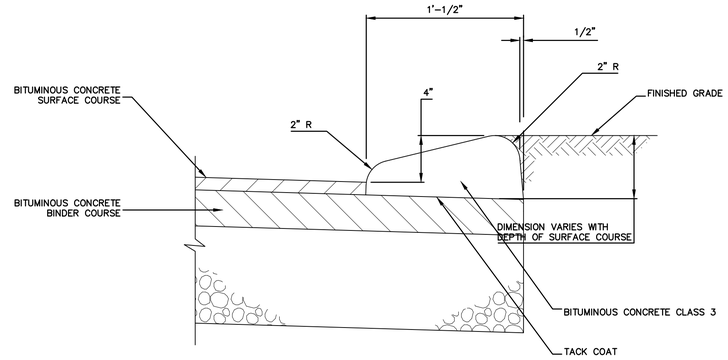
VERTICAL GRANITE CURB INSTALLED

SCALE: NOT TO SCALE



SLOPED GRANITE CURB INSTALLED

SCALE: NOT TO SCALE



SECTION

BITUMINOUS CONCRETE CAPE COD CURB

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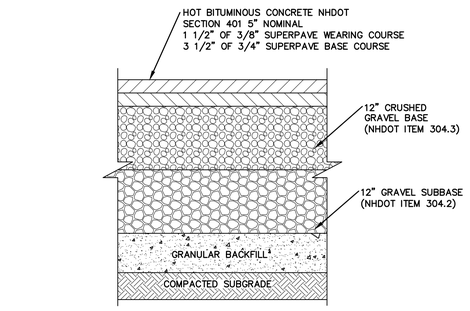

TYPICAL PAVEMENT SECTION

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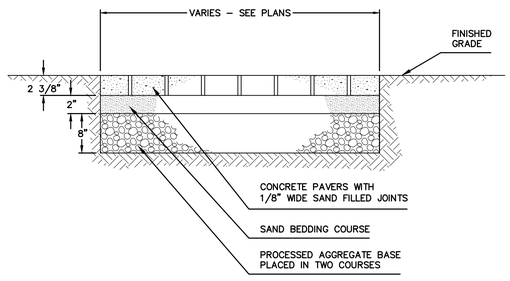

CONCRETE PAVER SIDEWALK

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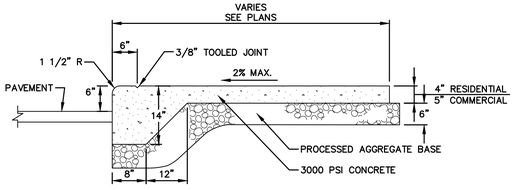

MONOLITHIC CONCRETE CURB AND WALK

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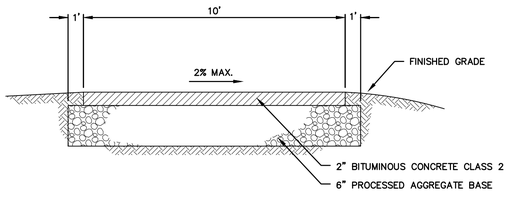
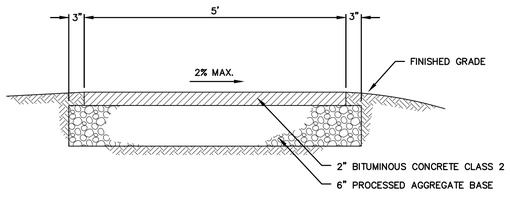


BITUMINOUS CONCRETE MULTI–USE TRAIL

NOT TO SCALE



BITUMINOUS CONCRETE SIDEWALK

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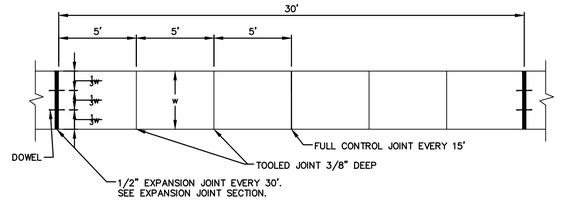
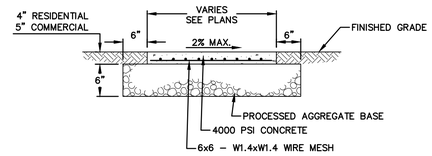
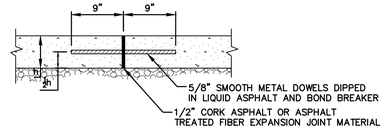


PLAN



SIDEWALK SECTION



EXPANSION JOINT SECTION

CONCRETE SIDEWALK

SCALE: NOT TO SCALE

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STATE OF NEW HAMPSHIRE – RICHARD R. LUNDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER

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SITE DETAILS

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

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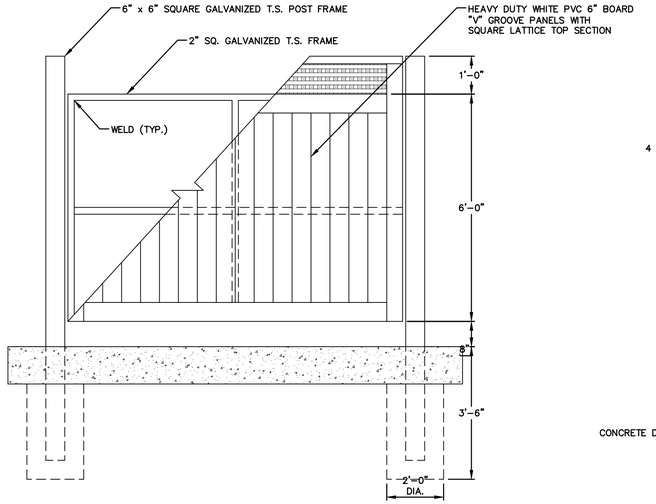
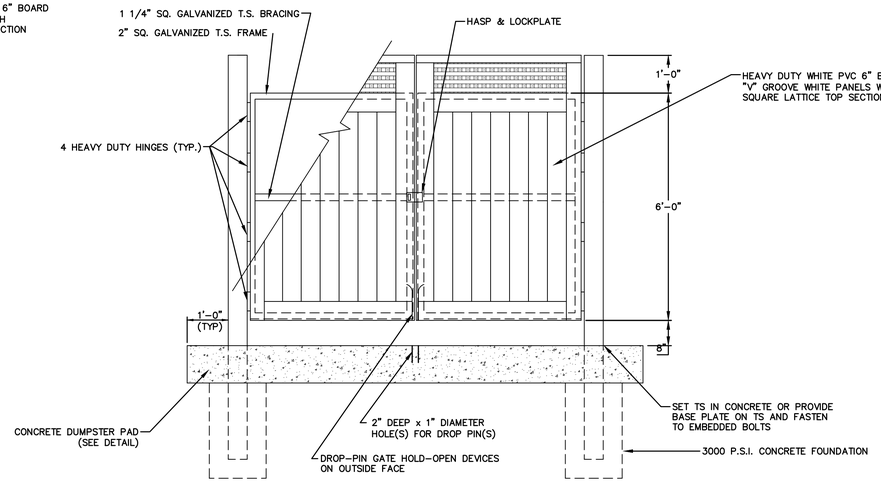
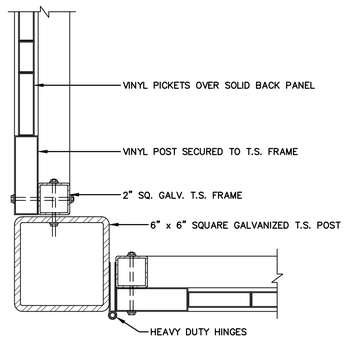


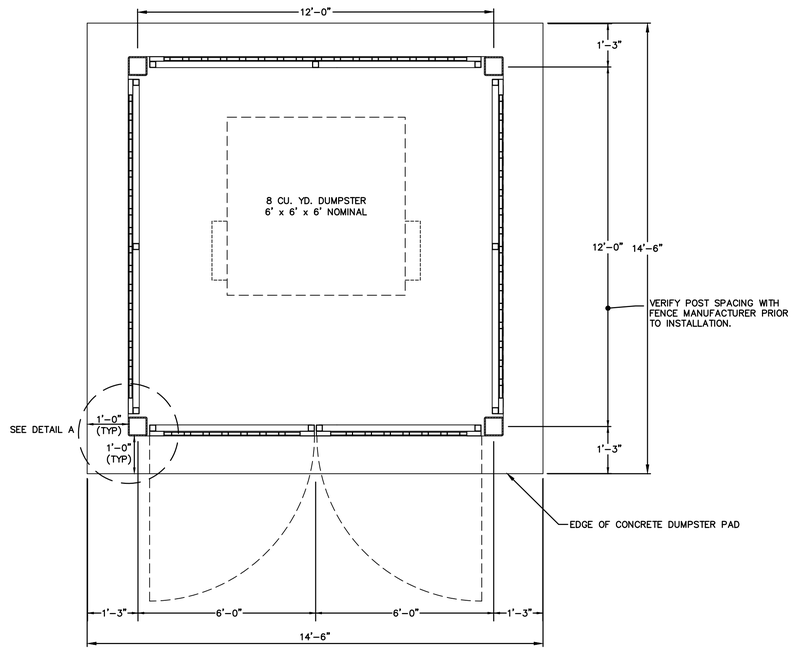
SIDE ELEVATION



FRONT ELEVATION



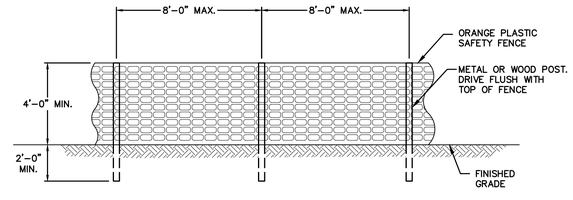
DETAIL A



PLAN

SINGLE DUMPSTER ENCLOSURE

SCALE: N.T.S.



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

PROTECTIVE SAFETY FENCE

SCALE: N.T.S.

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1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

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SITE DETAILS

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CD-541

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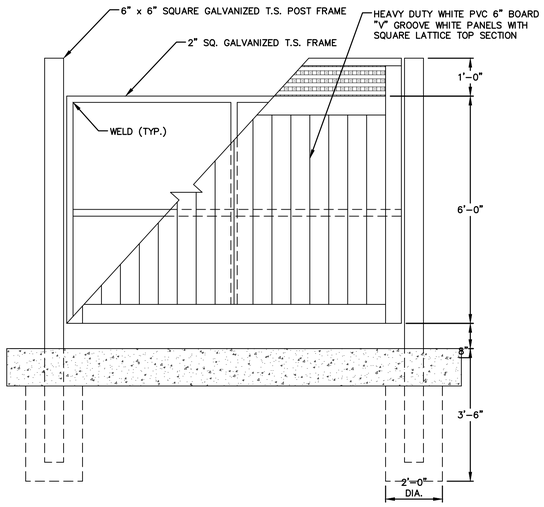
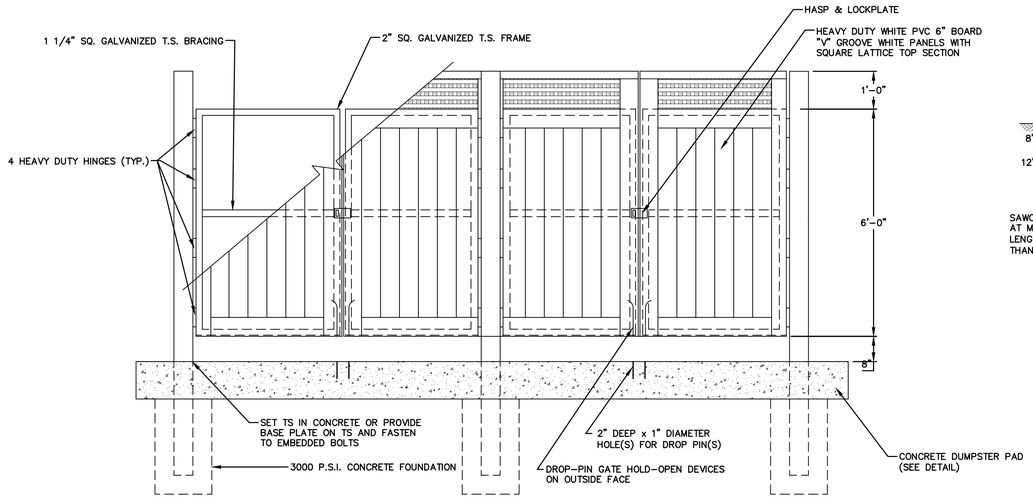


SIDE ELEVATION



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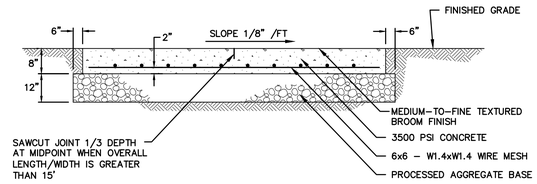
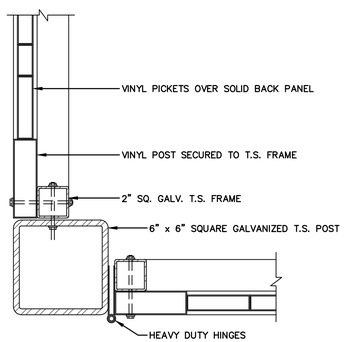


CONCRETE DUMPSTER PAD

NOT TO SCALE



DETAIL A

PLAN

DOUBLE DUMPSTER ENCLOSURE

SCALE: N.T.S.

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SITE DETAILS

WEST END YARDS

PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CD-542

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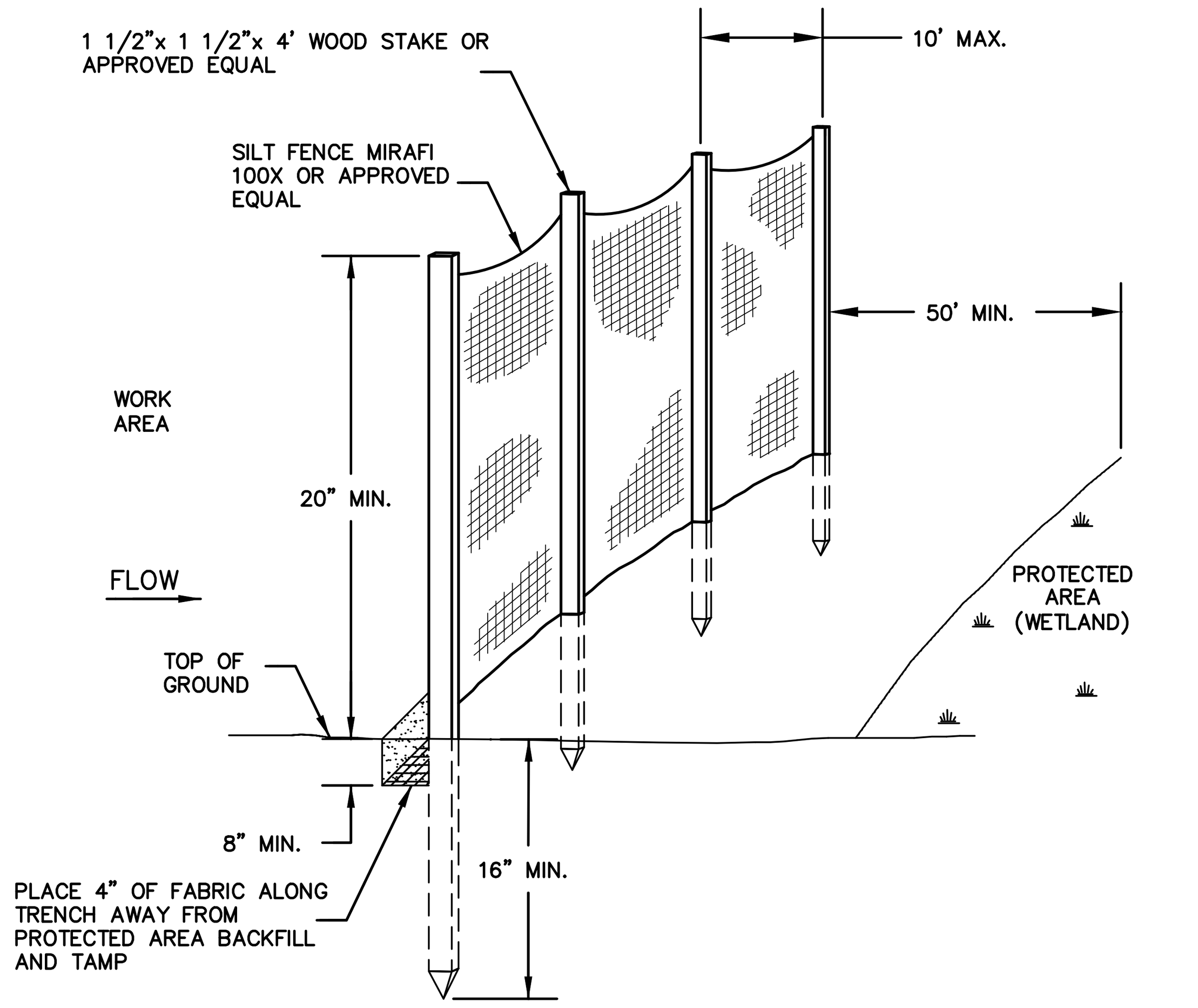


MAINTENANCE REQUIREMENTS:

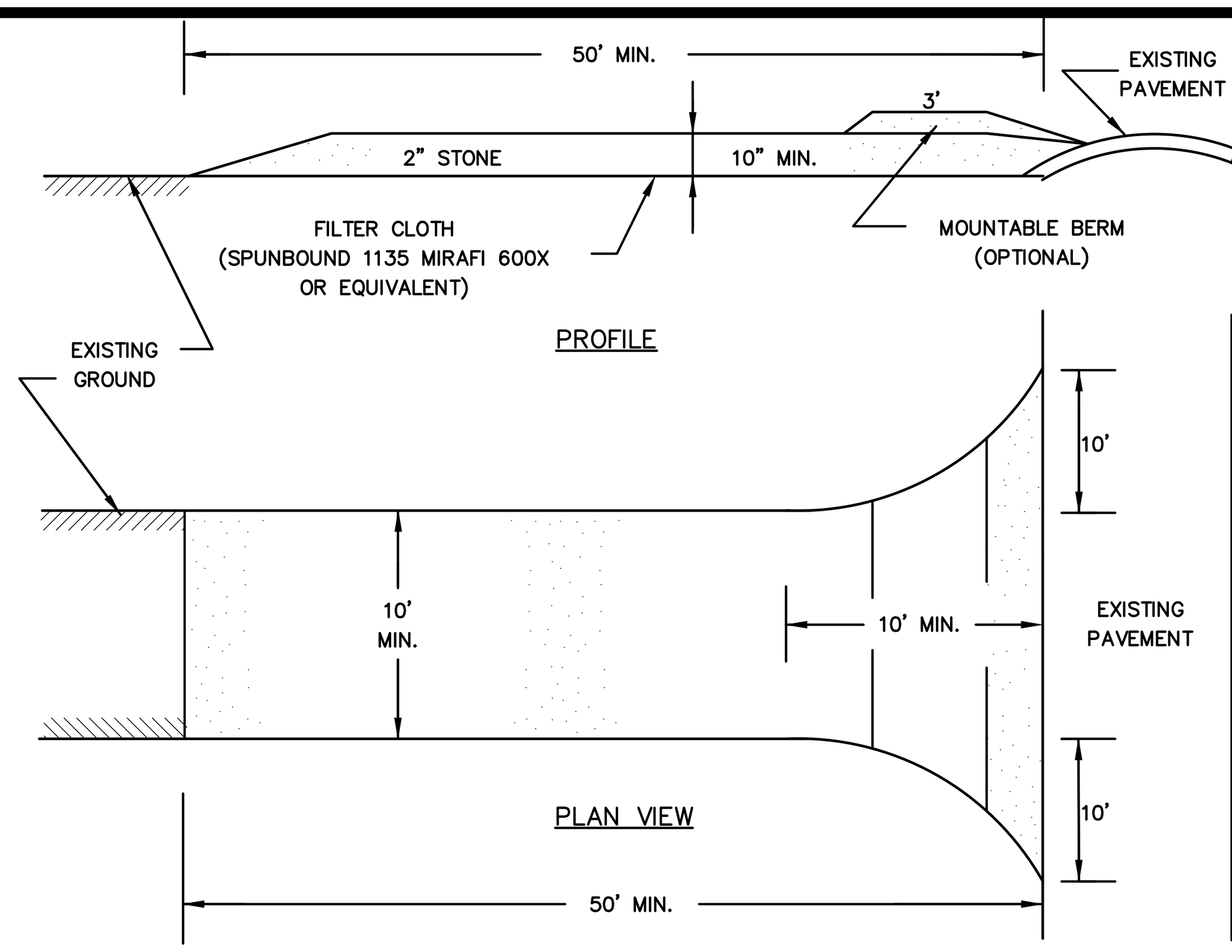
1. FENCES SHOULD BE INSPECTED AND MAINTAINED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALLS;
2. SEDIMENT DEPOSITION SHOULD BE REMOVED, AT A MINIMUM, WHEN DEPOSITION ACCUMULATES TO ONE-HALF THE HEIGHT OF THE FENCE, AND MOVED TO AN APPROPRIATE LOCATION SO THE SEDIMENT IS 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 PROMPTLY.
5. 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 TRAPS.
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.

CONSTRUCTION SPECIFICATIONS:

1. 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;
4. THE MAXIMUM SLOPE ABOVE THE FENCE SHOULD BE 2:1;
5. 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;
   B. 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, OR 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;
   C. 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.
6. SILT FENCING SHOULD NOT BE STAPLED OR NAILED TO TREES.
7. THE FILTER FABRIC SHOULD BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHOULD BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER.
8. 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.
9. 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 THE SLOPE.
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



MAINTENANCE REQUIREMENTS:

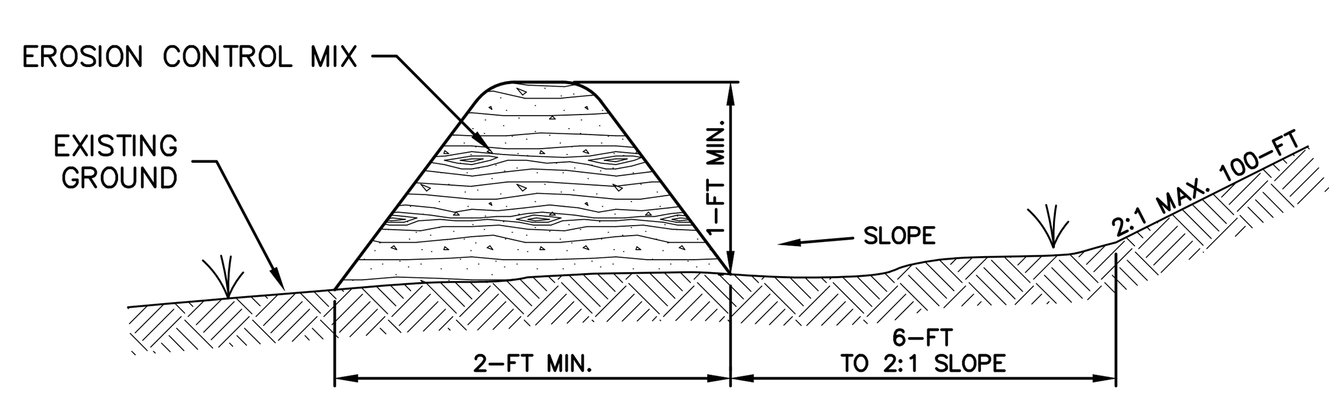
1. WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHOULD BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL, REGRADED ON SITE, AND STABILIZED. THE ENTRANCE SHOULD TEN BE RECONSTRUCTED.
2. THE CONTRACTOR SHOULD SWEEP THE PAVEMENT AT EXITS WHENEVER SOIL MATERIALS ARE TRACKED ONTO THE ADJACENT PAVEMENT OR TRAVELED WAY.
3. 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:

1. THE MINIMUM STONE USED SHOULD BE 3-INCH CRUSHED STONE.
2. 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 SITE.
3. THE PAD SHOULD BE THE FULL WIDTH OF CONSTRUCTION ACCESS ROAD OR 10 FEET, WHICHEVER IS GREATER.
4. THE PAD SHOULD SLOPE AWAY FROM THE EXISTING ROADWAY.
5. THE PAD SHOULD BE AT LEAST 6 INCHES THICK.
6. THE GEOTEXTILE FILTER FABRIC SHOULD BE PLACED BETWEEN THE STONE PAD AND THE EARTH SURFACE BELOW THE PAD.
7. 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.
8. NATURAL DRAINAGE THAT CROSSES THE LOCATION OF THE STONE PAD SHOULD BE INTERCEPTED AND PIPED BENEATH THE PAD, AS NECESSARY, WITH SUITABLE OUTLET PROTECTION.

USDA-SCS STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



EROSION CONTROL MIX BERM CROSS SECTION

NOT TO SCALE

MAINTENANCE REQUIREMENTS:

1. 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).
4. 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 HEIGHT OF THE BARRIER.
6. EROSION CONTROL MIX BERMS SHOULD BE RESHAPED OR REAPPLIED AS NEEDED.
7. 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.
3. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.
4. 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:

SCREEN:	PASSING BY WEIGHT:
3-INCH	100%
1-INCH	90-100%
3/4-INCH	70-100%
1/4-INCH	30-75%

   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
5. 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.
7. 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.
2. 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:

1. 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, VIGOROUS GROWTH.)

SPECIFICATIONS:

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

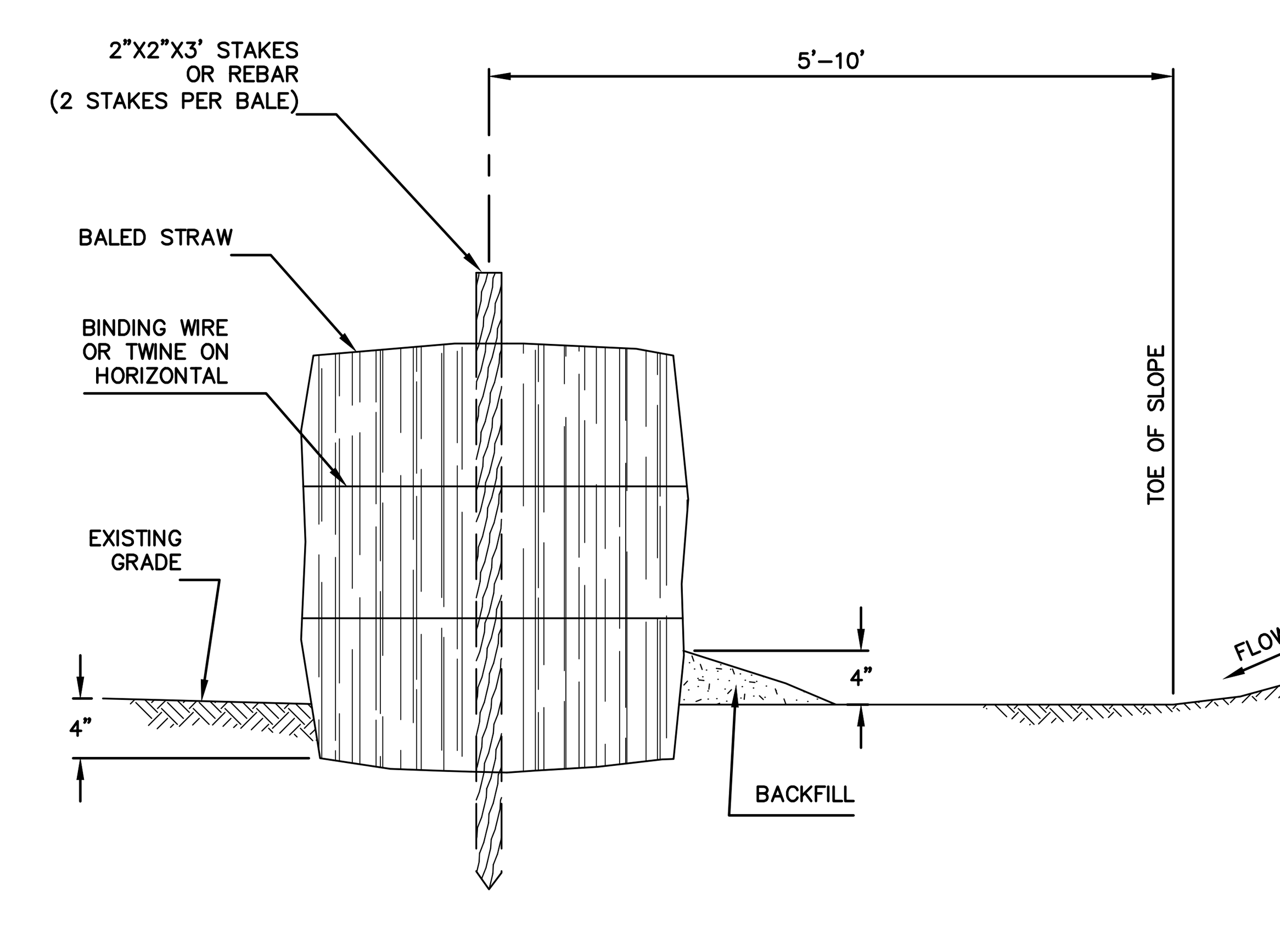
1. THE AREA OF EXPOSED, UNSTABILIZED SOIL SHOULD BE LIMITED TO 1-ACRE AND SHOULD BE PROTECTED AGAINST EROSION BY THE METHODS DISCUSSED IN NHSMM, VOL. 3 AND ELSEWHERE IN THIS PLAN SET, PRIOR TO ANY THAW OR SPRING MELT EVENT. STABILIZATION AS FOLLOWS SHOULD BE COMPLETED WITHIN A DAY OF ESTABLISHING THE GRADE THAT IS FINAL OR THAT OTHERWISE WILL EXIST FOR MORE THAN 5 DAYS:
2. 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).
3. 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.
4. 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 FIBER).
7. 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 AREA.
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.

DUST CONTROL PRACTICES:

1. APPLY DUST CONTROL MEASURES AS NECESSARY TO MAINTAIN CONTROL OF DUST ON SITE.
2. WATER APPLICATION:
   A) 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:
   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:

1. 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. TEMPORARY STABILIZATION:
   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.
3. 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.
6. 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 ON SHEET CE-101.
7. ALL EROSION AND SEDIMENT CONTROL PRACTICES AND MEASURES SHOULD BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN DEPICTED ON SHEET CE-101.
8. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHOULD BE STOCKPILED IN THE AMOUNT NECESSARY TO COMPLETE FINISHED GRADING AND BE PROTECTED FROM EROSION.
9. STOCKPILES, BORROW AREAS AND SPOILS SHALL BE STABILIZED AS DESCRIBED UNDER "SOIL STOCKPILE PRACTICES".
10. 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 PLACEMENT OF SEED.
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 LIFTS.
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.
17. 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 NHSMM, VOL.3.
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)

SOIL 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 NHSMM VOL. 3. TO PREVENT MIGRATION OF MATERIAL BEYOND THE IMMEDIATE CONFINES OF THE STOCKPILE.
4. IMPLEMENT WIND EROSION CONTROL PRACTICES AS APPROPRIATE ON ALL STOCKPILED MATERIAL.
5. PLACE BAGGED MATERIALS ON PALLETS OR UNDERCOVER.

PROTECTION OF INACTIVE STOCKPILES:

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

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

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – RICHARD R. LUNDBORN No. 10943 – LICENSED PROFESSIONAL ENGINEER

SCALE: HORZ.: NTS VERT.:
DATUM: HORZ.: VERT.:
0 GRAPHIC SCALE

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WEST END YARDS
PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CD-550

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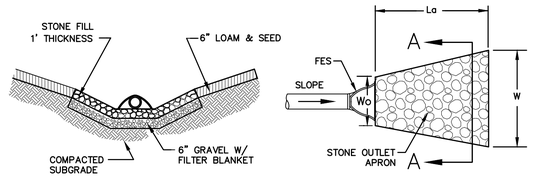
MS VIEW: LAYER STATE:

D10=10"
RIP-RAP GRADATION

% OF WEIGHT SMALLER THAN THE GIVEN SIZE	SIZE OF STONE (INCHES)		
100	15	TO	20
85	13	TO	18
50	10	TO	15
15	3	TO	5

APRON DIMENSION TABLE

PIPE OUTLET	Wo	W	La	T	d50
24" HDPE OUTLET	6.0'	11'	8'	12"	3"



SECTION A–A

PLAN VIEW

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.

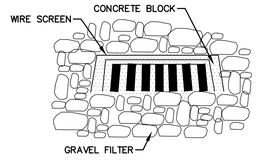
NOTES:
1. ALL PIPE CULVERTS SHALL HAVE END SECTIONS OR HEADWALLS. END SECTION MATERIAL AND MANUFACTURER SHALL MATCH THAT OF THE PIPE CULVERT.
2. THE LARGEST RIP-RAP SIZE DETERMINED DURING HYDROLOGIC ANALYSIS HAS BEEN USED FOR ALL OUTLETS FOR ECONOMY AND SIMPLICITY.
3. APRON LENGTHS, WIDTHS AND THICKNESSES HAVE BEEN ROUNDED UP TO WHOLE NUMBERS FOR EASE OF CONSTRUCTION.

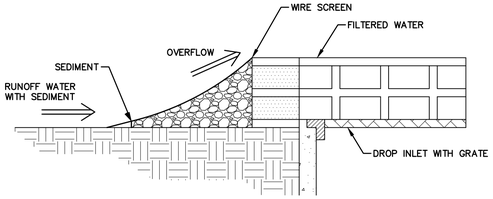
CONSTRUCTION SPECIFICATIONS:
1. PREPARE THE SUB-GRADE FOR THE FILTER MATERIAL, GEOTEXTILE FABRIC, AND RIP-RAP TO THE GRADES SHOWN ON THE PLANS.
2. MINIMUM 6" SAND/GRAVEL BEDDING OR GEOTEXTILE FABRIC REQUIRED UNDER ALL ROCK RIP-RAP.
3. THE ROCK OR GRAVEL USED FOR FILTER OR RIP-RAP SHALL CONFORM TO THE SPECIFIED GRADATION.
4. 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.
5. 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 STONE SIZES.
6. 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.

MAINTENANCE NOTES:
1. 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.
2. THE CHANNEL IMMEDIATELY DOWNSTREAM FROM THE OUTLET SHOULD BE CHECKED TO SEE THAT NO EROSION IS OCCURRING.
3. 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 MUST BE CARRIED OUT IMMEDIATELY TO AVOID ADDITIONAL DAMAGE TO THE OUTLET PROTECTION APRON.

RIP RAP APRON OUTLET PROTECTION

NOT TO SCALE





BLOCK AND GRAVEL INLET SEDIMENT FILTER

NOT TO SCALE

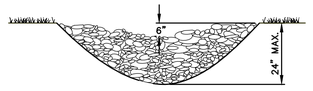
CONSTRUCTION SPECIFICATIONS:
1. PLACE CONCRETE BLOCKS LENGTHWISE ON THEIR SIDE IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET, WITH THE ENDS OF ADJACENT BLOCKS ABUTTING. THE HEIGHT OF THE BARRIER CAN BE VARIED, DEPENDING ON DESIGN NEEDS, BY STACKING COMBINATIONS OF 4-INCH, 8-INCH AND 12-INCH WIDE BLOCKS. THE BARRIER OF BLOCKS SHALL BE AT LEAST 12 INCHES HIGH AND NO GREATER THAN 24 INCHES HIGH
2. 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.
3. 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 STONE SIZE OF 1 INCH.
4. 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.
2. 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.
3. STRUCTURES SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

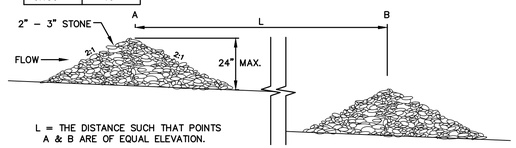
SEDIMENTATION CONTROL AT CATCH BASINS

NOT TO SCALE

SPACING BETWEEN CHECK DAMS	
SLOPE (FT/FT)	LENGTH (FT)
0.020	75
0.030	50
0.040	37
0.050	30
0.080	19
0.100	15
0.120	13
0.150	10



DRAINAGEWAY CROSS-SECTION



L = THE DISTANCE SUCH THAT POINTS A & B ARE OF EQUAL ELEVATION.

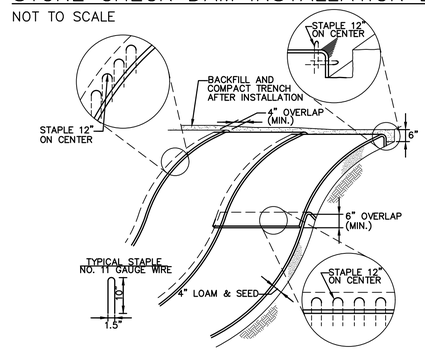
SPACING BETWEEN STONE CHECK DAMS

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.

MAINTENANCE NOTES:
1. 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.
2. PARTICULAR ATTENTION SHOULD BE GIVEN TO END RUN AND EROSION AT THE DOWNSTREAM TOE OF THE STRUCTURE.
3. WHEN REMOVING THE STRUCTURES, THE DISTURBED AREAS SHALL BE BROUGHT UP TO EXISTING CHANNEL GRADE AND THE AREAS PREPARED, SEEDED AND MULCHED
4. SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRUCTURES WHEN IT REACHES 1/2 THE ORIGINAL HEIGHT OF THE STRUCTURE.

STONE CHECK DAM INSTALLATION DETAIL

NOT TO SCALE



SLOPE INSTALLATION

MAINTENANCE REQUIREMENTS:
1. 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:
1. 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.
   B. 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.
   C. 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.
   E. 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.
2. SITE PREPARATION:
   A. PROPER SITE PREPARATION IS ESSENTIAL TO ENSURE COMPLETE CONTACT OF THE PROTECTION MATTING WITH THE SOIL.
   B. GRADE AND SHAPE AREA IF INSTALLATION.
   C. REMOVE ALL ROCKS, CLODS, TRASH, VEGETATIVE OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED BLANKETS WILL HAVE DIRECT CONTACT WITH THE SOIL.
   D. PREPARE SEEDBED BY LOOSENING 2-3 INCHES OF TOPSOIL ABOVE FINAL GRADE.
   E. INCORPORATE AMENDMENTS, SUCH AS LIME AND FERTILIZER, INTO SOIL ACCORDING TO SOIL TEST AND THE SEEDING PLAN.
3. SEEDING:
   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.
   B. 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 SLOPE PROTECTION

NOT TO SCALE

PERMANENT VEGETATION:

SPECIFICATIONS:

SITE PREPARATION:
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. 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 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.
2. 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 MATERIAL.
3. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED; THE AREA MUST BE TILLED AND FIRMED AS ABOVE.
4. 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 SEASON.
6. 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
7. 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.
3. 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.
4. 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 SEEDING PERIOD.
5. 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.

HYDROSEEDING:
1. 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 DIAMETER.
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.
2. SEEDED AREAS SHOULD BE MOWED AS REQUIRED TO MAINTAIN A HEALTHY STAND OF VEGETATION. MOWING HEIGHT AND FREQUENCY DEPEND OF TYPE OF GRASS COVER.
3. BASED ON INSPECTION, AREAS SHOULD BE RESEEDED TO ACHIEVE FULL STABILIZATION OF EXPOSED SOILS.
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.

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

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

TEMPORARY VEGETATION:

SPECIFICATIONS:

SITE PREPARATION:
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 2 INCHES BEFORE APPLYING FERTILIZER, LIME AND SEED.
3. IF APPLICABLE, FERTILIZER AND ORGANIC SOIL AMENDMENTS SHOULD BE APPLIED DURING THE GROWING SEASON.
4. 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
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.

SEEDING:
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. HYDROSEEDING THAT INCLUDES MULCH MAY BE LEFT ON SOIL SURFACE. SEEDING RATES MUST BE INCREASED BY 10% WHEN HYDROSEEDING.
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 3.
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:
1. 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.

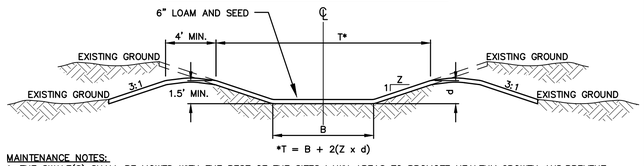
TEMPORARY VEGETATION SEEDING RECOMMENDATIONS

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.

SOURCES:
1. NEW HAMPSHIRE STORMWATER MANAGEMENT MANUAL, VOLUME 3, TABLE 4–1
2. MINNICK, E.L. AND H.T. MARSHALL, (AUGUST 1992)

SWALE DIMENSION TABLE

LOCATION	B	d	Z	T	LENGTH
WHERE SHOWN	4–FT	2–FT	3–FT	20–FT	AS SHOWN



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

VEGETATED SWALE DETAIL

NOT TO SCALE

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

RICHARD R. LINDBORN No. 10943 LICENSED PROFESSIONAL ENGINEER – STATE OF NEW HAMPSHIRE

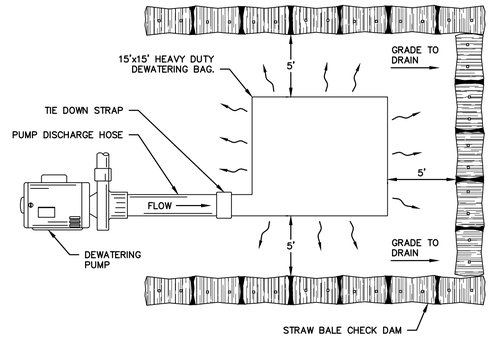
SCALE: HORZ.: NTS VERT.:
DATUM: HORZ.: VERT.:
GRAPHIC SCALE 0

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

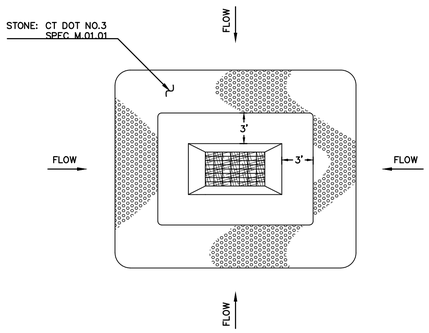
CATE STREET DEVELOPMENT, LLC
DETAILS
WEST END YARDS
PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

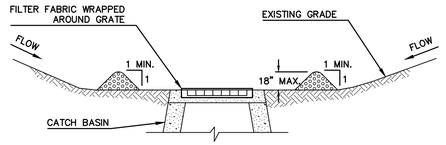
CD-551



DEWATERING BAG
NOT TO SCALE

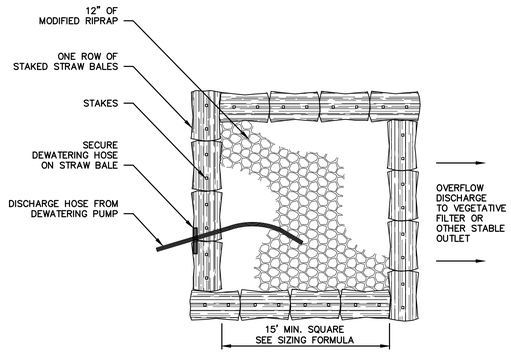


PLAN



SECTION

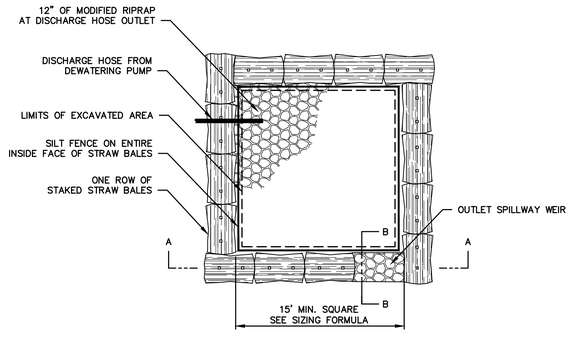
LOW POINT STONE CHECK DAM
NOT TO SCALE



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

PLAN

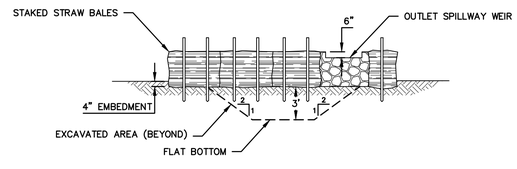
PUMP SETTLING BASIN TYPE I
NOT TO SCALE



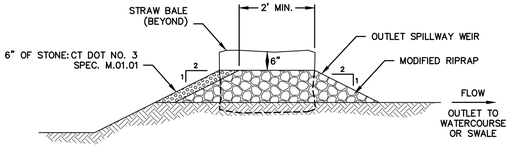
SIZING FORMULA:
CUBIC FT. OF REQUIRED STORAGE = PUMP DISCHARGE RATE (GPM) x 16

PLAN

PUMP SETTLING BASIN TYPE II
NOT TO SCALE



SECTION A–A



SECTION B–B

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER
1.	3/18/2019	TAC SUBMITTAL	JVA/DAD	RRL

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – RICHARD R. LUNDBORN No. 10943 LICENSED

SCALE: HORZ.: NTS VERT.:
DATUM: HORZ.: VERT.:
GRAPHIC SCALE 0

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

CATE STREET DEVELOPMENT, LLC
EROSION CONTROL DETAILS
WEST END YARDS
PORTSMOUTH NEW HAMPSHIRE

PROJ. No.: 20180317.A10
DATE: 03/18/2019

CD-552

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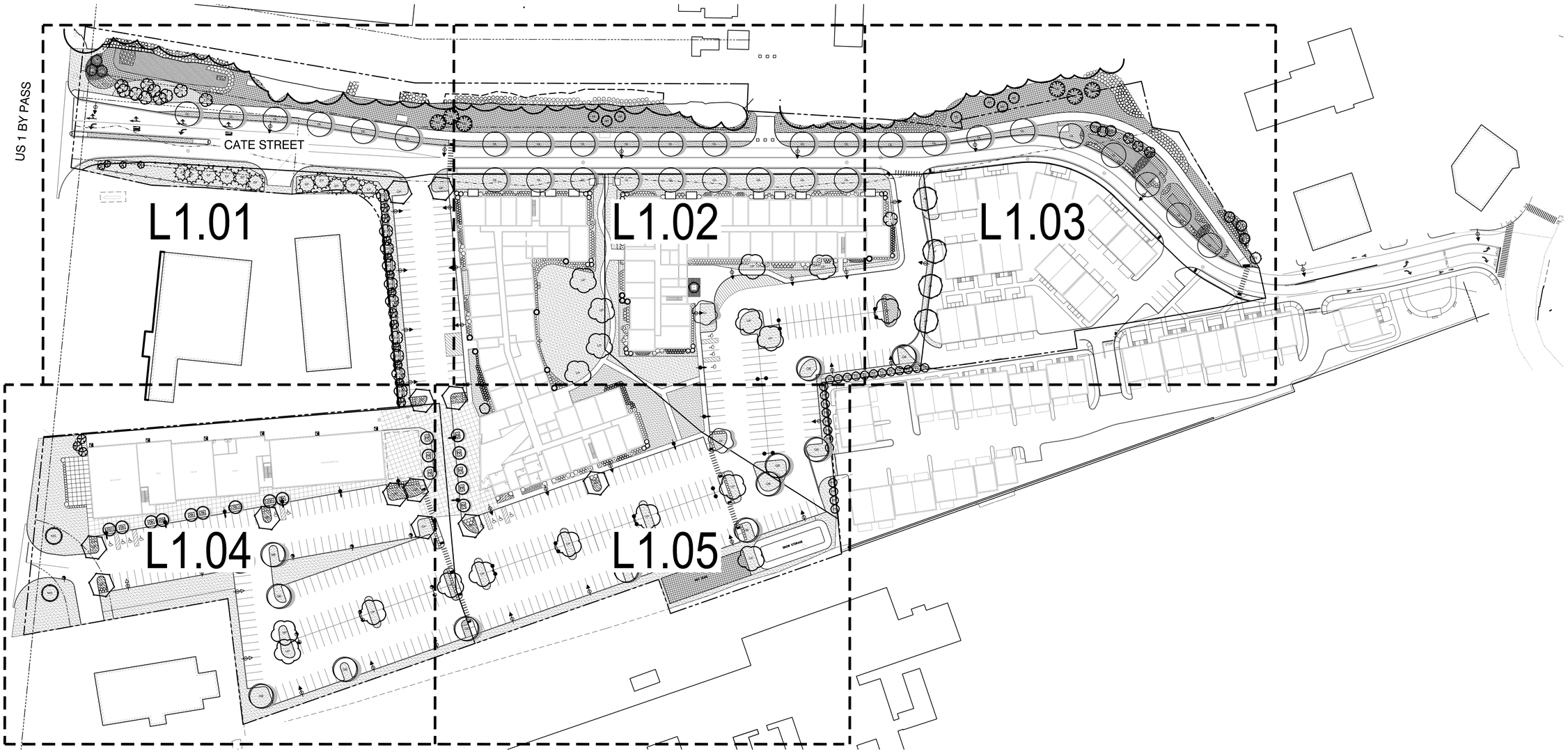


NOTE:

REFER TO PLANT SCHEDULE ON SHEET L1.06 FOR THE DETAILED PLANT SCHEDULE
PER SECTION 6.2-2A OF THE CITY OF PORTLAND SITE PLAN REVIEW REGULATIONS

SITE PLAN NOTE:

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

PLANT SCHEDULE OVERALL

TREES	QTY	BOTANICAL NAME / COMMON NAME	SIZE	ROOT	SPACING
AF	4	Acer rubrum `Franksred` TM / Red Sunset Maple	2.5" cal.	B & B	
AR	12	Acer rubrum / Red Maple	8 - 10` HT, #10		As Shown
BN	3	Betula nigra / River Birch Multi-Trunk	2.5" cal.	B & B	
EP	11	Existing Tree Pine / Existing Tree Pine	-		
EX	24	Existing Tree / Existing Tree	-		
GI	2	Gleditsia triacanthos inermis `Skycole` TM / Skyline Thornless Honey Locust	3" cal.	B & B	
GP	12	Ginkgo biloba `Princeton Sentry` / Princeton Sentry Ginkgo	2.5" cal.	B & B	
ME	1	Magnolia x `Elizabeth` / Magnolia	2" cal	B & B	
MG	2	Metasequoia glyptostroboides / Dawn Redwood	12` ht.	B & B	
NS	6	Nyssa sylvatica / Sour Gum	1.5" cal.	B & B	
PA	15	Picea abies / Norway Spruce	8` ht.	B & B	20` o.c.
PE	17	Platanus x acerifolia `Exclamation` TM / Exclamation London Plane Tree	2.5" cal.	B & B	
PR	24	Pinus rigida / Pitch Pine	5` ht.	B & B	
QB	13	Quercus bicolor / Swamp White Oak	3" cal.	B & B	
QL	32	Quercus robur x bicolor `Long` / Regal Prince Oak	3" cal.		
SP	2	Stewartia pseudocamellia / Japanese Stewartia	2" cal	B & B	
TE	5	Thuja occidentalis `Emerald` / Emerald Arborvitae	6` min.	B & B	6` hgt.
TH	10	Thuja occidentalis `Holmstrup` / Holmstrup Cedar	7` ht.	B & B	
TS	25	Thuja occidentalis `Smaragd` / Emerald Green Arborvitae	10` ht.	B & B	
UP	18	Ulmus americana `Princeton` / American Elm	2.5" cal.	B & B	

OVERALL

SHRUBS	QTY	BOTANICAL NAME / COMMON NAME	CONTAINER	MIN. SIZE	SPACING
B2	22	Buxus sempervirens / American Boxwood	36" ht, x 36" sprd.	36" o.c.	
BW	28	Buxus microphylla `Wintergreen` / Wintergreen Boxwood	5 gal.		
CA	46	Clethra alnifolia / Summersweet Clethra	1 gal		36" o.c.
CH	27	Clethra alnifolia `Hummingbird` / Summersweet Clethra	3 gal		30" 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.
HB	30	Hibiscus syriacus `Blue Satin` / Rose-of-Sharon	4` ht.		
HL	51	Hydrangea paniculata `Limelight` TM / Limelight Hydrangea	3 gal.		4` o.c.
IG	68	Ilex glabra / Inkberry Holly	3 gal		3` o.c.
IP	26	Ilex x meserveae `Blue Prince` TM / Blue Prince Holly	4` ht.		3` o.c.
IV	81	Ilex verticillata / Winterberry	2 gal.		4` o.c.
IW	95	Ilex verticillata / Winterberry	1 gal		42" o.c.
MP	108	Myrica pensylvanica / Northern Bayberry	3 gal		36" o.c.
PM	8	Pinus mugo / Mugo Pine	7 gal.		
RG	203	Rhus aromatica `Gro-Low` / Gro-Low Fragrant Sumac	3 gal.		24" o.c.
RP	267	Rhododendron x `P.J.M.` / Rhododendron P.J.M.	3 gal		
SB	116	Schizachyrium scoparium `Blue Heaven` / Blue Heaven Little Bluestem	3 gal		36" o.c.
SG	15	Spiraea japonica `Goldmound` / Spirea	3 gal		
SM	35	Syringa meyeri `Palibin` / Dwarf Korean Lilac	5 gal.		3` o.c.
TD	291	Taxus x media `Densiformis` / Dense Yew	3 gal		3` o.c.
VH	135	Vaccinium corymbosum / Highbush Blueberry	2 gal.		4` o.c.

OVERALL

GROUND COVERS	QTY	BOTANICAL NAME / COMMON NAME	CONTAINER	MIN. SIZE	SPACING
AB	123	Amsonia tabernaemontana `Blue Ice` / Blue Ice Star Flower	1 gal.		12" o.c.
CM	31,199 sf	Conservation Seed Mix / Conservation Seed	SF		
FA	93,898	Festuca arundinacea / Tall Fescue Seed Mix	SF		
HO	16	Hemerocallis x `Stella de Oro` / Stella de Oro Daylily	1 gal.		
LC	1,149	Liriope spicata / Creeping Lily Turf	1 gal.		18" o.c.
MM	9,835	Mulch / Hardwood Mulch	SF		12" o.c.
PA2	197	Perovskia atriplicifolia / Russian Sage	1 gal.		12" o.c.
WM	4,631 sf	Wetland Seed Mix / Wetland Seed	SF		

60 0 60 120 180
Scale 1" = 60'

SITE solutions
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

PROFESSIONAL STAMP:

WEST END YARDS

PREPARED FOR
TORRINGTON PROPERTIES

SHEET STATUS

MARK	DATE	BY	RELEASE
A	03/18/2019	SS	TAC SUBMITTAL

SHEET TITLE:

OVERALL LANDSCAPE PLAN

PROJECT NUMBER:
18041.00

L1.00

DATE: 03.18.2019

PERMIT ISSUE

PROPERTY LINE

EXISTING TREE LINE

EXISTING SIGN

EXISTING TREES

STREAM BUFFER LANDSCAPE

100 FT. WETLAND BUFFER

US 1 BY PASS

CATE STREET

PROPOSED TREE PROTECTION FENCE

EXISTING TREES TO REMAIN

EXISTING SHRUBS TO REMAIN

EXISTING SIGN TO REMAIN

EXISTING UHAUL TO REMAIN

EXISTING TREES TO REMAIN

EXISTING SCREEN FENCE & WALL TO REMAIN

REPAIR FENCE WHERE REQUIRED

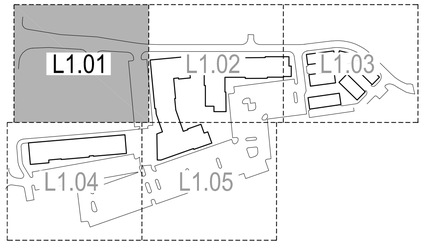
ADJUST ALL PROPOSED PLANT MATERIAL TO MEET SIGHT LINE VISIBILITY REQUIREMENTS

PROPOSED TREE PROTECTION FENCE

CM 971 sf | VH 39 | IV 39 | WM 2,771 sf | CSP 39 | MM 2,167 | CR 32 | CM 14,901 sf | CSP 3 | IV 3 | VH 3 | CSP 7 | IV 7 | VH 7 | FA 1,485 | RG 135 | LC 135 | FA 624 | FA 4,066 | FA 408 | FA 12,162 | MM 1,270

SHEET L1.02

SHEET L1.04



PLANT SCHEDULE OVERALL

TREES	BOTANICAL NAME / COMMON NAME
AF	Acer rubrum `Franksred` TM / Red Sunset Maple
AR	Acer rubrum / Red Maple
BN	Betula nigra / River Birch Multi-Trunk
EP	Existing Tree Pine / Existing Tree Pine
EX	Existing Tree / Existing Tree
GI	Gleditsia triacanthos inermis `Skycole` TM / Skyline Thornless Honey Locust
GP	Ginkgo biloba `Princeton Sentry` / Princeton Sentry Ginkgo
ME	Magnolia x `Elizabeth` / Magnolia
MG	Metasequoia glyptostroboldes / Dawn Redwood
NS	Nyssa sylvatica / Sour Gum
PA	Picea abies / Norway Spruce
PE	Platanus x acerifolia `Exclamation` TM / Exclamation London Plane Tree
PR	Pinus rigida / Pitch Pine
QB	Quercus bicolor / Swamp White Oak
QL	Quercus robur x bicolor `Long` / Regal Prince Oak
SP	Stewartia pseudocamellia / Japanese Stewartia
TE	Thuja occidentalis `Emerald` / Emerald Arborvitae
TH	Thuja occidentalis `Holmstrup` / Holmstrup Cedar
TS	Thuja occidentalis `Smaragd` / Emerald Green Arborvitae
UP	Ulmus americana `Princeton` / American Elm
SHRUBS	BOTANICAL NAME / COMMON NAME
B2	Buxus sempervirens / American Boxwood
BW	Buxus microphylla `Wintergreen` / Wintergreen Boxwood
CA	Clethra alnifolia / Summersweet Clethra
CH	Clethra alnifolia `Hummingbird` / Summersweet Clethra
CR	Cornus sericea / Red Twig Dogwood
CS	Clethra alnifolia `Ruby Spice` / Ruby Spice Clethra
CSP	Clethra alnifolia / Sweet Pepper Clethra
HA	Hydrangea arborescens / Wild Hydrangea
HB	Hibiscus syriacus `Blue Satin` / Rose-of-Sharon
HL	Hydrangea paniculata `Limelight` TM / Limelight Hydrangea
IG	Ilex glabra / Inkberry Holly
IP	Ilex x meserveae `Blue Prince` TM / Blue Prince Holly
IV	Ilex verticillata / Winterberry
IW	Ilex verticillata / Winterberry
MP	Myrica pensylvanica / Northern Bayberry
PM	Pinus mugo / Mugo Pine
RG	Rhus aromatica `Gro-Low` / Gro-Low Fragrant Sumac
RP	Rhododendron x `P.J.M.` / Rhododendron P.J.M.
SB	Schizachyrium scoparium `Blue Heaven` / Blue Heaven Little Bluestem
SG	Spiraea japonica `Goldmound` / Spirea
SM	Syringa meyeri `Palibin` / Dwarf Korean Lilac
TD	Taxus x media `Densiformis` / Dense Yew
VH	Vaccinium corymbosum / Highbush Blueberry
GROUND COVERS	BOTANICAL NAME / COMMON NAME
AB	Amsonia tabernaemontana `Blue Ice` / Blue Ice Star Flower
CM	Conservation Seed Mix / Conservation Seed
FA	Festuca arundinacea / Tall Fescue Seed Mix
HO	Hemerocallis x `Stella de Oro` / Stella de Oro Daylily
LC	Liriope spicata / Creeping Lily Turf
MM	Mulch / Hardwood Mulch
PA2	Perovskia atriplicifolia / Russian Sage
WM	Wetland Seed Mix / Wetland Seed

SITE PLAN NOTE:

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

20 0 20 40 60

Scale 1" = 20'

SITE solutions
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

PROFESSIONAL STAMP:

WEST END YARDS

PREPARED FOR

TORRINGTON PROPERTIES

SHEET STATUS

MARK	DATE	BY	RELEASE
A	03/18/2019	SS	TAC SUBMITTAL

SHEET TITLE:

LANDSCAPE PLAN

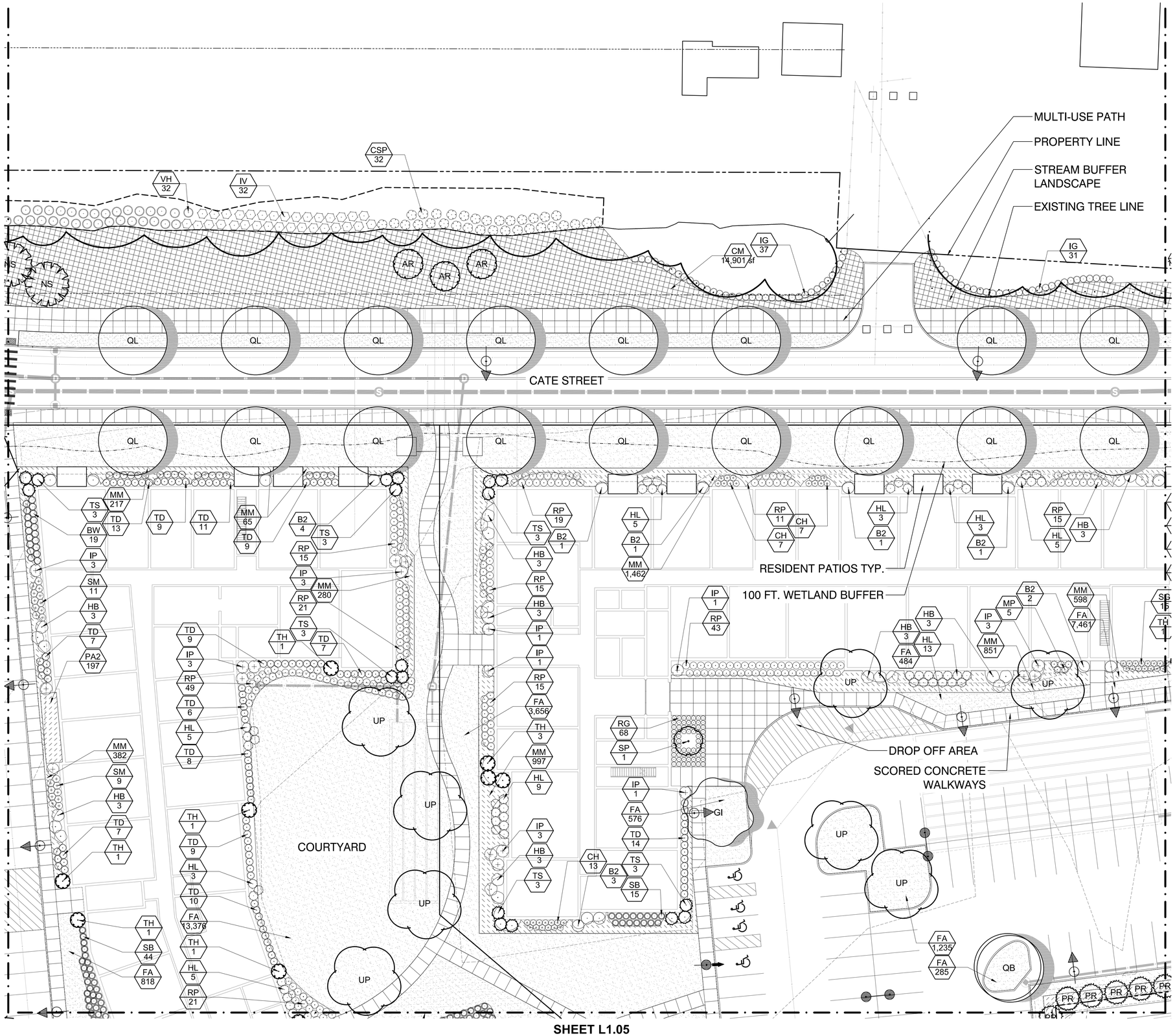
PROJECT NUMBER:

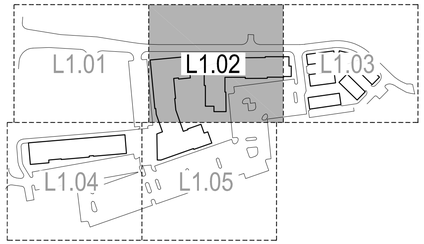
18041.00

L1.01

DATE: 03.18.2019

PERMIT ISSUE





PLANT SCHEDULE OVERALL

TREES	BOTANICAL NAME / COMMON NAME
AF	Acer rubrum `Franksred` TM / Red Sunset Maple
AR	Acer rubrum / Red Maple
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EX	Existing Tree / Existing Tree
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GP	Ginkgo biloba `Princeton Sentry` / Princeton Sentry Ginkgo
ME	Magnolia x `Elizabeth` / Magnolia
MG	Metasequoia glyptostroboides / Dawn Redwood
NS	Nyssa sylvatica / Sour Gum
PA	Picea abies / Norway Spruce
PE	Platanus x acerifolia `Exclamation` TM / Exclamation London Plane Tree
PR	Pinus rigida / Pitch Pine
QB	Quercus bicolor / Swamp White Oak
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SP	Stewartia pseudocamellia / Japanese Stewartia
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CR	Cornus sericea / Red Twig Dogwood
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SITE PLAN NOTE:

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20 0 20 40 60
Scale 1" = 20'

SITE solutions
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PROFESSIONAL STAMP:

WEST END YARDS

PREPARED FOR
TORRINGTON PROPERTIES

SHEET STATUS

MARK	DATE	BY	RELEASE
A	03/18/2019	SS	TAC SUBMITTAL

SHEET TITLE:

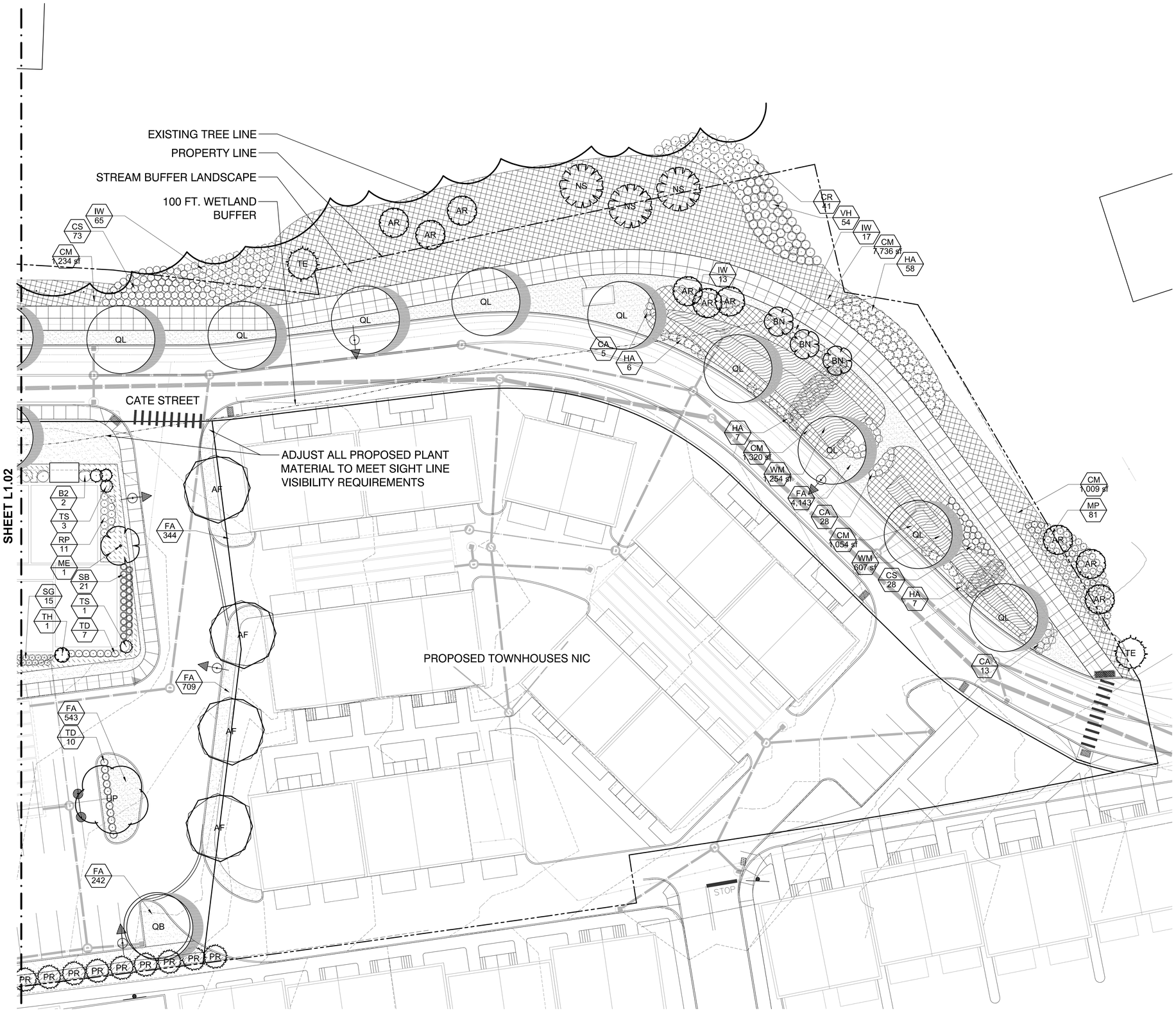
LANDSCAPE PLAN

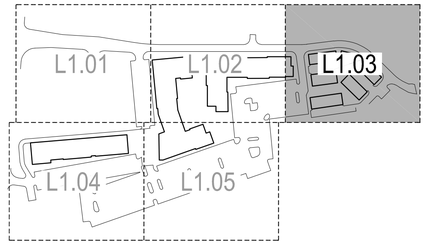
PROJECT NUMBER:
18041.00

L1.02

DATE: 03.18.2019

PERMIT ISSUE





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IP	Ilex x meserveae `Blue Prince` TM / Blue Prince Holly
IV	Ilex verticillata / Winterberry
IW	Ilex verticillata / Winterberry
MP	Myrica pensylvanica / Northern Bayberry
PM	Pinus mugo / Mugo Pine
RG	Rhus aromatica `Gro-Low` / Gro-Low Fragrant Sumac
RP	Rhododendron x `P.J.M.` / Rhododendron P.J.M.
SB	Schizachyrium scoparium `Blue Heaven` / Blue Heaven Little Bluestem
SG	Spiraea japonica `Goldmound` / Spirea
SM	Syringa meyeri `Palibin` / Dwarf Korean Lilac
TD	Taxus x media `Densiformis` / Dense Yew
VH	Vaccinium corymbosum / Highbush Blueberry

GROUND COVERS	BOTANICAL NAME / COMMON NAME
AB	Amsonia tabernaemontana `Blue Ice` / Blue Ice Star Flower
CM	Conservation Seed Mix / Conservation Seed
FA	Festuca arundinacea / Tall Fescue Seed Mix
HO	Hemerocallis x `Stella de Oro` / Stella de Oro Daylily
LC	Liriope spicata / Creeping Lily Turf
MM	Mulch / Hardwood Mulch
PA2	Perovskia atriplicifolia / Russian Sage
WM	Wetland Seed Mix / Wetland Seed

SITE PLAN NOTE:

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

20 0 20 40 60
Scale 1" = 20'

SITE solutions
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

PROFESSIONAL STAMP:

WEST END YARDS

PREPARED FOR
TORRINGTON PROPERTIES

SHEET STATUS

MARK	DATE	BY	RELEASE
A	03/18/2019	SS	TAC SUBMITTAL

SHEET TITLE:

LANDSCAPE PLAN

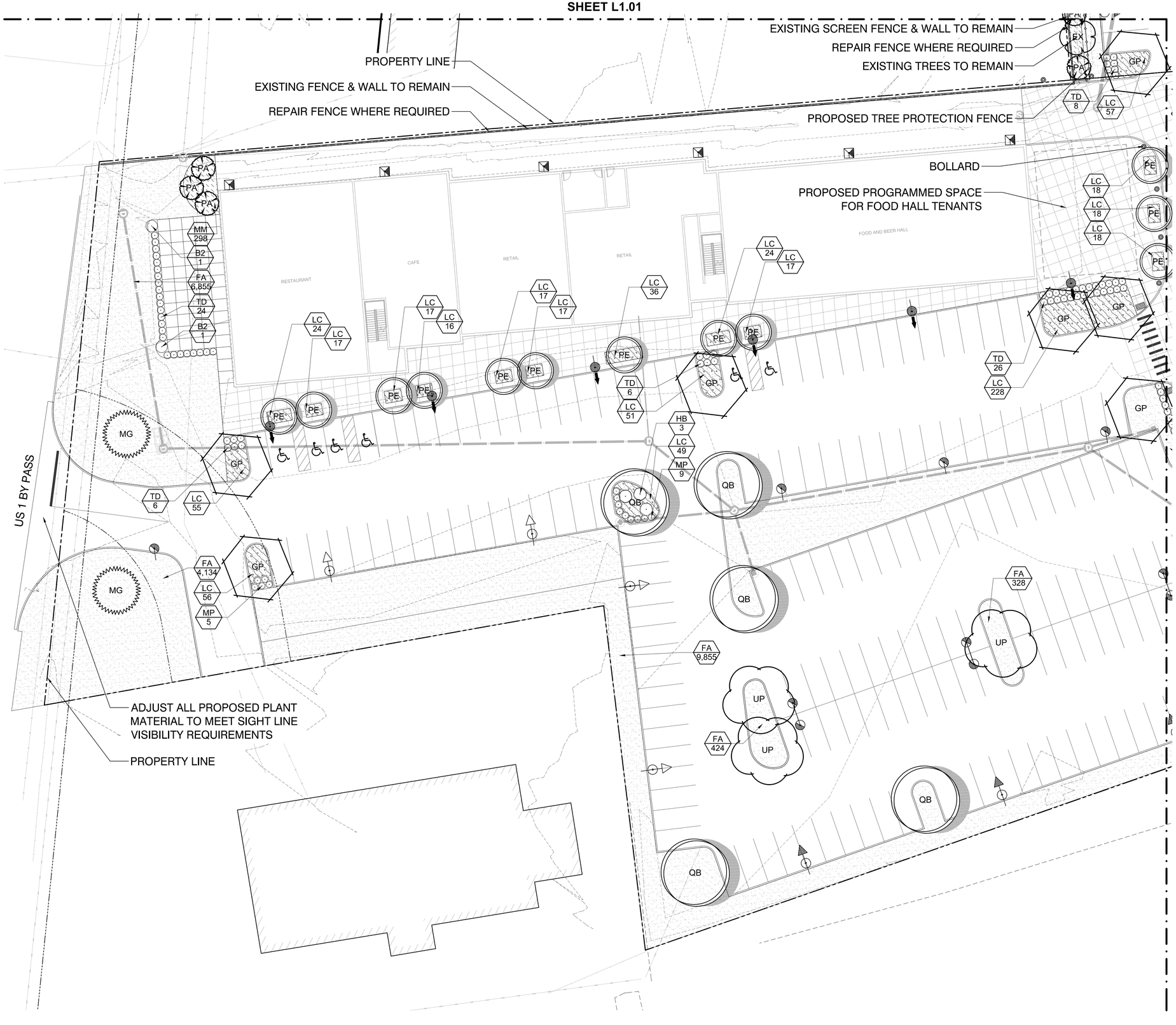
PROJECT NUMBER:
18041.00

L1.03

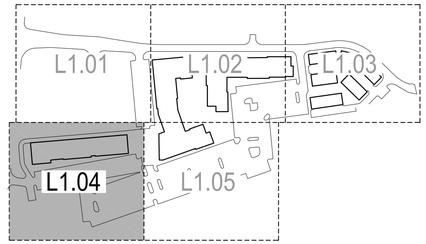
DATE: 03.18.2019

PERMIT ISSUE

SHEET L1.01



SHEET L1.05



PLANT SCHEDULE OVERALL

TREES	BOTANICAL NAME / COMMON NAME
AF	Acer rubrum `Franksred` TM / Red Sunset Maple
AR	Acer rubrum / Red Maple
BN	Betula nigra / River Birch Multi-Trunk
EP	Existing Tree Pine / Existing Tree Pine
EX	Existing Tree / Existing Tree
GI	Gleditsia triacanthos inermis `Skycole` TM / Skyline Thornless Honey Locust
GP	Ginkgo biloba `Princeton Sentry` / Princeton Sentry Ginkgo
ME	Magnolia x `Elizabeth` / Magnolia
MG	Metasequoia glyptostroboides / Dawn Redwood
NS	Nyssa sylvatica / Sour Gum
PA	Picea ables / Norway Spruce
PE	Platanus x acerifolia `Exclamation` TM / Exclamation London Plane Tree
PR	Pinus rigida / Pitch Pine
QB	Quercus bicolor / Swamp White Oak
QL	Quercus robur x bicolor `Long` / Regal Prince Oak
SP	Stewartia pseudocamellia / Japanese Stewartia
TE	Thuja occidentalis `Emerald` / Emerald Arborvitae
TH	Thuja occidentalis `Holmstrup` / Holmstrup Cedar
TS	Thuja occidentalis `Smaragd` / Emerald Green Arborvitae
UP	Ulmus americana `Princeton` / American Elm

SHRUBS	BOTANICAL NAME / COMMON NAME
B2	Buxus sempervirens / American Boxwood
BW	Buxus microphylla `Wintergreen` / Wintergreen Boxwood
CA	Clethra alnifolia / Summersweet Clethra
CH	Clethra alnifolia `Hummingbird` / Summersweet Clethra
CR	Cornus sericea / Red Twig Dogwood
CS	Clethra alnifolia `Ruby Spice` / Ruby Spice Clethra
CSP	Clethra alnifolia / Sweet Pepper Clethra
HA	Hydrangea arborescens / Wild Hydrangea
HB	Hibiscus syriacus `Blue Satin` / Rose-of-Sharon
HL	Hydrangea paniculata `Limelight` TM / Limelight Hydrangea
IG	Ilex glabra / Inkberry Holly
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SG	Spiraea japonica `Goldmound` / Spirea
SM	Syringa meyeri `Palibin` / Dwarf Korean Lilac
TD	Taxus x media `Densiformis` / Dense Yew
VH	Vaccinium corymbosum / Highbush Blueberry

GROUND COVERS	BOTANICAL NAME / COMMON NAME
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LC	Liriope spicata / Creeping Lily Turf
MM	Mulch / Hardwood Mulch
PA2	Perovskia atriplicifolia / Russian Sage
WM	Wetland Seed Mix / Wetland Seed

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PROFESSIONAL STAMP:

WEST END YARDS

PREPARED FOR

TORRINGTON PROPERTIES

SHEET STATUS

MARK	DATE	BY	RELEASE
A	03/18/2019	SS	TAC SUBMITTAL

SHEET TITLE:

LANDSCAPE PLAN

PROJECT NUMBER:
18041.00

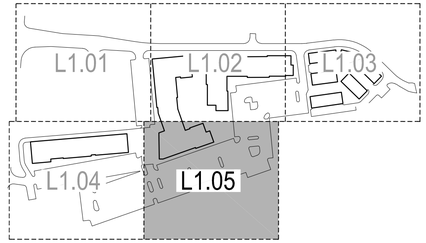
L1.04

DATE: 03.18.2019

PERMIT ISSUE

SHEET L1.02

SHEET L1.04



PLANT SCHEDULE OVERALL

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GI	Gleditsia triacanthos inermis `Skycole` TM / Skyline Thornless Honey Locust
GP	Ginkgo biloba `Princeton Sentry` / Princeton Sentry Ginkgo
ME	Magnolia x `Elizabeth` / Magnolia
MG	Metasequoia glyptostroboides / Dawn Redwood
NS	Nyssa sylvatica / Sour Gum
PA	Picea abies / Norway Spruce
PE	Platanus x acerifolia `Exclamation` TM / Exclamation London Plane Tree
PR	Pinus rigida / Pitch Pine
QB	Quercus bicolor / Swamp White Oak
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TH	Thuja occidentalis `Holmstrup` / Holmstrup Cedar
TS	Thuja occidentalis `Smaragd` / Emerald Green Arborvitae
UP	Ulmus americana `Princeton` / American Elm

SHRUBS	BOTANICAL NAME / COMMON NAME
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CH	Clethra alnifolia `Hummingbird` / Summersweet Clethra
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CSP	Clethra alnifolia / Sweet Pepper Clethra
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Atlanta, Georgia 30327 www.sitesolutionsla.com

PROFESSIONAL STAMP:

WEST END YARDS

PREPARED FOR

TORRINGTON PROPERTIES

SHEET STATUS

MARK	DATE	BY	RELEASE
A	03/18/2019	SS	TAC SUBMITTAL

SHEET TITLE:

LANDSCAPE PLAN

PROJECT NUMBER:
18041.00

L1.05

DATE: 03.18.2019

PERMIT ISSUE

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, #10	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	
23	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	
135	Vaccinium corymbosum / Highbush Blueberry	2 gal.	4-8' ht.	Rounded		Native. Two varieties required to improve pollination.
Ground Cover						
28227	Conservation Seed Mix / Conservation Seed	SF				
10318	Festuca arundinacea / Tall Fescue Grass	SF				
135	Liriope spicata / Creeping Lily Turf	1 gal.	12" ht.	Spreading	Low	
2167	Mulch / Hardwood Mulch	SF				
4631	Wetland Seed Mix / Wetland Seed	SF				

WEST END YARDS DETAILED PLANT SCHEDULE

Trees	Botanical Name / Common Name	Plant Size at Installation	Plant Size at maturity	Growth Habit	Salt Tolerance (soil)	Notes
4	Acer rubrum `Franksred` TM / Red Sunset Maple	2.5" cal.	45' ht.	Broadly Pyramidal	Low	Native
2	Gleditsia triacanthos inermis `Skycole` TM / Skyline Thornless Honey Locust	3" cal.	40' ht.	Broadly Pyramidal	High	
12	Ginkgo biloba `Princeton Sentry` / Princeton Sentry Ginkgo	2.5" cal.	60' ht.	Narrow Upright	High	Male Species Only
1	Magnolia X `Elizabeth` (M. acuminata X M. denudata) / Elizabeth Magnolia	2" cal	50' ht.	Pyramidal	Low	Very Cold Hardy
2	Metasequoia glyptostroboides / Dawn Redwood	12` ht.	70' ht.	Conically Pyramidal	Low	Hardy to Zone 5-B
15	Picea abies / Norway Spruce	8` ht.	40' ht.	Pyramidal	Medium	
17	Platanus x acerifolia `Exclamation` TM / Exclamation London Plane Tree	2.5" cal.	75' ht.	Upright spreading	Medium	Hardy to Zone 5-B
24	Pinus rigida / Pitch Pine	5` ht.	30' ht.	Pyramidal	High	Native
13	Quercus bicolor / Swamp White Oak	3" cal.	60' ht.	Spreading	High	Native
9	Quercus robur x bicolor `Long` / Regal Prince Oak	3" cal.	60' ht.	Columnar	Medium	
2	Stewartia pseudocamellia / Japanese Stewartia	2" cal	30' ht.	Pyramidal/Oval	Low	Hardy to Zone 5-B
10	Thuja occidentalis `Holmstrup` / Holmstrup Cedar	7` ht.	5' ht.	Narrow Compact	High	Native
25	Thuja occidentalis `Smaragd` / Emerald Green Arborvitae	10` ht.	40' ht.	Conically Pyramidal	High	Native
18	Ulmus americana `Princeton` / American Elm	2.5" cal.	60' ht.	Ascending vase shape	High	Native
Shrubs						
22	Buxus sempervirens / American Boxwood	36" ht. x 36" spd.	4' ht. x 4' spd.	Globe shape	Low	
28	Buxus microphylla `Wintergreen` / Wintergreen Boxwood	5 gal.	4' ht. x 4' spd.	Globe shape	High	
27	Clethra alnifolia `Hummingbird` / Summersweet	3 gal	6' ht.	Spreading open	High	Tolerates salt spray
30	Hibiscus syriacus `Blue Satin` / Rose-of-Sharon	4` ht.	8' ht.	Upright Spreading	Low	Tolerates alkaline soil
51	Hydrangea paniculata `Limelight` TM / Limelight Hydrangea	3 gal.	4'-8' ht.	Spreading	High	Long Lived
26	Ilex x meserveae `Blue Prince` TM / Blue Prince Holly	4` ht.	12' ht.	Dense compact	Low	Very Cold Hardy
27	Myrica pensylvanica / Northern Bayberry	3 gal	6'-8' ht.	Rounded	High	Tolerates salt spray
8	Pinus mugo / Mugo Pine	7 gal.	4-10' ht.	Spreading	High	
68	Rhus aromatica `Gro-Low` / Gro-Low Fragrant Sumac	3 gal.	2' ht.	Low Spreading	High	
267	Rhododendron x `P.J.M.` / Rhododendron P.J.M.	3 gal	4-8' ht.	Dense compact	Low	
116	Schizachyrium scoparium `Blue Heaven` / Blue Heaven Little Bluestem	3 gal	3-4' ht.	Upright	Medium	
15	Spiraea japonica `Goldmound` / Spirea	3 gal	4' ht. x 4' spd.	Rounded Bushy	Low	
35	Syringa meyeri `Palibin` / Dwarf Korean Lilac	5 gal.	4-8' ht.	Spreading	Medium	
291	Taxus x media `Densiformis` / Dense Yew	3 gal	4' ht.	Upright	High	
Ground Cover and Lawn						
123	Amsonia tabernaemontana `Blue Ice` / Blue Ice Star Flower	1 gal.	12" ht.	Spreading	Low	
197	Perovskia atriplicifolia / Russian Sage	1 gal.	3-4' ht.	Upright	High	
1014	Liriope spicata / Creeping Lily Turf	1 gal.	12" ht.	Spreading	Low	
16	Hemerocallis x `Stella de Oro` / Stella de Oro Daylily	1 gal.	12" ht.	Upright spreading	Medium	
2972.42	Conservation Seed Mix / Conservation Seed	SF				
83580	Festuca arundinacea / Tall Fescue Grass	SF				
7668	Mulch / Hardwood Mulch	SF				

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:

1. 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:

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PROFESSIONAL STAMP:

WEST END YARDS

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TORRINGTON PROPERTIES

SHEET STATUS

MARK	DATE	BY	RELEASE
A	03/18/2019	SS	TAC SUBMITTAL

SHEET TITLE:

LANDSCAPE NOTES & PLANT SCHDULES

PROJECT NUMBER:

18041.00

L1.06

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 :1250 sq ft/lb

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 hydro-seeder. 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 straw is recommended

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.

1 SPEC: WETLAND SEED MIX

N.T.S.

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 LB $36.50 MIN. QUANITY 2 LBS. **TOTAL:** $73.00 APPLY: 25 LBS/ACRE :1750 sq ft/lb

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.

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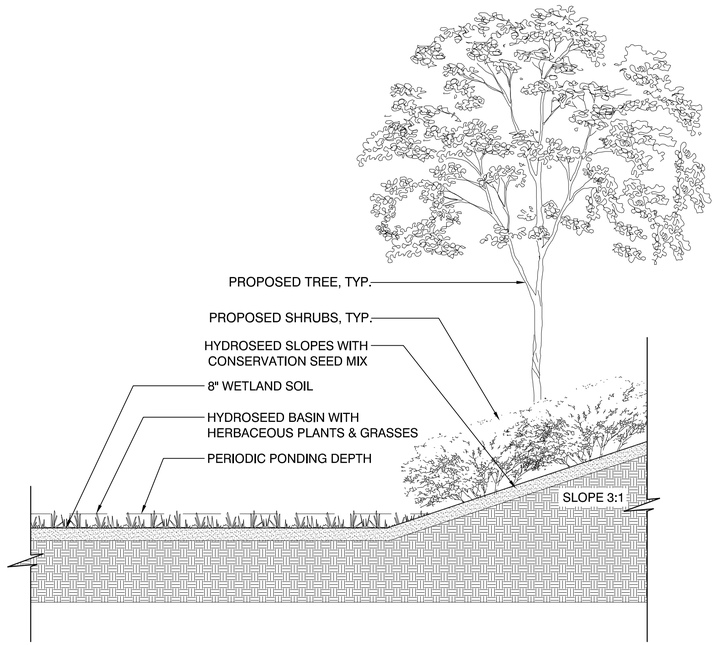
2 SPEC: CONSERVATION SEED MIX

N.T.S.



3 DETAIL: WATER CONSERVATION POND

1/4" = 1'-0"

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 WITHIN THE STREAM.
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),

10. MONITORING OF THE RESTORATION AREAS WILL BE DONE UNDER THE DIRECTION OF THE NHDES WETLANDS BUREAU, AS THESE AREAS FALL UNDER THEIR JURISDICTON.

4 DETAIL: RESTORATION SEQUENCE NOTES

SITE solutions
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

PROFESSIONAL STAMP:

WEST END YARDS

PREPARED FOR

TORRINGTON PROPERTIES

SHEET STATUS

MARK	DATE	BY	RELEASE
A	03/18/2019	SS	TAC SUBMITTAL

SHEET TITLE:

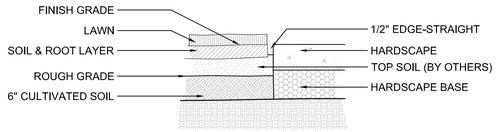
STREAM BUFFER DETAILS

PROJECT NUMBER: 18041.00

L2.01

DATE: 03.18.2019

PERMIT ISSUE



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 OF PAVEMENT

1 SECTION: TYP. SOD INSTALLATION

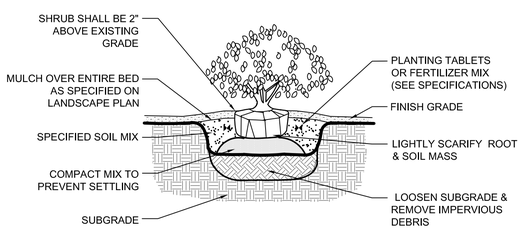
SCALE: N.T.S.

NOTES:

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

2 SECTION: TRENCH EDGE

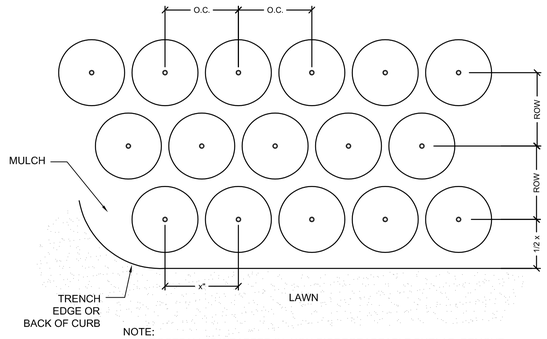
SCALE: NTS



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

3 SECTION: TYP. CONTAINERIZED SHRUB PLANTING

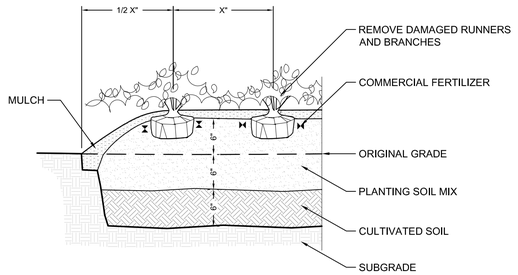
SCALE: NTS



NOTE:
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
3. ALL ROWS TO BE STRAIGHT AND PARALLEL

4 PLAN: TYP. PLAN MASS SPACING

SCALE: NTS

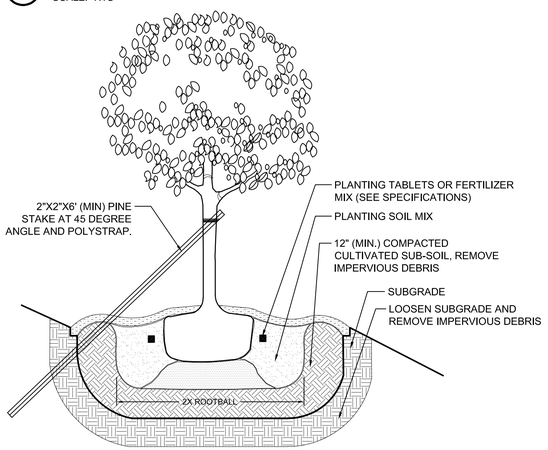


NOTES:

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
3. ALL ROWS TO BE STRAIGHT AND PARALLEL
4. TYP. BED INSTALLATION DETAIL FOR ERICACEOUS PLANT MATERIAL (RHODODENDRON, AZALEAS, PIERIS, ECT.)

5 SECTION: TYP. ERICACEOUS PLANT MATERIAL INSTALL.

SCALE: NTS

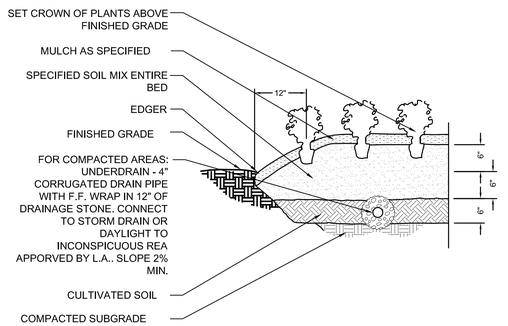


TREE PLANTING NOTES & PROCEDURES

1. DRIVE STAKE 30" INTO GRADE AT A 45 DEGREE ANGLE.
2. ALL STAKES AND INSTALLATION TO MATCH.
3. PROVIDE TREE SAUCER TO EACH TREE.
4. SECURE STAKE TO TREE WITH #4 GALVANIZED WIRE & POLYSTRAPS.
5. MINIMUM ONE STAKE PER TREE UNDER 2" CALIPER. STAKE TO BE 2"X2" PINE.
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

6 SECTION: TYP. TREE PLANTING ON SLOPE

SCALE: NTS

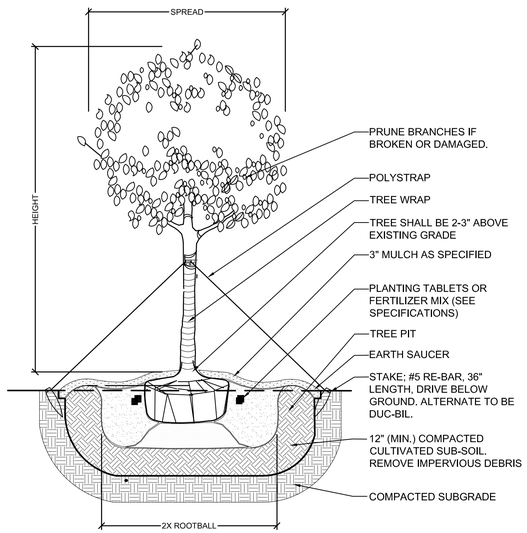


NOTES:

1. REFER TO SPECIFICATIONS FOR FERTILIZATION REQUIREMENTS.

7 SECTION: SEASONAL COLOR & PERENNIAL BED PREP.

SCALE: NTS

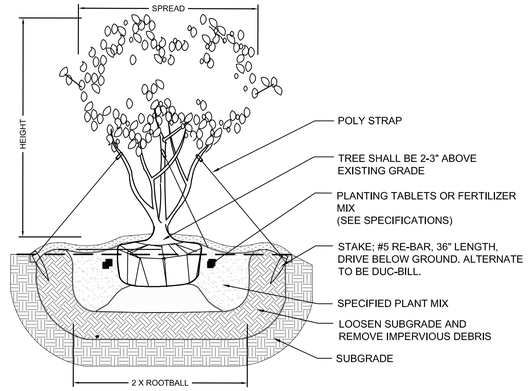


TREE PLANTING NOTES & PROCEDURES

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 ROOTBALL.
6. IMMEDIATELY SOAK TREE PIT WITH WATER AND REMOVE ANY AIR POCKETS THAT MAY HAVE OCCURRED DURING BACKFILLING.

8 SECTION: TYPICAL TREE PLANTING

SCALE: NTS



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

SCALE: NTS

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 contractor.
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 city arborist.
12. Plant material to be free of disease, insect pests, eggs, or larvae. Damaged plant material shall be rejected.
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 plt with water and observe the plt 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 dralnage.
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 Inferlor 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 season.
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 leader.
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 addltional cost to the owner. Landscape contractor responslble 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 dates.
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. zlp 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.

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SHEET STATUS

MARK	DATE	BY	RELEASE
A	03/18/2019	SS	TAC SUBMITTAL

SHEET TITLE:

LANDSCAPE DETAILS

PROJECT NUMBER:

18041.00

L2.02

DATE: 03.18.2019

PERMIT ISSUE

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:

a. 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;
b. inform prevention (e.g., early detection/rapid response), monitoring, and management decision-making 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 githago* (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

Scientific Name	Synonyms	Common Name
Chelidonium majus L.	*Chelidonium majus* L. var. *laciniatum* (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. 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. *bulbilfer* Lambinon; *R. ficaria* L. ssp. *bulbifera* (Marsden-Jones) Lawalree, an illegitimate name; *R. ficaria* var. *bulbifera* Marsden-Jones	Fig-crowfoot
Froelichia gracilis (Hock.) 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. *amplexicaule*		Common henbit

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.		Java water dropwort
Persicaria longiseta (Bruijn) Kitagawa	*Persicaria caespitosa* (Blume) Nakai var. *longiseta* (Bruijn) Reed; *Polygonum caespitosum* Blume var. *longisetum* (Bruijn) Steward; *P. longisetum* Bruijn	Oriental lady's-thumb sma·tweed
Phellodendron amurense Rupr.	*Phellodendron amurense* Rupr. var. *sachalinense* F. Schmidt; *P. japonicum* Maxim.; *P. sachalinense* (F. Schmidt) Sarg.	Amur corktree
Poa compressa L.		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

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 xglauca 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.

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.) Dene.; *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

Impatiens glandulifera Royle	*Impatiens roylei* Walp.	Ornamental jewelweed
Iris pseudacorus L.		Water-flag
Lepidium latifolium L.	*Cardaria latifolia* (L.) Spach	Perennial peppenweed
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.; *Pleuropterus 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

Variance: 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.cygan@agr.nh.gov
http://www.agriculture.nh.gov/divisions/plant-industry/invasive-plants.htm

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Atlanta, Georgia 30327 www.sitesolutionsla.com

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PREPARED FOR

TORRINGTON PROPERTIES

SHEET STATUS

MARK	DATE	BY	RELEASE
A	03/18/2019	SS	TAC SUBMITTAL

SHEET TITLE:

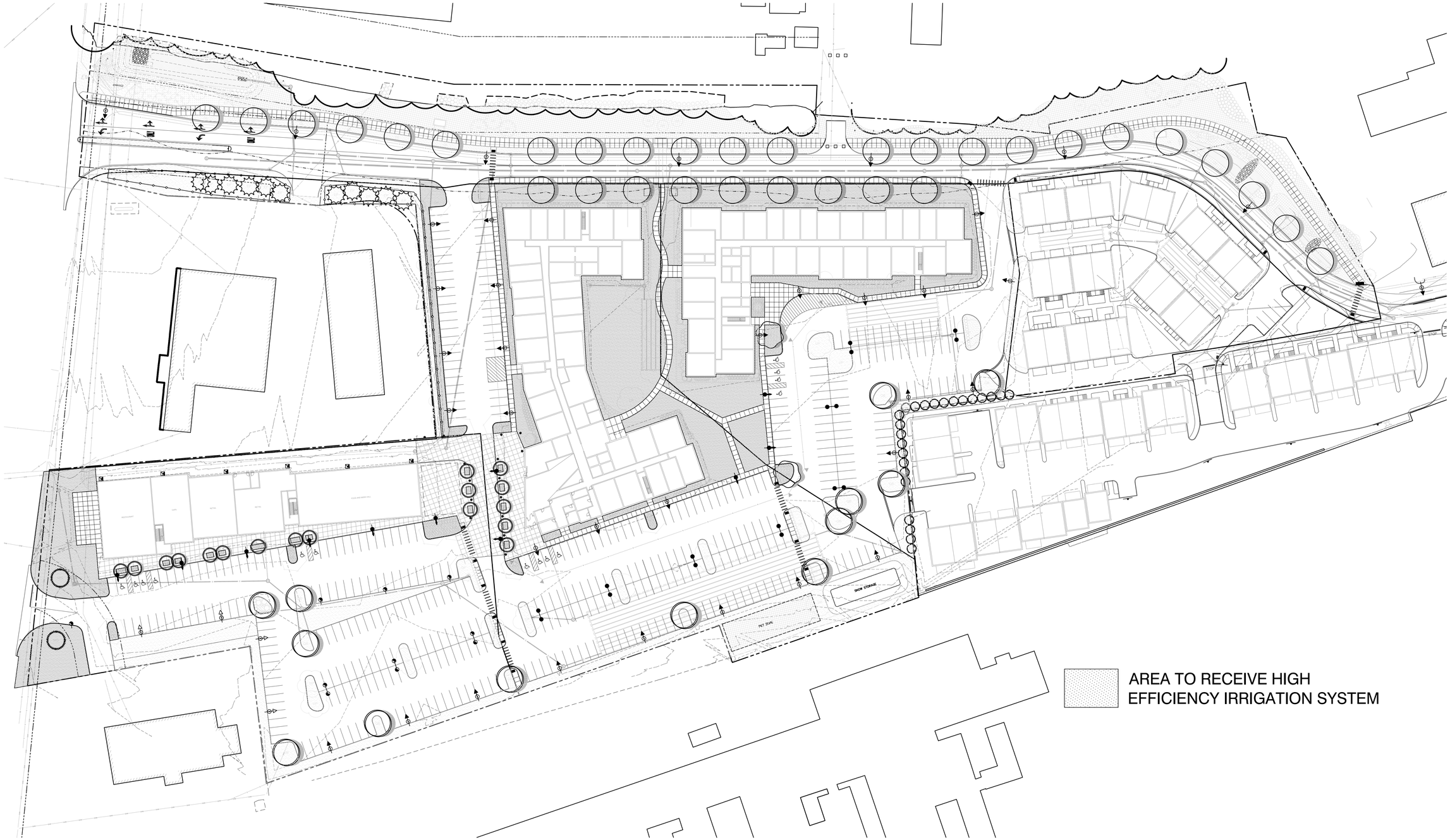
LANDSCAPE DETAILS

PROJECT NUMBER:
18041.00

L2.03

DATE: 03.18.2019

PERMIT ISSUE



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SHEET STATUS

MARK	DATE	BY	RELEASE
A	03/18/2019	SS	TAC SUBMITTAL

SHEET TITLE:

IRRIGATION LAYOUT PLAN

PROJECT NUMBER:

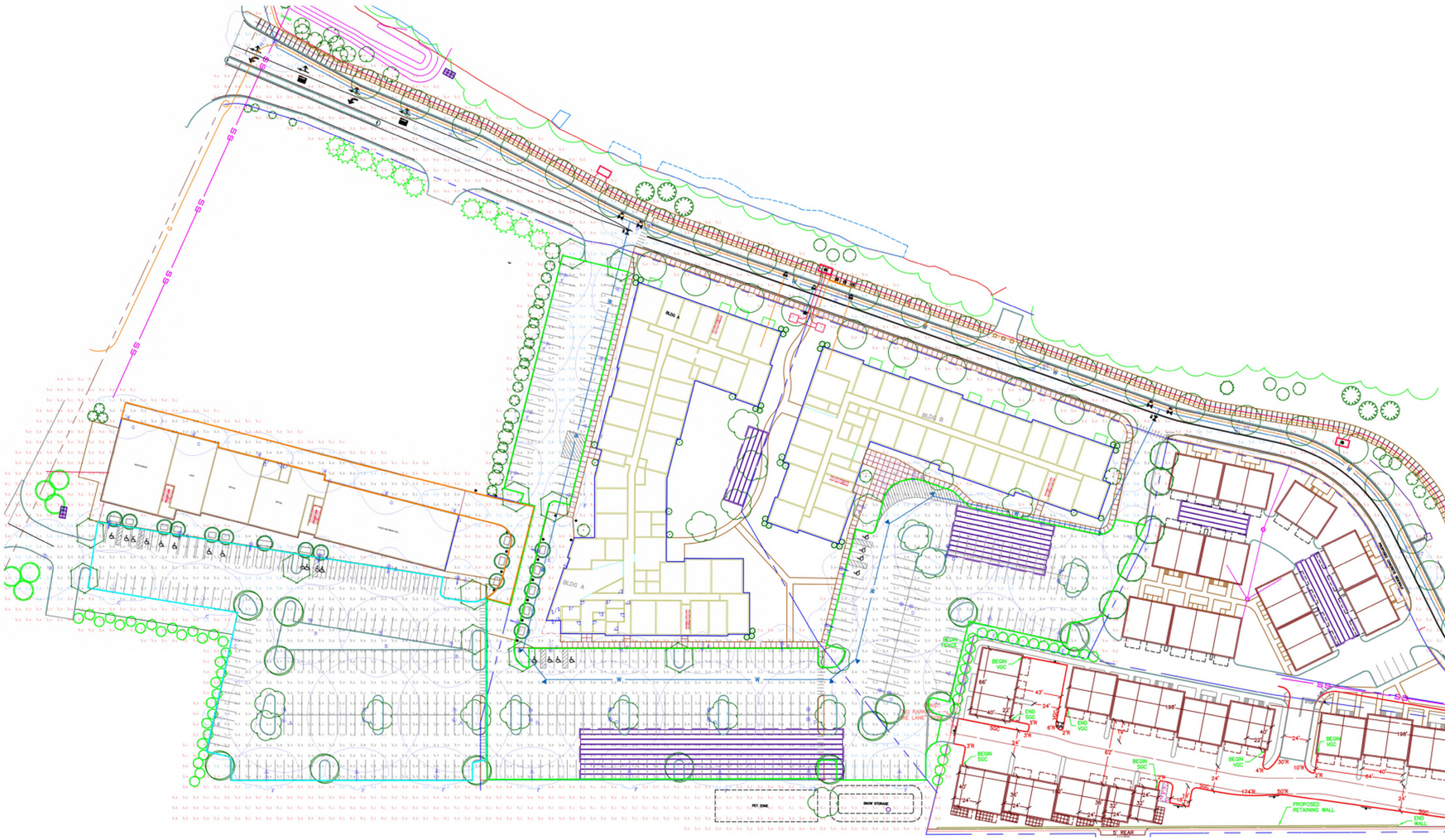
18041.00

IR1.01

DATE: 03.18.2019

PERMIT ISSUE

REVISIONS		
Rev #	Date	BY:
1	12/10/18	TO
2	3/17/19	TO



WLS-DOM

WLS-BW

ENERGY SERVICES GROUP OF WLS

1-800-633-8711 - WWW.WLSLIGHTING.COM

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine applicability of the layout to existing or future field conditions.

This lighting pattern represents illumination levels calculated from laboratory data taken under controlled conditions utilizing current industry standard lamp ratings in accordance with Illuminating Engineering Society approved methods. Actual performance of any manufacturer's luminaire may vary due to variation in electrical voltage, tolerance in lamps and other variable field conditions.

Calculation Summary							
Label	Avg	Max	Min	Avg/Min	Max/Min	PtSpcLr	PtSpcTb
CATE ST ENTRANCE	1.7	4.0	0.9	1.9	4.4	10	10
RESIDENTIAL PARKING	2.8	6.4	0.8	3.5	8.0	10	10
RETAIL PARKING	3.1	6.6	1.2	2.6	5.5	10	10
RETAIL REAR AND SIDE	2.5	4.8	0.5	5.0	9.6	10	10

Luminaire Schedule

WLS14527 WEST END YARDS PORTSMOUTH, NH PM: ROBBY PLEASE EMAIL ROBBY AT RRUDASILL@WLSLIGHTING.COM FOR PRICING.

Symbol	Qty	Label	Lumens	LLF	Description	Lum. Watts
	3	A	N.A.	0.950	WLS-DOM-135W-5F-4K 20' MOUNTING HEIGHT	135
	4	B	N.A.	0.950	WLS-DOM-135W-5F-4K 20' MOUNTING HEIGHT	135
	4	C	N.A.	0.950	WLS-DOM-135W-4F-4K-HS 20' MOUNTING HEIGHT	135
	8	D	N.A.	0.950	WLS-DOM-110W-5F-4K 20' MOUNTING HEIGHT	110
	11	E	N.A.	0.950	WLS-DOM-80W-4F-4K 16' MOUNTING HEIGHT	80
	28	F	N.A.	0.950	WLS-DOM-80W-4F-4K-HS 16' MOUNTING HEIGHT	80
	6	G	N.A.	0.980	WLS-BW-70-2M-4K ASST MOUNTING HEIGHT	70
	9	ST	9316	0.900	AFFIN-S801-80W-30K-T2-10-M 25' MOUNTING HEIGHT	80

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WEST END YARDS
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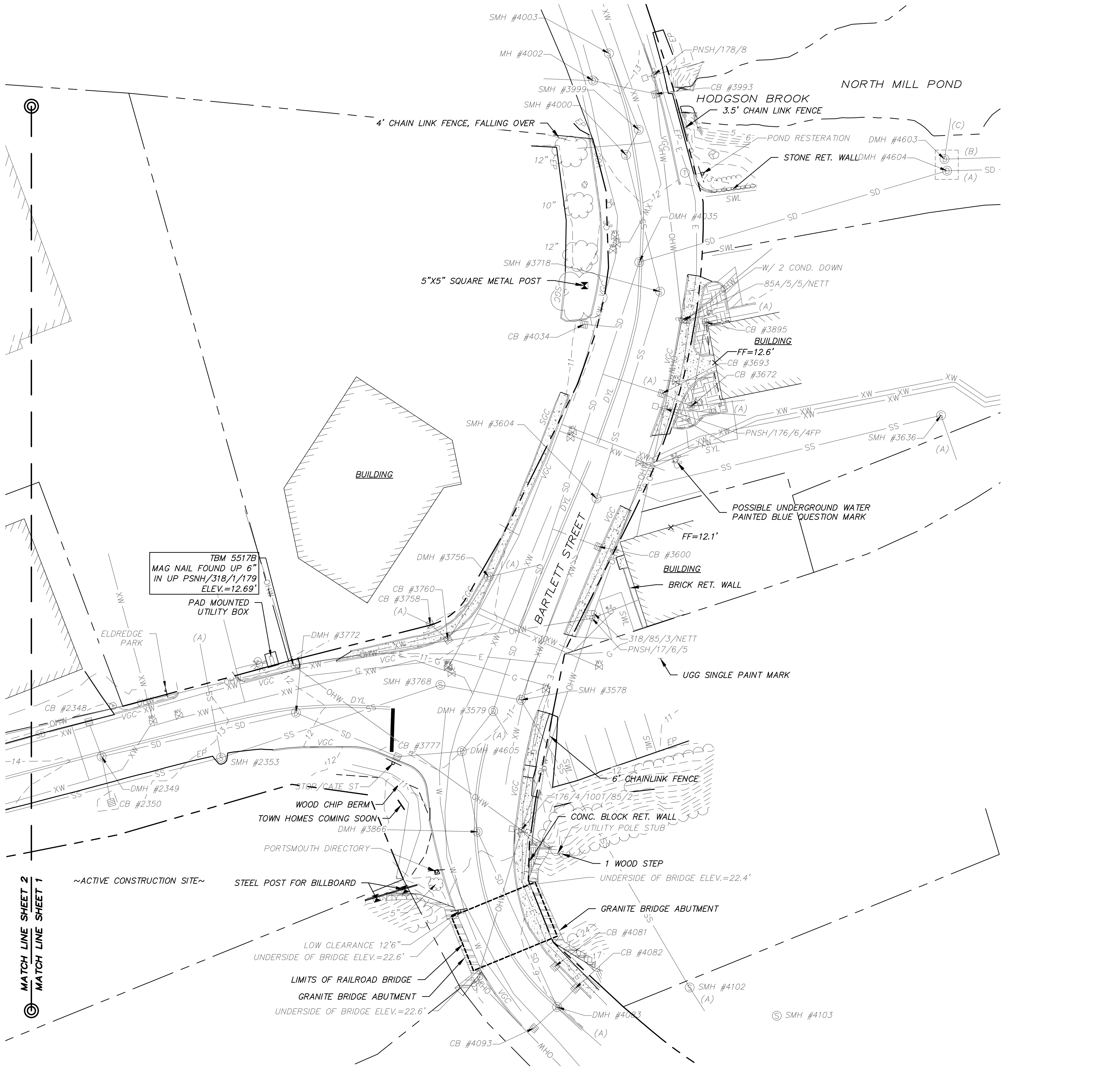
WLS-14527A

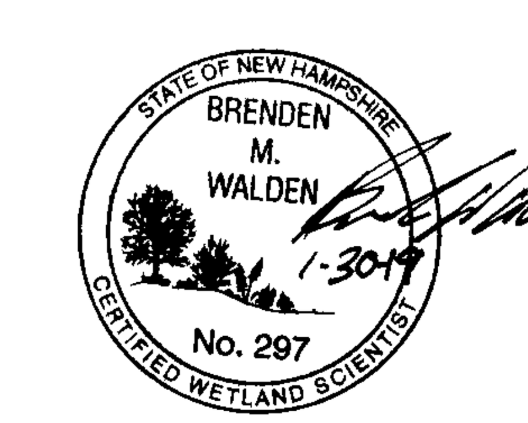
DATE - 11/16/18

SCALE: 1"=60'



DRAINAGE STRUCTURES			
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'
		(A) 4" PVC INV.=9.9'	(3866) 24" RCP INV.=4.6'
CB #1346	CB #3281		
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'		APPEARS TO OPEN TO BROOK	
	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'		
(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)	

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'
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'	(3999) 10" PVC INV.=5.8'
	(1152) 10" UNKN. INV.=10.7'	
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, POSSIBLE
(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'		
(2353) 24" METAL INV.=9.2'	SMH #3718	
	RIM ELEV.=11.5'	
	(3604) 10" PVC INV.=5.3'	
	(4000) 10" PVC INV.=5.5'	



30 0 30 60
SCALE: 1 INCH = 30 FT.

TOPOGRAPHIC PLAN
FOR
CATE STREET DEVELOPMENT, LLC
OF
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

NO.	DATE	DESCRIPTION	BY
2	1/30/19	REVISE WETLAND NOTE & OWNER INFO.	MWF
1	10/10/18	ADDITIONAL SURVEY AREA	MWF

DRAWN BY: M.T.L.	DATE: DECEMBER 2016
CHECKED BY: M.W.F.	DRAWING NO.: 5517A
JOB NO.: 5517	SHEET 1 OF 5

DOUCET SURVEY INC
Serving Your Professional Surveying & Mapping Needs
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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

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

OWNER OF RECORD
CATE STREET DEVELOPMENT, LLC
60 K STREET
BOSTON, MA 02127
R.C.R.D. BOOK 5959, PAGE 109

2. 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.

3. THE LIMITS OF JURISDICTIONAL WETLANDS WERE DELINEATED BY MARC JACOBS IN NOVEMBER 2016 AND REVIEWED BY GOVE ENVIRONMENTAL SERVICES, INC. DURING APRIL 2018 IN ACCORDING TO 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 2102 AND FIELD INDICATORS FOR IDENTIFYING HYDRIC SOILS IN NEW ENGLAND, VERSION 4, MAY 2017, NEW ENGLAND HYDRIC SOILS TECHNICAL COMMITTEE.

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

5. HORIZONTAL DATUM BASED ON NEW HAMPSHIRE STATE PLANE(2800) NAD83(2011) DERIVED FROM REDUNDANT GPS OBSERVATIONS UTILIZING THE KEYNET GPS VRS NETWORK.

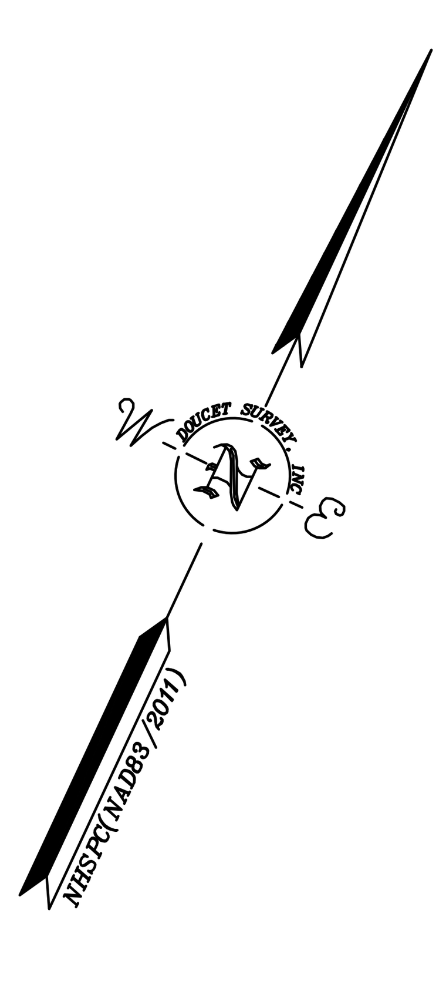
6. PROPER FIELD PROCEDURES WERE FOLLOWED IN ORDER TO GENERATE CONTOURS AT 1' INTERVALS. ANY MODIFICATION OF THIS INTERVAL WILL DIMINISH THE INTEGRITY OF THE DATA, AND DOUCET SURVEY, INC. WILL NOT BE RESPONSIBLE FOR ANY SUCH ALTERATION PERFORMED BY THE USER.

7. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON OBSERVABLE PHYSICAL EVIDENCE AND PAINT MARKS FOUND ON-SITE.

8. THE ACCURACY OF MEASURED UTILITY INVERTS AND PIPE SIZES/TYPES IS SUBJECT TO NUMEROUS FIELD CONDITIONS, INCLUDING; THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS, MANHOLE CONFIGURATION, ETC.

9. ALL ELECTRIC, GAS, TEL. WATER, SEWER AND DRAIN SERVICES ARE SHOWN IN SCHEMATIC FASHION, THEIR LOCATIONS ARE NOT PRECISE OR NECESSARILY ACCURATE. NO WORK WHATSOEVER SHALL BE UNDERTAKEN ON THIS SITE USING THIS PLAN TO LOCATE THE ABOVE SERVICES. CONSULT WITH THE PROPER AUTHORITIES CONCERNED WITH THE SUBJECT SERVICE LOCATIONS FOR INFORMATION REGARDING SUCH. CALL DIG-SAFE AT 1-888-DIG-SAFE.

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 ACCURACY OR EXISTENCE OF THE DATA PROVIDED. ON-SITE INSPECTION SHOULD BE CONDUCTED PRIOR FINAL DESIGN AND/OR CONSTRUCTION.

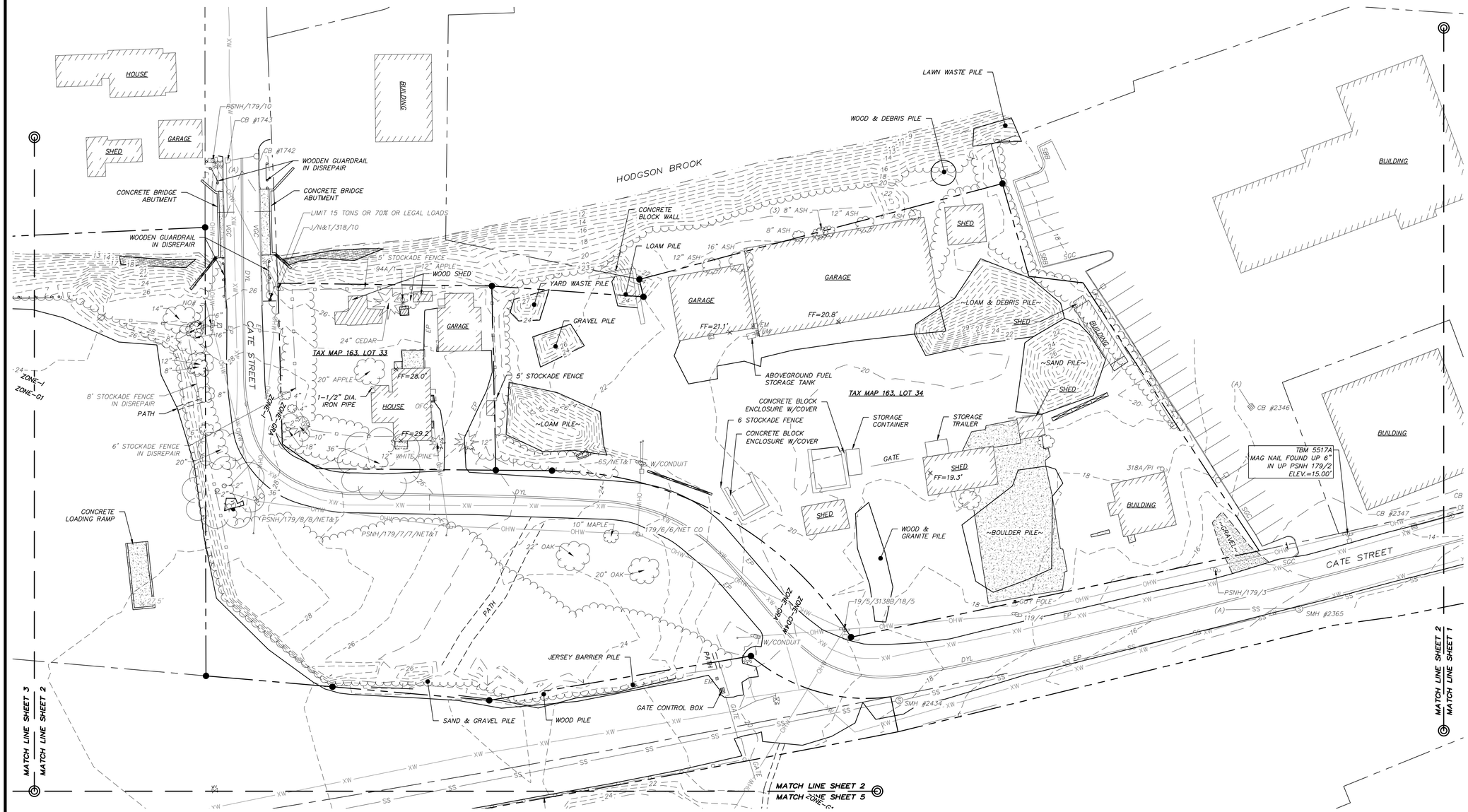


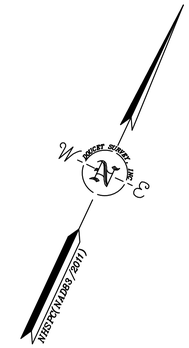
LEGEND
APPROXIMATE LOT LINE
INTERIOR LOT LINE
APPROXIMATE ABUTTER LOT LINE
EASEMENT LINE
STOCKADE FENCE
CHAIN LINK FENCE
GUARDRAIL
OHW — OVERHEAD WIRES
SS — SEWER LINE
SD — DRAIN LINE
G — GAS LINE
W — WATER LINE
20 — MAJOR CONTOUR LINE
22 — MINOR CONTOUR LINE
TREE LINE
SHRUB LINE
EDGE OF WETLAND
XS — SEWER LINE (SEE NOTE 20)
XD — DRAIN LINE (SEE NOTE 20)
XW — WATER LINE (SEE NOTE 20)
UTILITY POLE
UTILITY POLE & GUY WIRE
UTILITY POLE W/ LIGHT
LIGHT POLE

SIGN
SIGN (TWO POSTS)
FENCE POST
POST
POST
BOLLARD
FIRE HYDRANT
WV — WATER GATE VALVE
SPIGOT
GV — GAS GATE VALVE
O.F.C. — OIL FILL CAP
E — ELECTRIC BOX
CATCH BASIN
D — DRAIN MANHOLE
RD — ROOF DRAIN
M — MANHOLE
S — SEWER MANHOLE
CO — CLEANOUT
HH — HAND HOLE
WETLAND AREA
FLAG POLE
CONIFEROUS TREE
DECIDUOUS TREE

MONITORING WELL
DRAINAGE FLOW DIRECTION ARROW
CONCRETE
CRUSHED STONE
LEDGE OUTCROP
ACCESSIBLE PARKING SPACE
MAST ARM
JERSEY BARRIER
TYP. — TYPICAL
FF — FINISHED FLOOR
EM — ELECTRIC METER
EP — EDGE OF PAVEMENT
VGC — VERTICAL GRANITE CURB
SGC — SLOPED GRANITE CURB
SBB — SLOPED BITUMINOUS BERM
SWL — SINGLE WHITE LINE
SYL — SINGLE YELLOW LINE
DYL — DOUBLE YELLOW LINE

FILE NAME: Y:\PROJECTS\5517 C3D (SEE 4139)\DWG\5517A C3D.dwg LAYOUT NAME: TOPO (1) PLOTTED: Wednesday, January 30, 2019 - 10:05am





STATE OF NEW HAMPSHIRE
BRENDEN M. WALDEN
1-30-19
No. 297
CERTIFIED WETLAND SCIENTIST

30 0 30 60

SCALE: 1 INCH = 30 FT.

TOPOGRAPHIC PLAN

FOR
CATE STREET DEVELOPMENT, LLC
OF
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

NO.	DATE	DESCRIPTION	BY
2	1/30/19	REVISE WETLAND NOTE & OWNER INFO.	MWF
1	10/10/18	ADDITIONAL SURVEY AREA	MWF

DRAWN BY:	M.T.L.	DATE:	DECEMBER 2016
CHECKED BY:	M.W.F.	DRAWING NO.:	5517A
JOB NO.:	5517	SHEET	2 OF 5

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FILE NAME: T:\PROJECTS\5517 CSE (SE 4 M)\DWG\5517A CSE.dwg LAYOUT NAME: TOPO 02 PLOTTED: Wednesday, January 30, 2019 - 8:35am

SHEET 5 INSET

HODGSON BROOK

DEPTH AT CENTER OF BROOK = 15.3'

CONC. BRIDGE ABUTMENT

CONC. BRIDGE ABUTMENT
PIPE GOES UNDERGROUND

4" PIPE, WRAPPED IN METAL INSULATION

HOSPITAL

GAS PIPELINE

PNSH/26/6A

48" UNK. INV.=15.8'

12" CMP INV.=15.0'

CB #4239

PNSH/264/2S

BORTHWICK AVENUE EXTENSION
(VARIABLE WIDTH PUBLIC R.O.W. PER REF. PLAN #24)

US ROUTE 1 BYPASS

KEEP RIGHT

CB #4181

264/PNSH/2/7809/11

NETT/7809/12

DO NOT ENTER

OUTLET NOT FOUND

48" CONC. INV.=15.5'

SOUTH BYPASS 1

ONLY

SMH #4565

SHOT ON TOP OF 8" PIPE
WRAPPED IN INSULATION
PIPE GOES UNDER GROUND

15" RCP INV.=14.7'

SMH #2789

SMH #1350

"THE FRANK JONES"
FUNCTION & CONFERENCE CENTER"

10" (ML)

CONC. PAD W/ TRANSFORMER

PAVED ISLAND

PSNH/264/3
W/POWER DOWN

SIGN IS MISSING

~GRAVEL~

CB #1345

CB #1346

CB #1213

1/2" DIA. ROD UP 34"

UHAUL SIGN

PROPANE TANK

BUILDING

BUILDING

CONCRETE WALL
W/CHAINLINK FENCE

15" CMP INV.=14.6'

15" RCP INV.=14.7'

STOP/DO NOT ENTER

~GRASS AREA~

TURN LEFT

TURN RIGHT

STONE HDW.

12" HDPE INV.=19.0'

CB #1251

~PAVED PARKING LOT~

TAX MAP 173, LOT 2

ZONE-I

ZONE-G1

TAX MAP 165, LOT 2
TAX MAP 172, LOT 1
TAX MAP 173, LOT 2
451,599 Sq. Ft.
10.37 Acres

MATCH LINE SHEET 3
MATCH LINE SHEET 4

MATCH LINE SHEET 3
MATCH LINE SHEET 5

MATCH LINE SHEET 3
MATCH LINE SHEET 2

STATE OF NEW HAMPSHIRE
BRENDEN M. WALDEN
1-30-19
No. 297
CERTIFIED WETLAND SCIENTIST

NO.	DATE	DESCRIPTION	BY
2	1/30/19	REVISE WETLAND NOTE & OWNER INFO.	MWF
1	10/10/18	ADDITIONAL SURVEY AREA	MWF

30 0 30 60
SCALE: 1 INCH = 30 FT.

TOPOGRAPHIC PLAN

FOR
CATE STREET DEVELOPMENT, LLC
OF
TAX MAP 163, LOTS 33 & 34
TAX MAP 165, LOT 2
TAX MAP 172, LOT 1
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CATE STREET & US ROUTE 1 BYPASS
PORTSMOUTH, NEW HAMPSHIRE

DRAWN BY:	M.T.L.	DATE:	DECEMBER 2016
CHECKED BY:	M.W.F.	DRAWING NO.:	5517A
JOB NO.:	5517	SHEET	3 OF 5

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http://www.doucetsurvey.com

NHSPC(HA1983 2011)

MATCH LINE SHEET 3
MATCH LINE SHEET 4

MATCH LINE SHEET 3
MATCH LINE SHEET 5

CB #1348
CB #1347
PSNH/264/5
8" DIA PIPE
POSSIBLE CLEAN OUT,
NO COVER
TBM C
"X" CUT IN BOLT
OVER MAIN OUTLET
ELEV.=24.93'
PAVEMENT PATCH
CONCRETE WALL
W/CHAINLINK FENCE
NO PARKING
CB #1148
STOP
SMH #1152
CB #1128
CB #1186
FUEL PUMP ISLAND
COVER
COVER
SMH #1066
CB #1072
OVERHANG
CB #1147
TBM 4139B
MAG NAIL FOUND UP 12"
IN POLE PSNH/264/6
ELEV.=25.56'
CB #1071
GRASS AREA
FF=24.2'
FF=24.2'
FF=24.1'
2" DIA. PIPE
FF=24.1'
TAX MAP 172, LOT 1
BUILDING
FF=24.2'
GRASS AREA
TBM 4139A
MAG NAIL FOUND UP 6"
IN POLE PSNH/242/3
ELEV.=24.86'
FIRE PULL BOX
FF=24.0'
HANDICAP
PARKING
FF=24.1'
FF=24.1'
GRASS AREA
GRASS AREA
~ROW OF PINE TREES~
STEEL STEPS
179/5E
CB #1188
CONCRETE
RETAINING WALL
RAMP
STACKED STORAGE
CONTAINERS
~FADED PARKING STRIPING~
FF=24.1'
CB #1126
PSNH/242/3A
W/POWER DOWN
BLANK SIGN
PSNH/242/3X
~FADED PARKING STRIPING~
TRAILER
4"x8" CONCRETE
WHISTLE POST
PSNH/242/4
4/NETT
15" RCP INV.=18.4'
~FADED PARKING STRIPING~
BUILDING
BUILDING
CHAIN LINK FENCE
ENCLOSURE
PSNH/242
4"x8" CONCRETE
WHISTLE POST,
MARKED "W"
BOSTON & MAINE RAILROAD
PSNH/242/5
W/POWER DOWN
30" BRICK INV.=19.9'
BUILDING
US ROUTE 1 BYPASS
MATCH LINE SHEET 4
MATCH LINE SHEET 5

NORTH (GRID)
DOUCET SURVEY, INC.
NIRSDP/NAD83 (2011)

STATE OF NEW HAMPSHIRE
BRENDEN M. WALDEN
1-3019
No. 297
CERTIFIED WETLAND SCIENTIST

30 0 30 60
SCALE: 1 INCH = 30 FT.

TOPOGRAPHIC PLAN

FOR
CATE STREET DEVELOPMENT, LLC
OF
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

NO.	DATE	DESCRIPTION	BY
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DRAWN BY:	M.T.L.	DATE:	DECEMBER 2016
CHECKED BY:	M.W.F.	DRAWING NO.:	5517A
JOB NO.:	5517	SHEET	4 OF 5

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FILE NAME: T:\PROJECTS\5517 CSP, CSE 4139\DWG\5517A CSD.dwg LAYOUT NAME: TOPO (4) PLOTTED: Wednesday, January 30, 2019 - 9:26am

TOPOGRAPHIC PLAN

FOR

CATE STREET DEVELOPMENT, LLC

OF

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

30 0 30 60

SCALE: 1 INCH = 30 FT.

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JOB NO.:	5517	SHEET	5 OF 5

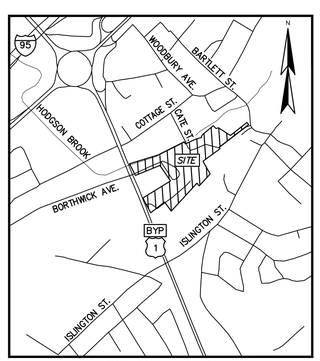
STATE OF NEW HAMPSHIRE
BRENDEN M. WALDEN
No. 297
CERTIFIED WETLAND SCIENTIST
1-30-19

MATCH LINE SHEET 3
MATCH LINE SHEET 5

MATCH LINE SHEET 2
MATCH LINE SHEET 5

FUEL PUMP ISLAND
COVER
COVER
BUILDING
FF=25.3'
FF=25.1'
TAX MAP 165, LOT 2
SMH #2799
(A)
(B)
DEBRIS PILE
5' CHAIN LINK FENCE
PSNH/179/5A
PATH
2/NET&T
179/5C
GATE
318B/4/179/5D
FF=28.1'
STEEL STEPS
179/5E
BUILDING
OUT BUILDING
CONCRETE RETAINING WALL
CB #1188
RAMP
MW 65-8
STACKED STORAGE CONTAINERS
SQUARE CONCRETE POST UP 8"
BOSTON & MAINE RAILROAD
PATH
TOFFS~

MATCH LINE SHEET 4
MATCH LINE SHEET 5



LOCATION MAP (n.t.s.)

INSET (1"=30')

CB #3065
DOVER CONCORD LEFT LANE
DECK
TH=34.4'
HOUSE
CB #2993
CB #2000
~GRASS~
CONC. PAD W/ TRANSFORMER 3191/319/9
W/ 1 COND. DOWN PNSH 183/9
W/1 COND. DOWN
KEEP RIGHT
SIDEWALK MAT
~GRAVEL~ DRIVEWAY
SMH #1527
1 BLUE PAINT MARK
COAKLEY ROAD
(50' PUBLIC R.O.W. PER REF. PLAN #24)
CB #3281
SMH #3280
CB #3019
PORT INN HOTEL
10" X 10" METAL SIGN POST (TYP.)
4" X 4" WOODEN POST
7803/PNSH/183
PNSH 183/8Y
SMH #1470
PSNH183/8
319/8 NETCO
COTTAGE STREET
(50' PUBLIC R.O.W. PER REF. PLAN #28
TBM 56652D
SPIKE FND. UP 12"
IN POLE PSNH183/8-1/2
ELEV.=30.22'
US ROUTE 1 BYPASS
(100' ROW PER REFERENCE PLAN 1)
CB #4545
REFLECTOR
OUTLET NOT FOUND
WOODEN GUARD RAIL
GRAVEL AREA
STOP
UNDERGROUND GAS, SINGLE PAINT MARK
HODGSON'S BROOK
UNDERGROUND GAS PIPELINE

SHEET 5
INSET

FUSS & O'NEILL

M E M O R A N D U M

FROM: Rick Lundborn, PE
5 Fletcher Street, Suite 1
Kennebunk, ME 04043
207-363-0669 x2314

DATE: March 18, 2019

RE: West End Yards Cate Street Re-development; Building Breakdown
Portsmouth, NH
Fuss & O'Neill, Inc. Reference No: 20180317.A10

Townhouses:
For the town houses there are two unit types:

10 units; 24x36 footprints: 2,592 GSF/Unit, 25,920 GSF Total
1st: 864 sf (480 sf of garage, 384 sf dwelling unit)
2nd: 864 sf (dwelling unit)
3rd: 864 sf (dwelling unit)

13 units; 22x40 footprints: 2,640 GSF/Unit, 34,320 GSF Total
1st: 880 sf (440 sf of garage, 440 sf dwelling unit)
2nd: 880 sf (dwelling unit)
3rd: 880 sf (dwelling unit)

Retail / Office:
First Floor: 21,980 GSF. 2 Retail and 3 Restaurant / Food service tenants
Second Floor: 21,980 GSF. 6 office / business tenants.

Resi Building A: 141,885 GSF. 132 units. 4 stories. 355' x 70'
1st: 37,330 sf (28,450 sf of 30 dwelling units. 7,500 sf Amenity. 1,000 sf Storage.)
2nd: 37,270 sf (36,250 of 37 dwelling units and 750 sf storage)
3rd: 37,270 sf (36,250 of 37 dwelling units and 750 sf storage)
4th: 30,015 sf (36,250 of 28 dwelling units and 750 sf storage)

Resi Building B: 110,170 GSF. 118 units. 4 stories. 305' x 70'
1st: 28,200 sf (24,600 sf of 28 dwelling units. 4,000 sf Amenity. 500 sf Storage.)
2nd: 28,200 sf (28,600 of 32 dwelling units and 500 sf storage)
3rd: 28,200 sf (28,600 of 32 dwelling units and 500 sf storage)
4th: 25,570 sf (28,600 of 28 dwelling units and 500 sf storage)

City of Portsmouth, New Hampshire

Site Plan Application Checklist

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

Applicant Responsibilities (Section 2.5.2): Applicable fees are due upon application submittal along with required attachments. The application shall be complete as submitted and provide adequate information for evaluation of the proposed site development. Waiver requests must be submitted in writing with appropriate justification.

Name of Owner/Applicant: AGENT Rick Lundborn, PE Date Submitted: _____

Phone Number: 207-363-0669 x2314 E-mail: rlundborn@fando.com

Site Address: Cate Street, Portsmouth, NH Map: See Below pg 7 Lot: _____

Zoning District: G1 Lot area: 13.3AC+/- sq. ft.

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
✔	Fully executed and signed Application form. **(2.5.2.3)**		N/A
✔	All application documents, plans, supporting documentation and other materials provided in digital Portable Document Format (PDF) on compact disc, DVD or flash drive. **(2.5.2.8)**		N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
✔	Statement that lists and describes "green" building components and systems. **(2.5.3.1A)**		☐
✔	Gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. **(2.5.3.1B)**		N/A
✔	Tax map and lot number, and current zoning of all parcels under Site Plan Review. **(2.5.3.1C)**		N/A
✔	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. **(2.5.3.1D)**		N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
✔	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. **(2.5.3.1E)**		N/A
✔	Names, addresses and telephone numbers of all professionals involved in the site plan design. **(2.5.3.1F)**		N/A
✔	List of reference plans. **(2.5.3.1G)**		N/A
☐	List of names and contact information of all public or private utilities servicing the site. **(2.5.3.1H)**	PENDING -CN-001	N/A

Site Plan Specifications			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
✔	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director. Submittals shall be a minimum of 11 inches by 17 inches as specified by Planning Dept. staff. **(2.5.4.1A)**	Required on all plan sheets	N/A
✔	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. **(2.5.4.1B)**	Required on all plan sheets	N/A
✔	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. **(2.5.4.1C)**	Required on all plan sheets	N/A
✔	Plans shall be drawn to scale. **(2.5.4.1D)**	Required on all plan sheets	N/A
✔	Plans shall be prepared and stamped by a NH licensed civil engineer. **(2.5.4.1D)**	Required on all plan sheets	N/A
✔	Wetlands shall be delineated by a NH certified wetlands scientist. **(2.5.4.1E)**		N/A
✔	Title (name of development project), north point, scale, legend. **(2.5.4.2A)**	Required on all plan sheets	N/A
✔	Date plans first submitted, date and explanation of revisions. **(2.5.4.2B)**	Required on all plan sheets	N/A
✔	Individual plan sheet title that clearly describes the information that is displayed. **(2.5.4.2C)**	Required on all plan sheets	N/A

Site Plan Specifications			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
✔	Source and date of data displayed on the plan. **(2.5.4.2D)**	Required on all plan sheets	N/A
✔	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." **(2.5.4.2E)**	Required on all plan sheets	N/A
✔	Plan sheets submitted for recording shall include the following notes: a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "All improvements shown on this Site Plan shall be constructed and maintained in accordance with the Plan by the property owner and all future property owners. No changes shall be made to this Site Plan without the express approval of the Portsmouth Planning Director." **(2.13.3)**	CN-001 Site Note: #14, 15	N/A
✔	Plan sheets showing landscaping and screening shall also include the following additional 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." **(2.13.4)**	L1.06 (Lower Left)	N/A

Site Plan Specifications – Required Exhibits and Data			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
	1. Existing Conditions: (2.5.4.3A)		
✔	a. Surveyed plan of site showing existing natural and built features;		☐
✔	b. Zoning boundaries;		☐
✔	c. Dimensional Regulations;		☐
✔	d. Wetland delineation, wetland function and value assessment;		☐
✔	e. SFHA, 100-year flood elevation line and BFE data.		☐
	2. Buildings and Structures: (2.5.4.3B)		
✔	a. Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation;		☐
☐	b. Elevations: Height, massing, placement, materials, lighting, façade treatments;	pending	☐
✔	c. Total Floor Area;		☐
✔	d. Number of Usable Floors;		☐
✔	e. Gross floor area by floor and use.		☐
	3. Access and Circulation: (2.5.4.3C)		
✔	a. Location/width of access ways within site;		☐
✔	b. Location of curbing, right of ways, edge of pavement and sidewalks;		☐
✔	c. Location, type, size and design of traffic signing (pavement markings);		☐
✔	d. Names/layout of existing abutting streets;		☐
✔	e. Driveway curb cuts for abutting prop. and public roads;		☐
✔	f. If subdivision; Names of all roads, right of way lines and easements noted;		☐
✔	g. AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).		☐
	4. Parking and Loading: (2.5.4.3D)		
✔	a. Location of off street parking/loading areas, landscaped areas/buffers;		☐
☐	b. Parking Calculations (# required and the # provided).		☐
	5. Water Infrastructure: (2.5.4.3E)		
✔	a. Size, type and location of water mains, shut-offs, hydrants & Engineering data;		☐
✔	b. Location of wells and monitoring wells (include protective radii).		☐
	6. Sewer Infrastructure: (2.5.4.3F)		
✔	a. Size, type and location of sanitary sewage facilities & Engineering data.		☐
	7. Utilities: (2.5.4.3G)		
✔	a. The size, type and location of all above & below ground utilities;		☐
✔	b. Size type and location of generator pads, transformers and other fixtures.		☐

Site Plan Specifications – Required Exhibits and Data			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
✔	**8. Solid Waste Facilities: (2.5.4.3H)**		
✔	a. The size, type and location of solid waste facilities.		☐
	9. Storm water Management: (2.5.4.3I)		
✔	a. The location, elevation and layout of all storm-water drainage.		☐
	10. Outdoor Lighting: (2.5.4.3J)		
✔	a. Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and; b. photometric plan.		☐
✔	**11.** Indicate where dark sky friendly lighting measures have been implemented. **(10.1)**		☐
	12. Landscaping: (2.5.4.3K)		
✔	a. Identify all undisturbed area, existing vegetation and that which is to be retained;		☐
✔	**b.** Location of any irrigation system and water source.		☐
	13. Contours and Elevation: (2.5.4.3L)		
✔	a. Existing/Proposed contours (2 foot minimum) and finished grade elevations.		☐
	14. Open Space: (2.5.4.3M)		
✔	a. Type, extent and location of all existing/proposed open space.		☐
✔	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**		☐
✔	**16. Location of snow storage areas and/or off-site snow removal. (2.5.4.3O)**		☐
☐	**17. Character/Civic District (All following information shall be included): (2.5.4.3Q)**	N\A	☐
	a. Applicable Building Height (10.5A21.20 & 10.5A43.30);		
	b. Applicable Special Requirements (10.5A21.30);		
	c. Proposed building form/type (10.5A43);		
	d. Proposed community space (10.5A46).		

Other Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Traffic Impact Study or Trip Generation Report, as required. (*Four (4) hardcopies of the full study/report and Six (6) summaries to be submitted with the Site Plan Application*) **(3.2.1-2)**		☐
☑	Indicate where Low Impact Development Design practices have been incorporated. **(7.1)**		☐
☑	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. **(7.3.1)**	IT DOES NOT APPEAR TO BE	☐
☑	Indicate where measures to minimize impervious surfaces have been implemented. **(7.4.3)**		☐
☑	Calculation of the maximum effective impervious surface as a percentage of the site. **(7.4.3.2)**		☐
☐	Stormwater Management and Erosion Control Plan. (*Four (4) hardcopies of the full plan/report and Six (6) summaries to be submitted with the Site Plan Application*) **(7.4.4.1)**	PENDING	☐

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	All local approvals, permits, easements and licenses required, including but not limited to: a. Waivers; b. Driveway permits; c. Special exceptions; d. Variances granted; e. Easements; f. Licenses. **(2.5.3.2A)**		☐
☐	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: a. Calculations relating to stormwater runoff; b. Information on composition and quantity of water demand and wastewater generated; c. Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; d. Estimates of traffic generation and counts pre- and post-construction; e. Estimates of noise generation; f. A Stormwater Management and Erosion Control Plan; g. Endangered species and archaeological / historical studies; h. Wetland and water body (coastal and inland) delineations; i. Environmental impact studies. **(2.5.3.2B)**		☐

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. **(2.5.3.2D)**		☐
☐	A list of any required state and federal permit applications required for the project and the status of same. **(2.5.3.2E)**		☐

Applicant's Signature: _____ **Date:** 03/18/19

Redevelopment of Tax Maps & Lots, 163-33&34, 163-37, 165-2, 172-1 & 173-2