YARMOUTH WATER DISTRICT Yarmouth Shoreland Zoning Permit Application	JUNE 2023 21384
Cousins River Water Main Crossing Yarmouth, ME	



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**Shoreland Zoning Permit Application Form** 

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# **TOWN OF YARMOUTH**

200 Main Street

Yarmouth, Maine 04096

(207)846-2401

WWW.YARMOUTH.ME.U8 Fax: (207)846-2438

# SHORELAND ZONING PERMIT APPLICATION

PERMIT #		ISSUE DATE		FEE AMO	UNT
Date:	Zoning District_		Map	Lot	Ext
APPLICANT NAME:			F	HONE NO:	
MAILING					
ADDRESS:			e-	mail	
MAILING	· · ·				
CONTRACTOR					
NAME:				PHONE NO:	·
MAILING					
ADDRESS:				e-mail	
PROPERTY LOCATION:					

Applicant must also include a narrative of the project including a description of all proposed construction, (E.G. Land clearing, road building, septic systems and wells – Please note: A site plan sketch is required on a separate sheet of paper no less than 11" x 17" or greater than 24"x36"

Please note: Plan set must be bound (not rolled) with a cover sheet and index.

Proposed use of project:

Estimated cost of construction\_\_\_\_\_

Lot area (sq. ft.)\_\_\_\_\_

Frontage on Road (FT)

SQ. FT. of lot to be covered by non-vegetated surfaces \_\_\_\_\_

Elevation above 100 YR Flood Plain\_\_\_\_\_

Frontage on water body (FT.)\_\_\_\_\_

Height of proposed structure\_\_\_\_\_

Existing use of property Public ROW

Proposed use of property Public ROW with new water main infrastructure

- *Note:* NEXT Questions apply only to expansions of portions of existing structures that are less than the required setback.
  - A) Total building footprint area of portion of structure that is less than required setback as of 1/1/89:<u>N/A</u>\_\_\_\_\_SQ.FT.
  - B) Actual shore setback of existing structure proposed for expansion (measured as required in SOD, e.g.: Highest Annual Tide; Upland Edge of Coastal Wetland; Top of Bank (RP); Normal High Water Line of rivers and streams; as applicable): N/A
  - C) Building footprint area of expansions of portion of structure that is less that required setback from 1/1/89 to present: <u>N/A</u>\_\_\_\_\_SQ.FT.
  - D) Building footprint area of proposed expansion of portion of structure that is less than required setback: <u>N/A</u>\_\_\_\_\_SQ.FT.
  - E) % Increase of building footprint of previous and proposed expansions of portion of structure that is less than required setback since 1/1/89: % increase =  $((\underline{C+D})x100)/A = \underline{N/A}$
  - F) Floor Area and Market Value of Structure prior to improvements: (a) <u>Area: N/A</u> <u>Value: N/A</u>. Floor Area and Market Value of portions of Structure removed, damaged or destroyed: (b) <u>Area: N/A</u> <u>Value: N/A</u>. If the floor area or market value of (b) exceeds 50% of the area or value of (a), then the Relocation provisions of Article IV.R.5.a.(3) and (4) shall apply. Note: A value appraisal may be required or submitted in close cases where the applicant asserts that that 50% trigger and relocation assessment provision is not met. Any plan revisions after initial approvals to replace rather than renovate building components (foundations, framing, etc.) shall be required to recalculate the extent of removal, damage or destruction relative to retained structure.
  - Please provide a site plan to include lot lines, area to be cleared of trees and other vegetation; the exact position of proposed structures, including decks, porches, and out buildings with accurate setback distances form the shoreline, side and rear property lines; the location of proposed wells, septic systems, and driveways; and areas and amounts to be filled or graded. If the proposal is for the expansion of an existing structure, please distinguish between the existing structure and the proposed expansion.
  - Note: For all projects involving filling, grading, or other soil disturbance you must provide a soil erosion control plan describing the measures to be taken to stabilize disturbed areas before, during and after construction.
- $N/A \square$  Draw a simple sketch showing both the existing and proposed structures with dimensions.

# SHORELAND ZONING PERMIT CHECKLIST

Please note that this checklist is intended to help applicants identify major submittal components but it is the applicant's responsibility to review the SOD/RP provisions outlined in Chapter 701 of the Yarmouth Code and provide all required information as well as conform to all design components. Copies of Chapter 701 are available at the Yarmouth Town Hall or can be downloaded on the Town website which is www.yarmouth.me.us.

- Complete Shoreland Zoning Permit application including signatures of property owners and agents.
- N/A D Appropriate fee. Fee waived by Town of Yarmouth
- N/A Square footage of lot area within the 250' SOD Project in Public ROW
- N/A Square footage and % of lot covered by non-vegetated surfaces within the SOD Project in Public ROW
- N/A D. Square footage and % of cleared area within lot area within the SOD Project in Public ROW Delineation of 75' setback from upland edge of the coastal wetland
- N/A □ Delineation of 250' SOD line from upland edge of the coastal wetland. Fully within 250' SOD line
- N/A Delineation of Resource Protection District Fully within RP District
- N/A 
  Height of any proposed structures as measured between the mean original grade at the downhill side of the structure and the highest point of the structure
- N/A 
  Building elevations of any proposed structures as viewed from side and rear lot lines
- N/A  $\square$  % Increase of expansions of portion of structure which is less than the required setback (if applicable)
- N/A D Floor Area and Market Value of Structure prior to improvements: (a) Area: Value:\_\_\_\_\_. Floor Area and Market Value of portions of Structure removed, damaged or destroyed: (b) Area: Value:
- N/A □ Elevation of lowest finished floor to 100 year flood elevation

Evidence of submission of the application to the Maine Historic Preservation Commission (MHPC) at least twenty (20) days prior to the Planning Board meeting as required in Article IV.R.O

- $\boxtimes$  Copy of additional permit(s) if applicable:
  - Planning Board (e.g. Subdivision, Site Plan Review)
  - Board of Appeals
  - Flood Hazard
  - PCN required; copy of • Exterior plumbing permit (Approved HHE 200 Application Form) authorization can be

**DEP NRPA permit not** 

Army Corps of Engineers

provided, once received.

required.

- Interior plumbing permit
- DEP permit (Site Location, Natural Resources Protection Act) •
- Army Corps of Engineers Permit (e.g. Sec. 404 of Clean Waters Act)

Please circle all habitat types, marine organisms and shoreline elements present: (Sand beach) (boulder/cobble beach) (sand flat) (mixed coarse & fines) (salt marsh) (ledge) (rocky shore) (mudflat) (sediment depth if known) (Bluff/bank) (Mussels) (clams) (marine worms) (rockweed) (eelgrass) (lobsters) (other Public ROW/pavement

- ☑ Signs of intertidal erosion? (Yes) ((no))
- N/A □ Energy: (protected) (semi-protected) (partially exposed) (exposed)
- N/A □, Copy of deed Public ROW
  - Soil erosion control plan Included in Project Plans
  - $\dot{\mathbf{\Sigma}}$ . Photographs
  - $\bowtie$  Plan view

NOTE: Applicant is advised to consult with the CEO and appropriate state and federal agencies to determine whether additional permits, approvals, and reviews are required.

# **CONDITIONS OF APPROVAL**

The property shown on this plan may be developed and used only as depicted on this approved plan. All elements and features of the plan and all representations made by the applicant concerning the development and use of the property which appear in the record of the Planning Board proceedings are conditions of approval. No change from the conditions of approval is permitted unless an amended plan is first submitted to and approved by the Planning Board.

I certify that all information given in this application is accurate. All proposed uses shall be in conformance with this application and the Town of Yarmouth Shoreland Regulations in the Zoning Ordinance. I agree to future inspections by the Code Enforcement Officer / Planning Director / Planning Board members (as applicable) at reasonable hours and with advance notice.

"I authorize appropriate staff within the Yarmouth Planning Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to collect facts pertaining to my application."

Applicant Signature	Date6/8/2023
Agent Signature	Date
Code Enforcement Officer	
DATE OF APPROVAL / DENIAL OF APPLICATION	

# Attachment 1 Project Narrative

# **Project Narrative**

# **Project Description**

The Yarmouth Water District (Applicant/Owner) and the Maine Water Company (Owner) are proposing the installation of a water main crossing under the Cousins River along US Route 1 at the town boundary between Yarmouth and Freeport, Maine. The total installation of the water main crossing will include approximately 950 linear feet of 12-inch HDPE DR 9 DIPS water main to be installed between an entrance and exit pit by means of horizontal directional drilling. The entrance pit will be on the Yarmouth end of the project, and will be located within an existing paved area. The entrance pit is estimated to be 8 feet wide, 50 feet long, and 7 feet deep, resulting in approximately 104 cubic yards of excavation. The water main will be installed within the right-of-way of US Route 1, situated between the existing guard rail and utility poles. Site restoration will include backfilling of the entrance pit and paving the trench to match existing grades.

The project within Yarmouth is located within the Shoreland Zone (Resource Protection District); however, there are no anticipated wetland or waterbody impacts proposed. Project impacts to the Shoreland Zone will be minimized and adverse effects to wetlands and waterbodies will be avoided by utilizing horizontal directional drilling to install the water main under the Cousins River. To prevent water pollution and erosion and sedimentation to surface waters, the project will include the installation and maintenance of erosion and sedimentation control measures downgradient of the entrance and exit pits. Additionally, the entrance and exit pit have been set back outside of the 75-foot Maine DEP natural resource buffer to avoid permitting under the Natural Resources Protection Act (NRPA). As part of the directional drilling specification for the project, the contractor will be required to provide a "frac-out" contingency plan to mitigate and contain potential releases resulting from fracouts during the drilling process. The contingency plan will include protection of adjacent wetlands and the river, provisions for controlling and containing frac-out, and proposed methods and equipment to clean up the area in the event slurry has leaked to the surface. The water main crossing will require a Pre-Construction Notification (PCN) from the US Army Corps of Engineers. A response from the Maine Historic Preservation Commission (MHPC) dated April 12, 2023 concluded there will be no historic properties affected by this project, and a response from the Tribal Historic Preservation Officer (THPO) for Mi'kmaq Nation (formerly knowns as the Aroostook Band of Micmac) dated April 13, 2023 indicated they do not have knowledge of any specific sites or cultural features within the project area.

# **Project Purpose**

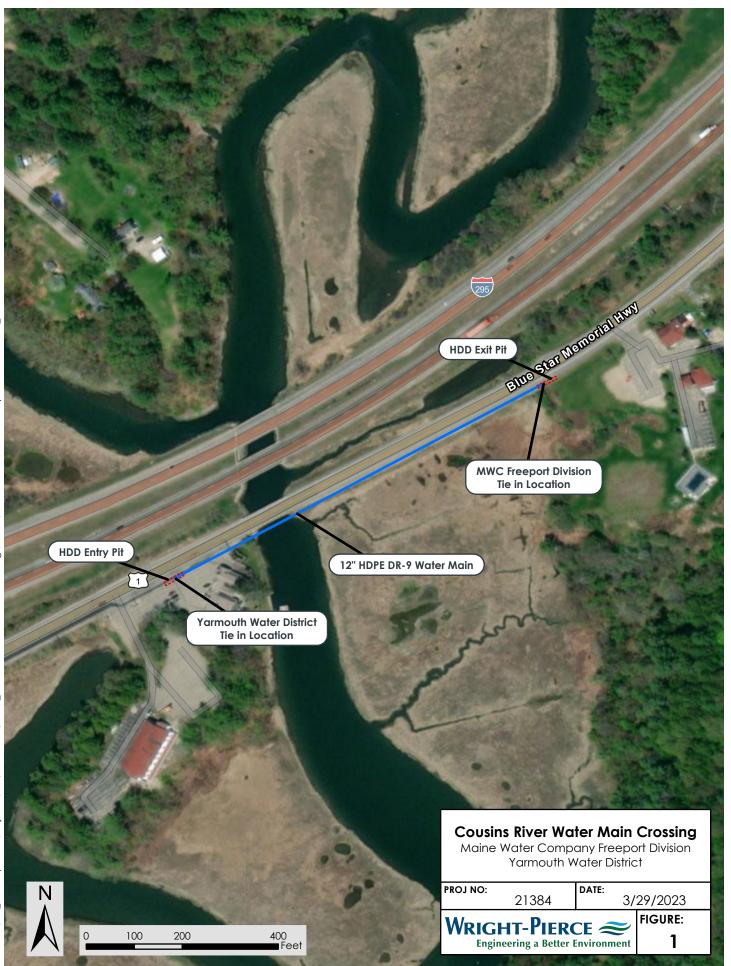
The purpose of the Cousins River Water Main Crossing is to provide an improved interconnection between the Yarmouth Water District's and the Maine Water Company – Freeport Division's water distribution systems. The existing interconnection between the two systems allows the Yarmouth Water District and Maine Water Company to convey water between the two systems to supplement the water supply of one system as needed. The existing interconnection is located over the Cousins River and is attached to the MaineDOT bridge that crosses the Cousins River on US Route 1. The US Route 1 bridge is being replaced by MaineDOT in 2024. By relocating the water main outside of the MaineDOT bridge project and installing the pipe underground, the reliability of the water systems is improved by lowering the risk of freezing and reducing vandalism. The improved interconnection would also allow for the potential for the Yarmouth Water District to supply water to Maine Water Company (Freeport) on a more consistent basis, as needed.

# **Construction Schedule**

The Yarmouth Water District and Maine Water Company intend to begin the project in summer/fall 2023 and complete the project in fall 2023.



# Attachment 2 Project Location Map



Attachment 3 MHPC and THPO Responses





11 Bowdoin Mill Island, Suite 140 Topsham, ME 04086 207.725.8721 | wright-pierce.com

April 4, 2023

Kirk F. Mohney, Director Maine Historic Preservation Commission 55 Capitol Street, 65 State House Station Augusta, ME 04333-0065

## SUBJECT: Maine Water Company & Yarmouth Water District Cousins River Water Maine Crossing, Freeport and Yarmouth, Maine Section 106 Review

Dear Mr. Mohney,

On behalf of the Maine Water Company and the Yarmouth Water District, we are preparing an application to the US Army Corps of Engineers for the installation of a water main crossing under the Cousins River along Route 1 at the town boundary between Yarmouth and Freeport, Maine. The installation will include approximately 900 feet of 12-inch HDPE water main to be installed between an entry and exit pit by means of horizontal directional drilling. It is anticipated the water main will be installed approximately 15 to 20 feet below the riverbed of Cousins River and upwards of 40 feet below finished grade. The water main will be installed within the right-of-way of Route 1, situated between the existing guard rail and utility poles. Please refer to the enclosed project location figure. The project is anticipated to be constructed this year.

There are three parcels with buildings adjacent to the project area: Map 9, Lot 15 in Yarmouth (Muddy Rudder) and Map 25, Block 9, Lot 1 (Freeport Café) and Map 25, Block 9 in Freeport (Best Western). According to the towns' online assessment databases (Vision Governmental Solutions), the Muddy Rudder building was built in 1973, the Freeport Café building was built in 1930, the Best Western office building was built in 1955, and the Best Western hotel building was built in 1983. Although three of these buildings are 50 years of age or older, it should be noted the work is located adjacent to Route 1 or in the parking lot of the Muddy River, and is setback from any buildings. Photos of buildings 50 years of age or older are enclosed, for your reference.

As required by the US Army Corps of Engineers general permit process, we are requesting your review of the project pursuant to Section 106 of the National Historic Preservation Act, and are soliciting your comments on the project's effect on historic resources. If you need further information or wish to discuss the project, please contact me at (207) 798-3784 or by email at address below. Thank you for your attention to this matter.

Sincerely, WRIGHT-PIERCE

Christine T.M. Rinehart PE Lead Project Engineer christine.rinehart@wright-pierce.com

Enclosures

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1). no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Kirk F. Mohney, State Historic Preservation Officer Maine Aistoric Preservation Commission



Tribal Historic Preservation Office Mi'kmaq Nation (Formerly known as the Aroostook Band of Micmac) Kendyl Reis Tribal Historic Preservation Officer 7 Northern Road Presque Isle, ME 04769 Phone: (207)764-1972 ext. 161 kreis@micmac-nsn.gov

Cousins River Water Main Crossing, Freeport and Yarmouth April 13th, 2023

Based on the project description, we do not have knowledge of any specific sites or cultural features that exist at the proposed project location(s).

However, this geographic area does constitute traditional areas that were historically utilized by members of the Mi'kmaq Nation and the other Wabanaki Tribes. Therefore, we respectfully request that if during the course of excavation/construction activities, human remains, artifacts, or any other evidence of Native American presence is discovered, that site activities in the vicinity of the discovery immediately cease, pending notification to us.

In addition, if this project results in wetland disturbances requiring mitigation, we are requesting that you utilize the black ash (Fraginus nigra) as the principal wetland species for wetland restoration activities. The black ash tree has special significance in the culture of the northeastern Tribes and is used extensively for weaving baskets and other Native American crafts. The black ash tree also provides valuable food and habitat for migratory waterfowl and other wildlife. Unfortunately, however, this species has been selected against by foresters and landowners who favor other tree species. As a result of this, and other environmental factors, the black ash tree is in serious decline in Maine. The Mi'kmaq Nation has completed several black ash wetland restoration projects and have a dependable source for highly-quality seedlings, and the experience and expertise to assist you with black ash wetland restoration projects.

On the subject of human remains, artifacts, or any other evidence of Native American presence is discovered. The human remains will be reburied with the appropriate respect for the remains that is required at a distinctive and respectable site. The artifacts and other evidence of Native American discovery will be documented with appropriate detail. The items will be analyzed for the precise period of the items' distinctive period and will be documented by the Tribal Historic Preservation Officer for the Mi'kmaq Nation.

If you have any questions or comments, please feel free to contact me.

Sincerely,

Kendyl Reis Tribal Historic Preservation Officer

# Attachment 4 Site Photographs

# Site Photographs

Cousins River Water Main Crossing, Yarmouth, Maine



Photo 1 View of approximate start of project at Muddy River parking lot looking northeast toward the US Route 1 bridge/Cousins River (March 2023)





Photo 2 View of Cousins River and existing water main hung from US Route 1 bridge looking northeast toward Freeport (March 2023)



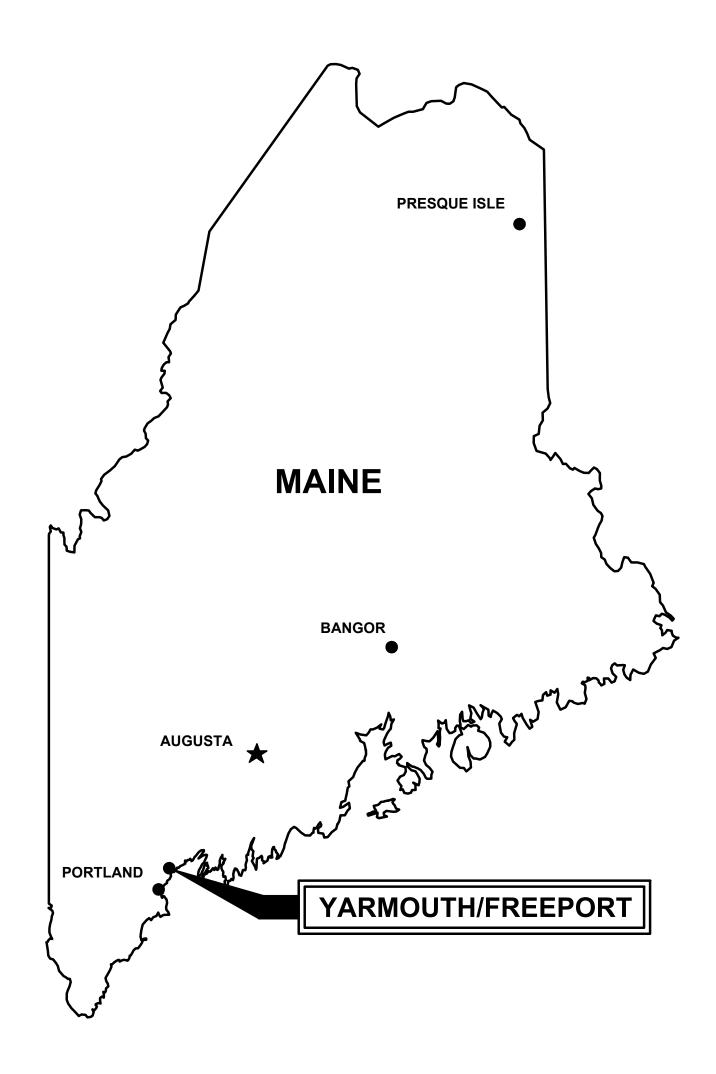


Photo 3 View of Cousins River and existing water main hung from US Route 1 bridge looking southwest toward Yarmouth (March 2023)



# Attachment 5 Project Plans

# MAINE WATER COMPANY & YARMOUTH WATER DISTRICT -YARMOUTH/FREEPORT, MAINE **CONTRACT DRAWINGS FOR COUSINS RIVER WATER MAIN CROSSING**



# **MAY 2023**

**DRAWING INDEX** 

OVER SHE

C-1	GENERAL NOTES, LEGEND, AND ABBREVIATIONS
C-2	PLAN & PROFILE STA 100+00 TO STA 106+00
C-3	PLAN & PROFILE STA 106+00 TO STA 111+00
C-4	DETAILS
C-5	EROSION CONTROL NOTES AND DETAILS

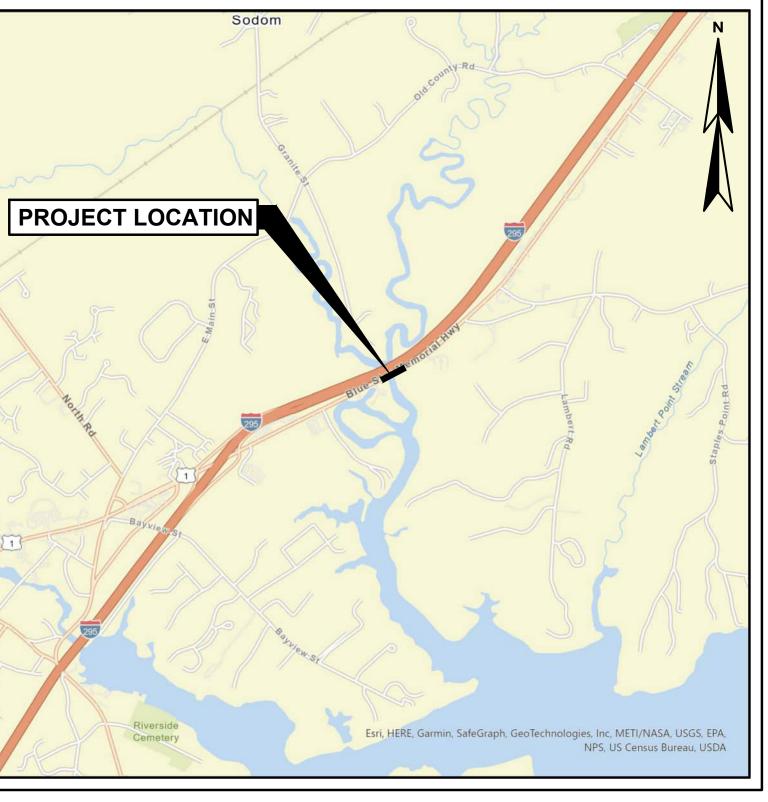
# **PERMITTING SET**





# WRIGHT-PIERCE ~ **Engineering a Better Environment**

207.725.8721 www.wright-pierce.com



LOCATION PLAN SCALE: NTS

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ALL NOT HAVE ANY RIGHT OF PROPERTY IN ANY MATERIALS TAKEN FROM ANY EXCAVATION. MATERIAL MAY BE INCORPORATED IN THE PROJECT, WITH EXCESS MATERIAL DISPOSED OF AT A BY THE CONTRACTOR. THESE PROVISIONS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF PERLY DISPOSE OF AND REPLACE ANY MATERIAL DETERMINED BY THE ENGINEER TO BE (FILLING. THE CONTRACTOR SHALL DISPOSE OF UNSUITABLE AND EXCESS MATERIAL IN HE APPLICABLE SECTIONS OF THE CONTRACT DOCUMENTS.

EMOVE AND REPLACE PAVEMENT AND OTHER ITEMS DAMAGED BY CONSTRUCTION ACTIVITIES TO NAL CONDITION, TO THE SATISFACTION OF THE OWNER AND ENGINEER.

EMENT IS REMOVED AND REPLACED, MATCH EXISTING GRADES TO THE EXTENT POSSIBLE. ADING WITH THE ENGINEER.

CROSS SLOPES SHALL PITCH 1/4-INCH PER FOOT MINIMUM. ALL PAVED SURFACES SHALL PITCH 1% OTED. REFER TO THE CIVIL DETAIL DRAWINGS.

REAS THAT ARE EXCAVATED, FILLED, OR OTHERWISE DISTURBED BY THE CONTRACTOR SHALL BE IED, FERTILIZED, SEEDED AND MULCHED, UNLESS OTHERWISE NOTED. THE TOP 4-INCHES OF SOIL R TO SPECIFICATION SECTION 02485, LANDSCAPING/LOAM AND SEED.

OF THE WATER MAIN WORK THE CPP CULVERT INSTALLED AT THE DRIVEWAY ENTRANCE OF BEST IN FOR EASE OF WATER MAIN INSTALLATION SHALL BE REMOVED AND THE AREA RESTORED TO ONDITIONS.

ALL BE RESPONSIBLE FOR MAINTAINING THIS PROVIDED LAYOUT INFORMATION THROUGHOUT THE TION. REPORT ANY LAYOUT DISCREPANCIES IMMEDIATELY TO THE ENGINEER.

ING AND SITE GRADING DRAWINGS FOR ADDITIONAL LAYOUT INFORMATION.

IMITS OF ALL ON-SITE WORK AND STORAGE AREAS SHALL BE REVIEWED/COORDINATED WITH, THE OWNER AND ENGINEER. THE CONTRACTOR SHALL LIMIT ACTIVITIES TO THESE AREAS.

ALL BE RESPONSIBLE FOR RE-ESTABLISHING AND RESETTING ALL EXISTING PROPERTY STURBED BY CONSTRUCTION. THIS WORK SHALL BE DONE BY A LAND SURVEYOR REGISTERED IN AT NO ADDITIONAL COST TO THE OWNER.

SHALL PREVAIL. DO NOT SCALE DISTANCES FROM THE DRAWINGS. REPORT ANY DISCREPANCIES ENGINEER.

SED ON THE STATE OF MAINE DEPARTMENT OF TRANSPORTATION PLANS TITLED T - CUMBERLAND COUNTY - COUSINS RIVER BRIDGE OVER COUSINS RIVER US ROUTE 1 PROJECT NO CT LENGTH 0.27 MI. - BRIDGE NO 2183", DATED 12/14/2022.

## NOTES

ON SECTION 02200 FOR PIPE BEDDING AND BACKFILL REQUIREMENTS.

/ILL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION SECTION 02200. ANY SETTLEMENT NE-YEAR OF FINAL COMPLETION OF THE WORK SHALL BE CORRECTED BY THE CONTRACTOR AT NO

ESPONSIBLE FOR WORKING WITH THE SUPPLIER IN THE OFF-LOADING OF MATERIALS, OBTAINING AREAS NEAR THE PROJECT, INCLUDING ASSOCIATED COSTS, THE PROPER STORAGE OF MATERIALS IT OF ANY MATERIALS WHICH BECOME DEFECTIVE AS A RESULT OF IMPROPER STORAGE OR

OT OPERATE ANY EXISTING VALVES WITHOUT PERMISSION FROM THE OWNER.

LOCATIONS ARE INDICATED SYMBOLICALLY AND THEREFORE IN SOME INSTANCES TO INSURE REPRESENTING THE HYDRANT OR VALVE MAY NOT DEPICT THE EXACT INTENDED LOCATION. ATIONS SHALL BE FIELD LOCATED AND APPROVED BY THE OWNER AND FIRE DEPARTMENT.

TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL AND ADDITIONAL PIPE AS REQUIRED TO COMPLETE THE CONNECTION. CONTRACTOR SHALL VERIFY , ORIENTATION AND MATERIAL OF CONSTRUCTION. TEST PITS SHALL BE USED AS REQUIRED.

TRUCTURES, CABLES, AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATIONS SHALL BE LY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. DAMAGE TO ANY SUCH AND PIPELINES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF TRUCTURES, CABLES, AND PIPELINES.

ALL BE RESPONSIBLE FOR THE LAYOUT OF THE NEW WATER MAIN. LAYOUT SHALL BE REVIEWED OWNER AND ENGINEER. THE NEW WATER MAIN MUST BE LOCATED WITHIN THE RIGHTS-OF-WAY /INGS.

W WATER MAIN SHALL FOLLOW THE PROFILE IN THE DRAWINGS.

JCERS, HYDRANTS AND PLUGS SHALL BE RESTRAINED BY USING MECHANICAL JOINT RESTRAINTS S SHOWN ON THE DRAWINGS. ANCHOR TEES SHALL BE USED FOR ALL HYDRANT BRANCHES.

THE COMBINATION PRESSURE AND LEAKAGE TESTS SHALL BE 150 PSI. TEST DURATION SHALL BE SSURE TESTING, FILL LINE AND LET SIT FOR 24 HOURS, FLUSH, AND THEN PRESSURE TEST. FOR LORINATE AND LET SIT FOR 24 HOURS, DECHLORINATE, AND THEN SAMPLE. FOR PRESSURE IATION PROCEDURE REQUIREMENTS REFERENCE SPECIFICATION SECTIONS 02675 AND 022628.

TING WATER MAIN SHALL BE COORDINATED WITH THE OWNER.

AT ARE DISCONNECTED FROM THE WATER SYSTEM AND ARE TO BE LEFT IN PLACE SHALL BE CAPPED

SENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE UNLESS OTHERWISE NOTED. INT TO THE OWNER THE CONTRACTOR SHALL REPAIR OR COORDINATE WITH THE RESPECTIVE O EXISTING UTILITIES.

SERVICE MUST BE MAINTAINED DURING CONSTRUCTION.

OTHER BURIED FACILITIES WITH SURFACE ACCESS SHALL BE ADJUSTED TO MATCH FINAL GRADES, DICATED.

MATERIALS MAY BE INCORPORATED INTO THE PROJECT. THE OWNER HAS THE RIGHT OF FIRST S SUITABLE MATERIAL FROM THE PROJECT. THIS PROVISION IN NO WAY RELIEVES THE R OBLIGATIONS TO REMOVE AND DISPOSE OF ANY MATERIAL DETERMINED BY THE ENGINEER TO ACKFILLING OR EXCESS SUITABLE MATERIAL UNWANTED BY THE OWNER.

&	AND
Ø, DIA	DIAM
#, NO	NUMI
APP'D	APPR
BLDG	BUILD
СВ	CATCI
CEN	CENTI
CFS	CUBIC
CI	CAST
CIPP	CURE
CL	CENTI
CMP	CORR
CONC	CONC
СРР	CORR
CY	CUBIC
DEMO	DEMO
DMH	DRAIN
DI	DUCT
DR	DRAIN
DWG	DRAW
EL	ELEVA
EMH	ELECT
FT	FEET
G	GAS
HDPE	HIGH
HYD	HYDR
IN	INCH
INV	INVER
LBS	POUN
LF	LINEA
MAX	ΜΑΧΙ
MH	MAN
MIN	MININ
Ν	NORT
NGVD	NATIC
N/A	NOT A
, NTS	NOT T
OD	OUTS
OUT	OUTF
PSF	POUN
PSI	POUN
PVC	POLY
RCP	REINF
REQ'D	REQU
S	SLOPE
SD	STORI
SF	SQUA
SMH	SANIT
STA	STATI
твм	TEMP
тнк	ТНІСК
ТОР	TOP C

ТОР

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UG

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VC

W/

# **CIVIL ABBREVIATIONS**

AMETER MBER ROVED LDING TCH BASIN TER SIC FEET PER SECOND T IRON RED-IN-PLACE-PIPE TFRLINF RUGATED METAL PIPE NCRETE RUGATED PLASTIC PIPE BIC YARD MOLITION AIN MANHOLE CTILE IRON IN WING VATION CTRIC MANHOLE GH DENSITY POLYETHYLENE RANT ERT JNDS EAR FOOT XIMUM NHOLE IIMUM RTH TIONAL GEODETIC VERTICAL DATUM AVAILABLE/APPLICABLE TO SCALE SIDE DIAMETER FALL JNDS PER SQUARE FOOT JNDS PER SQUARE INCH LYVINYL CHLORIDE NFORCED CONCRETE PIPE UIRED PE, SEWER DRM DRAIN JARE FEET IITARY SEWER MANHOLE TION **APORARY BENCH MARK** CKNESS TOP OF PIPE TYPICAL UNDERDRAIN UNDERGROUND

UNDERGROUND ELECTRIC

VITRIFIED CLAY

**POTABLE WATER** 

WITH

CENTERLINE \_\_\_\_\_ \_\_\_\_\_ EDGE OF PAVEMENT CURBING \_\_\_\_\_ **EDGE OF GRAVEL** EDGE OF CONCRETE CONTOUR BUILDING STONEWALL  $\infty$  $\longrightarrow$ TREELINE CHAIN LINK FENCE \_\_\_\_O\_\_\_\_O\_\_\_\_ \_\_\_**o**\_\_\_\_o STOCKADE FENCE \_\_\_\_0\_\_\_\_\_ \_\_\_\_o\_\_\_\_o\_\_\_\_ BARB WIRE FENCE \_\_\_^\_\_\_ **RETAINING WALL** \_^\_\_ GUARDRAIL 0 0 0 <del>- 0 - 0 - - -</del> <u>8"S</u> \_\_\_\_\_8"\_\_\_ SEWER \_\_\_\_4<u>"FM</u> \_\_\_\_\_4"\_\_\_ **SEWER FORCE MAIN** 4"G GAS WATER <u>15"SD</u> <u>15"</u> STORM DRAIN UNDERDRAIN <u>12" CMP</u> CULVERT OVERHEAD ELECTRIC \_\_\_\_\_OHE\_\_\_\_\_OHE\_\_\_\_\_ - UNDERGROUND TELEPHONE -UNDERGROUND CABLE TV \_\_\_\_\_ CATV \_\_\_\_\_ CATV \_\_\_\_\_ CATV \_\_\_\_\_ **IRON PIPE/REBAR** DRILLHOLE MONUMENT SURVEY CONTROL POINT 134.5 124.6 SPOT ELEVATION \_SMH ● SMH SEWER MANHOLE DMH **DRAINAGE MANHOLE** ₩ CB CB F CATCH BASIN •СВ СВ EMH **ELECTRIC MANHOLE** TO TMH **TELEPHONE MANHOLE**  $\bowtie$ SHUTOFF VALVE WATER SERVICE SHUTOFF • HYDRANT ------GAS SERVICE SHUTOFF **GAS GATE VALVE** UTILITY POLE UTILITY POLE W/ GUY 0-2 \*\* UTILITY POLE W/ LIGHT LIGHT POLE BOLLARD  $\sim$ FLAGPOLE  $\sim$ CONIFEROUS TREE A Star 715 E. DECIDUOUS TREE  $\mathcal{C}$ റ SHRUB  $\triangle$ WETLAND FLAG EDGE OF WATER STREAM ----------EDGE OF WETLANDS \_\_\_\_\_ FLOODPLAIN WETLANDS DRAINAGE FLOW  $\implies$  $\implies$ DRAINAGE SWALE \_\_\_\_ \_\_\_\_\_ WETLAND SETBACK **\_ \_** · **\_ \_** · **\_** · **\_** · **\_** PAVEMENT MARKINGS ـ الله الله **---** 5 SIGN \_\_\_\_  $\square MB$ MAILBOX **TEMPORARY BENCH MARK TEST PIT**  $\bigcirc B$ **TEST BORING**  $\bigoplus P$ TEST PROBE ( MW MONITORING WELL LIMIT OF WORK \_\_\_\_\_ SILT FENCE \_\_\_\_ x \_\_\_ x \_\_\_\_ THE PERCENT RIPRAP ◀ RAILROAD P CON MATCHLINE A T

LEGEND

PROPERTY/ROW LINE

SETBACK LINE

EASEMENT LINE

PROPOSED

\_\_\_\_\_

\_\_\_\_\_

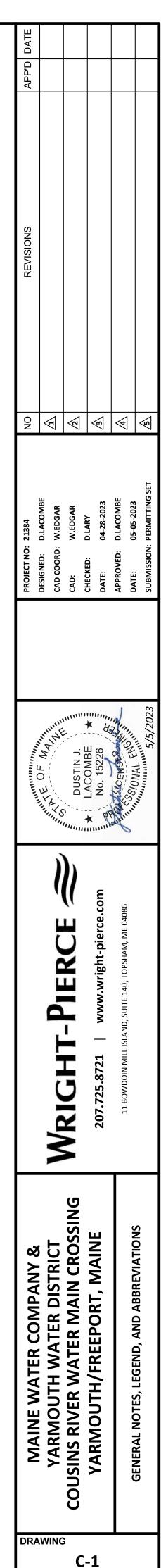
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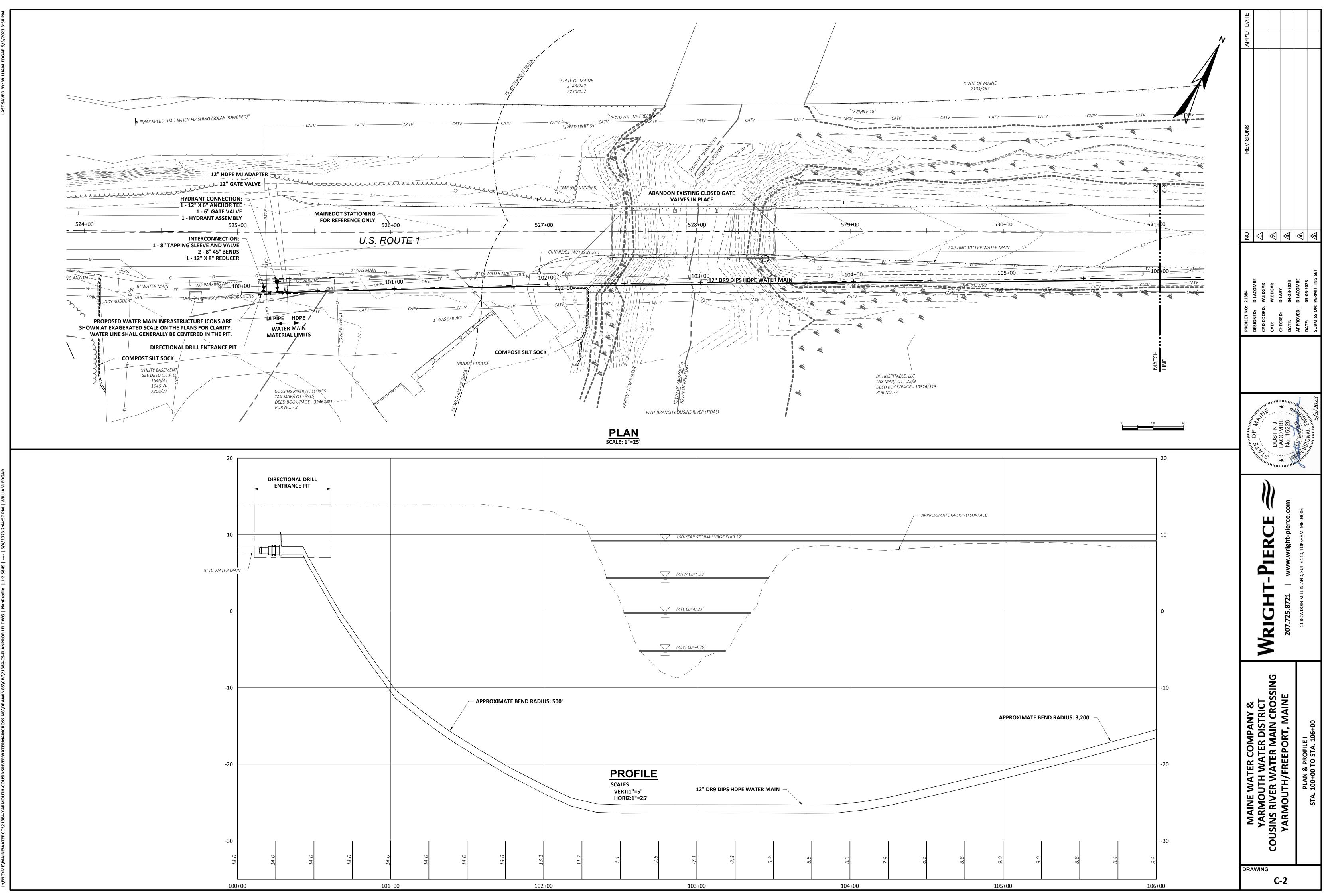
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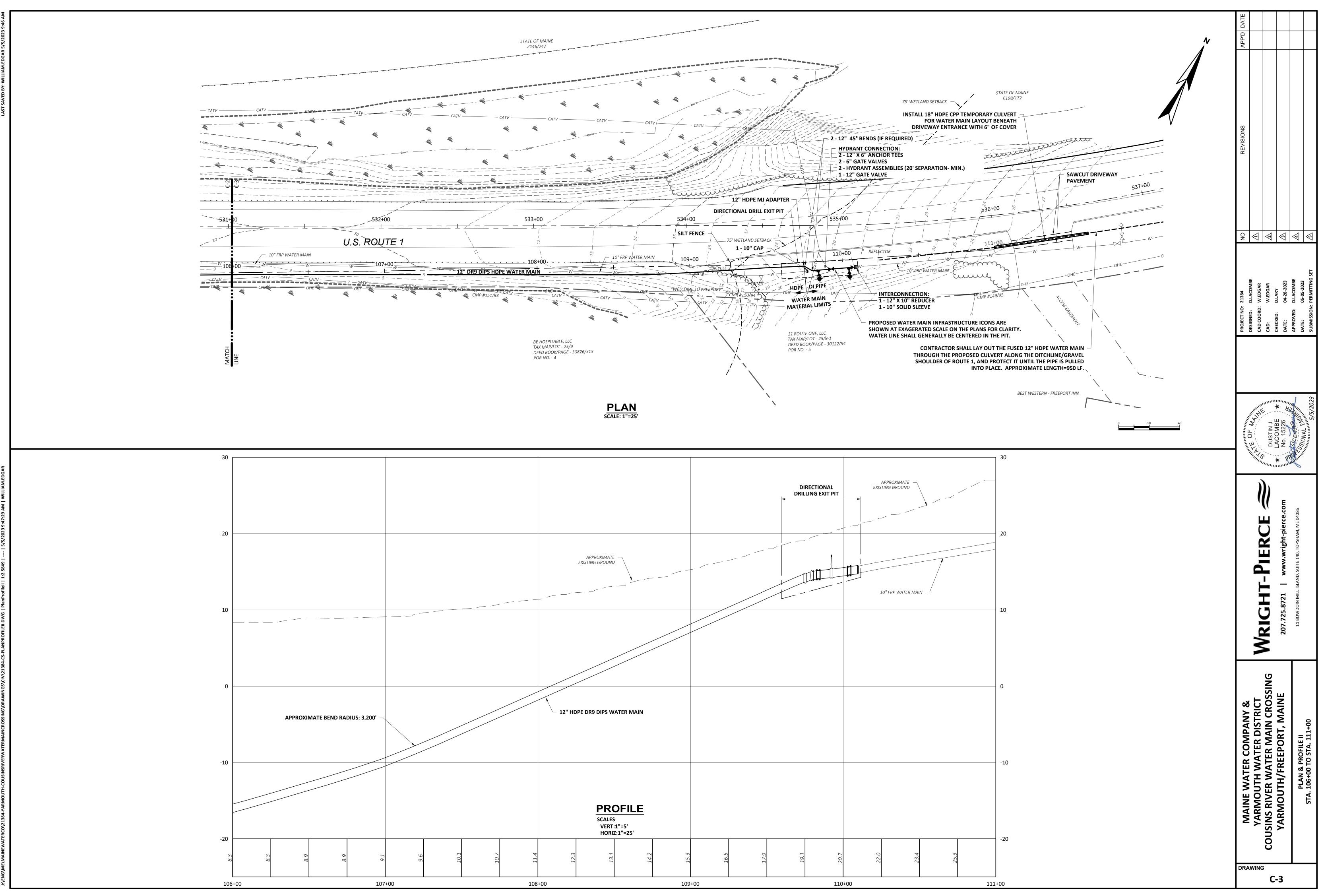
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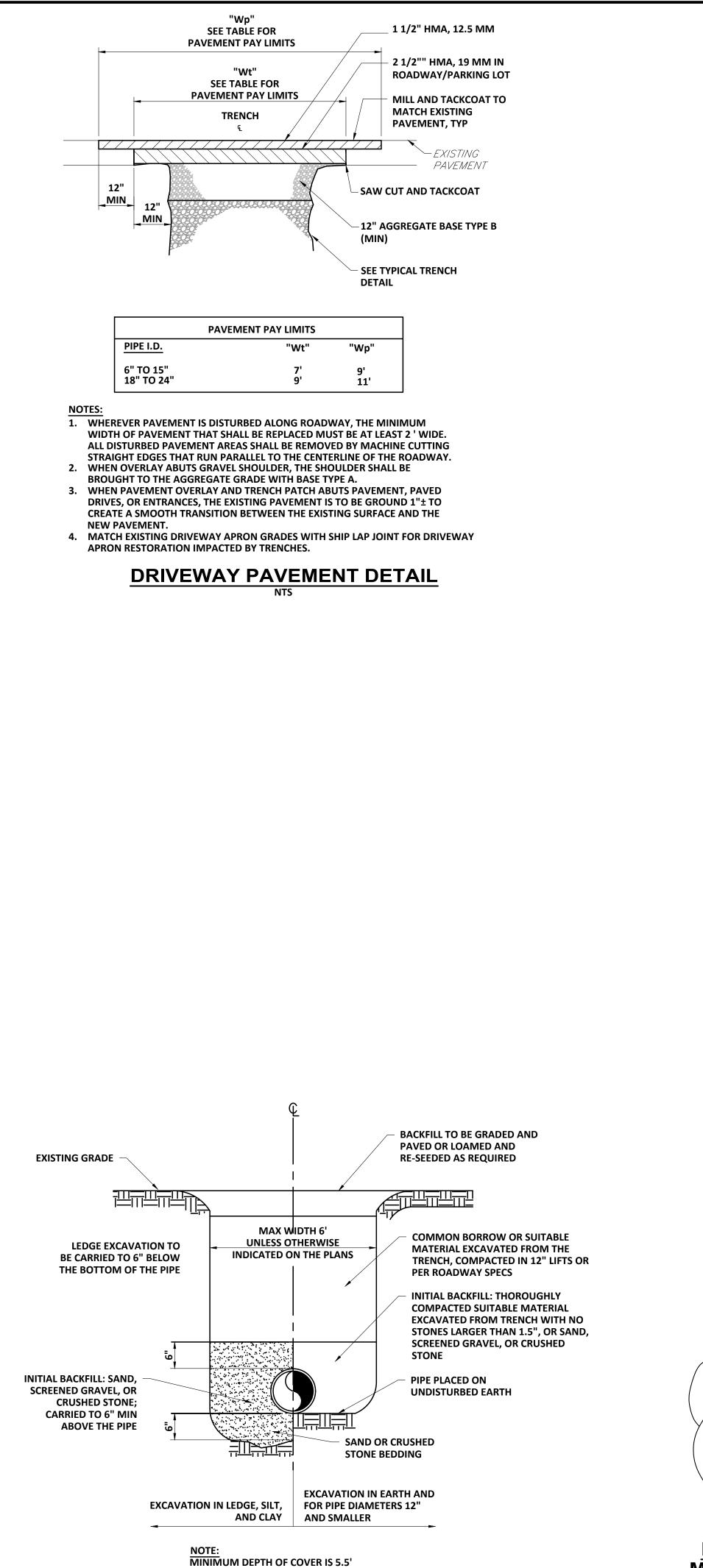
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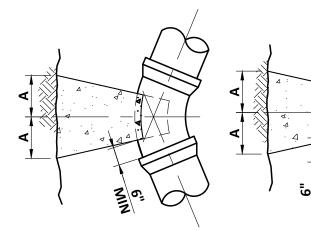




**PIPE TRENCH** 

SCALE: "NTS"

**MJ FITTING** 



 $\bigcirc$ 

<u>TEES</u>

VERTICAL

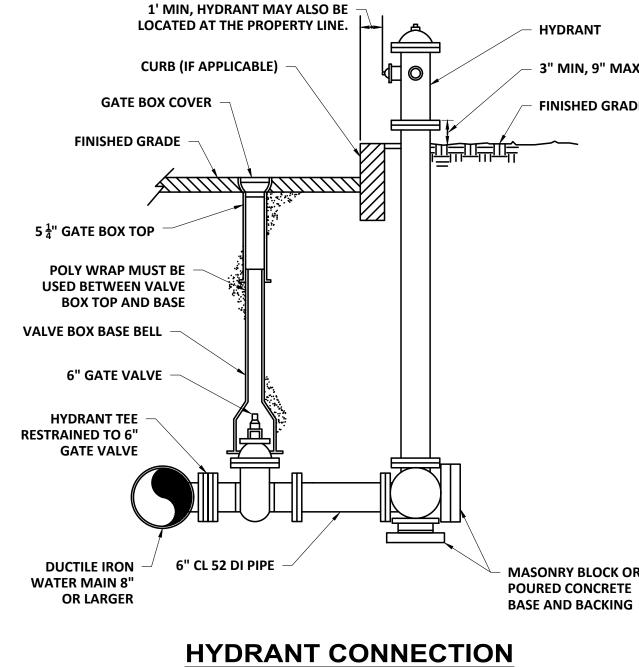


1. THRUST BLOCK SIZES SHOWN ARE BASED ON A SOIL **BEARING CAPACITY OF 2000** PSF AND TEST PRESSURES OF 180 PSI.

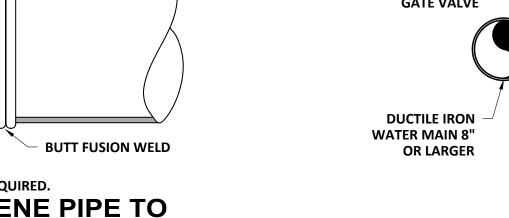
2. ALL BENDS, TEES, WYES, HYDS. & DEAD ENDS SHALL BE BRACED WITH CONCRETE THRUST BLOCKS.

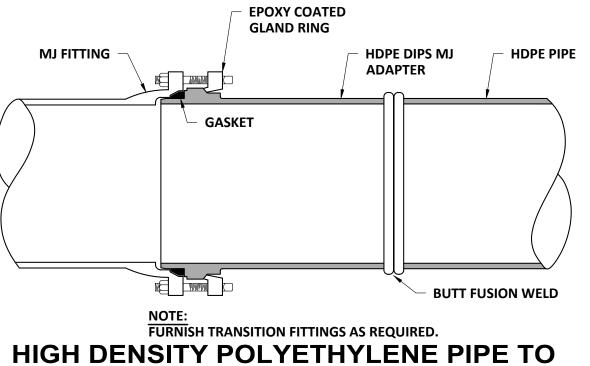
3. RODDING MAY BE REQUIRED

PIPE SIZE	90°	BEND	45° BEND		
	Α	В	Α	В	
4"	15"	12"	12"	9"	
6"	15"	12"	12"	9"	
8"	20"	15"	14"	12"	
10"	21"	21"	18"	15"	
12"	27"	24"	23"	15"	
16"	37"	30"	30"	21"	



SCALE: NTS





**MECHANICAL JOINT CONNECTION DETAIL** 

SCALE: NTS

		, , =				- 2#	BEI ORT PIECI 4 ROD TO A	AP TO LL END E OF PIPE	N CLAMP POSSIBLE			3	REVISIONS APP'D DATE		
<u>. BEND</u>	_			1	- T	6#4x2	ICAL	DU					NO I	3	<b>A</b> S
22 1/2° A	В	A	1° BEND B	TE A	В	BEND (I	DOWN) B	PLL A	В	REDU A	В			• · ·	· _ 1
9" 9"	6" 6"	6" 6"	6" 6"	12" 12"	12" 12"	24" 24"	21" 21"	12" 12"	12" 12"	12" 12"	12" 12"				ĔŢ
9 9"	6 9"	ь 9"	6"	12	12"	24 33"	21	12	12	12	12		21384 D.LACOMBE W.EDGAR	W.EDGAR D.LARY 04-28-2023	D.LACOMBE 05-05-2023 PERMITTING S
15"	9" 12"	9" 12"	9" 0"	20"	18"	40" 49"	27"	16"	16"	20" 25"	18"			W.EDGAR D.LARY 04-28-202	: D.LA( 05-05 N: PERM
15" 21"	12" 15"	12" 13"	9" 12"	25" 32"	18" 24"	48" 57"	30" 36"	18" 22"	18" 22"	25" 32"	18" 24"		PROJECT NO: DESIGNED: CAD COORD:	CAD: CHECKED: DATE:	APPROVED: D.LACOMBE DATE: 05-05-2023 SUBMISSION: PERMITTING SET
AX ADE					TE BOX (	ý.				Ξ				207.725.8721   ww	11 BOWDOIN MILL ISLAND, SUITE 140, TOPSHAM, ME 04086
OR E G			C	VALVE G MECH/		ASE BELI ALVE	GATE		THE ( VALV SERV CORF BETM BOX (TYP	P POLY A OUTSIDE ( 'E BOX BA E AS A ROSION B /EEN THE TOP AND ALL)	OF THE ASE TO ARRIER VALVE		MAINE WATER COMPANY & YARMOUTH WATER DISTRICT		DETAILS
														C-4	

# **EROSION AND SEDIMENTATION CONTROL NOTES**

THIS PLAN HAS BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION IN DEVELOPING AREAS IN ACCORDANCE WITH OCTOBER 2016 REVISION TO THE 2003 MAINE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS) MANUAL FOR DESIGNERS AND ENGINEERS, OR LATEST EDITION. EROSION CONTROL MIX SHALL BE AS SPECIFIED IN THIS CITATION, PAGE 40.

THE PROPOSED LOCATIONS OF SILTATION AND EROSION CONTROL STRUCTURES ARE SHOWN ON THE SITE PLAN.

- ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE IN ACCORDANCE WITH 2014 REVISION TO THE 2003 MAINE EROSION AND SEDIMENT CONTROL FIELD GUIDE FOR CONTRACTORS, OR LATEST EDITION. ALL TEMPORARY MEASURES SHALL NOT BE REMOVED UNTIL SITE IS FULLY STABILIZED.
- IN AREAS ADJACENT TO NATURAL RESOURCES, LOCATIONS TO BE VEGETATED IN THEIR FINISH CONDITION SHALL BE STABILIZED WITH MULCH WITHIN 7 DAYS OF MOST RECENT DISTURBANCE.
- AREAS THAT WILL NOT RECEIVE FINAL GRADING FOR UP TO ONE YEAR SHALL BE STABILIZED WITH MULCH WITHIN 7 DAYS OF MOST RECENT DISTURBANCE.
- THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE MAINTAINED IN AN UNTREATED OR UNVEGETATED CONDITION FOR THE MINIMUM TIME REQUIRED. IN GENERAL AREAS TO BE VEGETATED SHALL BE PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 30 DAYS OF INITIAL DISTURBANCE OF THE SOIL.
- SEDIMENT BARRIERS (SILT FENCE, STONE CHECK DAMS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF UPGRADIENT DRAINAGE AREAS.
- INSTALL SILT FENCE AT TOE OF SLOPES TO FILTER SILT FROM RUNOFF. SEE SILT FENCE DETAIL FOR PROPER INSTALLATION. SILT FENCE WILL REMAIN IN PLACE PER NOTE #5.
- ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSURE. IF REPAIRS ARE IDENTIFIED, THEY SHALL BEGIN NO LATER THAN THE END OF THE FOLLOWING WORK DAY AND BE COMPLETE WITHIN 7 DAYS FROM INSPECTION. SEDIMENT DEPOSITS MUST BE REMOVED WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE PERMANENTLY STABILIZED.
- NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2 TO 1) UNLESS STABILIZED WITH RIPRAP OR OTHER STRUCTURAL MEANS. NO SLOPES IN EXCESS OF 1.5H:1V SHALL BE ALLOWED UNLESS STAMPED BY A PROFESSIONAL ENGINEER.
- IF FINAL SEEDING AND SODDING IS NOT EXPECTED PRIOR TO THE ANTICIPATED DATE OF THE FIRST KILLING FROST, USE TEMPORARY ANNUAL RYEGRASS SEEDING AND MULCHING ON ROUGH GRADED SUBSOIL TO PROTECT THE SITE AND DELAY PERMANENT LOAMING, FINE GRADING, AND SEEDING OR SODDING UNTIL SPRING.
- 10. WHEN FEASIBLE, TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINISH GRADED SHALL BE COMPLETED 30 DAYS PRIOR TO THE FIRST KILLING FROST.
- 11. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS. POST SEEDING SEDIMENT, IF ANY, WILL BE DISPOSED OF IN AN ACCEPTABLE MANNER.
- 12. REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED, AND REVEGETATED.
- 13. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE IS STABILIZED.
- 14. STABILIZATION SCHEDULE BEFORE WINTER:

FOR OVER-WINTER.

SEPTEMBER 15	ALL DISTURBED AREAS MUST BE SEEDED AND MULCHED. ALL SLOPES MUST BE STABILIZED, SEEDED AND MULCHED. SLOPES 3:1 OR GREATER TO BE STABILIZED WITH EROSION CONTROL MATTING AND SEEDED. ALL DISTURBED AREAS TO BE PROTECTED WITH AN ANNUAL GRASS MUST BE SEEDED AT A SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET AND MULCHED.
OCTOBER 1	ALL GRASS-LINED DITCHES AND CHANNELS MUST BE STABILIZED WITH MULCH OR EROSION CONTROL BLANKET.
NOVEMBER 15	ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED. SLOPES THAT ARE COVERED WITH RIPRAP MUST BE CONSTRUCTED BY THAT DATE.
DECEMBER 1	ALL DISTURBED AREAS WHERE THE GROWTH OF VEGETATION FAILS TO BE AT LEAST THREE INCHE TALL OR AT LEAST 75% OF THE DISTURBED SOIL IS COVERED BY VEGETATION. MUST BE PROTECTE

- ALL OR AT LEAST 75% OF THE DISTURBED SOIL IS COVERED BY VEGETATION, MUST BE PROTECTED
- 15. SEDIMENT BARRIERS SHALL BE INSTALLED DOWNGRADIENT OF STOCKPILES, AND STORMWATER SHALL BE PREVENTED FROM RUNNING ONTO THE STOCKPILES.
- 6. EXCAVATION DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE DISCHARGED TO THE TEMPORARY HAY BALE SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE OR INTO NATURAL **PROTECTED RESOURCES.**

# **EROSION CONTROL - WINTER CONSTRUCTION**

- 2. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 14 IN THE GENERAL EROSION AND SEDIMENTATION CONTROL NOTES.
- 3. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW AT A RATE OF 100 LB. PER 1,000 SQUARE FEET (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED AND ADEQUATELY ANCHORED BY AN APPROVED ANCHORING TECHNIQUE. IN ALL CASES, MULCH SHALL BE APPLIED SUCH THAT SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH.
- 4. BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1ST, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE-FREEZING TEMPERATURES, THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED AND IS SMOOTH, THEN THE AREA MUST BE STABILIZED WITH MULCH. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT EXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF HAY OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS.
- 5. THE APPLICATION OF MULCH TO FINE GRADED AREAS WILL BE STABILIZED AS FOLLOWS:
- A. BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 15TH ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING, ASPHALT EMULSION, CHEMICAL TACK OR WOOD CELLULOSE FIBER.
- B. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GRATER THAN 8%. THIS SHALL BE IN ADDITION TO **EROSION CONTROL MATTING-DITCHES DETAIL.**
- C. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15%. AFTER OCTOBER 1ST. THE SAME APPLIES FOR ALL SLOPES GREATER THAN 8%.
- 6. AFTER NOVEMBER 1ST THE CONTRACTOR SHALL APPLY MULCH AND ANCHORING ON ALL BARE EARTH AT THE END OF EACH WORKING DAY.
- 7. DURING WINTER CONSTRUCTION PERIODS ALL SNOW SHALL BE REMOVED FROM AREAS OF MULCHING PRIOR TO PLACEMENT.
- 8. THE INSPECTION FREQUENCY FOR AREAS BEING WORKED ON DURING WINTER CONSTRUCTION SHALL BE AFTER EACH RAINFALL, SNOWSTORM, OR THAWING, AND AT LEAST ONCE A WEEK.
- A. CONTRACTOR SHALL NOT BE BE REQUIRED TO INSPECT AREAS OF THE SITE THAT ARE NOT VISIBLE DUE TO SNOW IF THOSE AREAS ARE NOT BEING ACTIVELY CONSTRUCTED, HAVE BEEN INSPECTED AND PROPERLY REPAIRED PRIOR TO THE SNOW EVENT.

# **EROSION CONTROL - WETLAND NOTES**

- 1. WETLANDS AND SURFACE WATERS (EXCEPTING THOSE WHICH ARE TO BE FILLED IN ACCORDANCE WITH STATE AND FEDERAL **REGULATIONS) WILL BE PROTECTED WITH APPROPRIATE CONTROL MEASURES AS SHOWN ON THE PLANS.**
- 2. IF THE WORK INCLUDES CROSSING OF WETLANDS AND/OR STREAMS, THE CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS WORKING IN THESE AREAS.
- 3. ANY WETLAND CROSSING WORK SHALL BE COMPLETED BETWEEN THE PERIOD OF MAY 1 AND SEPTEMBER 30.
- 4. ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCING CONSTRUCTION WITHIN OR ADJACENT TO WETLAND AREAS. ALL TEMPORARY MEASURES SHALL NOT BE REMOVED UNTIL SITE IS FULLY STABILIZED.

- 7. SEEDING OF THE DISTURBED AREAS WITHIN WETLAND AREAS SHALL UTILIZE MIXTURES APPROPRIATE FOR WETLAND AREAS AS OUTLINED IN THE SPECIFICATIONS.

# INSPECTIONS

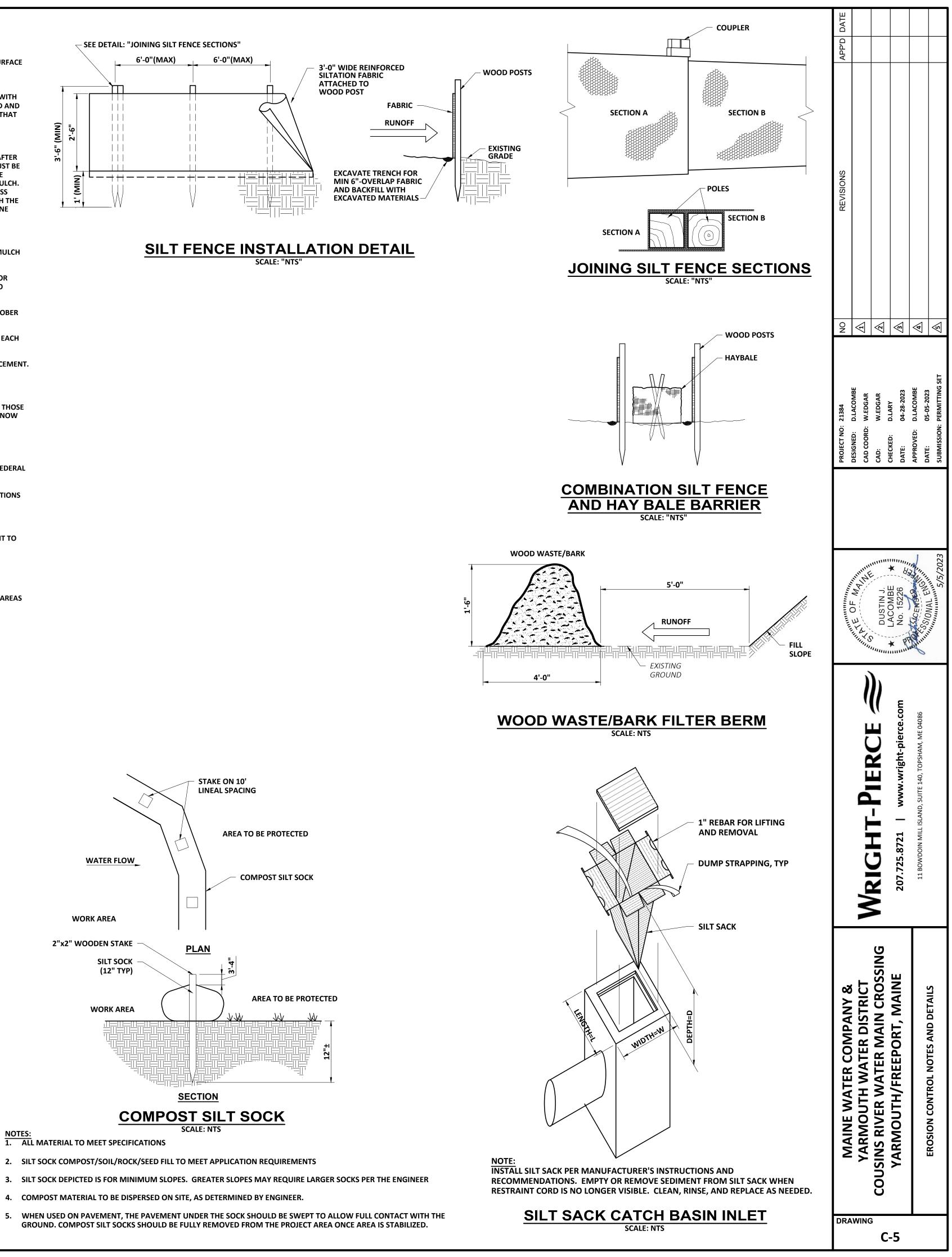
INSPECTED ITEM	
MULCHED SURFACES	тни
SEEDED SURFACES	POC RIVI
SEDIMENT BARRIER	SED UNE TOP
PERIMETER DIVERSION	DISC BAR
CATCH BASIN PROTECTION	SED FLO
DEWATERING FILTER	BRE.
CONSTRUCTION ENTRANCE	SED

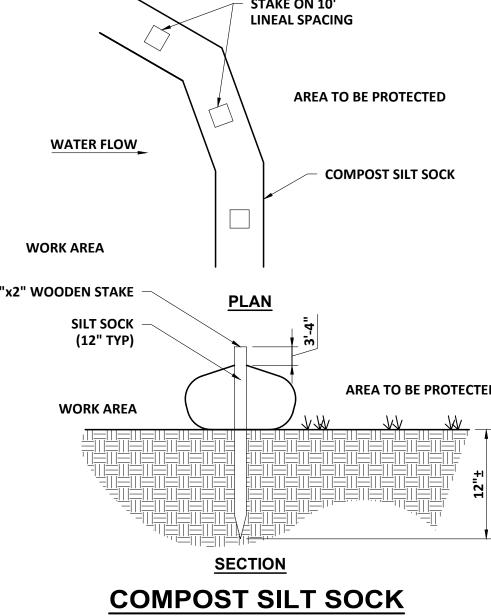
1. WINTER CONSTRUCTION PERIOD DEFINED: NOVEMBER 1 THROUGH APRIL 15.

- 5. WETLAND VEGETATIVE LAYERS SHALL BE REMOVED AND SALVAGED FOR RESTORATION OF THE DISTURBED AREAS.
- 6. STORAGE AREAS FOR WETLAND MATERIALS SHALL BE PROPERLY PROTECTED AGAINST EROSION.
- **REGULAR INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE MADE AT LEAST WEEKLY** AND PRIOR TO AND FOLLOWING STORM EVENTS. MINIMUM INSPECTIONS SHALL BE MADE AS LISTED IN THE TABLE BELOW. SEE INSPECTIONS, MAINTENANCE AND HOUSEKEEPING PLAN FOR ADDITIONAL INFORMATION.

# **EXAMPLE REPAIR INDICATORS**

- N MULCH OR INADEQUATE APPLICATION. WIND MOVEMENT OR SEED GERMINATION. LOSS OF MULCH. DEVELOPMENT OF ULETS.
- DIMENT BUILD-UP TO ONE HALF THE HEIGHT OF THE BARRIER. DERMINING OF THE BARRIER. SUPPORTING STAKES LOOSE, PPLED OR UNMARKED. BREAKS IN BARRIER.
- CHARGE IS TO STABILIZED AREA. EROSION OR BREAKS IN RRIER. SUPPORTING STAKES LOOSE, TOPPLED OR UNMARKED.
- DIMENT BUILD-UP AND STRUCTURE BLOCKAGES. SLOW W/PONDING WATER. BREAKS IN FABRIC OR VOIDS IN BARRIER.
- EAKS IN FABRIC OR SUPPORTING STRUCTURE. SLOW FLOW,
- DICATING HIGH SEDIMENT BUILD-UP.
- DIMENTATION OF ROADWAYS. OFF-SITE DUST COMPLAINTS.





- **1.** ALL MATERIAL TO MEET SPECIFICATIONS
- 2. SILT SOCK COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS
- 4. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.



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