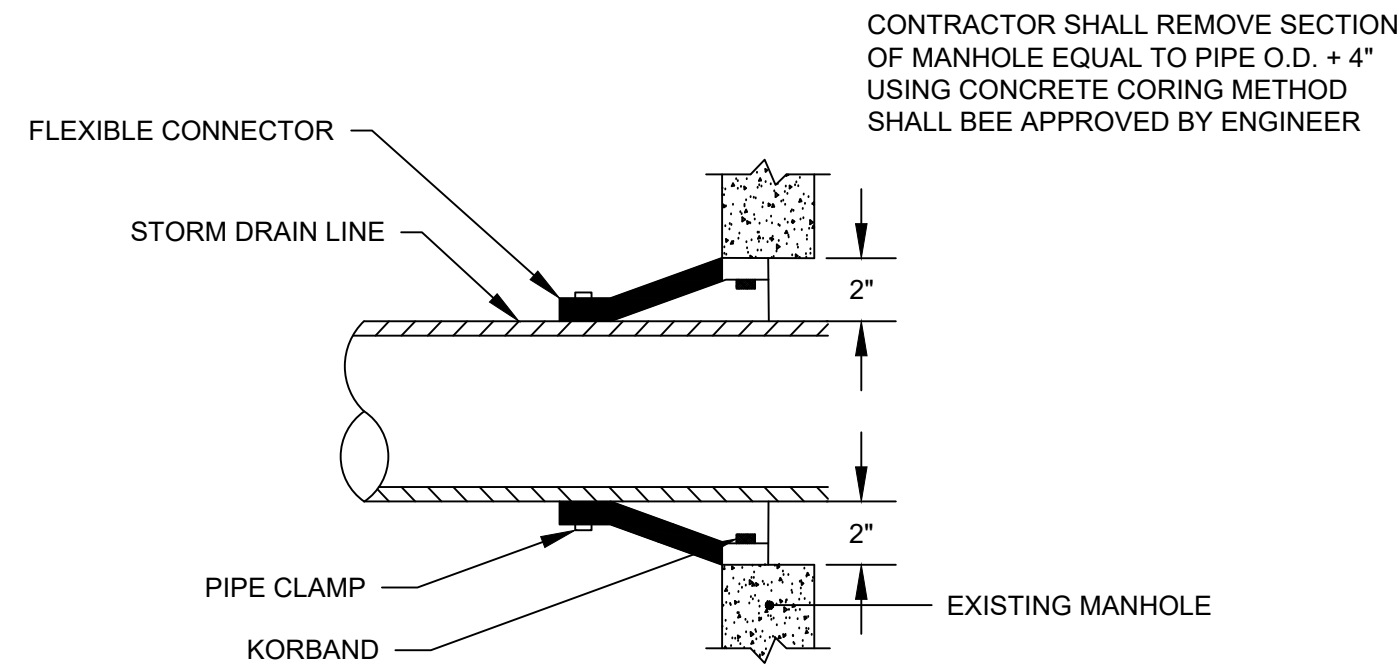
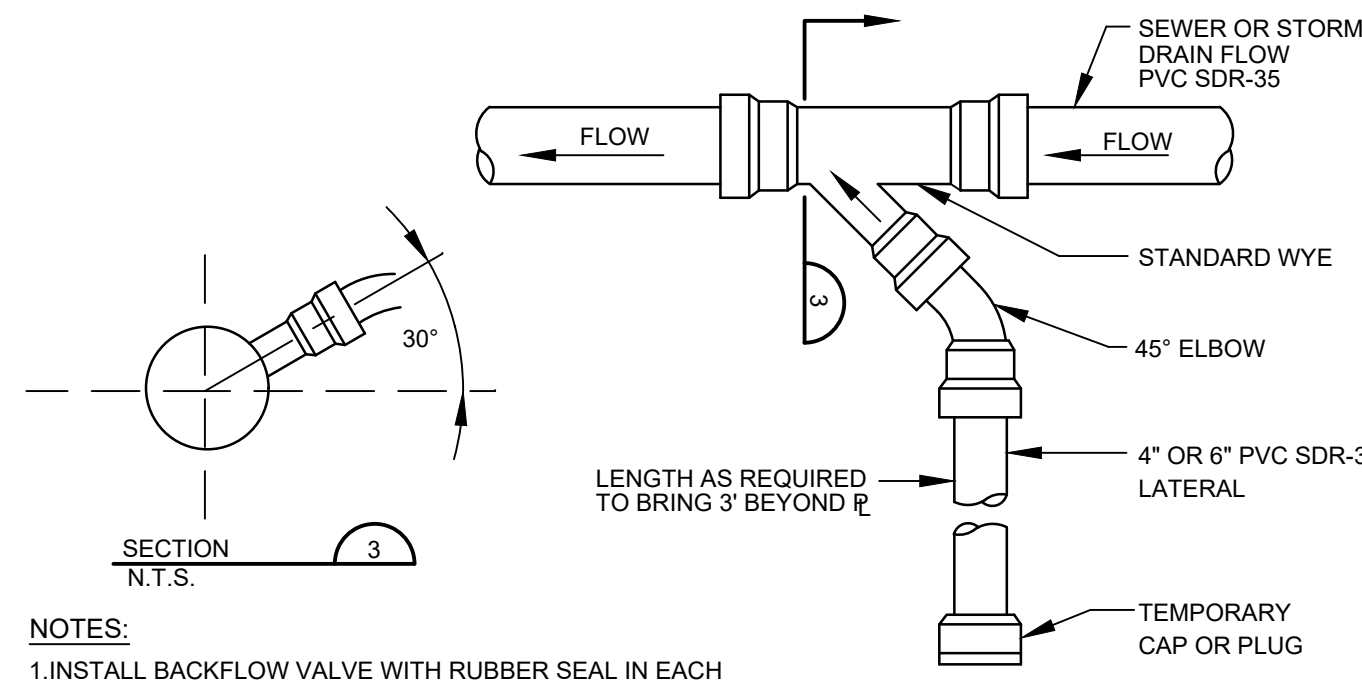


NOTES:

1. A FLEXIBLE PIPE TO MANHOLE CONNECTOR SHALL BE EMPLOYED IN THE CONNECTION OF ALL PIPE TO MANHOLE JUNCTIONS.
2. THE CONNECTOR SHALL BE KOR-N-SEAL AS MANUFACTURED BY NPC SYSTEMS, INC., OF MILFORD, NH OR EQUAL.
3. THE CONNECTOR SHALL BE THE SOLE ELEMENT RELIED ON TO ASSURE A FLEXIBLE WATERTIGHT SEAL OF THE PIPE TO MANHOLE. NO ADHESIVES OR LUBRICANTS SHALL BE EMPLOYED IN THE INSTALLATION OF THE CONNECTORS TO THE MANHOLE. THE RUBBER FOR THE CONNECTOR SHALL COMPLY TO ASTM C923 AND CONSIST OF EPDM AND ELASTOMERS KNOWN TO BE RESISTANT TO OZONE, WEATHER ELEMENTS, CHEMICALS, INCLUDING ACIDS, ALKALIS, ANIMAL AND VEGETABLE FATS, OILS AND PETROLEUM PRODUCTS FROM SPILLS.
4. ALL STAINLESS STEEL ELEMENTS OF THE CONNECTOR SHALL BE TOTALLY NON-MAGNETIC SERIES 304 STAINLESS, EXCLUDING THE WORM SCREW USED FOR TIGHTENING THE STEEL BAND SHALL BE TORQUED BY A BREAK-AWAY TORQUE WRENCH AVAILABLE FROM THE PRECAST MANHOLE SUPPLIER, AND SET AT 60/70 IN.LBS.
5. THE CONNECTOR SHALL BE INSTALLED IN THE MANHOLE WALL BY ACTIVATING THE EXPANDING MECHANISM IN STRICT ACCORDANCE WITH THE RECOMMENDATION OF THE CONNECTOR MANUFACTURER.
6. THE CONNECTOR SHALL BE OF A SIZE SPECIFICALLY DESIGNED FOR THE PIPE MATERIAL AND SIZE BEING UTILIZED ON THE PROJECT.
7. ALL CONNECTORS WHICH ARE CAPPED AWAITING PIPE INSTALLATION AT A LATER DATE MUST BE RESTRAINED.

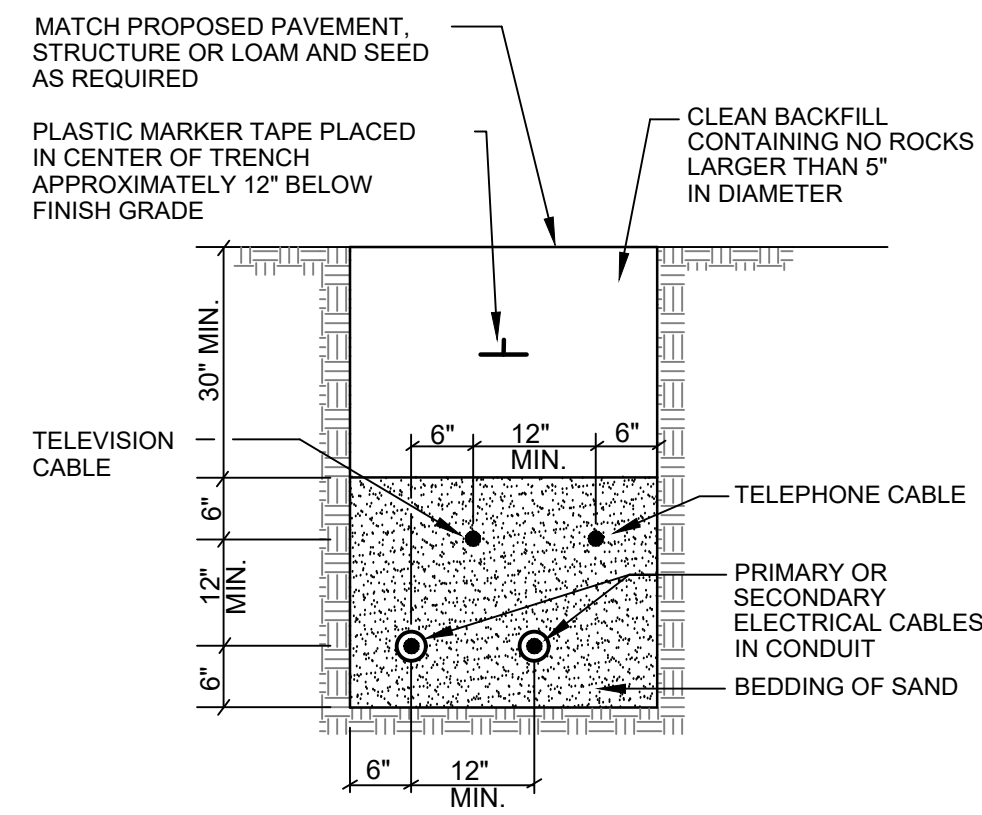


CORE AND SEAL CONNECTION TO EXISTING STORM DRAIN MANHOLE
NOT TO SCALE

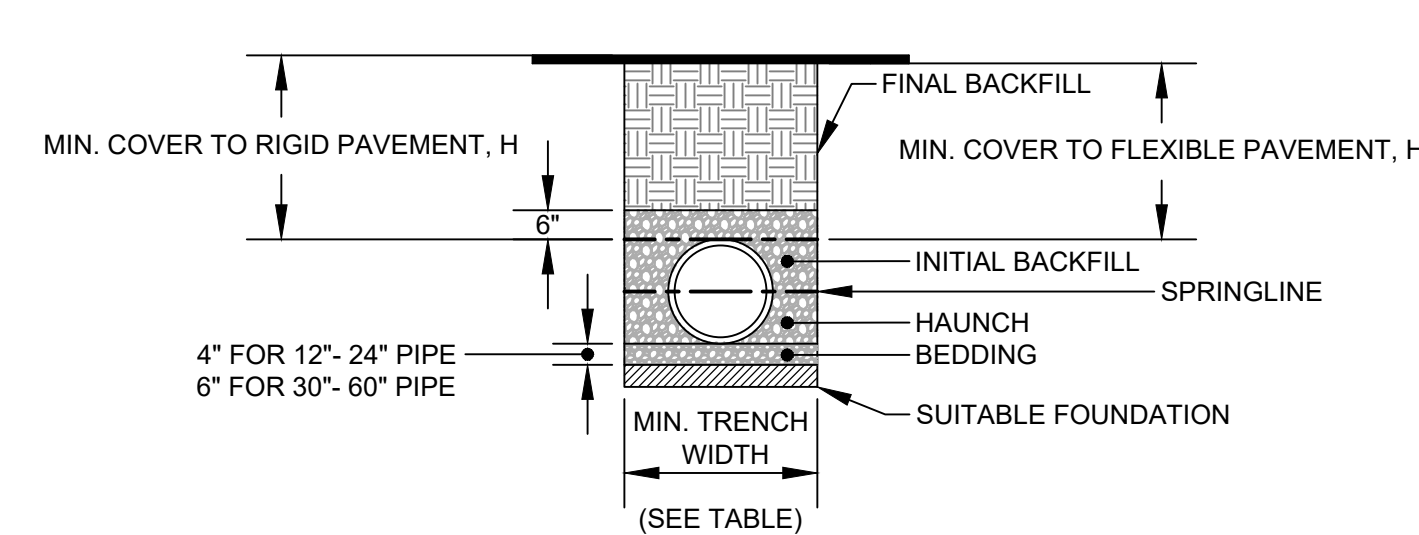


- NOTES:**
1. INSTALL BACKFLOW VALVE WITH RUBBER SEAL IN EACH FOUNDATION DRAIN SERVICE.
 2. IF SUMP PUMP IS UTILIZED INSTALL CHECK VALVE AT SUMP PUMP.

SEWER / ROOF DRAIN SERVICE CONNECTION
NOT TO SCALE



TYPICAL UNDERGROUND CABLE INSTALLATION
NOT TO SCALE



- NOTES:**
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 EDITION.
 2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
 3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND 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-900mm).
 5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III 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 D2321, 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 FLOATATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.
 7. INSULATION: RIGID INSULATION SHALL BE PROVIDED FOR PIPES WITH LESS THAN 4" OF COVER IN ACCORDANCE WITH THE FOLLOWING TABLE:

RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4"	21"
6"	23"
8"	26"
10"	28"
12"	30"
15"	34"
18"	38"
24"	48"
30"	56"
36"	64"
42"	72"
48"	80"
54"	88"
60"	96"

MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

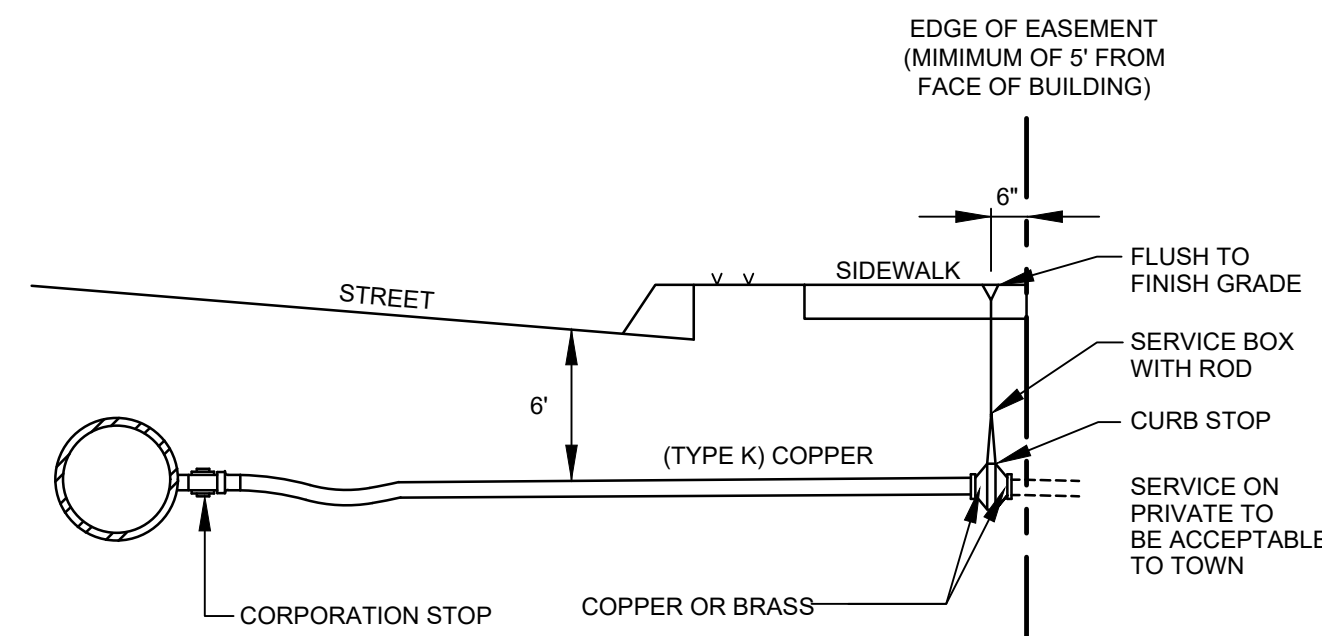
PIPE DIAM.	SURFACE LIVE LOADING CONDITION	
	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48"	12"	48"
54" - 60"	24"	60"

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

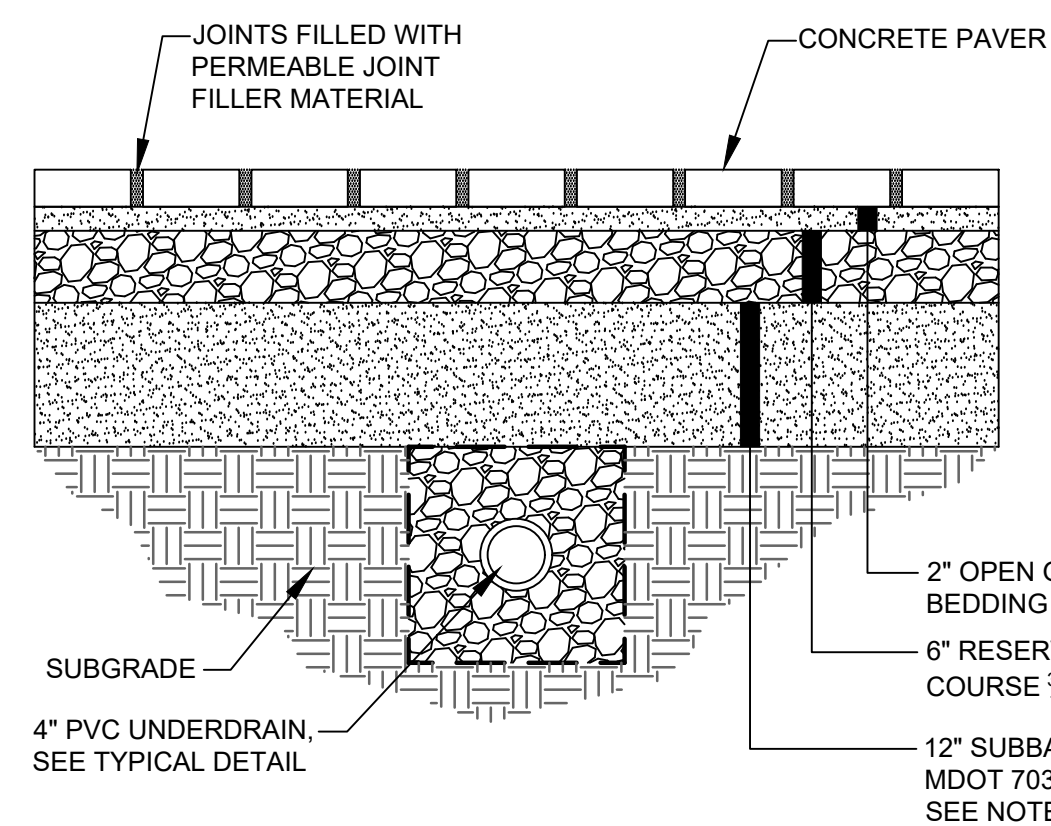
COVER OVER PIPE INSULATION THICKNESS

COVER OVER PIPE	INSULATION THICKNESS
12" - 24"	3"
24" - 36"	2"
36" - 48"	1"
48"+	NONE

TYPICAL TRENCH DETAIL
NOT TO SCALE

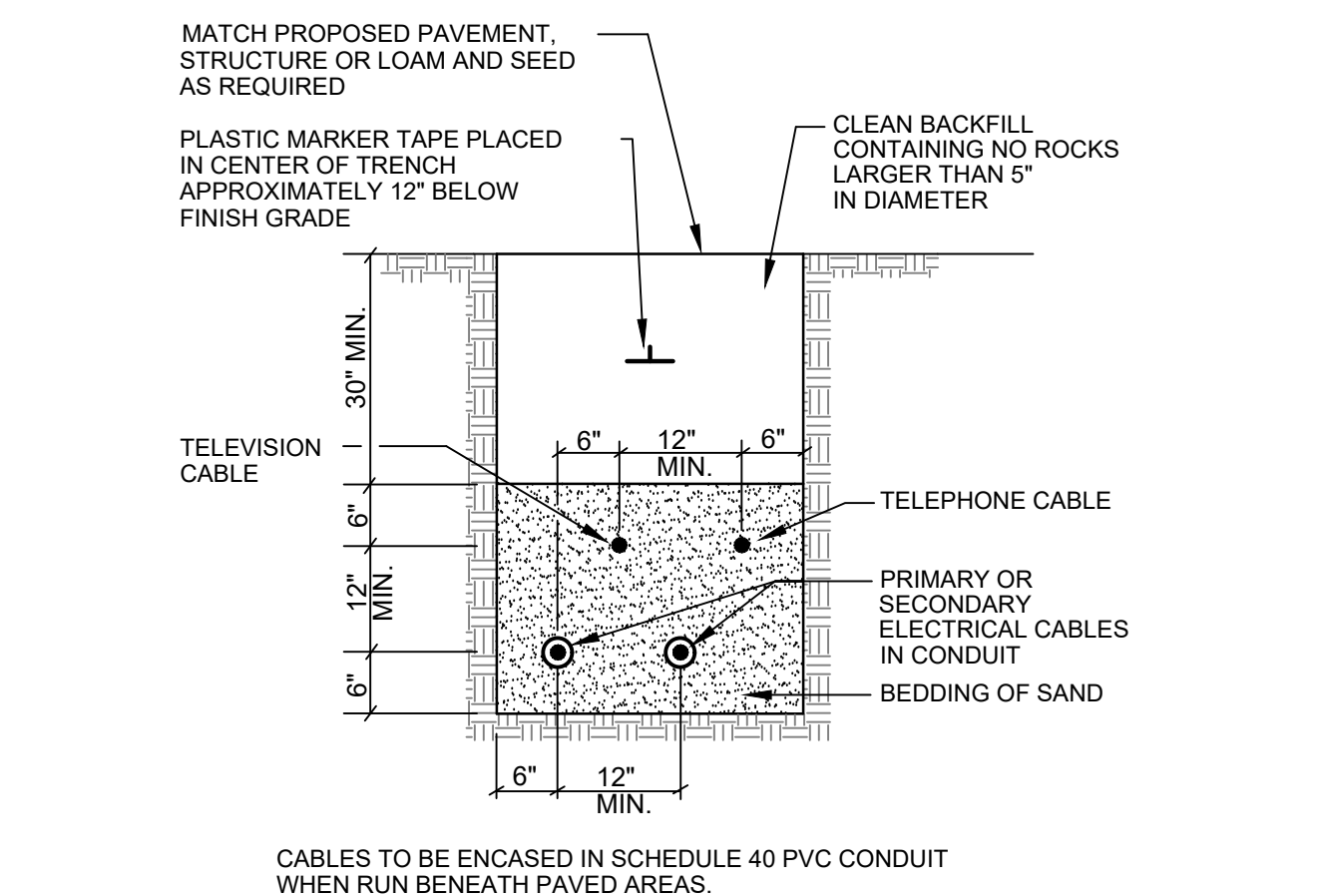


TYPICAL WATER SERVICE CONNECTION
NOT TO SCALE



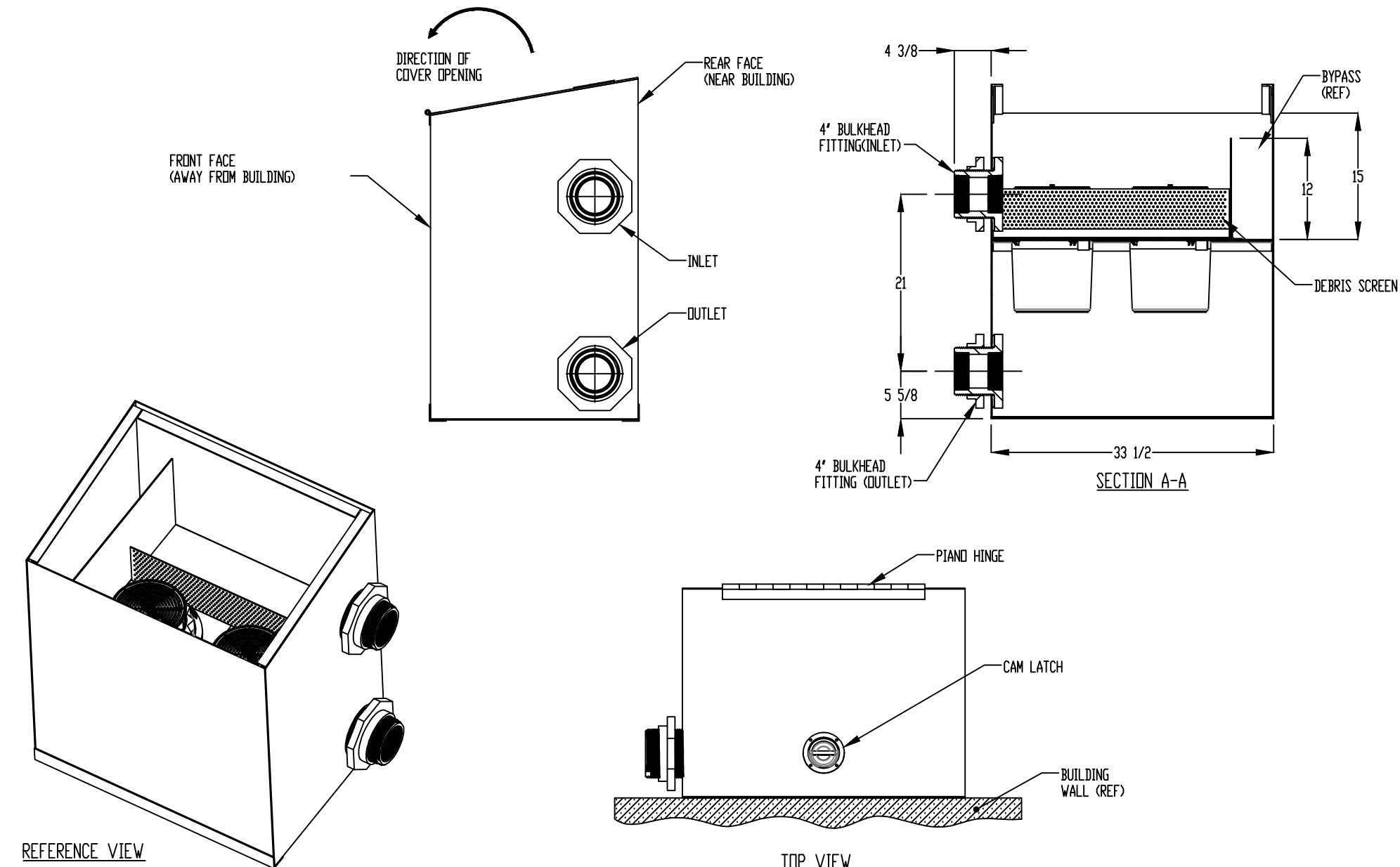
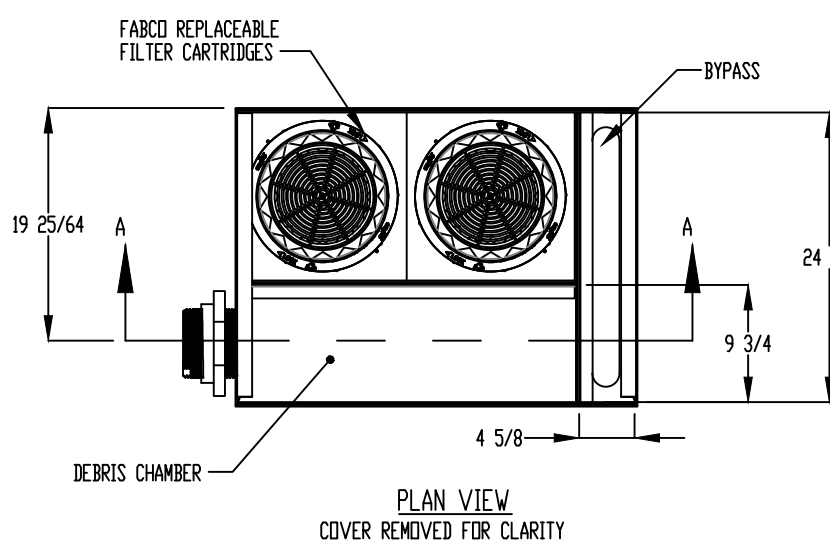
- NOTES:**
1. SEE PLAN FOR UNDERDRAIN LOCATIONS
 2. SUBBASE GRAVEL SHALL CONTAIN BETWEEN 4% AND 7% FINES (PASSING #200 SIEVE)

PERMEABLE INTERLOCKING CONCRETE PAVER SECTION
NOT TO SCALE

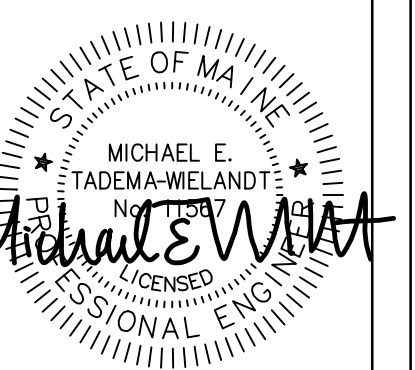


TYPICAL UNDERGROUND CABLE INSTALLATION
NOT TO SCALE

- NOTES:**
1. WEIGHT (APPROX.):
A) EMPTY W/CARTRIDGES: 200-LB MAX
B) FULL OF WATER: 1500-LB MAX
 2. MATERIAL:
A) FILTER HOUSING AND COVER: STAINLESS STEEL, 300 SERIES
B) CARTRIDGE PLATE: STAINLESS STEEL, 300 SERIES
C) SUPPORT HARDWARE: CRES 300 SERIES OR EQUAL
 3. PERFORMANCE CHARACTERISTICS (TYP):
A) DEBRIS CAPACITY: 5.0 CU-FT
B) FILTERED FLOW RATE: 0.28 CFS PER CARTRIDGE (FABCO STANDARD CARTRIDGE) THIS UNIT CONTAINS TWO (2) CARTRIDGES.
C) BYPASS FLOW RATE: 460 GPM (1.0 CFS)
 4. TYPICAL INSTALLATION: CUT DOWNSPOUT PIPE AND CONNECT THE 4" INLET AND OUTLET PIPES AS REQUIRED TO REDIRECT RAIN FLOW THROUGH THE FILTER BOX.
 5. USE ONLY WITH FABCO REPLACEABLE MEDIA CARTRIDGES.



ROOF RUNOFF DOWNSPOUT FILTER UNIT
NOT TO SCALE



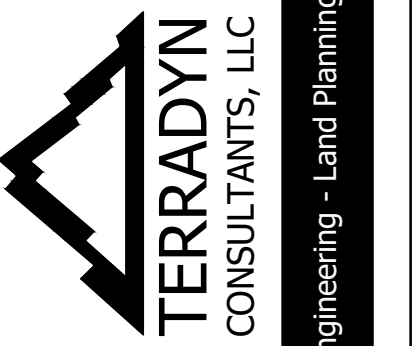
P.E.: MICHAEL E. TADEAMA-WIELANDT
DATE: 3-28-2018

NO.	DATE	REVISIONS	BY
1	3-28-2018	SUBMITTED TO PLANNING BOARD FOR APPROVAL	MTW

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Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

SHEET DESCRIPTION
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PORTLAND, ME 04101

PREPARED FOR
MAINE WORKFORCE HOUSING, LLC
482 CONGRESS STREET, SUITE 203
PORTLAND, ME 04101

DATE:	3/16/2018
SCALE:	N.T.S.
DESIGNED:	ARF
JOB NO.:	1747
FILE:	1747-DETAILS.DWG
SHEET	C-6.1

PRELIMINARY - NOT FOR CONSTRUCTION