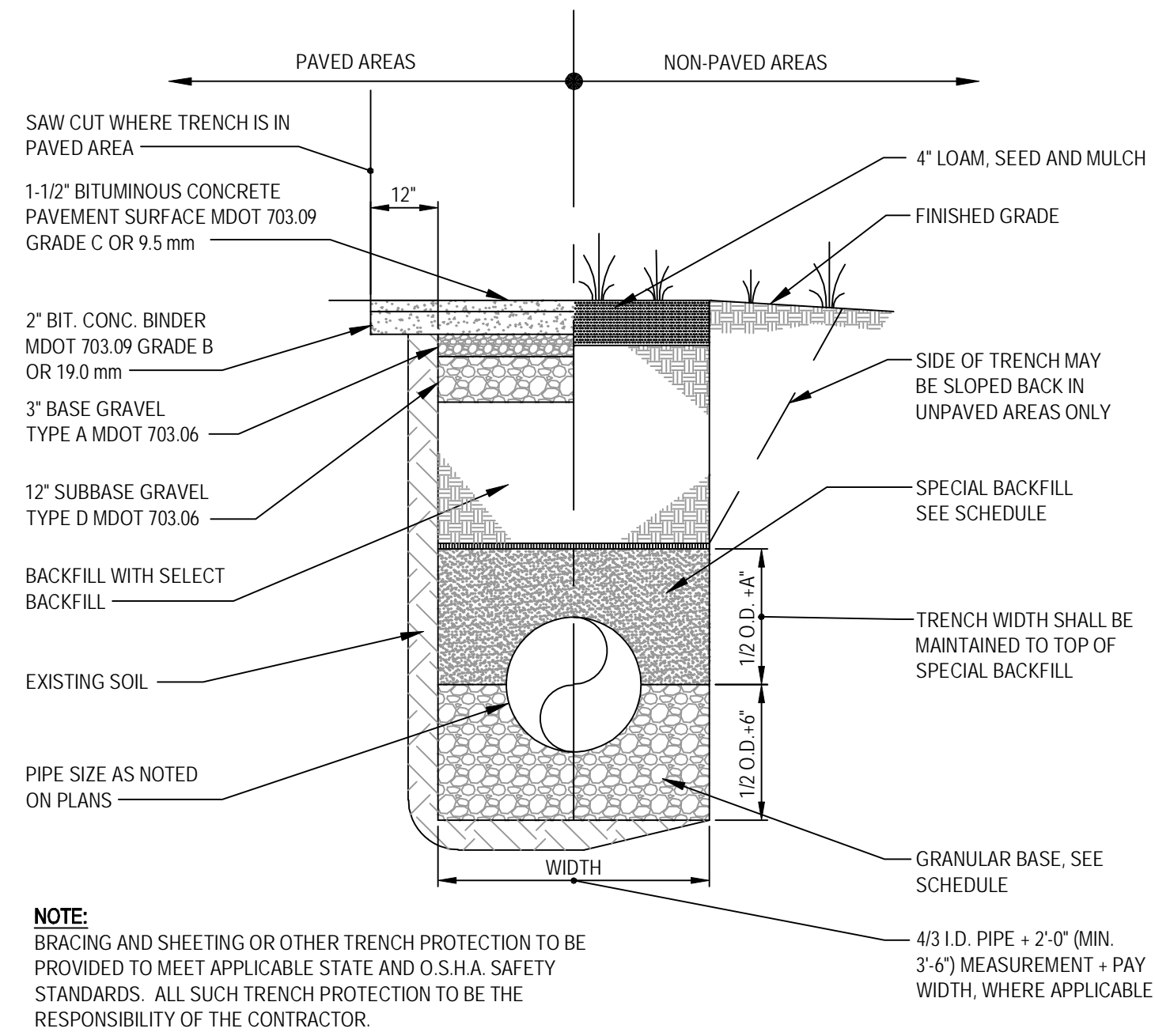


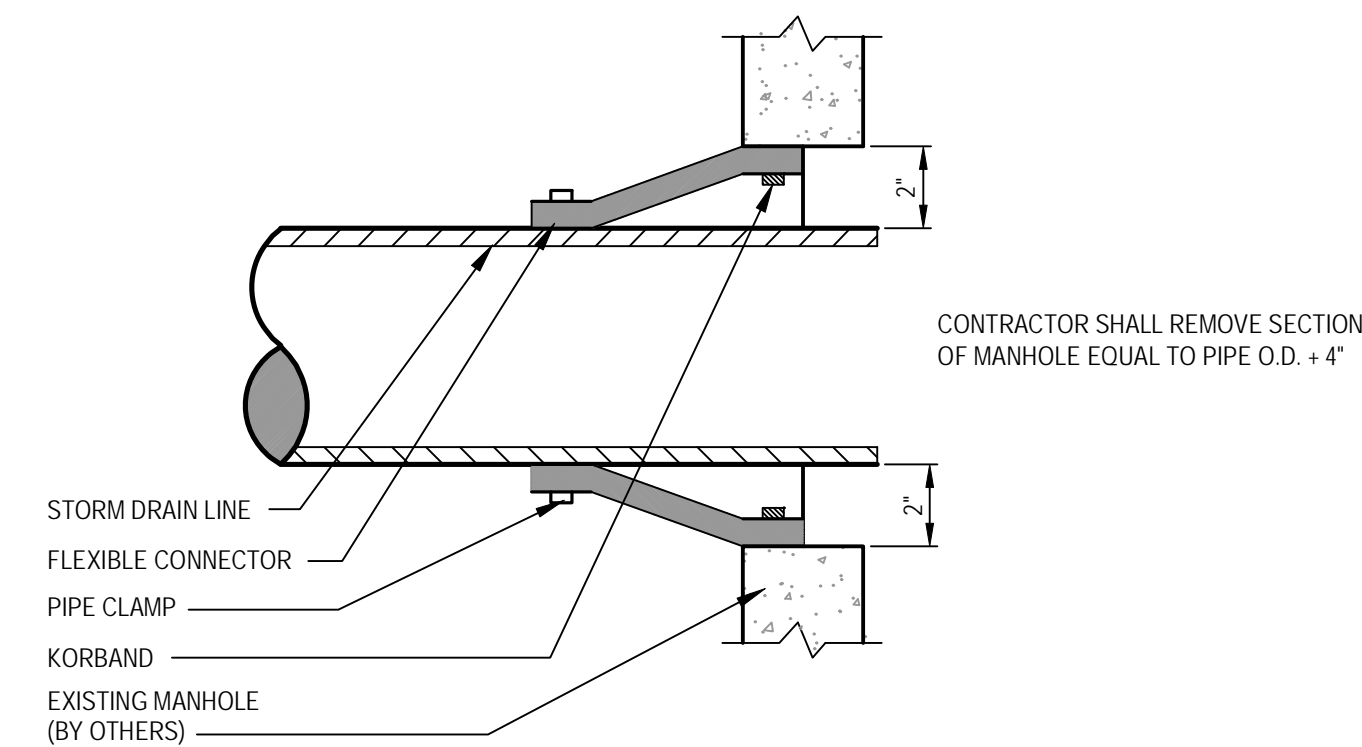
TRENCH SECTION BACKFILL SCHEDULE				
TYPE OF PIPE	GRANULAR BASE MATERIAL	SPECIAL BACKFILL	SPECIAL BACKFILL COVER "A" (IN)	SELECT BACKFILL
CONCRETE	GRANULAR AASHTO M145-49 A-3 OR BETTER	GRANULAR AASHTO M145-49 A-3 OR BETTER	12"	GRANULAR AASHTO M145-49 A-3 OR BETTER
PVC OR HDPE	3/4" CRUSHED STONE	GRANULAR AASHTO M145-49 A-3 OR BETTER	6"	GRANULAR AASHTO M145-49 A-3 OR BETTER
DUCTILE IRON	GRANULAR AASHTO M145-49 A-3 OR BETTER	GRANULAR AASHTO M145-49 A-3 OR BETTER	6"	GRANULAR AASHTO M145-49 A-3 OR BETTER
UNDER-DRAINS	3/4" CRUSHED STONE	3/4" CRUSHED STONE	6"	GRANULAR AASHTO M145-49 A-3 OR BETTER



A TYPICAL UTILITY PIPE TRENCH SECTION
N.T.S.

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 CONNECTOR TO THE MANHOLE. THE RUBBER FOR THE CONNECTOR SHALL COMPLY TO ASTM C443 AND 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 AROUND THE PIPE WHICH SHALL BE SERIES 306 STAINLESS. 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 inlbs.
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.

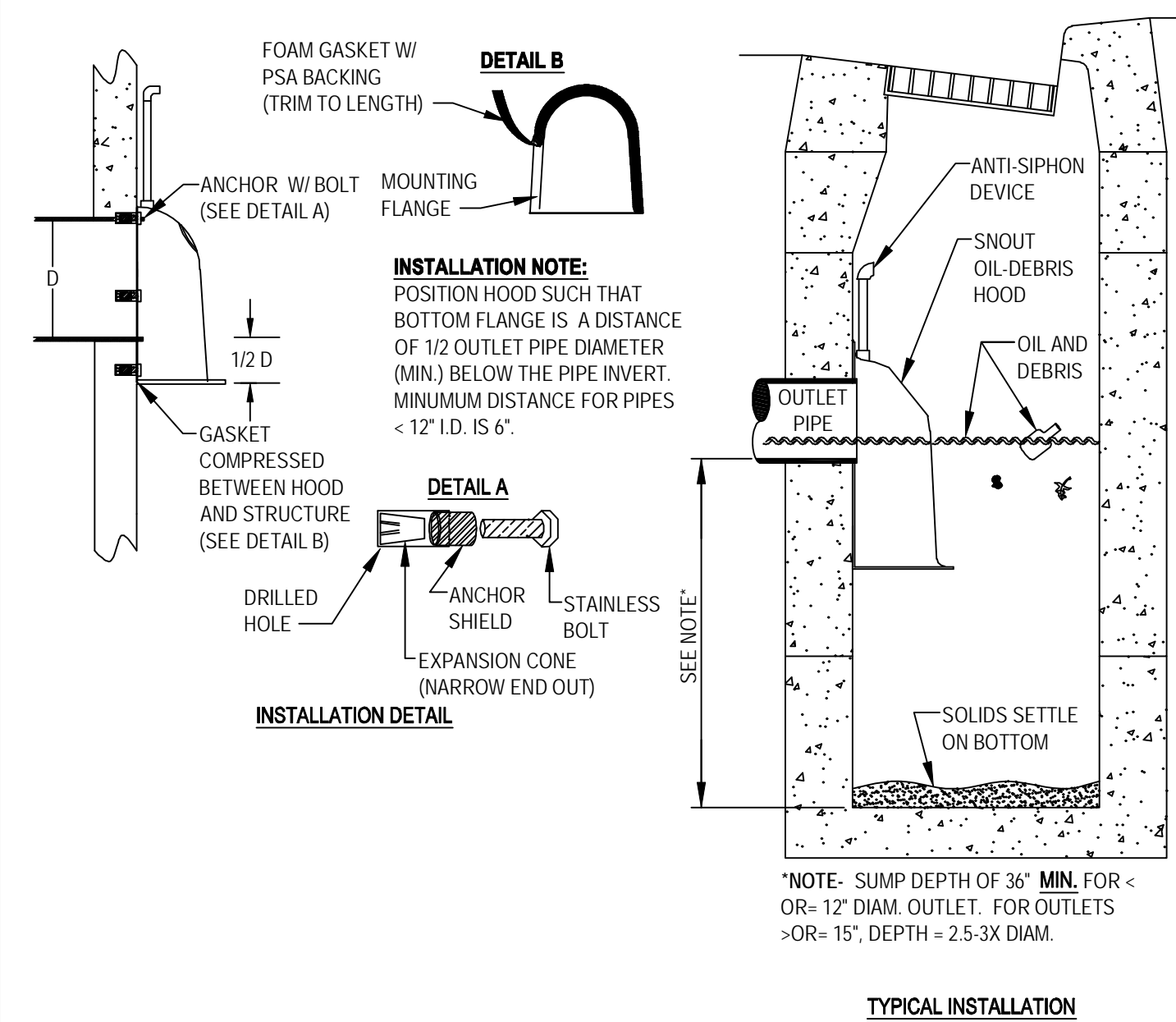


C CORE AND SEAL CONNECTION TO EXISTING STORM DRAIN OR SANITARY MANHOLE
N.T.S.

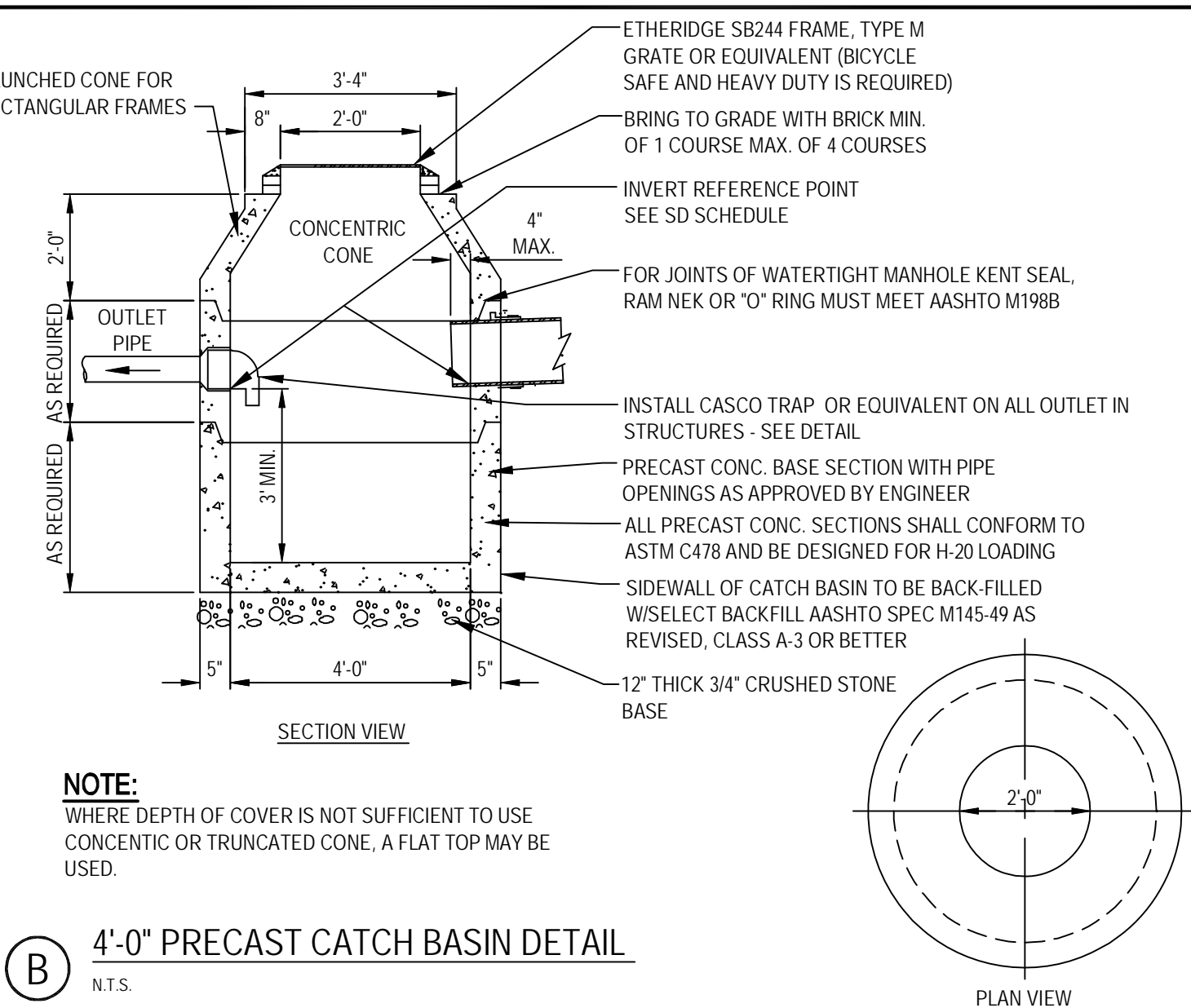
NOTES:

1. ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE AS MANUFACTURED BY BEST MANAGEMENT PRODUCTS, INC. TOLL FREE: (800) 504-8008 OR (888) 354-7565 WEB SITE: www.bmpinc.com OR PRE-APPROVED EQUAL.
2. ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
3. ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT AS DRAWN (SEE CONFIGURATION DETAIL).
4. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE IN ACCORDANCE WITH THE FOLLOWING TABLE:

STRUCTURE OUTLET HOLE SIZE	SNOUT SIZE
11.9" O.D. OR LESS	12 F or R
12.0"-17.9" O.D.	18 F or R
18.0"-23.9" O.D.	24 F or R
24.0"-29.9" O.D.	30 F or R
30.0"-47.9" O.D.	48 F
48.0"-95.9" O.D.	96 F
5. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A DISTANCE EQUAL TO 1/2 THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES <12" I.D.
6. THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 24" ACCORDING TO STRUCTURE CONFIGURATION.
7. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL.
8. THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8" STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER. (SEE INSTALLATION DETAIL).
9. INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT, WHICH INCLUDES:
 - A. INSTALLATION INSTRUCTIONS
 - B. PVC ANTI-SIPHON VENT PIPE AND ADAPTER
 - C. OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING
 - D. 3/8" STAINLESS STEEL BOLTS
 - E. ANCHOR SHIELDS

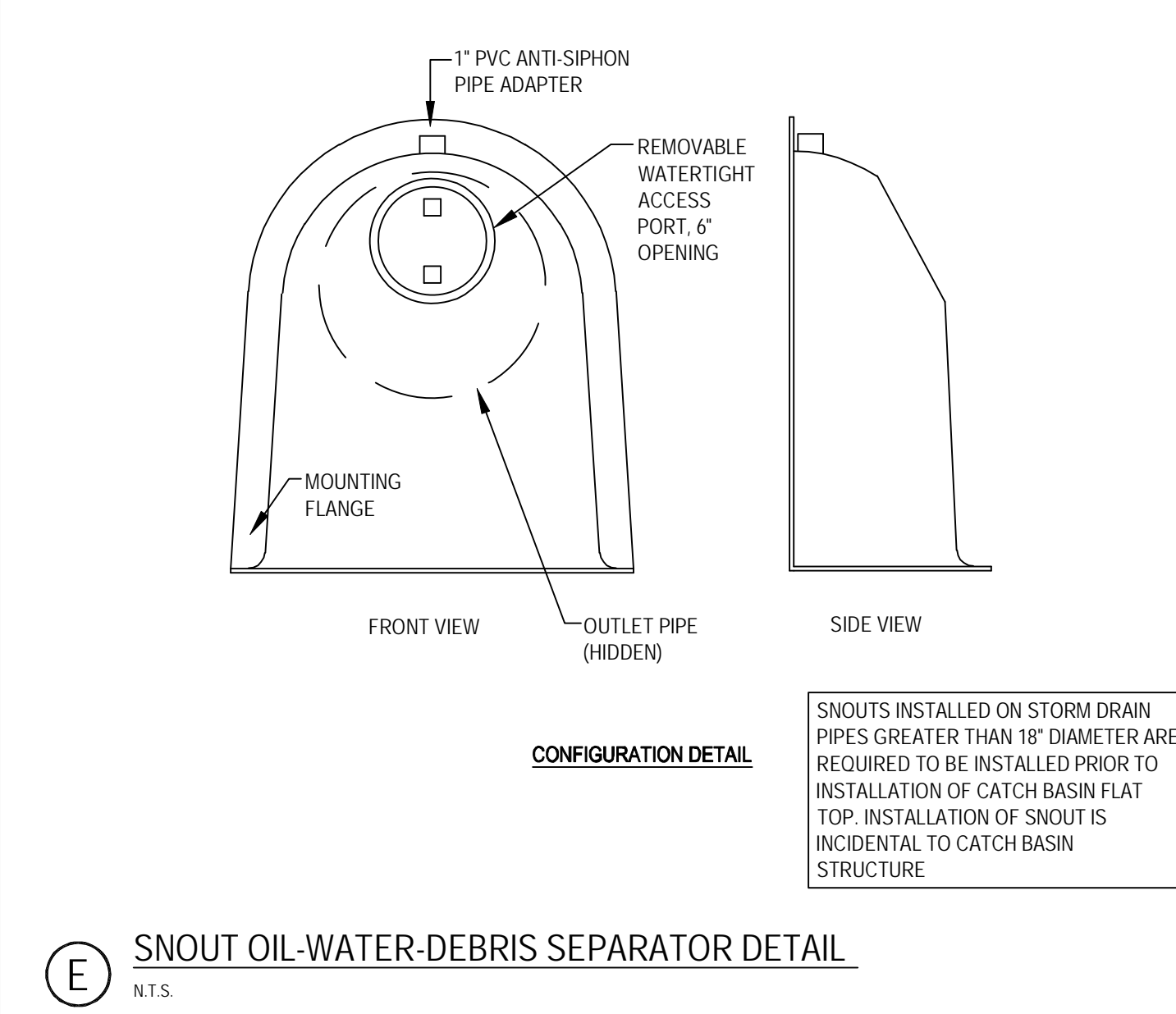


E SNOUT OIL-WATER-DEBRIS SEPARATOR DETAIL
N.T.S.



B 4'-0" PRECAST CATCH BASIN DETAIL
N.T.S.

D VACANT
N.T.S.



G PIPE BOLLARD DETAIL
N.T.S.

F VACANT
N.T.S.

REV	DATE	DESCRIPTION
6	08.06.14	REVISED PER CITY COMMENTS AND VALUE ENGINEERING
5	07.22.14	REMOVED DETAIL D AND SUBMITTED AMENDED PLANS TO CITY AND MEDEP
4	05.03.13	REVISED AND RESUBMITTED TO CITY
3	04.18.13	REVISED PER CITY STAFF COMMENTS
2	04.09.13	SUBMITTED TO MEDEP STORMWATER DISCHARGE PERMIT
1	03.28.13	SUBMITTED TO CITY OF PORTLAND
1	03.28.13	SUBMITTED TO CITY OF PORTLAND

STATE OF MAINE
STEPHEN P. BUSHEY
PROFESSIONAL ENGINEER
LIC. # 7429

PROJECT	MULTI-USE DEVELOPMENT 2282 CONGRESS ST., PORTLAND, ME
SHEET TITLE	MISCELLANEOUS DETAILS
CLIENT	CJ DEVELOPERS, INC. 35 PRIMROSE LANE, FREEPORT, MAINE 04032 AND PORTLAND PROPERTY HOLDINGS, LLC 2 MAIN STREET, SUITE 200, TOPSHAM, MAINE 04086

FST 100 YEARS FAY, SPOFFORD & THORNDIKE ENGINEERS • PLANNERS • SCIENTISTS 778 MAIN ST, SUITE 8, SOUTH PORTLAND, ME 04106	
DRAWN: CMW	DATE: OCTOBER 2013
DESIGNED: SRB	SCALE: N.T.S.
CHECKED: SRB	JOB NO. 3118
FILE NAME: 3118-DET	
SHEET	C-8.2