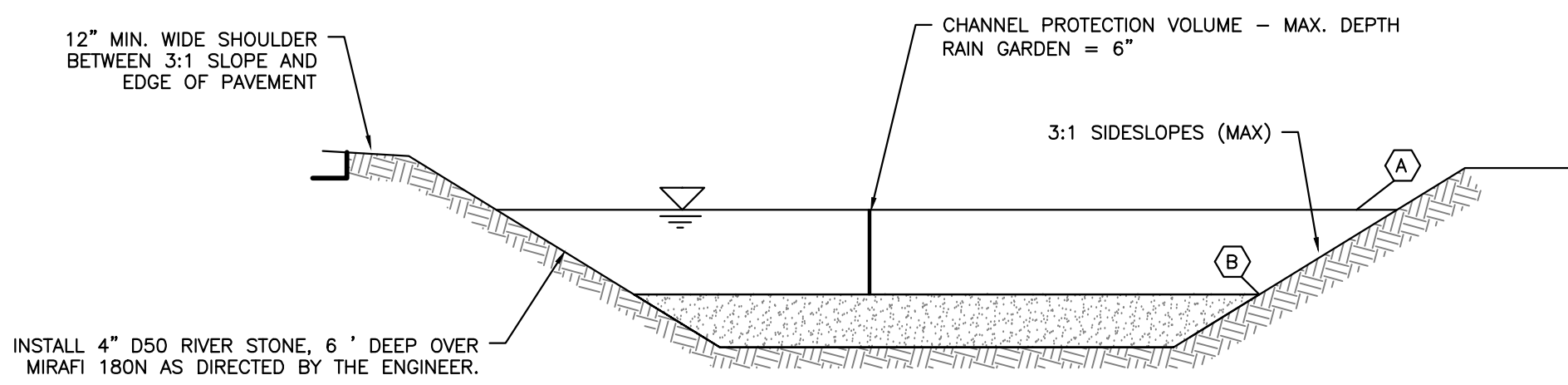
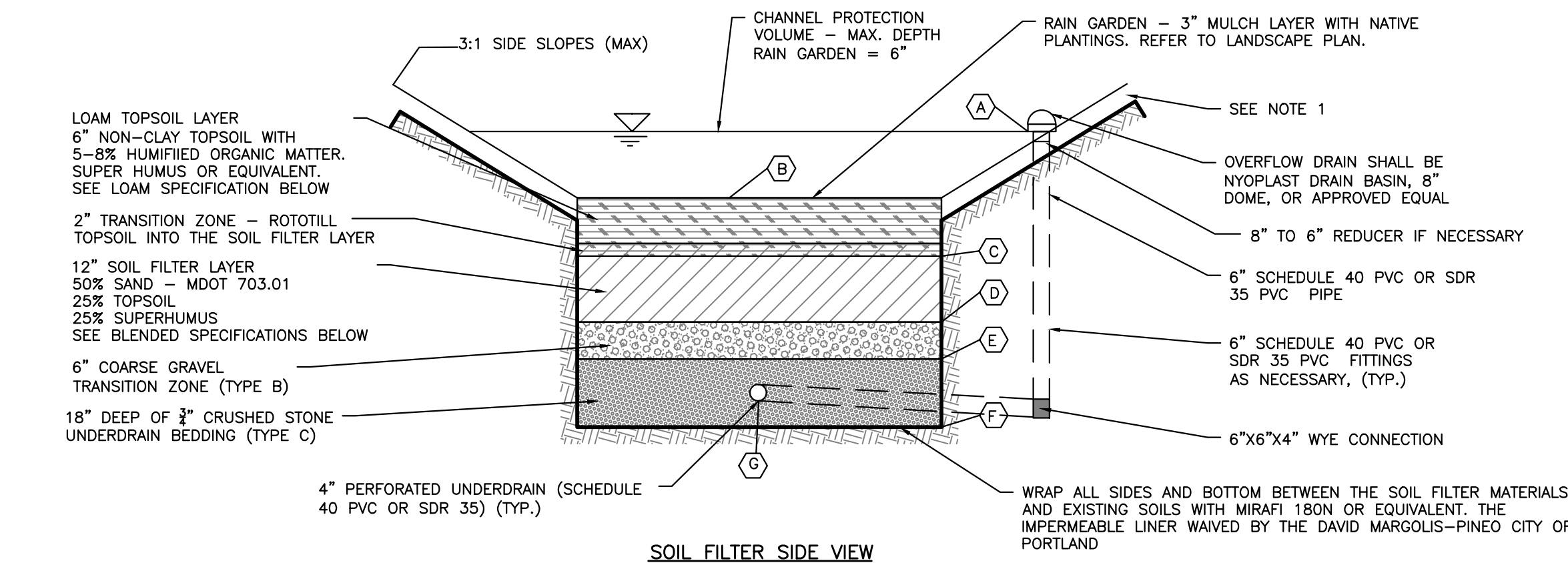


PLAN VIEW RAIN GARDEN



SOIL FILTER CROSS SECTION



SOIL FILTER SIDE VIEW

- NOTES:
1. THE SIDESLOPES SHALL BE STABILIZED WITH HARDWOOD MULCH.
 2. LIGHT COMPACTION SOIL FILTER AND PIPE BEDDING MATERIAL. (90 TO 92% STANDARD PROCTOR). TESTING SHALL BE PERFORMED BY A QUALIFIED MATERIAL TESTING FIRM.
 3. THE SOIL FILTER MEDIA SHALL NOT BE CONSTRUCTED UNTIL THE AREA DRAINING TO THE BASIN HAS BEEN PERMANENTLY STABILIZED.
 4. A SCHEDULE OF APPROPRIATE PLANTS FOR THE RAIN GARDENS AT THE SITE CONDITIONS IS LOCATED IN THE LANDSCAPE PLAN.
 6. TESTING: SIEVE ANALYSIS INCLUDING HYDROMETER TESTING FOR CLAY CONTENT FOR EACH LAYER SHALL BE PERFORMED BY A QUALIFIED SOIL TESTING LABORATORY AND SUBMITTED TO THE PROJECT ENGINEER FOR APPROVAL 2 WEEKS PRIOR TO CONSTRUCTION. ALL TESTING AND SUBMITTALS SHALL BE IN ACCORDANCE WITH THE MOST RECENT VERSION OF THE MAINE DEP - TECHNICAL DESIGN MANUAL SECTION 7.2.5 TESTING AND SUBMITTALS.
 7. ACORN ENGINEERING, INC., RECOMMENDS THE SOIL FILTER LAYER BE SUPPLIED BY JONES ASSOCIATES, INC., AUBURN, ME.

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SIEVE SIZE	% PASSING BY WEIGHT
#4	75-95
#10	60-90
#40	35-85
#200	20-70

1. CLAY FRACTION <10% PASSING THE #200 SIEVE.*

2. LOAM SHALL BE LOOSE AND FRIABLE AND SHALL BE FREE FROM ADMIXTURE OF SUBSOIL, REFUSE, LARGE STONES, CLODS OR ROOTS OR RHIZOMES OR "WITCH GRASS" OR OTHER UNDESIRABLE GRASSES.

*<10% CLAY PASSING THE #200 SIEVE ALLOWED PER EMAIL FROM MARIANNE HUBERT - MDEP TO WILL SAVAGE DATED 9/20/13

SOIL FILTER BED - SUPERHUMUS OR EQUIV. SPECIFICATION

SIEVE SIZE	% PASSING BY WEIGHT
1"	100
#200	0-5

MINIMAL CLAY CONTENT, NO MORE THAN 3-5% PASSING #200 SIEVE

12\"/>

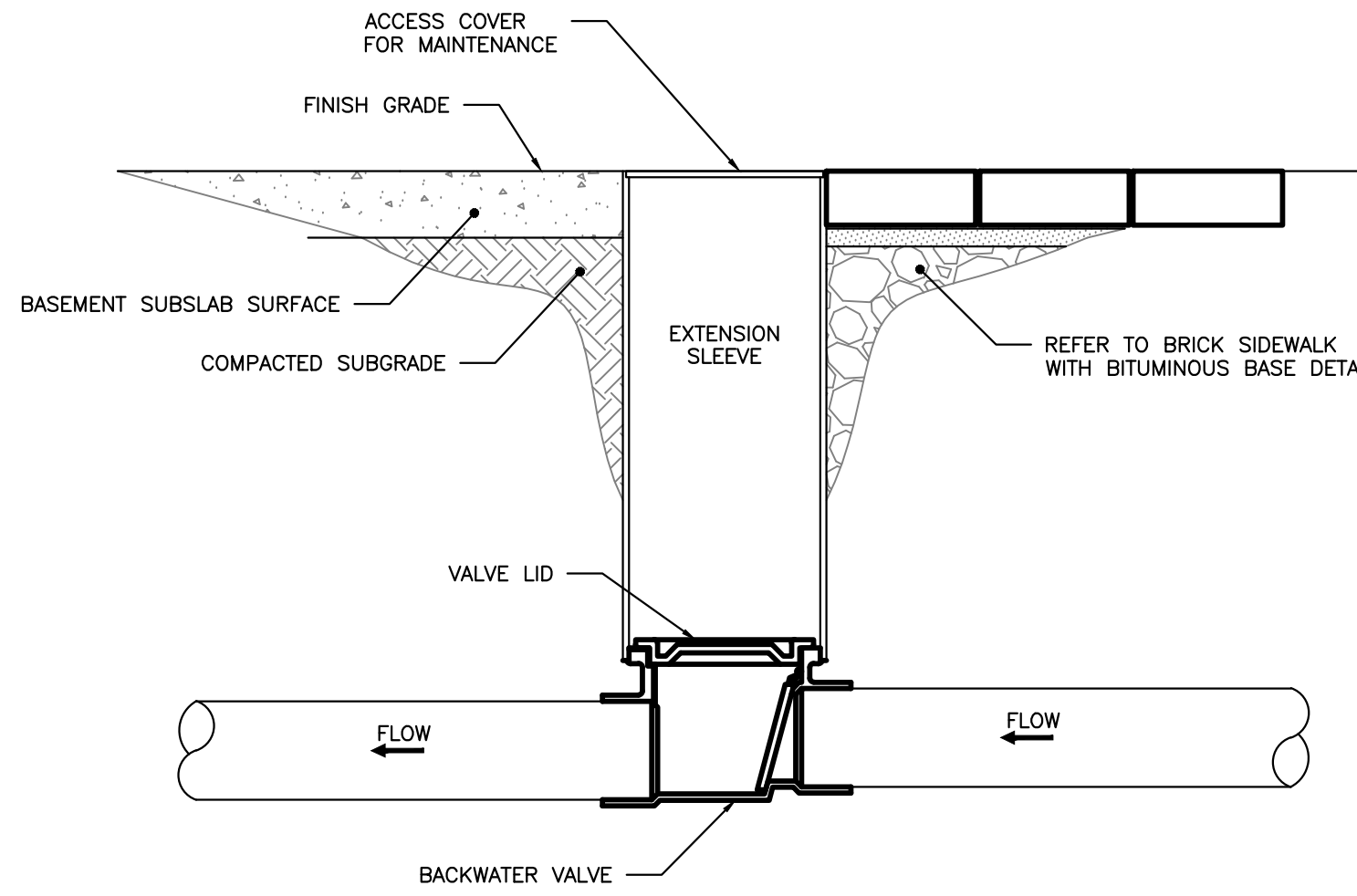
SIEVE SIZE	% PASSING BY WEIGHT
#10	85-100
#20	70-100
#60	15-40
#200	8-15

1. CLAY FRACTION <2% PASSING THE #200 SIEVE.

2. SUPERHUMUS OR EQUIVALENT

RAIN GARDEN DETAIL

NOT TO SCALE

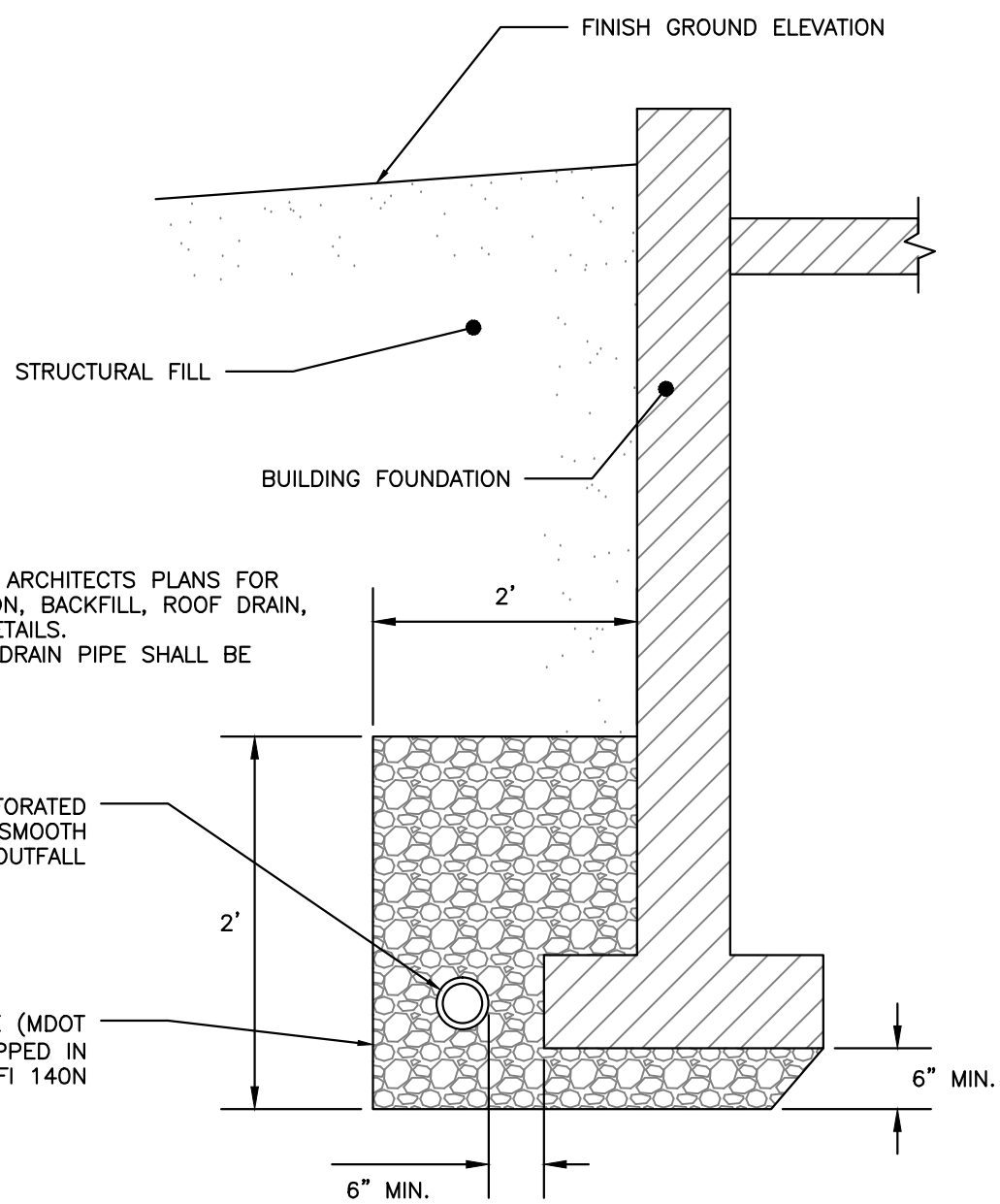


BACKWATER VALVE ASSEMBLY

NOT TO SCALE

NOTES:

1. BACKWATER VALVE TO BE PROVIDED BY AGRI DRAIN CORPORATION OR AN APPROVED EQUAL.
2. VALVE TO BE INSTALLED TO MANUFACTURER'S SPECIFICATIONS AND COMPLY WITH RULES AND REGULATIONS AS OUTLINED IN SECTION 2 OF THE CITY OF PORTLAND TECHNICAL MANUAL.
3. VALVE SHALL BE INSTALLED WITH A VALVE BOX AND COVER TO PROVIDE EASY ACCESS AND MAINTENANCE; VALVE COVER SHALL STATE "SEWER" ON LID FLUSH TO SURFACE.



FOUNDATION DRAIN DETAIL

NOT TO SCALE

NOTES:

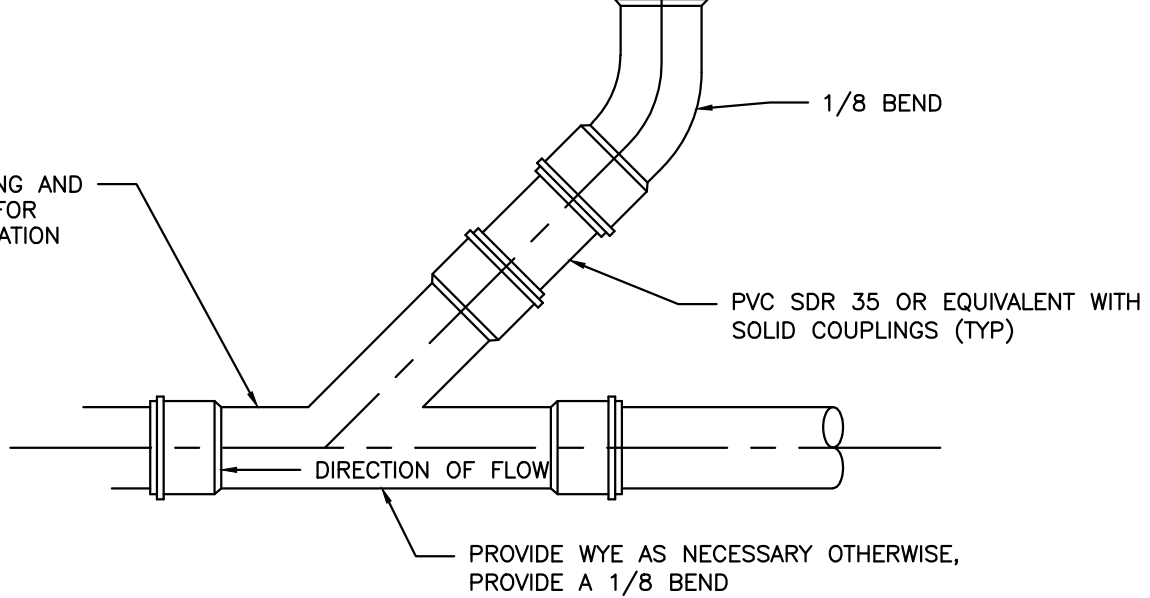
1. REFER TO THE BUILDING ARCHITECTS PLANS FOR THE BUILDING FOUNDATION, BACKFILL, ROOF DRAIN, SIDEWALK AND OTHER DETAILS.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.

4\"/>

NOTES:

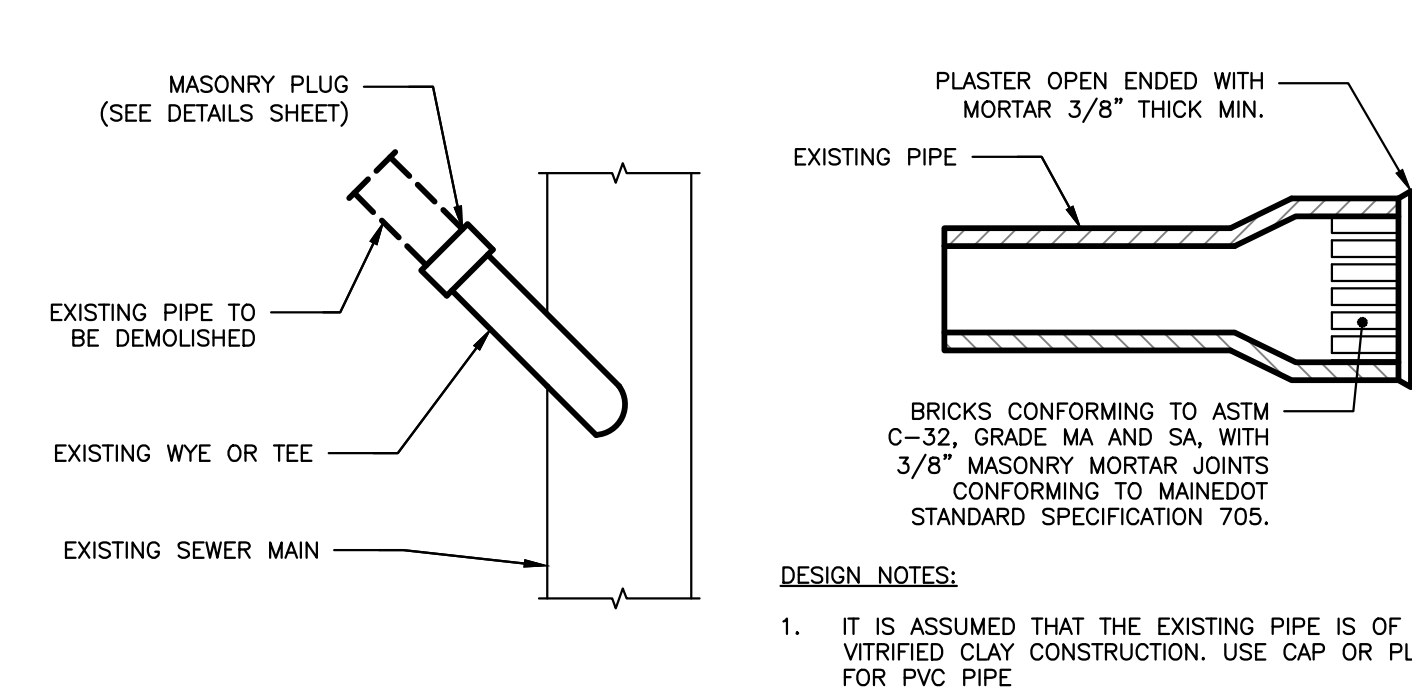
1. REFER TO GRADING AND DRAINAGE PLANS FOR CLEANOUT LOCATIONS.
2. CONTRACTOR TO CONFIRM NO CONFLICT WITH OTHER FLOOR DRAINS OR PIPING SYSTEMS.
3. EACH CLEANOUT SHALL BE FLUSH WITH THE FINISH FLOOR ELEVATION.

REFER TO GRADING AND DRAINAGE PLAN FOR FURTHER INFORMATION



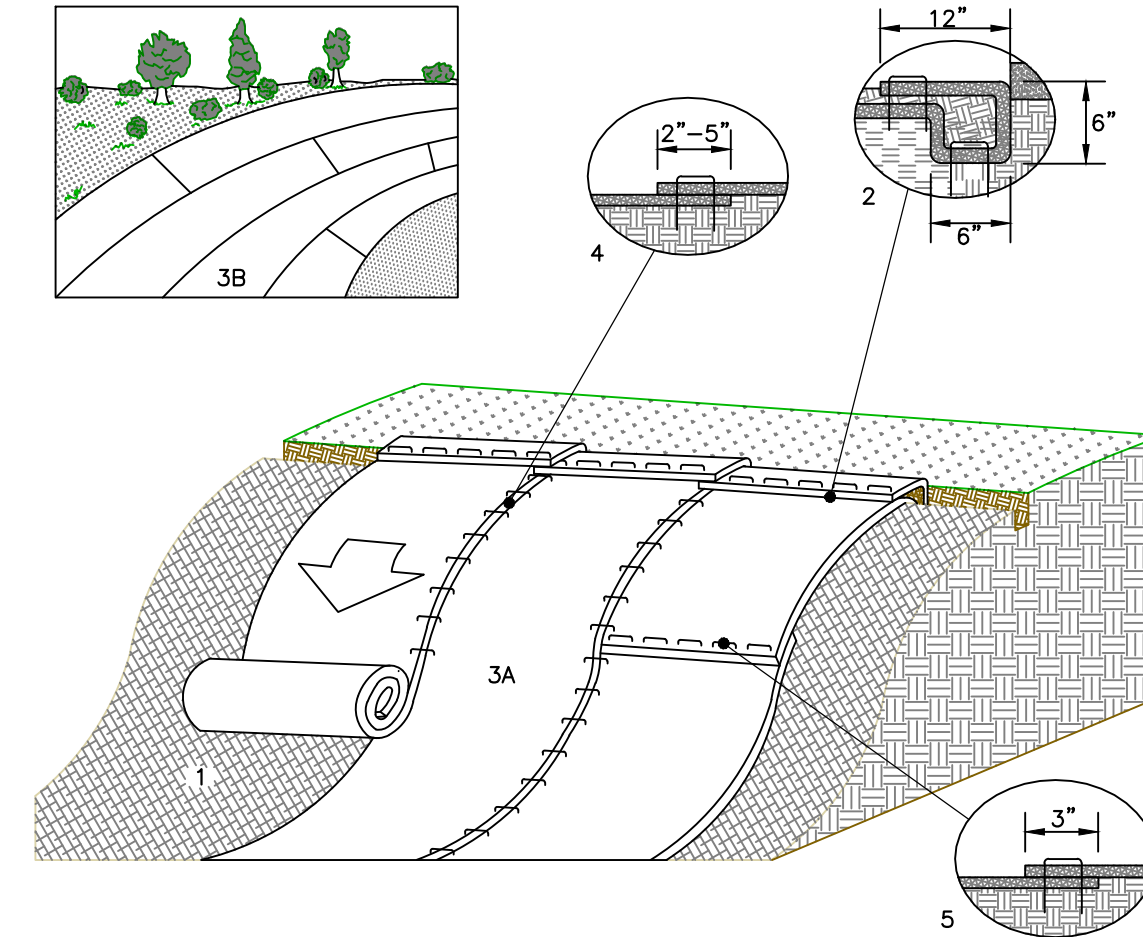
CLEANOUT DETAIL

NOT TO SCALE



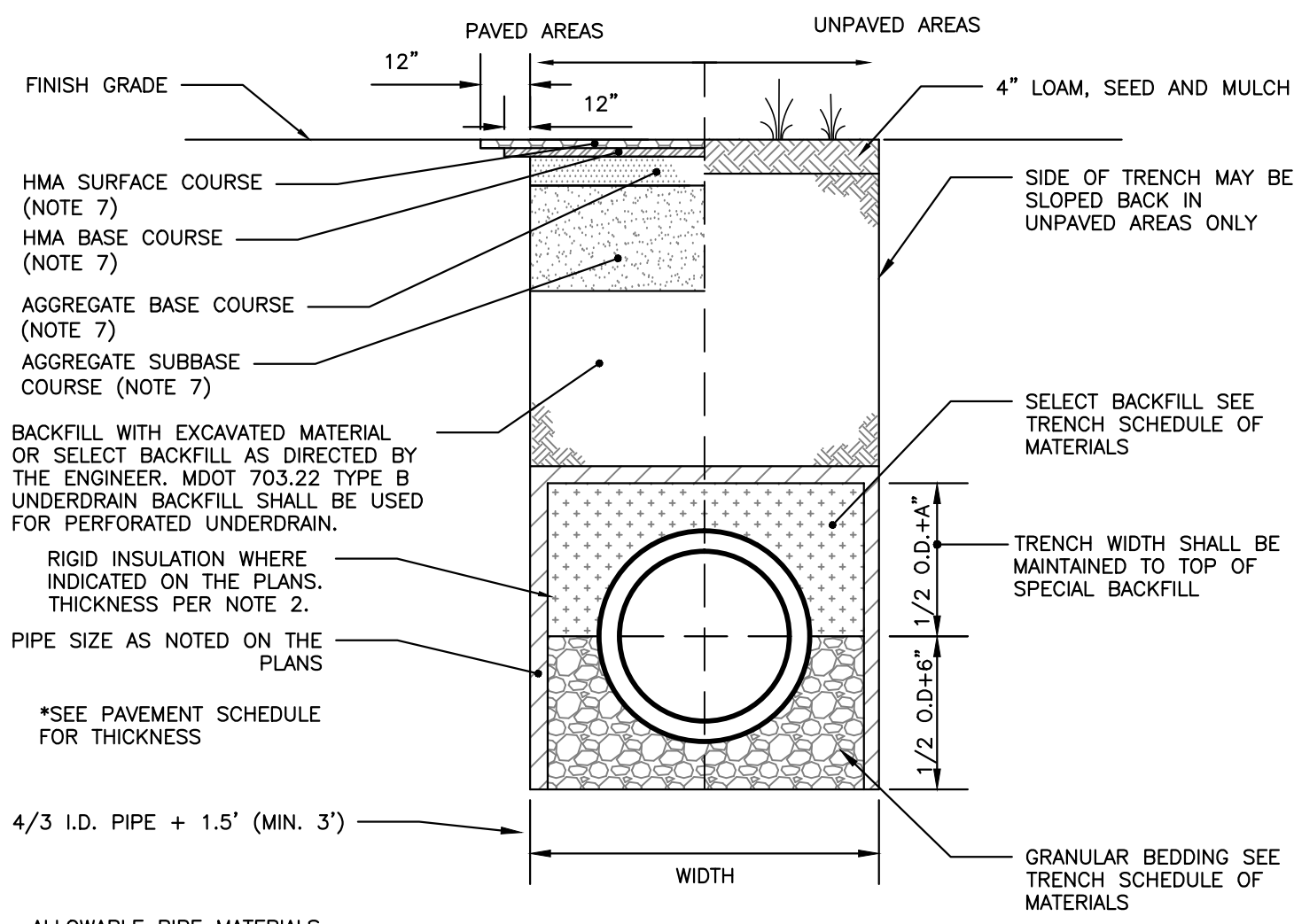
MASONRY PLUG DETAIL

NOT TO SCALE



EROSION CONTROL BLANKET SLOPE INSTALLATION

NOT TO SCALE



STORM DRAIN AND SEWER TYPICAL TRENCH SECTION

NOT TO SCALE

SCHEDULE OF MATERIALS

TYPE OF PIPE	GRANULAR BEDDING	SELECT BACKFILL
CMP DUCTILE IRON RCP	MDOT 703.22 TYPE B UD BACKFILL	MDOT 703.22 TYPE B UD BACKFILL
PVC/HDPE	MDOT 703.22 TYPE C 3/4\"/>	

NOTES:

1. BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. STORM DRAIN COVER BETWEEN 2' AND 3' SHALL INCLUDE 4\"/>

- ALLOWABLE PIPE MATERIALS:
- REINFORCED CONCRETE PIPE (RCP) MIN. STRENGTH OF CLASS III
 - PVC RING TYPE SEWER (SDR 35) OR EQUIVALENT, MIN PS-46 RATING
 - PVC RING TYPE SEWER PIPE MEETING ASTM F 789
 - DUCTILE IRON PIPE (DIP)
 - ADS N-12 HP TRIPLE-WALL MIN PS-46 RATING
 - ADS SANITITE HP MIN. PS-46

FINAL APPLICATION
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY
PRELIM. APPLICATION	WHS
FINAL APPLICATION	WHS
REV. GRADES	WHS

REVISION	REV.	DATE

DRAWING NAME: DRAINAGE DETAILS

PROJECT NAME: 31 FORE STREET REDEVELOPMENT

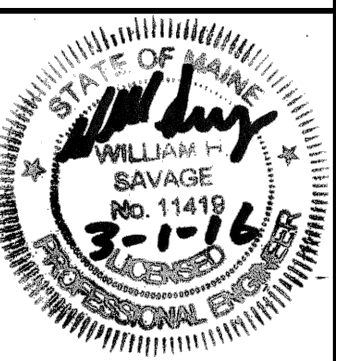
CLIENT: PENINSULA PROPERTY DEVELOPMENT, LLC.

59 MOODY STREET, PORTLAND MAINE 04101

ACORN ENGINEERING, INC. ENGINEERING, INC.

158 DANFORTH (207) 779-2665

FILE:	1068_DETAILS
DATE:	12/28/15
JN:	1068
SCALE:	NTS
DESIGNED BY:	WHS
DRAWN BY:	WHS
CHECKED BY:	WHS



DRAWING NO.
C-43