

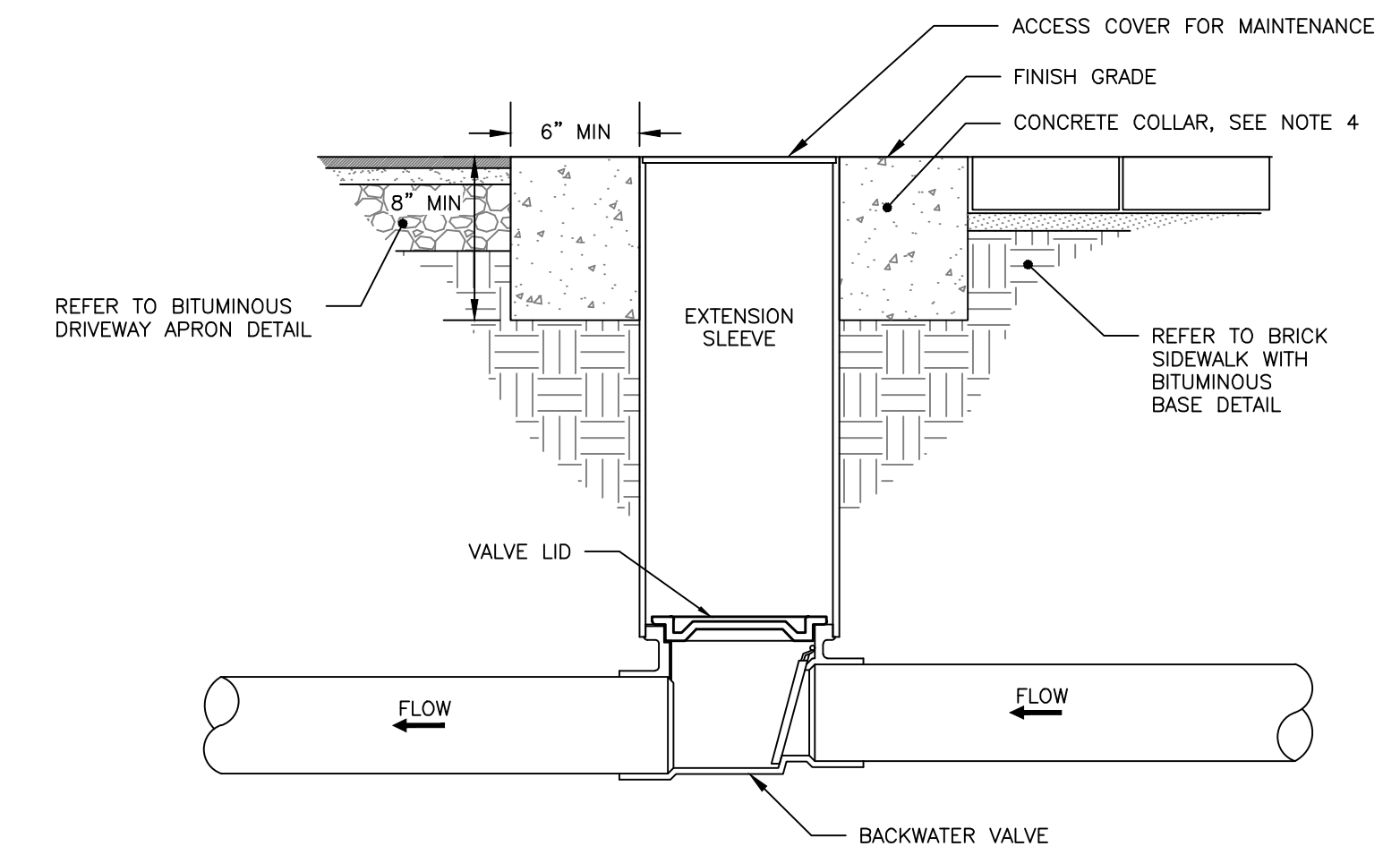
- ALLOWABLE PIPE MATERIALS:**
- REINFORCED CONCRETE PIPE (RCP) MIN. STRENGTH OF CLASS III
 - PVC RING TYPE SEWER (SDR 35) OR EQUIVALENT, MIN PS-46 RATING
 - PVC RING TYPE SEWER PIPE MEETING ASTM F 789
 - DUCTILE IRON PIPE (DIP)
 - ADS N-12 HP TRIPLE-WALL MIN PS-46 RATING
 - ADS SANITITE HP MIN. PS-46

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\" CRUSHED STONE	MDOT 703.22 TYPE B UD BACKFILL
CMP	MDOT 703.22 TYPE C 3/4\" CRUSHED STONE	MDOT 703.22 TYPE C 3/4\" CRUSHED STONE

- NOTES:**
- 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.
 - STORM DRAIN COVER BETWEEN 2' AND 3' SHALL INCLUDE 4\" OF RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2\" RIGID INSULATION. OTHER UTILITIES; ADD 2\" OF RIGID INSULATION FOR EACH FOOT ABOVE MINIMUM DEPTH.
 - INSTALL WARNING TAPE DIRECTLY ABOVE UTILITIES AT THE TOP OF SUBGRADE.
 - MINIMUM COVER
 - 2'-0\" - STORM DRAIN
 - 5'-0\" - SEWER
 - NO TREES SHALL BE PLANTED WITHIN 5' OF A SEWER PIPE OR SERVICE
 - THIS DETAIL SHALL BE APPLIED ONLY TO DRAINAGE PIPE TRENCHES OUTSIDE OF THE CITY OF PORTLAND ROW.
 - THICKNESS AS NOTED BY SURFACE DETAILS
 - ALL PROPOSED TREES PLANTED WITHIN 10' OF A STORM OR SEWER PIPE SHALL BE PLANTED AT A DEPTH NO GREATER THAN 3' DEEP. PERMEABLE LANDSCAPE FABRIC SHALL CREATE A ROOT BARRIER AROUND THE PIPES. CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE DRAWINGS.

STORM DRAIN AND SEWER TYPICAL TRENCH SECTION WITHIN PROPERTY

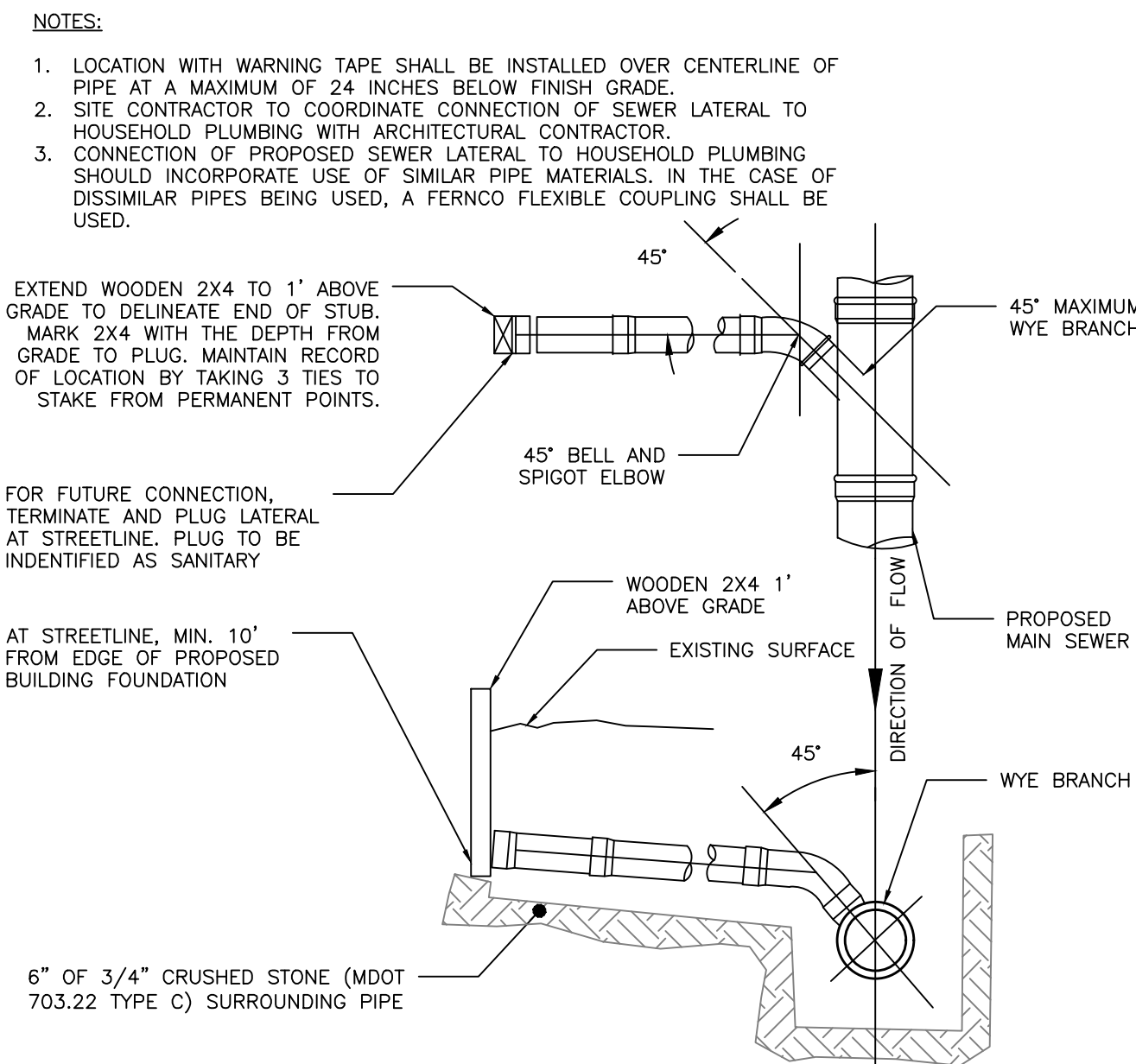
NOT TO SCALE



- NOTES:**
- BACKFLOW VALVE TO BE PROVIDED BY AGRI DRAIN CORPORATION OR AN APPROVED EQUAL.
 - 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.
 - 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. REFER TO VALVE & BOX COVER DETAIL FOR ADDITIONAL INFORMATION.
 - CONCRETE COLLAR AT A MINIMUM 24-HOUR COMPRESSIVE STRENGTH OF 3,000 PSI.

BACKFLOW VALVE ASSEMBLY

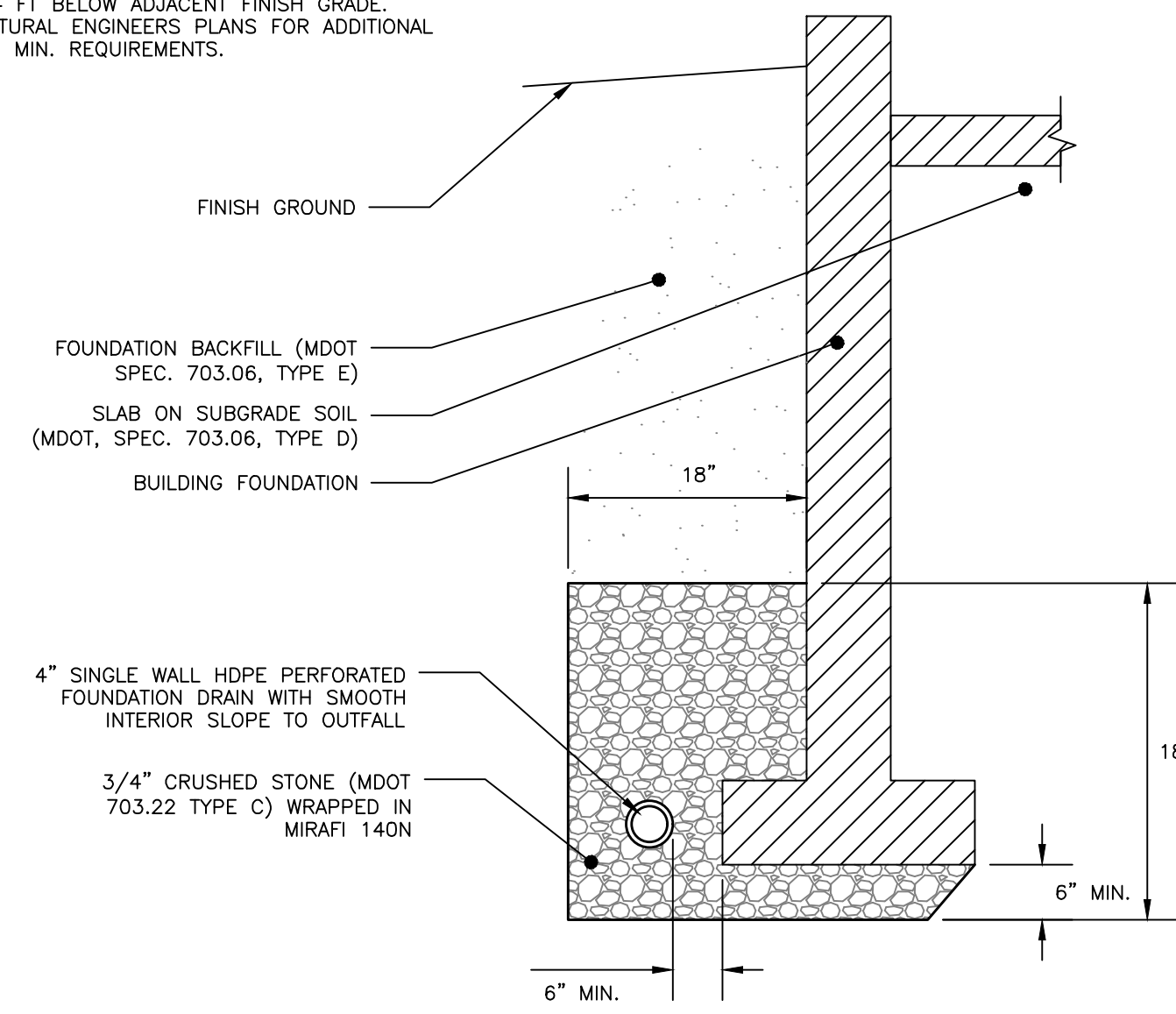
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SEWER TEE/WYE CONNECTION DETAIL

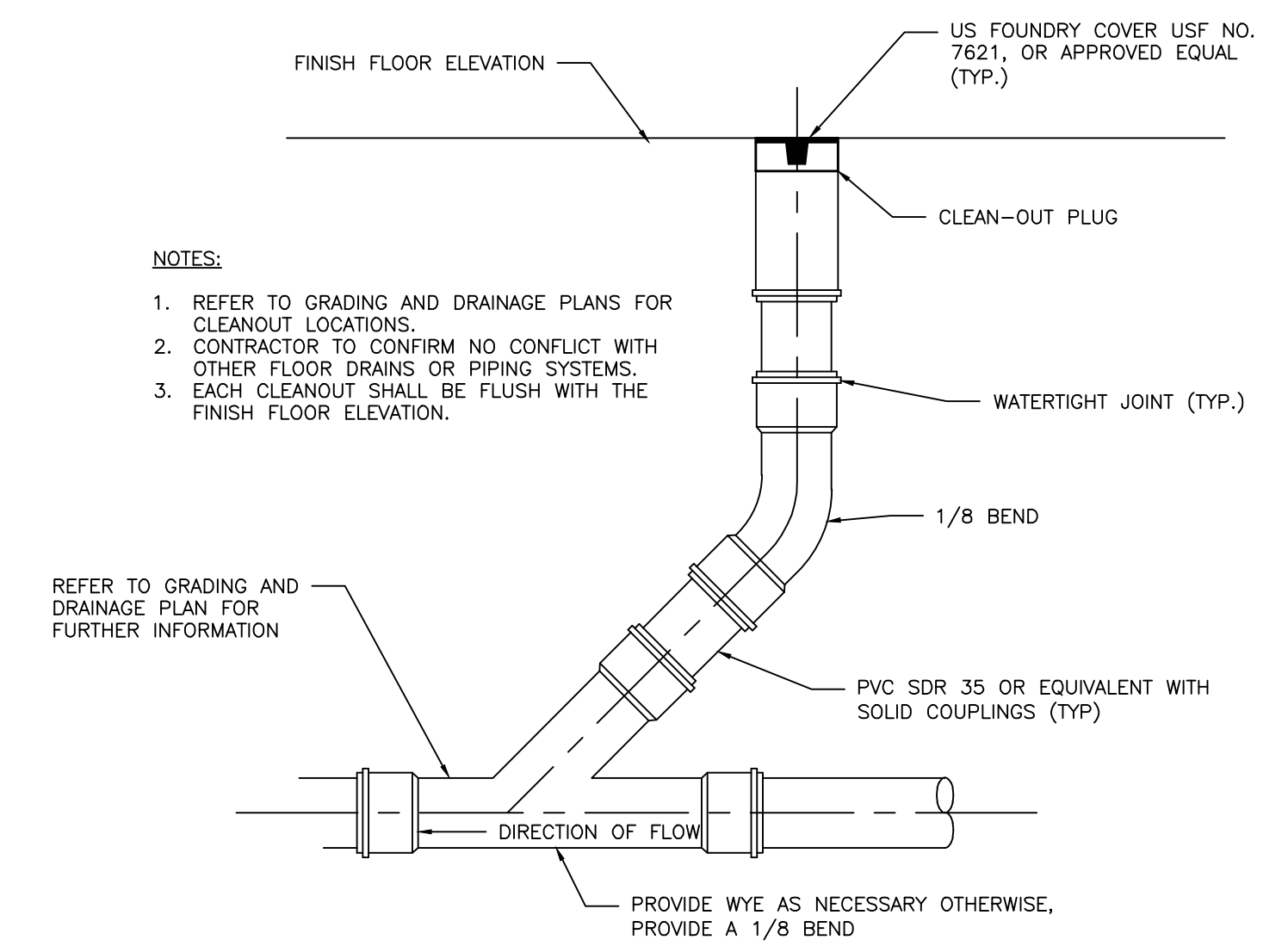
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- NOTES:**
- REFER TO THE BUILDING ARCHITECTS PLANS FOR THE BUILDING FOUNDATION, BACKFILL, ROOF DRAIN, SIDEWALK AND OTHER DETAILS.
 - PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.
 - FOUNDATION WALL FOOTINGS SHALL BE CONSTRUCTED TO A MIN. DEPTH OF 4 FT BELOW ADJACENT FINISH GRADE. REFER TO STRUCTURAL ENGINEERS PLANS FOR ADDITIONAL INFORMATION AND MIN. REQUIREMENTS.



FOUNDATION DRAIN DETAIL

NOT TO SCALE



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

CLEANOUT DETAIL

NOT TO SCALE

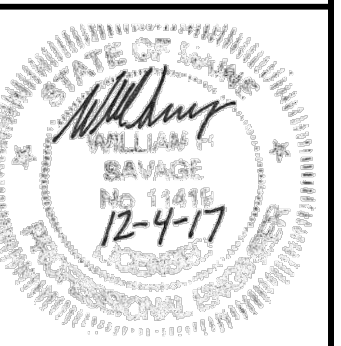
PERMIT LEVEL
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY
CITY APP.	WHS
	12/2/17

DRAWING NAME: **UTILITY DETAILS - 2**
PROJECT NAME: **151 WASHINGTON AVE. REDEVELOPMENT**
CLIENT: **DIVING ROCK, LLC**
15 HOWARD STREET, PORTLAND, ME 04101

ACORN ENGINEERING, INC.
158 BANGOR ST. PORTLAND, MAINE 04102
(207) 775-2655

FILE:	1090_CIVIL
JN:	1090
SCALE:	NTS
DESIGNED BY:	WHS
DRAWN BY:	SJL
CHECKED BY:	WHS



DRAWING NO.
C-44