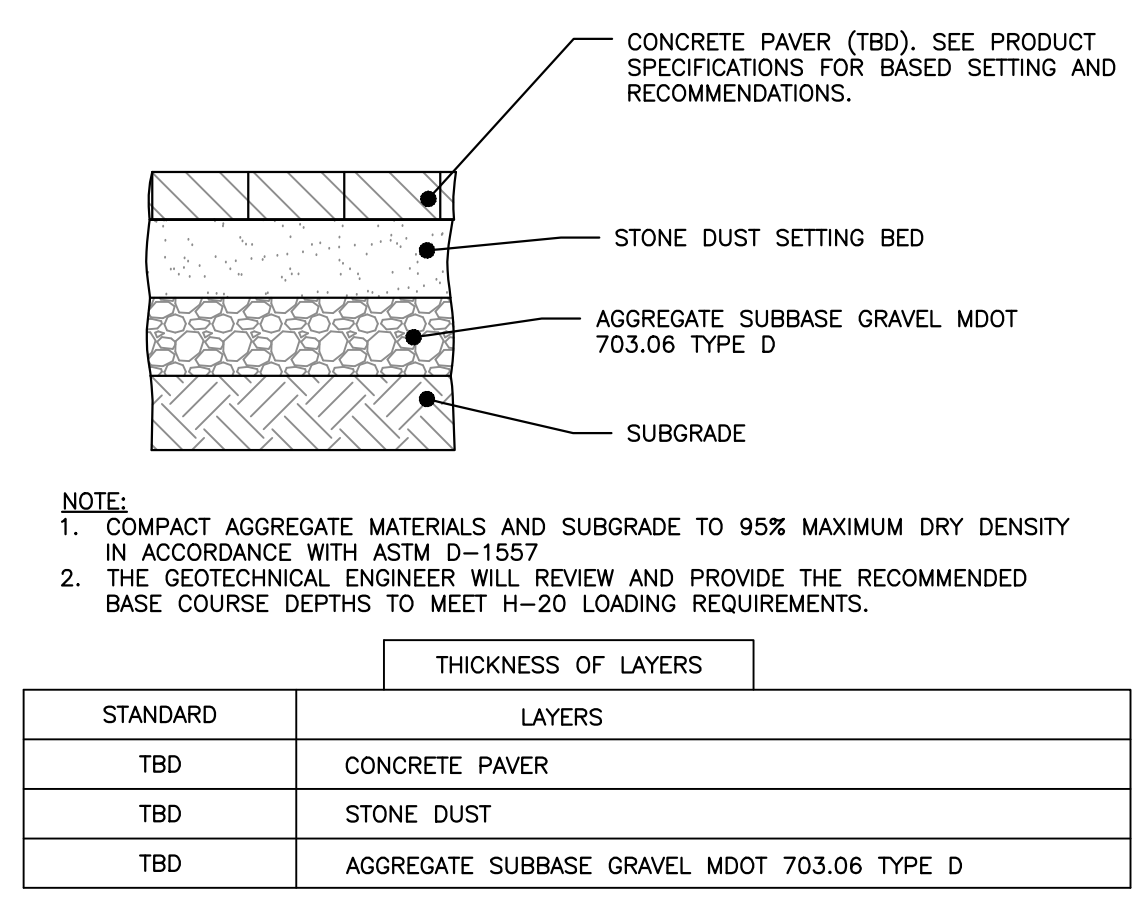
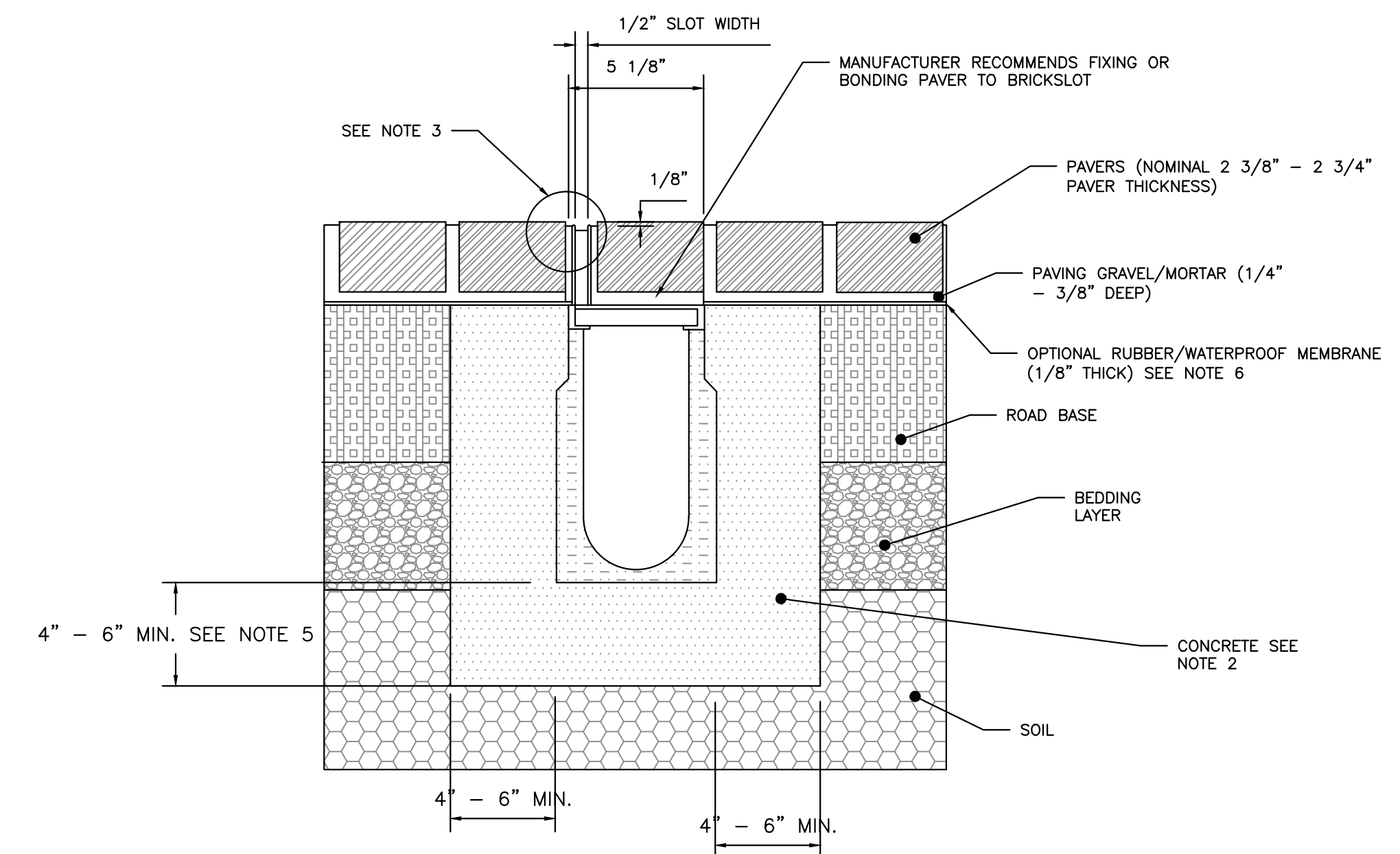


ISSUED FOR	BY
WORKSHOP #2	WHS
	DATE
	11/12/13
REVISION	REV
	DATE

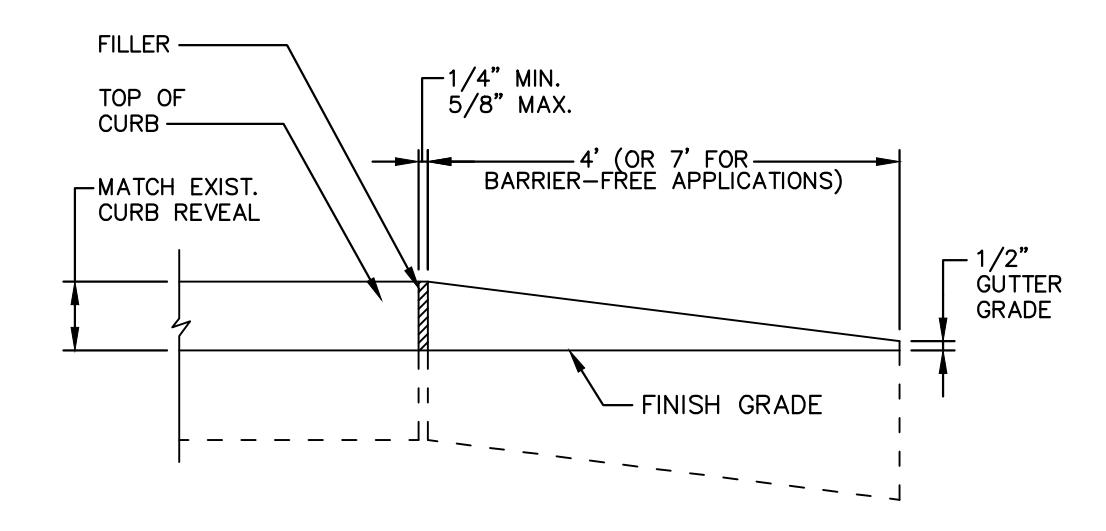
- NOTES:
- REFER TO THE CRICK PAVING DETAIL FOR CONSTRUCTION OF THE BASE AND SUBBASE MATERIALS
 - A MINIMUM CONCRETE STRENGTH OF 3000 PSI IS RECOMMENDED. THE CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
 - PAVERS TO BE 1/8" ABOVE CHANNEL EDGE. A BEAD OF SEALANT CAN BE USED BETWEEN THE RAIL & CONCRETE.
 - REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR COMPLETE DETAILS.
 - CONCRETE BASE THICKNESS SHOULD MATCH SLAB THICKNESS.
 - CONTACT ACO FOR RECOMMENDATIONS ON DRAINING WHEN USING MEMBRANE MATERIAL WITH BRICKSLOT.
 - PAVERS SHALL BE ACO DRAIN, K1000S BRICKSLOT, LOAD CLASS A-C: PAVERS.



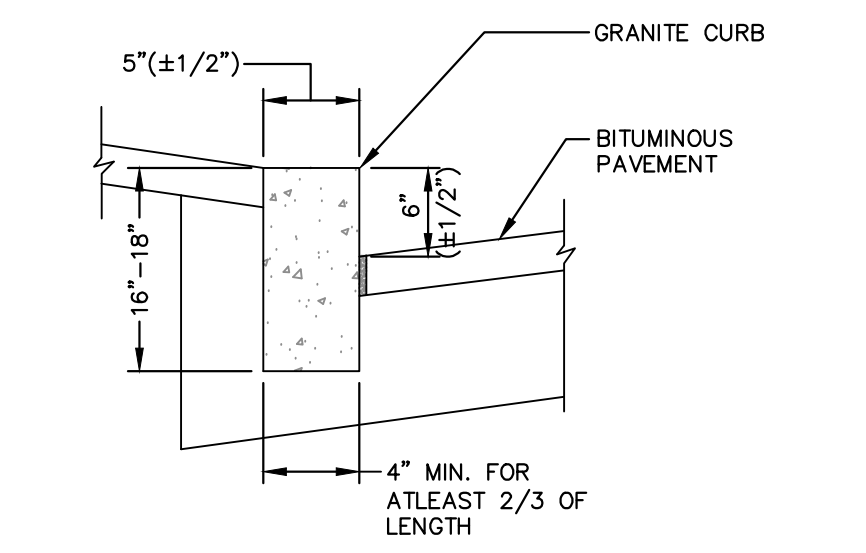
CONCRETE BRICK PAVER PROFILE
NOT TO SCALE



ACO BRICK SLOT DETAIL
NOT TO SCALE



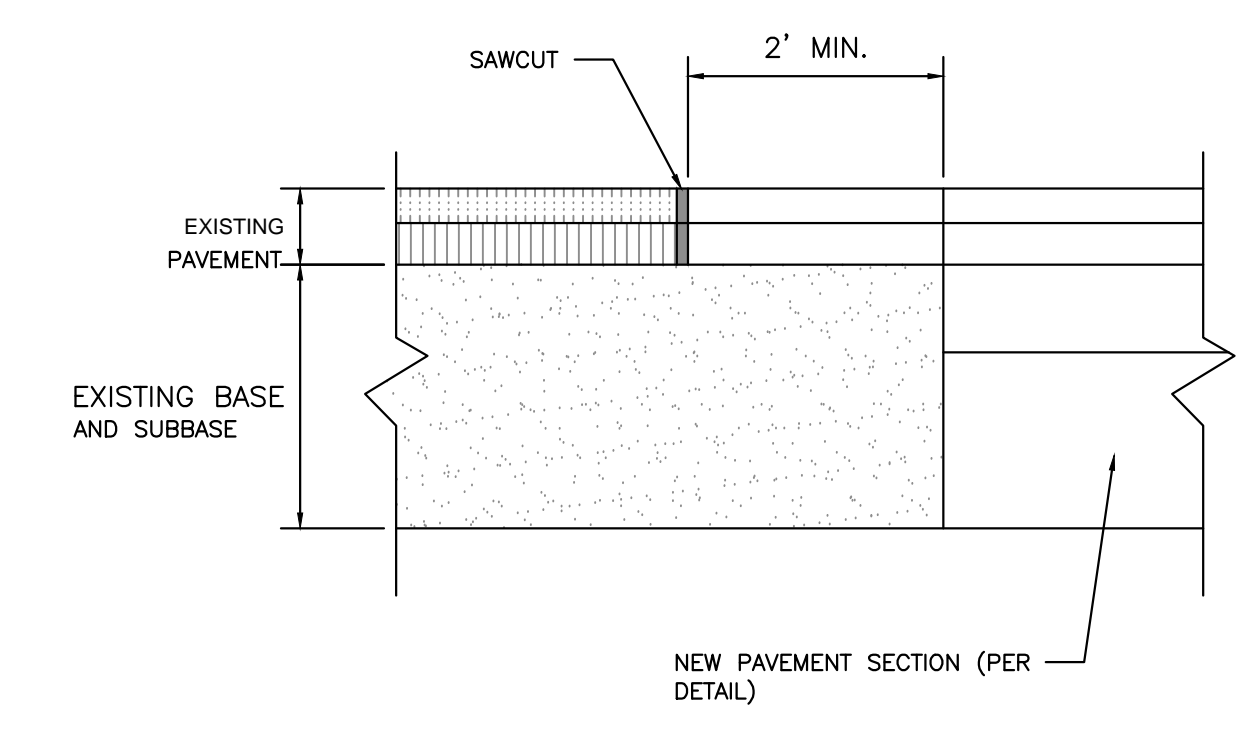
TIPDOWN CURB
NOT TO SCALE



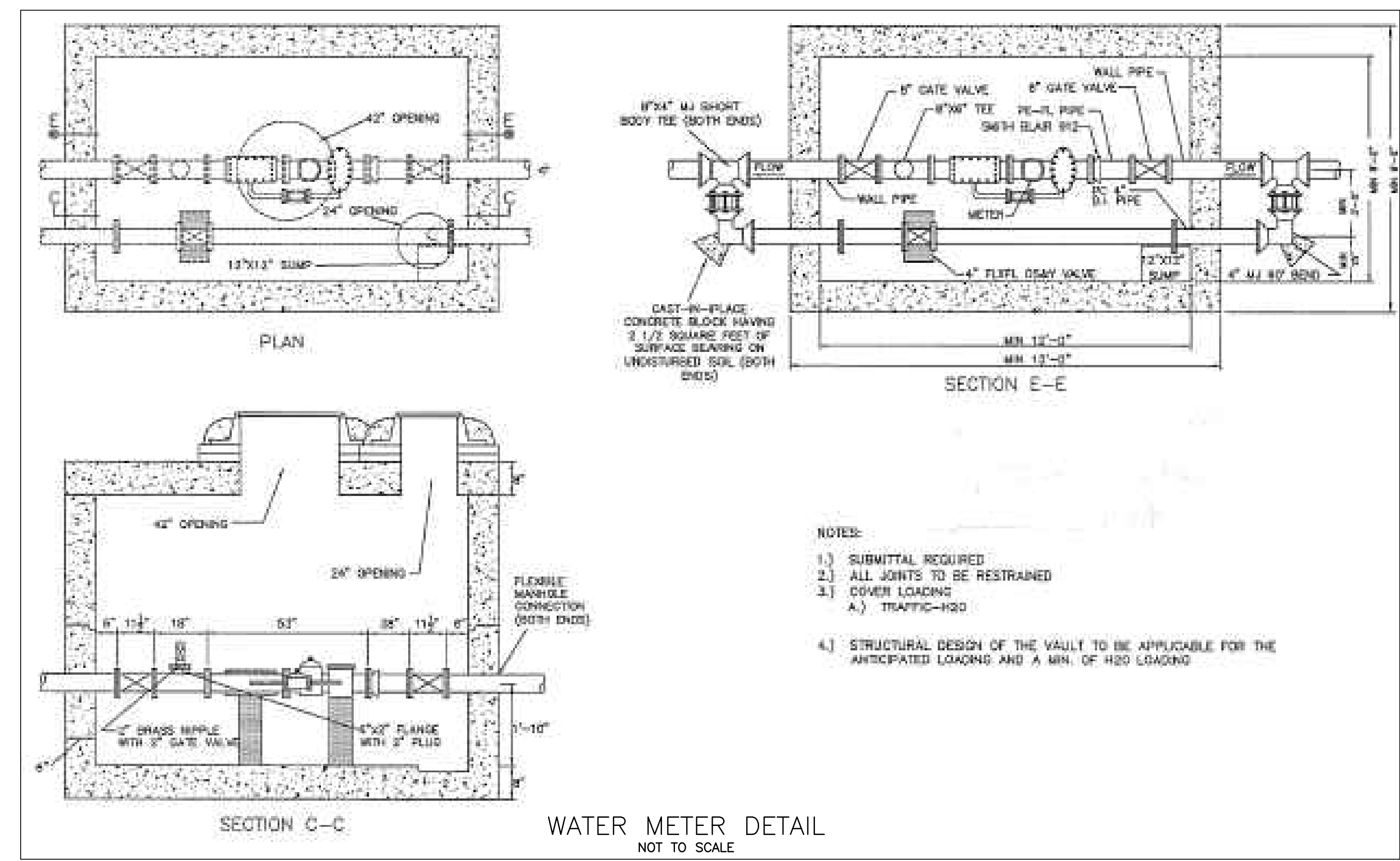
VERTICAL GRANITE CURB
NOT TO SCALE

NOTE: VERTICAL GRANITE CURB SHALL MEET THE REQUIREMENTS OF SECTION 609 OF THE MAINE DEPARTMENT OF TRANSPORTATION (MAINEDOT) STANDARD SPECIFICATIONS, LATEST REVISION, AND THE DIMENSIONS SHOWN ON THE DRAWINGS. SLOPED GRANITE CURB SHALL MEET THE REQUIREMENTS OF SECTION 609 OF THE STANDARD SPECIFICATIONS, LATEST REVISION, AND THE DIMENSIONS SHOWN ON THE DRAWINGS.

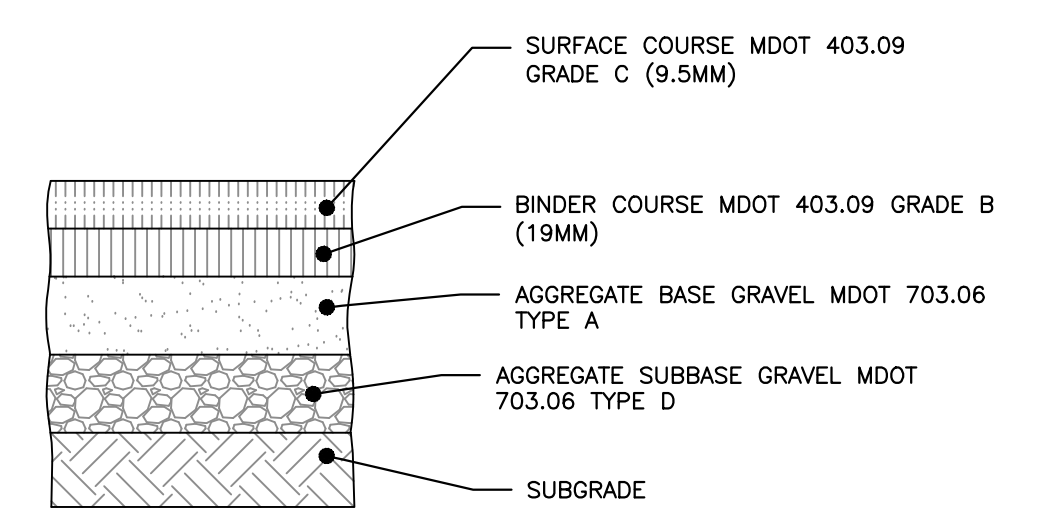
- NOTES:
- SAWCUT EXISTING PAVEMENT AND REMOVE 2' STRIP OF EXISTING PAVEMENT. APPLY BITUMINOUS TACK COAT PRIOR TO PLACEMENT OF NEW BITUMINOUS PAVEMENT.
 - THE NEW PAVEMENT SECTION SHALL MEET THE CITY OF PORTLAND ARTERIAL BITUMINOUS PAVEMENT SECTION DETAIL AT A MINIMUM OR THE EXISTING PAVEMENT AND AGGREGATE BASE AND SUBBASE DEPTH WHICHEVER IS GREATER.



PAVEMENT SAWCUT DETAIL
NOT TO SCALE



WATER METER DETAIL
NOT TO SCALE



- NOTE:
- COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557

THICKNESS OF LAYERS	
STANDARD	LAYERS
2"	SURFACE COURSE MDOT 403.09 GRADE C (12.5mm)
3"	BINDER COURSE MDOT 403.09 GRADE B (19mm)
6"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE B
18"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

CITY OF PORTLAND ARTERIAL BITUMINOUS PAVEMENT PROFILE
NOT TO SCALE

WORKSHOP SUBMISSION
75% LEVEL DRAWINGS
NOT FOR CONSTRUCTION

DRAWING NAME: **SITE DETAILS**

PROJECT NAME: **MUNJOY HEIGHTS**

CLIENT: **REDFERN PROPERTIES PORTLAND, MAINE**

ACORN ENGINEERING, INC.

3372 PORTLAND, MAINE 04104

(207) 775-2655

REGISTERED PROFESSIONAL ENGINEER

STATE OF MAINE

NO. 11416

11-12-13

FILE: 47_details 11-12-13.dwg

DATE: 7/11/13

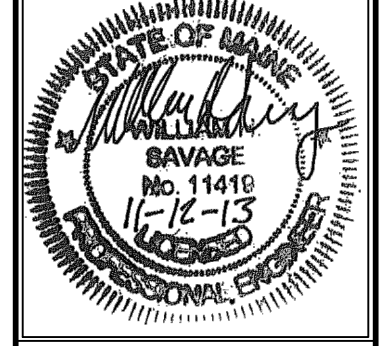
JN: 302-001

SCALE: NTS

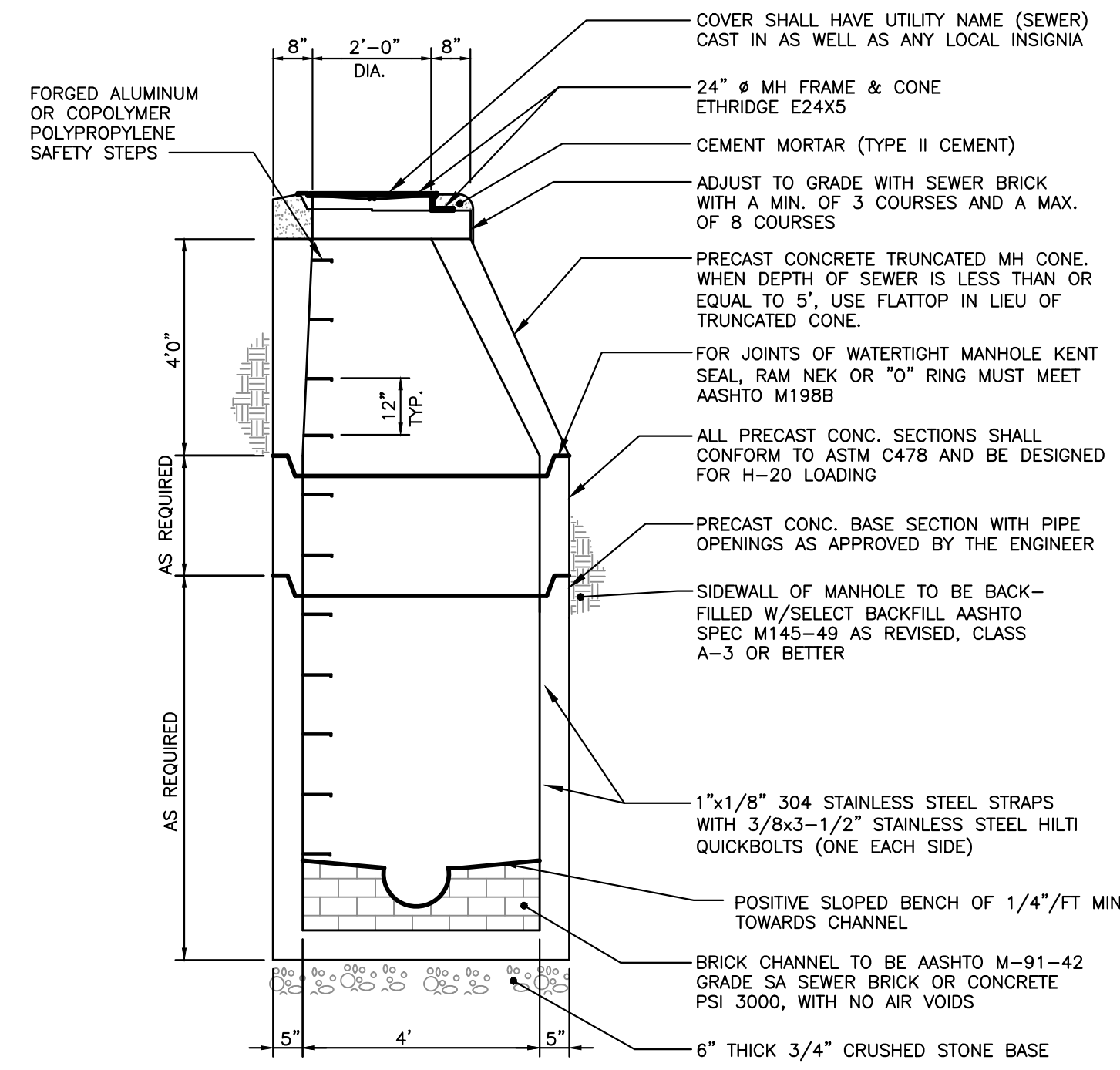
DESIGN BY: WHS

DRAWN BY: ZRJ

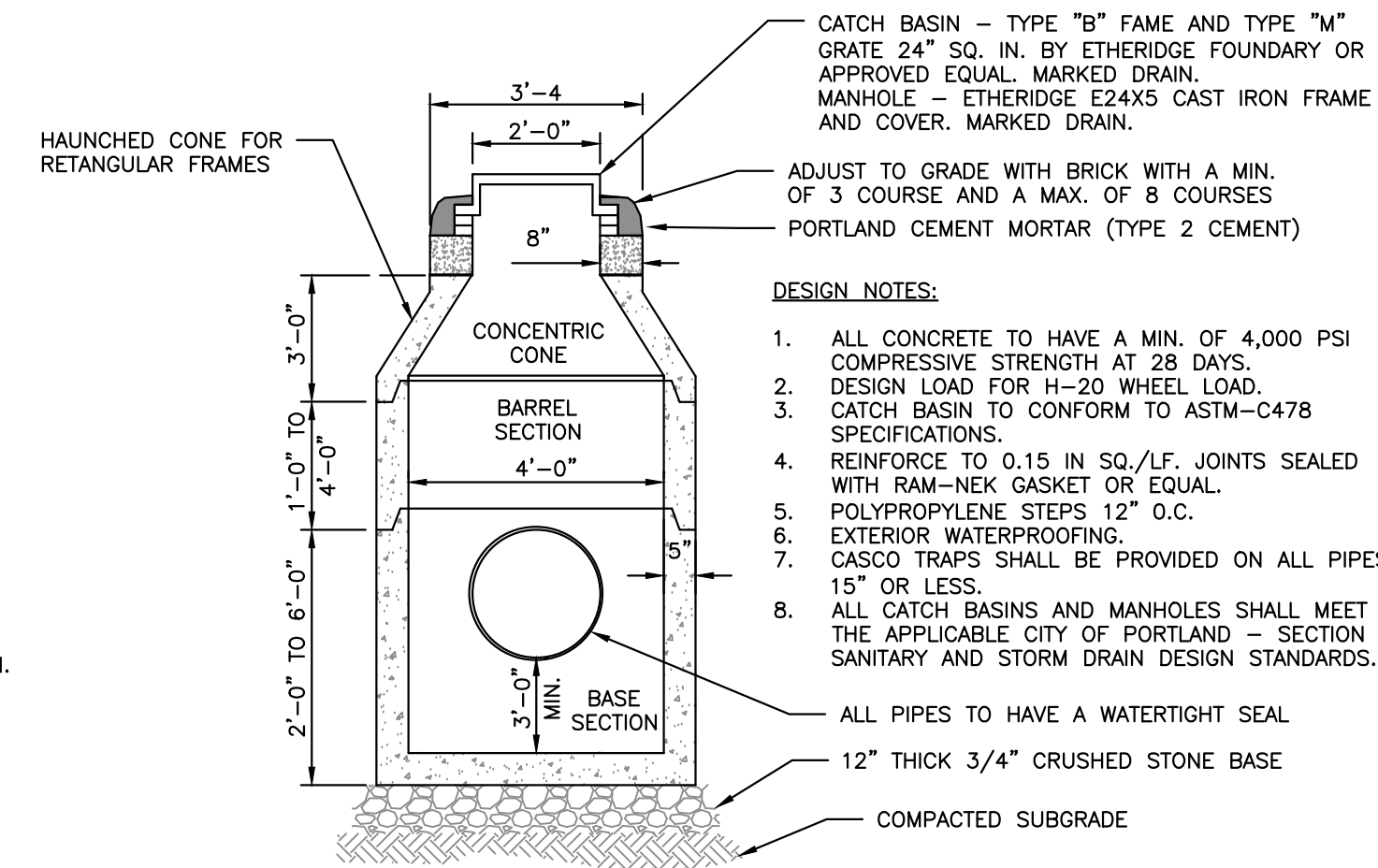
CHECKED BY: WHS



DRAWING NO. **C-40**



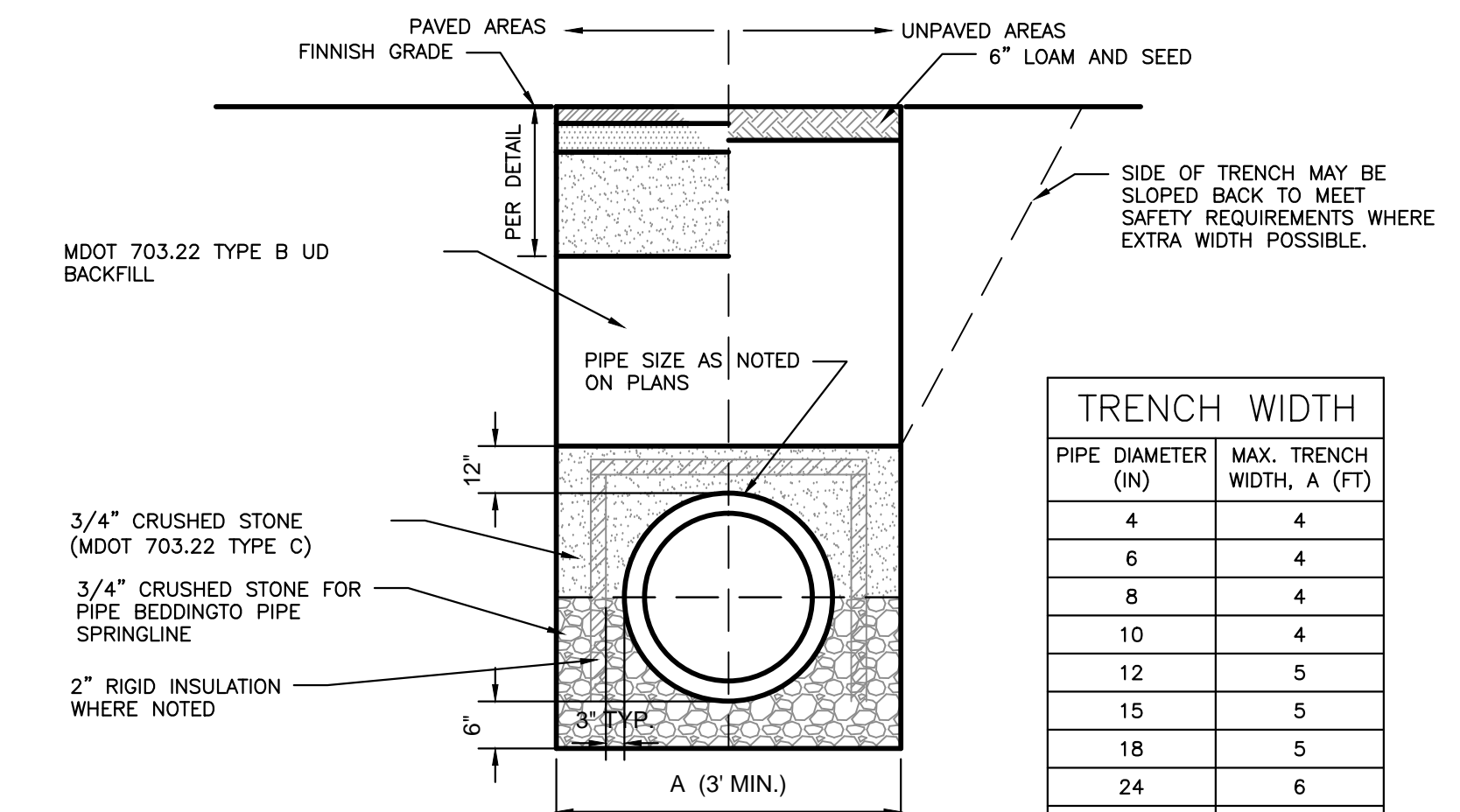
STANDARD PRECAST SEWER MANHOLE
NOT TO SCALE



4'-0" PRECAST CATCH BASIN/MANHOLE
NOT TO SCALE

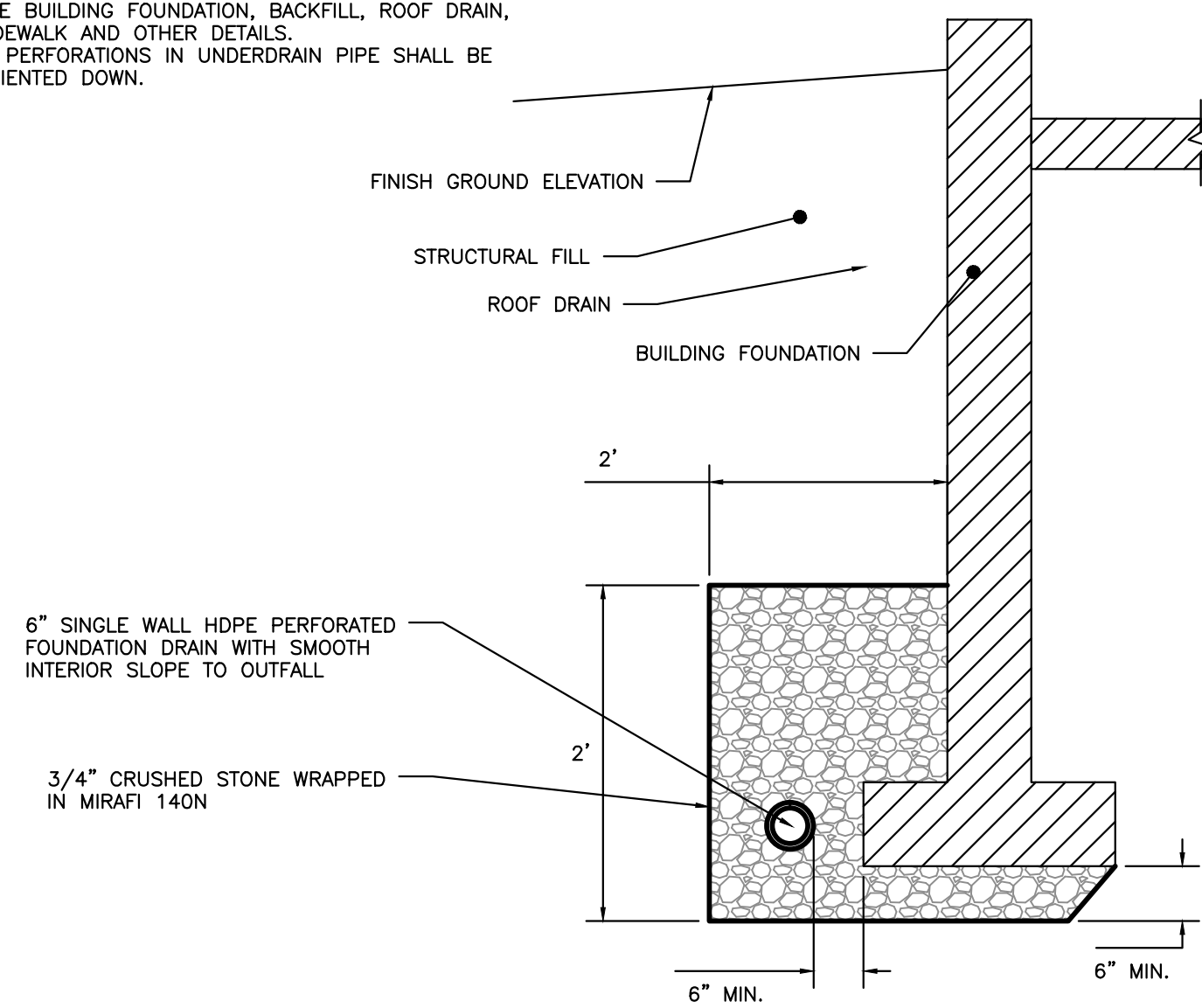
DESIGN NOTES:

- ANY ALTERNATE TRENCHING METHODS SHALL BE APPROVED IN ADVANCE BY THE CITY.
- ALL CONSTRUCTION METHODS SHALL CONFORM TO THE CITY OF PORTLAND TECHNICAL STANDARDS FIGURE II-12.
- BRACING & SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- PERFORATIONS IN STORM DRAIN (PERF.SD) SHALL BE ORIENTED UP.
- ALL PERFORATED STORM DRAIN SHALL BE PVC SDR 35 MIN PS-46 RATING OR APPROVED EQUAL.

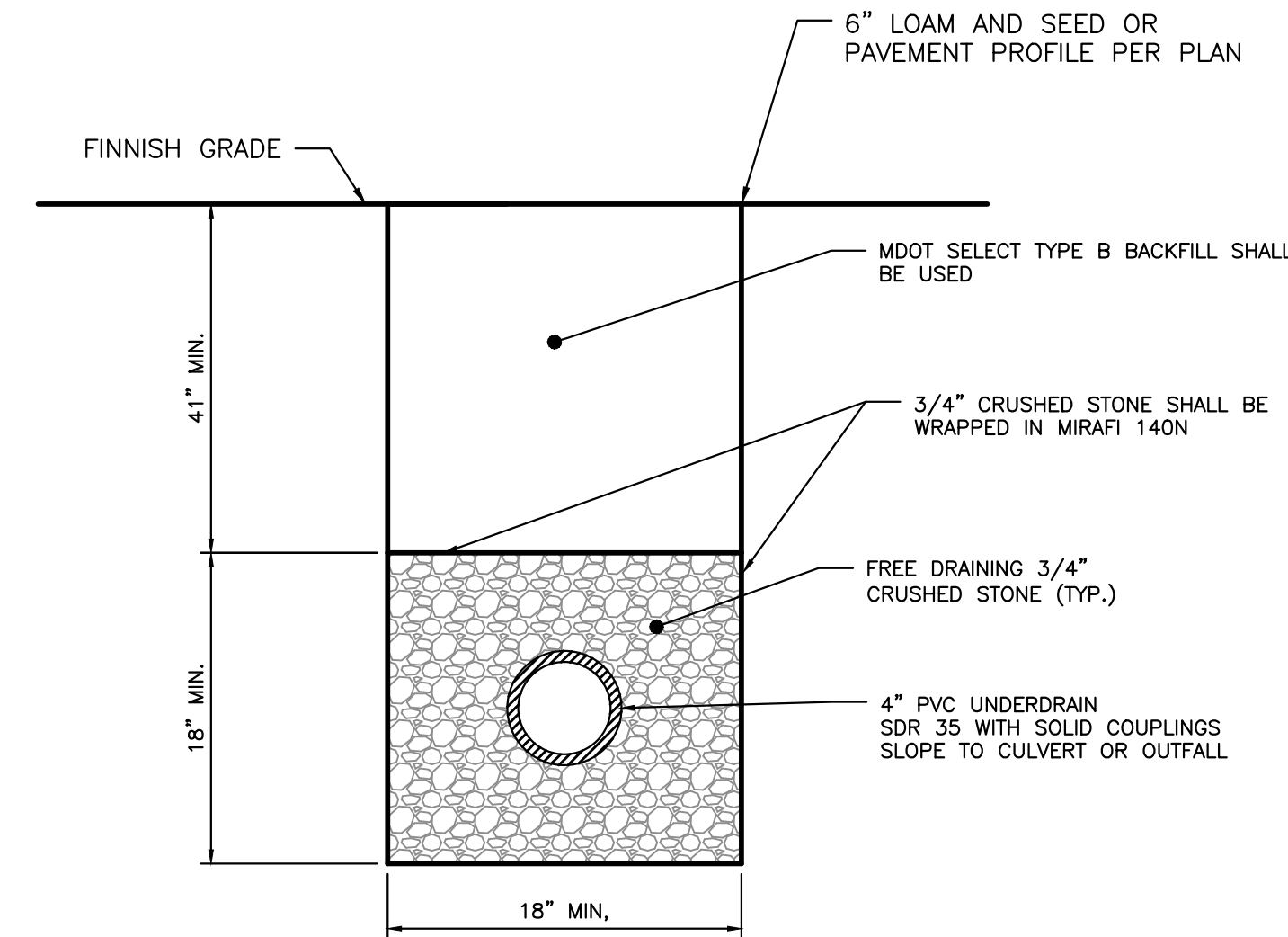


SINGLE PIPE TRENCH
NOT TO SCALE

- 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.



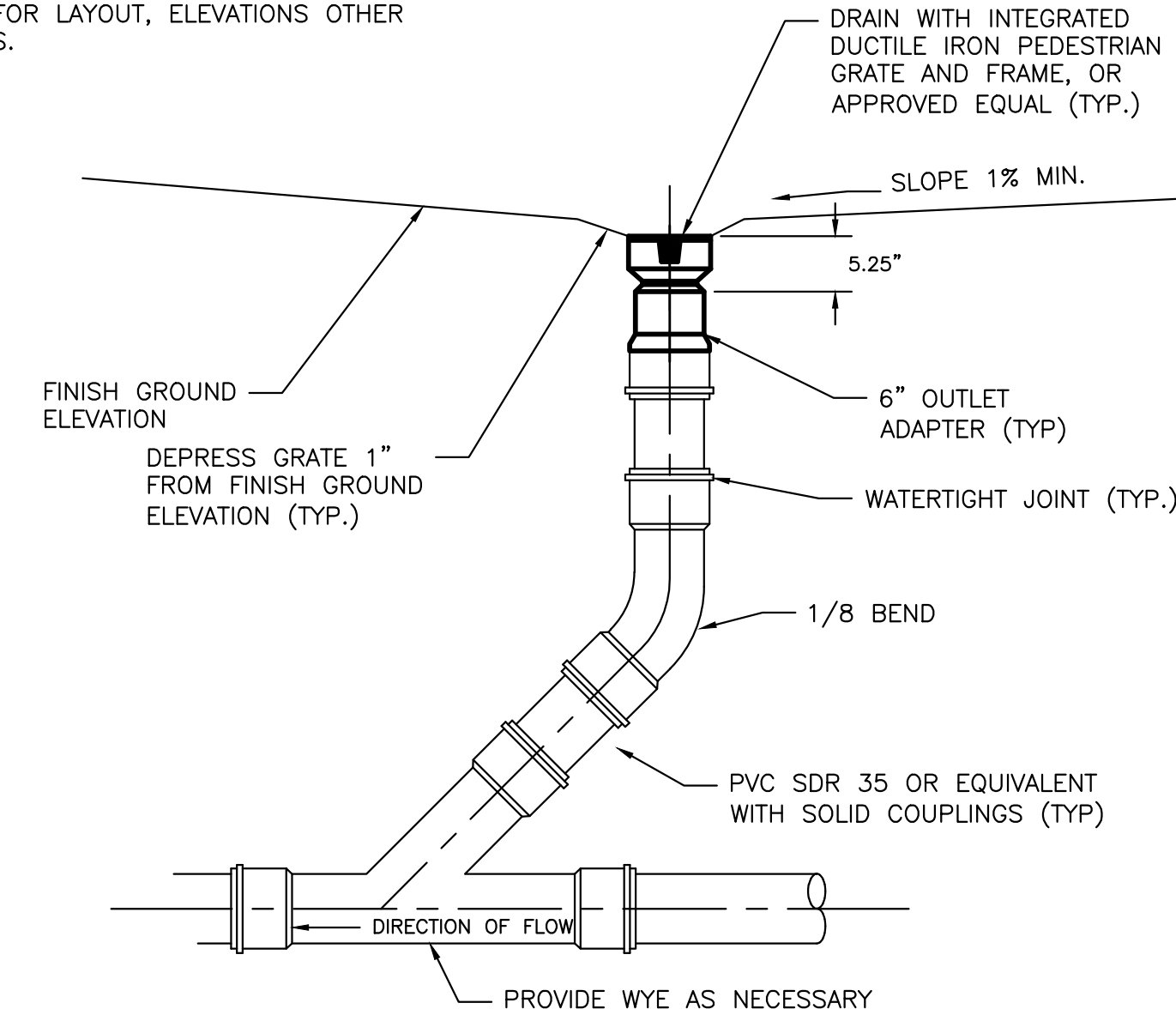
FOUNDATION DRAIN DETAIL
NOT TO SCALE



- NOTES:
- MINIMUM UNDERDRAIN SLOPE 0.0025 (0.25%)
 - PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.

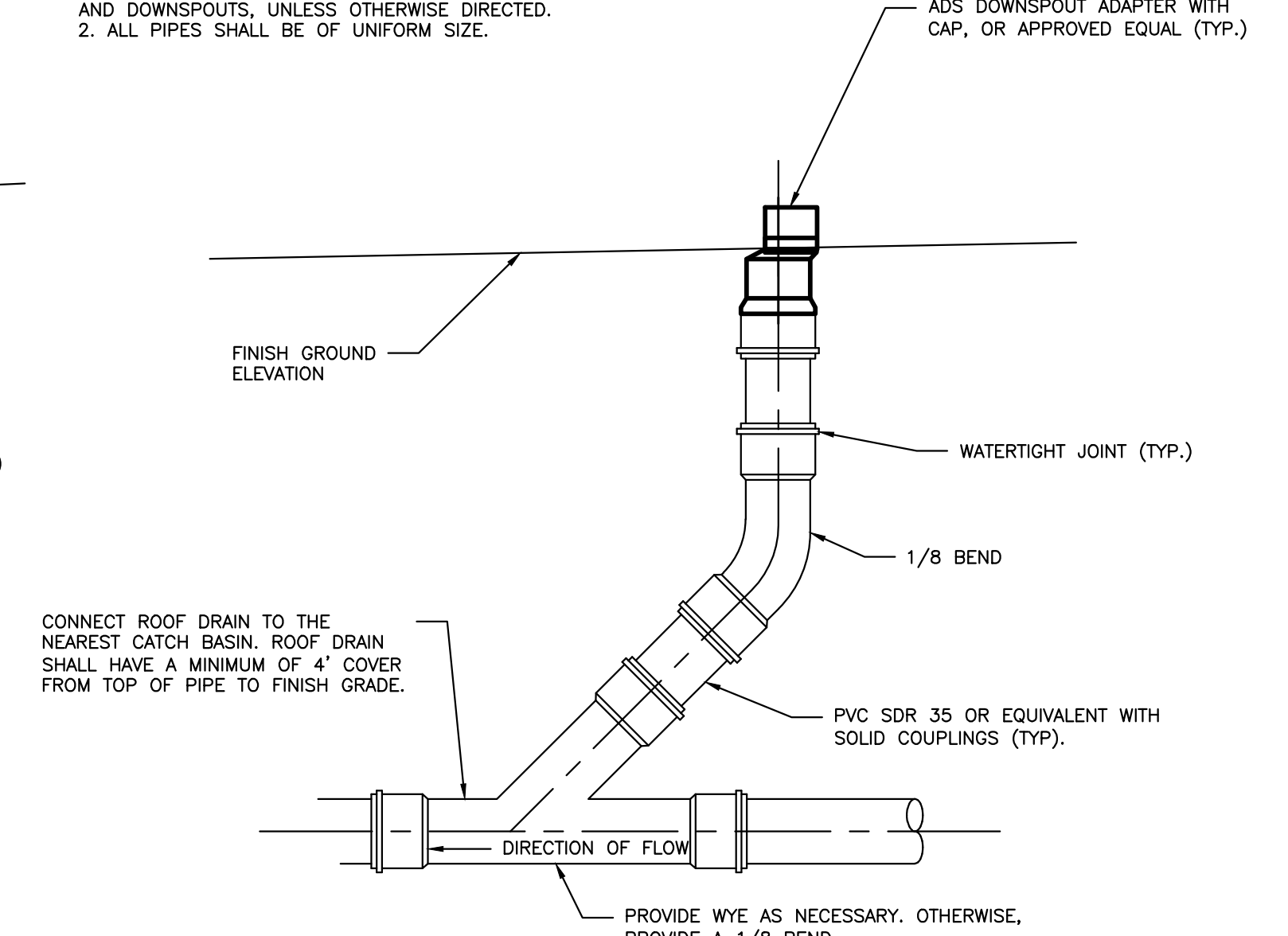
UNDERDRAIN DETAIL
NOT TO SCALE

- NOTES:
- REFER TO THE GRADING & DRAINAGE PLAN FOR LAYOUT, ELEVATIONS OTHER DETAILS.



INLINE DRAIN DETAIL
NOT TO SCALE

- NOTES:
- CONTRACTOR RESPONSIBLE FOR THE INSTALLATION OF THE ROOF DRAIN, ADAPTER AND COVER. OWNER TO INSTALL GUTTERS AND DOWNSPOUTS, UNLESS OTHERWISE DIRECTED.
 - ALL PIPES SHALL BE OF UNIFORM SIZE.



ROOF DRAIN DETAIL
NOT TO SCALE

WORKSHOP SUBMISSION
75% LEVEL DRAWINGS
NOT FOR CONSTRUCTION

ISSUED FOR	BY
WORKSHOP #2	WHS
	11/12/13

REVISION	REV. DATE

DRAWING NAME: DRAINAGE DETAILS - 1

PROJECT NAME: MUNUJOY HEIGHTS

CLIENT: REDFERN PROPERTIES PORTLAND, MAINE

DRAWING NAME:

PROJECT NAME:

CLIENT:

A C C O R N
ENGINEERING, INC.

ACORN ENGINEERING, INC. 3372 PORTLAND, MAINE 04104
P.O. BOX 3372 PORTLAND, MAINE 04104
(207) 775-2655

FILE#7_details 11-12-13.dwg

DATE: 7/11/13

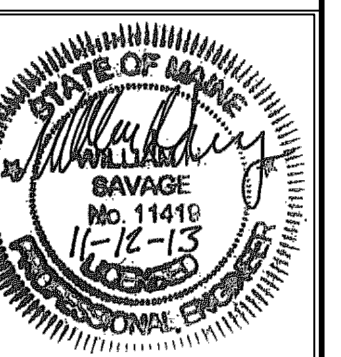
JN: 302-001

SCALE: NTS

DESIGN BY: WHS

DRAWN BY: ZRJ

CHECKED BY: WHS

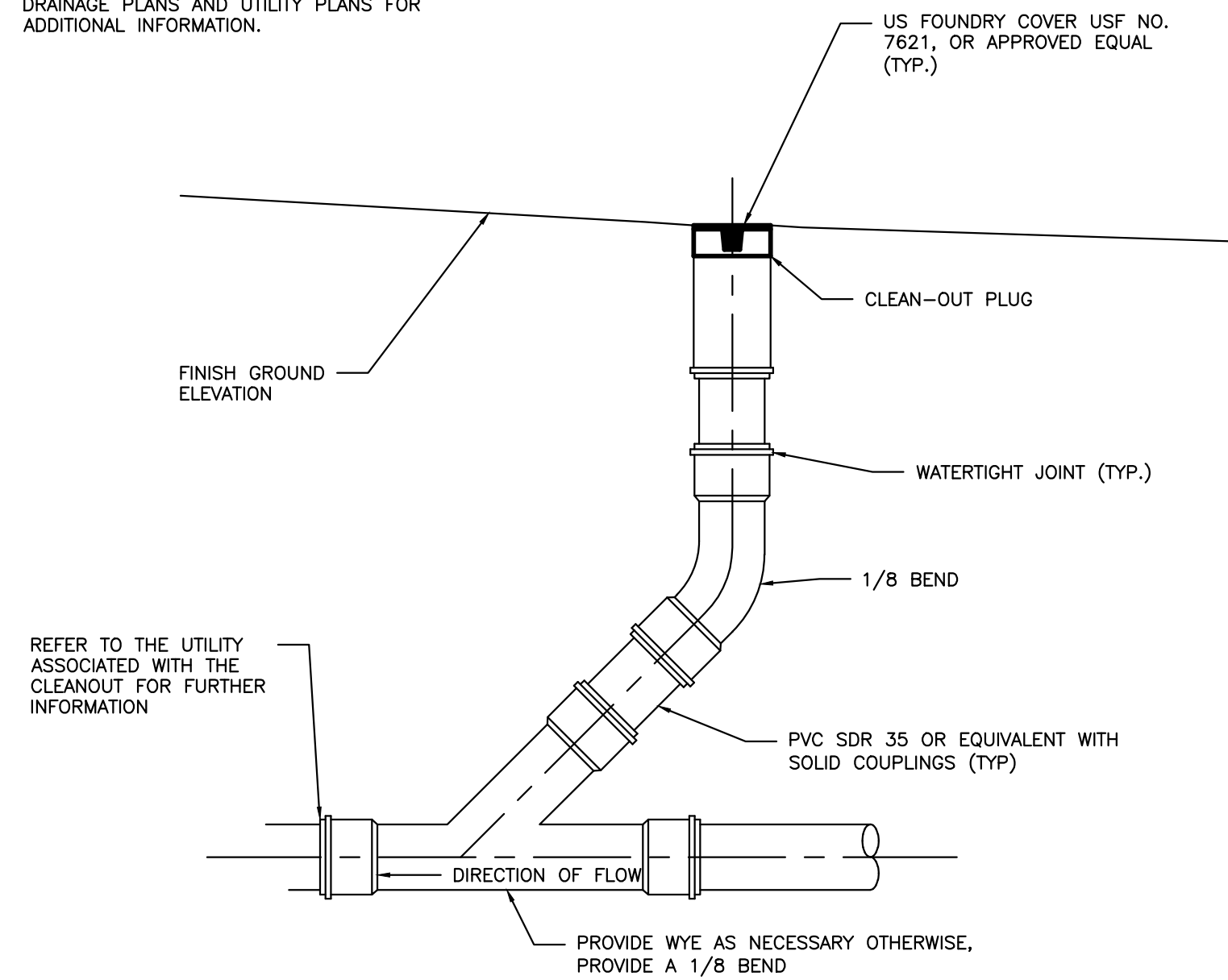


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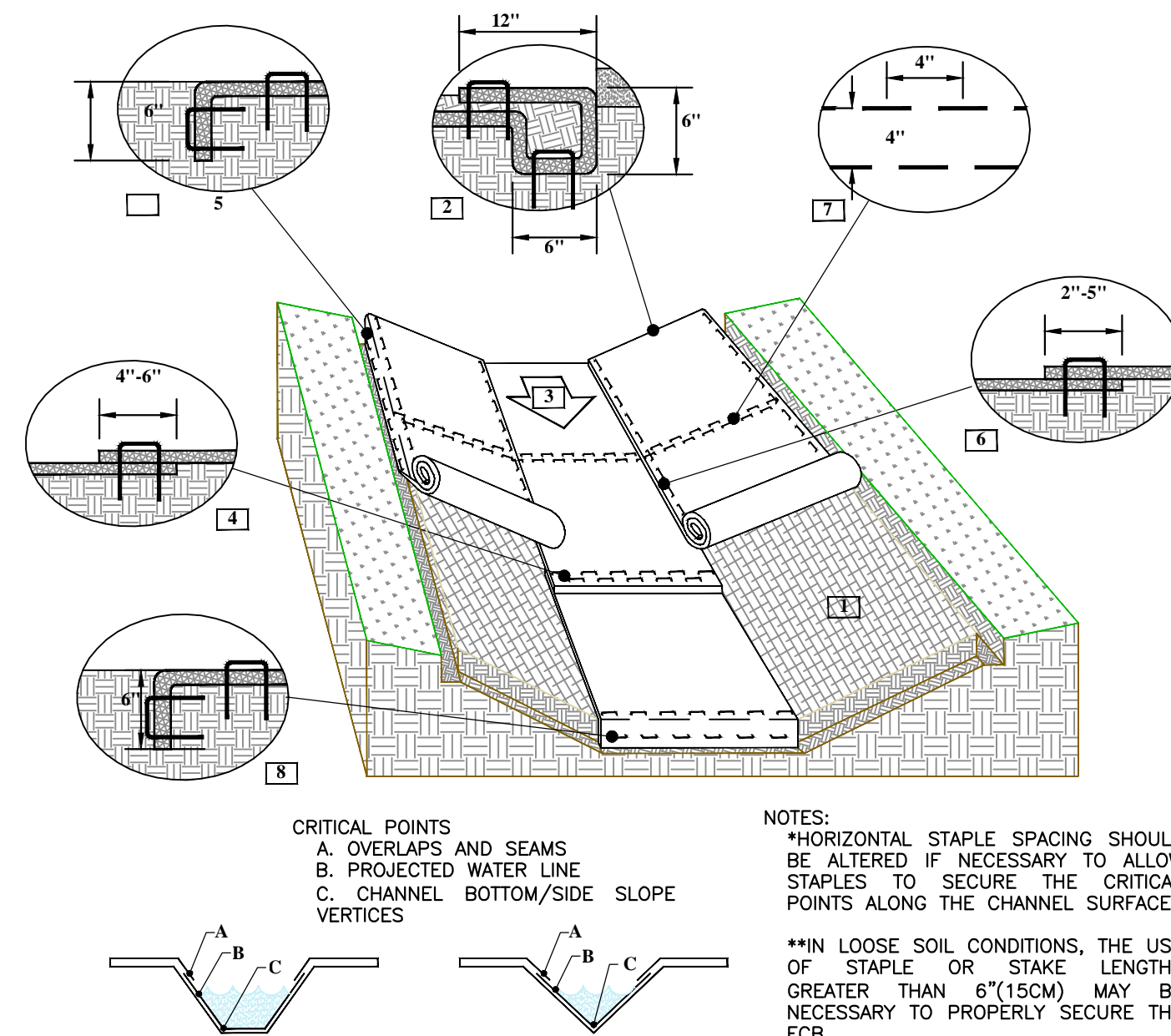
C-41

ISSUED FOR	BY
WORKSHOP #2	WHS
	11/12/13
REVISION	REV. DATE

NOTES:
1. REFER TO THE GRADING & DRAINAGE PLANS AND UTILITY PLANS FOR ADDITIONAL INFORMATION.



CLEANOUT DETAIL
NOT TO SCALE



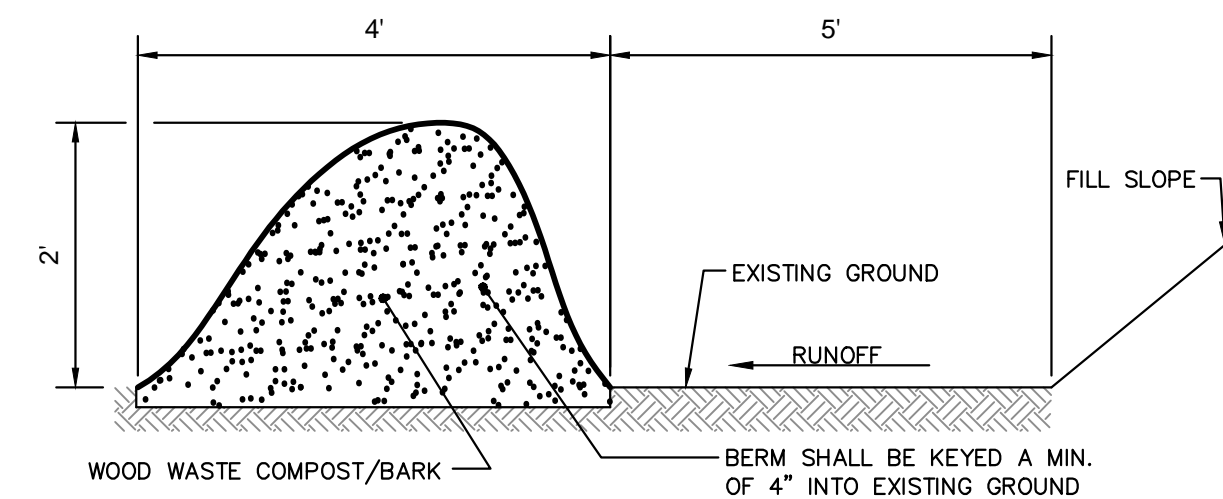
EROSION CONTROL BLANKET CHANNEL INSTALLATION
NOT TO SCALE

CHANNEL INSTALLATION DETAIL

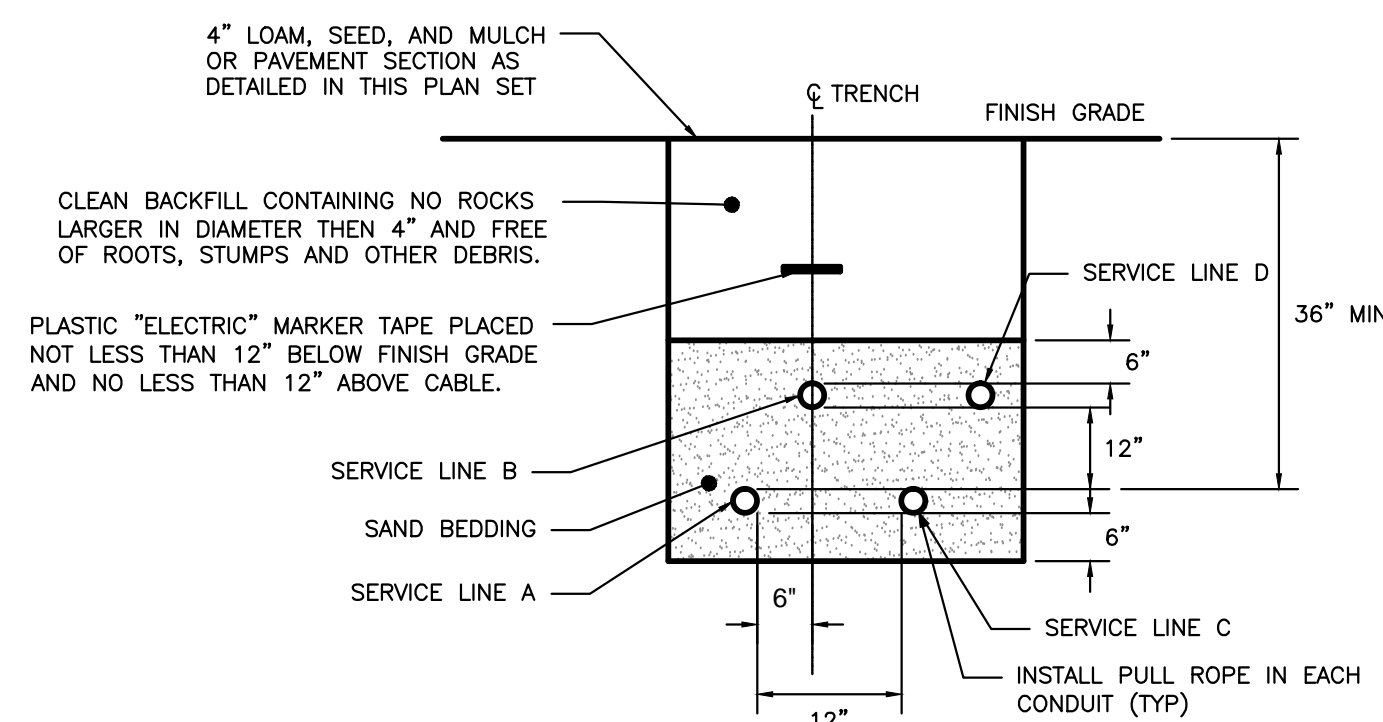
1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL BLANKET (ECB), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE ECB IN A 6"(15CM) DEEP X 6"(15CM) WIDE TRENCH WITH APPROXIMATELY 12"(30CM) OF ECB EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. USE SHOREMAX MAT AT THE CHANNEL/CULVERT OUTLET AS SUPPLEMENTAL SCOUR PROTECTION AS NEEDED. ANCHOR THE ECB WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12"(30CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO THE COMPACTED SOIL AND FOLD THE REMAINING 12"(30CM) PORTION OF ECB BACK OVER THE SEED AND COMPACTED SOIL. SECURE ECB OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE ECB.
3. ROLL CENTER ECB IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. ECB WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL ECB MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. PLACE CONSECUTIVE ECB END-OVER-END (SHINGLE STYLE) WITH A 4"-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE ECB. THE TOP LAYER SHALL GO OVER THE DOWNSTREAM LAYER.
5. FULL LENGTH EDGE OF ECB AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12"(30CM) APART IN A 6"(15CM) DEEP X 6"(15CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT ECB MUST BE OVERLAPPED APPROXIMATELY 2"-5" (5-12.5CM) (DEPENDING ON ECB TYPE) AND STAPLED.
7. IN HIGH FLOW CHANNEL APPLICATIONS A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9-12M) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4"(10CM) APART AND 4"(10CM) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE ECB MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12"(30CM) APART IN A 6"(15CM) DEEP X 6"(15CM) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

NOTES:

1. THE EROSION CONTROL MIX SHALL CONFORM TO THE FOLLOWING STANDARDS AND IN ACCORDANCE WITH THE MAINE DEP'S EROSION AND SEDIMENT CONTROL BMP'S SECTION B-1:
 - A. THE ORGANIC PORTIONS SHALL BE FIBROUS AND ELONGATED TO ALLOW FOR THE INTERLOCKING OF MATERIAL
 - B. pH - 5.0 - 8.0.
 - C. PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6" SCREEN AND A MINIMUM OF 70% TO A MAXIMUM 85% PASSING A 0.75" (3/4") SCREEN.
 - D. THE ORGANIC MATTER CONTENT SHALL BE BETWEEN 80 AND 100% DRY WEIGHT BASIS
 - E. NO STONES LARGER THAN 4" IN DIAMETER
 - F. LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
2. THE BERM SHOULD BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR. WHEN NECESSARY THE BERM MAY BE PLACED PERPENDICULAR TO THE SLOPE ALONG THE PROPERTY LINE TO CONTAIN THE SEDIMENT PROVIDED A BERM IS LOCATED AT THE BASE OF THE SLOPE.
3. THE BERM MAY BE USED IN LIEU OF SILTATION FENCE, AT THE TOE OF SHALLOW SLOPES, ON FROZEN GROUND, LEDGE OUT CROPS, VERY ROOTED FORESTED AREA OR AT THE EDGE OF GRAVEL PARKING AREAS.
4. BERMS SHALL REMAIN IN PLACE UNTIL UPSTREAM AREA IS STABILIZED OR 90% CATCH OF VEGETATION IS ATTAINED. BERMS SHALL BE REMOVED OFFSITE OR BY SPREADING SUCH THAT NATIVE EARTH CAN BE SEEN BELOW.



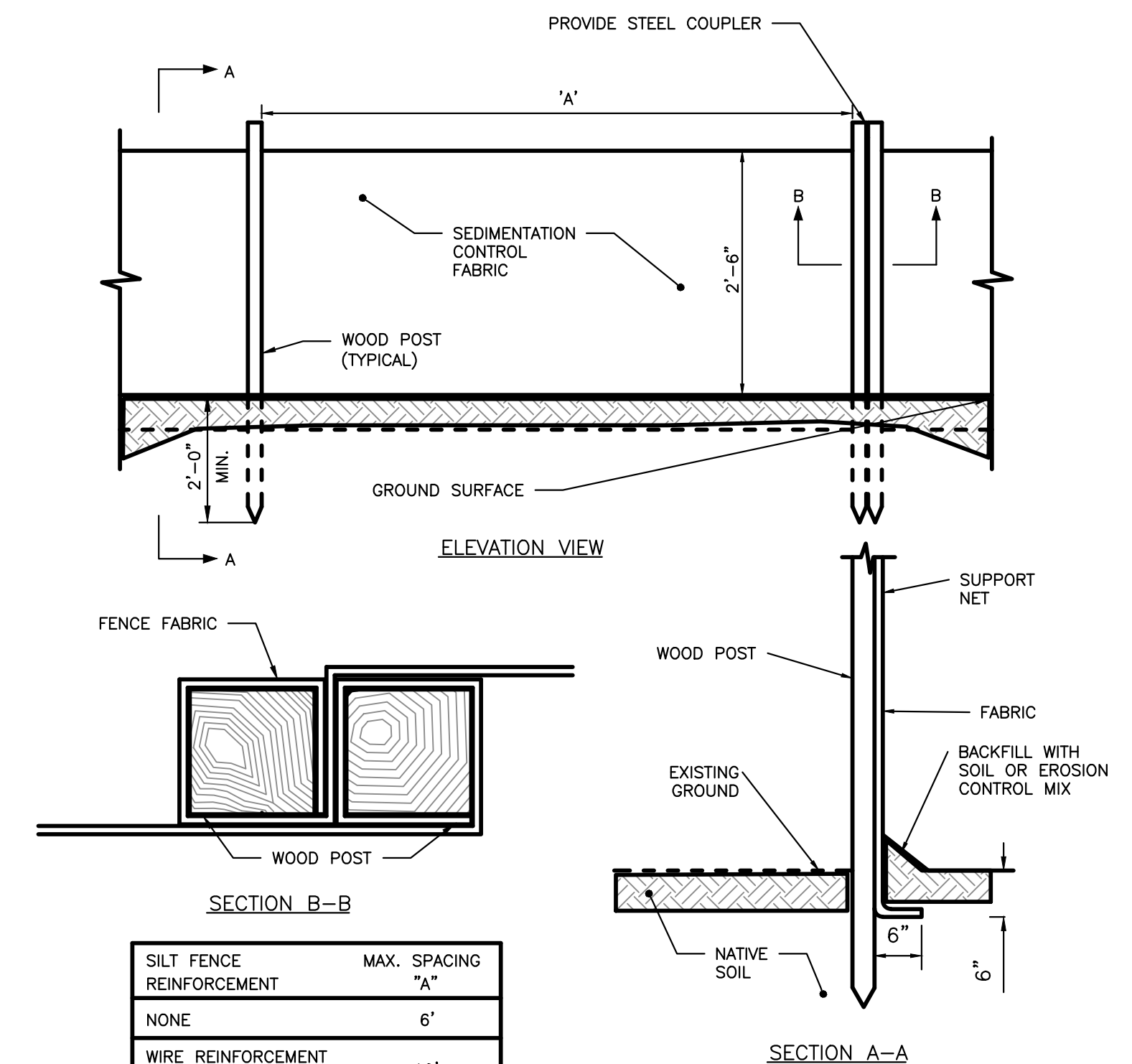
EROSION CONTROL MIX BERM DETAIL
NOT TO SCALE



SERVICE	CONDUIT TYPE			
	CONDUIT SIZE	GRASS AND PAVED AREAS	UTILITY	REMARKS
A	2-5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
B	2-4"	SCHEDULE 40 PVC	COMMUNICATION	-
C	2-4"	SCHEDULE 40 PVC ELECTRICAL GRADE	SPARE	IF REQUIRED
D	2-4"	SCHEDULE 40 PVC	CABLE	-

- NOTE:
1. ONE CONDUIT CAPPED FOR SPARE. PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND-OFF BRACKETS.
 2. MINIMUM SEPARATION OF 24 INCHES BETWEEN PRIMARY CABLE/CONDUIT AND GAS LINES SHALL BE MAINTAINED.

UTILITY TRENCH - PRIMARY AND SECONDARY POWER, TELEPHONE, AND CABLE
NOT TO SCALE



SILT FENCE REINFORCEMENT	MAX. SPACING "A"
NONE	6'
WIRE REINFORCEMENT 14 GAUGE, 6" MESH	10'

SILTATION FENCE DETAIL
NOT TO SCALE

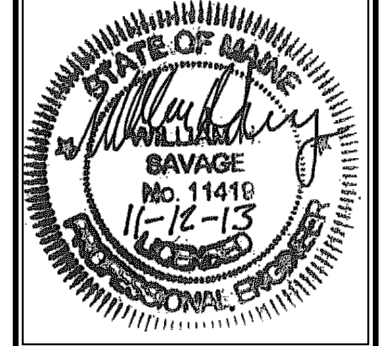
WORKSHOP SUBMISSION
75% LEVEL DRAWINGS
NOT FOR CONSTRUCTION

DRAWING NAME: **DRAINAGE DETAILS - 2**
PROJECT NAME: **MUNJOY HEIGHTS**
CLIENT: **REDFERN PROPERTIES PORTLAND, MAINE**

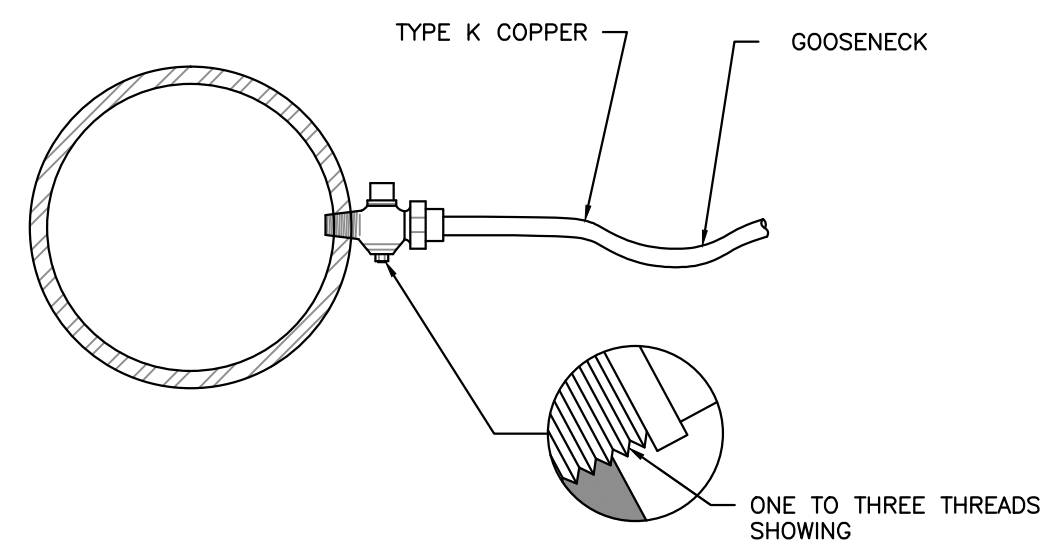
A C O R N
ENGINEERING, INC.

ACORN ENGINEERING, INC.
P.O. BOX 3372 PORTLAND, MAINE 04104
(207) 775-2655

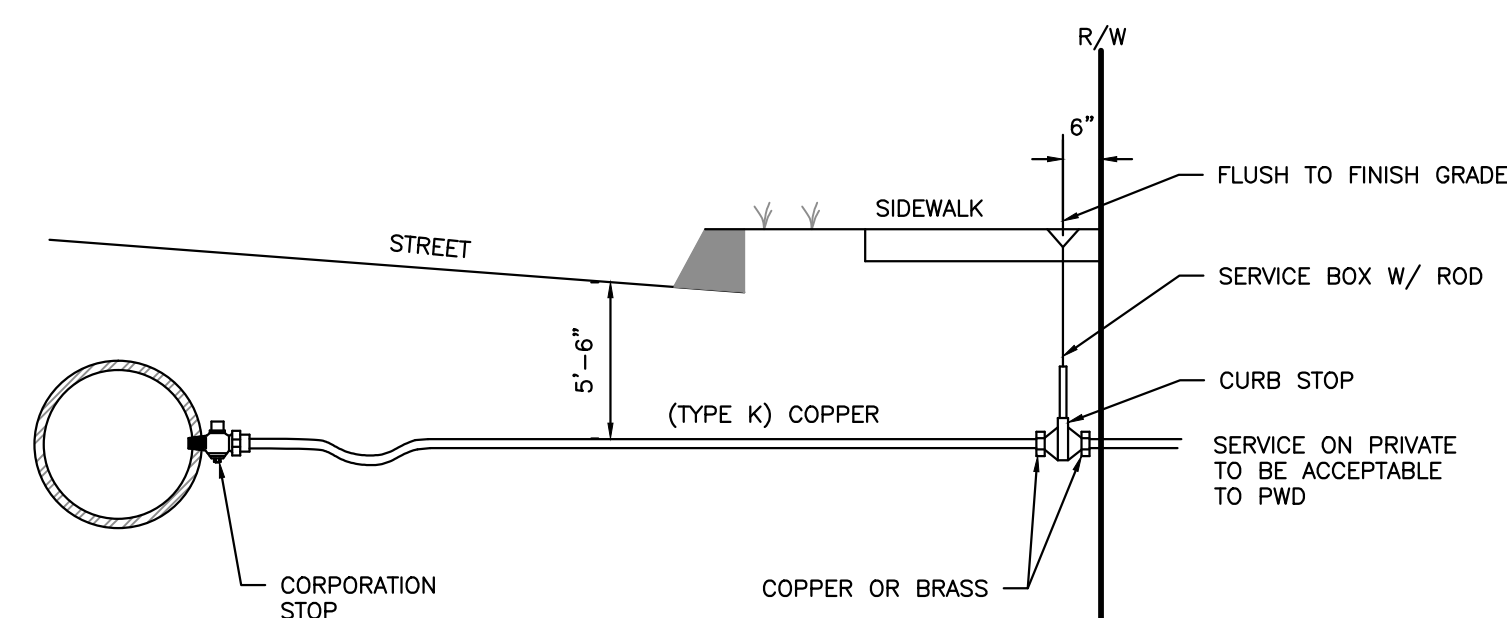
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JN: 302-001
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DESIGN BY: WHS
DRAWN BY: ZRJ
CHECKED BY: WHS



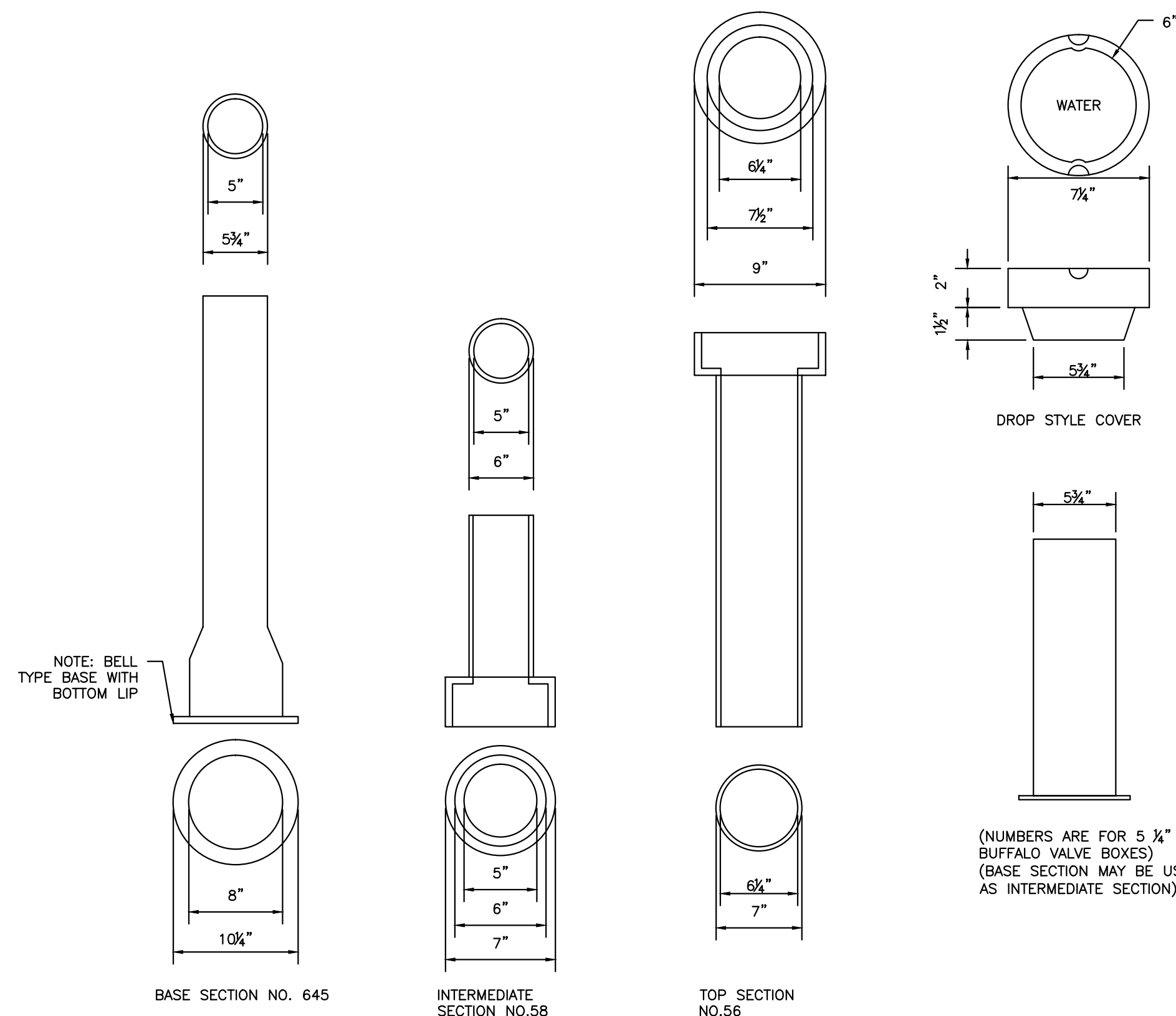
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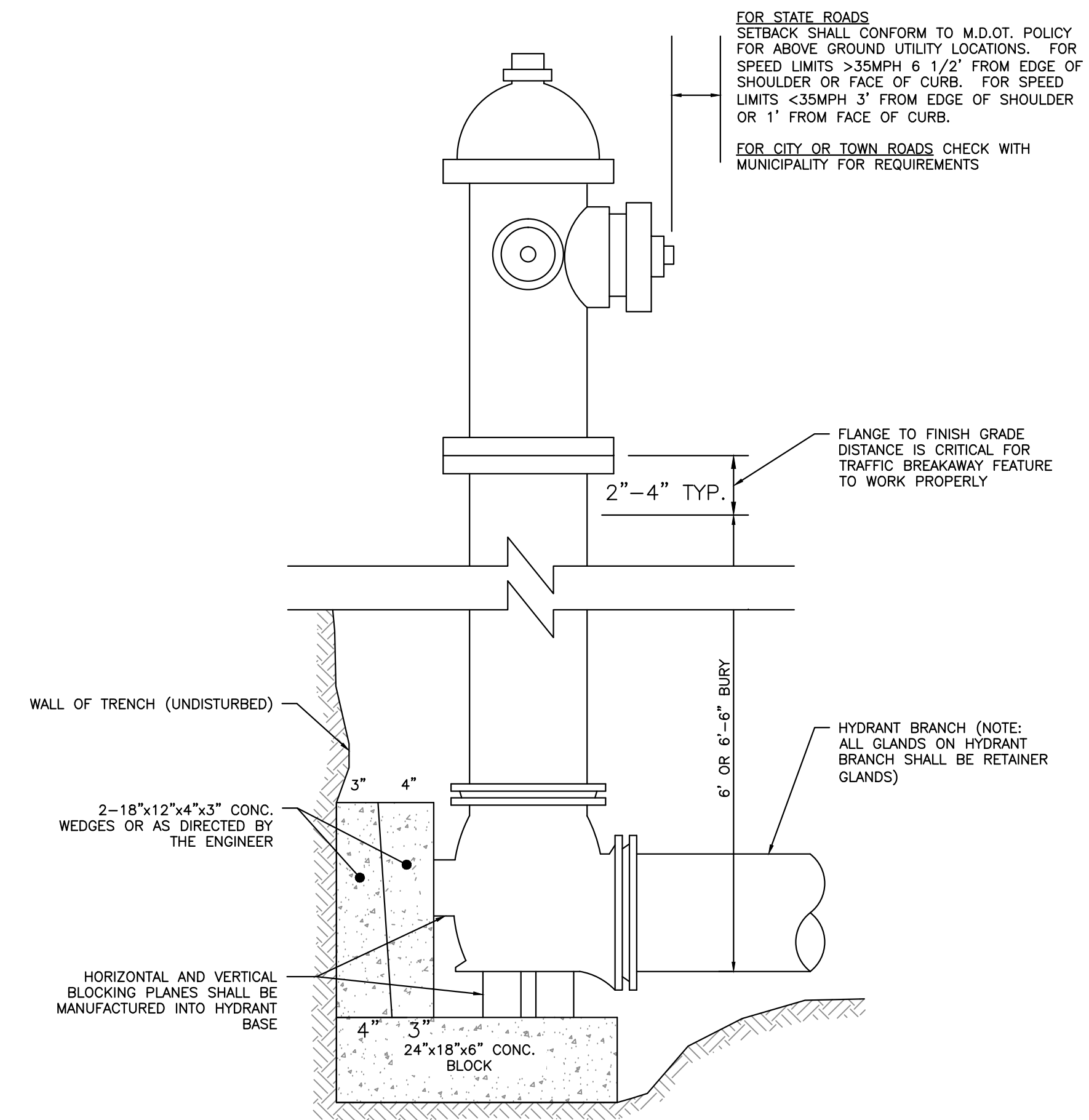
SERVICE TAP
(3/4" AND 1" C.C. THREAD)



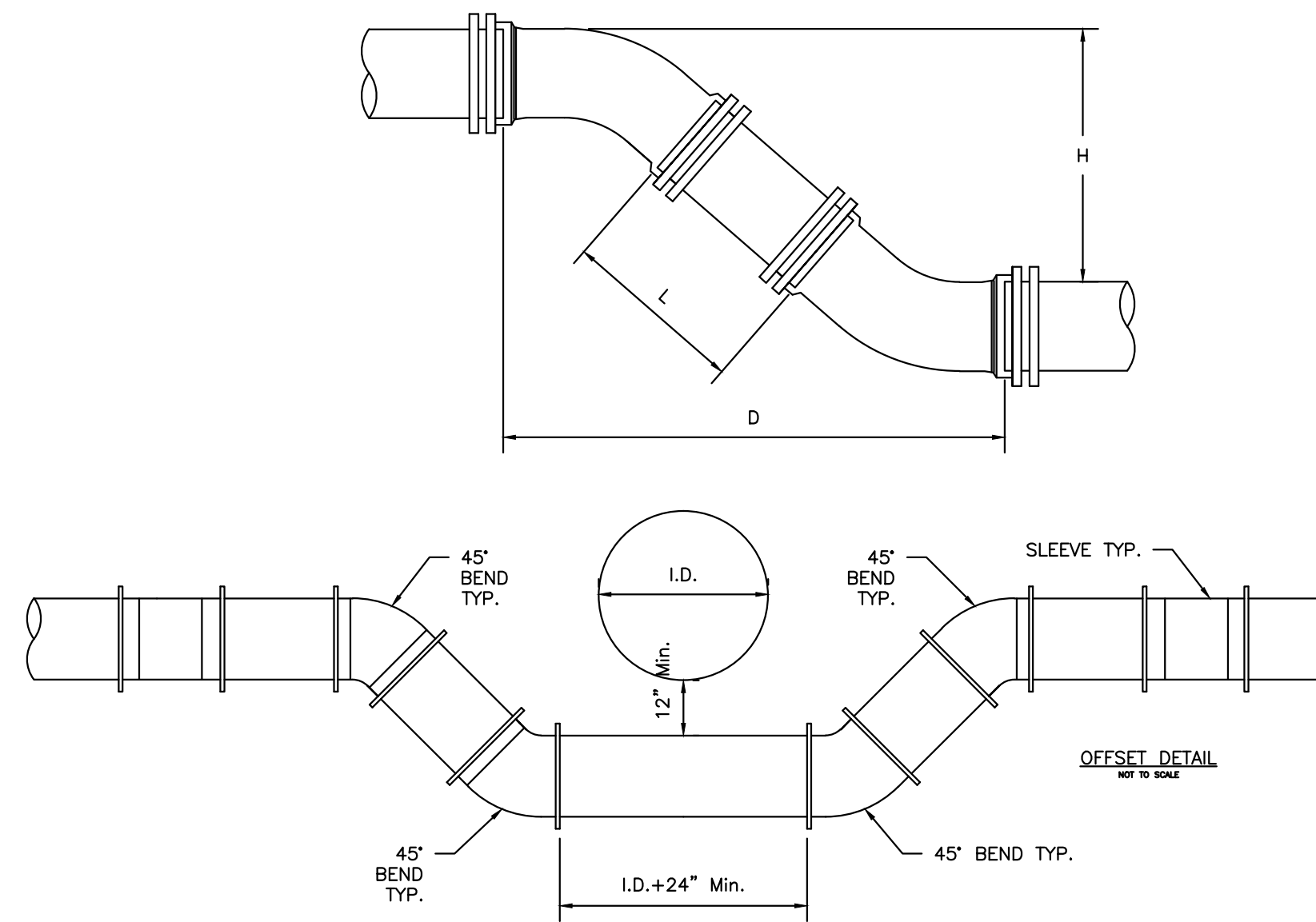
TYPICAL SERVICE CONNECTION
N.T.S.



VALVE BOX & COVER
N.T.S.



TYPICAL HYDRANT INSTALLATION DETAIL



NOTE: DIMENSIONS APPLICABLE FOR SIGMA COMPACT BENDS. FOR TYLER COMPACT BENDS, ADD 1/2" TO "D" DIMENSION AND SUBTRACT 1/2" FROM "L" DIMENSION. FOR OTHER FITTINGS REFER TO MANUFACTURER'S RECOMMENDATIONS.

H	6" PIPE		8" PIPE		12" PIPE	
	D	L	D	L	D	L
12"	1' 6-1/2"	0' 10-1/2"	1' 7-1/2"	0' 9-1/2"	1' 11-1/2"	0' 5-1/2"
13"	1' 7-1/2"	0' 11-7/8"	1' 8-1/2"	0' 10-7/8"	2' 0-1/2"	0' 6-7/8"
14"	1' 8-1/2"	1' 1-5/16"	1' 9-1/2"	1' 0-5/16"	2' 1-1/2"	0' 8-5/16"
15"	1' 9-1/2"	1' 2-1/16"	1' 10-1/2"	1' 1-11/16"	2' 2-1/2"	0' 9-11/16"
16"	1' 10-1/2"	1' 4-1/8"	1' 11-1/2"	1' 3-1/8"	2' 3-1/2"	0' 11-1/8"
17"	1' 11-1/2"	1' 5-9/16"	2' 0-1/2"	1' 4-9/16"	2' 4-1/2"	1' 0-9/16"
18"	2' 0-1/2"	1' 6-15/16"	2' 1-1/2"	1' 5-15/16"	2' 5-1/2"	1' 1-15/16"
19"	2' 1-1/2"	1' 8-3/8"	2' 2-1/2"	1' 7-3/8"	2' 6-1/2"	1' 3-3/8"
20"	2' 2-1/2"	1' 9-13/16"	2' 3-1/2"	1' 8-13/16"	2' 7-1/2"	1' 4-13/16"
21"	2' 3-1/2"	1' 11-3/16"	2' 4-1/2"	1' 10-3/16"	2' 8-1/2"	1' 6-3/16"
22"	2' 4-1/2"	2' 0-5/8"	2' 5-1/2"	1' 11-5/8"	2' 9-1/2"	1' 7-5/8"
23"	2' 5-1/2"	2' 2"	2' 6-1/2"	2' 1"	2' 10-1/2"	1' 9"
24"	2' 6-1/2"	2' 3-7/16"	2' 7-1/2"	2' 2-7/16"	2' 11-1/2"	1' 10-7/16"
25"	2' 7-1/2"	2' 4-7/8"	2' 8-1/2"	2' 3-7/8"	3' 0-1/2"	1' 11-7/8"
26"	2' 8-1/2"	2' 6-1/4"	2' 9-1/2"	2' 5-1/4"	3' 1-1/2"	2' 1-1/4"
27"	2' 9-1/2"	2' 7-11/16"	2' 10-1/2"	2' 6-11/16"	3' 2-1/2"	2' 2-11/16"
28"	2' 10-1/2"	2' 9-1/8"	2' 11-1/2"	2' 8-1/8"	3' 3-1/2"	2' 4-1/8"
29"	2' 11-1/2"	2' 10-1/2"	3' 0-1/2"	2' 9-1/2"	3' 4-1/2"	2' 5-1/2"
30"	3' 0-1/2"	2' 11-15/16"	3' 1-1/2"	2' 10-15/16"	3' 5-1/2"	2' 6-15/16"
31"	3' 1-1/2"	3' 1-5/16"	3' 2-1/2"	3' 0-5/16"	3' 6-1/2"	2' 8-5/16"
32"	3' 2-1/2"	3' 2-3/4"	3' 3-1/2"	3' 1-3/4"	3' 7-1/2"	2' 9-3/4"
33"	3' 3-1/2"	3' 4-3/16"	3' 4-1/2"	3' 3-3/16"	3' 8-1/2"	2' 11-3/16"
34"	3' 4-1/2"	3' 5-9/16"	3' 5-1/2"	3' 4-9/16"	3' 9-1/2"	3' 0-9/16"
35"	3' 5-1/2"	3' 6-3/8"	3' 6-1/2"	3' 5-3/8"	3' 10-1/2"	3' 2"
36"	3' 6-1/2"	3' 8-7/16"	3' 7-1/2"	3' 7-9/16"	3' 11-1/2"	3' 3-7/16"
37"	3' 7-1/2"	3' 9-13/16"	3' 8-1/2"	3' 8-13/16"	4' 0-1/2"	3' 4-13/16"
38"	3' 8-1/2"	3' 11-1/4"	3' 9-1/2"	3' 10-1/4"	4' 1-1/2"	3' 6-1/4"
39"	3' 9-1/2"	4' 0-17/16"	3' 10-1/2"	3' 10-17/16"	4' 2-1/2"	3' 7-17/16"
40"	3' 10-1/2"	4' 2-1/16"	3' 11-1/2"	4' 1-1/16"	4' 3-1/2"	3' 9-1/16"
41"	3' 11-1/2"	4' 3-1/2"	4' 0-1/2"	4' 2-1/2"	4' 4-1/2"	3' 10-1/2"
42"	4' 0-1/2"	4' 4-7/8"	4' 1-1/2"	4' 3-7/8"	4' 5-1/2"	3' 11-7/8"
43"	4' 1-1/2"	4' 5-5/8"	4' 2-1/2"	4' 4-5/8"	4' 6-1/2"	4' 1-5/8"
44"	4' 2-1/2"	4' 7-3/16"	4' 3-1/2"	4' 6-3/16"	4' 7-1/2"	4' 2-3/4"
45"	4' 3-1/2"	4' 9-1/8"	4' 4-1/2"	4' 8-1/8"	4' 8-1/2"	4' 4-1/8"
46"	4' 4-1/2"	4' 10-9/16"	4' 5-1/2"	4' 9-9/16"	4' 9-1/2"	4' 5-9/16"
47"	4' 5-1/2"	4' 11-15/16"	4' 6-1/2"	4' 10-15/16"	4' 10-1/2"	4' 6-15/16"
48"	4' 6-1/2"	5' 1-3/8"	4' 7-1/2"	5' 0-3/8"	4' 11-1/2"	4' 8-3/8"
49"	4' 7-1/2"	5' 2-13/16"	4' 8-1/2"	5' 1-13/16"	5' 0-1/2"	4' 9-13/16"
50"	4' 8-1/2"	5' 4-3/16"	4' 9-1/2"	5' 3-3/16"	5' 1-1/2"	4' 11-3/16"
51"	4' 9-1/2"	5' 5-5/8"	4' 10-1/2"	5' 4-5/8"	5' 2-1/2"	5' 0-5/8"
52"	4' 10-1/2"	5' 7-1/16"	4' 11-1/2"	5' 6-1/16"	5' 3-1/2"	5' 2-1/16"
53"	4' 11-1/2"	5' 8-7/16"	5' 0-1/2"	5' 7-7/16"	5' 4-1/2"	5' 3-7/16"
54"	5' 0-1/2"	5' 9-7/8"	5' 1-1/2"	5' 8-7/8"	5' 5-1/2"	5' 4-7/8"
55"	5' 1-1/2"	5' 11-5/16"	5' 2-1/2"	5' 10-5/16"	5' 6-1/2"	5' 6-5/16"

TYPICAL MAIN OFFSET
NOT TO SCALE

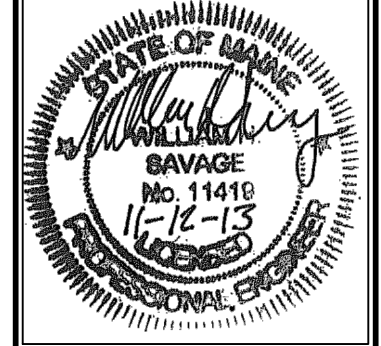
WORKSHOP SUBMISSION
75% LEVEL DRAWINGS
NOT FOR CONSTRUCTION

ISSUED FOR	BY
CITY SUBMISSION	DATE WHS 11/12/13

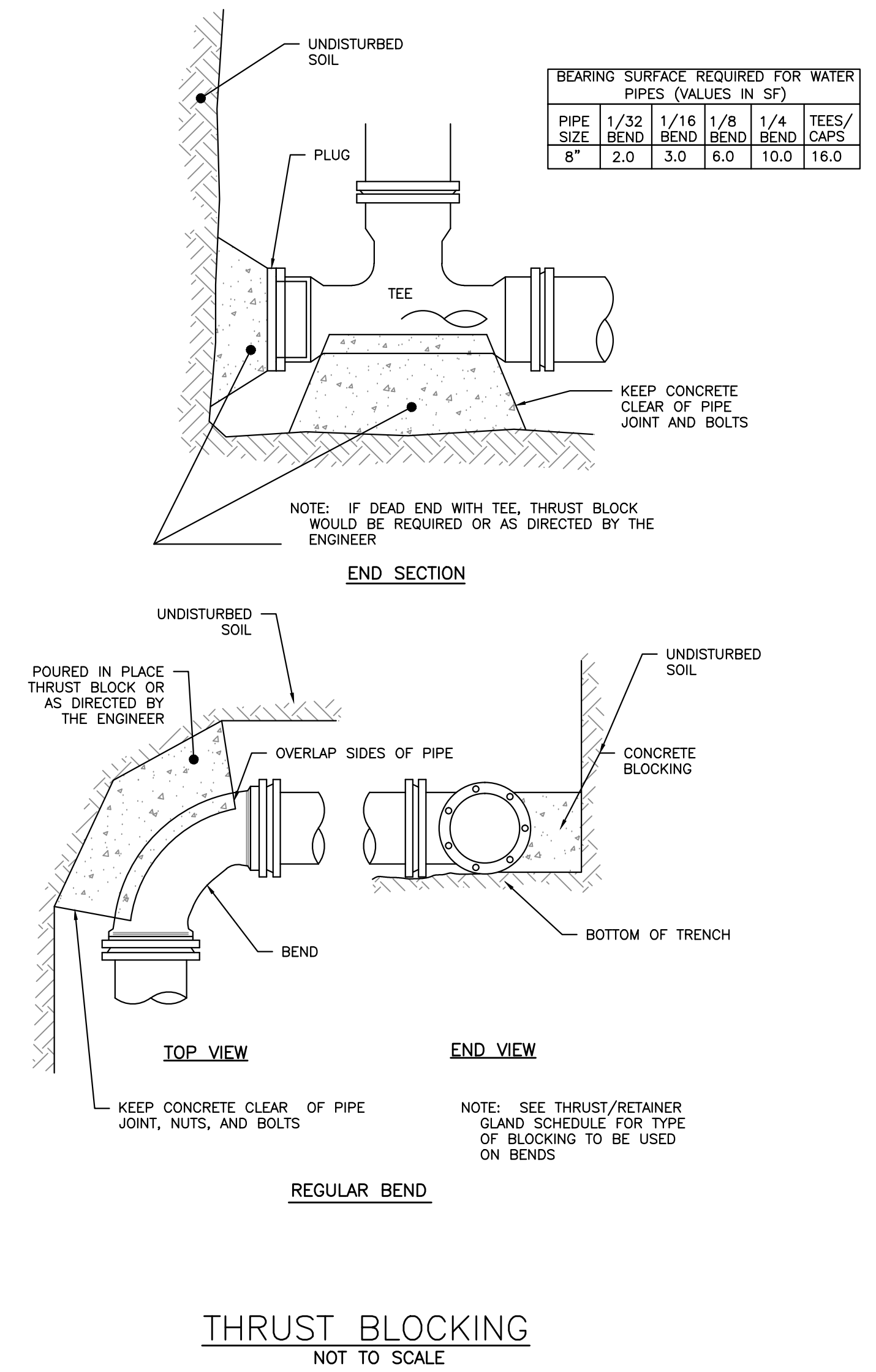
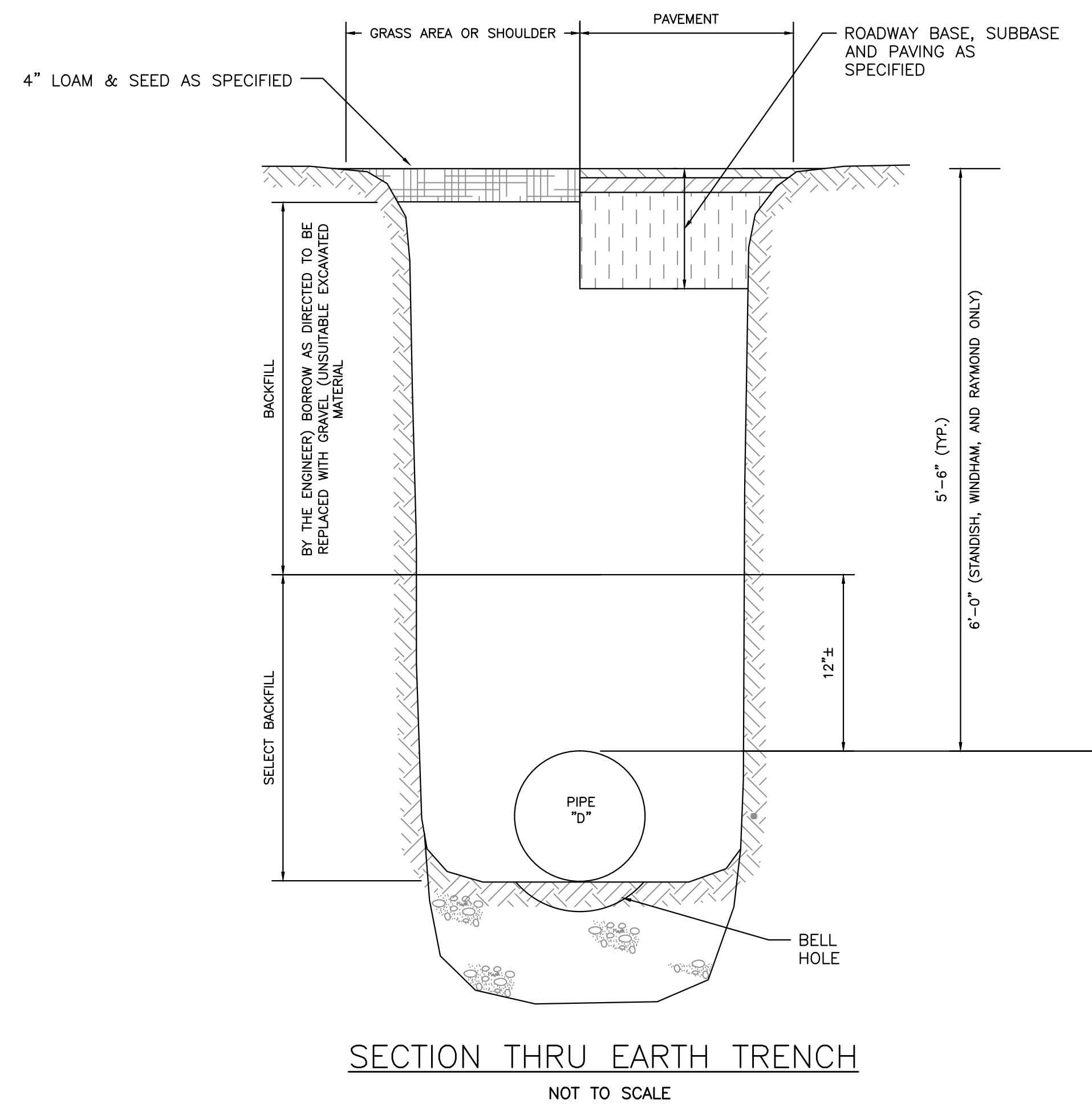
REVISION	REV.
	DATE

DRAWING NAME: **PORTLAND WATER DISTRICT DETAILS -- 1**
PROJECT NAME: **MUNJOY HEIGHTS**
CLIENT: **REDFERN PROPERTIES**
PORTLAND, MAINE

FILE#47_details 11-12-13.dwg
DATE: 7/11/13
JN: 302-001
SCALE: NTS
DESIGN BY: WHS
DRAWN BY: ZRJ
CHECKED BY: WHS



DRAWING NO.
C-44



ISSUED FOR	BY
WORKSHOP #2	WHS
	11/12/13

REVISION	REV. DATE

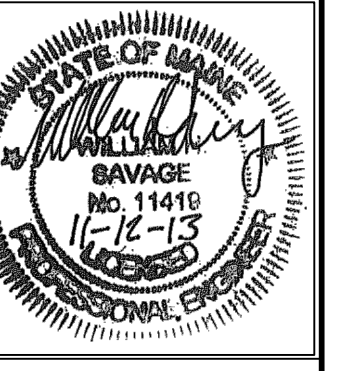
DRAWING NAME: PORTLAND WATER DISTRICT DETAILS - 2
 PROJECT NAME: MUNJOY HEIGHTS
 CLIENT: REDFERN PROPERTIES PORTLAND, MAINE

A C O R N
ENGINEERING, INC.

ACORN ENGINEERING, INC.
 P.O. BOX 3372 PORTLAND, MAINE 04104
 (207) 775-2655

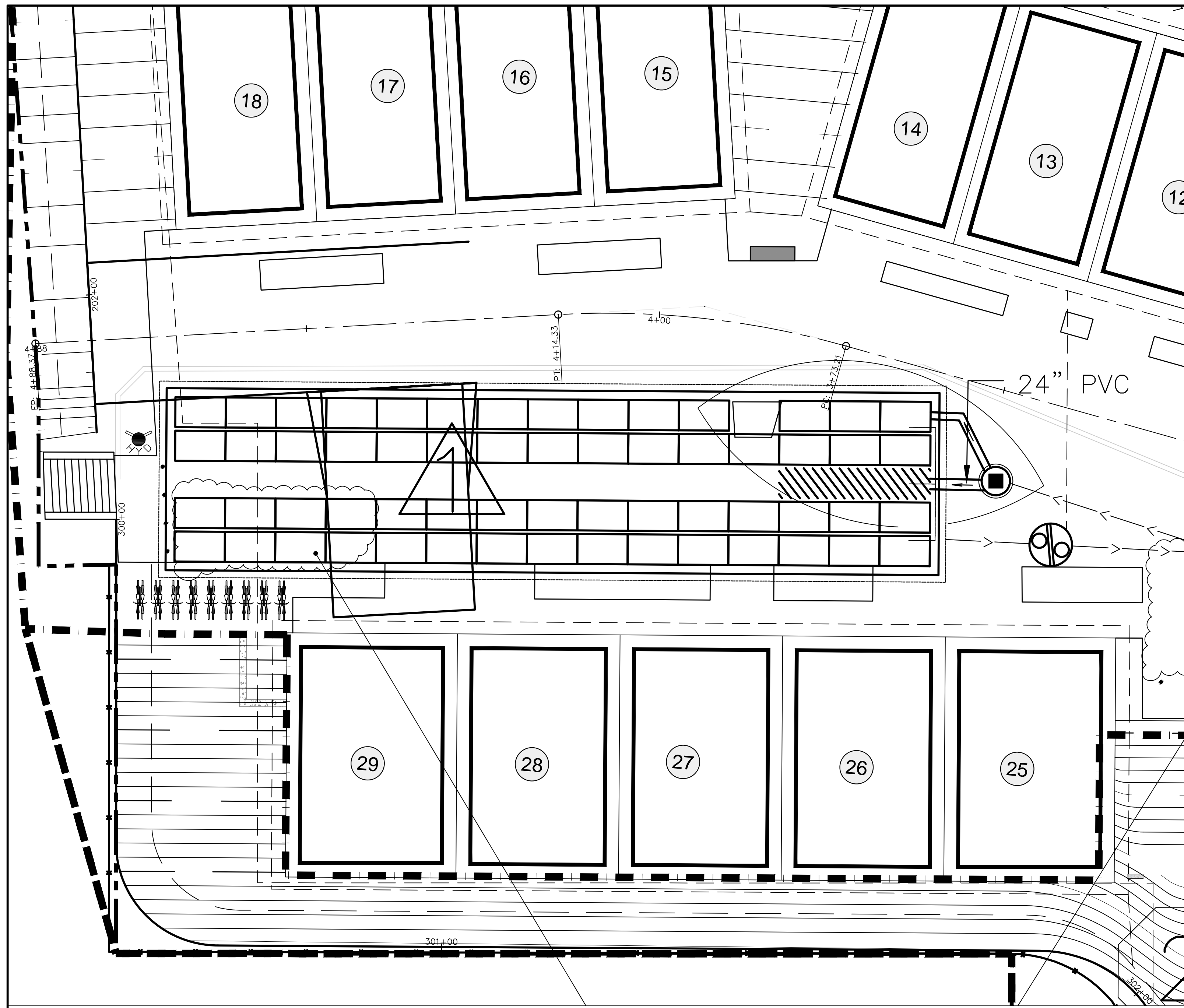
THIS PLAN SHALL BE VALID ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. ANY REUSE OF THIS PLAN FOR ANY OTHER PROJECT WITHOUT THE WRITTEN PERMISSION OF ACORN ENGINEERING, INC. IS PROHIBITED. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPLICABLE AGENCIES.

FILE#47_details 11-12-13.dwg
 DATE: 7/11/13
 JN: 302-001
 SCALE: NTS
 DESIGN BY: WHS
 DRAWN BY: ZRJ
 CHECKED BY: WHS



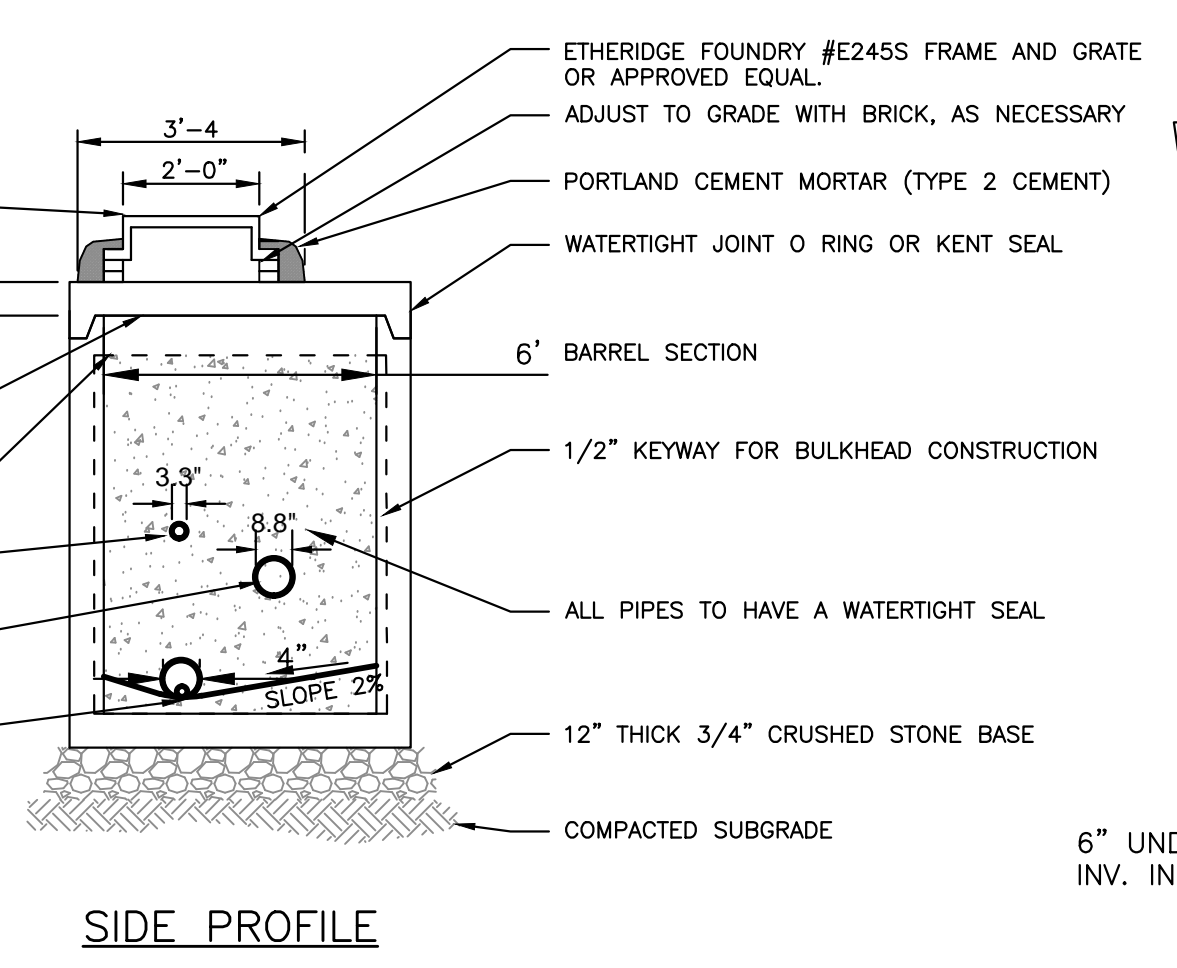
DRAWING NO.
C-45

WORKSHOP SUBMISSION
 75% LEVEL DRAWINGS
 NOT FOR CONSTRUCTION

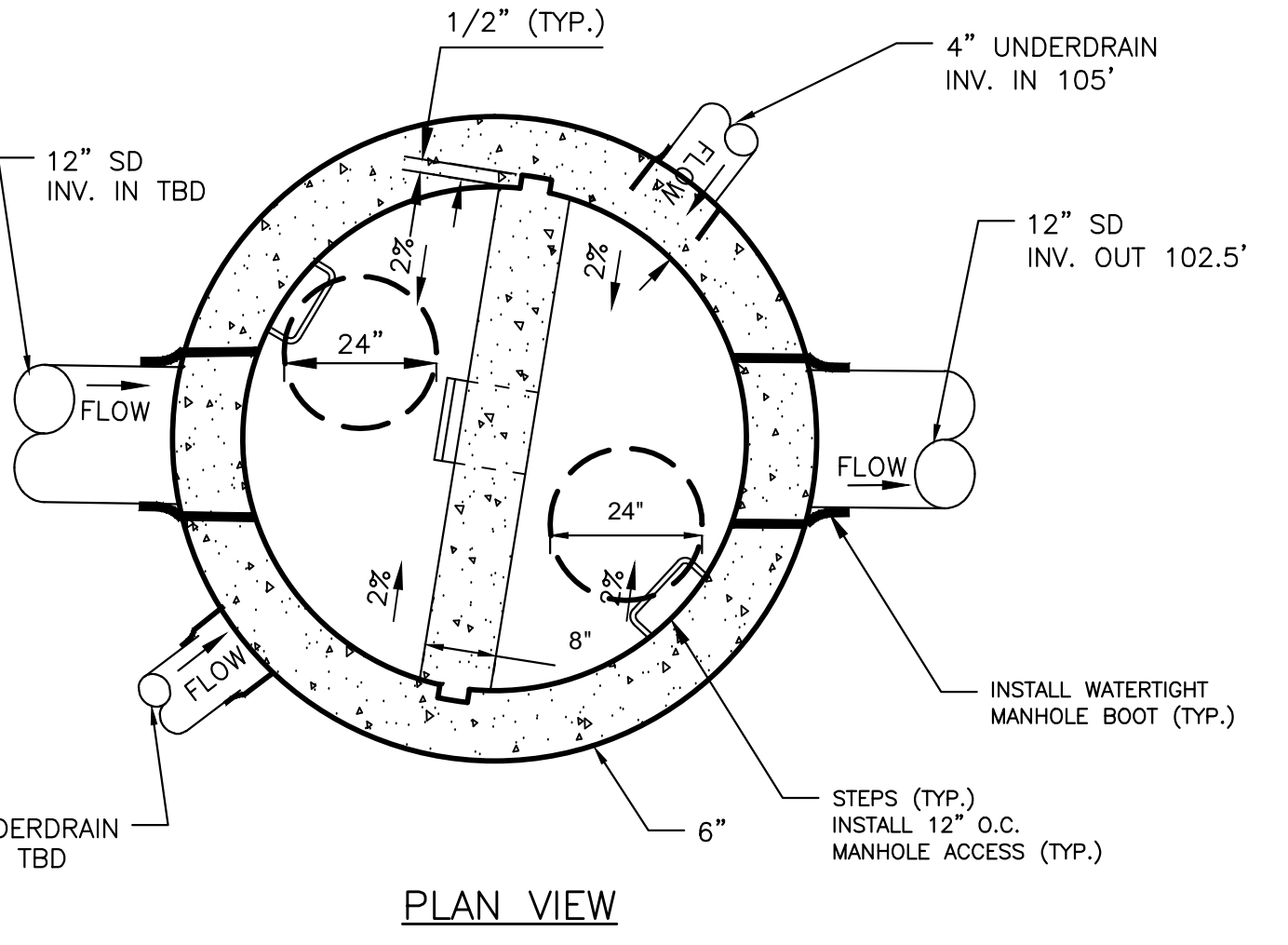


PLAN VIEW LAYOUT
1"=10'

- DESIGN NOTES:**
1. ALL CONCRETE TO HAVE A MIN. OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
 2. DESIGN LOAD FOR H-20 WHEEL LOAD.
 3. CATCH BASIN TO CONFORM TO ASTM-C478 SPECIFICATIONS.
 4. REINFORCE TO 0.12 IN SQ./LF.
 5. JOINTS SEALED WITH BUTYL RUBBER.
 6. POLYPROPYLENE STEPS 12" O.C.

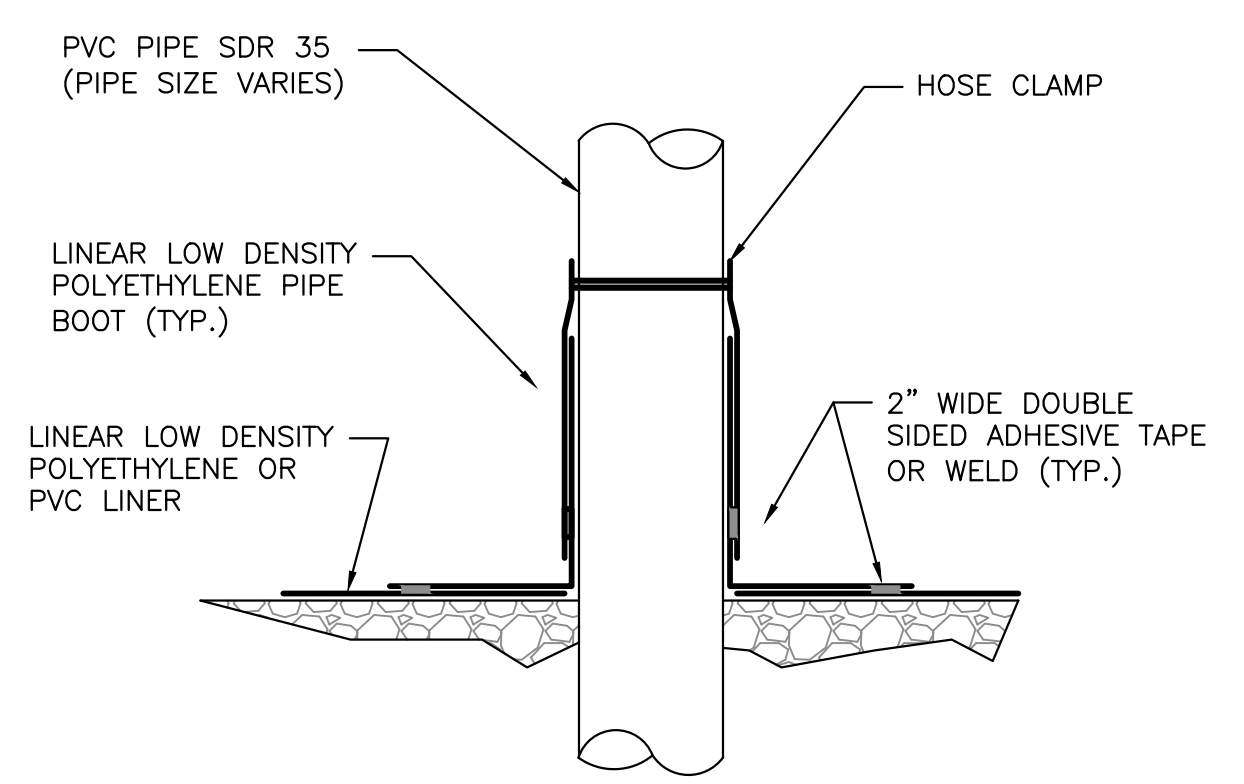


SIDE PROFILE



PLAN VIEW

OUTLET CONTROL STRUCTURE
NOT TO SCALE

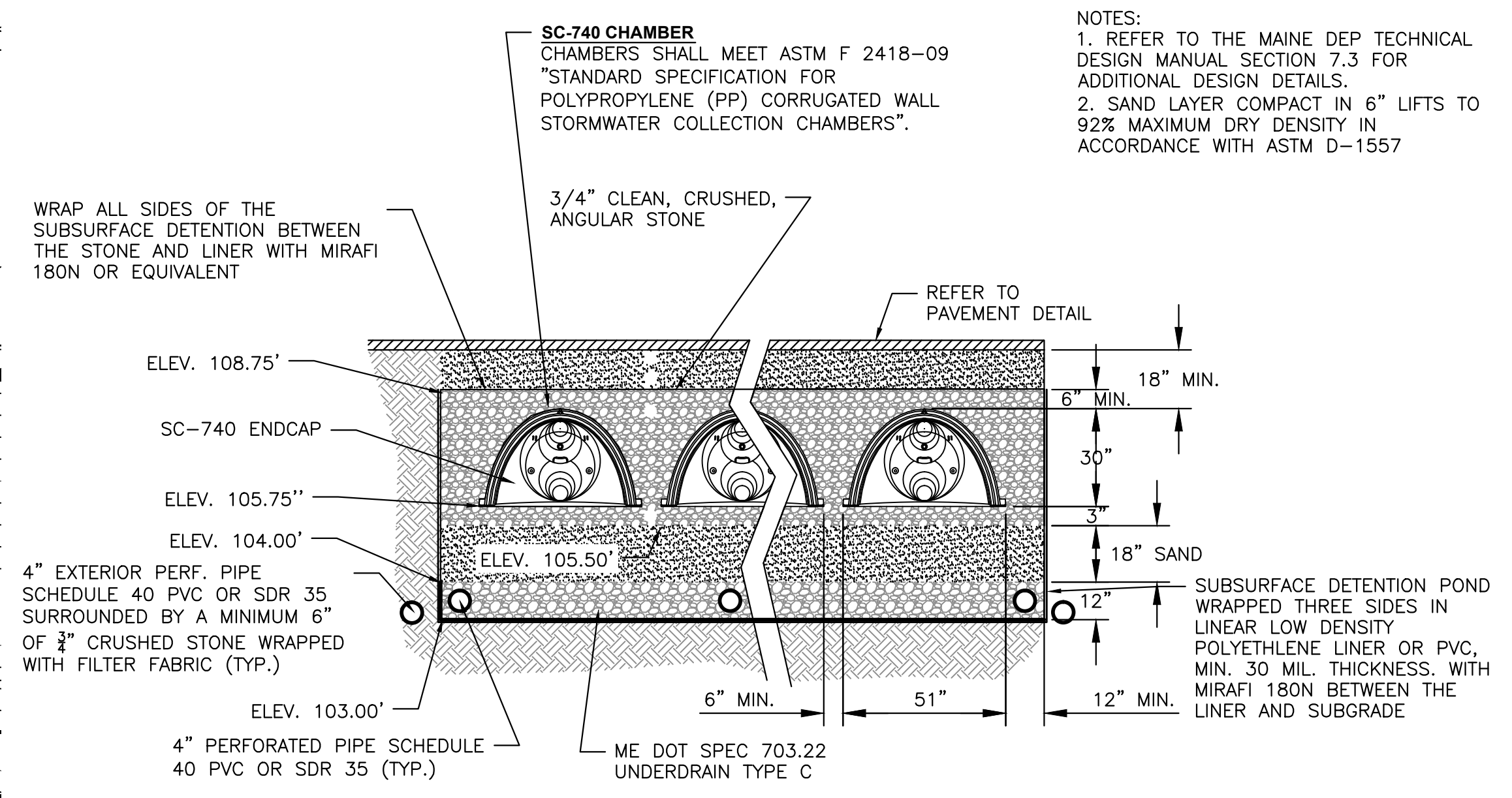


TYPICAL PIPE PENETRATION DETAIL
NOT TO SCALE

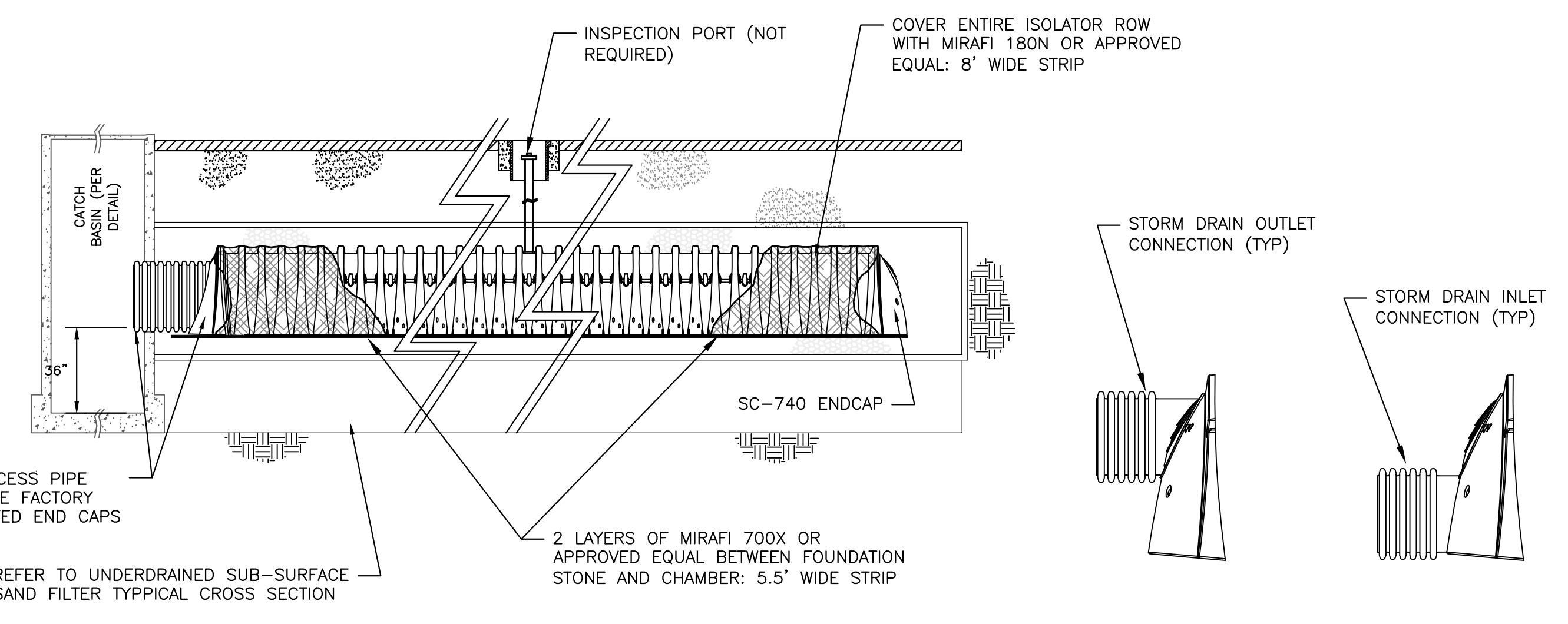
- MANUFACTURERS NOTES:**
1. ALL DESIGN SPECIFICATIONS FOR STORMTECH SC-740 CHAMBERS SHALL BE IN ACCORDANCE WITH THE STORMTECH DESIGN MANUAL
 2. THE INSTALLATION OF STORMTECH SC-740 CHAMBERS SHALL BE IN ACCORDANCE WITH THE LATEST STORMTECH INSTALLATION INSTRUCTIONS
 3. THE CONTRACTOR IS ADVISED TO REVIEW AND UNDERSTAND THE INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION. CALL 1-888-892-2694 OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF THE LATEST STORMTECH INSTALLATION INSTRUCTIONS
 4. CHAMBERS SHALL MEET THE DESIGN REQUIREMENTS AND LOAD FACTORS SPECIFIED IN SECTION 12.12 OF THE LATEST EDITION OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

- ENGINEERS NOTES:**
1. THE LAYOUT AND DIMENSION OF THE SUBSURFACE DETENTION MAY BE MODIFIED WITH AN ENGINEER APPROVED EQUAL WHICH PROVIDES EQUAL DETENTION STORAGE AND WATER QUALITY TREATMENT.
 2. THE SUBSURFACE DETENTION SHALL BE INSPECTED BY THE DESIGN ENGINEER AT THE FOLLOWING INTERVALS:
 - AFTER PRELIMINARY CONSTRUCTION OF THE SUBSURFACE DETENTION GRADES
 - DURING THE CONSTRUCTION OF THE SAND FILTER LAYER
 - DURING THE INSTALLATION OF THE STORMTECH ISOLATOR ROW.
 - BEFORE BACKFILLING THE STORMTECH UNITS.

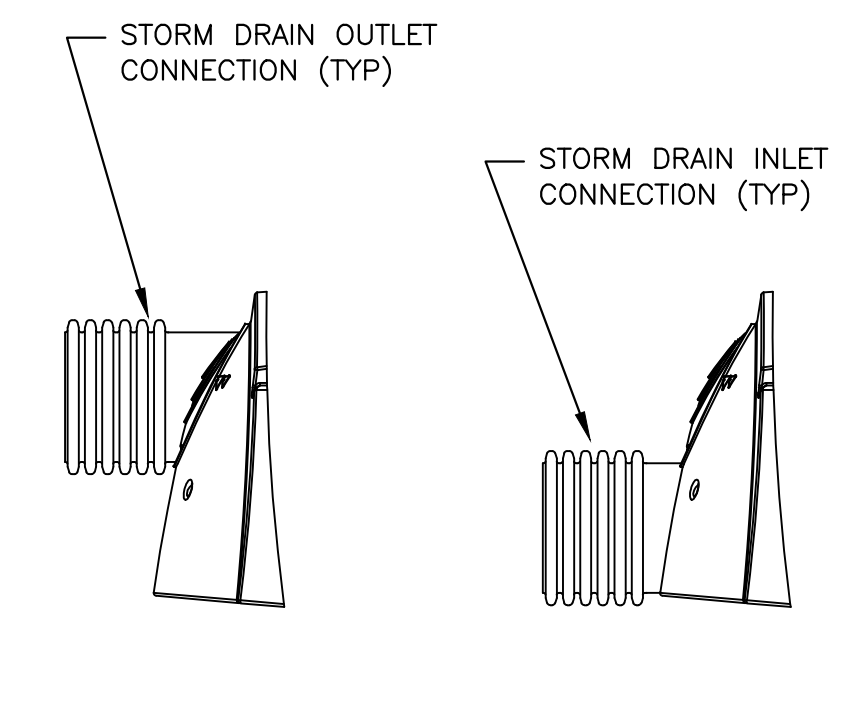
WORKSHOP SUBMISSION
75% LEVEL DRAWINGS
NOT FOR CONSTRUCTION



UNDERDRAINED SUB-SURFACE SAND FILTER
TYPICAL CROSS SECTION
NOT TO SCALE



ISOLATOR ROW - PROFILE VIEW
NOT TO SCALE



STORMTECH-CONNECTION
NOT TO SCALE

WORKSHEET FOR

11/7/13

REVISION	REV DATE

DRAWING NAME: UNDERDRAIN SUB-SURFACE SAND FILTER

PROJECT NAME: MUNJOY HEIGHTS

CLIENT: REDFERN PROPERTIES PORTLAND, MAINE

ACORN ENGINEERING, INC.

150 W. BOSTON ST. SUITE 200 PORTLAND, ME 04104

(207) 775-2655

FILE: 047_details 11-12-13.dwg

DATE: 7/11/13

JN: 302-001

SCALE: NTS

DESIGN BY: WHS

DRAWN BY: ZRJ

CHECKED BY: WHS

DRAWING NO. C-46