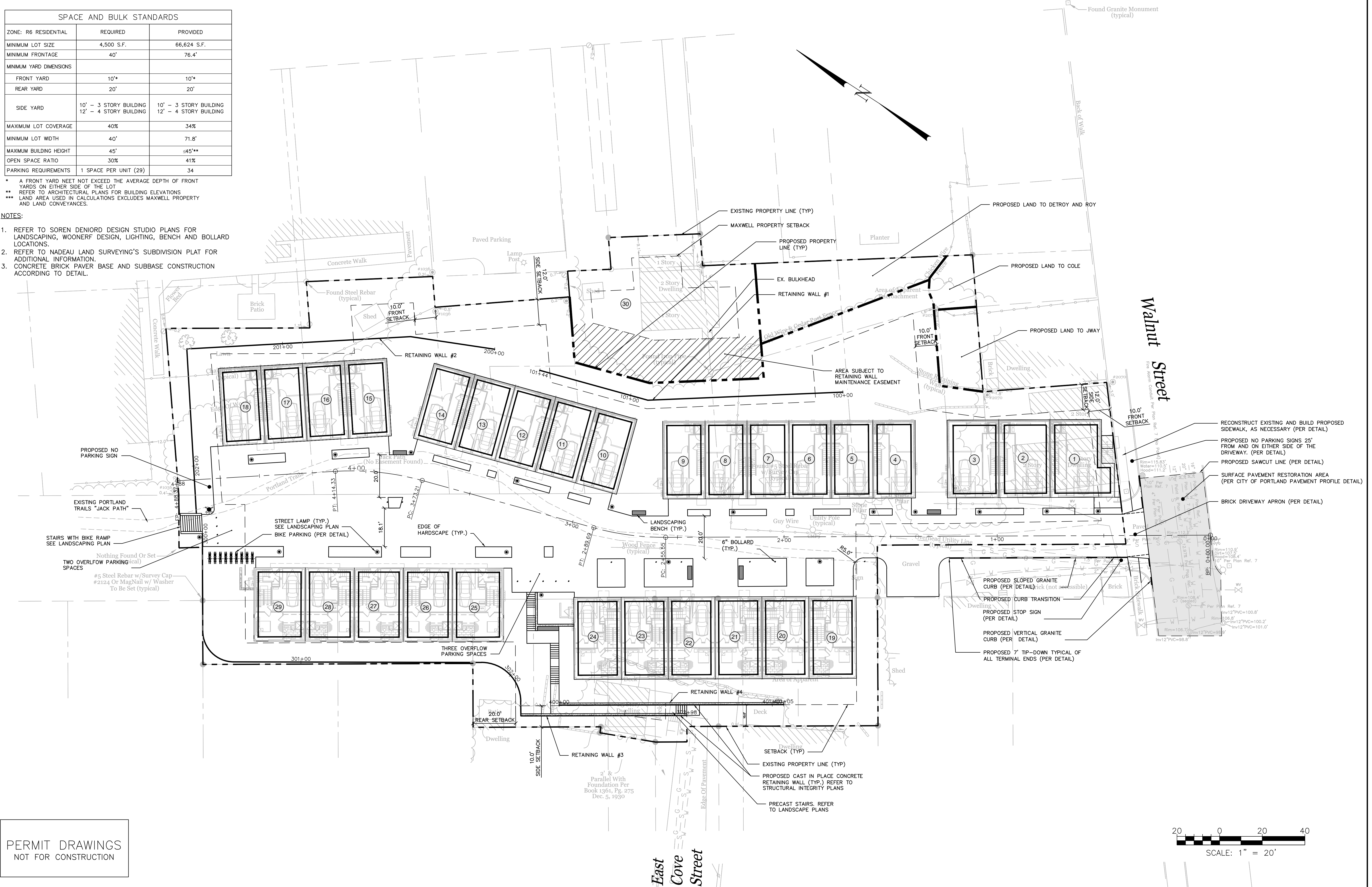


SPACE AND BULK STANDARDS		
ZONE: R6 RESIDENTIAL	REQUIRED	PROVIDED
MINIMUM LOT SIZE	4,500 S.F.	66,624 S.F.
MINIMUM FRONTAGE	40'	76.4'
MINIMUM YARD DIMENSIONS		
FRONT YARD	10'	10'
REAR YARD	20'	20'
SIDE YARD		
	10' - 3 STORY BUILDING 12' - 4 STORY BUILDING	10' - 3 STORY BUILDING 12' - 4 STORY BUILDING
MAXIMUM LOT COVERAGE	40%	34%
MINIMUM LOT WIDTH	40'	71.8'
MAXIMUM BUILDING HEIGHT	45'	<45'*
OPEN SPACE RATIO	30%	41%
PARKING REQUIREMENTS	1 SPACE PER UNIT (29)	34

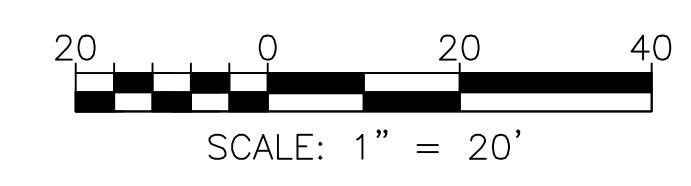
* A FRONT YARD NEET NOT EXCEED THE AVERAGE DEPTH OF FRONT YARDS ON EITHER SIDE OF THE LOT
 ** REFER TO ARCHITECTURAL PLANS FOR BUILDING ELEVATIONS
 *** LAND AREA USED IN CALCULATIONS EXCLUDES MAXWELL PROPERTY AND LAND CONVEYANCES.

NOTES:

1. REFER TO SOREN DENIORD DESIGN STUDIO PLANS FOR LANDSCAPING, WOONERF DESIGN, LIGHTING, BENCH AND BOLLARD LOCATIONS.
2. REFER TO NADEAU LAND SURVEYING'S SUBDIVISION PLAT FOR ADDITIONAL INFORMATION.
3. CONCRETE BRICK PAVR BASE AND SUBBASE CONSTRUCTION ACCORDING TO DETAIL.



PERMIT DRAWINGS
NOT FOR CONSTRUCTION



ISSUED FOR	DATE	BY
CITY SUBMISSION	9/23/13	WHS
WORKSHOP #2	11/12/13	WHS
FINAL SUBMISSION	12/2/13	WHS
MAINE DEP MCGP	12/16/13	WHS
CONDITIONS APPROVAL	1/7/14	WHS

REVISION	REV. DATE	REV. BY
STAFF COMMENTS	12/6/13	WHS

DRAWING NAME: **SITE LAYOUT PLAN**
 PROJECT NAME: **MUNJOY HEIGHTS**
 CLIENT: **REDFERN MUNJOY, LLC.**
 P.O. BOX 8816, PORTLAND, MAINE 04104

A C O R N
ENGINEERING, INC.

1047 CIVIL
 9/23/13
 1047
 1"=20'
 WHS
 ZRJ
 WHS

STATE OF MAINE
 WILLIAM H. SAVAGE
 No. 11419
 1-17-14
 PROFESSIONAL ENGINEER

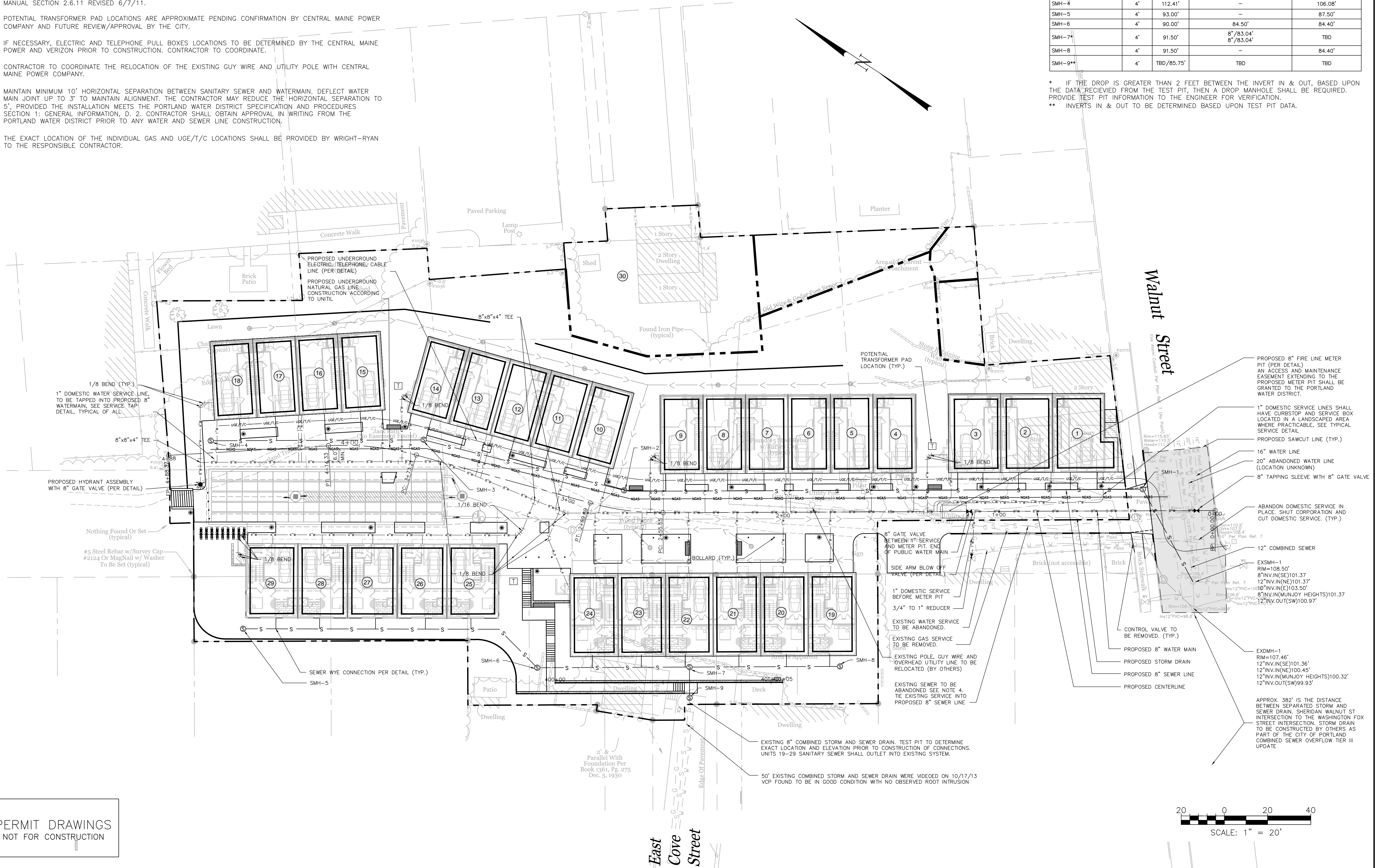
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 SCALE: 1"=20'
 DESIGN BY: WHS
 DRAWN BY: ZRJ
 CHECKED BY: WHS

DRAWING NO.
C-10

- NOTES:
- UTILITY NOTES WITHIN WALNUT STREET FROM PLAN TITLED SHERIDAN STREET SANITARY SEWER AND STREET RECONSTRUCTION BY WOODARD & CURRAN CONSULTING ENGINEERS, SHEET 5, STAMPED AS-BUILTS 6-20-89.
 - COORDINATE ALL UTILITY ENTRY POINTS WITH ARCHITECTURAL PLANS PRIOR TO START OF CONSTRUCTION.
 - THE CONDOMINIUM ASSOCIATION DOCUMENTS SHALL PROVIDE A HYDRANT MAINTENANCE AGREEMENT IN ACCORDANCE WITH CITY OF PORTLAND TECHNICAL MANUAL SECTION 3.2.3 REVISED 6/17/11.
 - PLUGGING OF ABANDONED SEWER LATERALS SHALL BE IN ACCORDANCE WITH CITY OF PORTLAND TECHNICAL MANUAL SECTION 2.6.11 REVISED 6/7/11.
 - POTENTIAL TRANSFORMER PAD LOCATIONS ARE APPROXIMATE PENDING CONFIRMATION BY CENTRAL MAINE POWER COMPANY AND FUTURE REVIEW/APPROVAL BY THE CITY.
 - IF NECESSARY, ELECTRIC AND TELEPHONE PULL BOXES LOCATIONS TO BE DETERMINED BY THE CENTRAL MAINE POWER AND VERIZON PRIOR TO CONSTRUCTION. CONTRACTOR TO COORDINATE.
 - CONTRACTOR TO COORDINATE THE RELOCATION OF THE EXISTING GUY WIRE AND UTILITY POLE WITH CENTRAL MAINE POWER COMPANY.
 - MAINTAIN MINIMUM 10' HORIZONTAL SEPARATION BETWEEN SANITARY SEWER AND WATERMAIN. DEFLECT WATER MAIN JOINT UP TO 3' TO MAINTAIN ALIGNMENT. THE CONTRACTOR MAY REDUCE THE HORIZONTAL SEPARATION TO 5', PROVIDED THE INSTALLATION MEETS THE PORTLAND WATER DISTRICT SPECIFICATION AND PROCEDURES SECTION 1: GENERAL INFORMATION, D. 2. CONTRACTOR SHALL OBTAIN APPROVAL IN WRITING FROM THE PORTLAND WATER DISTRICT PRIOR TO ANY WATER AND SEWER LINE CONSTRUCTION.
 - THE EXACT LOCATION OF THE INDIVIDUAL GAS AND UGE/T/C LOCATIONS SHALL BE PROVIDED BY WRIGHT-RYAN TO THE RESPONSIBLE CONTRACTOR.

SEWER STRUCTURE SCHEDULE				
STRUCTURE	SIZE	RIM	INV. IN	INV. OUT
EXSMH-1	EXIST.	108.50'	8" INV. IN (SE) 101.37' 12" INV. IN (NE) 101.37' 10" INV. IN (E) 103.50' 8" INV. IN (MUNJOY HEIGHTS) 101.37'	12" INV. OUT (SW) 100.97'
SMH-1	4'	113.35'	102.52'	102.42'
SMH-2	4'	112.23'	105.00'	104.90'
SMH-3	4'	111.75'	105.71'	105.61'
SMH-4	4'	112.41'	-	106.08'
SMH-5	4'	93.00'	-	87.50'
SMH-6	4'	90.00'	84.50'	84.40'
SMH-7*	4'	91.50'	8"/83.04' 8"/83.04'	TBD
SMH-8	4'	91.50'	-	84.40'
SMH-9**	4'	TBD/85.75'	TBD	TBD

* IF THE DROP IS GREATER THAN 2 FEET BETWEEN THE INVERT IN & OUT, BASED UPON THE DATA RECEIVED FROM THE TEST PIT, THEN A DROP MANHOLE SHALL BE REQUIRED. PROVIDE TEST PIT INFORMATION TO THE ENGINEER FOR VERIFICATION.
 ** INVERTS IN & OUT TO BE DETERMINED BASED UPON TEST PIT DATA.



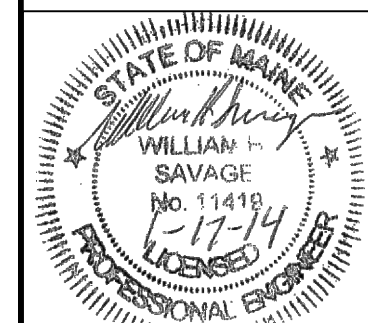
ISSUED FOR	DATE	BY
CITY SUBMISSION	9/23/13	WHS
WORKSHOP #2	11/12/13	WHS
FINAL SUBMISSION	12/22/13	WHS
MAINE DEP MCGP	12/16/13	WHS
CONDITIONS APPROVAL	1/7/14	WHS

REVISION	REV.	DATE	BY
STAFF COMMENTS	13	12/2/13	WHS

UTILITY PLAN
 MUNJOY HEIGHTS
 REDFERN MUNJOY, LLC.
 P.O. BOX 8816, PORTLAND, MAINE 04104

DRAWING NAME: PROJECT NAME: CLIENT:
 A C O R N ENGINEERING, INC.
 THIS PLAN SHALL NOT BE MODIFIED WITHOUT PERMISSION FROM A C O R N ENGINEERING, INC. ANY CHANGES SHALL BE AT THE USER'S RISK AND WITHOUT LIABILITY TO A C O R N ENGINEERING, INC. P.O. BOX 33207, PORTLAND, ME 04104 (202) 772-2655

FILE: 1047_CIVIL
 DATE: 9/23/13
 JN: 1047
 SCALE: 1"=20'
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 DRAWN BY: ZRJ
 CHECKED BY: WHS



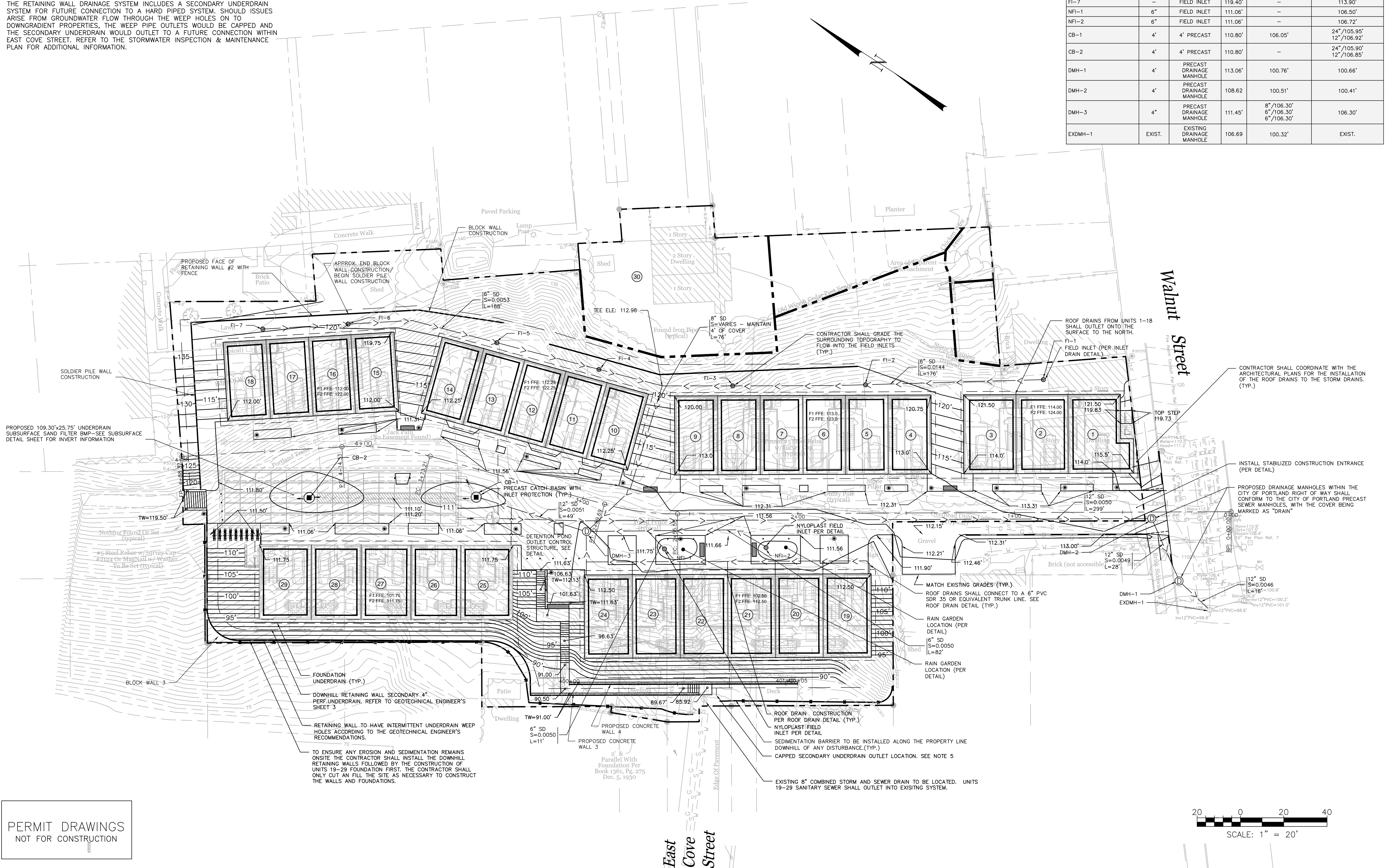
DRAWING NO.
C-20

PERMIT DRAWINGS
 NOT FOR CONSTRUCTION



- NOTE:
- ALL DISTURBED AND PROPOSED SLOPES NOT COVERED WITH MULCH AND GREATER THAN 3:1 SHALL BE STABILIZED WITH 4" OF LOAM SEED AND EROSION CONTROL BLANKETS SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL.
 - ALL DISTURBED AND PROPOSED SLOPES TO BE COVERED WITH MULCH AND GREATER THAN 3:1 SHALL BE TEMPORARILY STABILIZED WITH EROSION CONTROL BLANKETS SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL.
 - THE UNDERDRAIN ASSOCIATED WITH THE UPHILL RETAINING WALLS AND FOUNDATION UNDERDRAIN FOR UNITS 1-18 SHALL OUTLET DOWNSTREAM OF THE UNDERDRAINED SUBSURFACE SAND FILTER'S OUTLET CONTROL STRUCTURE.
 - ALL STORM DRAIN PIPES SHALL CONFORM TO CITY OF PORTLAND TECHNICAL MANUAL SECTION 2.5.2
 - THE RETAINING WALL DRAINAGE SYSTEM INCLUDES A SECONDARY UNDERDRAIN SYSTEM FOR FUTURE CONNECTION TO A HARD PIPED SYSTEM. SHOULD ISSUES ARISE FROM GROUNDWATER FLOW THROUGH THE WEEP HOLES ON TO DOWNGRADIENT PROPERTIES, THE WEEP PIPE OUTLETS WOULD BE CAPPED AND THE SECONDARY UNDERDRAIN WOULD OUTLET TO A FUTURE CONNECTION WITHIN EAST COVE STREET. REFER TO THE STORMWATER INSPECTION & MAINTENANCE PLAN FOR ADDITIONAL INFORMATION.

DRAINAGE STRUCTURE SCHEDULE					
STRUCTURE	SIZE	TYPE	RIM	INV. IN	INV. OUT
FI-1	-	FIELD INLET	121.00'	-	115.50'
FI-2	-	FIELD INLET	120.40'	114.90'	114.90'
FI-3	-	FIELD INLET	120.40'	114.30'	114.30'
FI-4	-	FIELD INLET	121.90'	113.16'	113.16'
FI-5	-	FIELD INLET	121.90'	113.32'	113.32'
FI-6	-	FIELD INLET	119.40'	113.70'	113.70'
FI-7	-	FIELD INLET	119.40'	-	113.90'
NFI-1	6"	FIELD INLET	111.06'	-	106.50'
NFI-2	6"	FIELD INLET	111.06'	-	106.72'
CB-1	4'	4' PRECAST	110.80'	106.05'	24"/105.95' 12"/106.92'
CB-2	4'	4' PRECAST	110.80'	-	24"/105.90' 12"/106.85'
DMH-1	4'	PRECAST DRAINAGE MANHOLE	113.06'	100.76'	100.66'
DMH-2	4'	PRECAST DRAINAGE MANHOLE	108.62	100.51'	100.41'
DMH-3	4'	PRECAST DRAINAGE MANHOLE	111.45'	8"/106.30' 6"/106.30'	106.30'
EXDMH-1	EXIST.	EXISTING DRAINAGE MANHOLE	106.69	100.32'	EXIST.



ISSUED FOR	DATE	BY
CITY SUBMISSION	9/23/13	WHS
WORKSHOP #2	11/12/13	WHS
FINAL SUBMISSION	12/22/13	WHS
MAINE DEP MCGP	12/16/13	WHS
CONDITIONS APPROVAL	1/7/14	WHS

REVISION	DATE	BY
STAFF COMMENTS	12/27/13	WHS

DRAWING NAME: **GRADING, DRAINAGE & EROSION CONTROL PLAN**

PROJECT NAME: **MUNJOY HEIGHTS**

CLIENT: **REDFERN MUNJOY, LLC.**
P.O. BOX 8816, PORTLAND, MAINE 04104

A C O R N

ENGINEERING, INC.

P.O. BOX 3332, PORTLAND, MAINE 04104
(207) 775-2685

FILE: 1047_CIVIL

DATE: 11/05/13

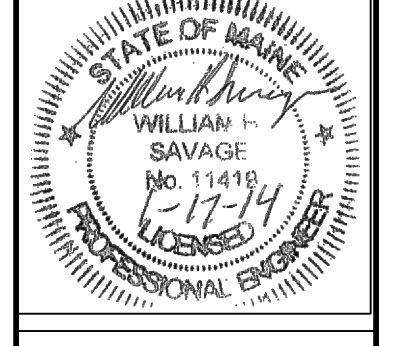
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DESIGN BY: WHS

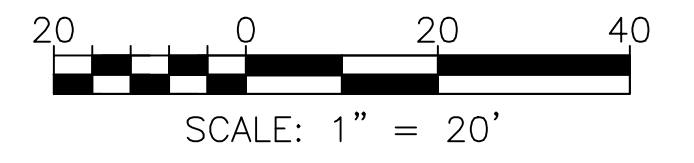
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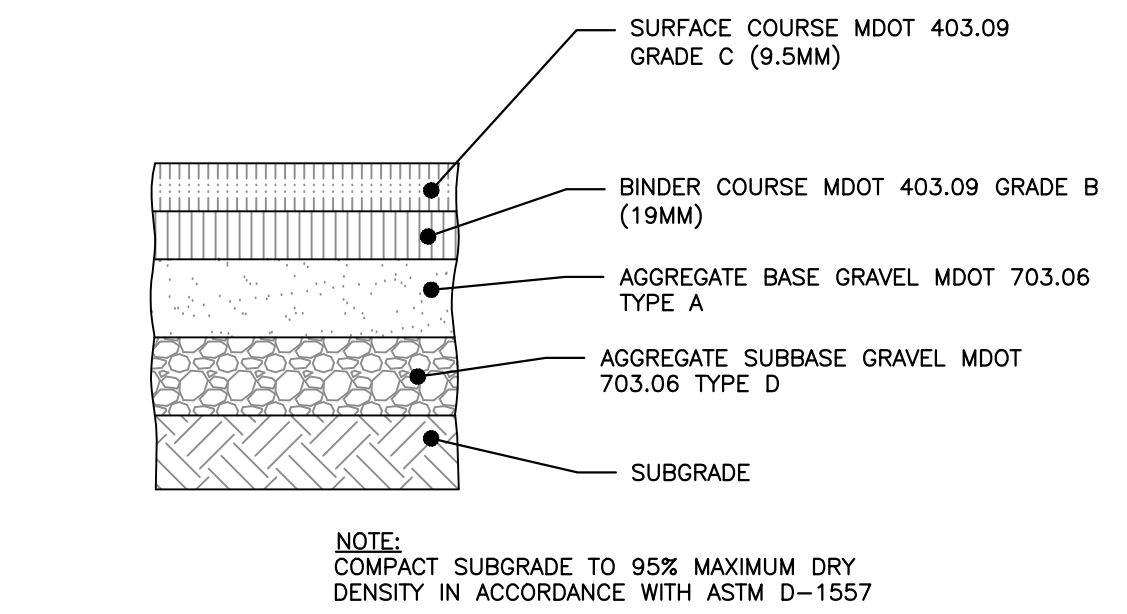
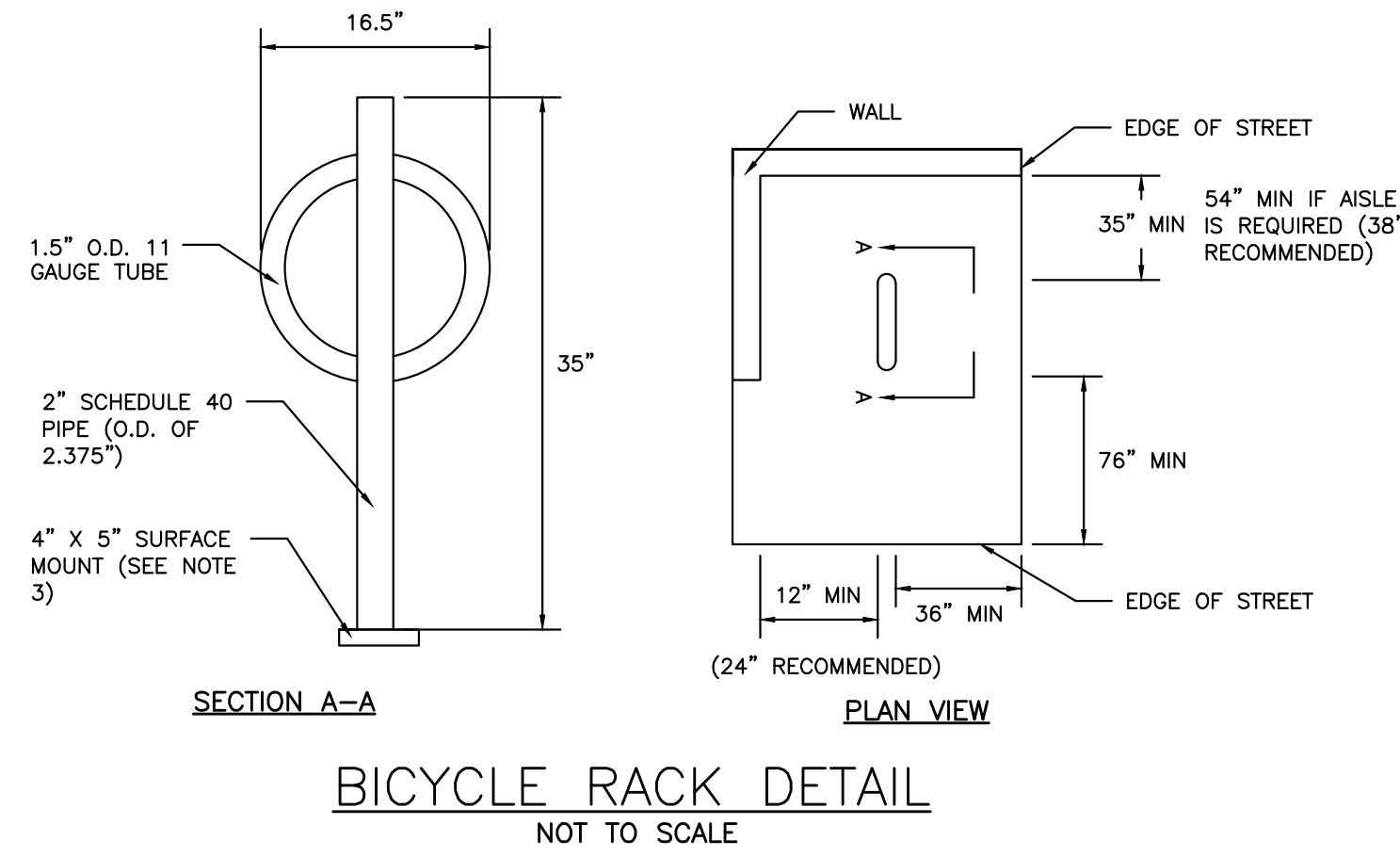


DRAWING NO. **C-30**

PERMIT DRAWINGS
NOT FOR CONSTRUCTION



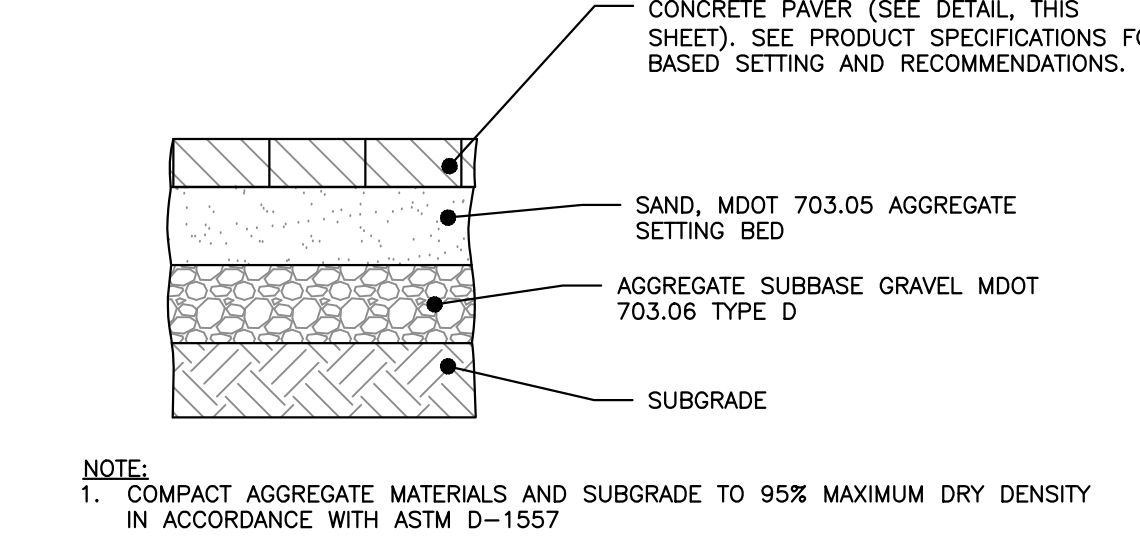
- NOTES:**
- 1) BICYCLE RACK SHALL HAVE CAPACITY FOR TWO BICYCLES.
 - 2) BICYCLE RACK PARTS SHALL BE OF UNIFORM COLOR AND SHALL BE FINISHED IN ACCORDANCE WITH PRODUCT SPECIFICATION.
 - 3) BICYCLE RACK SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S MOST RECENT INSTALLATION RECOMMENDATIONS, AND SHALL BE INSTALLED WITH A SURFACE MOUNT UNLESS OTHERWISE APPROVED BY ENGINEER.
 - 4) BICYCLE RACK SHALL BE "DERO BIKE HITCH", AS MANUFACTURED BY DERO BIKE RACKS.
 - 5) MINIMUM OFFSETS SHOWN. MANUFACTURER'S RECOMMENDED OFFSETS SHALL BE ENFORCED WHERE POSSIBLE.
 - 6) MINIMUM DISTANCE BETWEEN BICYCLE RACKS SHALL BE 24". RECOMMENDED DISTANCE BETWEEN BICYCLE RACKS SHALL BE 38".
 - 7) ALL OFFSETS ARE FROM OUTSIDE EDGES OF ITEMS.



NOTE:
1. 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

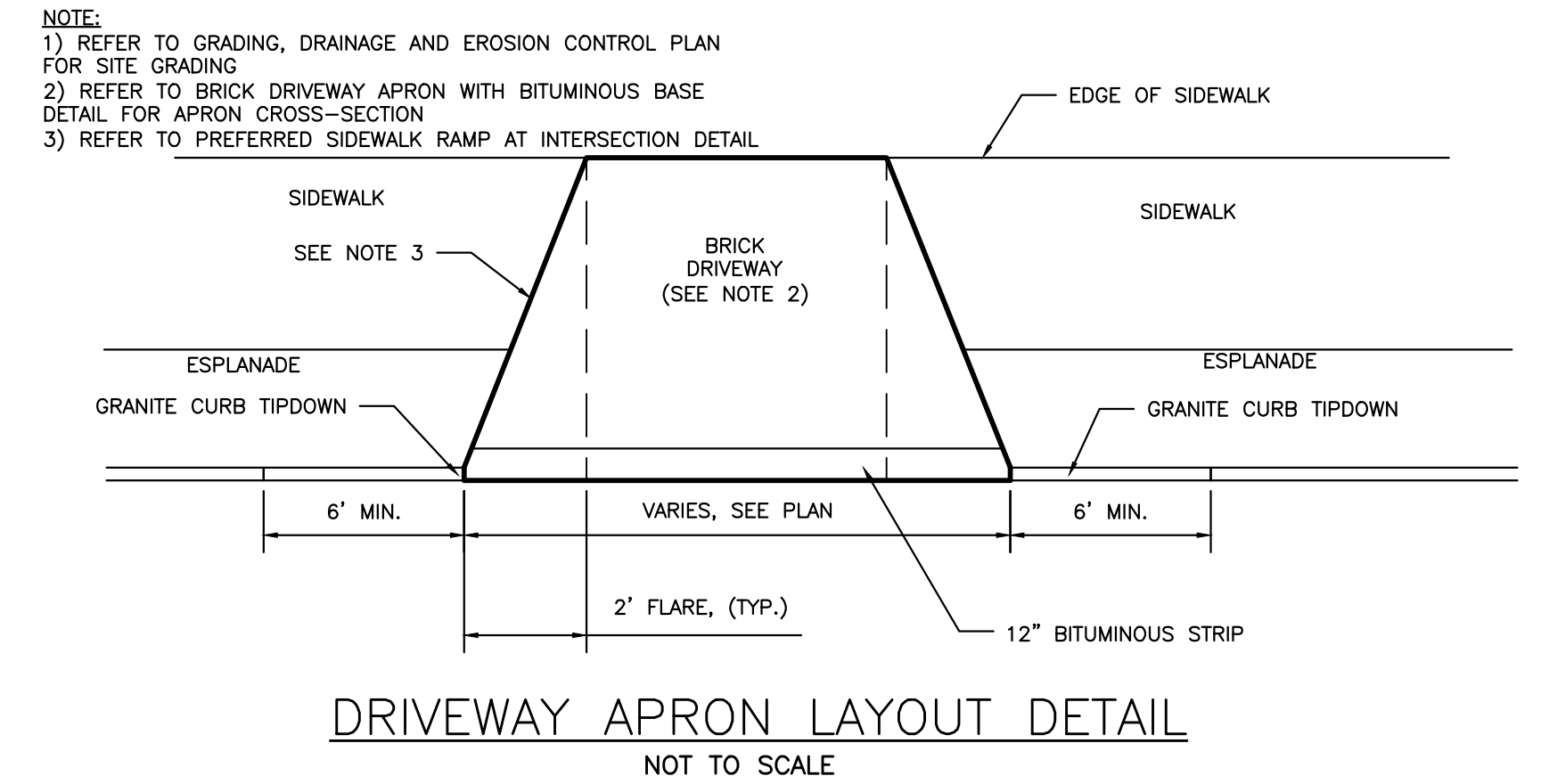
CITY OF PORTLAND ARTERIAL BITUMINOUS PAVEMENT PROFILE
NOT TO SCALE



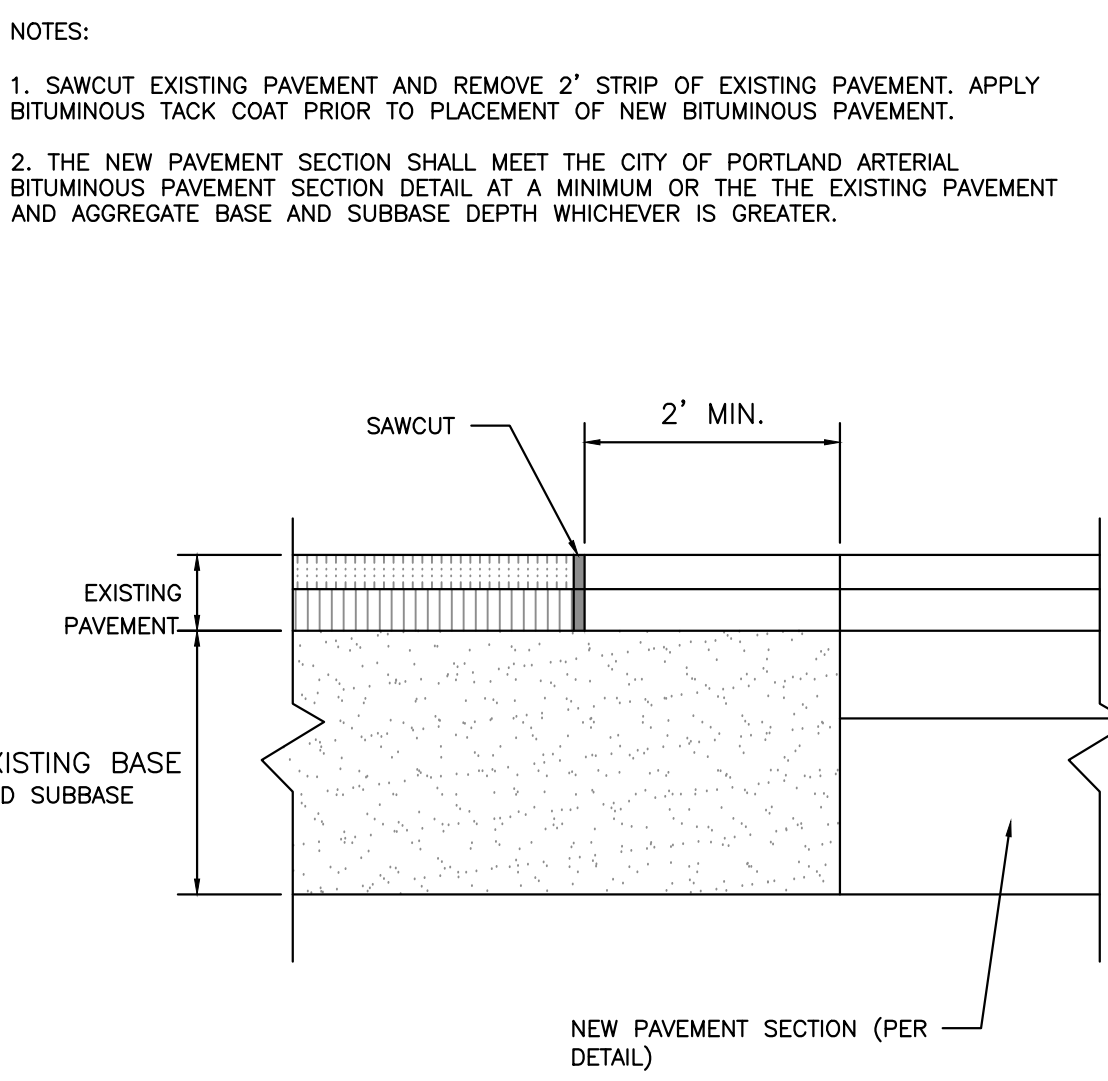
NOTE:
1. COMPACT AGGREGATE MATERIALS AND SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557

THICKNESS OF LAYERS	
STANDARD	LAYERS
2-3/4"	CONCRETE PAVER (DEPTH TBD BASED UPON THE MANUFACTURER)
4"	AGGREGATE BASE SAND MDOT 703.05
15"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

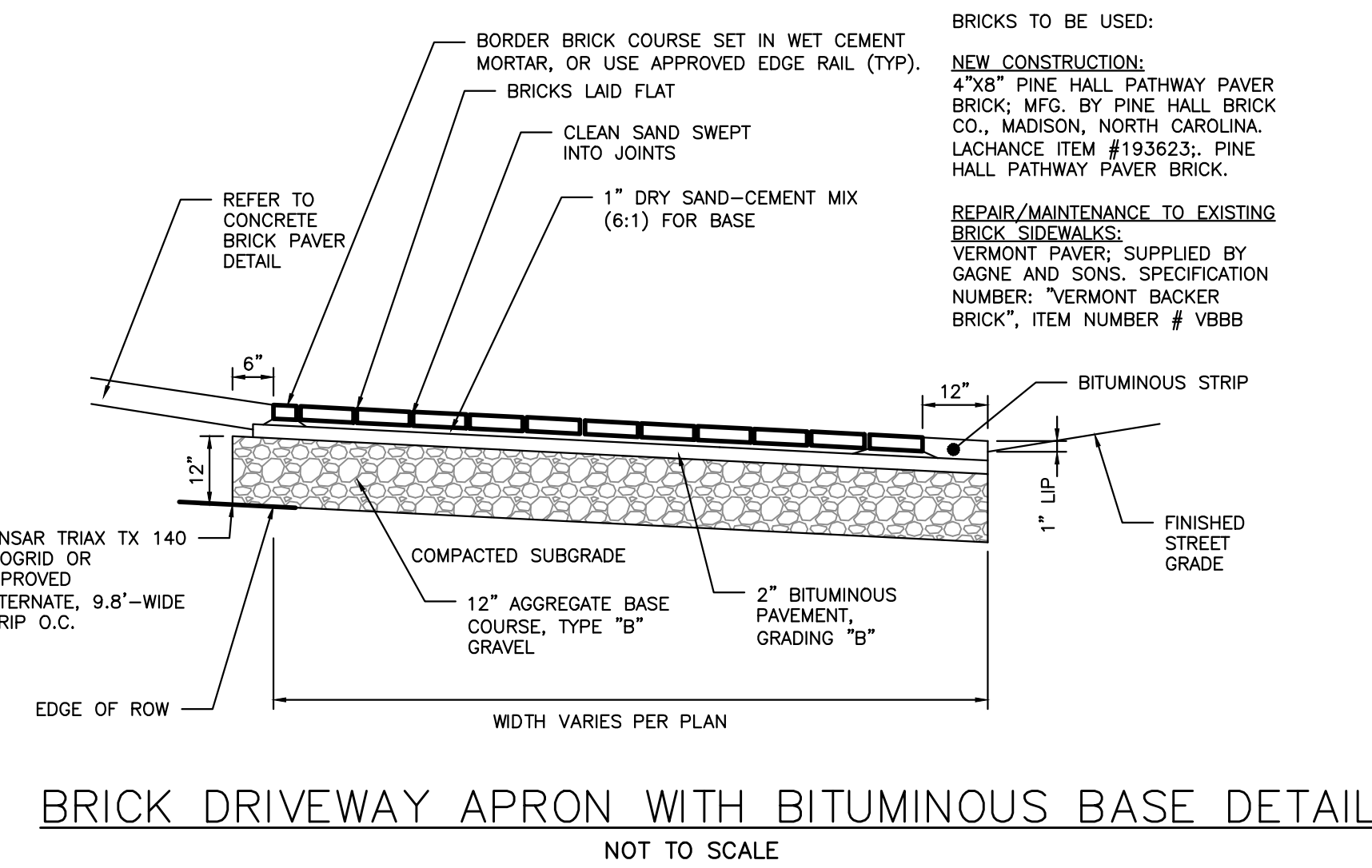
CONCRETE BRICK PAVER PROFILE
NOT TO SCALE



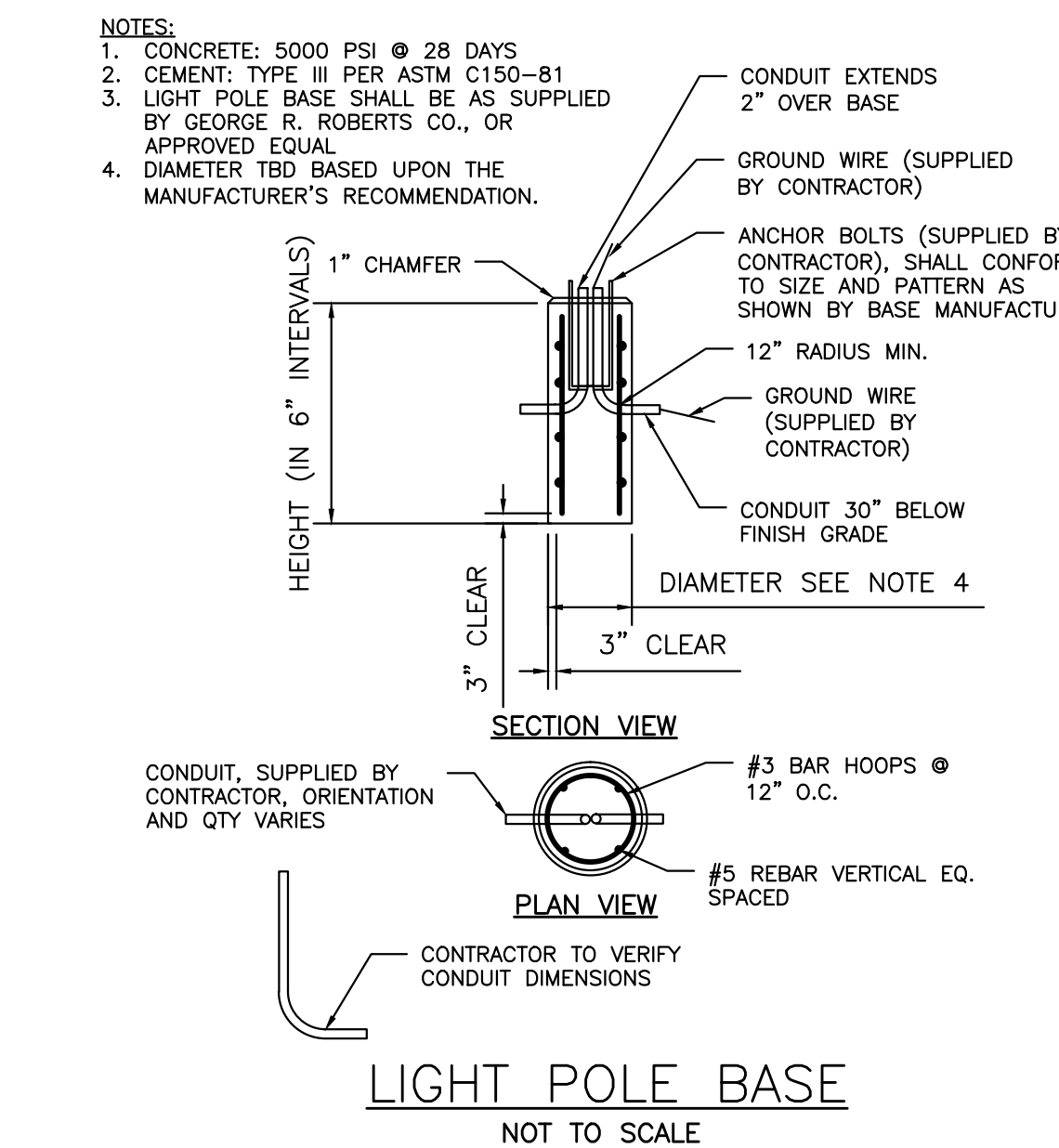
DRIVEWAY APRON LAYOUT DETAIL
NOT TO SCALE



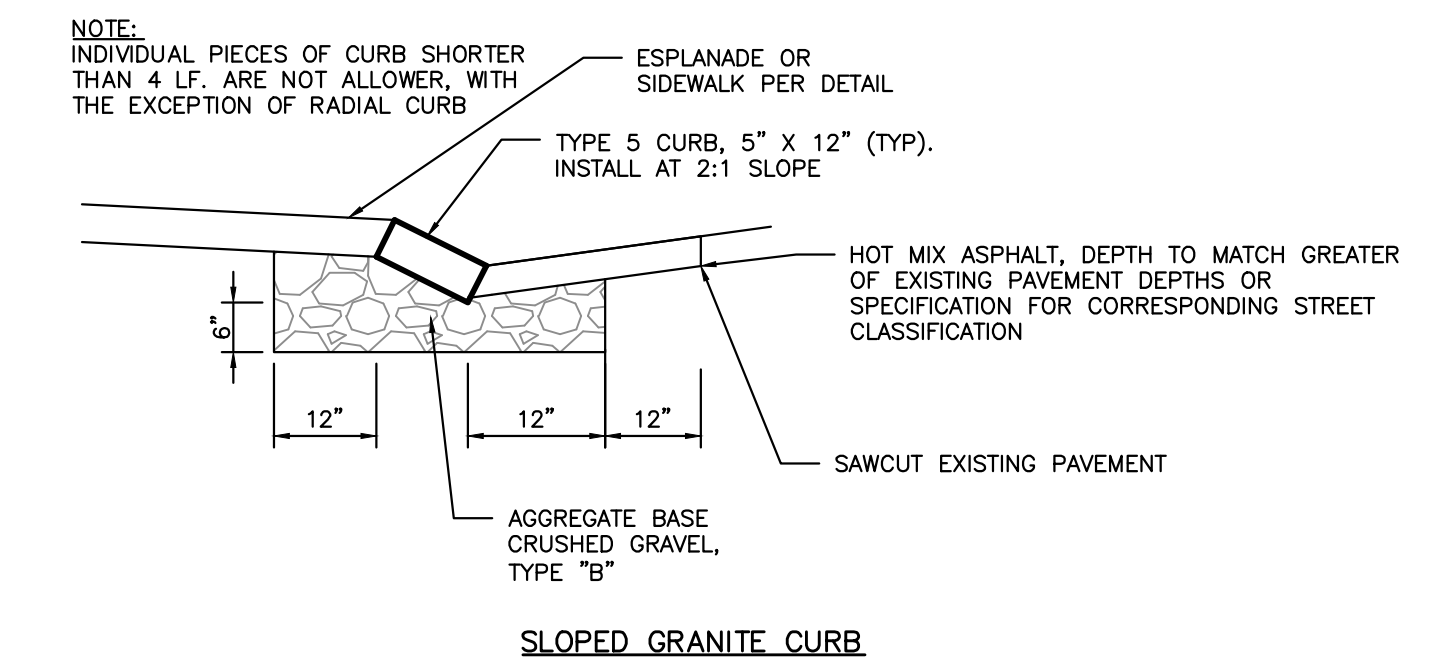
PAVEMENT SAWCUT DETAIL
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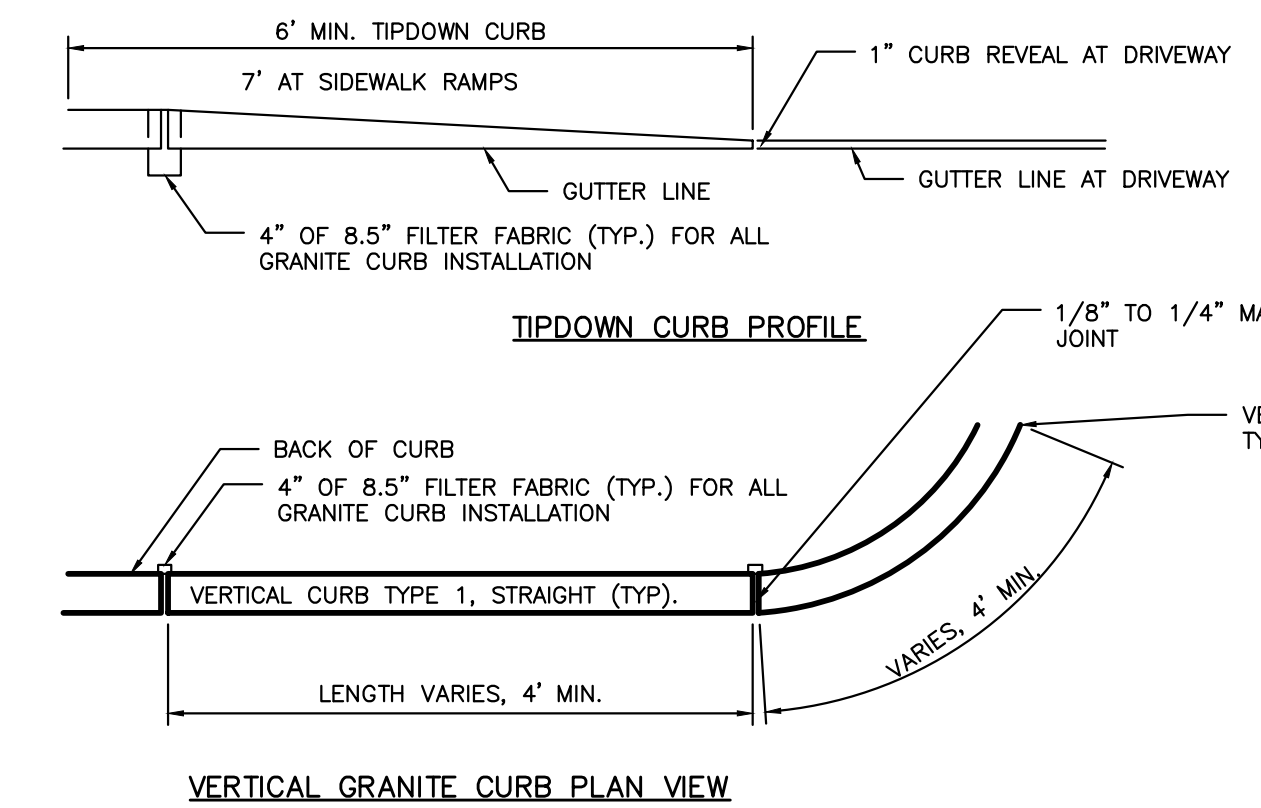
BRICK DRIVEWAY APRON WITH BITUMINOUS BASE DETAIL
NOT TO SCALE



LIGHT POLE BASE
NOT TO SCALE

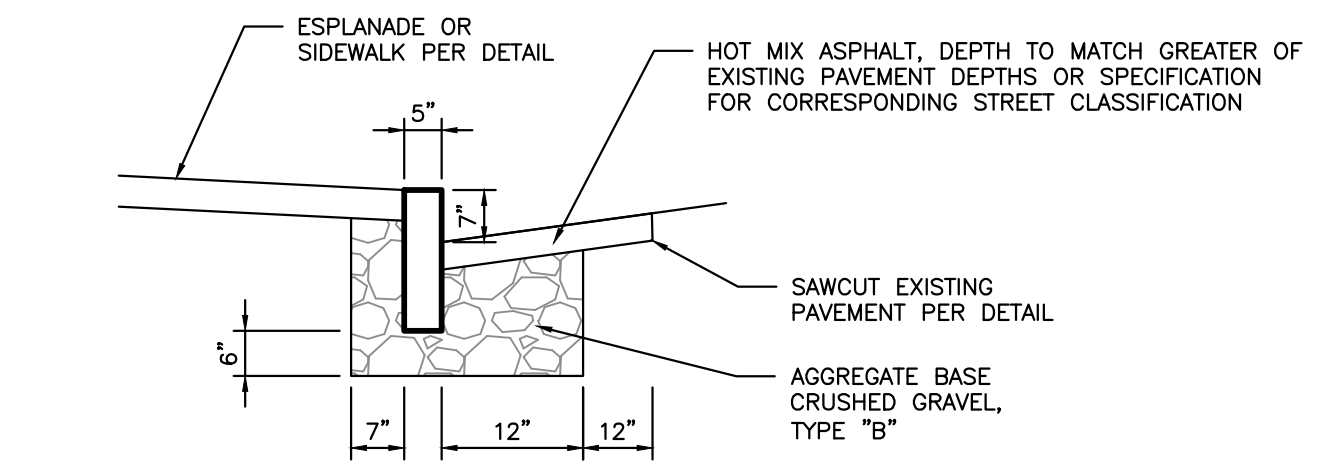


SLOPED GRANITE CURB

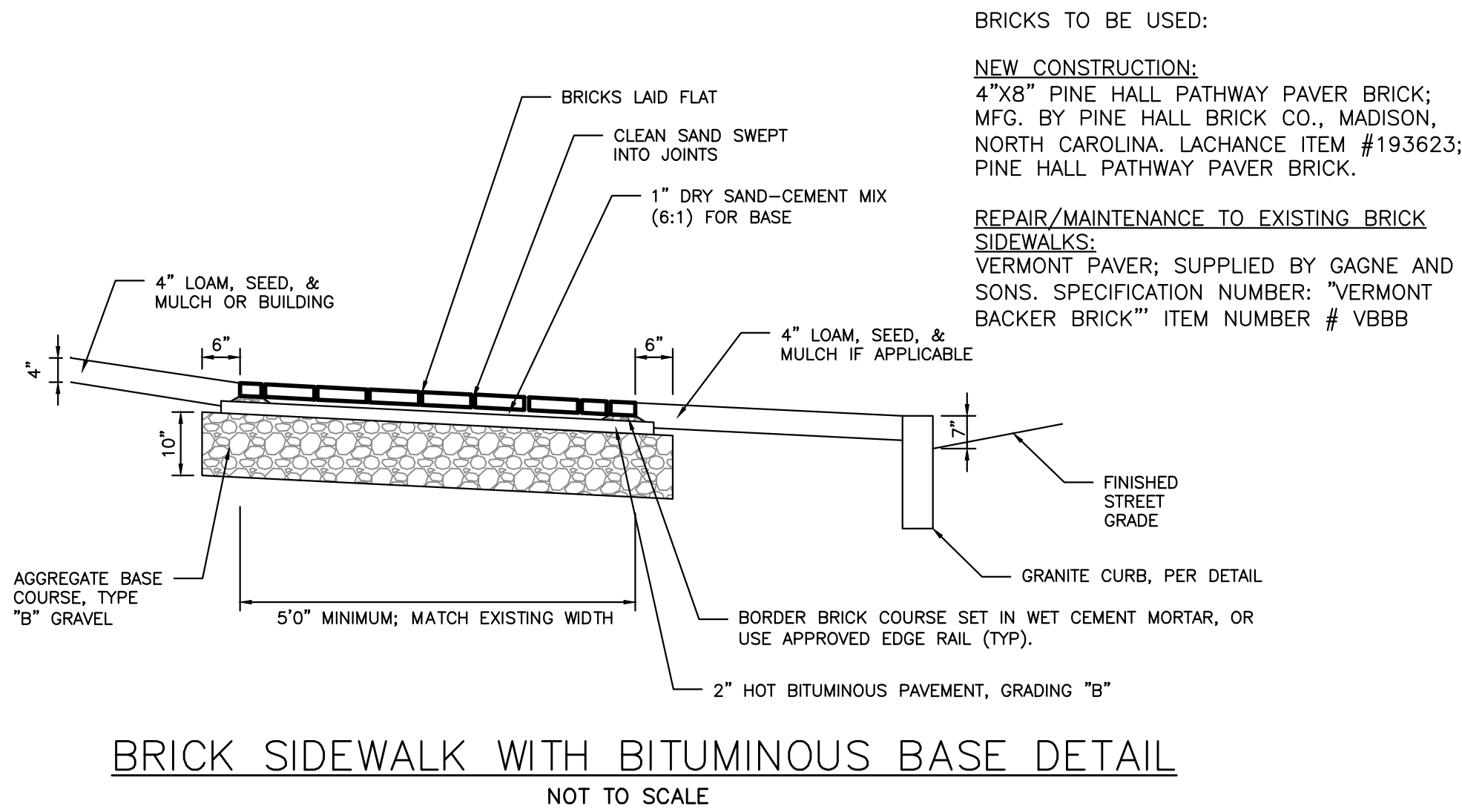


TIPDOWN CURB PROFILE

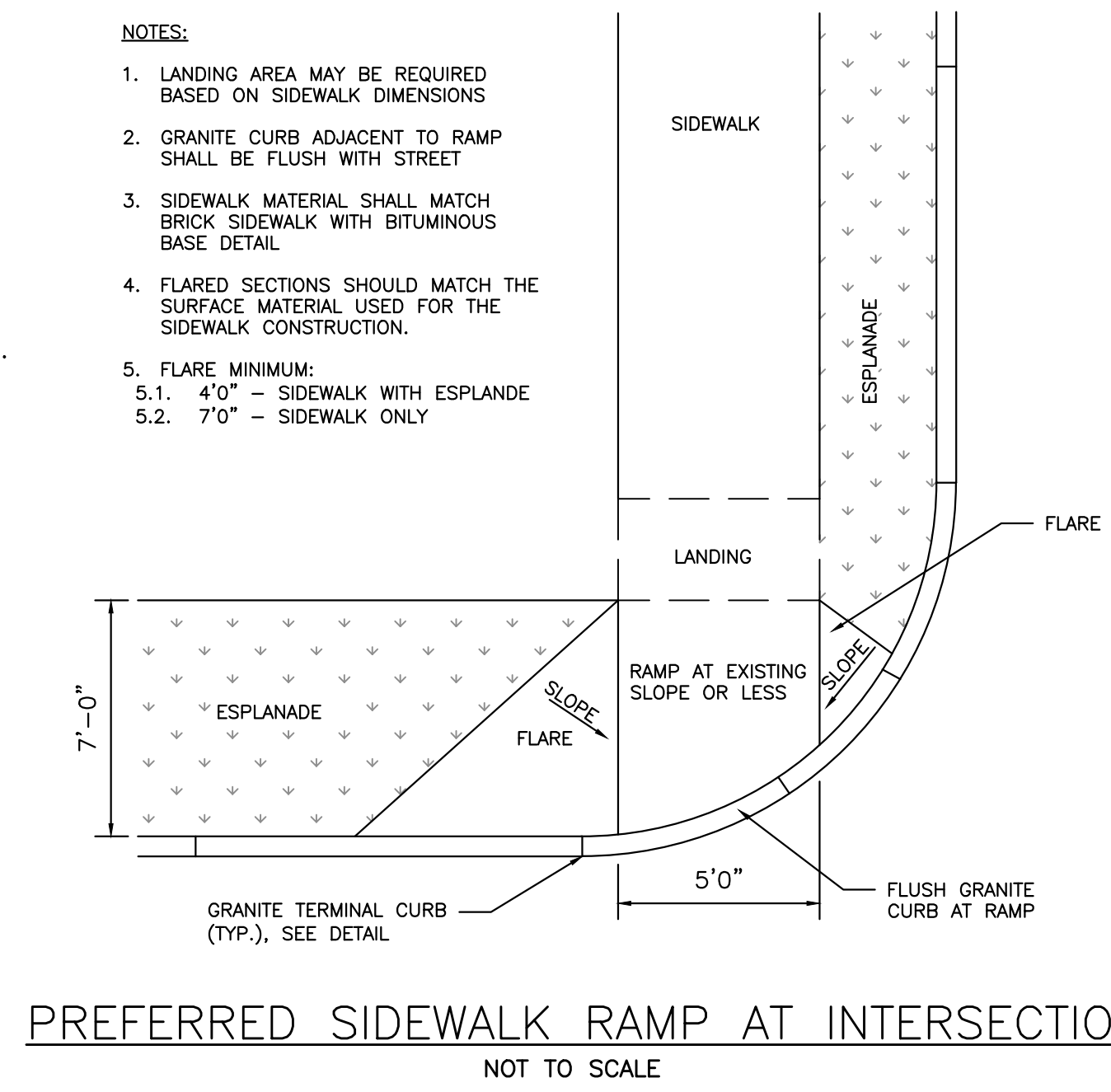
VERTICAL GRANITE CURB PLAN VIEW



VERTICAL GRANITE CURB CROSS SECTION
VERTICAL GRANITE CURB INSTALLATION IN EXISTING STREETS DETAIL
NOT TO SCALE



BRICK SIDEWALK WITH BITUMINOUS BASE DETAIL
NOT TO SCALE



PREFERRED SIDEWALK RAMP AT INTERSECTION
NOT TO SCALE

PERMIT DRAWINGS
NOT FOR CONSTRUCTION

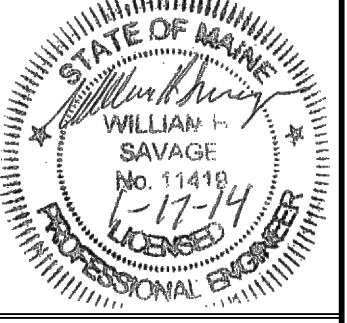
ISSUED FOR	BY	DATE
WORKSHOP #2	WHS	11/12/13
FINAL SUBMISSION	WHS	12/22/13
MAINE DEP MCGP	WHS	12/16/13

REVISION	REV	DATE
REV. STANDARD DETAIL	WHS	12/22/13
STAFF COMMENTS	WHS	12/16/13

DRAWING NAME: **SITE DETAILS**
PROJECT NAME: **MUNJOY HEIGHTS**
CLIENT: **REDFERN MUNJOY, LLC.**
P.O. BOX 8816, PORTLAND, MAINE 04104

A C O R N
ENGINEERING, INC.
ACORN ENGINEERING, INC.
3372 PORTLAND, MAINE 04104
(207) 775-2655

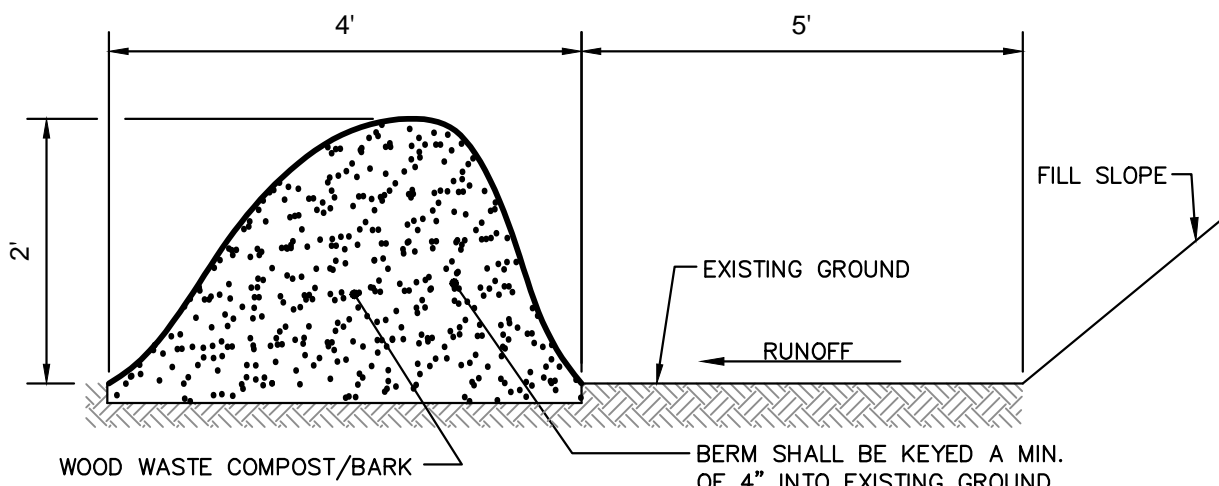
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DRAWN BY: ZRJ
CHECKED BY: WHS



DRAWING NO.
C-40

NOTES:

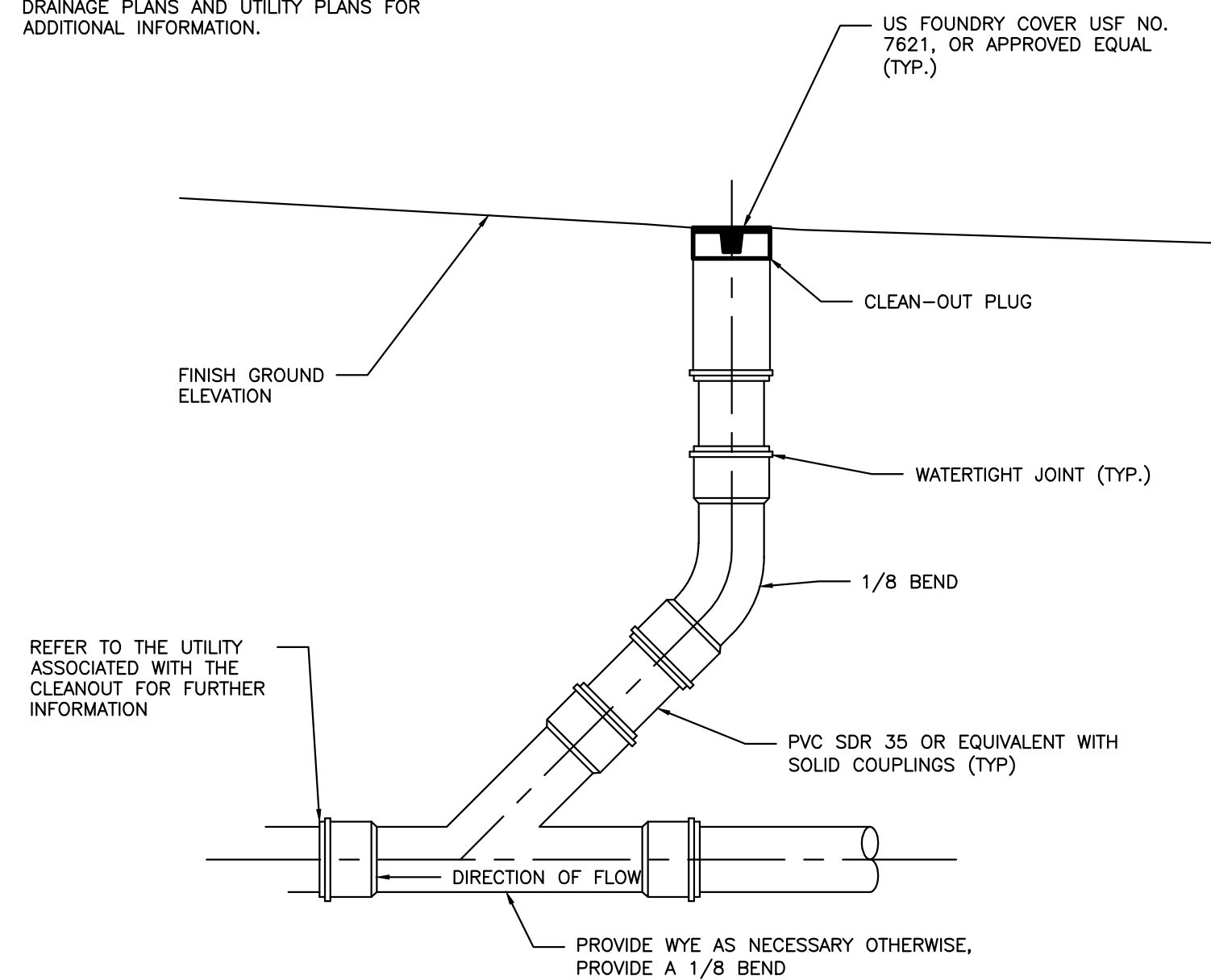
- THE EROSION CONTROL MIX SHALL CONFORM TO THE FOLLOWING STANDARDS AND IN ACCORDANCE WITH THE MAINE DEP'S EROSION AND SEDIMENT CONTROL BMP'S SECTION B-1:
 - THE ORGANIC PORTIONS SHALL BE FIBROUS AND ELONGATED TO ALLOW FOR THE INTERLOCKING OF MATERIAL.
 - pH - 5.0 - 8.0.
 - PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6" SCREEN AND A MINIMUM OF 70% TO A MAXIMUM 85% PASSING A 0.75" (3/4") SCREEN.
 - THE ORGANIC MATTER CONTENT SHALL BE BETWEEN 80 AND 100% DRY WEIGHT BASIS.
 - NO STONES LARGER THAN 4" IN DIAMETER.
 - LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
- 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.
- 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.
- 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.



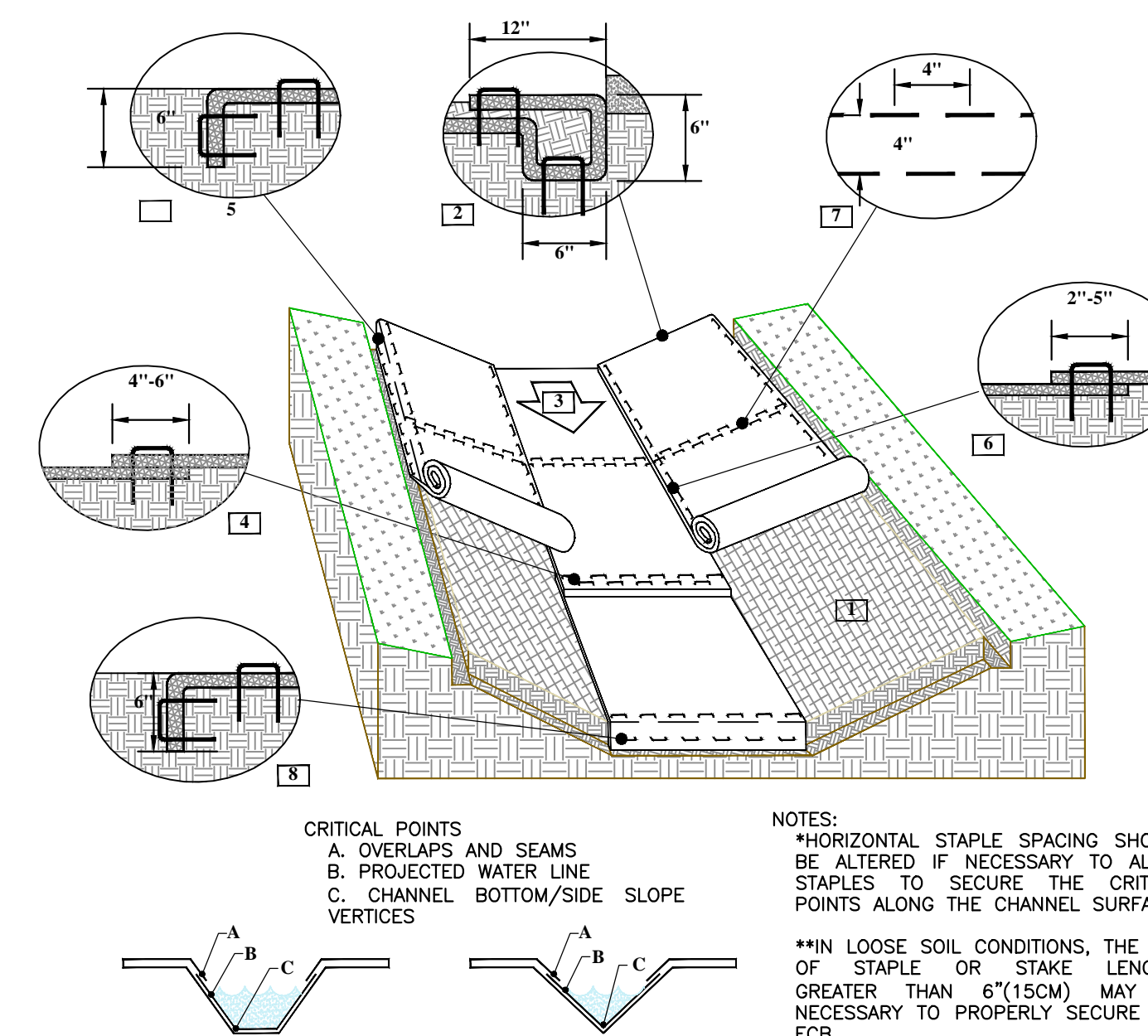
EROSION CONTROL MIX BERM DETAIL
NOT TO SCALE

NOTES:

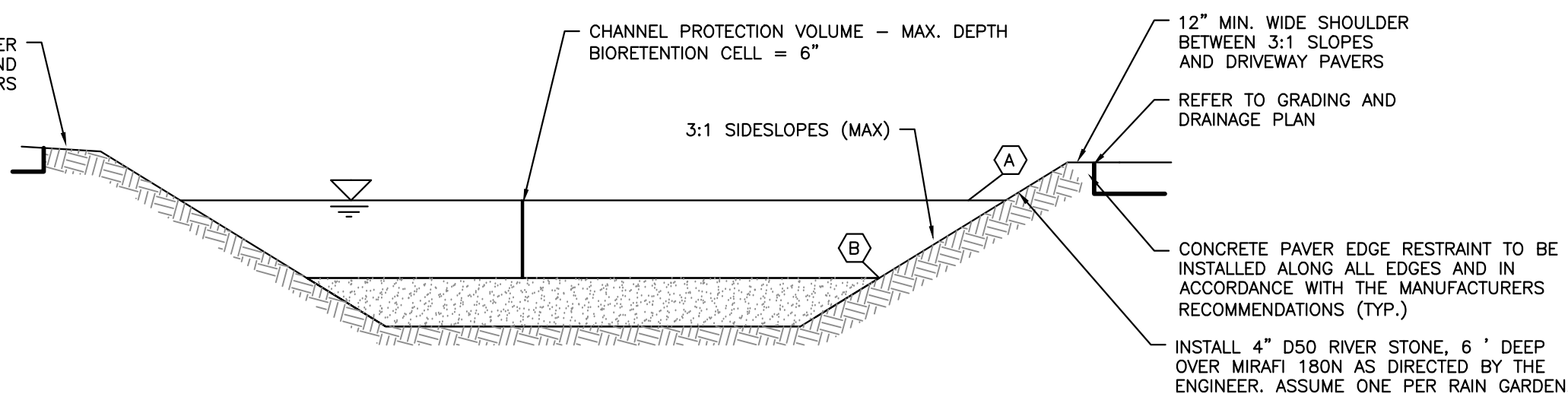
- REFER TO THE REFER TO THE GRADING & DRAINAGE PLANS AND UTILITY PLANS FOR ADDITIONAL INFORMATION.



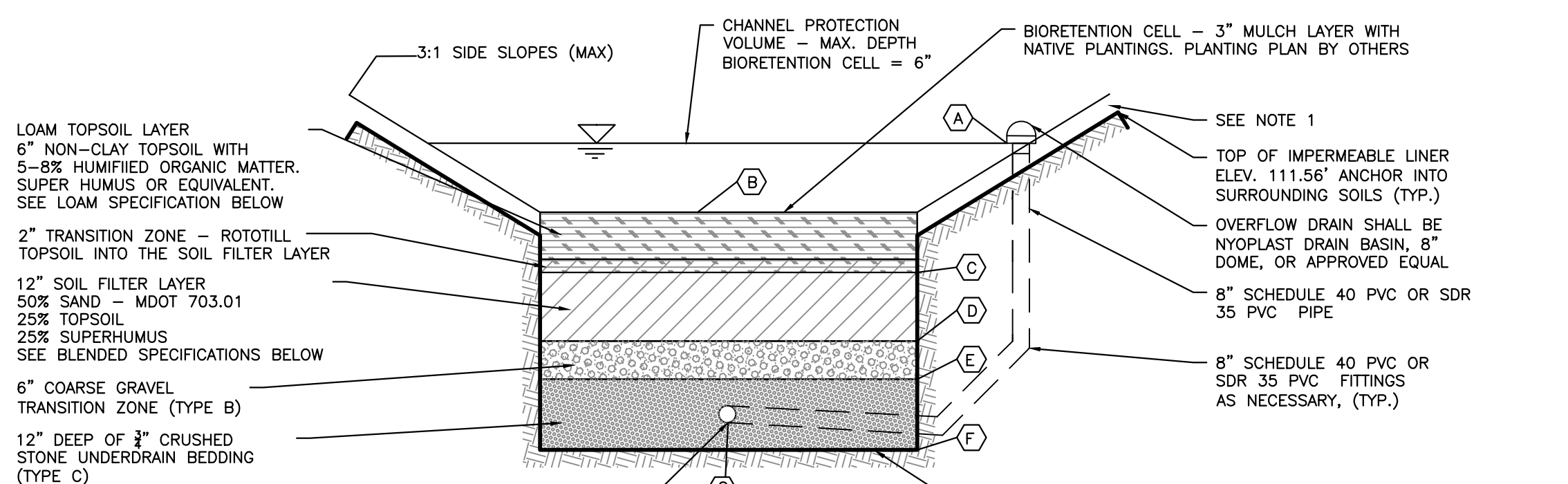
CLEANOUT DETAIL
NOT TO SCALE



EROSION CONTROL BLANKET CHANNEL INSTALLATION
NOT TO SCALE



SOIL FILTER CROSS SECTION



SOIL FILTER SIDE VIEW

- NOTES:**
- THE SIDESLOPES SHALL BE STABILIZED WITH A MIN. OF 4" LOAM, EROSION CONTROL BLANKETS SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL AND A CONSERVATION SEED MIX.
 - LIGHT COMPACTION SOIL FILTER AND PIPE BEDDING MATERIAL. (90 TO 92% STANDARD PROCTOR). TESTING SHALL BE PERFORMED BY A QUALIFIED MATERIAL TESTING FIRM.
 - THE SOIL FILTER MEDIA SHALL NOT BE CONSTRUCTED UNTIL THE AREA DRAINING TO THE BASIN HAS BEEN PERMANENTLY STABILIZED.
 - A LANDSCAPE DESIGNER OR ARCHITECT SHALL SELECT THE APPROPRIATE PLANTS FOR THE BIORETENTION CELL FOR THE SITE CONDITIONS. PLANTING PLAN BY OTHERS.
 - MINIMUM UNDERDRAIN SLOPE 0.0025.
 - 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.
 - ACORN ENGINEERING, INC., RECOMMENDS THE SOIL FILTER LAYER BE SUPPLIED BY JONES ASSOCIATES, INC., AUBURN, ME.

SCHEDULE		BIOCCELL
(A)	PROPOSED OVERFLOW RIM	111.06
(B)	TOP OF LOAM TOPSOIL LAYER	110.56
(C)	TOP OF SOIL FILTER	109.89
(D)	TOP OF GRAVEL	107.89
(E)	TOP OF STONE	107.39
(F)	BOTTOM OF STONE	106.39
(G)	UNDERDRAIN INVERT	106.72

SOIL FILTER BED - TRANSITION ZONE (TYPE B)		
SIEVE SIZE	% PASSING BY WEIGHT	
1"	90-100	
1/2"	75-100	
#4	50-100	
#20	15-80	
#50	0-15	
#200	0-5	

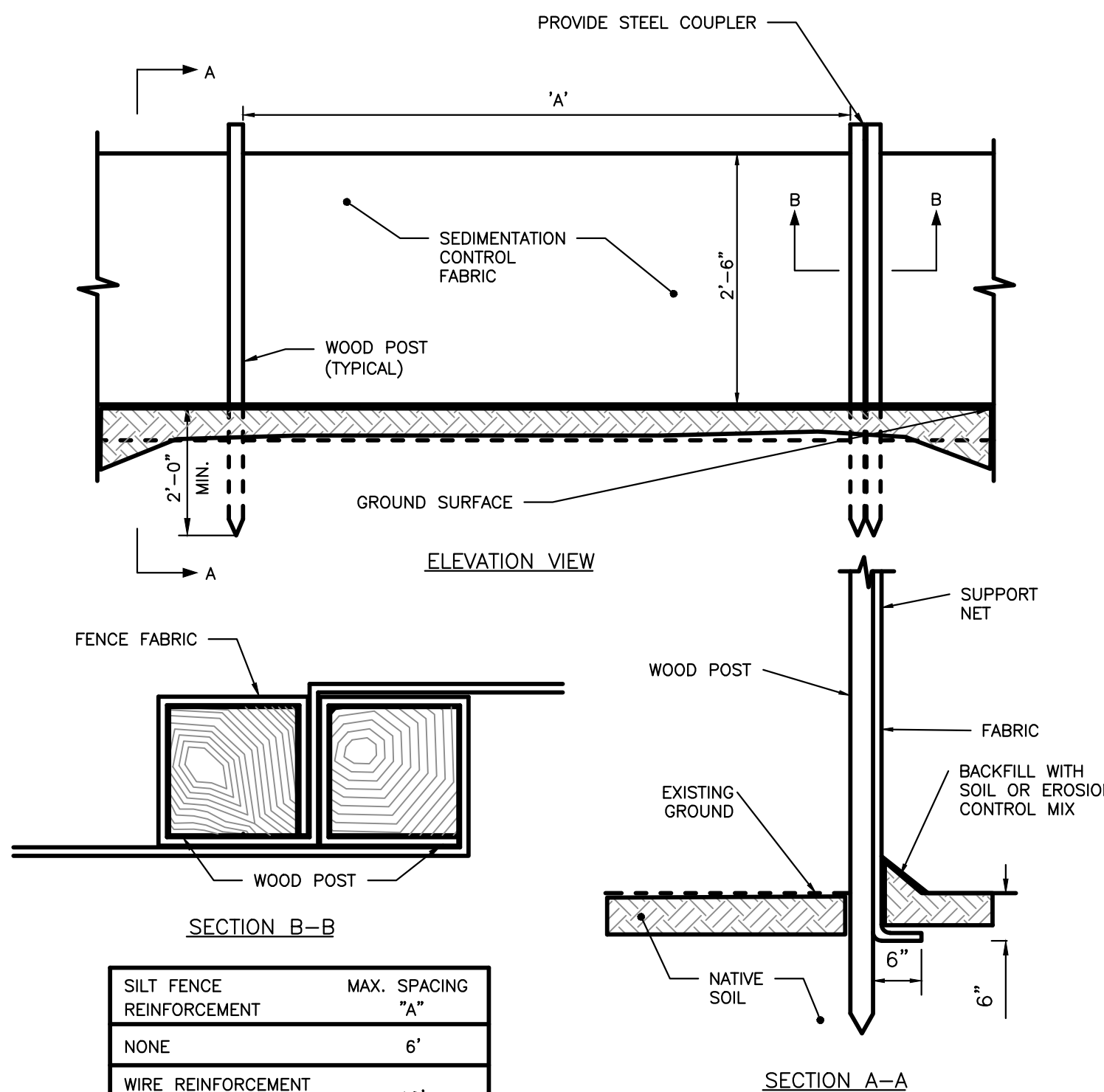
SOIL FILTER BED - UNDERDRAIN BEDDING (TYPE C)		
SIEVE SIZE	% PASSING BY WEIGHT	
1"	100	
3/4"	90-100	
3/8"	0-75	
#4	0-25	
#10	0-5	

6" LOAM TOPSOIL LAYER SPECIFICATION	
SIEVE SIZE	% PASSING BY WEIGHT
#4	75-95
#10	60-90
#40	35-85
#200	20-70

SOIL FILTER BED - SUPERHUMUS OR EQUIV. SPECIFICATION	
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
#200	0-5

12" SOIL FILTER BED - BLENDED SAND, LOAM, SUPERHUMUS SIEVE ANALYSIS	
SIEVE SIZE	% PASSING BY WEIGHT
#10	85-100
#20	70-100
#60	15-40
#200	8-15

RAIN GARDEN OR BIORETENTION CELL DETAIL
NOT TO SCALE

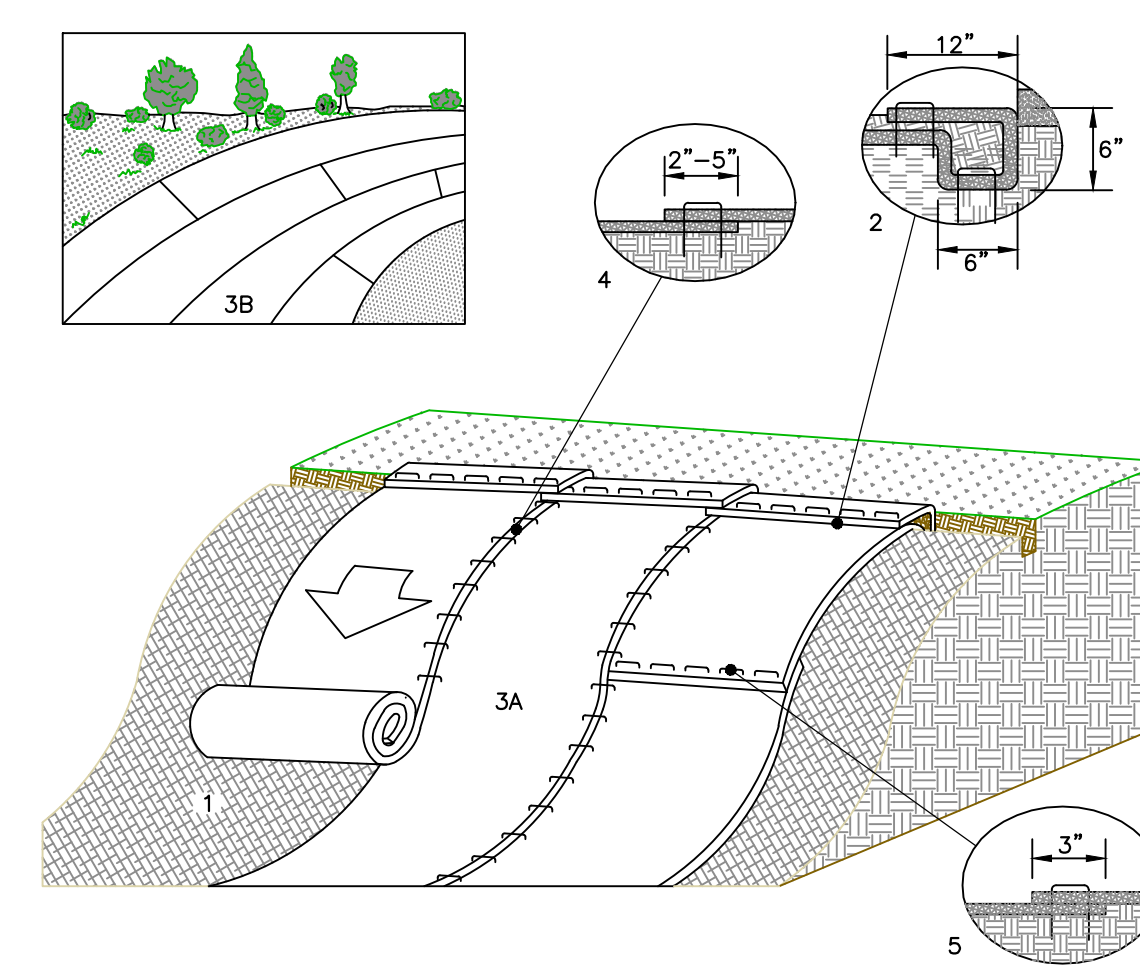


SILTATION FENCE DETAIL
NOT TO SCALE

CONSTRUCTION OBSERVATION:

CONSTRUCTION OBSERVATION SHALL BE PROVIDED FOR EACH PHASE OF CONSTRUCTION BY ACORN ENGINEERING. THE CONTRACTOR OR OWNERS REPRESENTATIVE SHALL NOTIFY ACORN ENGINEERING A MINIMUM 48 HOURS OR 2 BUSINESS DAY WHICH EVER IS GREATER PRIOR TO ANY OF THE PHASES OF CONSTRUCTION LISTED BELOW SO THAT THE FOLLOWING SITE VISITS MAY BE SCHEDULED.

- ONE SITE VISIT AFTER PRELIMINARY CONSTRUCTION OF THE BIORETENTION CELL GRADES;
- ONE SITE VISIT DURING THE INSTALLATION OF THE IMPERVIOUS LINER.
- ONE SITE VISIT AFTER THE UNDER DRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED.
- ONE SITE VISIT DURING THE CONSTRUCTION OF THE SOIL FILTER LAYER.
- ONE SITE VISIT DURING THE CONSTRUCTION OF THE TOPSOIL LAYER.
- ONE SITE VISIT DURING THE FLOODING OF THE BIORETENTION CELL, IF REQUIRED.



EROSION CONTROL BLANKET SLOPE INSTALLATION
NOT TO SCALE

CHANNEL INSTALLATION DETAIL

- PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL BLANKET (ECB), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
- 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.
- 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.
- 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.
- 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.
- ADJACENT ECB MUST BE OVERLAPPED APPROXIMATELY 2"-5" (5-12.5CM) (DEPENDING ON ECB TYPE) AND STAPLED.
- 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.
- 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.

***NOTE:**
IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE ECB.

PERMIT DRAWINGS
NOT FOR CONSTRUCTION

ISSUED FOR	BY
WORKSHOP #2	WHS
FINAL SUBMISSION	WHS
MAINE DEP MCGP	WHS

REVISION	REV. DATE
REV. STANDARD DETAIL	12/2/13
STAFF COMMENTS	12/16/13

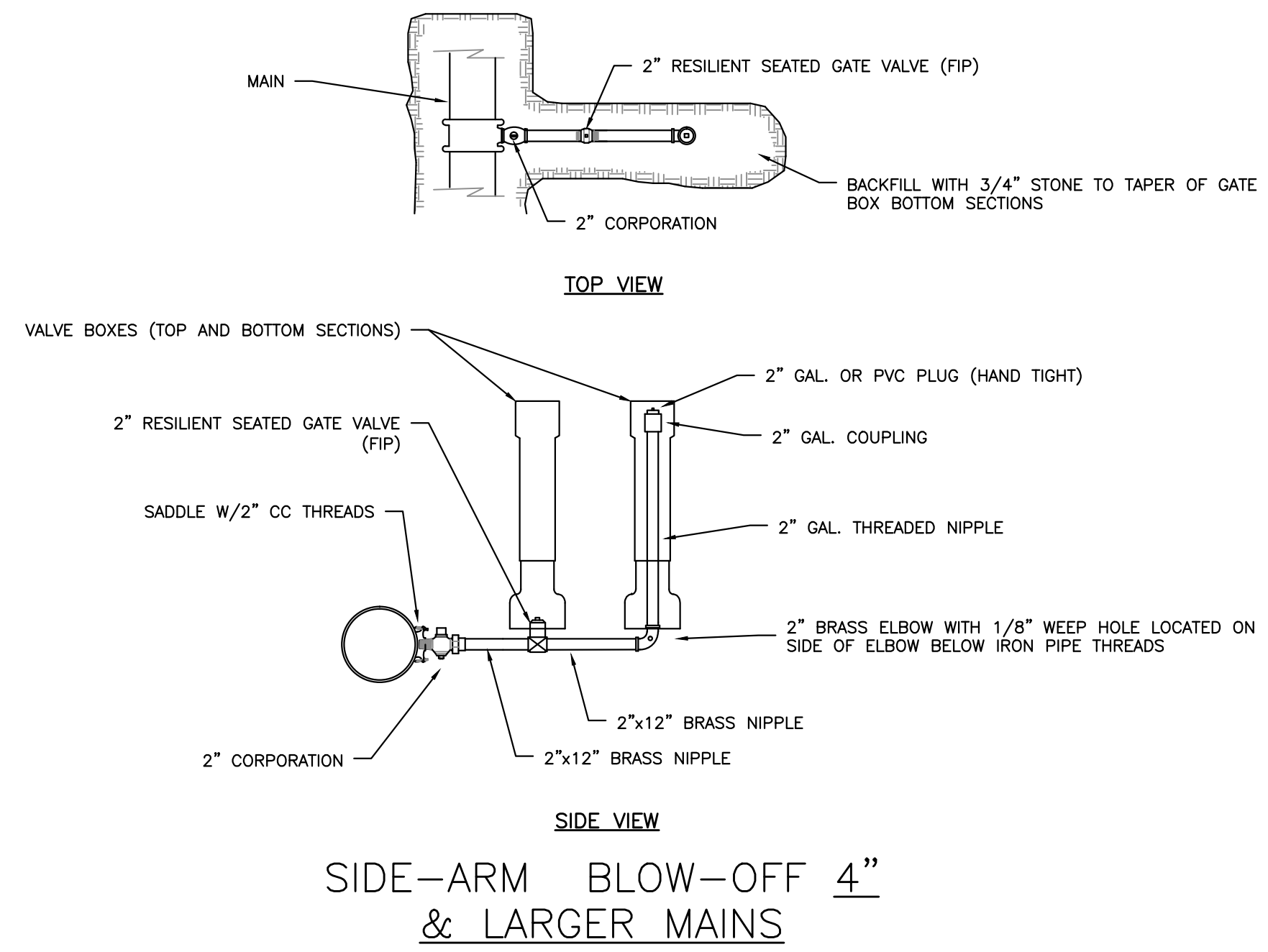
DRAWING NAME: DRAINAGE DETAILS - 2	PROJECT NAME: MUNJOY HEIGHTS
CLIENT: REDFERN MUNJOY, LLC.	P.O. BOX 8816, PORTLAND, MAINE 04104

ACORN ENGINEERING, INC.

REGISTERED PROFESSIONAL ENGINEER
MAINE LICENSE NO. 11419
P.O. BOX 3372 PORTLAND, MAINE 04104
(207) 775-2655

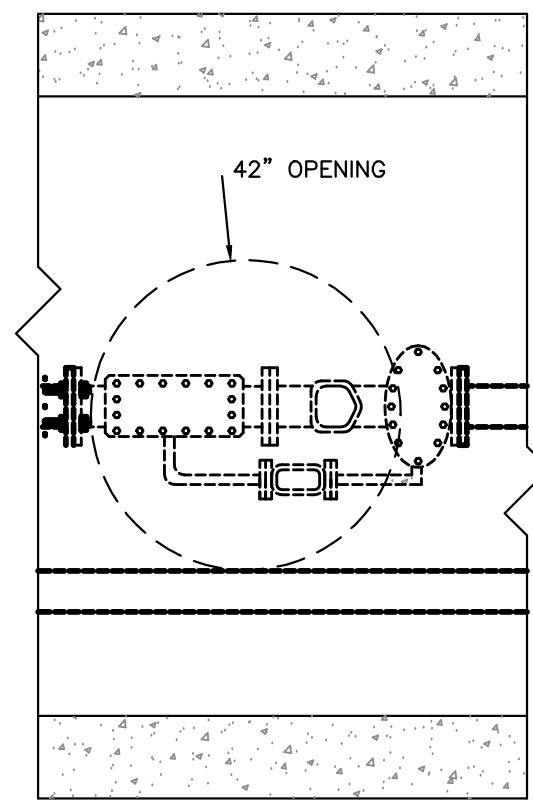
FILE# C:\HW\06\DRAWING\06\p04
DATE: 7/11/13
JN: 302-001
SCALE: NTS
DESIGN BY: WHS
DRAWN BY: ZRJ
CHECKED BY: WHS

DRAWING NO. **C-42**

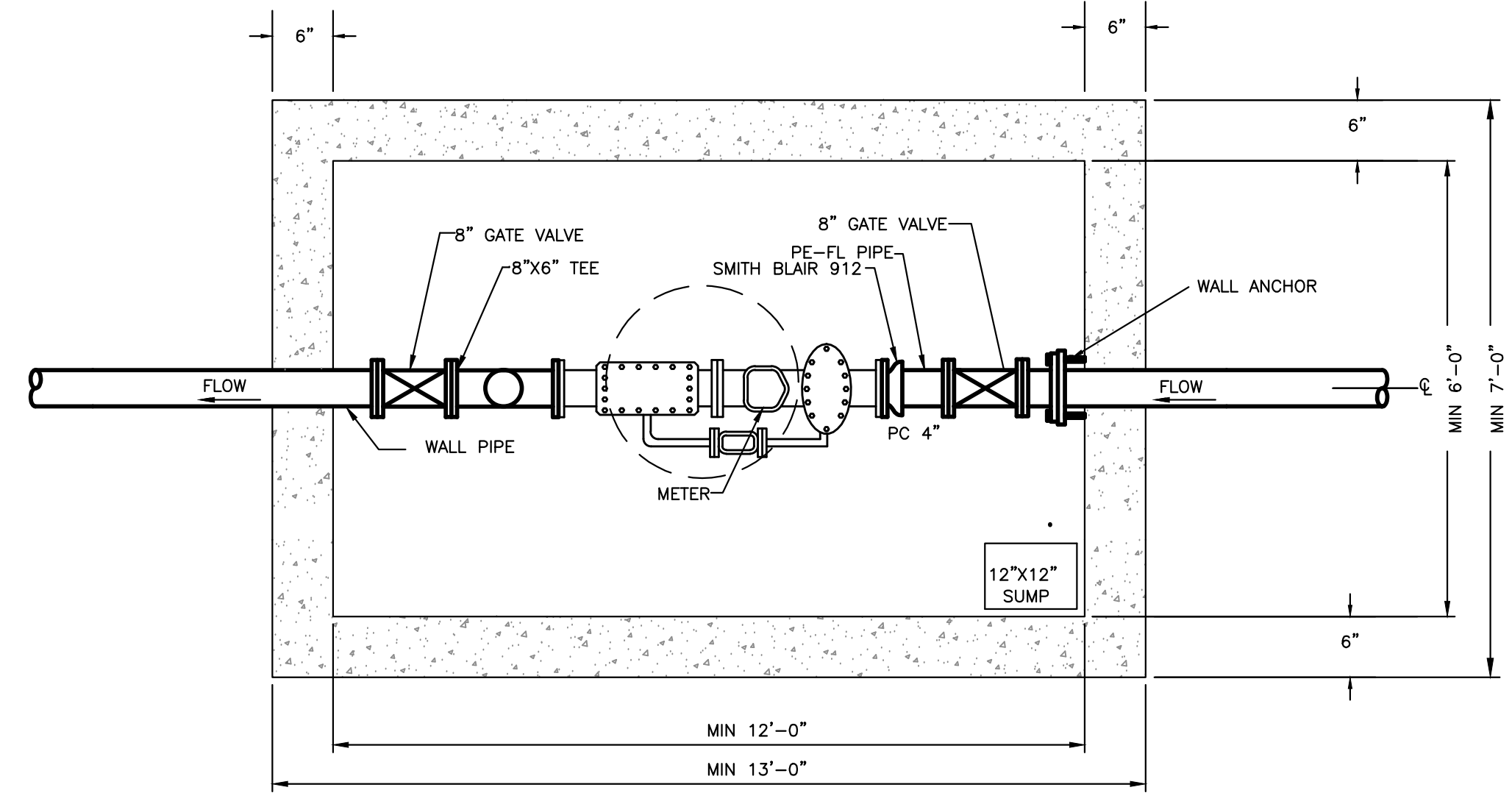


SIDE-ARM BLOW-OFF 4" & LARGER MAINS

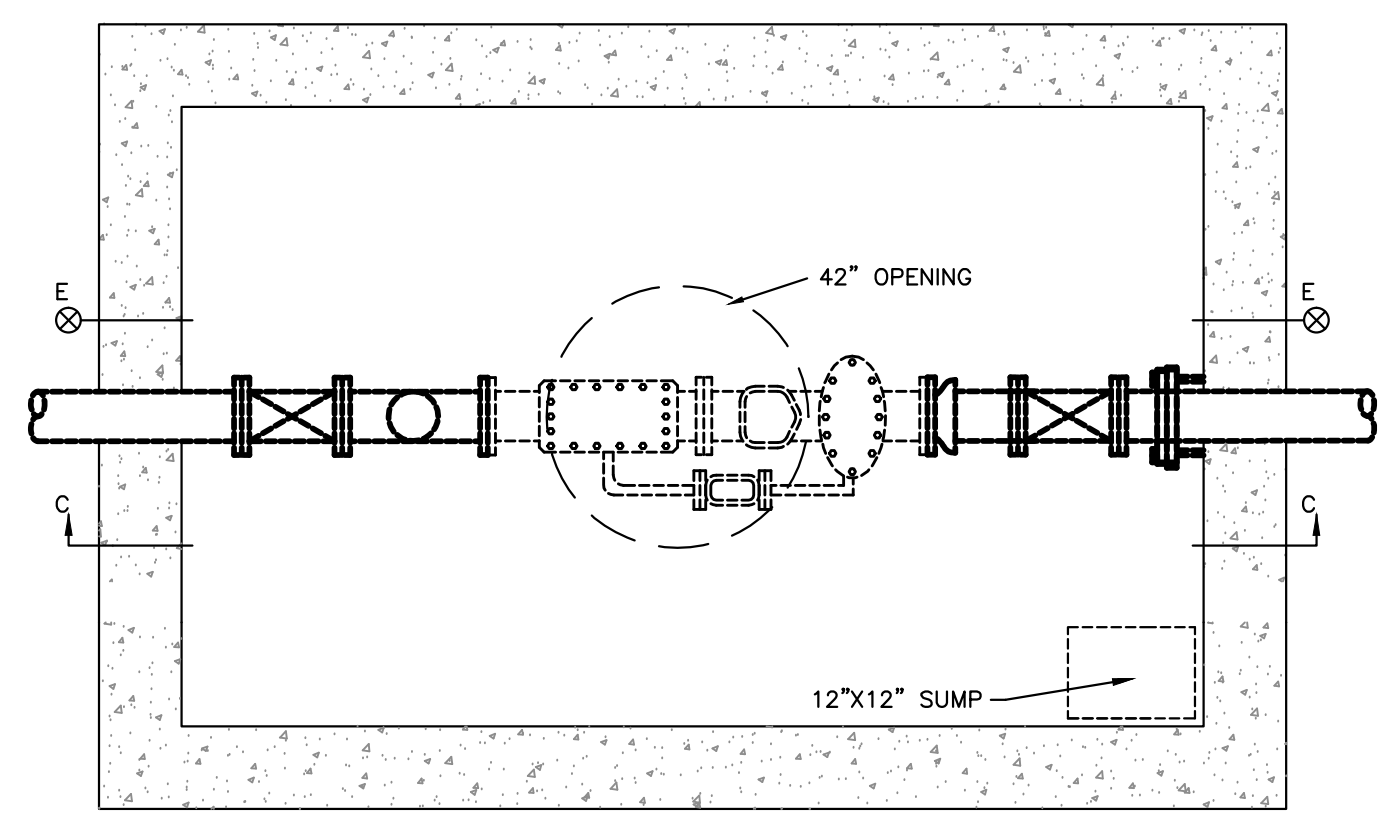
- NOTES:
- SHOP DRAWING SUBMITTAL REQUIRED TO THE ENGINEER.
 - ALL JOINTS TO BE WATERTIGHT WITH USE OF TWO (2) STRIPS OF CONEAL.
 - COVER AND STRUCTURE LOADING SHALL BE FOR H2O.
 - STRUCTURAL DESIGN OF THE VAULT TO BE APPLICABLE FOR THE ANTICIPATED LOADING AND A MIN. OF H2O LOADING.
 - WATER METER SHALL BE "OMNI F³ METER" AS MANUFACTURED BY SENSUS. WATER METER SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. FINAL METER SIZE TO BE DETERMINED BY A MECHANICAL ENGINEER, WRIGHT-RYAN TO COORDINATE. FOR BIDDING PURPOSES AN 8" METER SHALL BE ASSUMED.
 - PRE-CAST CONCRETE METER PIT AND APPURTENANCES SHALL BE AS MANUFACTURED BY GEORGE R. ROBERTS CO., OR APPROVED EQUAL.
 - 5,000 PSI @ 28 DAYS.
 - CEMENT SHALL BE TYPE III PER ASTM C150-81.
 - SHALL BE CONSTRUCTED IN ACCORDANCE WITH PORTLAND WATER DISTRICT STANDARDS.
 - 12" HOLES SHALL BE CONSTRUCTED FOR 8" PIPE.
 - THE PORTLAND WATER DISTRICT HAS REQUESTED THAT NO METER BYPASS PIPING BE ALLOWED AT THIS SITE. FINAL DIMENSIONS OF THE PRE-CAST CONCRETE METER PIT TO BE DETERMINED WITH AN APPROVED SHOP DRAWING SUBMITTAL.



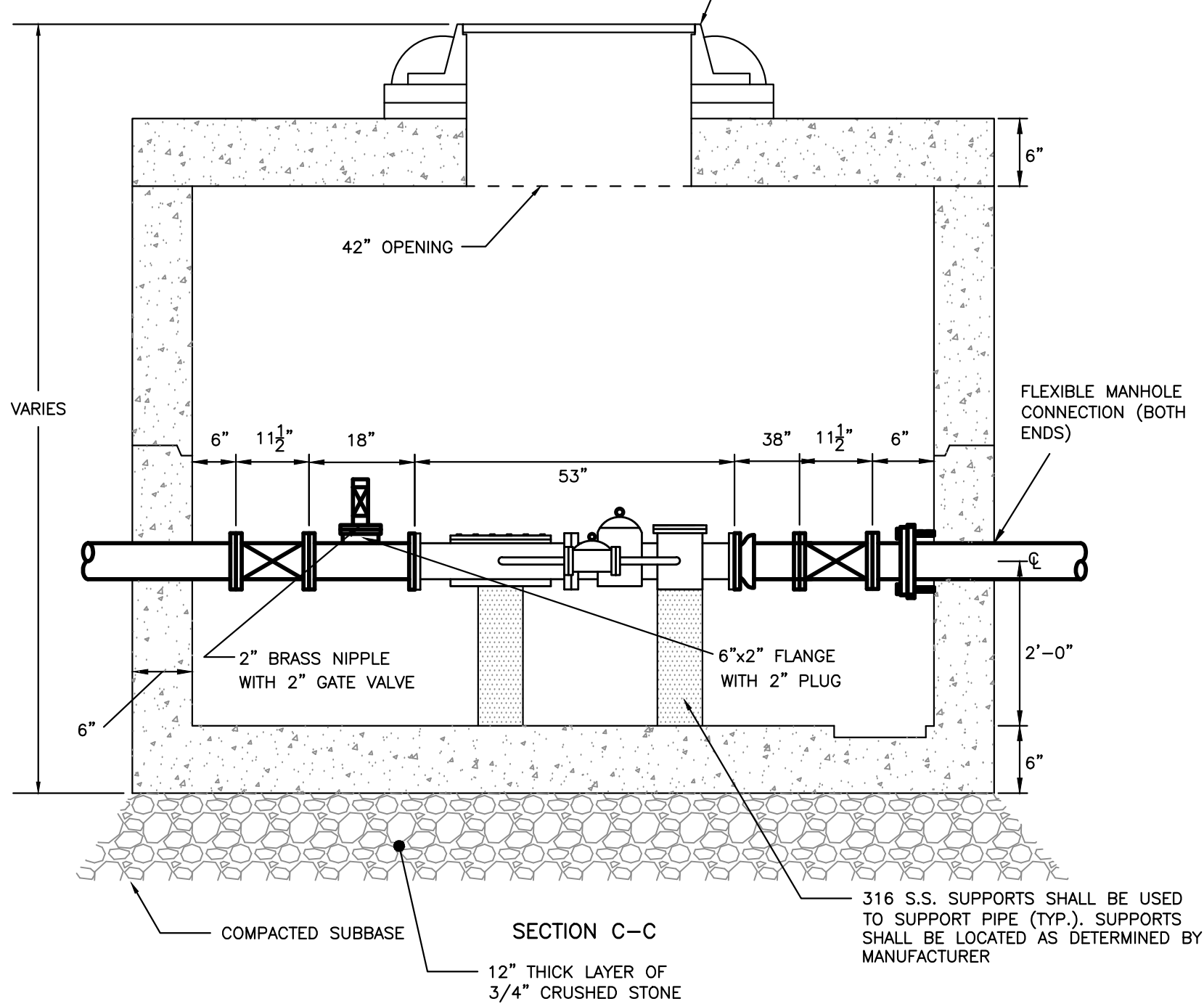
PLAN - TRAFFIC-RATED COVER



SECTION E-E 42" CAST IRON FRAME & COVER. BRICK AND MORTAR TO GRADE WITH NO MORE THAN 6 COURSES AND NO LESS THAN 2 COURSES.

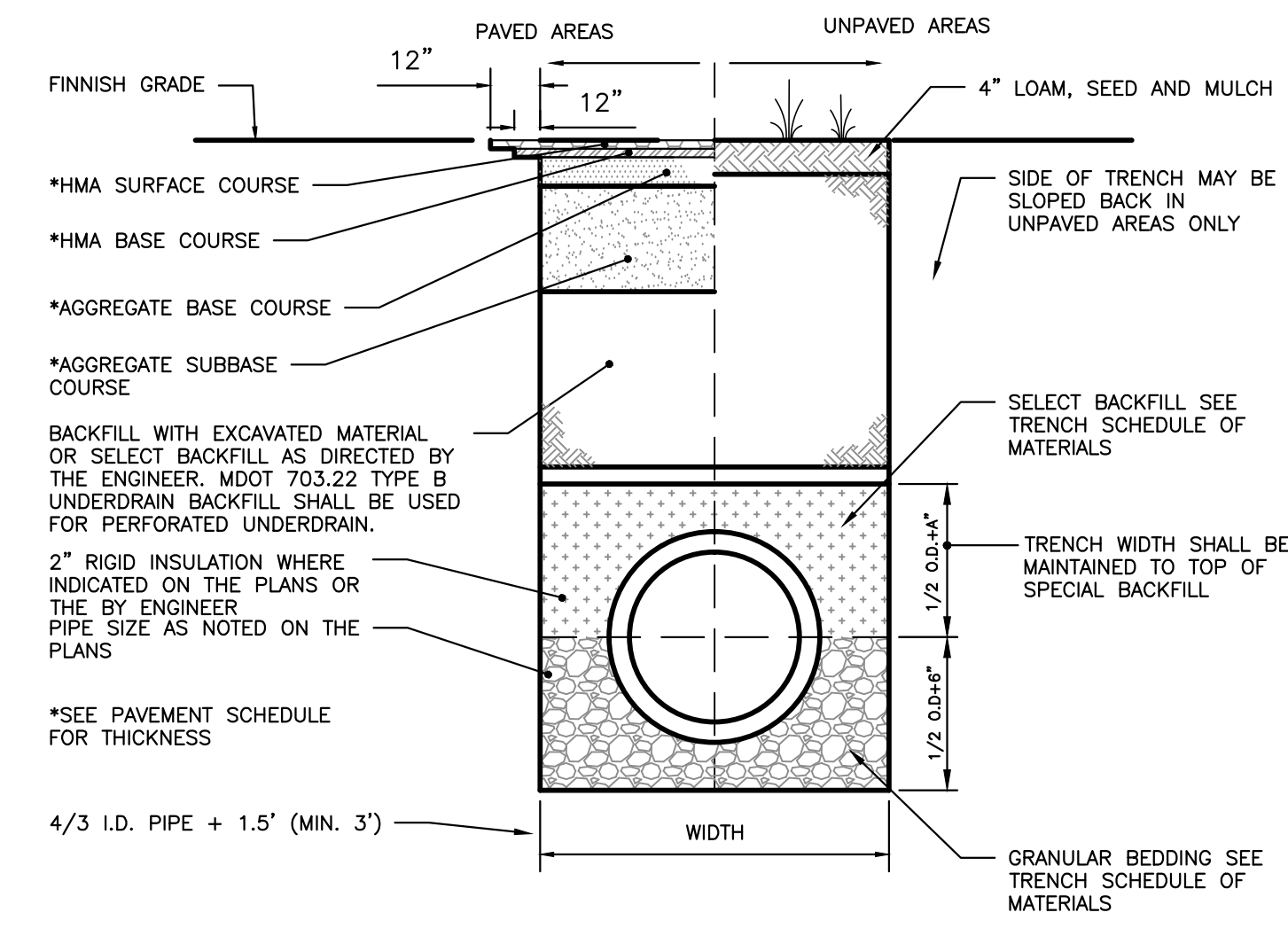


PLAN



SECTION C-C 316 S.S. SUPPORTS SHALL BE USED TO SUPPORT PIPE (TYP.). SUPPORTS SHALL BE LOCATED AS DETERMINED BY MANUFACTURER.

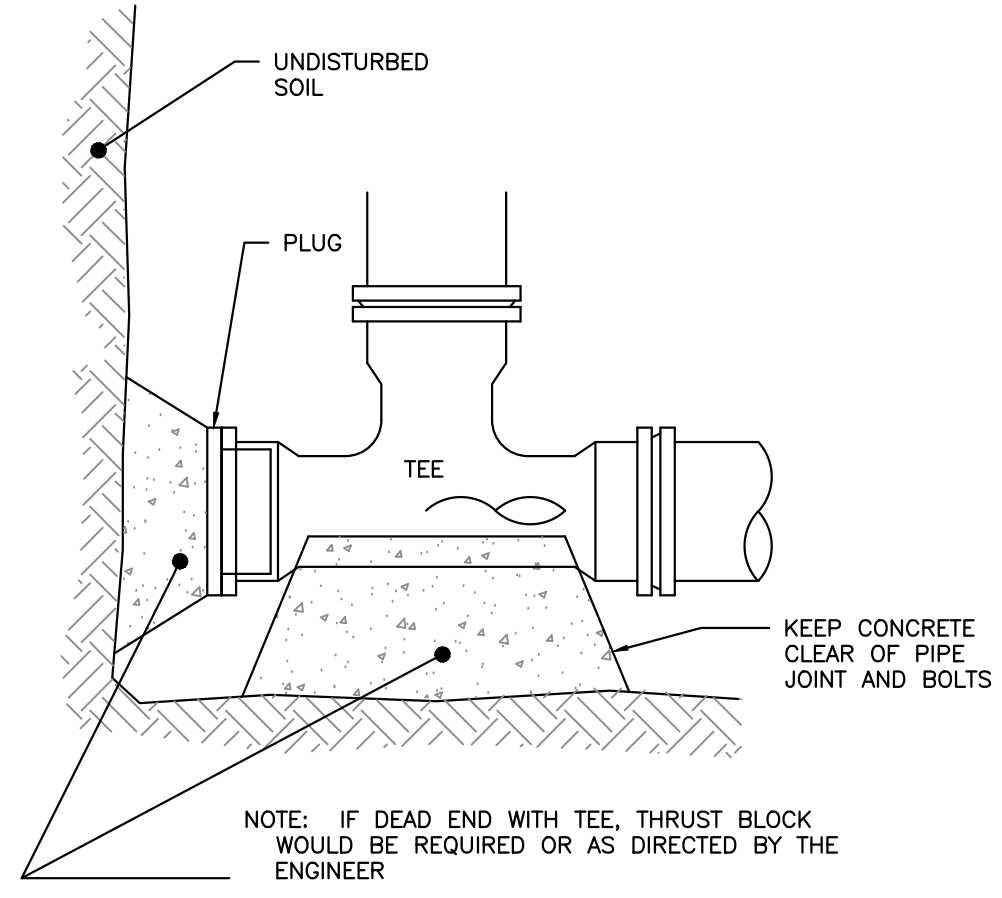
8-IN FIRE LINE METER DETAIL NOT TO SCALE



STORM DRAIN, SEWER AND WATER TYPICAL TRENCH SECTION NOT TO SCALE

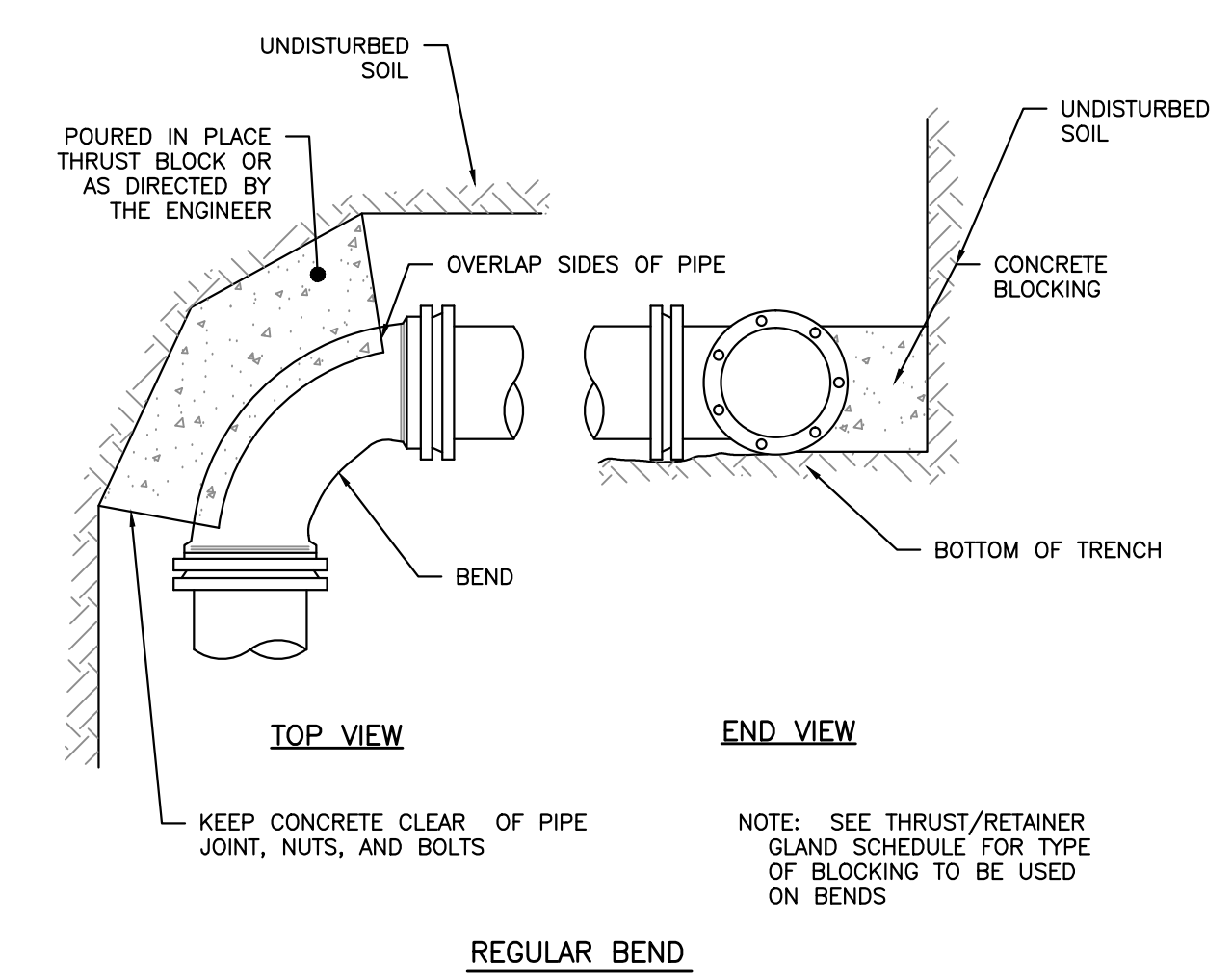
SCHEDULE OF MATERIALS		
TYPE OF PIPE	GRANULAR BEDDING	SELECT BACKFILL
CMP	MDOT 703.22 TYPE B UD BACKFILL	MDOT 703.22 TYPE B UD BACKFILL
DUCTILE IRON RCP	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE B UD BACKFILL
PVC/HOPE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE B UD BACKFILL
CMP	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE

- NOTE:
- 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.
 - INSTALL WARNING TAPE DIRECTLY ABOVE UTILITIES AT THE TOP OF SUBGRADE.
 - MINIMUM COVER
 - 2'-0" - STORM DRAIN
 - 5'-6" - WATER
 - 5'-0" - SEWER
 - ALL PROPOSED TREES WITHIN 5' PROXIMITY OF THE SEWER PIPE SHALL BE PLANTED AT A DEPTH NO GREATER THAN 3' DEEP. PERMEABLE LANDSCAPE FABRIC SHALL CREATE A ROOT BARRIER AROUND THE SEWER PIPES. CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE DRAWINGS.



END SECTION

PIPE SIZE	THRUST SCHEDULE BEARING SURFACE REQUIRED FOR WATER PIPES (VALUES IN SF)			
	1/32 BEND	1/16 BEND	1/8 BEND	1/4 TEES/CAPS
8"	2.0	3.0	6.0	10.0 16.0



THRUST BLOCKING NOT TO SCALE

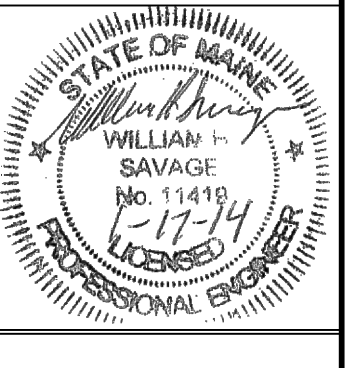
PERMIT DRAWINGS NOT FOR CONSTRUCTION

ISSUED FOR	BY	DATE
WORKSHOP #2	WHS	11/12/13
FINAL SUBMISSION	WHS	12/2/13
MAINE DEP MCGP	WHS	12/16/13

DRAWING NAME: PORTLAND WATER DISTRICT DETAILS - 2
 PROJECT NAME: MUNJOY HEIGHTS
 CLIENT: REDFERN MUNJOY, LLC.
 P.O. BOX 8816, PORTLAND, MAINE 04104

ACORN ENGINEERING, INC.
 ENGINEERING, INC.
 1000 BROADWAY, SUITE 200, PORTLAND, MAINE 04104
 P.O. BOX 1372, PORTLAND, MAINE 04104
 (207) 775-2655

FILE#47_details 1-17-14.dwg
 DATE: 7/11/13
 JN: 302-001
 SCALE: NTS
 DESIGN BY: WHS
 DRAWN BY: ZRJ
 CHECKED BY: WHS



DRAWING NO. C-45