

NOTE:
 A MINIMUM OF 1'-0" IS REQUIRED FROM FINAL GRADE TO RIM ELEVATION OF MANHOLE IN RIGHT OF WAY AREAS.

SANITARY SEWER MANHOLE DETAIL
 NOT TO SCALE

File name: F:\0004\000483_0001\33D\Standard Details\MANHOLE.dwg Layout/Layout1 Nov 19, 2015--2:12pm afocht

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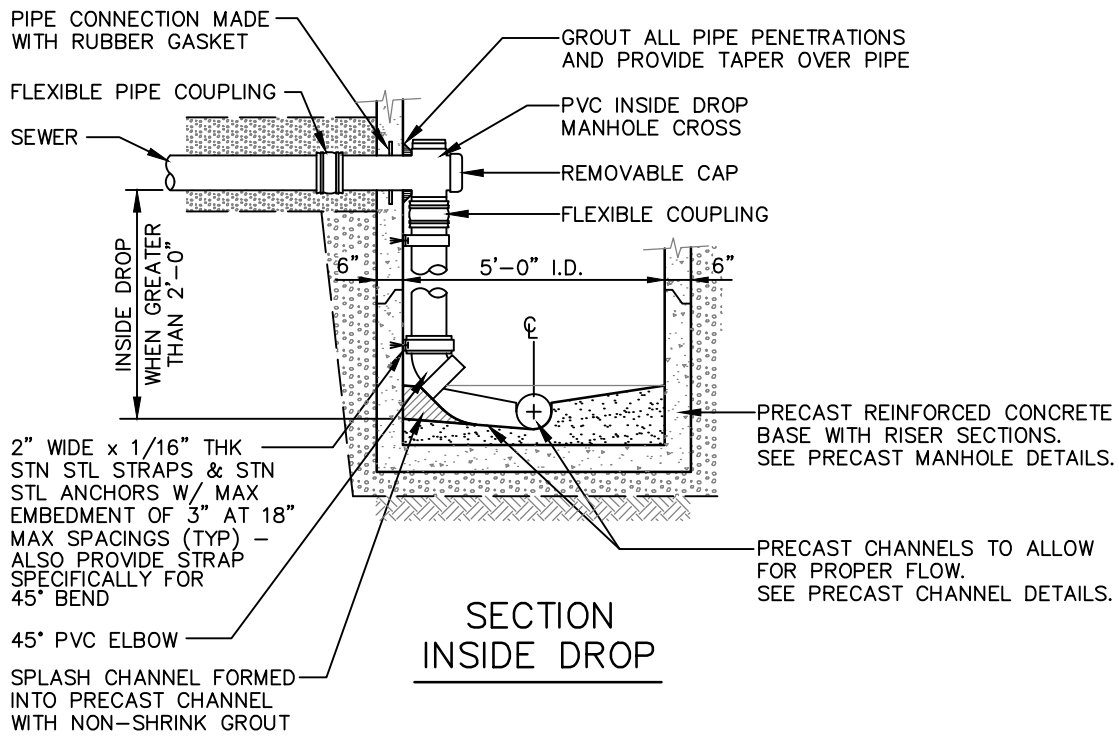
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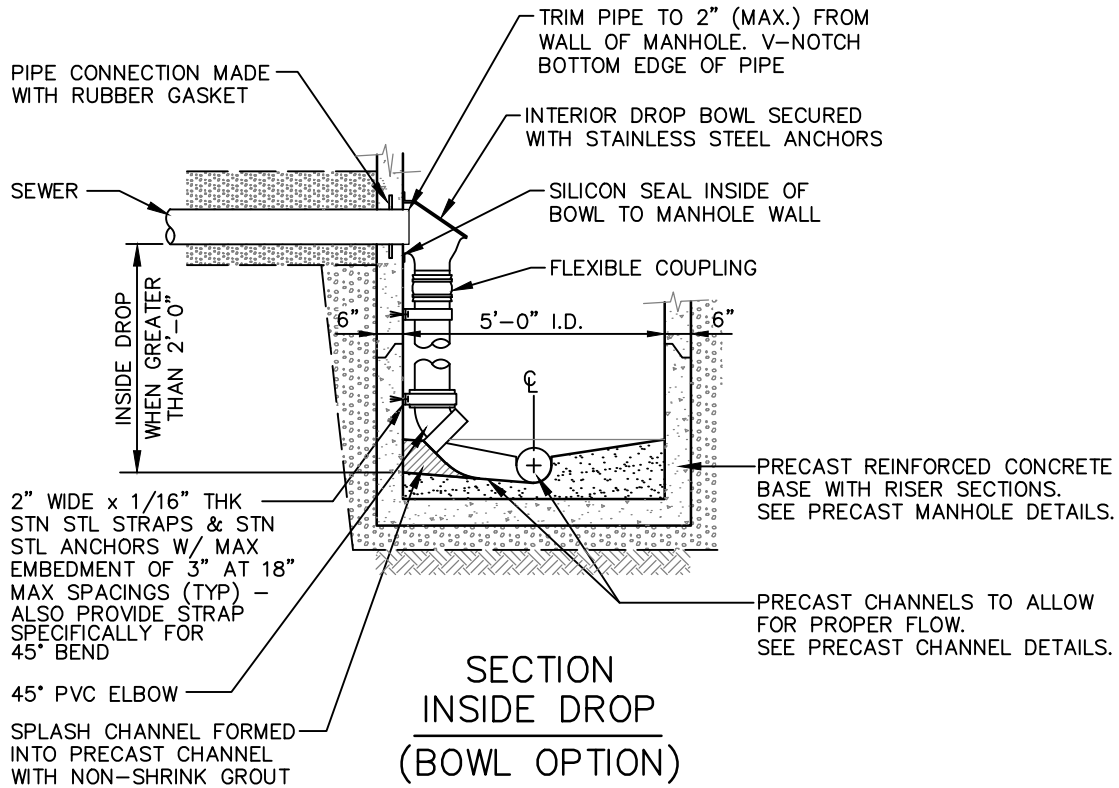
CHESTER COUNTY PENNSYLVANIA

PROJ. MGR. - RES
DESIGN - RES
CADD - RSF
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DETAIL NO. D1
SHEET NO. 1 OF 1
PROJECT 0483.0001



**SECTION
INSIDE DROP**



**SECTION
INSIDE DROP
(BOWL OPTION)**

SANITARY SEWER DROP MANHOLE DETAIL

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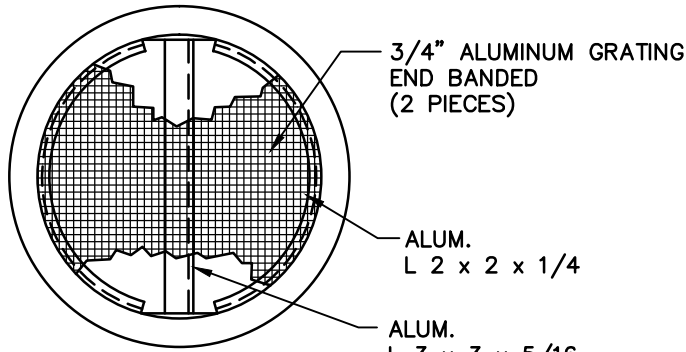
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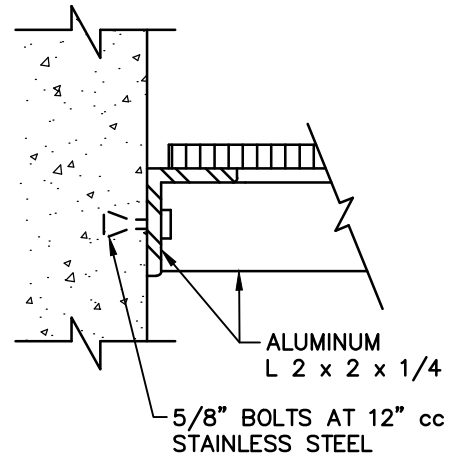
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DATE - DEC. 2015

DETAIL NO.
D3
SHEET NO.
1 OF 1
PROJECT 0483.001

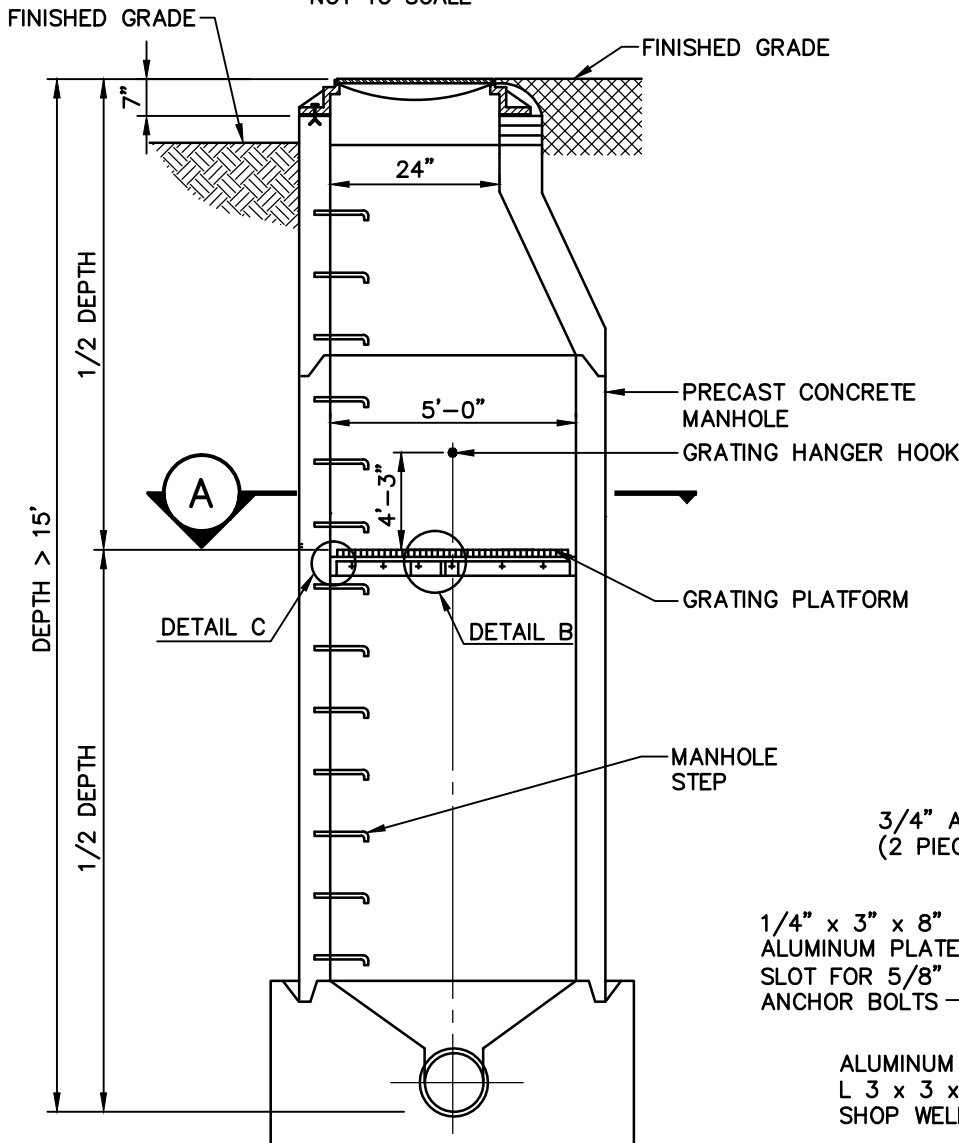


SECTION "A"
GRATING PLATFORM PLAN

NOT TO SCALE

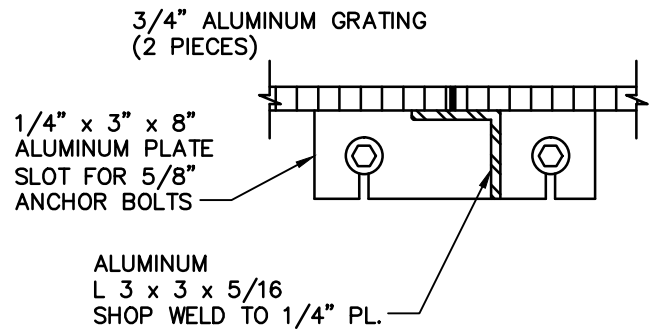


DETAIL C
NOT TO SCALE



MANHOLE PLATFORM
NOT TO SCALE

NOTE:
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DETAIL B
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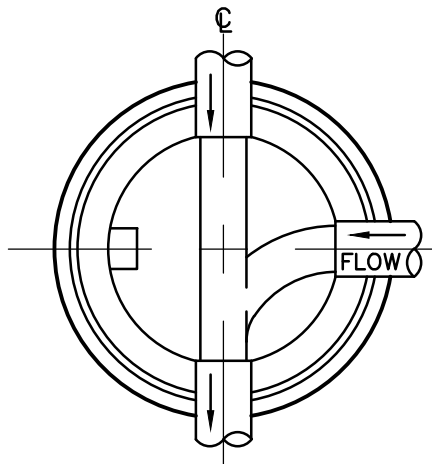
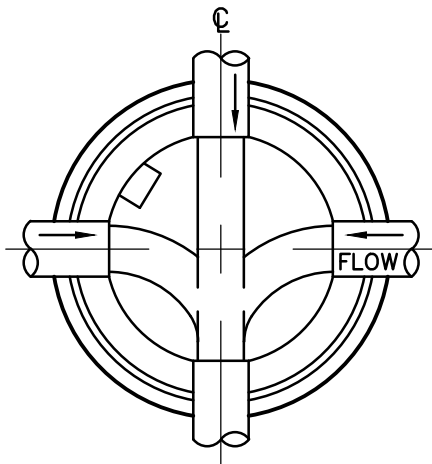
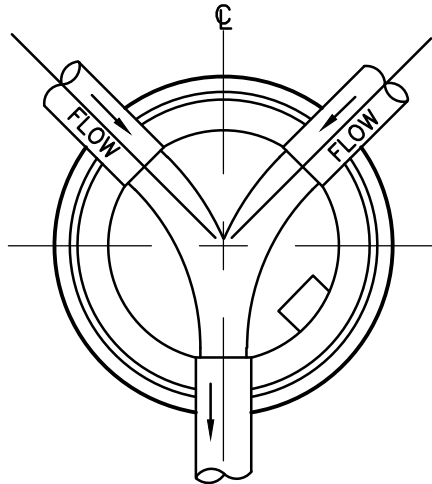
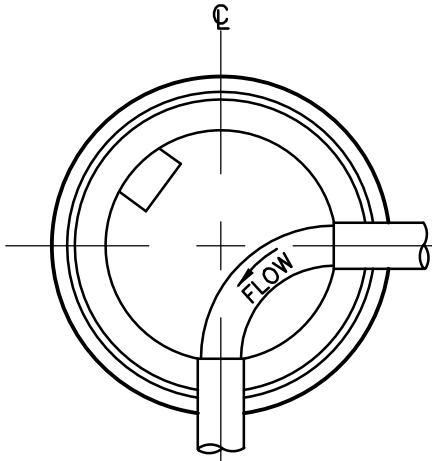
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DETAIL NO.
D4
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1 OF 1
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NOTES:

1. ALL BENCHES SHALL SLOPE A MINIMUM OF 2" PER FOOT TOWARD FLOW CHANNEL
2. CONTRACTOR HAS THE OPTION OF PROVIDING PRECAST CHANNELS

DETAIL OF TYPICAL MANHOLE CHANNELS

NOT TO SCALE

File name: F:\0004\000483_0001\C3D\Standard Details\CHANNEL.dwg Layout:Layout1 Nov 19, 2015--2:22pm afocht



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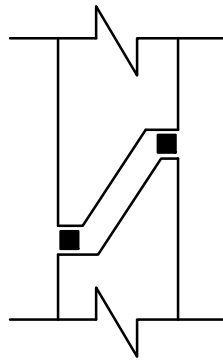
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DETAIL NO.
D6
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1 OF 1
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PREFORMED JOINT
 SEALING COMPOUND
 RAM-NEK GASKET
 (TYP.) SQUEEZE
 OUT BOTH SIDES

JOINT DETAIL
 NOT TO SCALE

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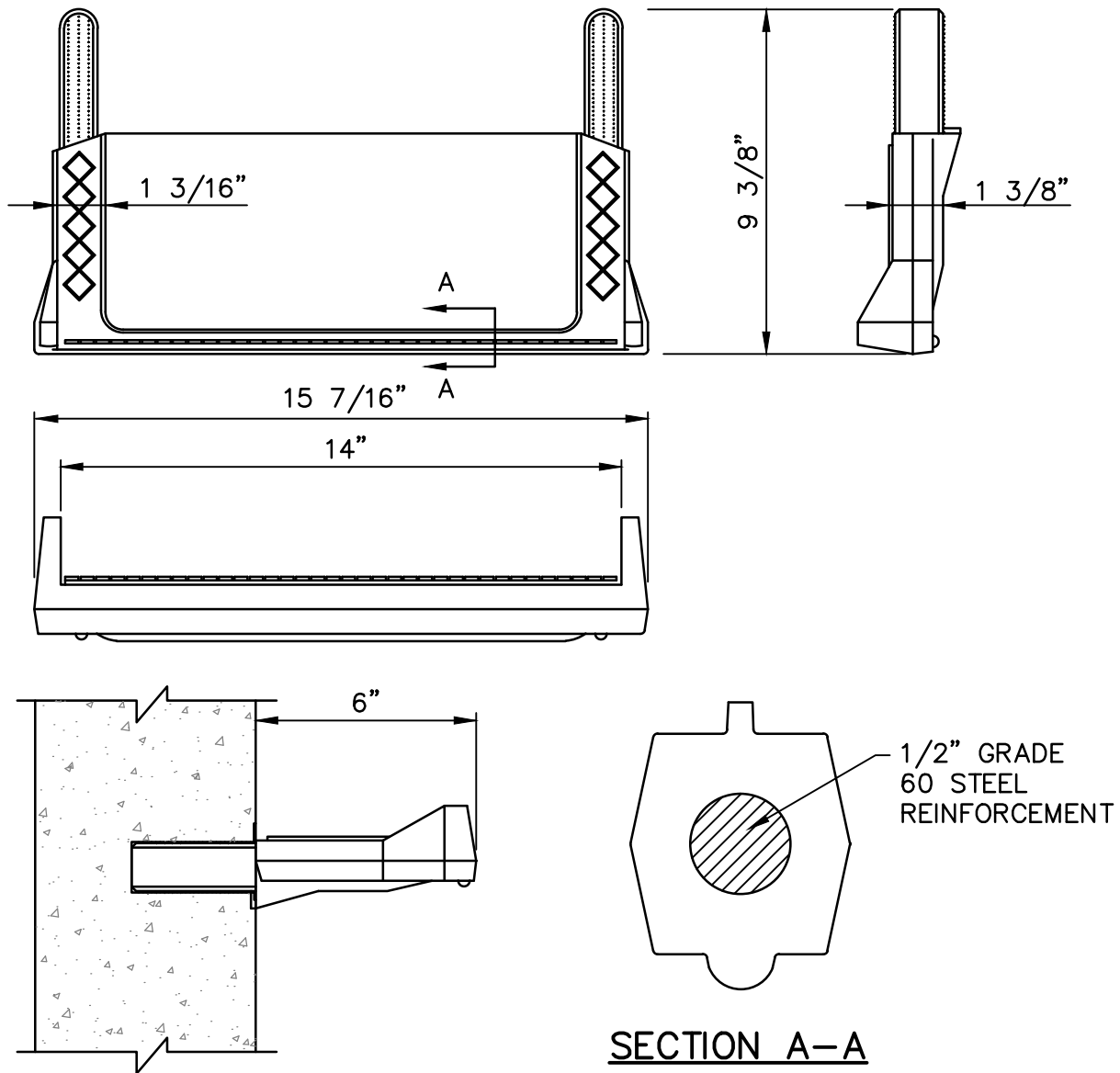
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DETAIL NO. D7
SHEET NO. 1 OF 1
PROJECT 0483.0001



NOTES:

1. MANHOLE STEPS SHOULD BE AS MANUFACTURED BY M.A. INDUSTRIES, INC., PEACHTREE CITY, GA OR APPROVED EQUAL.

**COPOLYMER POLYPROPYLENE PLASTIC
MANHOLE STEP**

NOT TO SCALE



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DETAIL NO.

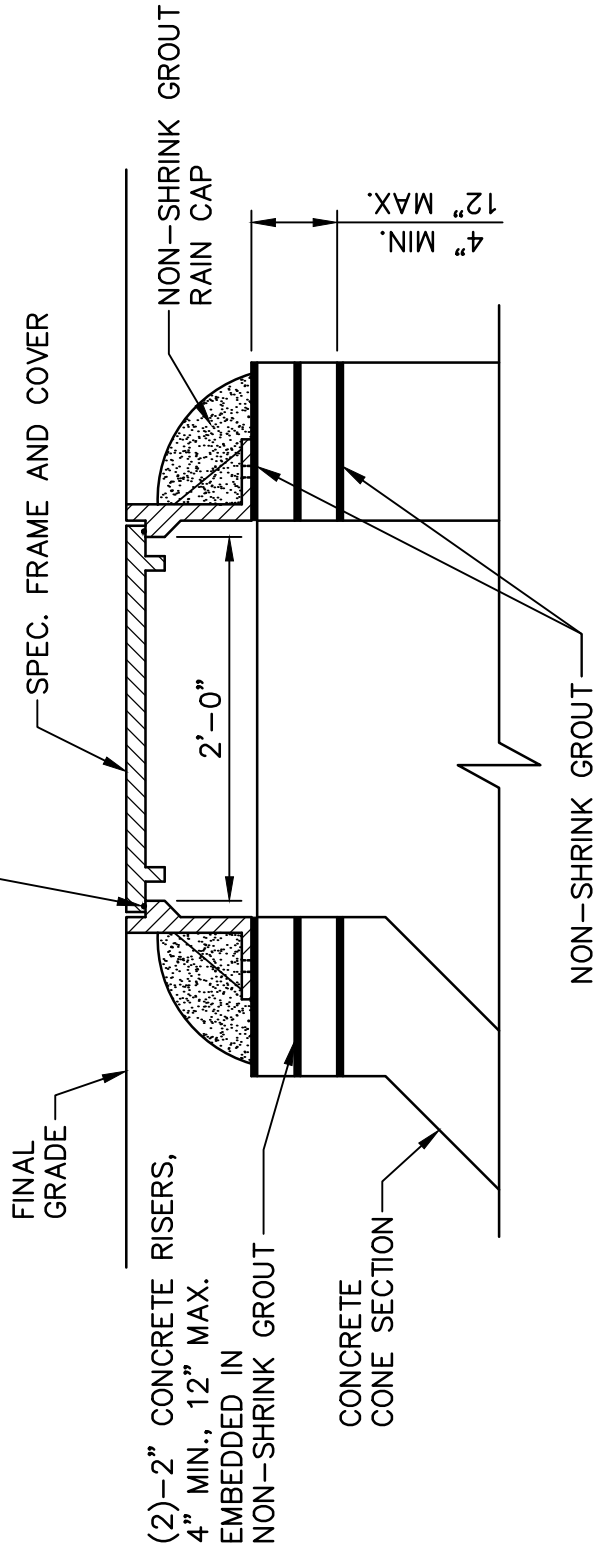
D8

SHEET NO.

1 OF 1

PROJECT 0483.0001

A ONE PIECE O-RING GASKET
FACTORY INSTALLED IN A
MACHINED GROOVE IS REQUIRED
IN ALL MANHOLE COVERS



NOTES:

1. MANHOLE FRAME AND COVER SHOULD BE 1/4" BELOW FINAL GRADE OF PAVEMENT.
2. PROVIDE MANHOLE ENCAPSULATION SYSTEM ON ALL WATERTIGHT MANHOLES.

STANDARD MANHOLE FRAME AND COVER - PAVED AREAS

NOT TO SCALE



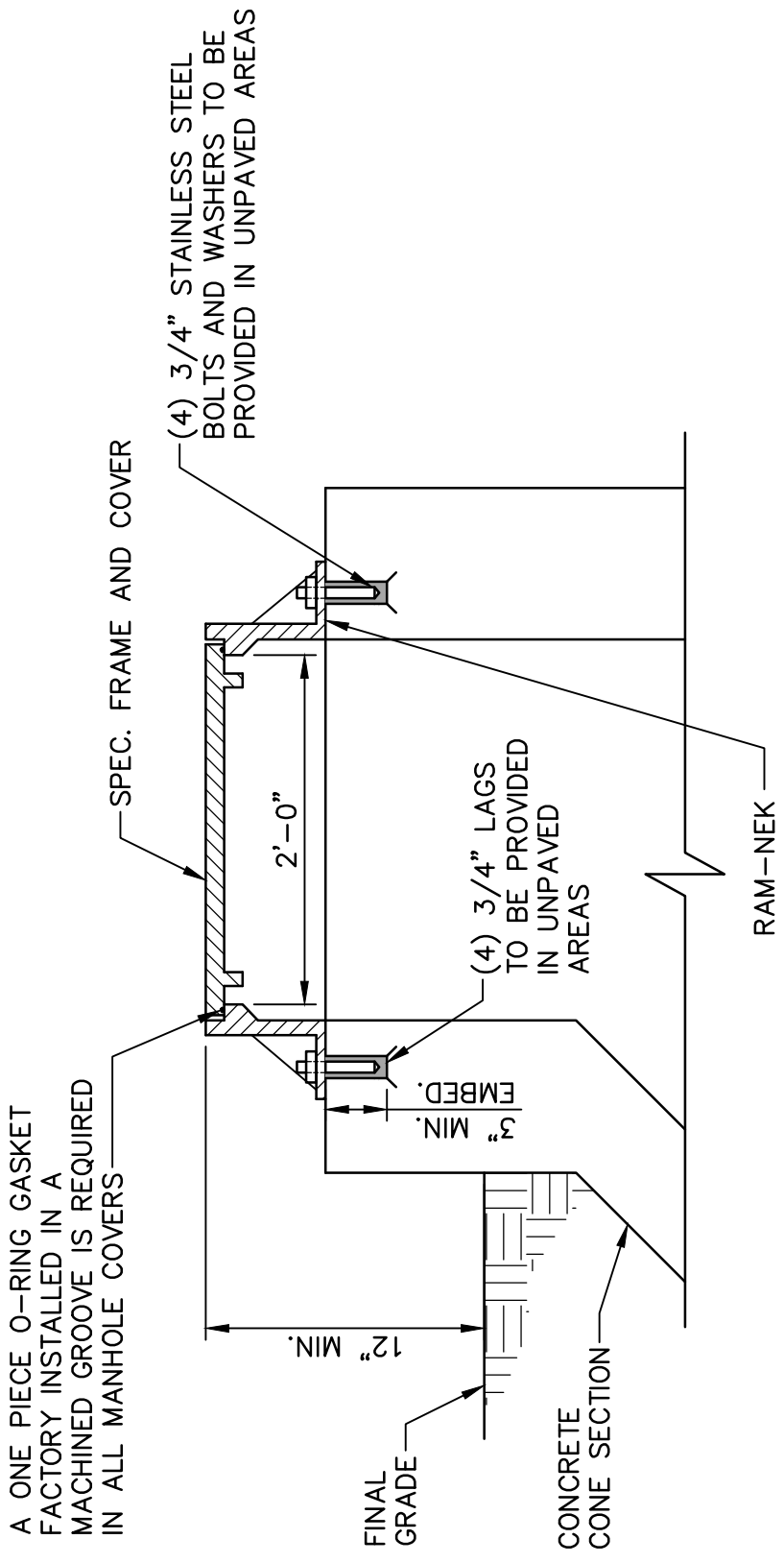
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DETAIL NO. D9
SHEET NO. 1 OF 1
PROJECT 0483.0001



A ONE PIECE O-RING GASKET
FACTORY INSTALLED IN A
MACHINED GROOVE IS REQUIRED
IN ALL MANHOLE COVERS

SPEC. FRAME AND COVER

(4) 3/4" STAINLESS STEEL
BOLTS AND WASHERS TO BE
PROVIDED IN UNPAVED AREAS

2'-0"

(4) 3/4" LAGS
TO BE PROVIDED
IN UNPAVED
AREAS

3" MIN.
EMBED.

12" MIN.

FINAL
GRADE

CONCRETE
CONE SECTION

RAM-NEK

NOTE:
PROVIDE MANHOLE ENCAPSULATION SYSTEM ON ALL WATERTIGHT MANHOLES.

STANDARD MANHOLE FRAME AND COVER - UNPAVED AREAS
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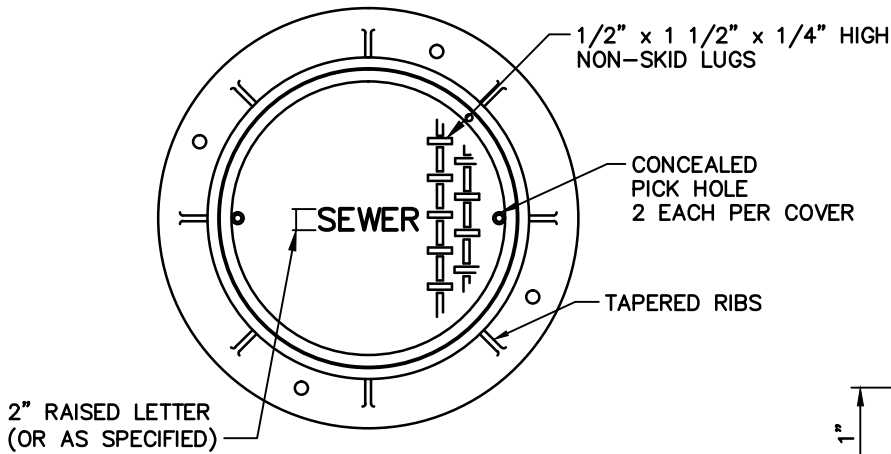
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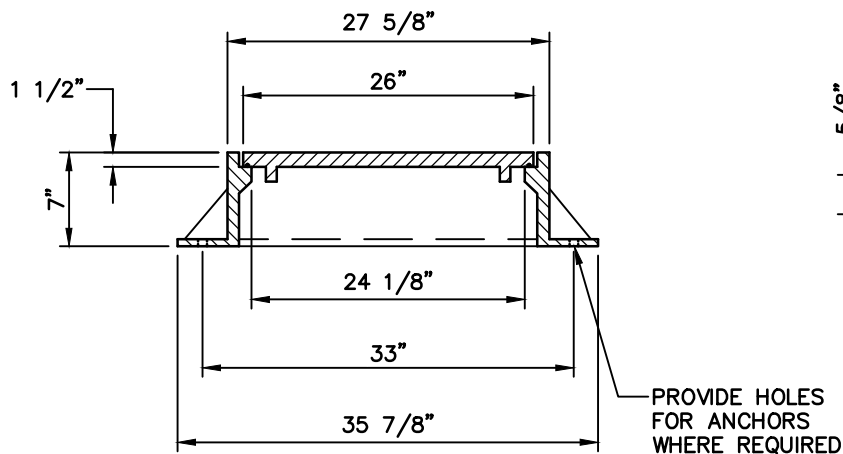
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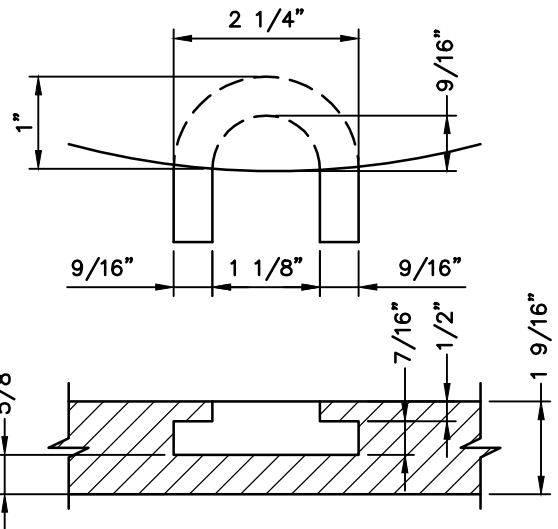
DETAIL NO.
D10
SHEET NO.
1 OF 1
PROJECT 0483.001



PLAN



SECTION



PICKHOLE DETAIL
NOT TO SCALE

NOTES:

1. BEARING SURFACES OF FRAME AND COVER SHALL BE MACHINED WITH A FACTORY INSTALLED ONE PIECE O-RING

STANDARD MANHOLE FRAME AND COVER

NOT TO SCALE



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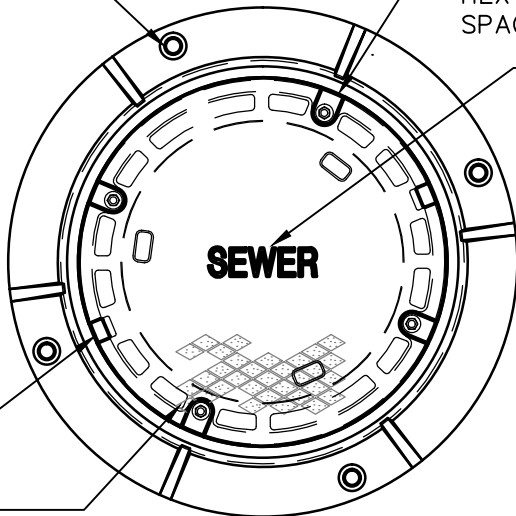
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DESIGN - RES
CADD - RSF
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DETAIL NO.
D11
SHEET NO.
1 OF 1
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(4) 1" DIA. ANCHOR BOLT HOLES ON A 33" DIA. B.C.

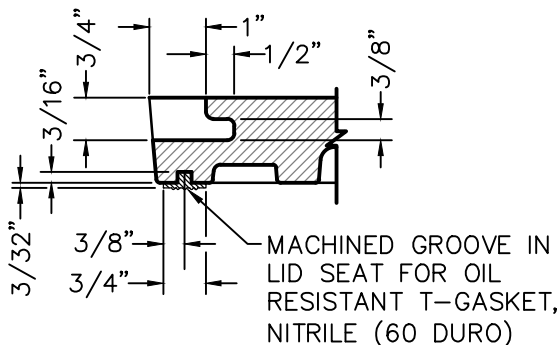
(4) DEPRESSED BOLT HOLES FOR 1/2"-13 x 2 1/4" STAINLESS STEEL HEX BOLT AND WASHERS EQUALLY SPACED ON 23 3/4" BOLT CIRCLE

2" HIGH LETTERS RAISED FLUSH WITH SURFACE

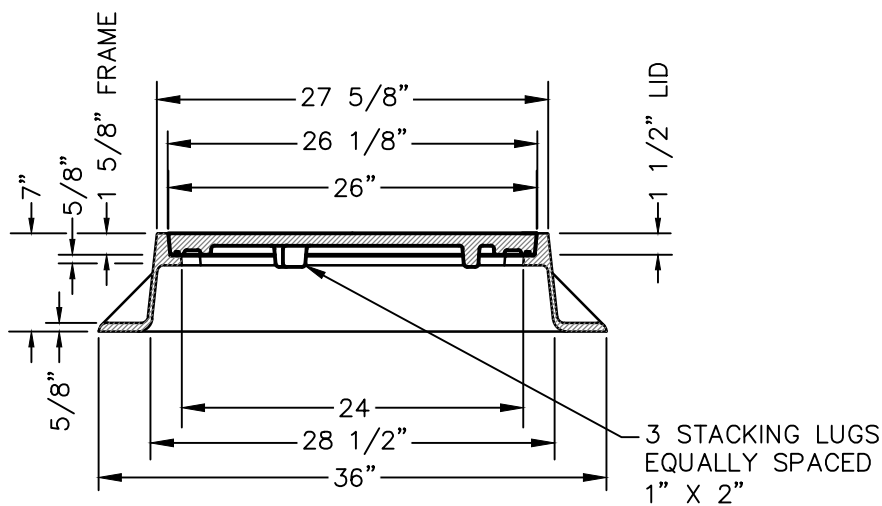


(2) CONCEALED PICK HOLES 180° APART PER NF 22642

1/2" x 1 1/2" x 1/4" HIGH NON-SKID LUGS



T-SEAL CONCEALED DETAIL



SECTION

WATERTIGHT MANHOLE

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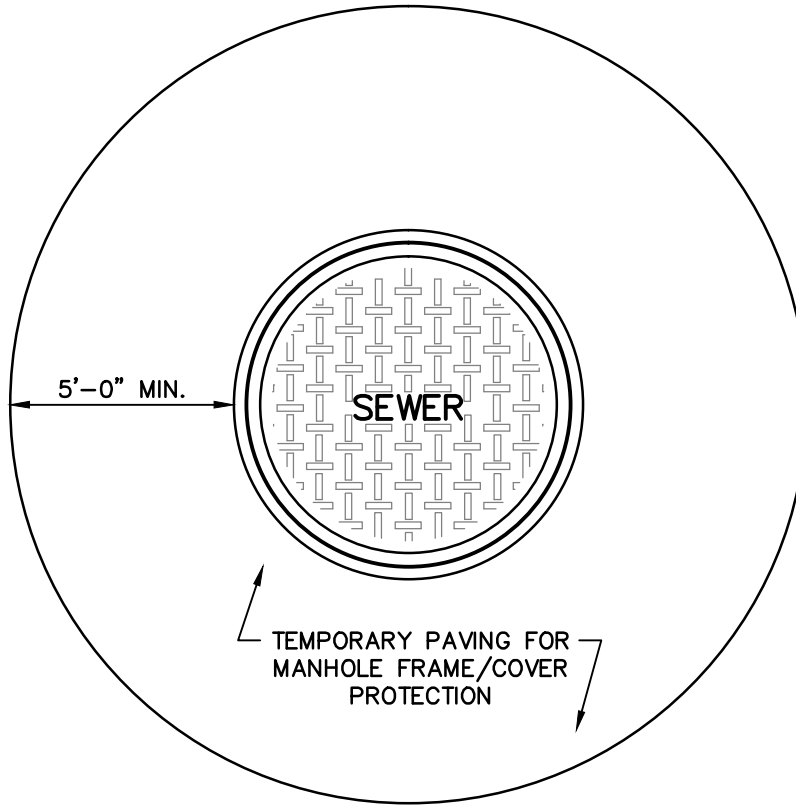
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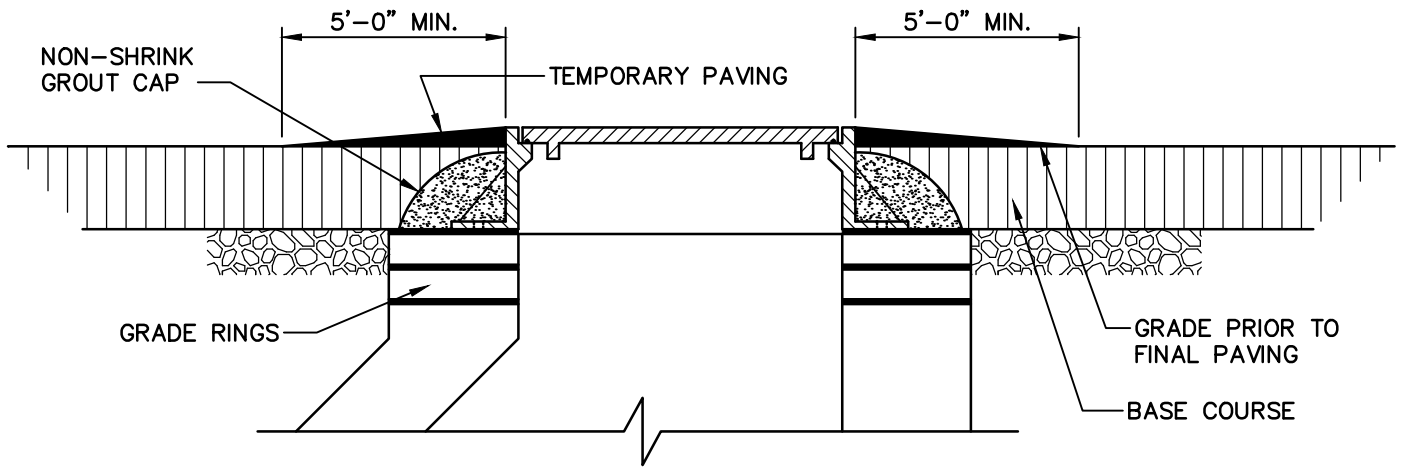
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DESIGN - RES
CADD - RSF
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SCALE - NONE
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DETAIL NO.
D12
SHEET NO.
1 OF 1
PROJECT 0483.001



PLAN



SECTION

MANHOLE FRAME AND COVER PROTECTION DETAIL

NOT TO SCALE

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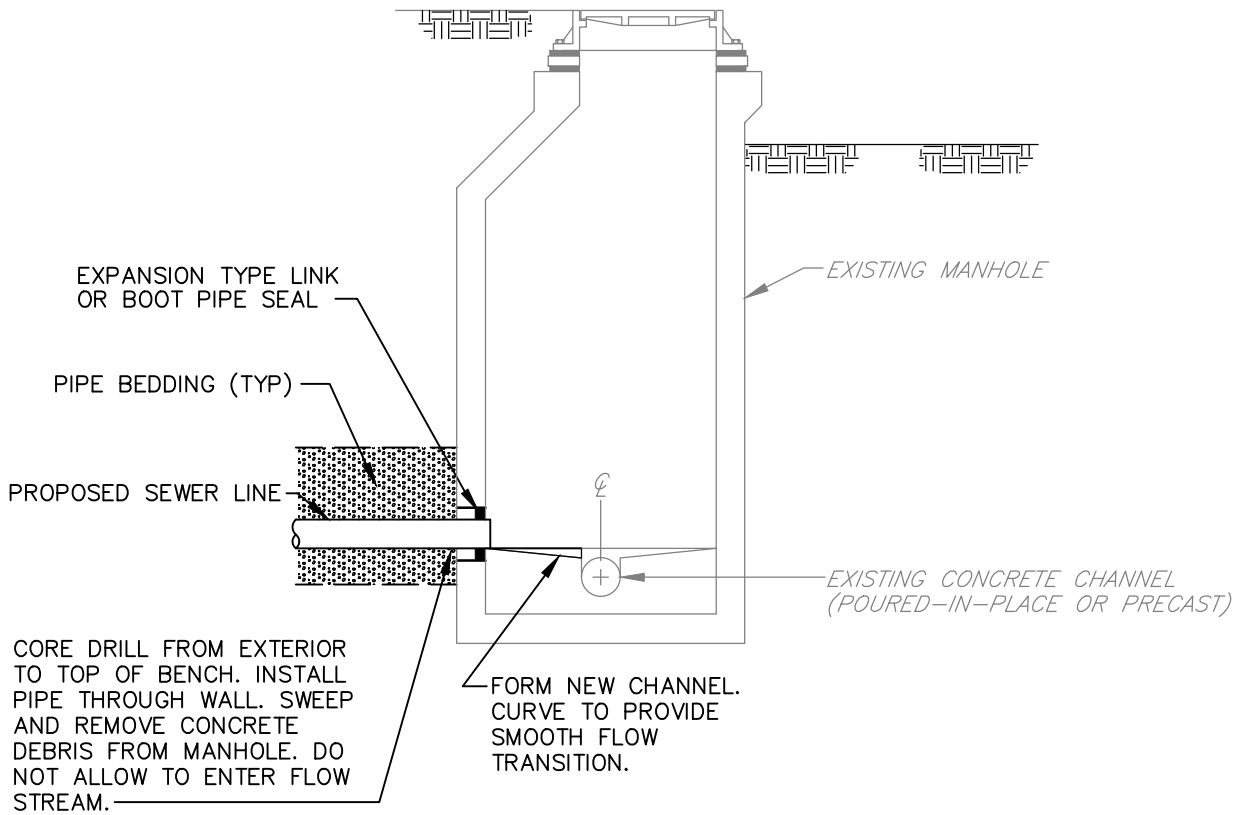
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D13
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CONNECTION TO EXISTING MANHOLE DETAIL

NOT TO SCALE

File name: F:\0004\000483_0001\C3D\Standard Details\HRCONNECT.dwg Layout:Layout1 Nov 19, 2015-2:54pm afocht

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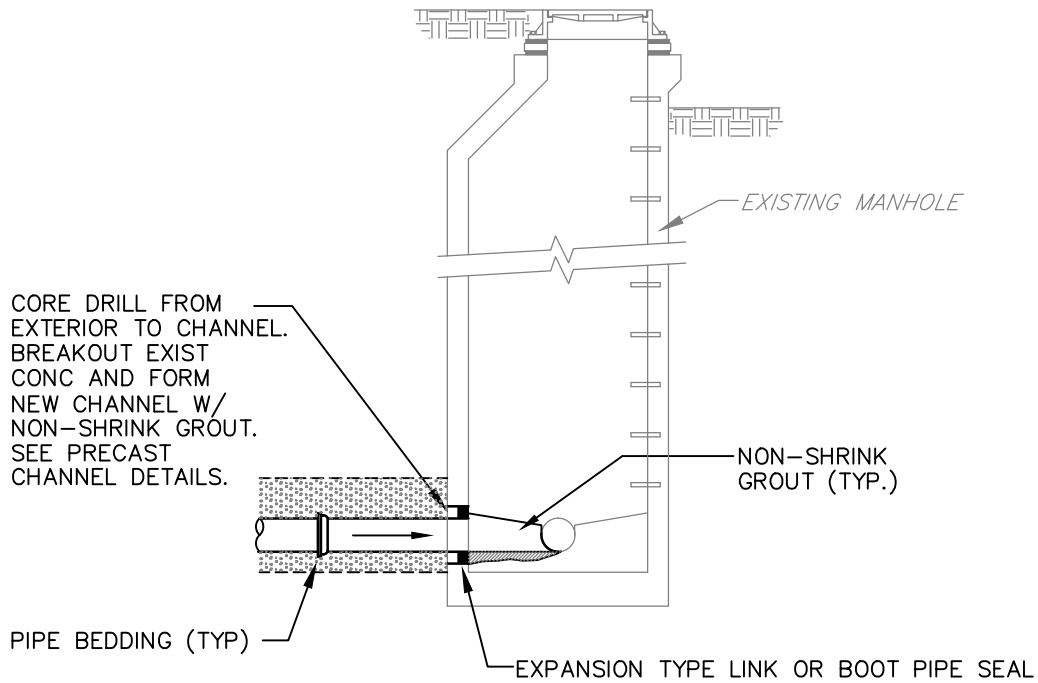
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DETAIL NO.
D14
SHEET NO.
1 OF 2
PROJECT 0483.0001



SECTION

SEWER CONNECTION TO EXISTING MANHOLE INVERT

NOTES:

1. SWEEP AND REMOVE CONCRETE DEBRIS FROM MANHOLE. DO NOT ALLOW TO ENTER FLOW STREAM.
2. CROWN ELEVATION OF NEW PIPE SHALL MATCH OR BE HIGHER THAN CROWN ELEVATION OF EXISTING OUTGOING PIPE.

CONNECTION TO EXISTING MANHOLE DETAIL

NOT TO SCALE

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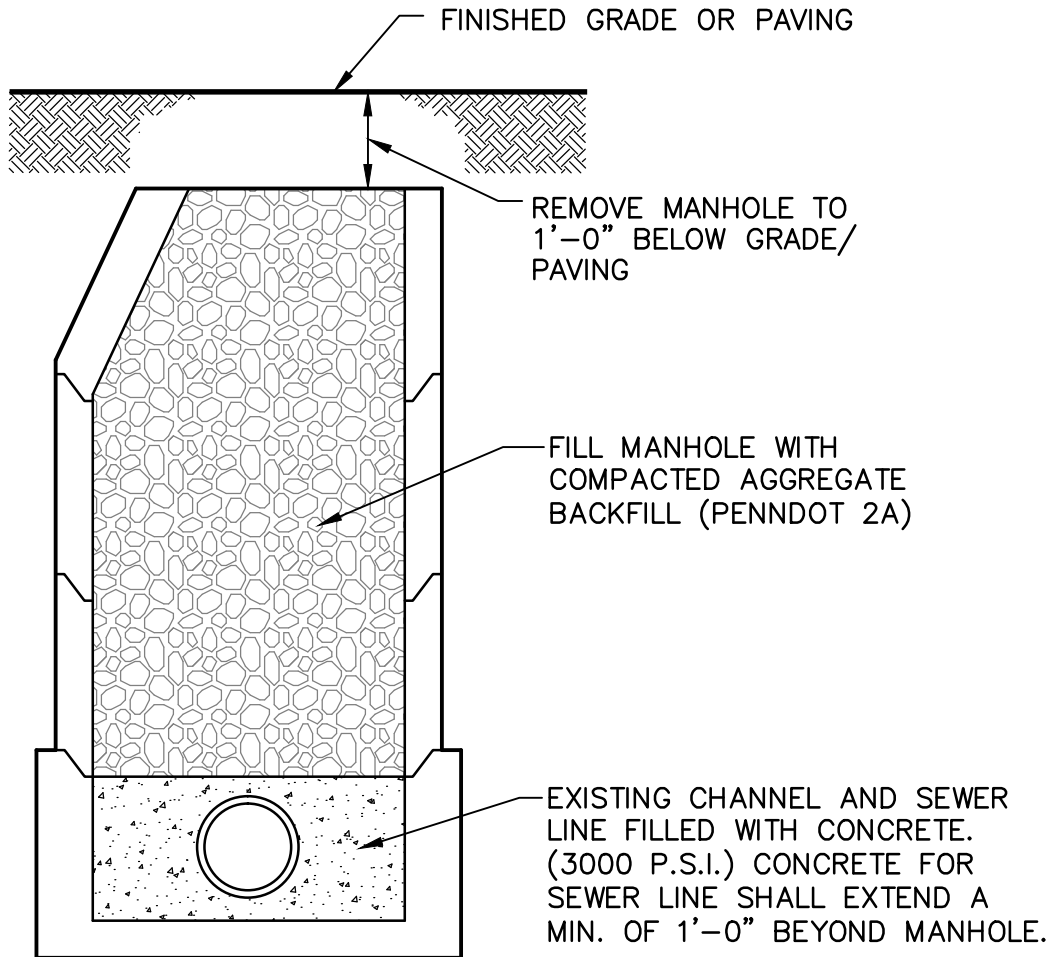
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D14
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NOTES:

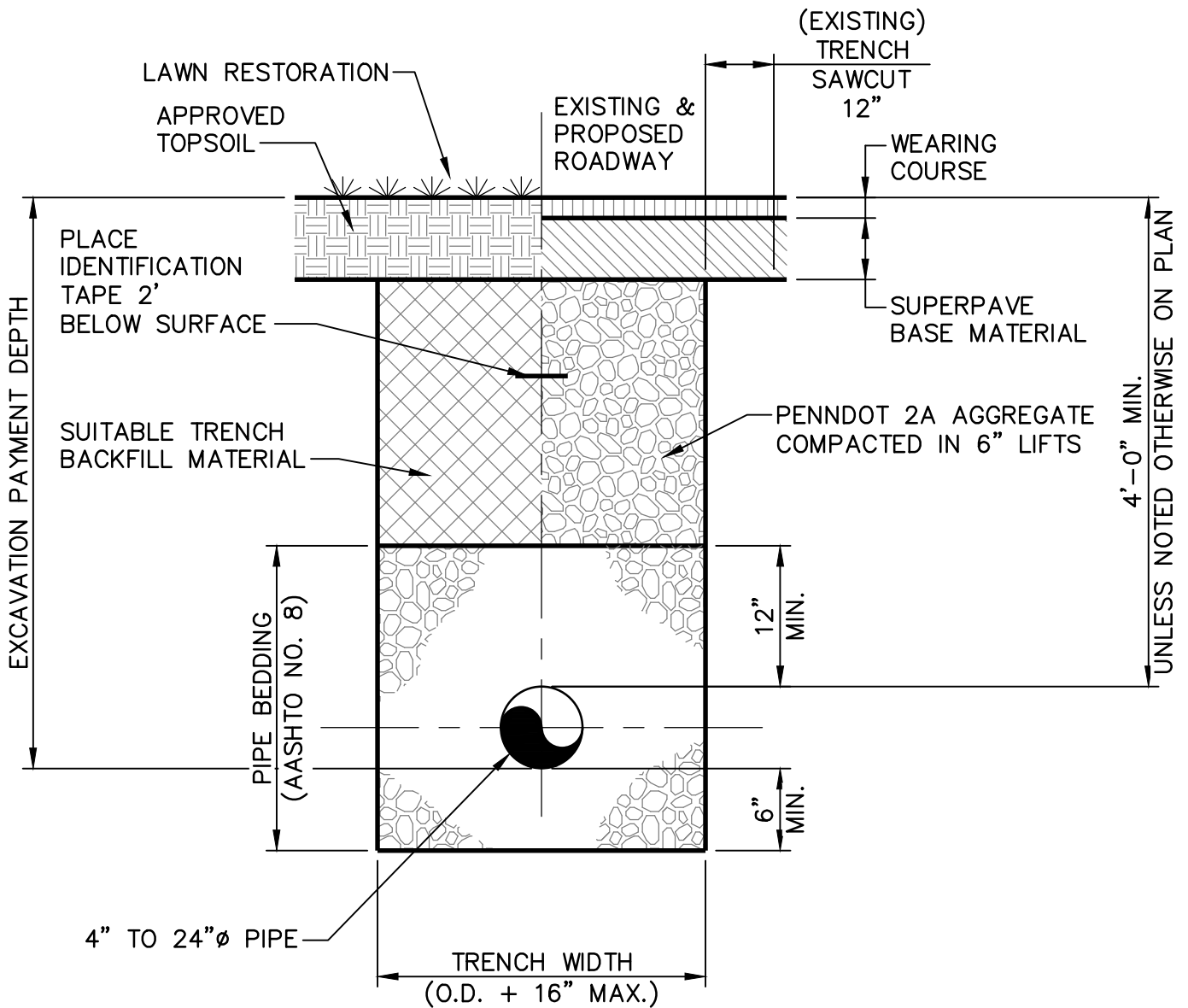
1. REMOVE EXISTING MANHOLE FRAME AND COVERS. CLEAN AND STORE AS DIRECTED BY OWNER.
2. CONTRACTOR HAS OPTION OF SUBSTITUTING FLOWABLE FILL CONCRETE IN LIEU OF COMPACTED AGGREGATE BACKFILL.

MANHOLE ABANDONMENT DETAIL

NOT TO SCALE

File name: F:\0004\000483_0001\CSD\Standard Details\MANHOLE.DWG Layout:Layout1 Nov 19, 2015--2:36pm afocht

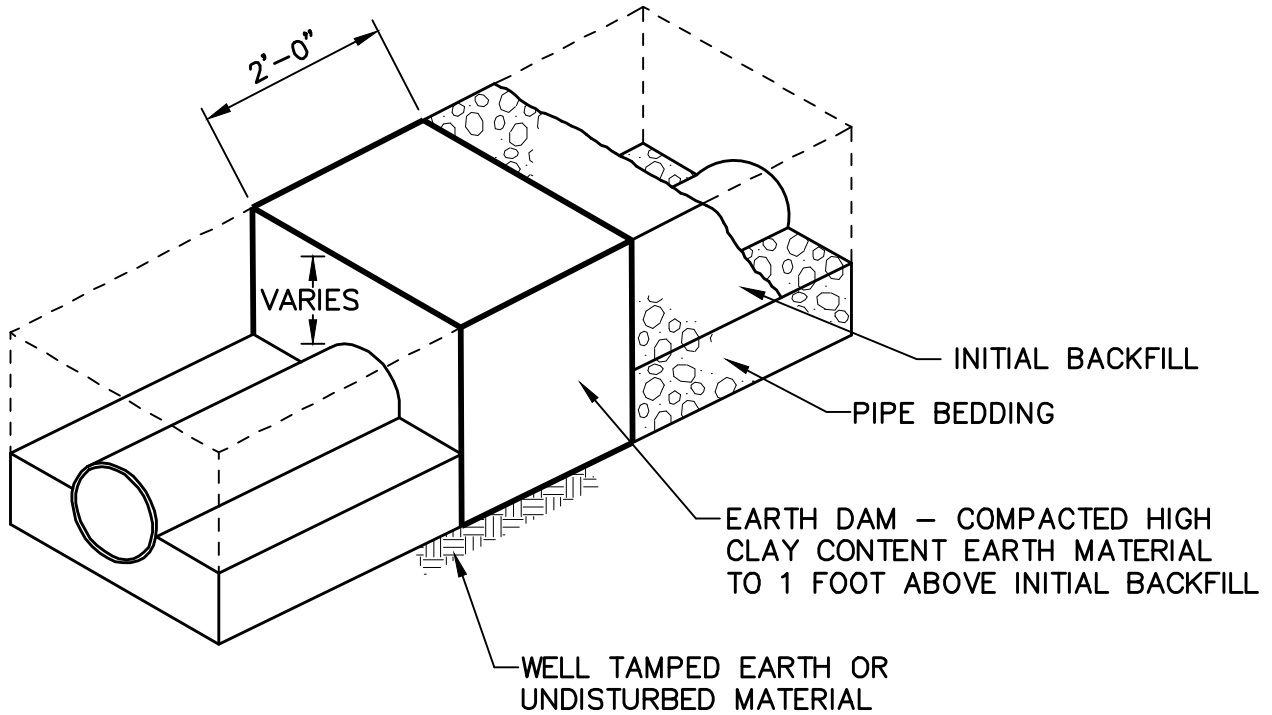
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PIPE TRENCH DETAIL
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			CHESTER COUNTY PENNSYLVANIA



CLAY DIKE DETAIL
NOT TO SCALE

File Name: P:\0004\000483_001\CS\Standard Details\CLAYDIKE.dwg Layout/Layout1 Dec 14, 2015 - 8:09am sfocht

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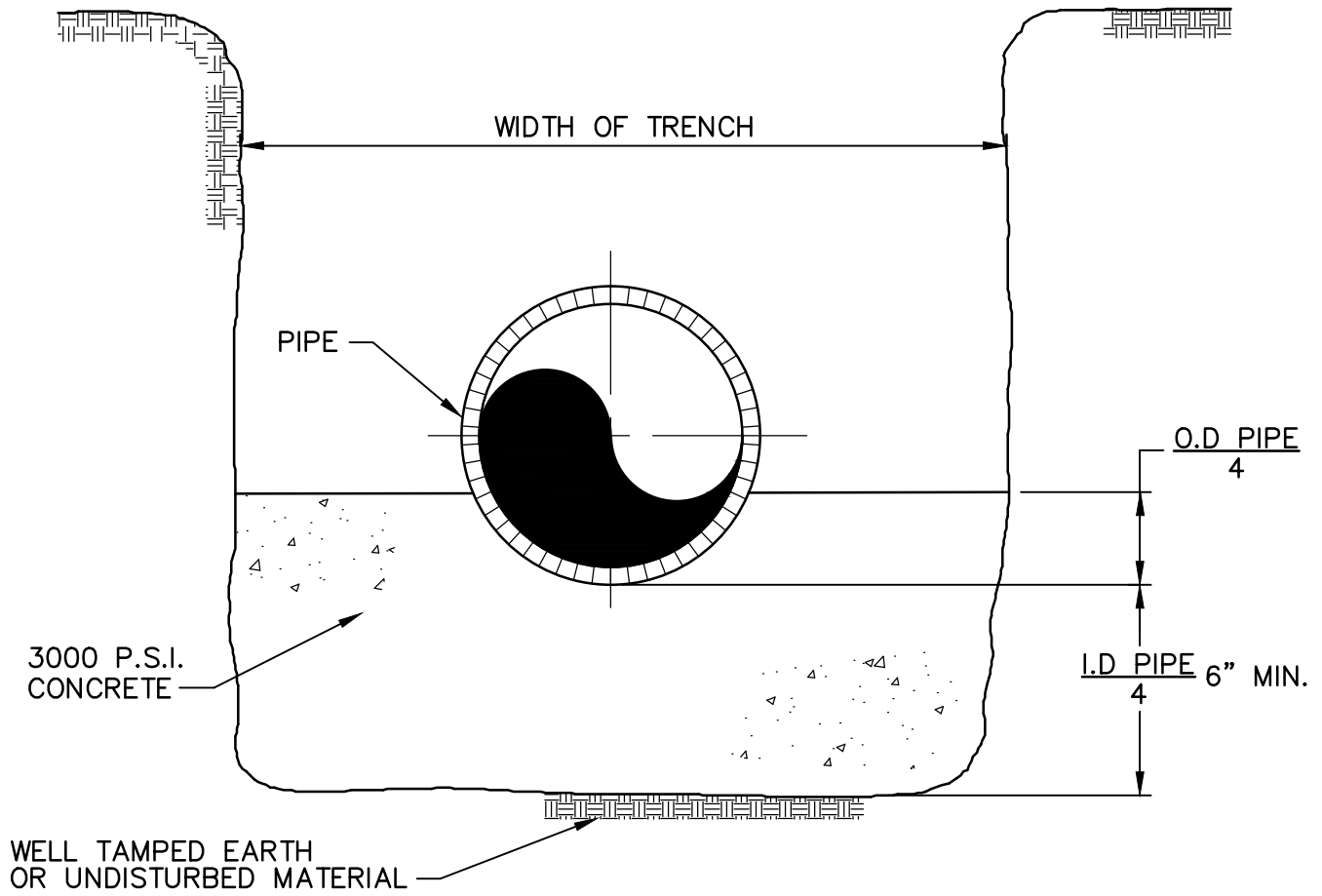
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CONCRETE CRADLE PIPE BEDDING
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File Name: F:\0004\000483_0001\C3D\Standard Details\CONCRADLE.dwg Layout:Layout1 Nov 19, 2015 - 2:38pm efocht

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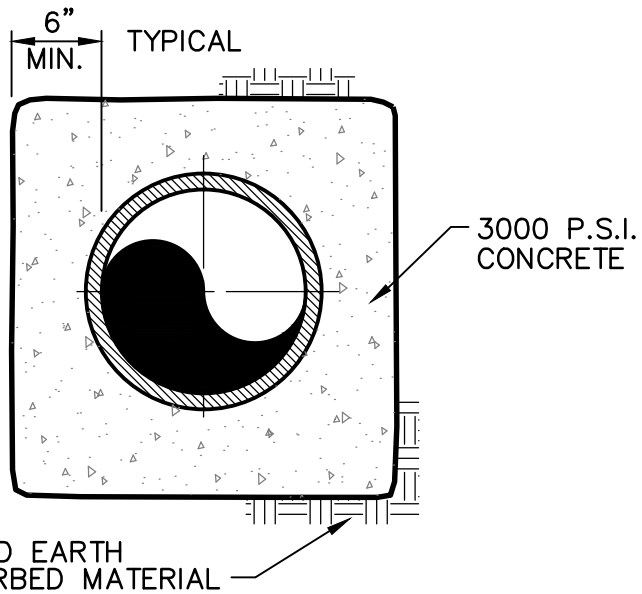
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DETAIL NO.
D18
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1 OF 1
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WELL TAMPED EARTH
OR UNDISTURBED MATERIAL

SECTION
CONCRETE ENCASEMENT DETAIL
NOT TO SCALE

File name: F:\0004\000483_0001\C3D\Standard Details\CONCRETE ENCASEMENT.dwg Layout: Layout1 Nov 19, 2015-2:39pm afocht

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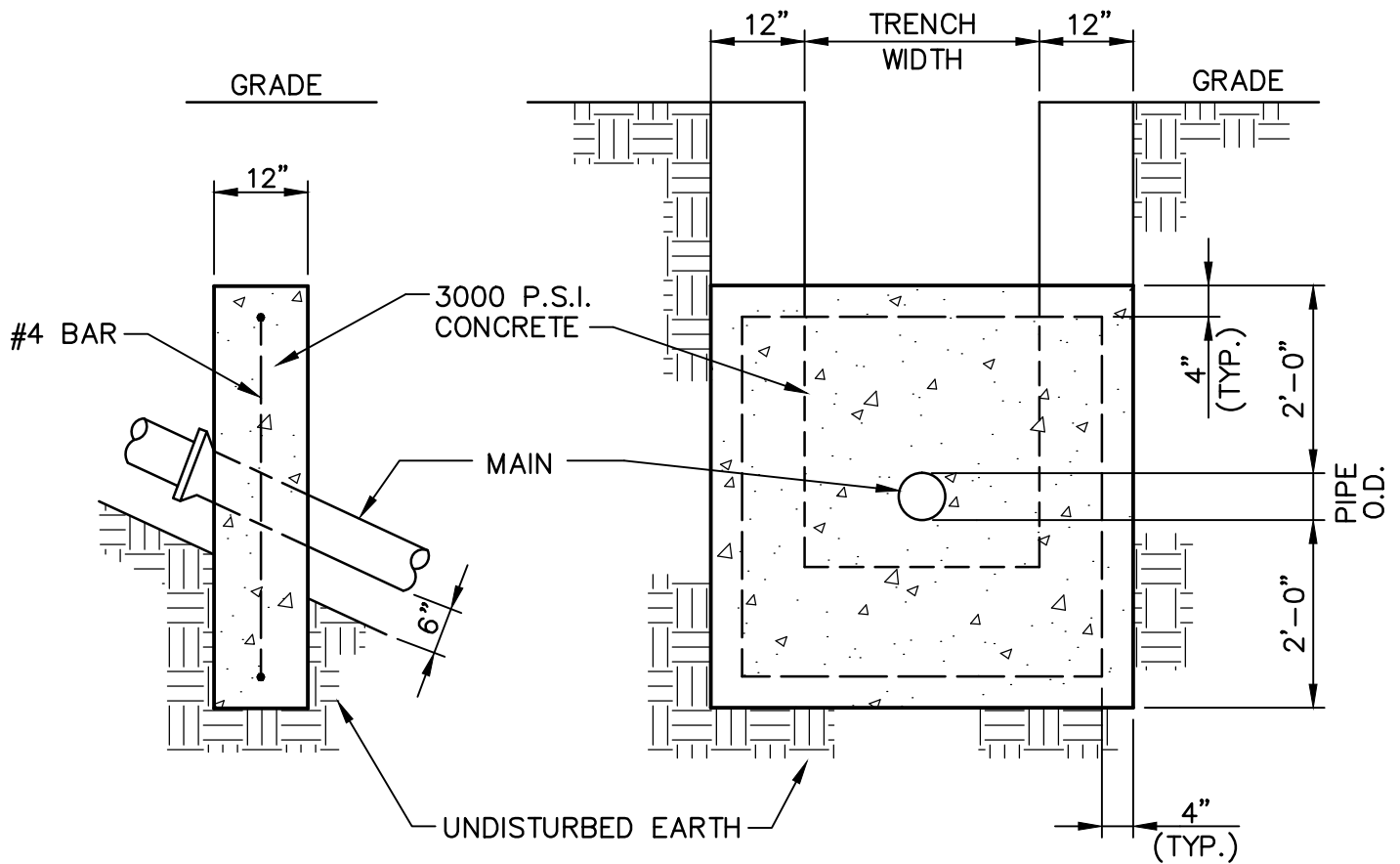
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DETAIL NO. D19
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SIDE ELEVATION

FRONT ELEVATION

NOTE: PROVIDE ANCHORS ON SLOPES 20% OR GREATER

CONCRETE ANCHOR SPACING	
SLOPE	MAXIMUM SPACING CENTER TO CENTER DISTANCE
20% - 35%	36 FEET
35% - 50%	24 FEET
OVER 50%	16 FEET

CONCRETE ANCHOR DETAIL

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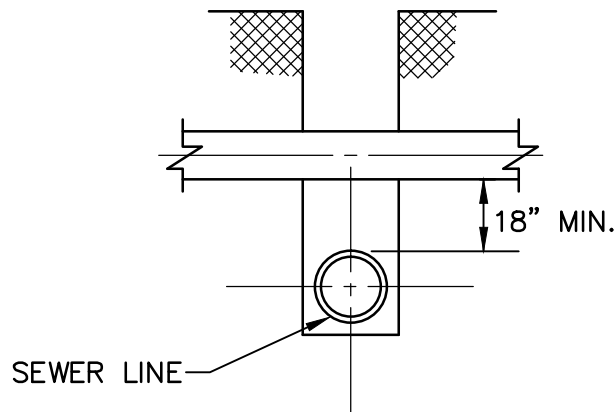
DETAIL NO.

D20

SHEET NO.

1 OF 1

PROJECT 0483.001



SECTION

NOTES:

1. IF JOINT ON WATER MAIN IS WITHIN LIMITS OF SEWER TRENCH. INSTALL MECHANICAL BELL JOINT CLAMP.
2. IF CLEARANCE IS LESS THAN 18" CONCRETE ENCASE SEWER PIPE 10 FT. EACH SIDE OF WATER MAIN.
3. IN NO CASE SHALL THE SEWER PIPE CONTACT ANY WATER MAIN, SERVICE LINE OR APPURTENANCE.

VERTICAL WATER MAIN CLEARANCE

NOT TO SCALE

File name: F:\0004\000483_0001\CSD\Standard Details\WATERCLEARANCE.dwg Layout:Layout1 Nov 19, 2015-2:40pm afcbt

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**NORTHWESTERN CHESTER COUNTY
MUNICIPAL AUTHORITY
STANDARD DETAILS**

CHESTER COUNTY

PENNSYLVANIA

PROJ. MGR. - RES
DESIGN - RES
CADD - RSF
CHECKED -
SCALE - NONE
DATE - DEC. 2015

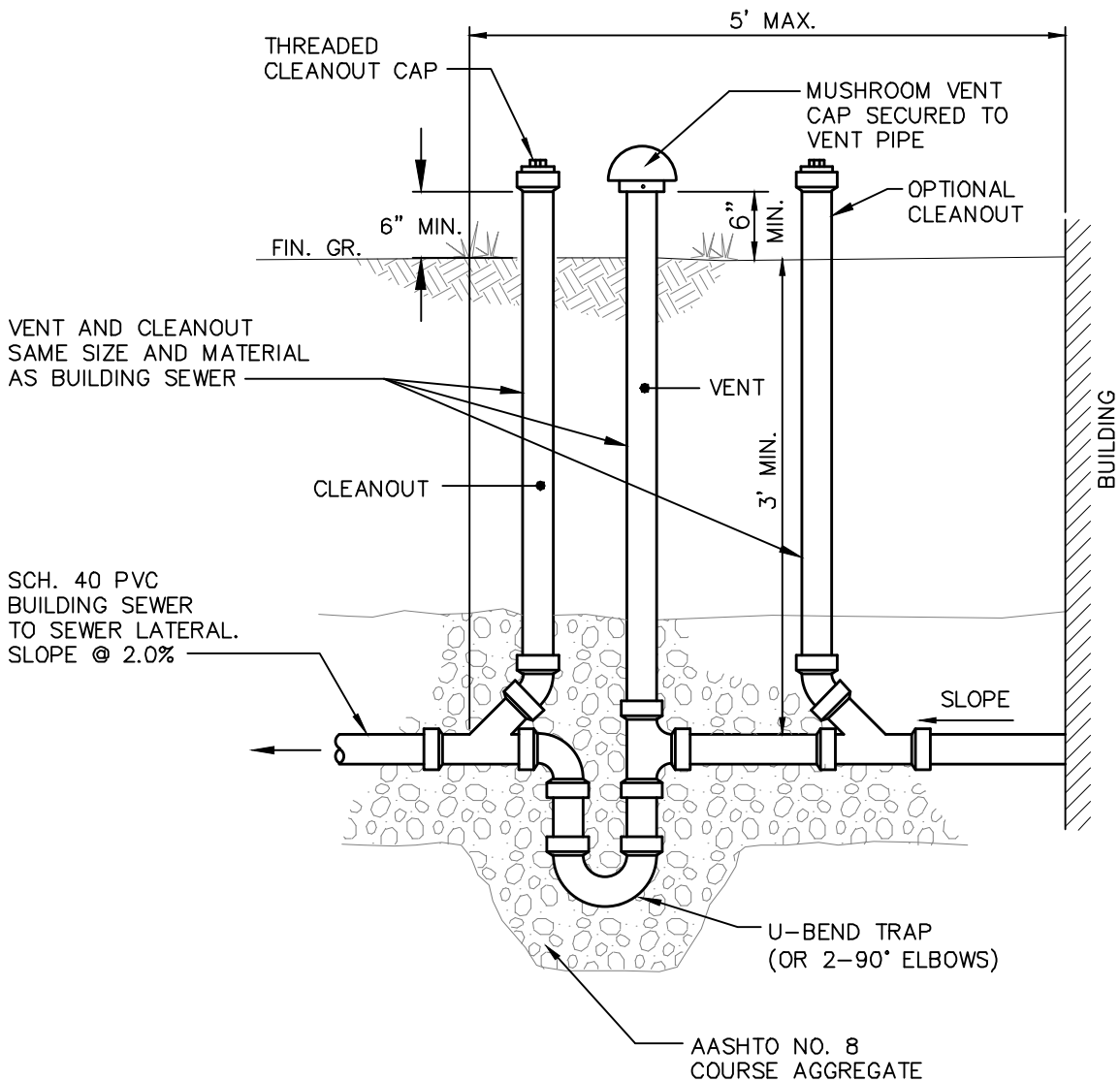
DETAIL NO.

D21

SHEET NO.

1 OF 1

PROJECT 0483.0001



NOTES:

1. ALL FITTINGS USED FOR CLEANOUT, TRAP AND VENT SHALL BE SOLVENT WELD.
2. AUTHORITY APPROVAL REQUIRED TO PLACE TRAP FURTHER THAN 5 FEET FROM BUILDING TO PLACE TRAP ON UNDISTURBED EARTH.

TRAP, VENT & CLEANOUT IN GRASSY AREAS

NOT TO SCALE

File name: P:\0004\000483_001\33\Standard Details\TRAP-VENT00.dwg Layout/Layout Dec 14, 2015--9:28am alicat



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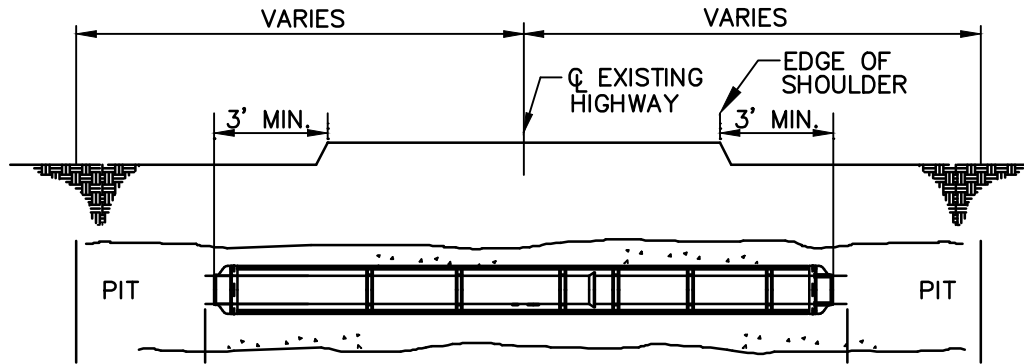
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DESIGN - RES
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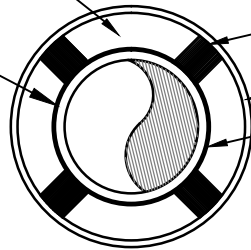
DETAIL NO.
D22
SHEET NO.
1 OF 1
PROJECT 0483.001



END PROFILE

FILL VOID WITH SAND OR AASHTO #8

PVC/DIP CARRIER PIPE

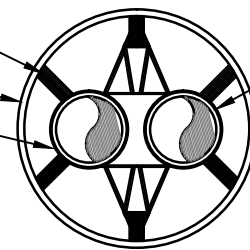


MAIN LINE SECTION

POLYETHYLENE SPACER

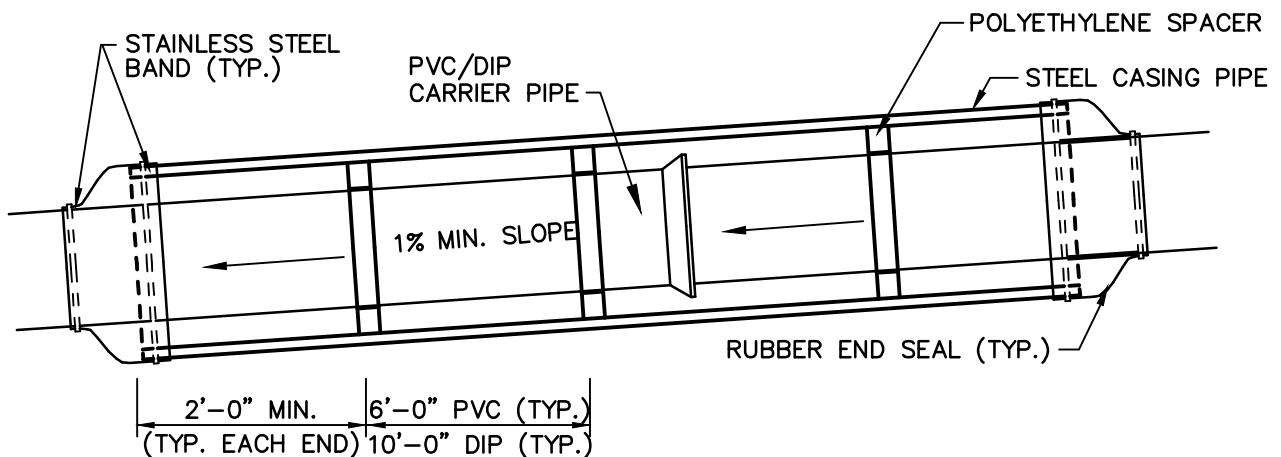
STEEL CASING PIPE

CARBON STEEL CASING SPACER



DUAL LATERAL SECTION

CARRIER PIPE



SECTION

NOTE:

1. SEE HIGHWAY CROSSINGS FOR SPECIFIC LENGTHS AND LOCATIONS
2. ALL BORE PITS 3' MINIMUM OFF EDGE OF SHOULDER

SINGLE LATERAL ONLY		DUAL LATERAL ONLY	
CARRIER PIPE	MIN. CASING PIPE	CARRIER PIPE	MIN. CASING PIPE
1 1/4"	6"	1 1/4"	6"
2"	6"	2"	8"
4"	10"	4"	16"
6"	12"	6"	24"
8"	16"	8"	32"

LOW PRESSURE/GRAVITY SEWER HIGHWAY CROSSING DETAIL

NOT TO SCALE



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SCALE - NONE
DATE - DEC. 2015

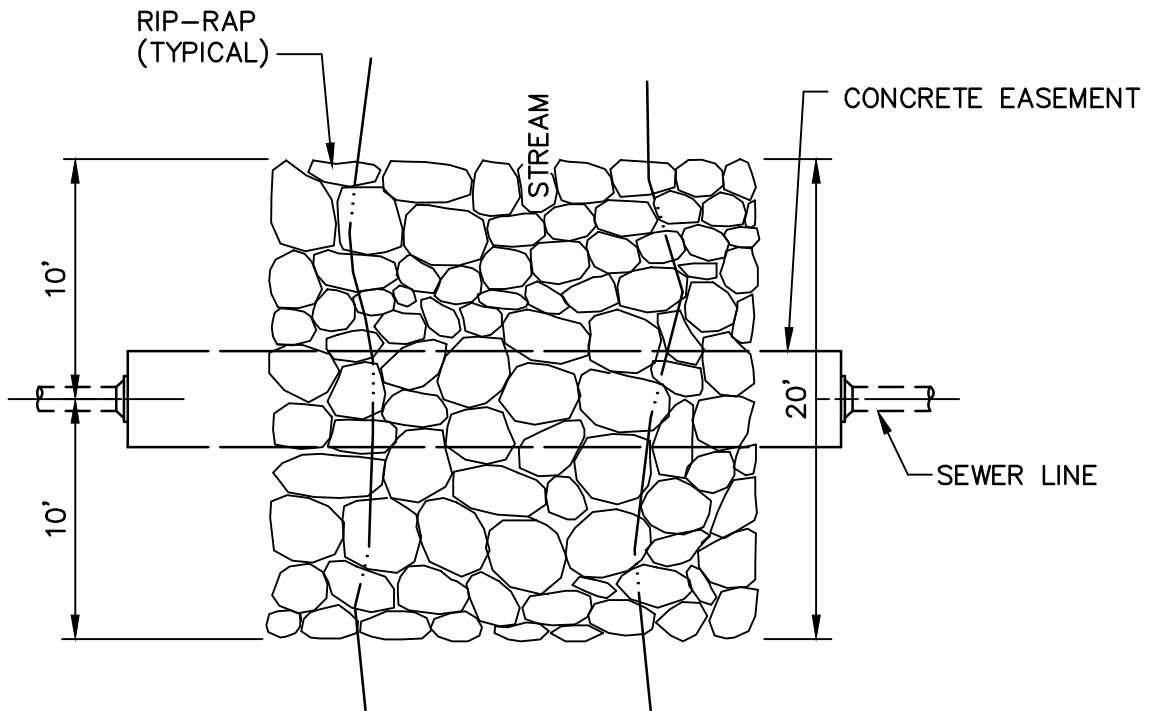
DETAIL NO.

D23

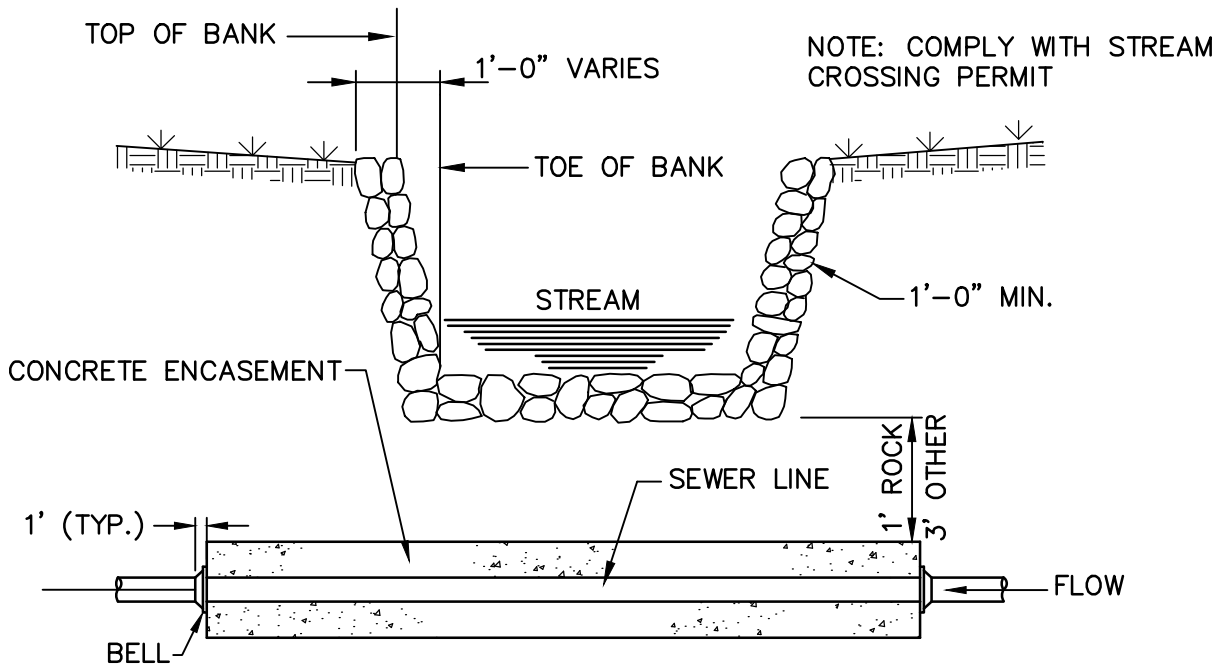
SHEET NO.

1 OF 1

PROJECT 0483.001



PLAN VIEW



STREAM CROSSING DETAIL

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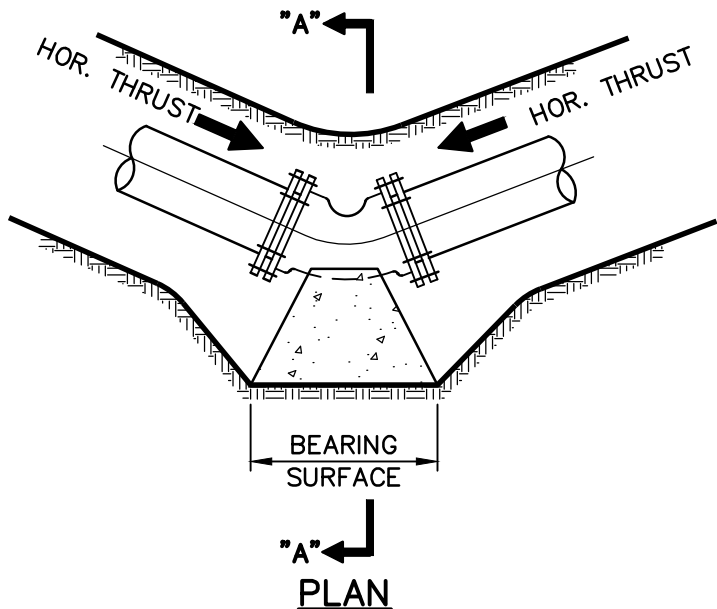
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CHESTER COUNTY

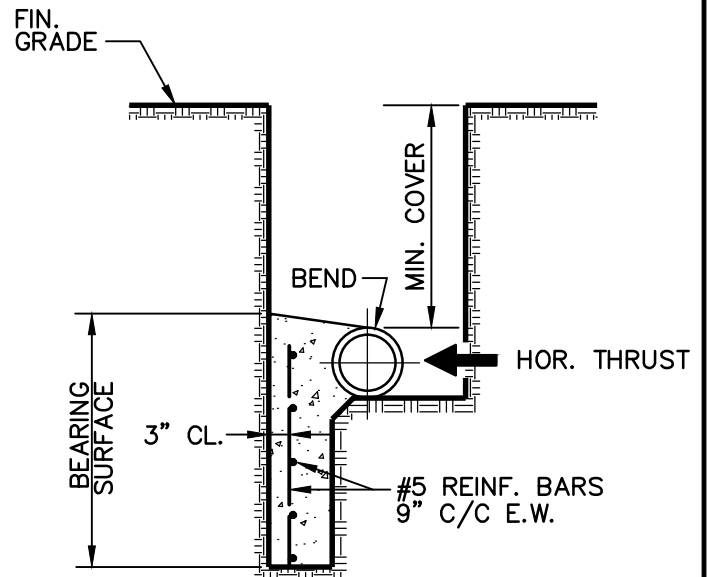
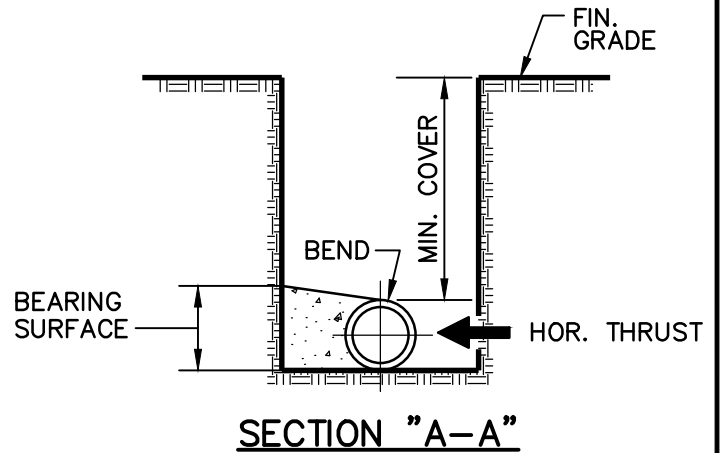
PENNSYLVANIA

PROJ. MGR. - RES
DESIGN - RES
CADD - RSF
CHECKED -
SCALE - NONE
DATE - DEC. 2015

DETAIL NO. D24
SHEET NO. 1 OF 1
PROJECT 0483.001



VERTICAL THRUST DOWNWARD



NOTES:

1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I. AT THE END OF 28 DAYS.
2. ALL REINFORCING STEEL SHALL BE DEFORMED BARS.
3. NO COUPLINGS OR JOINTS SHALL BE COVERED WITH CONCRETE.

THRUST BLOCKING
 NOT TO SCALE

File name: F:\0004\000483_0001\3D\Standard Details\THRUST.dwg Layout:Layout1 Nov 19, 2015 2:02pm atch

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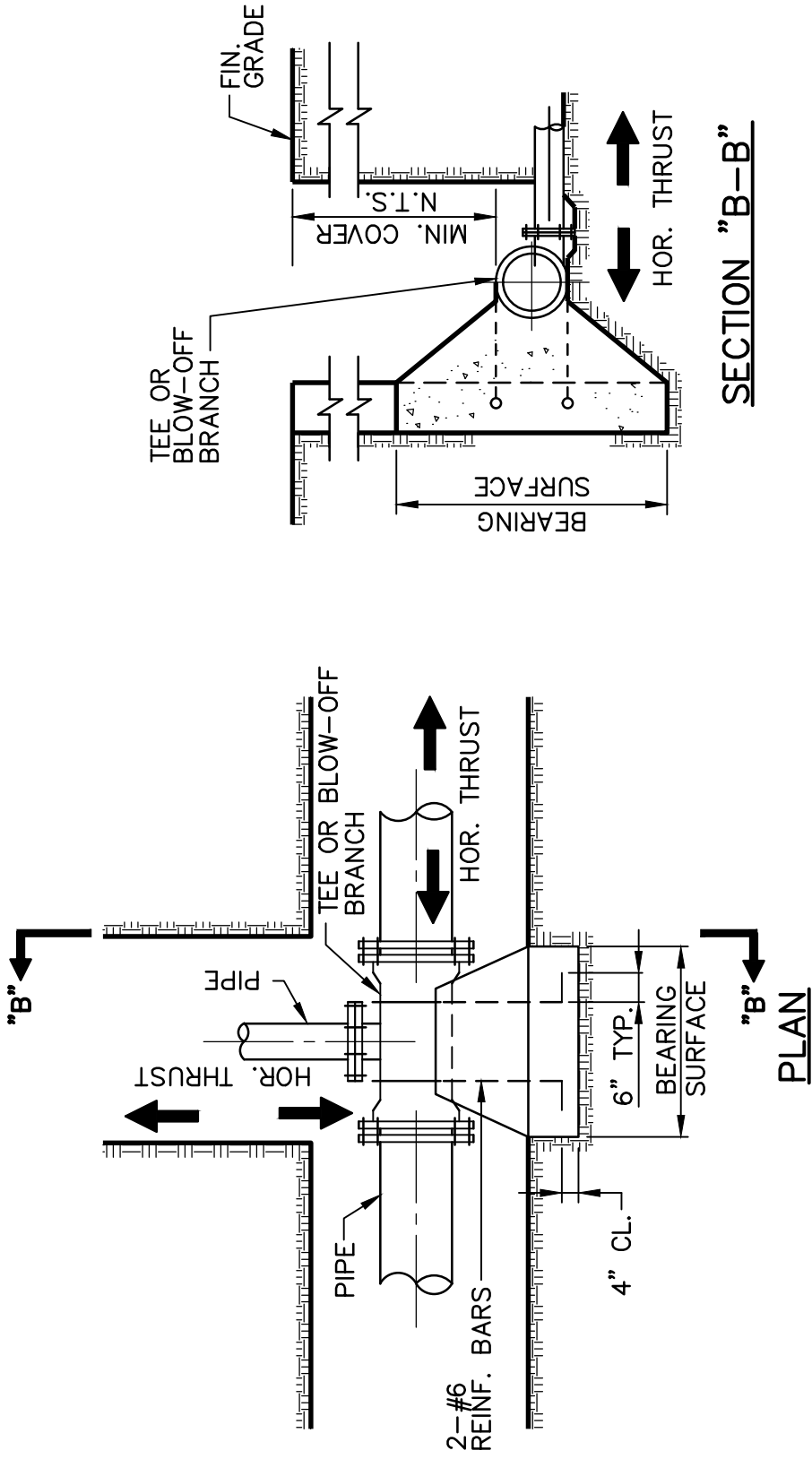
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CHESTER COUNTY PENNSYLVANIA

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DETAIL NO.
D25
SHEET NO.
1 OF 5
PROJECT 0483.0001



THRUST BLOCKING
NOT TO SCALE

SECTION "B-B"



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CHESTER COUNTY

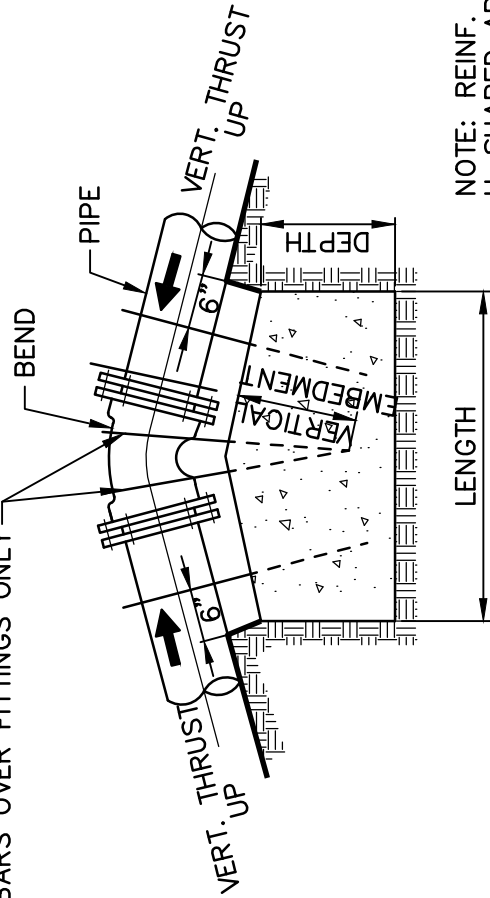
PENNSYLVANIA

PROJ. MGR. - RES
DESIGN - RES
CADD - RSF
CHECKED -
SCALE - NONE
DATE - DEC. 2015

DETAIL NO. D25
SHEET NO. 2 OF 5
PROJECT 0483.0001

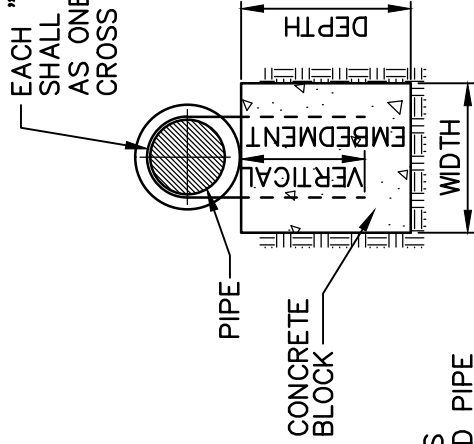
FOR 6" PIPES & LESS, USE BARS OVER FITTINGS ONLY

EACH "U" SHAPED BAR SHALL BE CONSIDERED AS ONE BAR FOR COMPUTING CROSS SECTIONAL AREAS.



PLAN

VERTICAL THRUST UPWARD



SECTION

VERTICAL THRUST UPWARD

NOTE: REINF. BARS U-SHAPED AROUND PIPE

THRUST BLOCKING

NOT TO SCALE

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CHESTER COUNTY

PENNSYLVANIA

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SCALE - NONE
DATE - DEC. 2015

DETAIL NO. D25
SHEET NO. 3 OF 5
PROJECT 0483.001

**MINIMUM SQUARE FEET OF BEARING SURFACE REQUIRED FOR
HORIZONTAL THRUST BLOCKING AND VERTICAL THRUST DOWNWARD**

PIPE SIZES	6" AND 8"			10" AND 12"			14" AND 16"					
	DEGREE BEND OR DEFLECTION			DEGREE BEND OR DEFLECTION			DEGREE BEND OR DEFLECTION					
	11 1/4"	22 1/2"	45°	90°	11 1/4"	22 1/2"	45°	90°	11 1/4"	22 1/2"	45°	90°
SAND 1 TON/SQ. FT. SOFT CLAY 1 TON/SQ. FT.	1.50	3.00	6.00	12.00	3.00	6.00	12.00	24.50	5.50	11.00	21.50	43.00
SAND & GRAVEL 2 TON/SQ. FT.	1.00	1.50	3.00	6.00	1.50	3.00	6.00	12.00	2.50	5.50	11.00	21.50
CLAY 3 TON/SQ. FT.	1.00	1.00	2.00	4.00	1.00	2.00	4.00	8.00	2.00	3.50	7.00	14.00
SOFT ROCK 5 TON/SQ. FT.	1.00	1.00	1.00	2.50	1.00	1.00	2.50	5.00	1.00	2.00	4.50	8.50
ROCK 20 TON/SQ. FT.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00

PIPE SIZES	18" AND 20"			24"			30"					
	DEGREE BEND OR DEFLECTION			DEGREE BEND OR DEFLECTION			DEGREE BEND OR DEFLECTION					
	11 1/4"	22 1/2"	45°	90°	11 1/4"	22 1/2"	45°	90°	11 1/4"	22 1/2"	45°	90°
SAND 1 TON/SQ. FT. SOFT CLAY 1 TON/SQ. FT.	8.50	16.50	33.00	66.00	13.6	27	52	97	21.3	41.4	81	150
SAND & GRAVEL 2 TON/SQ. FT.	4.00	8.50	16.50	33.00	6.8	13.5	26	48.5	10.6	20.7	40.5	75
CLAY 3 TON/SQ. FT.	3.00	5.50	11.00	22.00	4.5	9	17.3	32.3	7.1	13.8	27.0	50
SOFT ROCK 5 TON/SQ. FT.	1.50	3.50	6.50	13.00	2.7	5.4	10.4	19.4	4.2	8.3	16.2	30
ROCK 20 TON/SQ. FT.	1.00	1.00	1.50	3.50	.68	1.3	2.6	4.8	1.06	2.07	4.05	7.5

PIPE SIZES	36"			42"			48"			54"			60"			
	DEGREE BEND OR DEFLECTION			DEGREE BEND OR DEFLECTION			DEGREE BEND OR DEFLECTION			DEGREE BEND OR DEFLECTION			DEGREE BEND OR DEFLECTION			
	11 1/4"	22 1/2"	45°	90°	11 1/4"	22 1/2"	45°	90°	11 1/4"	22 1/2"	45°	90°	11 1/4"	22 1/2"	45°	90°
SAND 1 TON/SQ. FT. SOFT CLAY 1 TON/SQ. FT.	30.6	59.6	117	220	41.6	81	160	294	54.4	106	210	384	69	134	263	486
SAND & GRAVEL 2 TON/SQ. FT.	15.3	29.8	58.5	110.0	20.8	40.5	80	147	27.2	53	105	192	34.5	67	131.5	243
CLAY 3 TON/SQ. FT.	10.2	19.9	39	73.3	13.8	27	53.3	98	18.1	35.3	70	128	23	44.6	87.6	162
SOFT ROCK 5 TON/SQ. FT.	6.1	11.9	23.4	44	8.3	16.2	32	58.8	10.9	21.2	42	76.8	13.8	26.8	52.6	97.2
ROCK 20 TON/SQ. FT.	1.5	2.9	5.8	11	2.08	4.05	8	14.7	2.7	5.3	10.5	19.2	3.4	6.7	13.1	24.3



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CHESTER COUNTY

PENNSYLVANIA

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CHECKED -
SCALE - NONE
DATE - DEC. 2015

DETAIL NO.	D25
SHEET NO.	4 OF 5
PROJECT	0483.0001

DIMENSIONS OF CONCRETE BLOCKING FOR VERTICAL BENDS WITH AN UPWARD THRUST

PIPE SIZES	6" AND 8"		10" AND 12"		14" AND 16"		18" AND 20"		24"	
	11 1/4"	22 1/2"	45'	11 1/4"	22 1/2"	45'	11 1/4"	22 1/2"		45'
DEGREE BEND OR DEFLECTION	3'	4'	6'	8.0'	6'	8'	7'	9'	10'	14'
LENGTH	3'	3'	3'	4'	3.5'	3.5'	4'	5'	6'	7'
WIDTH	2'	3'	4'	5'	3.5'	5'	4'	5'	6'	7'
DEPTH	0.15	0.28	0.57	1.30	0.60	1.18	0.92	1.84	3.61	5.2
SQ. IN. REBAR	0.66	1.33	2.66	5.9	2.7	5.2	4.1	8.3	15.8	25.7
MASS CONCRETE CU. YD.										

PIPE SIZES	30"		36"		42"		48"		54"	
	11 1/4"	22 1/2"	45'	11 1/4"	22 1/2"	45'	11 1/4"	22 1/2"		
DEGREE BEND OR DEFLECTION	8'	10'	15'	17.5'	10'	15'	13'	17'	18'	24'
LENGTH	6'	8'	8.5'	10'	8'	8.5'	8'	9.5'	10'	14'
WIDTH	6'	7'	8.5'	9'	7'	8.5'	7'	9'	8'	11'
DEPTH	2.13	4.14	8.1	11.7	4.16	8.1	5.44	10.6	21.0	26.3
SQ. IN. REBAR	10.5	20.4	40.0	57.8	20.6	40	26.9	52.3	103.7	130
MASS CONCRETE CU. YD.										

REINFORCING

BAR NO.	CROSS SECTION IN ² PER BAR	VERTICAL IMBEDMENT
5	0.31	15 IN.
6	0.44	19 IN.
7	0.60	26 IN.
8	0.79	35 IN.
9	1.00	44 IN.
10	1.27	56 IN.
11	1.56	68 IN.



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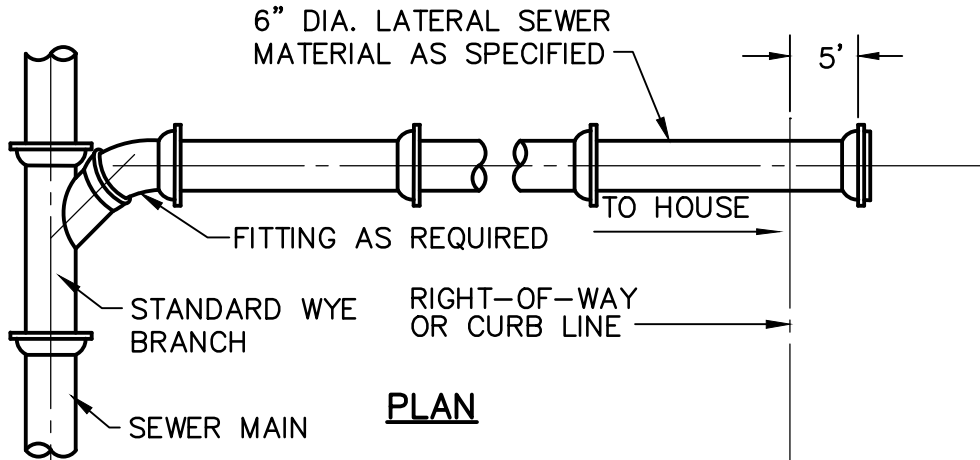
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CHESTER COUNTY

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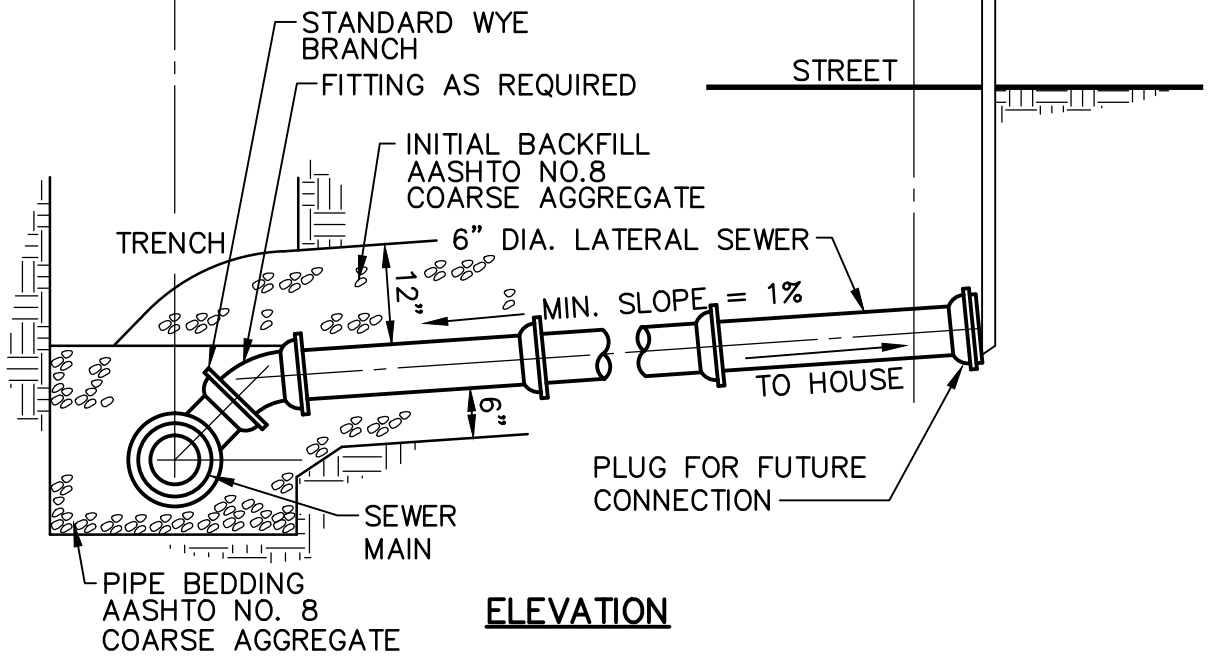
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DESIGN - RES
CADD - RSF
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SCALE - NONE
DATE - DEC. 2015

DETAIL NO.	D25
SHEET NO.	5 OF 5
PROJECT	0483.001



PLAN

PRESSURE TREATED 2"x4" STAKE.
EXTEND TO INVERT WITH LATERAL
DEPTH PERMANENTLY MARKED



ELEVATION

STANDARD LATERAL DETAIL

NOT TO SCALE



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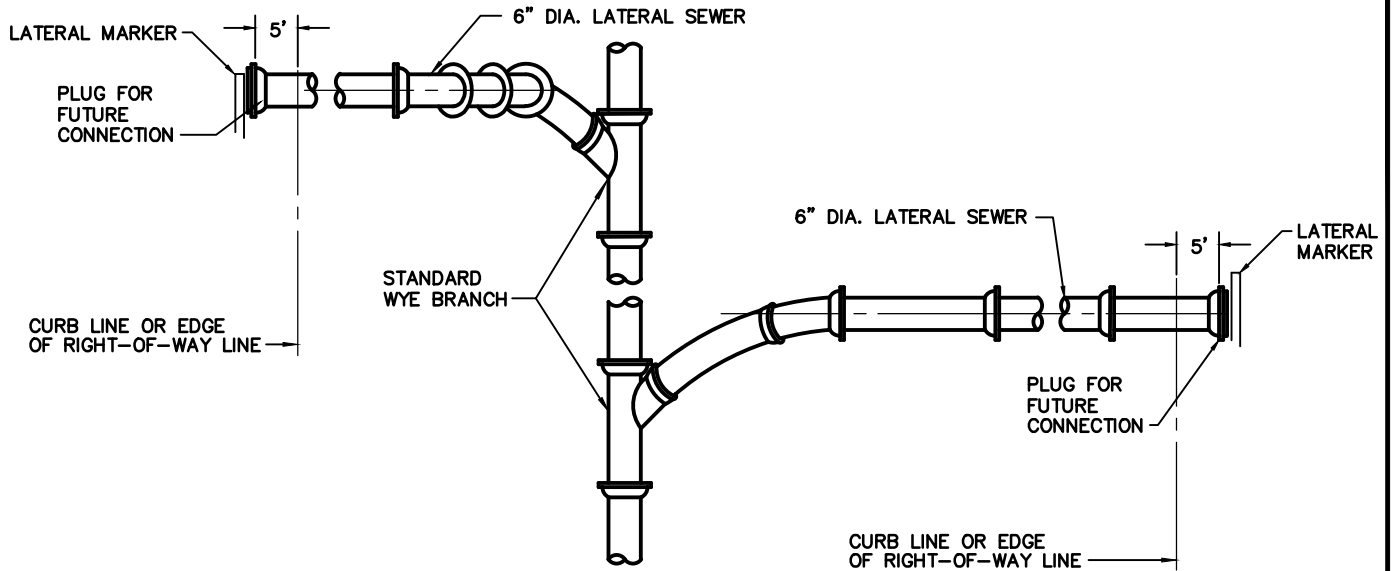
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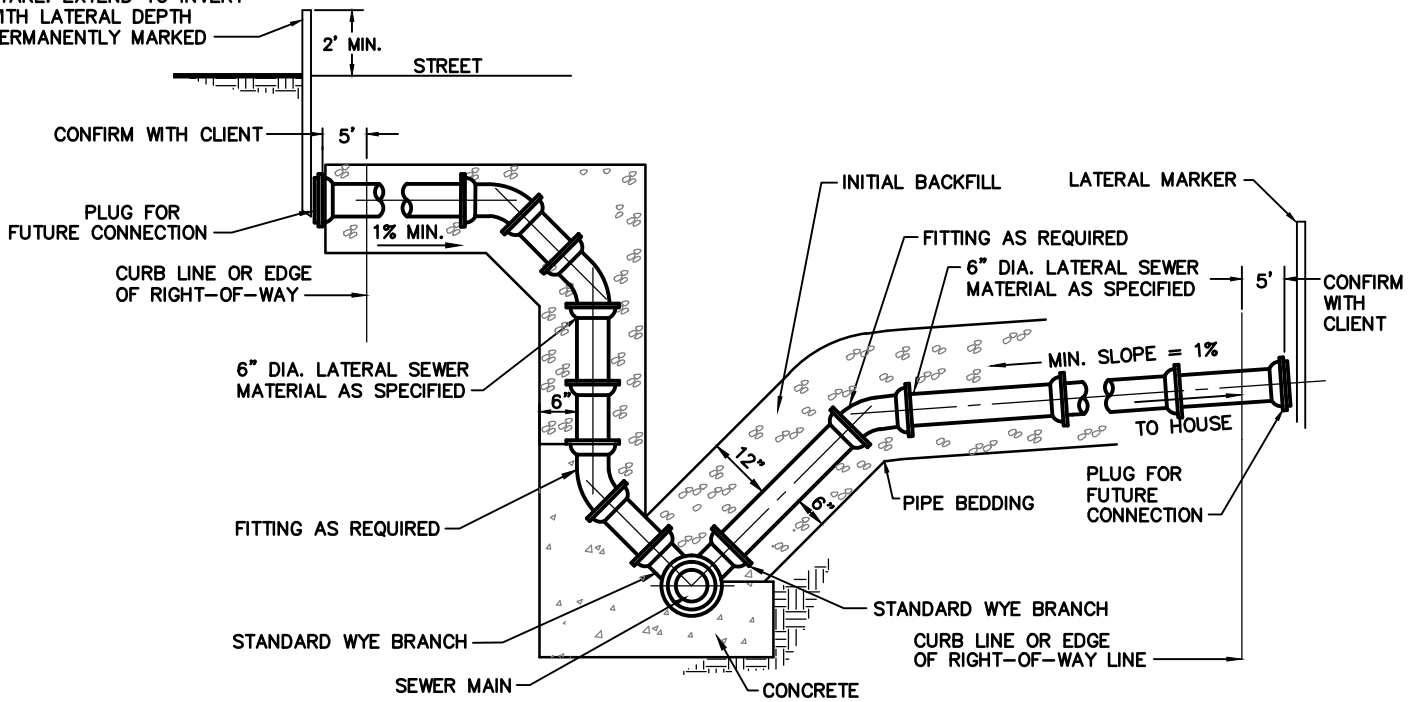
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DESIGN - RES
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CHECKED -
SCALE - NONE
DATE - DEC. 2015

DETAIL NO.
D26
SHEET NO.
1 OF 1
PROJECT 0483.001



PLAN

LATERAL MARKER (TYP.)
PRESSURE TREATED 2"x4"
STAKE. EXTEND TO INVERT
WITH LATERAL DEPTH
PERMANENTLY MARKED



ELEVATION

SLOPED RISER LATERAL DETAIL

NOT TO SCALE

NOTE:
CONSTRUCTION OF SLOPED LATERAL WITH 90 DEGREE FITTINGS IS NOT PERMITTED.



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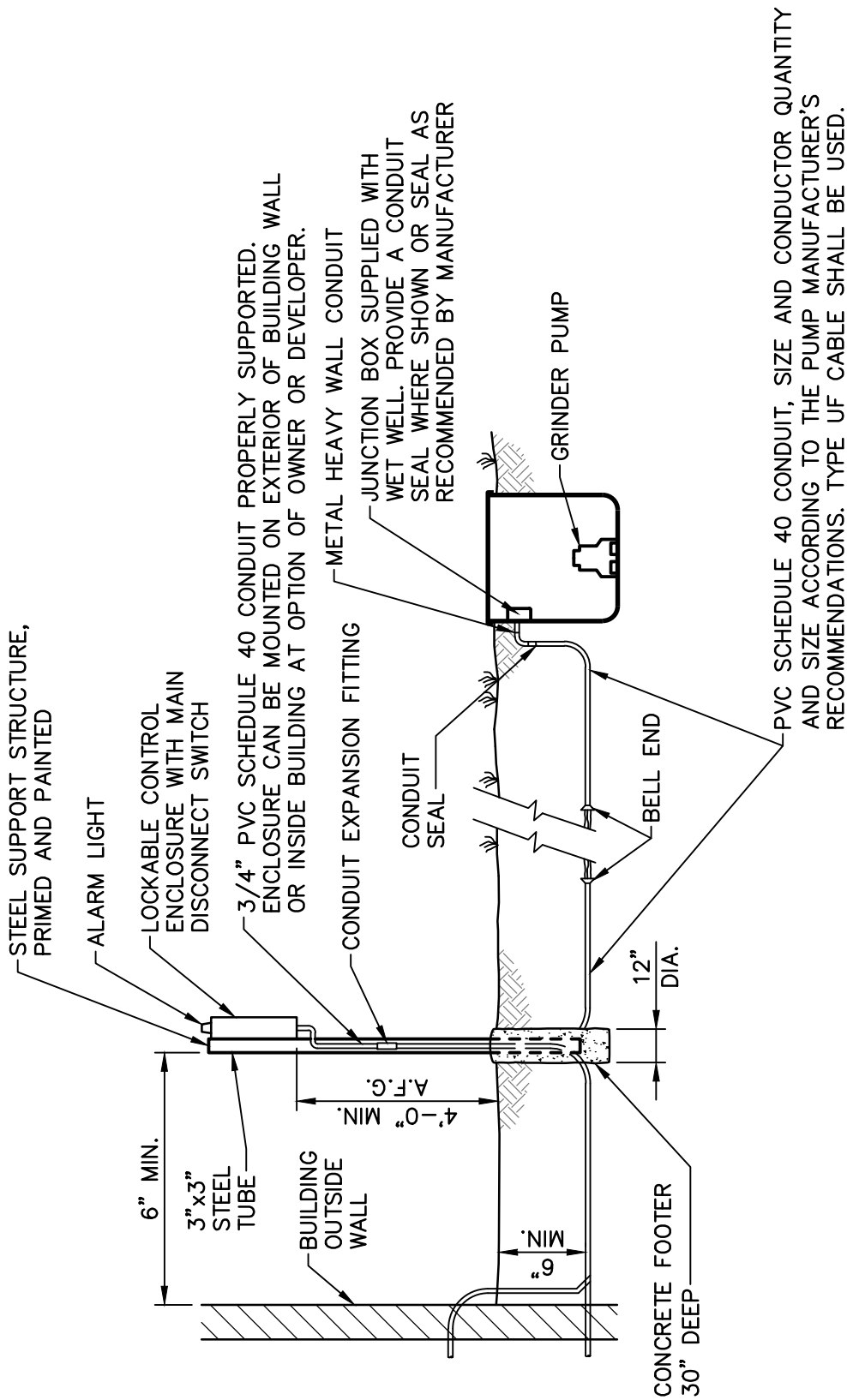
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CHESTER COUNTY

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DETAIL NO.
D27
SHEET NO.
1 OF 1
PROJECT 0483.001



GRINDER PUMP ELECTRICAL SERVICE DETAIL

NOT TO SCALE

PVC SCHEDULE 40 CONDUIT, SIZE AND CONDUCTOR QUANTITY AND SIZE ACCORDING TO THE PUMP MANUFACTURER'S RECOMMENDATIONS. TYPE UF CABLE SHALL BE USED.

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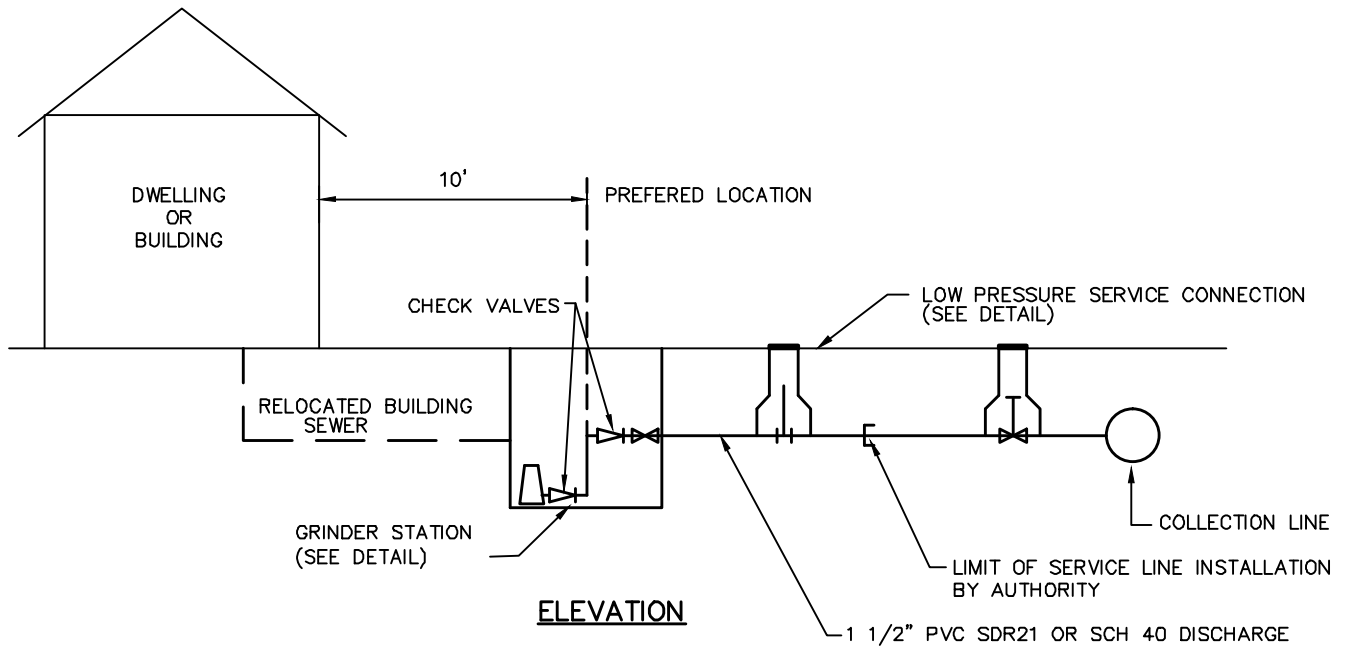
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D28

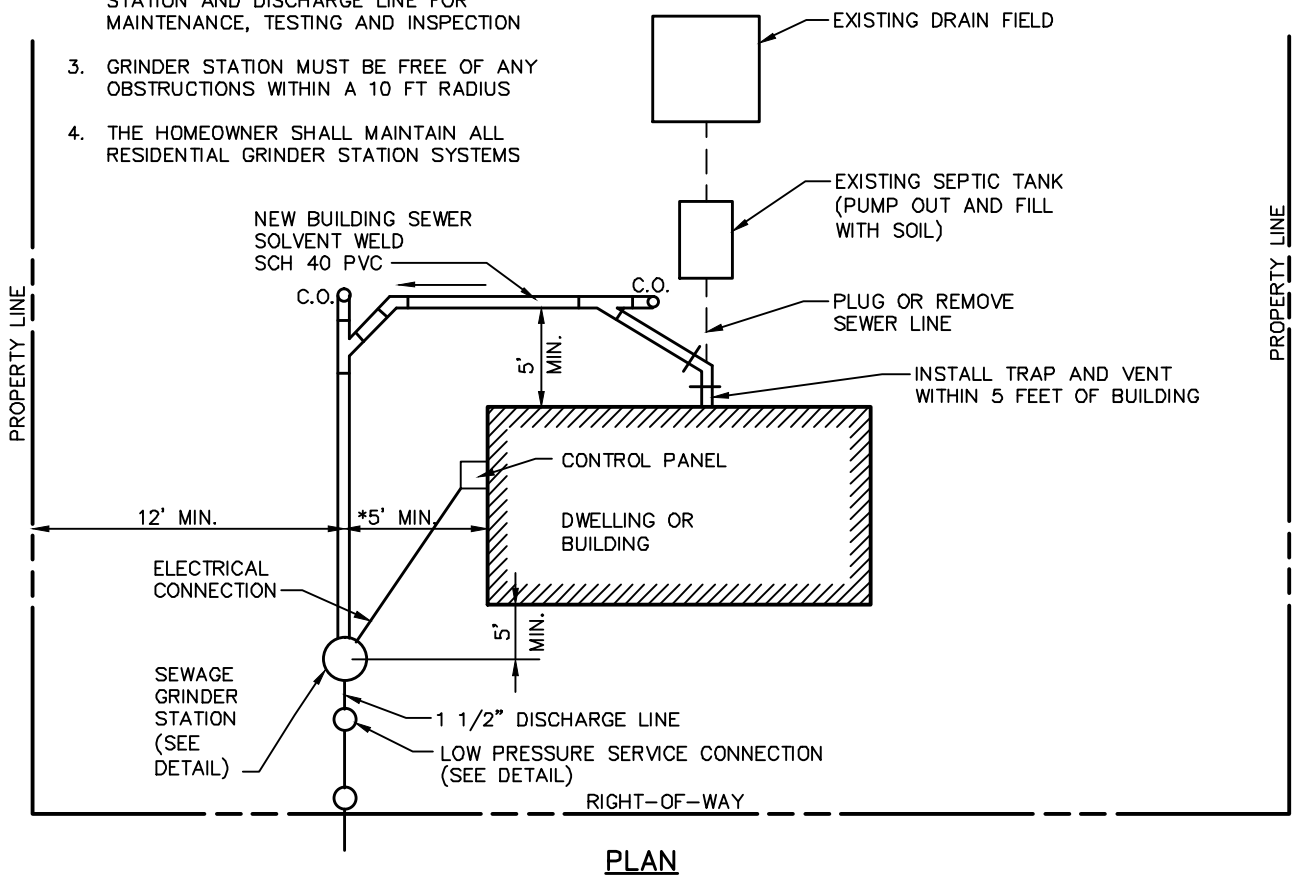
SHEET NO.

1 OF 1

PROJECT 0483.001



1. GRINDER STATION LOCATIONS MUST BE APPROVED BY THE TOWNSHIP
2. TOWNSHIP MUST HAVE ACCESS TO GRINDER STATION AND DISCHARGE LINE FOR MAINTENANCE, TESTING AND INSPECTION
3. GRINDER STATION MUST BE FREE OF ANY OBSTRUCTIONS WITHIN A 10 FT RADIUS
4. THE HOMEOWNER SHALL MAINTAIN ALL RESIDENTIAL GRINDER STATION SYSTEMS



GRINDER PUMP INSTALLATION SCHEMATIC

NOT TO SCALE



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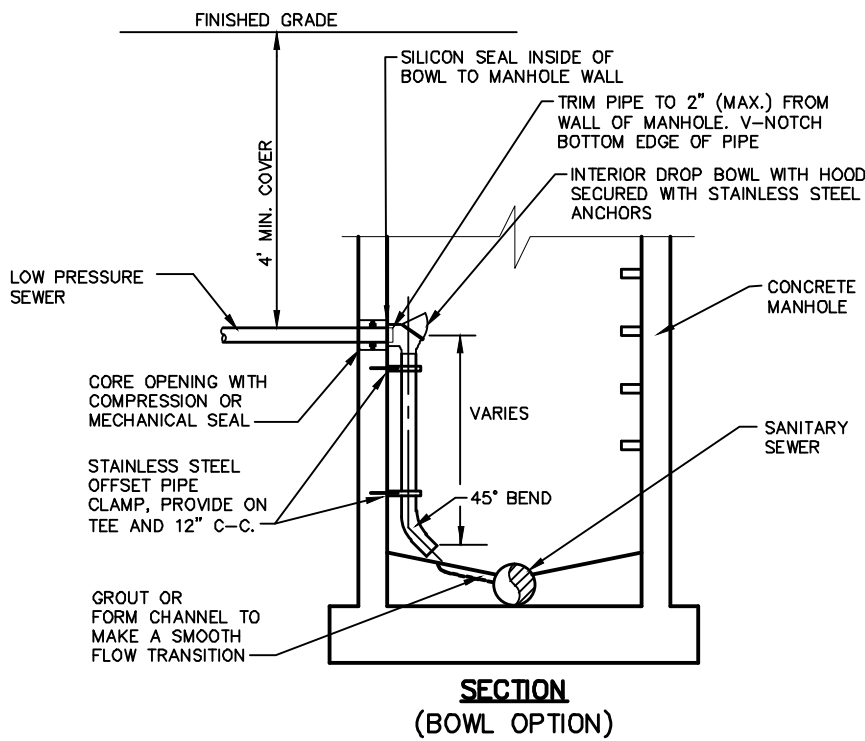
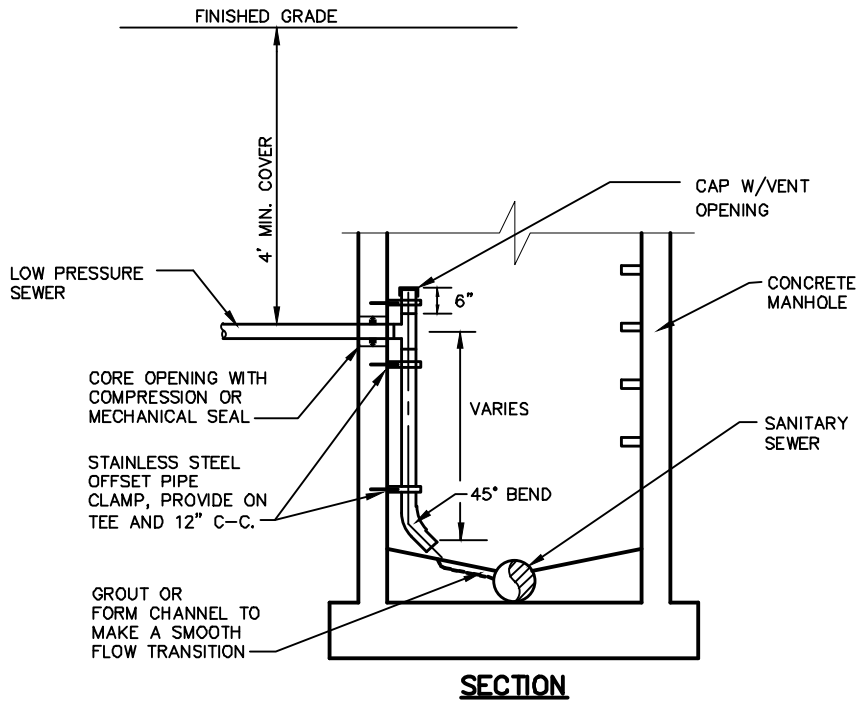
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SCALE - NONE
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DETAIL NO.
D30
SHEET NO.
1 OF 1
PROJECT 0483.0001



NOTE:
 LINE ALL MANHOLE SURFACES IN THIS AND THE TWO (2)
 SUBSEQUENT DOWNSTREAM MANHOLES USING SPRAY WALL
 BY SPRAYROQ, OR RAVEN 405.

LOW PRESSURE SEWER DISCHARGE MANHOLE DETAIL

NOT TO SCALE



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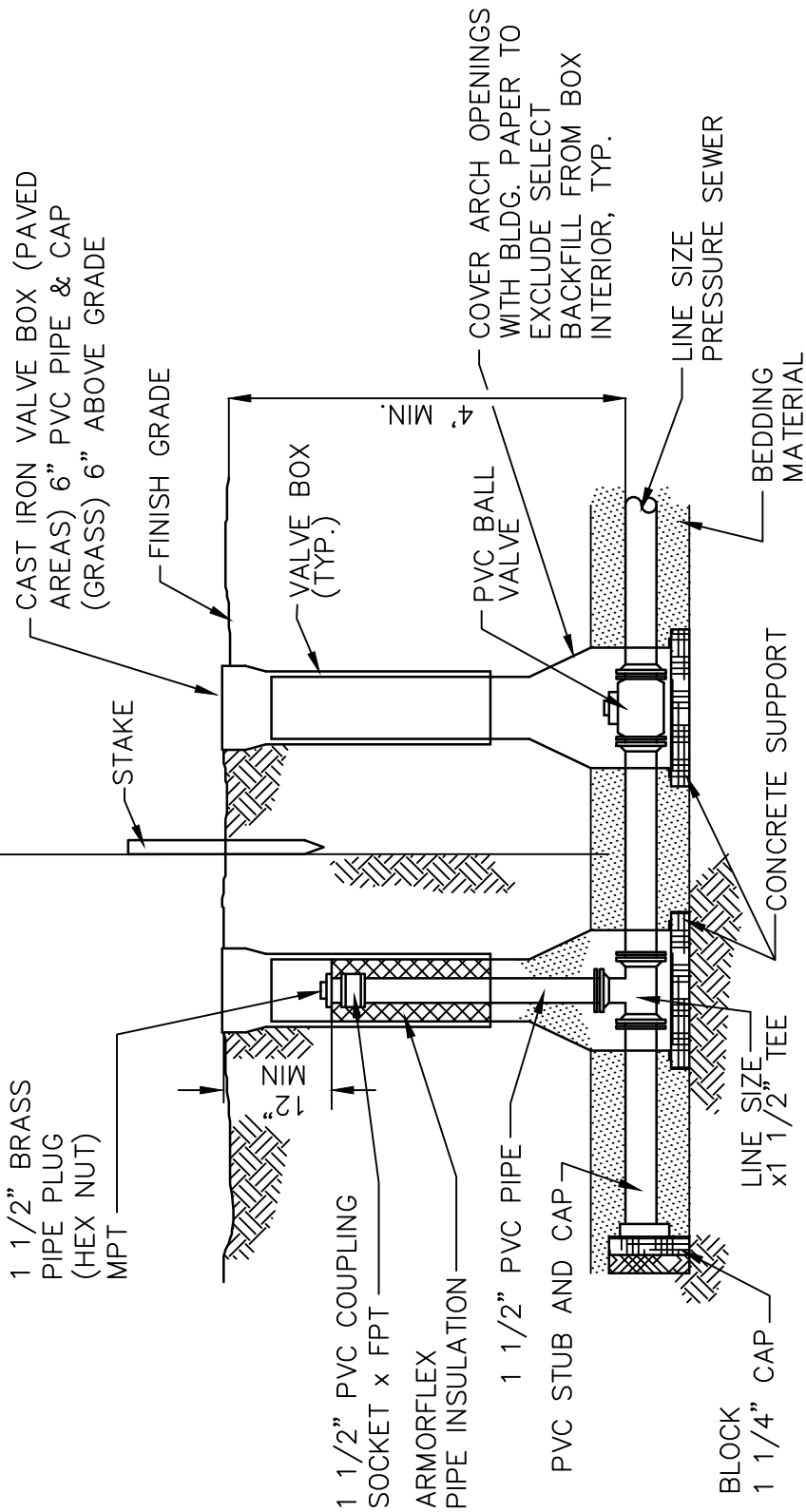
CHESTER COUNTY

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DETAIL NO.
D31
SHEET NO.
1 OF 1
PROJECT 0483.001

PROPERTY OWNER'S RESPONSIBILITIES LIMIT OF AUTHORITY RESPONSIBILITY



NOTE:
ALL PVC CONNECTIONS SHALL BE SOLVENT WELD EXCEPT WHERE NOTED OTHERWISE.

SERVICE CONNECTION DETAIL
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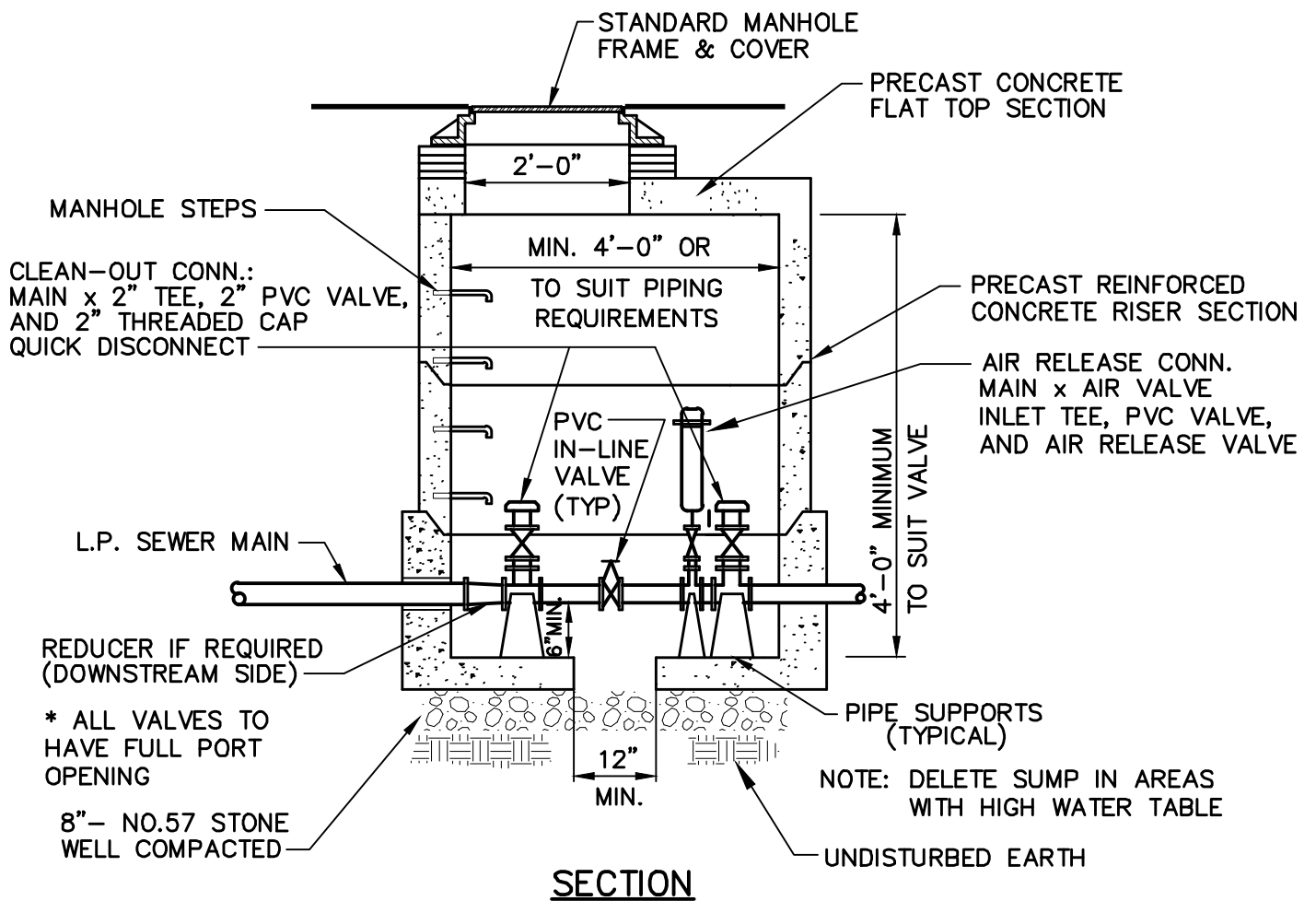
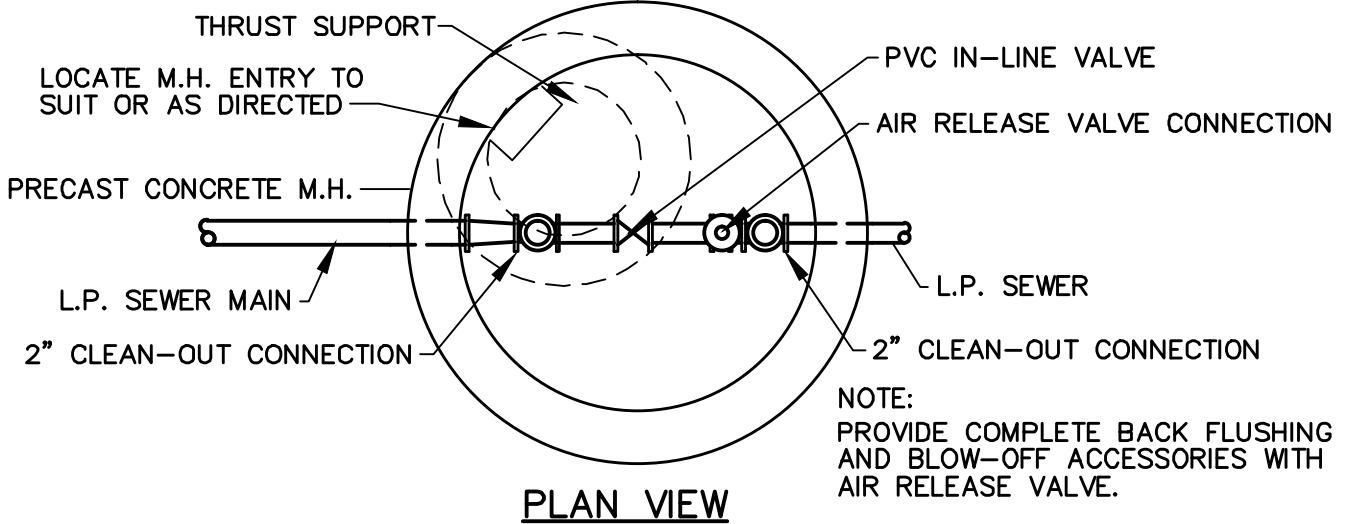
**NORTHWESTERN CHESTER COUNTY
MUNICIPAL AUTHORITY
STANDARD DETAILS**

CHESTER COUNTY

PENNSYLVANIA

PROJ. MGR. - RES
DESIGN - RES
CADD - RSF
CHECKED -
SCALE - NONE
DATE - DEC. 2015

DETAIL NO. D32
SHEET NO. 1 OF 1
PROJECT 0483.001



**LOW PRESSURE AIR RELEASE-VALVE
AND CLEAN-OUT MANHOLE**

NOT TO SCALE



369 East Park Drive
Harrisburg, PA 17111
(717) 564-1121
Fax (717) 564-1158
hr@hrg-inc.com
www.hrg-inc.com

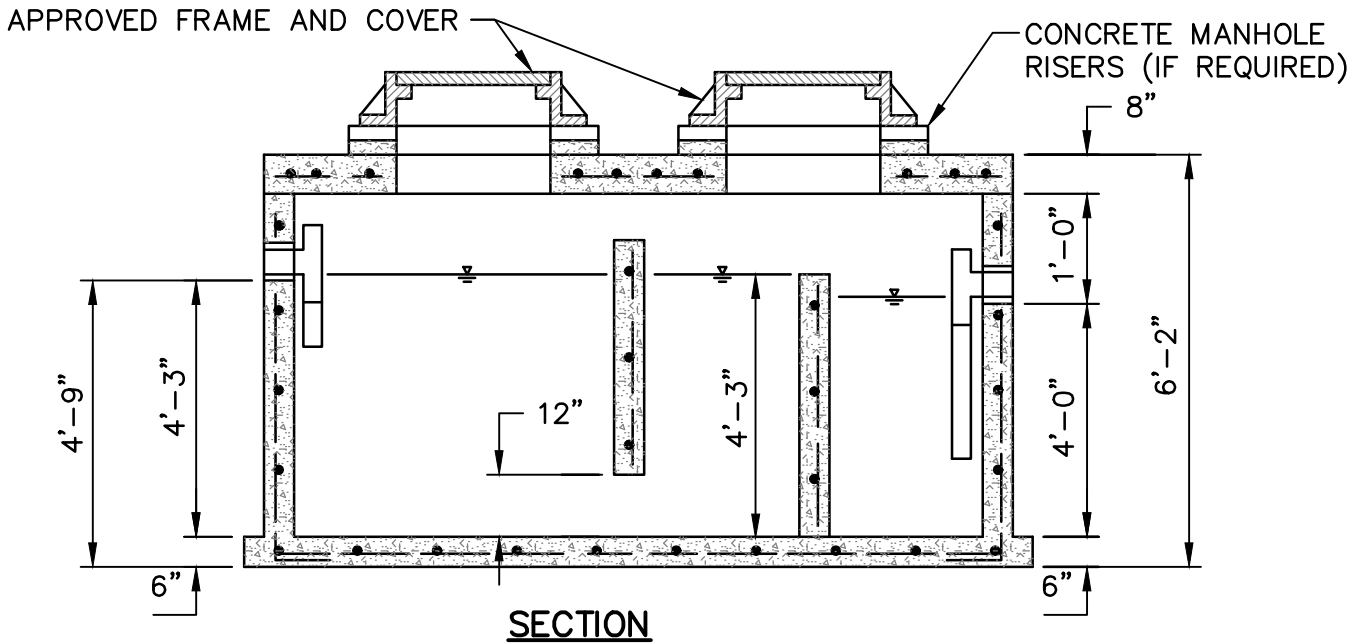
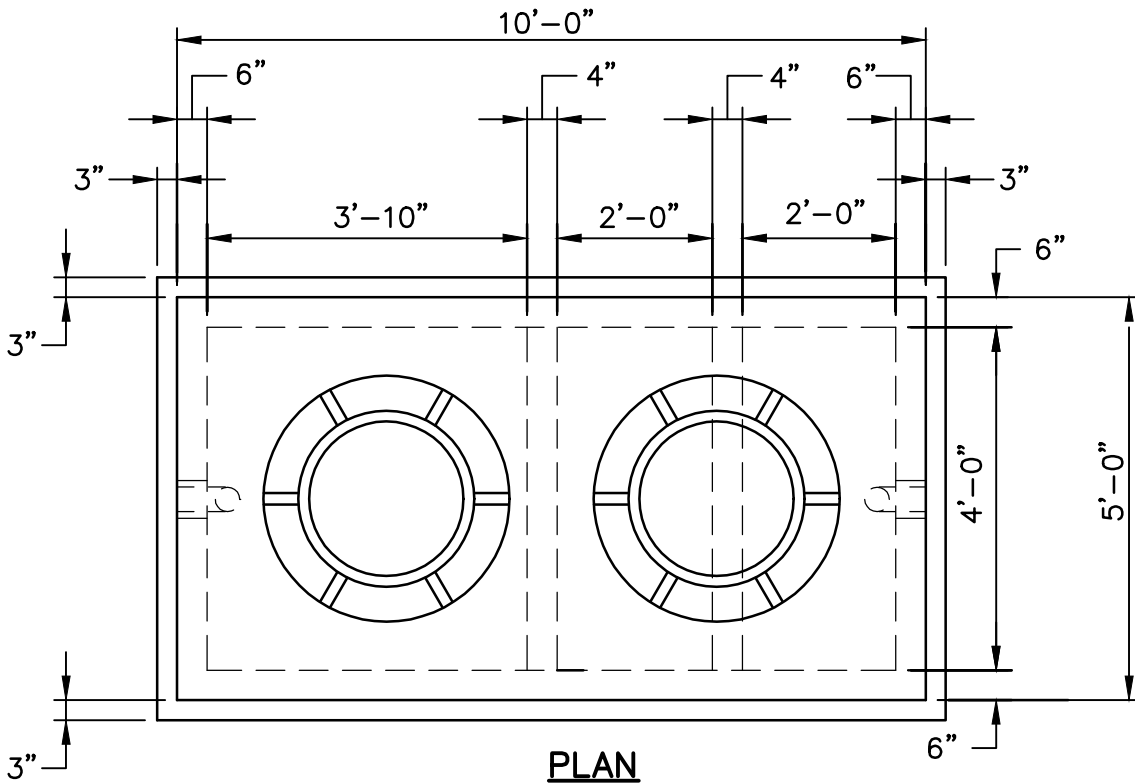
**NORTHWESTERN CHESTER COUNTY
MUNICIPAL AUTHORITY**
STANDARD DETAILS

CHESTER COUNTY

PENNSYLVANIA

PROJ. MGR. - RES
DESIGN - RES
CADD - RSF
CHECKED -
SCALE - NONE
DATE - DEC. 2015

DETAIL NO.
D33
SHEET NO.
1 OF 1
PROJECT 0483.0001



1,000 GALLON COMMERCIAL GREASE INTERCEPTOR

NOT TO SCALE

HRG
 Herbert, Rowland & Grubic, Inc.
 Engineering & Related Services
 AN EMPLOYEE-OWNED COMPANY

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 Harrisburg, PA 17111
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 Fax (717) 564-1158
 hrge@hrg-inc.com
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**NORTHWESTERN CHESTER COUNTY
 MUNICIPAL AUTHORITY
 STANDARD DETAILS**

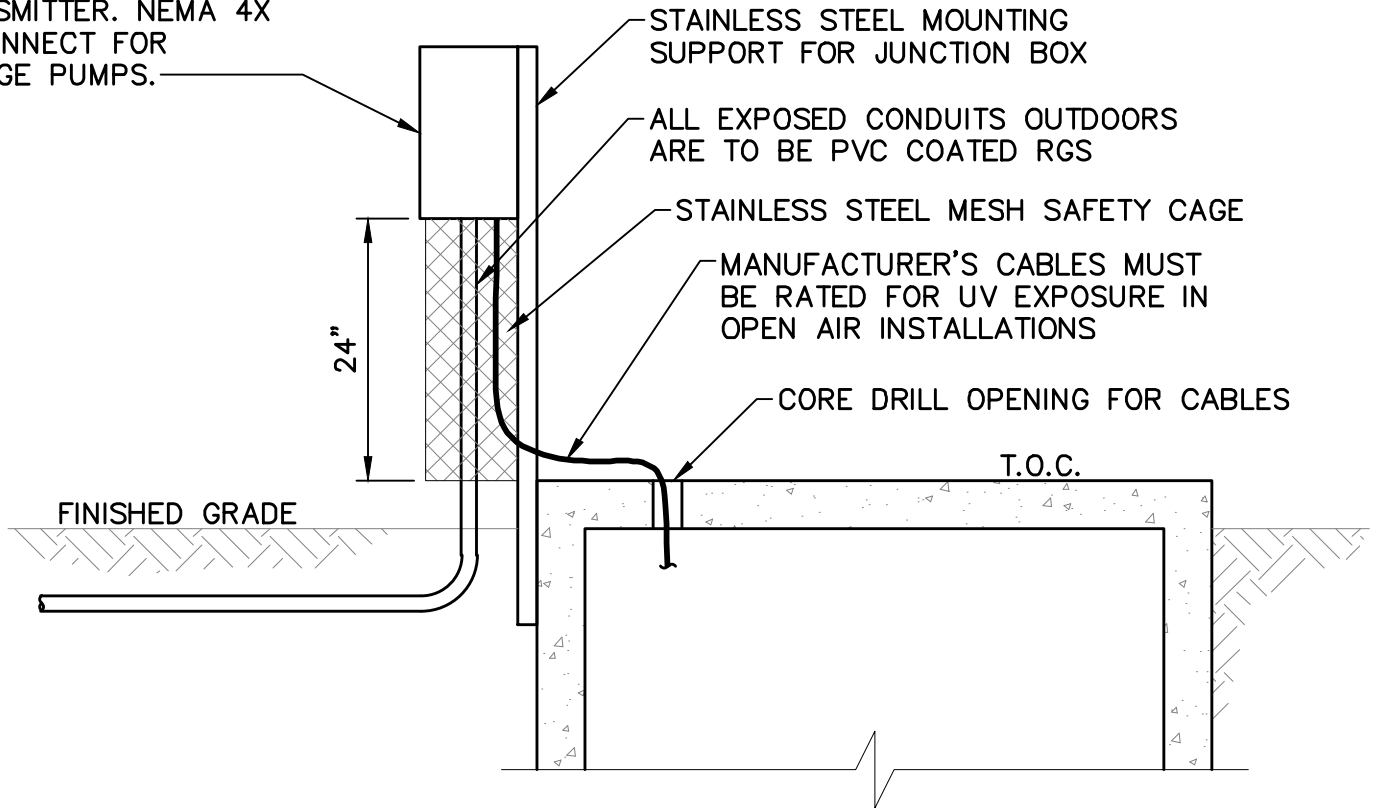
CHESTER COUNTY

PENNSYLVANIA

PROJ. MGR. - RES
DESIGN - RES
CADD - RSF
CHECKED -
SCALE - NONE
DATE - DEC. 2015

DETAIL NO.
D34
SHEET NO.
1 OF 1
PROJECT 0483.001

NEMA 4X JUNCTION BOX
FOR FLOATS AND LEVEL
TRANSMITTER. NEMA 4X
DISCONNECT FOR
SEWAGE PUMPS.



JUNCTION BOX AND DISCONNECT DETAIL AT PUMP STATION WET WELL

NOT TO SCALE

File name: P:\0004\000483_001\CS\Standard Details\JUNCTIONBOX.dwg Layout/Layout Dec 14, 2015-10:45am sheet



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NORTHWESTERN CHESTER COUNTY
MUNICIPAL AUTHORITY
STANDARD DETAILS

CHESTER COUNTY

PENNSYLVANIA

PROJ. MGR. - RES
DESIGN - RES
CADD - RSF
CHECKED -
SCALE - NONE
DATE - DEC. 2015

DETAIL NO.
D35
SHEET NO.
1 OF 1
PROJECT 0483.0001