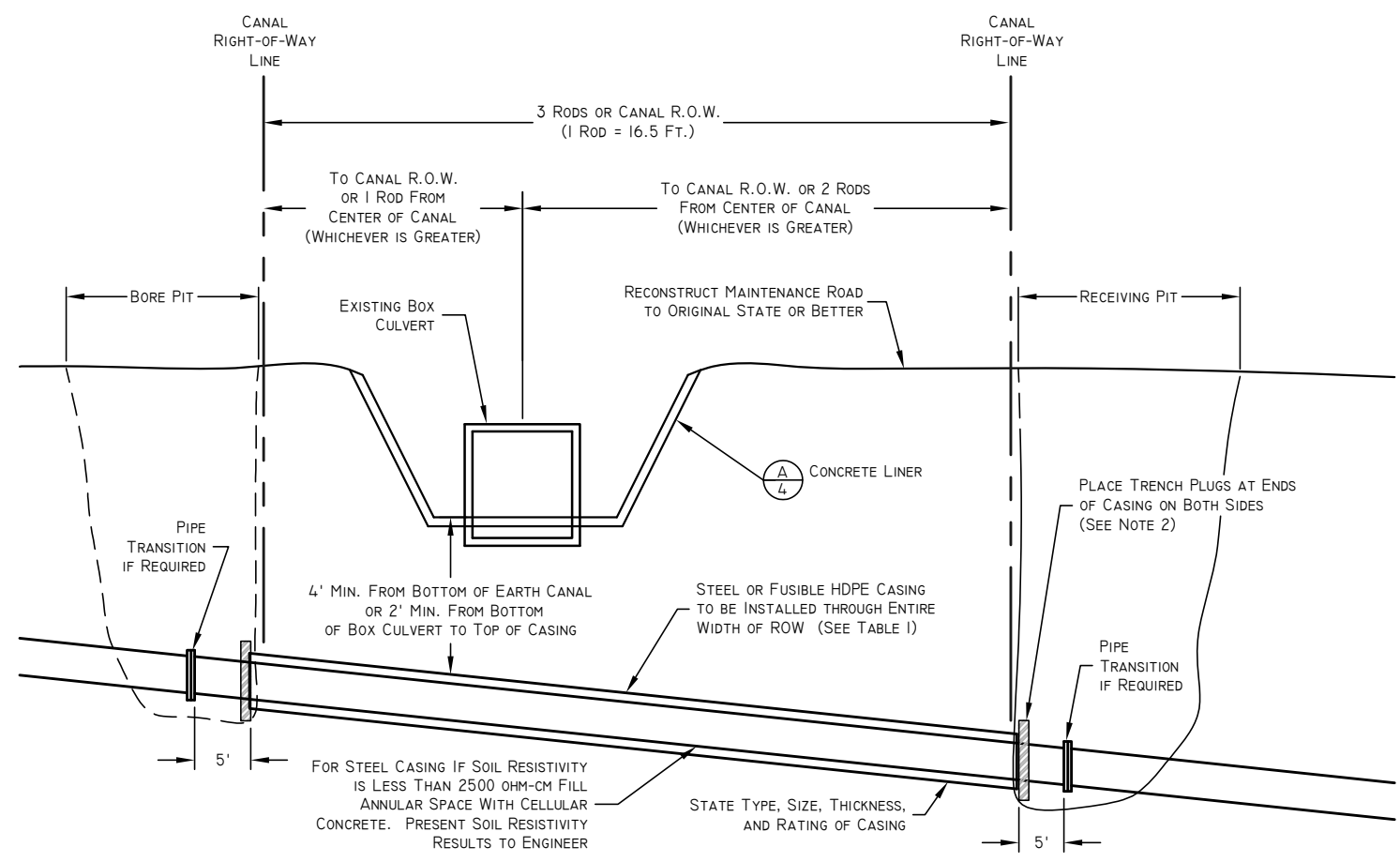


**A** BORING UNDER CANAL PLAN VIEW  
NTS



**B** BORE CASING CROSS SECTION  
NTS

NOTES:

1. BORE PIT COMPACTION TO BE 92% MODIFIED PROCTOR DENSITY.
2. TRENCH PLUGS ARE TO BE PLACED IN LOCATIONS SHOWN ON BOTH SIDES FOR WIDTH OF TRENCH AND 12 INCHES ABOVE AND BELOW CASING PIPES AND A MINIMUM THICKNESS OF 24 INCHES. PLUGS SHALL BE A 10% BENTONITE AND 90% CLAY MIXTURE, OR SHALL BE A FLOWABLE FILL CONCRETE.
3. STORMWATER RUNOFF ENTERS THE CANAL DURING STORM EVENTS OR AT OTHER UNEXPECTED TIMES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT THE WORK SITE.
4. WATERLINE PIPE INSIDE OF CASING SHALL HAVE RESTRAINING JOINTS.
5. THRUST BLOCKS ARE REQUIRED ON ALL BENDS AND TEES FOR DIP, PVC, OR PIP WATERLINES.
6. CASING MUST BE A MINIMUM OF 2 FEET BELOW THE BOTTOM OF THE EXISTING CANAL BOX CULVERT OR 4 FEET BELOW EARTHEN CANAL BOTTOM.
7. BORE PITS MUST BE COMPLETELY PLACED OUTSIDE OF THE CANAL RIGHT-OF-WAY. CANAL RIGHT-OF-WAY IS GENERALLY 1-ROD ON THE UPHILL SIDE AND 2-RODS ON THE DOWNHILL SIDE FROM THE CENTER OF THE CANAL. R.O.W. DIMENSIONS MAY BE GREATER IN SOME AREAS.
8. CARRIER PIPE SHALL HAVE ADEQUATE CASING SPACERS.

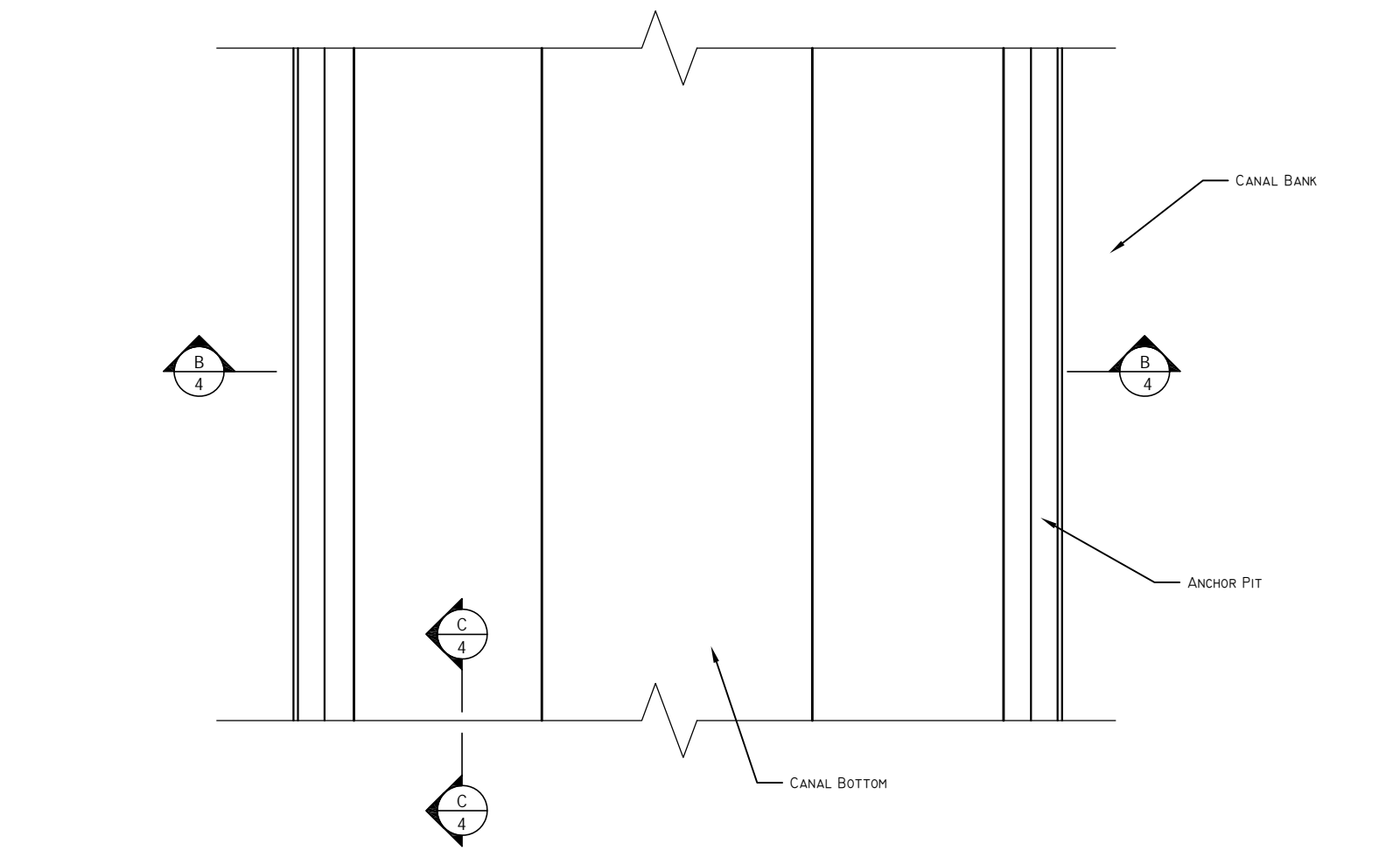
TABLE I  
STEEL CASING THICKNESS

DIAMETER (INCHES)	MINIMUM WALL THICKNESS (INCHES)
12"	0.188"
14" - 16"	0.312"
18"	0.312"
20" - 22"	0.375"
24" - 26"	0.438"
28" - 32"	0.500"
34" - 36"	0.562"
38" - 42"	0.562"

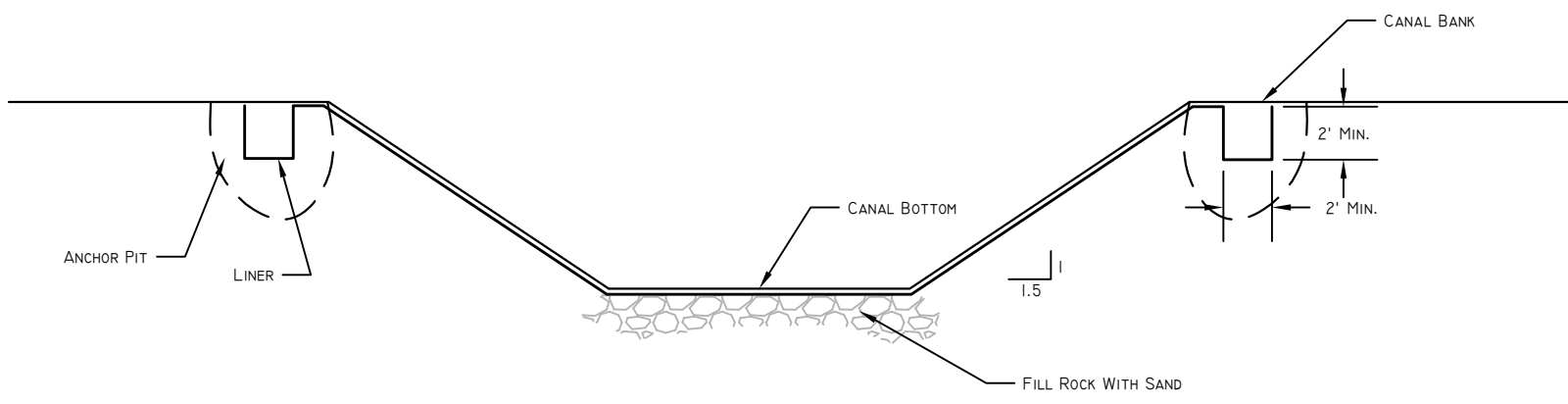
DESIGNER:	CHECKER:	PROJECT LEADER:	DATE
VINCE HOGGE	CHAD BROWN	CHAD BROWN	MAR 16, 2021
DRAFTSMAN:	CHECKED:	REVIEWED:	DESCRIPTION
MATT GUNN			
NO.	DATE	INTS.	DESCRIPTION

WELLSVILLE-MENDON CONSERVATION DISTRICT  
STANDARD DRAWINGS  
CANAL BORING DETAILS  
02-Boring Details.dwg  
03/16/21 - Wellsville-Mendon Canal Reviews 2021 Standard Drawings

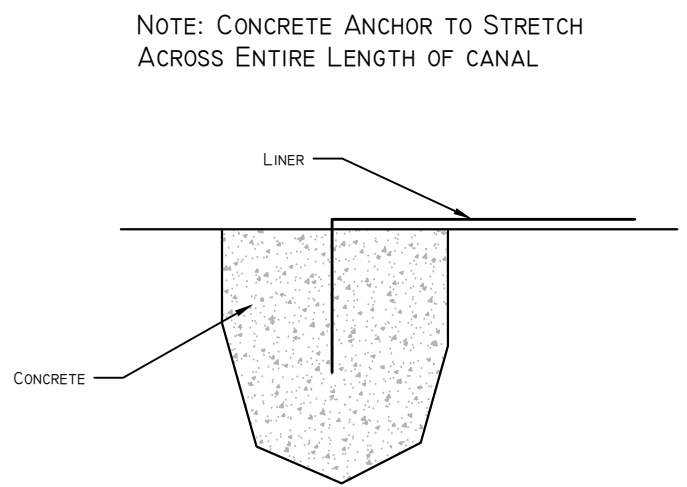




**A** CANAL LINER PLAN  
NTS



**B** CONCRETE LINER CROSS SECTION  
NTS



**C** CANAL LINING ANCHOR  
NTS

NOTE: CONCRETE ANCHOR TO STRETCH  
ACROSS ENTIRE LENGTH OF CANAL

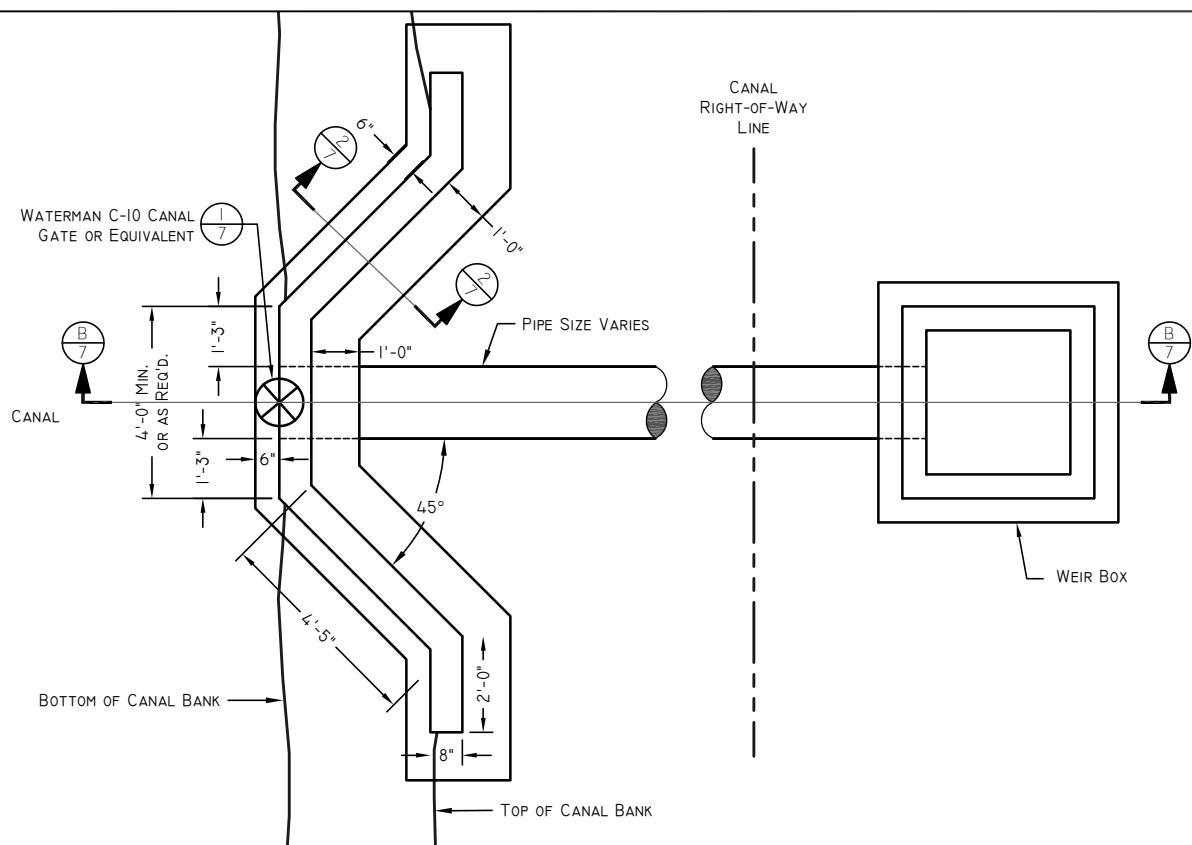
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CONSERVATION DISTRICT

DESIGNER:	DRAFTSMAN:	CHECKED:	REVIEWED:	PROJECT LEADER:	PROJECT DATE:
VINCE HOGE	MATT GURR			CHAD BROWN	MAR 06, 2021
NO.	DATE	INTS.	REVISIONS	DESCRIPTION	

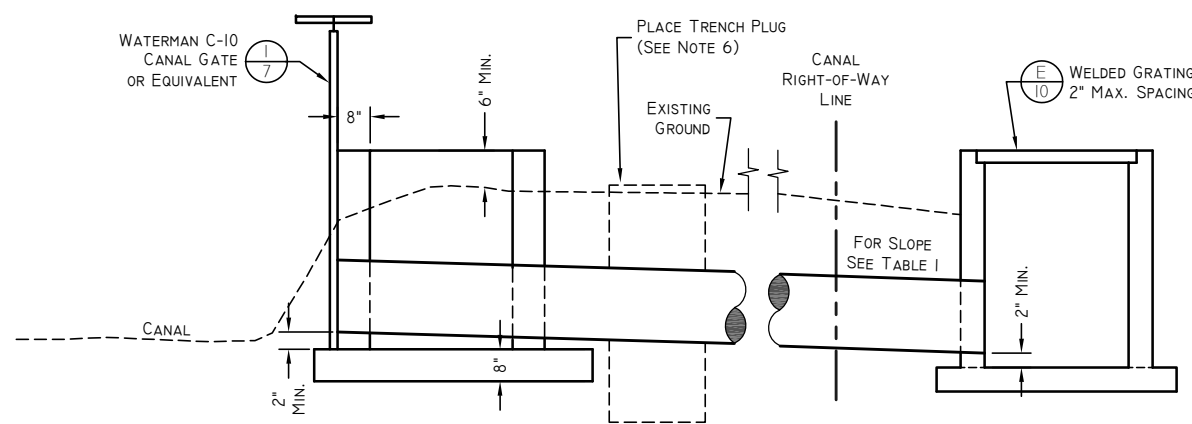
WELLSVILLE-MENDON CONSERVATION DISTRICT  
**STANDARD DRAWINGS**  
**CANAL LINER**  
04-Concrete Liner.dwg  
03/21/21 - Wellsville-Mendon Canal Reviews 2021 Standard Drawings



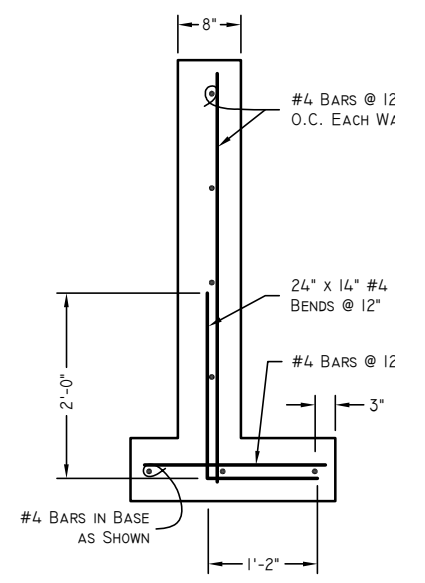




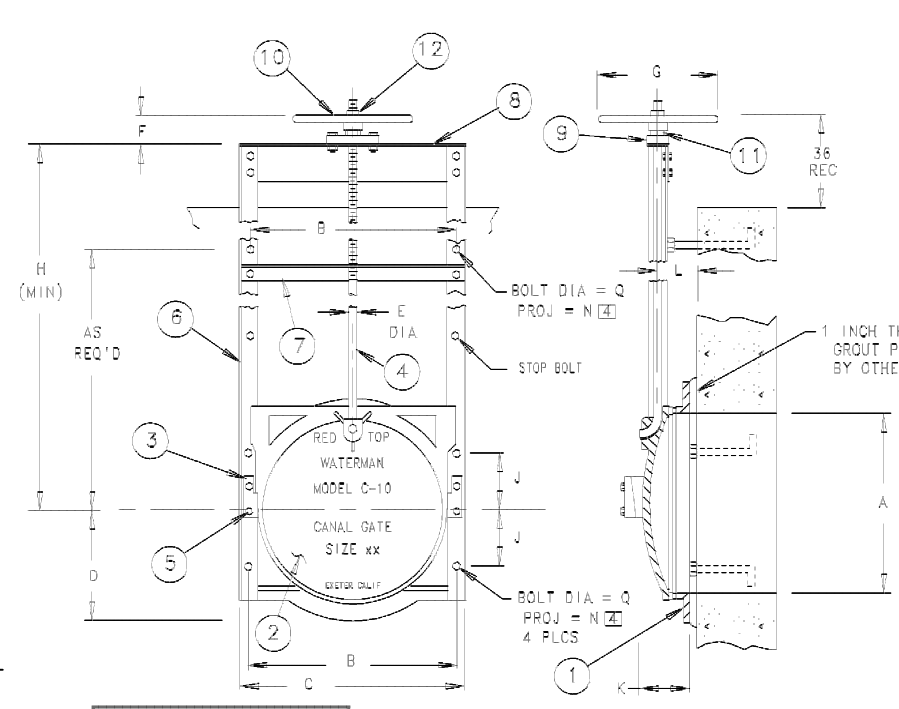
**A WEIR PLAN**  
NTS



**B WEIR SECTION**  
NTS

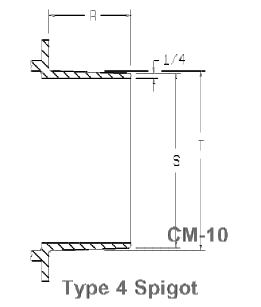
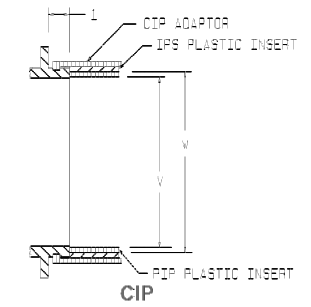


**2 MINIMUM REBAR**  
NTS



**PARTS LIST**

No.	Name	Qty.
1	Frame	1
2	Cover	1
3	Wedge (Right & Left)	1 ea.
4	Stem	1
5	Wedge Bolts	4
6	Guide Rail	2
7	Stem Support	A/R
8	Head Rail	1
9	Lift Collar	1
10	Handwheel	1
11	Lift Nut	1
12	Limit Nut	1



- NOTES**
- TYPE 2 lubricated ball bearing lift used on 48" and larger gates.
  - Applies to spigotback gate only. Optional spigot, shown in separate detail.
  - All dimensions are also applicable for model CL-10 & CM-10 gates.
  - Add grout pad thickness to anchor bolt projection.
  - Type 3E 2:1 lift used, mounted to dual headrail.

**TABLE I**  
MINIMUM PIPE SLOPES

PIPE SIZE	MIN. SLOPE, FT/FT	MIN. SLOPE, %
12"	0.002	.2%
15"	0.0015	.15%
18"	0.0012	.12%
24"	0.0008	.08%
30"	0.00058	.058%

- NOTES:**
- LID DETAILS FOR BOX SHOWN ON SHEET (E-10)
  - BOX NOT TO BE PLACED IN DRIVEWAYS, ROADS, OR OTHER TRAFFIC AREAS.
  - ALL PIPES IN BOXES SHALL BE GROUTED AND WATERTIGHT.
  - BOX WALL THICKNESS AND REINFORCEMENT ARE DEPENDENT ON SITE CONDITIONS AND DEPTH. MINIMUM SIZE AS SHOWN.
  - DIMENSIONS SHOWN ON WALLS AND BOXES ARE MINIMUM SIZE. SPECIFIC SITE CONDITIONS OF BOXES AND WALLS MAY REQUIRE ADDITIONAL THICKNESS OR WIDTH.
  - TRENCH PLUG TO BE PLACED IN LOCATION SHOWN FOR WIDTH OF TRENCH AND 12 INCHES ABOVE AND BELOW PIPE AND A THICKNESS OF 24 INCHES. PLUGS SHALL BE A 10% BENTONITE AND 90% CLAY MIXTURE, OR A FLOWABLE FILL CONCRETE.
  - ALL NEW TURNOUTS TO INCLUDE A CHECK STRUCTURE, SEE SHEET (A)
  - THE INVERT OF THE TURNOUT PIPE SHALL MATCH THE BOTTOM OF THE CANAL AND NOT THE CURRENT SILT LAYER.

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	V	W
6	8	9½	4	¾	2½	10	24	3	3½	2½	7	3½	2¼	½	-	-	-	6.180	6.645
8	10	12	4¾	¾	2½	10	24	3	3¾	2½	9	3½	2¼	½	4	7½e	8	8.180	8.645
10	12	13¾	6	¾	2½	10	24	3½	3¾	2½	11	3½	2¼	½	3¾	9¾	10	10.220	10.770
12	14	15¾	7	¾	2½	10	24	4	3½	3	13	4	2¼	½	4	11¾	12	12.270	12.780
14	16	17¾	8	¾	2½	10	27	4¾	3¾	3¼	15	4	2¼	½	-	-	-	-	-
15	17	18¾	8¾	¾	2½	10	30	5	4½	3½	16	4	2¼	½	4	14¾	15	-	-
16	18¾	20¾	9¾	¾	2½	10	32	5½	4½	3½	17	4½	2¼	¾	-	-	-	-	-
18	21	22¾	10½	1	3½	12	34	6	4½	4¼	19	4½	2¼	¾	4	17¾e	18	-	-
20	23¼	25¾	11¾	1	3½	12	38	7	4¾	4	21	4½	2¼	¾	-	-	-	-	-
21	24	25¾	12¾	1	3½	12	40	7	4¾	4	22	4½	2¼	¾	-	-	-	-	-
24	27¼	29¾	13¾	1	3½	12	44	8	5¾	4¾	25	4½	2¼	¾	-	-	-	-	-
30	33¾	36¾	17¾	1½	4	15	54	10	6	4½	31	6	2¼	¾	-	-	-	-	-
36	39¾	42¾	20½	1½	4	15	62	12	6¼	5¾	37	6	2¼	¾	-	-	-	-	-
42	45¾	48¾	23¾	1½	5	18	84	14	7	6	43	6	2½	¾	-	-	-	-	-
48	51¾	54¾	26¾	1½	6	24	110	16	7¾	6¾	49¾	6	2½	¾	-	-	-	-	-
54	58¾	61¾	30	2	6	30	140	18	7¾	6¾	55¾	7	3	1	-	-	-	-	-
60	65	68	34	2	6	30	160	20	8¾	7¾	61¾	8	3¼	1	-	-	-	-	-
72	77½	80¾	41	2	13	5	121	25½	10¾	8¾	73¼	8	3¾	1	-	-	-	-	-

GATE DIMENSIONS IN INCHES

**1 WATERMAN C-10 CANAL GATE**  
NTS

**WELLSVILLE-MENDON CONSERVATION DISTRICT**

**STANDARD DRAWINGS**  
**WEIR TURNOUT GATE**

JOB NO. \_\_\_\_\_

SHEET **7** OF **11**

DATE \_\_\_\_\_

NO. \_\_\_\_\_

DISCUSSION

REVISIONS

CHECKED: \_\_\_\_\_

REVIEWED: \_\_\_\_\_

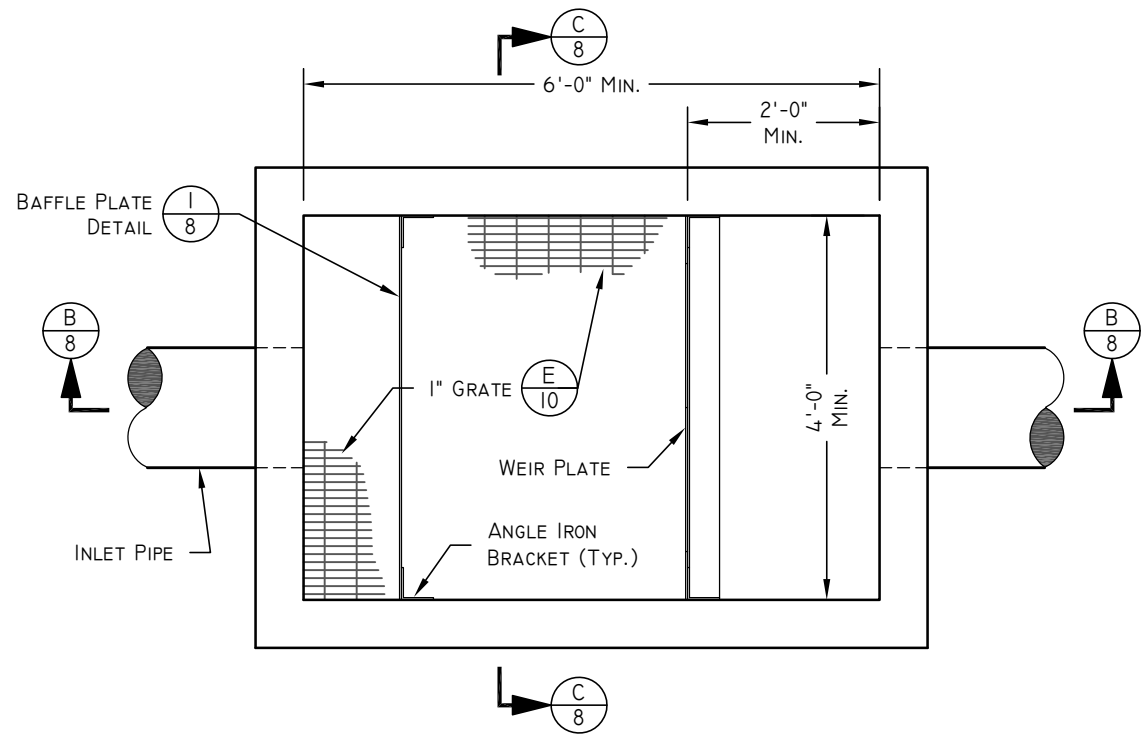
PROJECT LEADER: CHAD BROWN

FRONT DATE: Mar 6, 2021

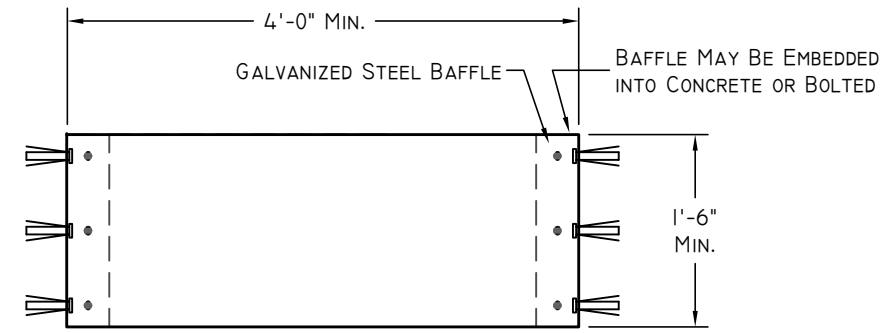
DESIGNER: VINCE HOGGE

DRAFTSMAN: MATT GURR

07-Weir Turnout Gate.dwg  
03/21/21 - Wellsville-Mendon Canal Reviews 2021 Standard Drawings



**A PLAN VIEW**  
NTS

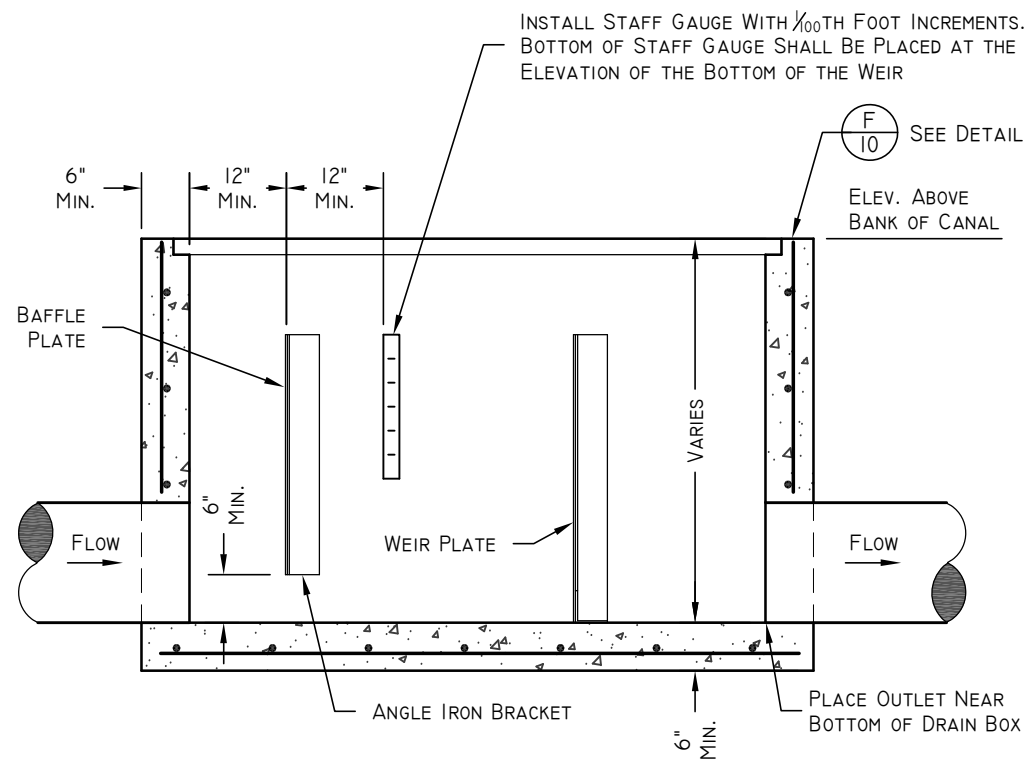


**I Baffle Plate Detail**  
NTS

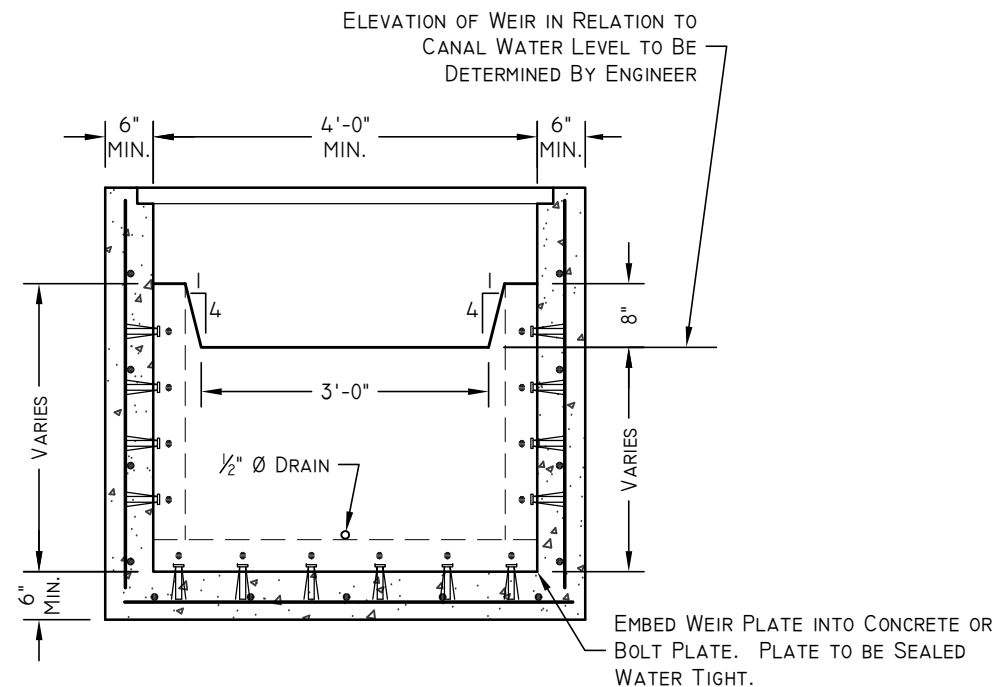
**TABLE I**  
 $Q=3.367 LH^{3/2} @ L=3$

H (FT.)	Q (cfs)
0.2	0.90
0.3	1.66
0.4	2.56
0.5	3.57
0.6	4.69
0.66	5.42

NOTE: THIS WEIR IS SHOWN AS AN EXAMPLE. THE EXACT WEIR DIMENSIONS & FLOW TABLE TO BE DETERMINED BY APPLICANTS ENGINEER.



**B INLET AND OUTLET CROSS SECTION**  
NTS



**C WEIR SECTION**  
NTS

**NOTES:**

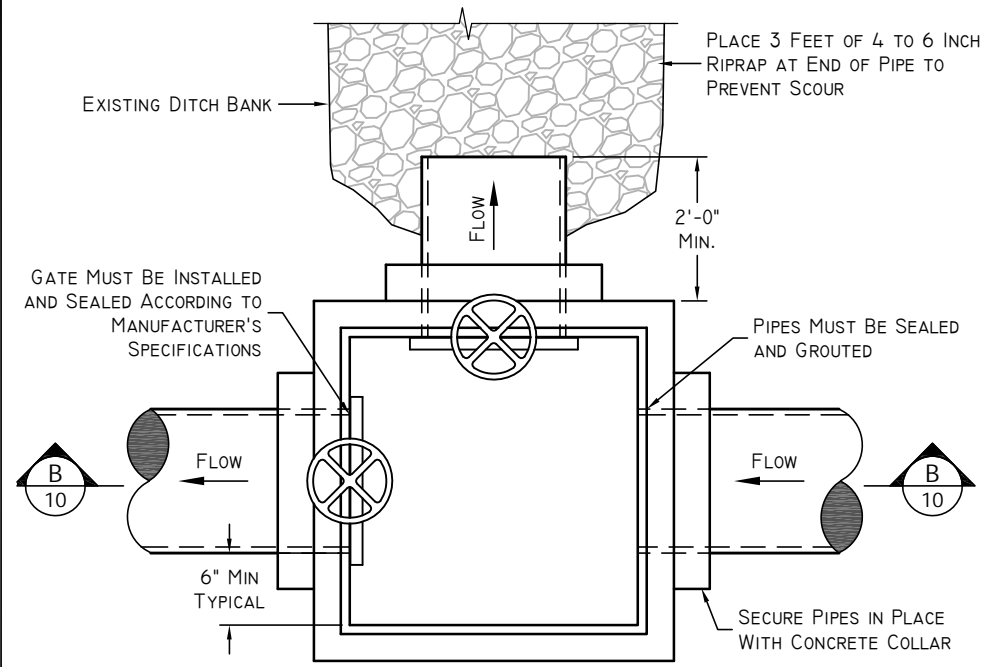
- IF BOX IS CAST IN PLACE REBAR TO BE PLACED AT 12 INCHES O.C. E.W. MINIMUM.
- DETAILS FOR CAST IN PLACE BOX SEE **C/10**.
- ALL PIPES IN BOX SHALL BE GROUTED AND WATERTIGHT.
- SUBMIT TO CANAL COMPANY ENGINEER FOR REVIEW ON FINAL DIMENSIONS ON REBAR REINFORCEMENT AND CONCRETE COMPONENTS.
- GRATE TO BE GALVANIZED.

DESIGNER:	DRAFTSMAN:	CHECKED:	REVIEWED:	PROJECT LEADER:	PRINT DATE:
VINCE HOGGE	MATT GUNN			CHAD BROWN	MAR 6, 2021
NO.	DATE	INTS	REVISIONS	DISCUSSION	

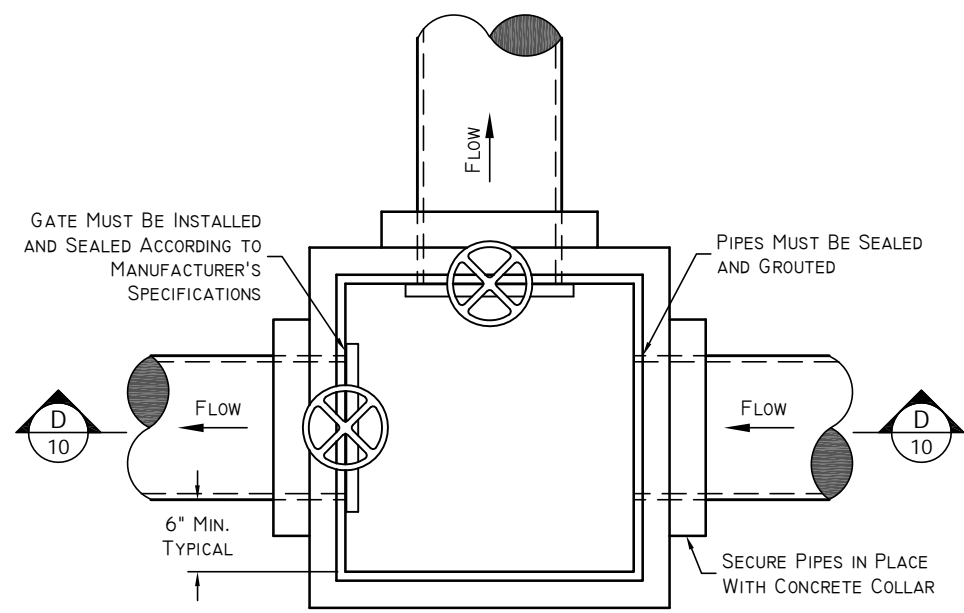
WELLSVILLE-MENDON CONSERVATION DISTRICT  
**STANDARD DRAWINGS**  
**3-FT CIPOLLETTI WEIR**  
 08-3-Ft Cipolletti Weir.dwg  
 0:\21021 - Wellsville-Mendon Canal Reviews 2021\Standard Drawings LAYOUT Details  
 JOB NO.



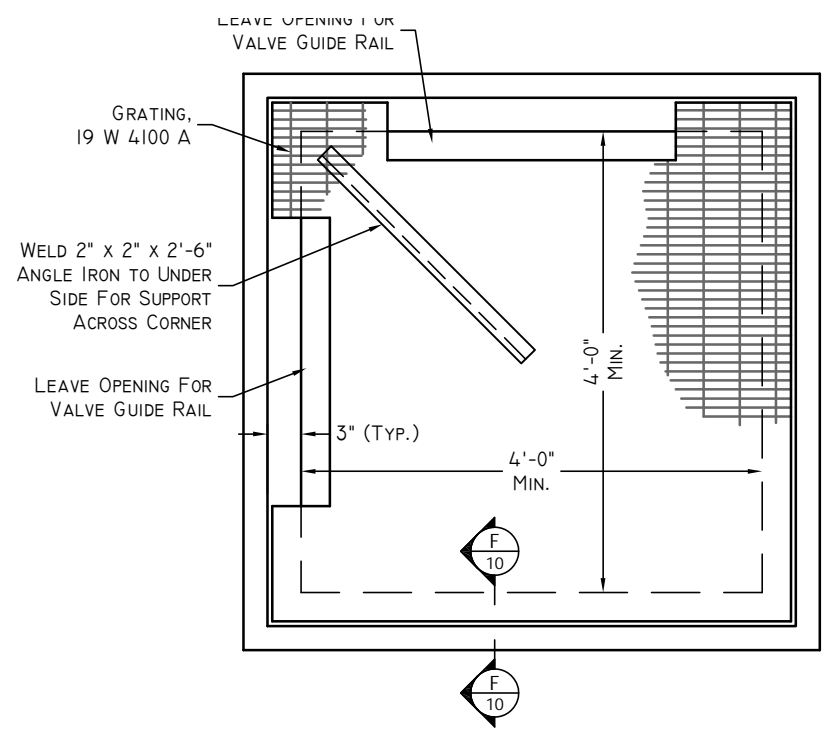




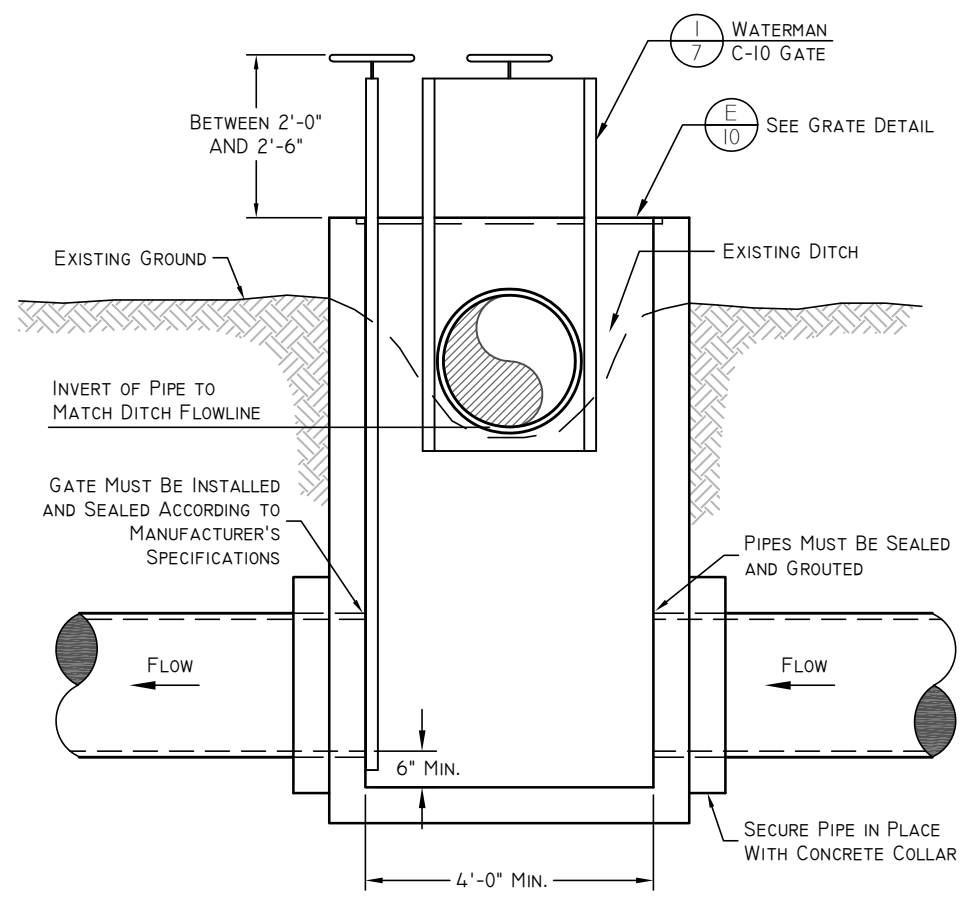
**A TURNOUT BOX PLAN**  
NTS



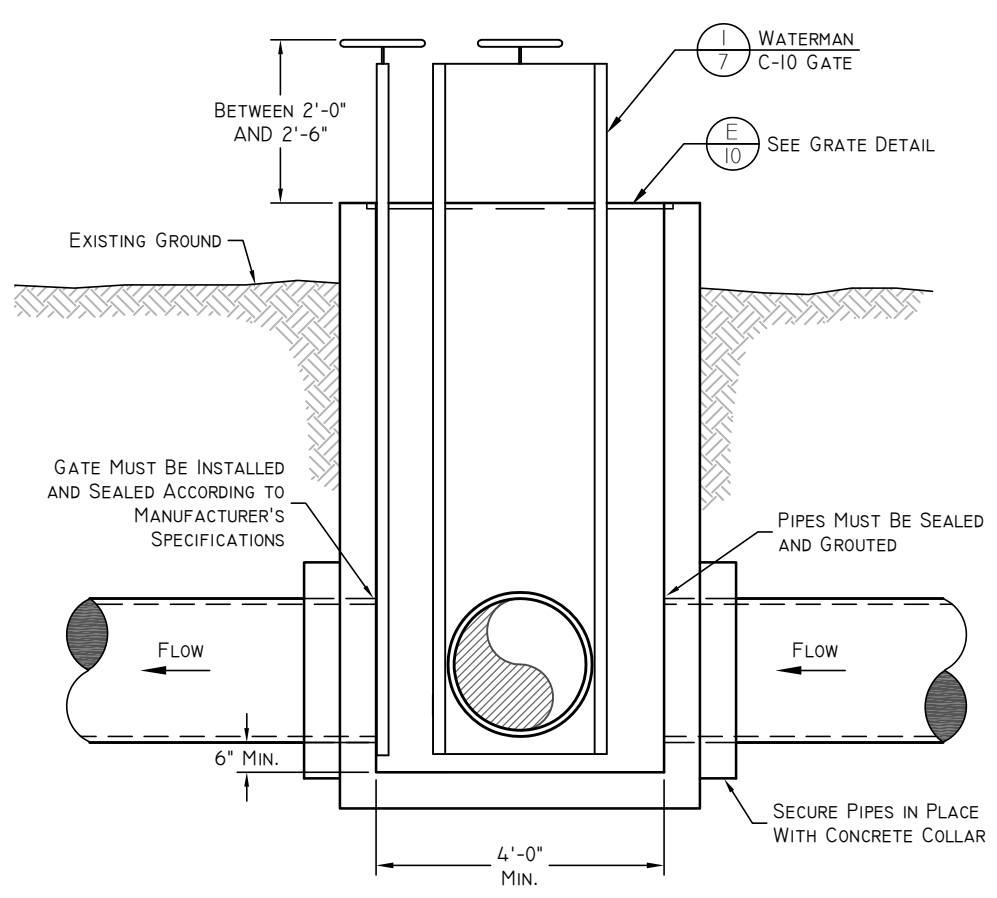
**C DIVERSION BOX**  
NTS



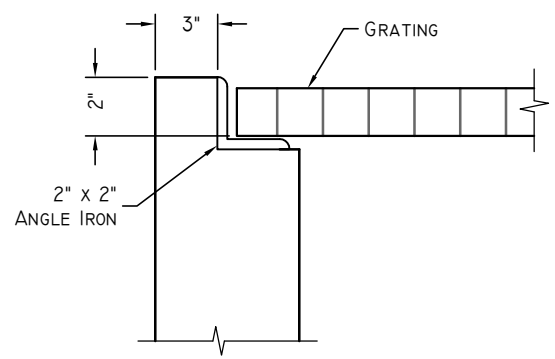
**E GRATE DETAIL - TOP VIEW**  
NTS



**B TURNOUT BOX SECTION**  
NTS



**D DIVERSION BOX SECTION**  
NTS



**F GRATING LIP SECTION**  
NTS

**NOTES:**

1. ALL PIPES INTO BOX SHALL BE GROUTED AND WATERTIGHT WITH CONCRETE COLLAR.
2. BOXES MAY BE PRECAST OR CAST IN PLACE. BOXES SHALL HAVE A MINIMUM INTERIOR WIDTH AND LENGTH OF 4' WITH MINIMUM OF #4 REBAR @ 12" O.C. BOXES MUST BE SUBMITTED FOR REVIEW.
3. TURNOUT AND DIVERSION BOXES SHALL NOT BE PLACED IN ROADWAY.
4. GRATE TO BE GALVANIZED.

DESIGNER:	VINCE HOGGE	NO.		DATE		DESCRIPTION
DRAFTSMAN:	MATT GUNN	INTS.				
CHECKED:		REVIEWED:				REVISIONS
PROJECT LEADER:	CHAD BROWN	FRONT DATE:				

