

ORIGINATION FORM

Proposed Revisions to a Standard Plans Index
(Please provide all information – Incomplete forms will be returned)

Contact Information:

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Standard Plans:

Index Number: 430-090
Sheet Number (s): 1 of 1
Index Title: Safety Modifications for Endwalls

Summary of the changes:

Reorganized Index.

Sheet 1: General Notes and Overview. Moved specification and payment information to Specifications. Deleted design information covered in the Design Manual. Added note on quantities for estimating purposes only.

Sheet 2: Detail split into Dimensional and Reinforcing Details.



Commentary / Background:

Index reorganized to provide clarity and reduce clutter.

Other Affected Offices / Documents: (Provide name of responsible personnel)

- | Yes | No | |
|-------------------------------------|-------------------------------------|-----------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Other Standard Plans – |
| <input type="checkbox"/> | <input type="checkbox"/> | FDOT Design Manual – |
| <input type="checkbox"/> | <input type="checkbox"/> | Basis of Estimates Manual – |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Standard Specifications – |
| <input type="checkbox"/> | <input type="checkbox"/> | Approved Product List – |
| <input type="checkbox"/> | <input type="checkbox"/> | Construction – |
| <input type="checkbox"/> | <input type="checkbox"/> | Maintenance – |

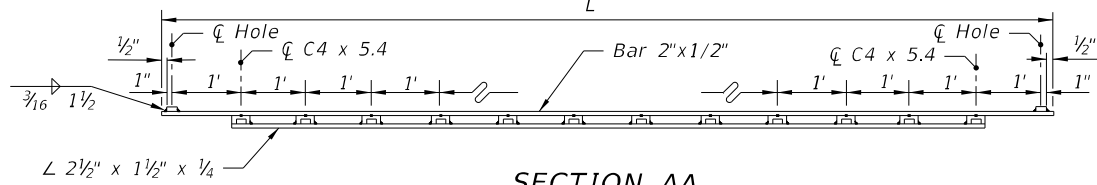
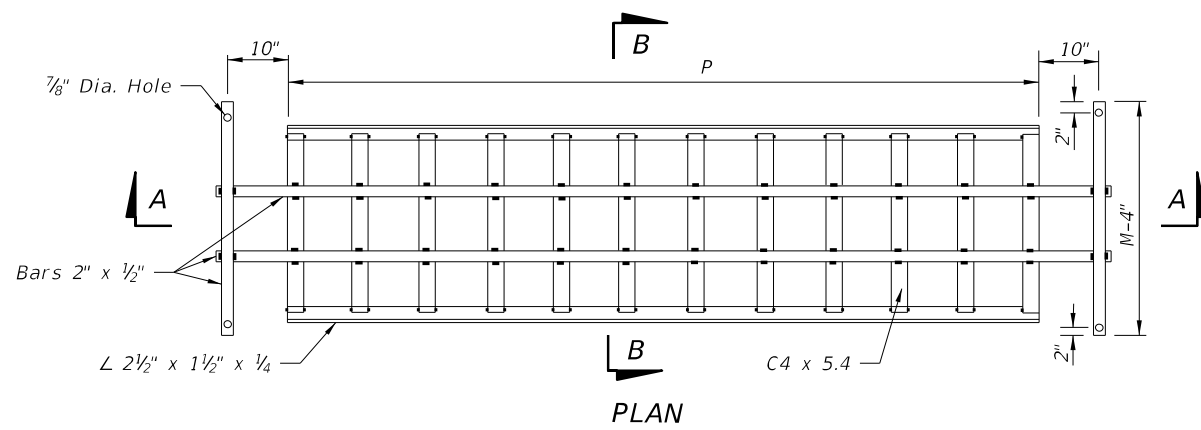
Origination Package Includes: (Email or hand deliver package to Derwood Sheppard)

- | Yes | N/A | |
|-------------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Redline Mark-ups |
| <input type="checkbox"/> | <input type="checkbox"/> | Proposed Standard Plan Instructions (SPI) |
| <input type="checkbox"/> | <input type="checkbox"/> | Revised SPI |
| <input type="checkbox"/> | <input type="checkbox"/> | Other Support Documents |

Implementation:

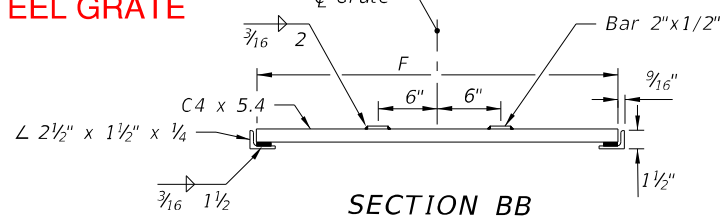
- Design Bulletin (Interim) DCE Memo Program Mgmt. Bulletin FY-Standard Plans (Next Release)

Contact the Roadway Design Office for assistance in completing this form



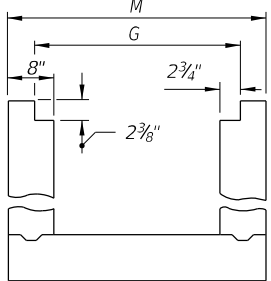
SHEET 3: STEEL GRATE

Welds shown in additional Details for clarity

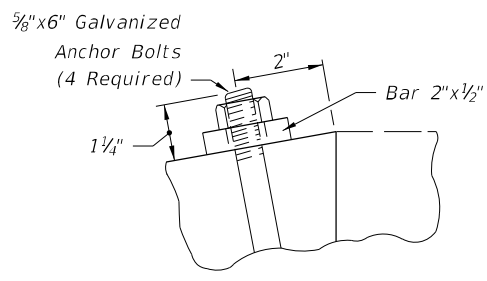


GRATE DETAIL

Detail A, SHEET 2



GRATE SEAT DETAIL

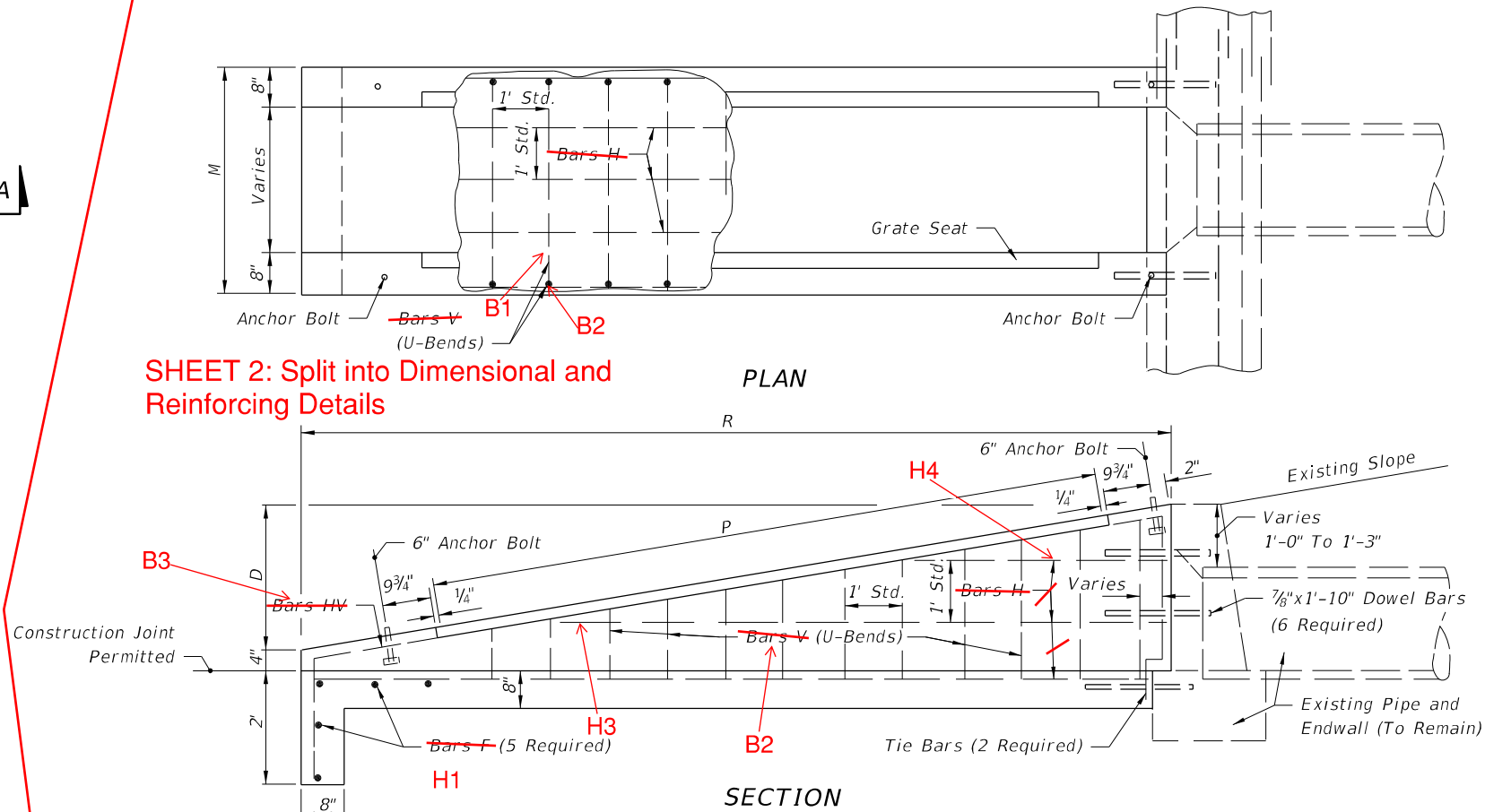


ANCHOR BOLT DETAIL

TABLE 2

DIMENSIONS AND QUANTITIES PER GRATE										
Slope	Pipe Size	Channels @ 5.4 Lbs./LF			Bars @ 3.4 lbs/LF (2 ea.)			Angles @ 3.2 Lbs./LF		(2)Total Weight-Lbs
		Quantity	F	Lbs.	L	M-4"	Lbs.	P	Lbs.	
1:6	15"	10	2'-6 7/8"	139	11'-3"	3'-3"	99	9'-4"	60	298
	18"	12	2'-9 1/8"	183	13'-3"	3'-6"	114	11'-4"	73	370
	24"	15	3'-3 7/8"	269	16'-3"	4'-0"	138	14'-4"	92	499
	30"	18	3'-9 7/8"	372	19'-3"	4'-6"	162	17'-4"	111	645
1:4	15"	6	2'-6 7/8"	83	7'-3"	3'-3"	71	5'-4"	34	188
	18"	7	2'-9 7/8"	107	8'-3"	3'-6"	80	6'-4"	41	228
	24"	9	3'-3 7/8"	161	10'-3"	4'-0"	97	8'-4"	53	311
	30"	11	3'-9 7/8"	227	12'-3"	4'-6"	114	10'-4"	66	407

SHEET 2: Split into Dimensional and Reinforcing Details



GENERAL NOTES

1. For use criteria see "Steel Grating Use Criteria" Index 430-011. **Design Manual SHEET 1**
2. Grates shall be ASTM A242, A572 or A588, Grade 50 steel, and galvanized in accordance with Section 975 and 425-3.2 of the Standard Specifications. **Moved to Specification**
3. Channel section C3 x 6.0 may be substituted for the C4 x 5.4 channel.
4. All steel reinforcing bars are #4 with 2" cover except as noted. Spacings shown are center to center. Laps to be 1'-5" minimum. Welded wire fabric (two cages max.) with an equivalent cross section area (0.20 sq. in.) may be substituted for bar reinforcement.
5. Drill 1 1/4" holes 8" deep with a rotary drill in existing endwall for dowel bars. Holes shall be thoroughly cleaned prior to installing Adhesive-Bonded Dowels. **Moved to Specification**
6. Endwall to be paid for under the contract unit price for Class I Concrete (Endwalls), CY and Reinforcing Steel (Roadway), LB. Cost of Adhesive-Bonded Dowels to be included in the contract unit price for reinforcing steel. Cost of grates to be paid for under the contract unit price for Endwall Grate, LB., plan quantity. Cost of galvanized bolts and nuts to be included in the contract unit price for the grate.
7. Sod slopes 5' each side and above endwall. Sodding to be paid for under the contract unit price for Performance Turf, SY.

DIMENSIONS AND QUANTITIES PER U-ENDWALL

Pipe Size	G	M	D	R	P	Class I Concrete-CY	Reinforcing Steel-Lbs.	Sod SY
15"	2'-8 1/2"	3'-7"	2'-2"	13'-0"	9'-4"	2.12	167	23
18"	2'-11 1/2"	3'-10"	2'-5"	14'-6"	11'-4"	2.53	173	25
24"	3'-5 1/2"	4'-4"	2'-11"	17'-6"	14'-4"	3.48	238	29
30"	3'-11 1/2"	4'-10"	3'-5"	20'-6"	17'-4"	4.57	315	32
15"	2'-8 1/2"	3'-7"	2'-2"	8'-8"	5'-4"	1.44	120	19
18"	2'-11 1/2"	3'-10"	2'-5"	9'-8"	6'-4"	1.72	130	20
24"	3'-5 1/2"	4'-4"	2'-11"	11'-8"	8'-4"	2.36	167	22
30"	3'-11 1/2"	4'-10"	3'-5"	13'-8"	10'-4"	3.09	225	25

SHEET 2: TABLE 1

10/24/2018 9:02:49 AM

LAST REVISION	DESCRIPTION:
11/01/17	← 11/01/19

GENERAL NOTES:

1. Use Class I Concrete.
2. Channel section C3 x 6.0 may be substituted for the C4 x 5.4 channel.
3. All steel reinforcing bars are #4 with 2" cover except as noted. Spacing shown are center to center. Lap bars 1'-5" minimum. Welded wire fabric (two cages max.) with an equivalent cross section area (0.20 sq. in.) may be substituted for bar reinforcement.
4. Drill 1 1/4" holes 8" deep with a rotary drill in existing endwall for dowel bars. Thoroughly clean holes prior to installing Adhesive-Bonded Dowels.
5. Quantities shown are for estimating purposes only.
6. For supplemental details, see Index 425-001.

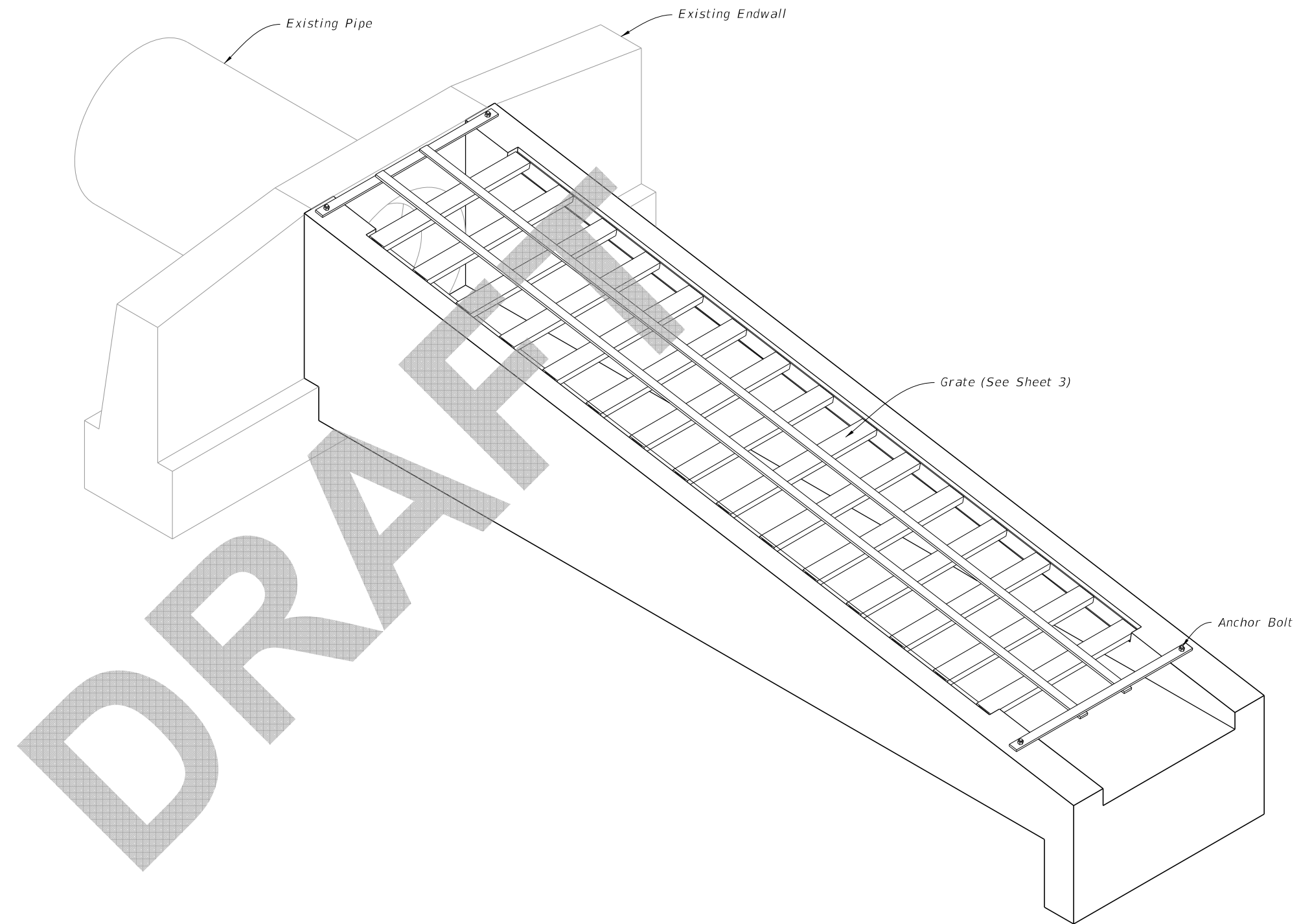
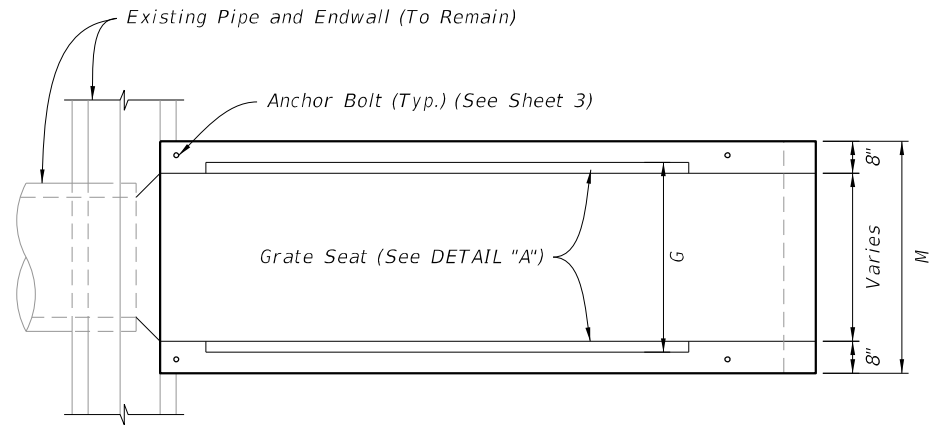


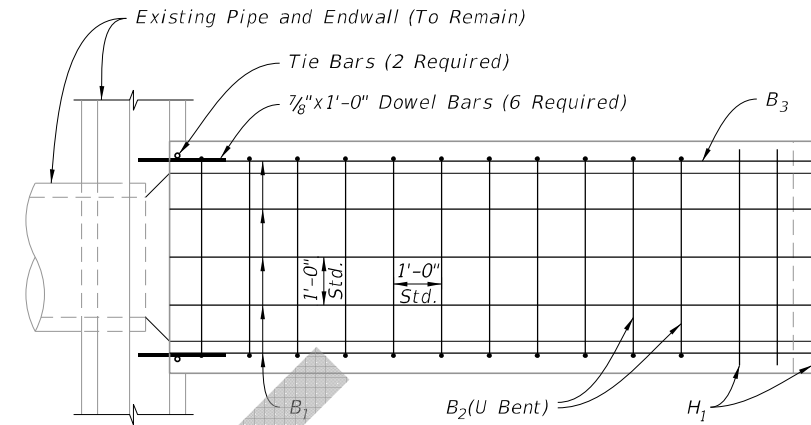
TABLE OF CONTENTS:	
Sheet	Description
1	General Notes and Contents
2	Endwalls for 1:4 and 1:6 Slopes
3	Steel Grate

SAFETY MODIFICATIONS

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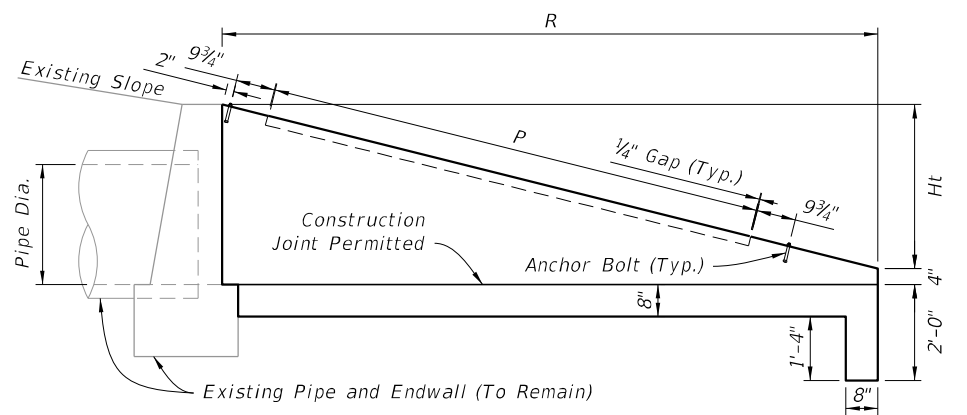


PLAN

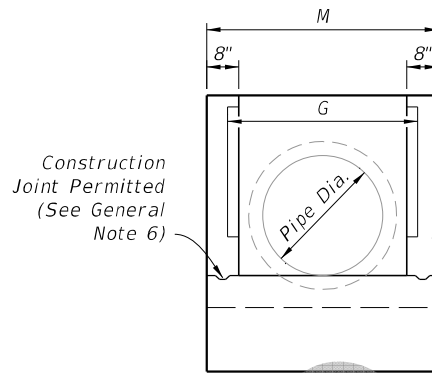


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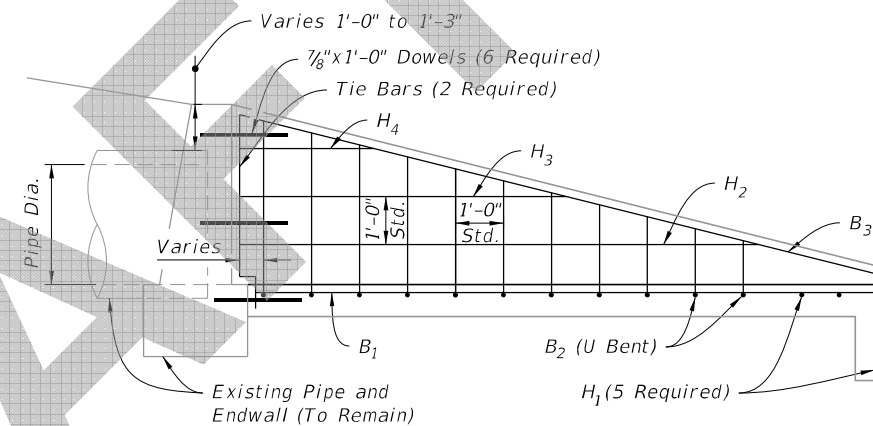
LEGEND:
H = Horizontal Bars
B = Bent Bars



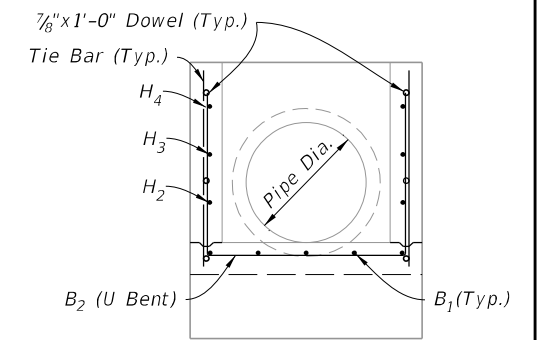
ELEVATION



END VIEW



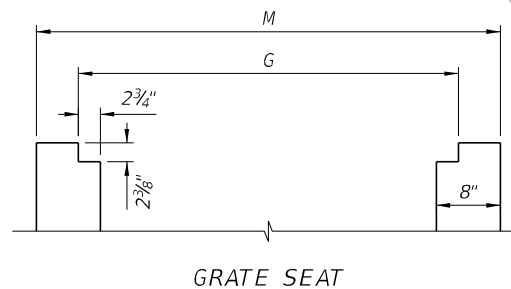
ELEVATION



BACK VIEW

DIMENSIONAL DETAILS

REINFORCING DETAILS



GRATE SEAT

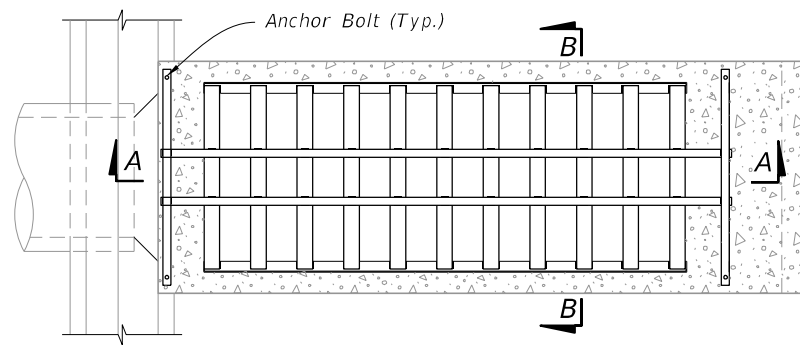
DETAIL "A"

Slope	Pipe Dia.	G	M	Ht	R	P	Class I Concrete-CY	Reinforcing Steel-lbs.	Sod SY
1:6	15"	2'-8 1/2"	3'-7"	2'-2"	13'-0"	9'-4"	2.12	167	23
	18"	2'-11 1/2"	3'-10"	2'-5"	14'-6"	11'-4"	2.53	173	25
	24"	3'-5 1/2"	4'-4"	2'-11"	17'-6"	14'-4"	3.48	238	29
	30"	3'-11 1/2"	4'-10"	3'-5"	20'-6"	17'-4"	4.57	315	32
1:4	15"	2'-8 1/2"	3'-7"	2'-2"	8'-8"	5'-4"	1.44	120	19
	18"	2'-11 1/2"	3'-10"	2'-5"	9'-8"	6'-4"	1.72	130	20
	24"	3'-5 1/2"	4'-4"	2'-11"	11'-8"	8'-4"	2.36	167	22
	30"	3'-11 1/2"	4'-10"	3'-5"	13'-8"	10'-4"	3.09	225	25

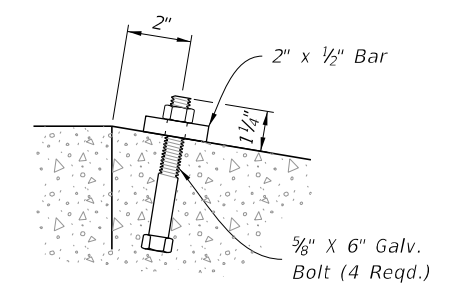
ENDWALLS FOR 1:4 AND 1:6 SLOPES

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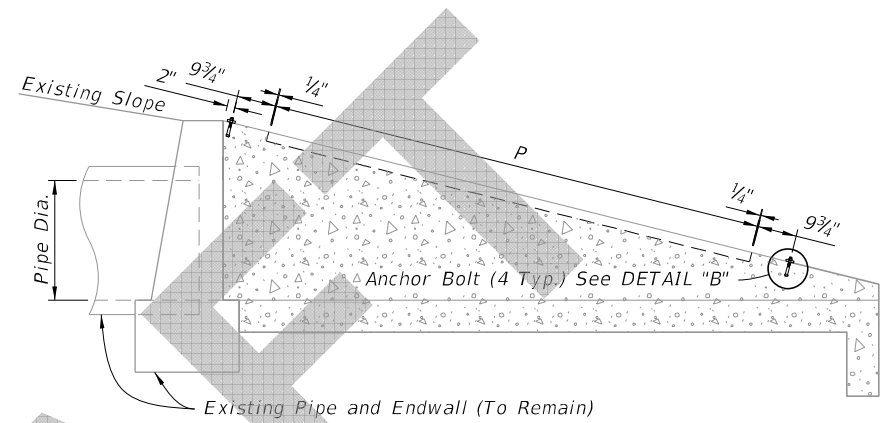
Slope	Pipe Dia.	Channels @ 5.4 Lbs./LF		Bars @ 3.4 lbs/LF (2 ea.)		Angles @ 3.2 Lbs./LF			
		Quantity	F	lbs.	L	M-4"	lbs.	P	lbs.
1:6	15"	10	2'-6 ⁷ / ₈ "	139	11'-3"	3'-3"	99	9'-4"	60
	18"	12	2'-9 ⁷ / ₈ "	183	13'-3"	3'-6"	114	11'-4"	73
	24"	15	3'-3 ⁷ / ₈ "	269	16'-3"	4'-0"	138	14'-4"	92
	30"	18	3'-9 ⁷ / ₈ "	372	19'-3"	4'-6"	162	17'-4"	111
1:4	15"	6	2'-6 ⁷ / ₈ "	83	7'-3"	3'-3"	71	5'-4"	34
	18"	7	2'-9 ⁷ / ₈ "	107	8'-3"	3'-6"	80	6'-4"	41
	24"	9	3'-3 ⁷ / ₈ "	161	10'-3"	4'-0"	97	8'-4"	53
	30"	11	3'-9 ⁷ / ₈ "	227	12'-3"	4'-6"	114	10'-4"	66



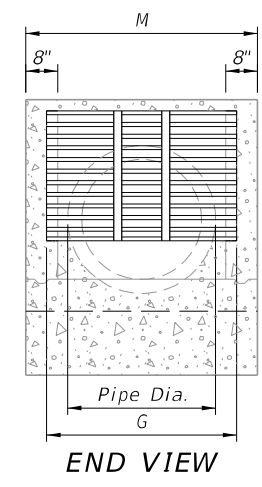
PLAN



Anchor Bolt Detail
DETAIL "B"

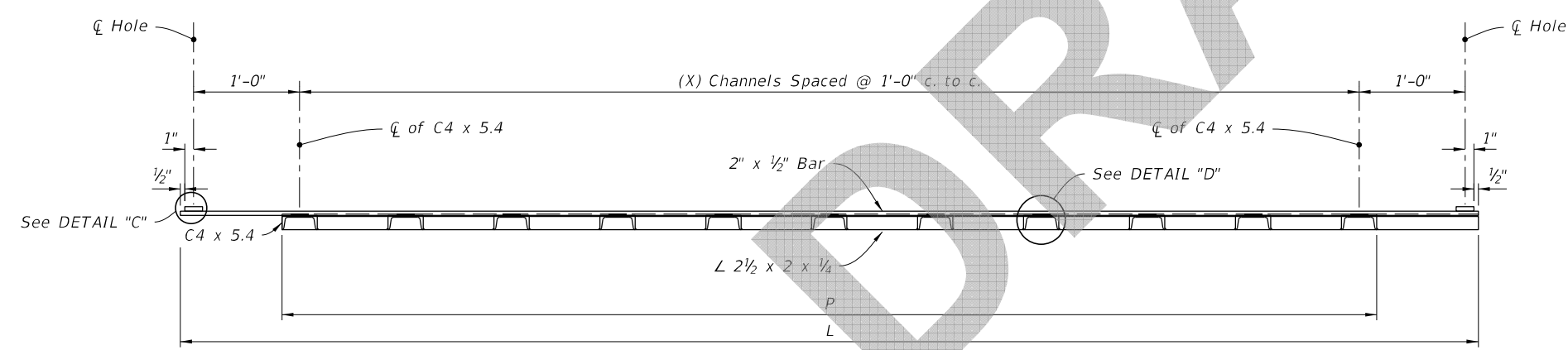


ELEVATION

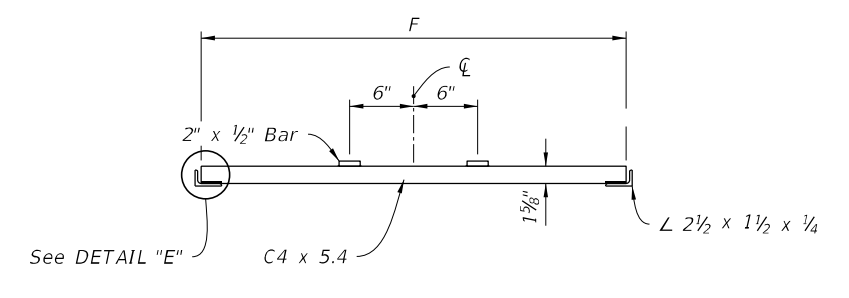


END VIEW

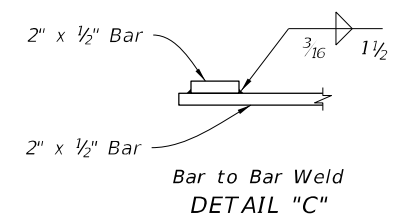
STEEL GRATE MOUNTING



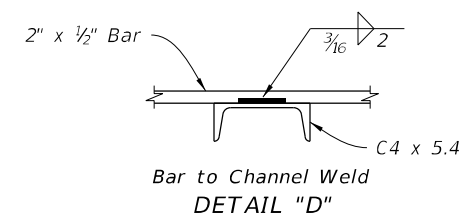
SECTION A-A



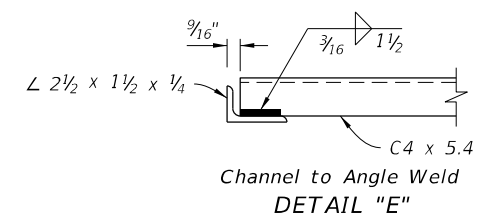
SECTION B-B



Bar to Bar Weld
DETAIL "C"



Bar to Channel Weld
DETAIL "D"



Channel to Angle Weld
DETAIL "E"

STEEL GRATE DETAILS

STEEL GRATE

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LAST REVISION 11/01/19	DESCRIPTION:		FY 2020-21 STANDARD PLANS	SAFETY MODIFICATIONS FOR ENDWALLS	INDEX	SHEET
					430-090	3 of 3