


# ORIGINATION FORM

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

## Contact Information:

Date: May 7, 2018  
Originator: Rick Jenkins  
Phone: (850) 414-4355  
Email: Rick.Jenkins@dot.state.fl.us

## Standard Plans:

Index Number: 430-010  
Sheet Number (s): 1 of 1  
Index Title: U-Type Concrete Endwalls With Grates - 15" to 30" Pipe 

## Summary of the changes:

Added Sheets and Reorganized information. Moved Sodding quantities to Index 570-001.

## Commentary / Background:

Sodding quantities were moved to Index 570-001 to provide the information for sodding around end treatments in a single location.

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

- | Yes                                 | No                       |  |
|-------------------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Other Standard Plans – 570-001             |
| <input type="checkbox"/>            | <input type="checkbox"/> | FDOT Design Manual –                       |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Basis of Estimates Manual – Melissa Hollis |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Standard Specifications –                  |
| <input type="checkbox"/>            | <input type="checkbox"/> | Approved Product List –                    |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Construction – Jason Russell               |
| <input type="checkbox"/>            | <input type="checkbox"/> | Maintenance –                              |

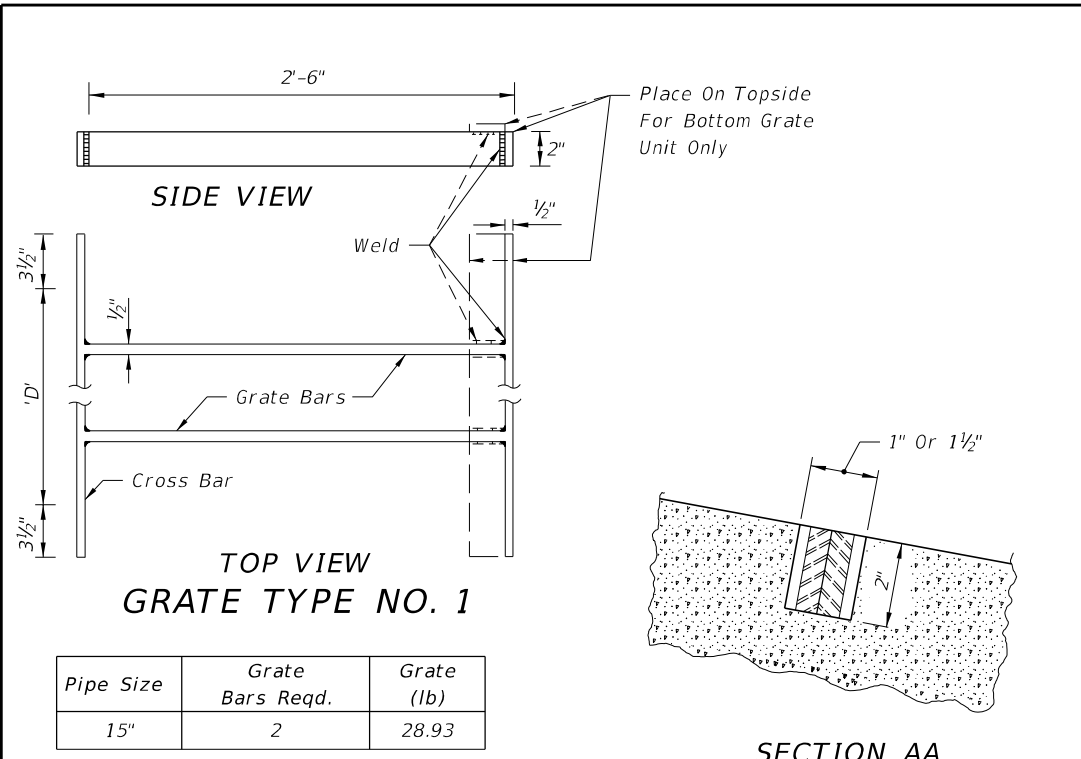
## Origination Package Includes: (Email or hand deliver package to Derwood Sheppard)

- | 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)

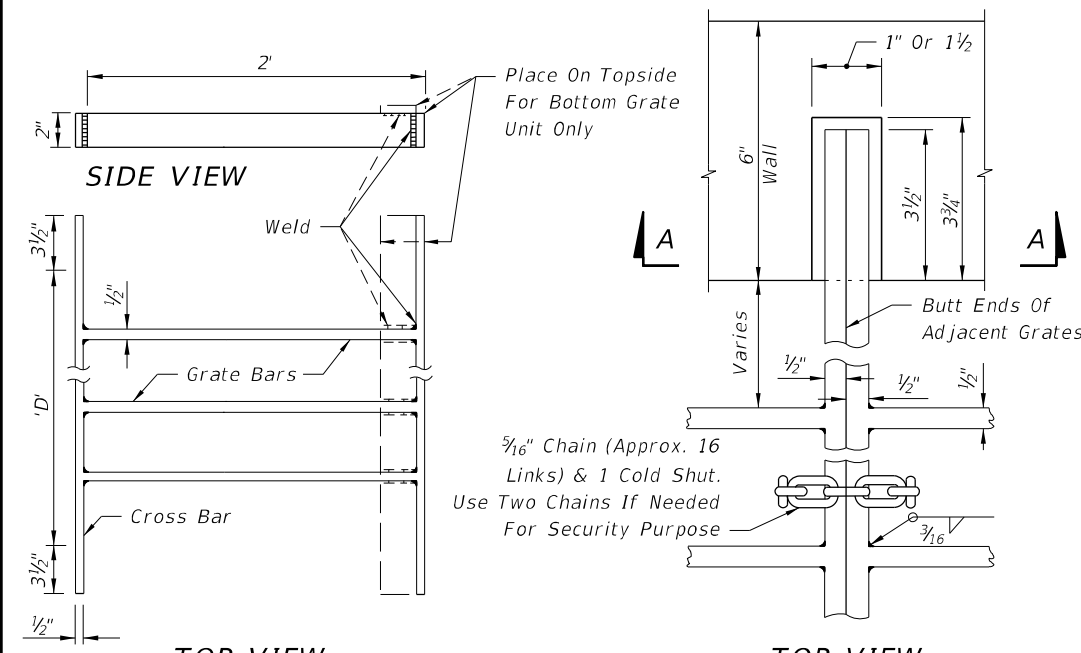
Contact the Roadway Design Office for assistance in completing this form



Pipe Size	Grate Bars Req'd.	Grate (lb)
15"	2	28.93

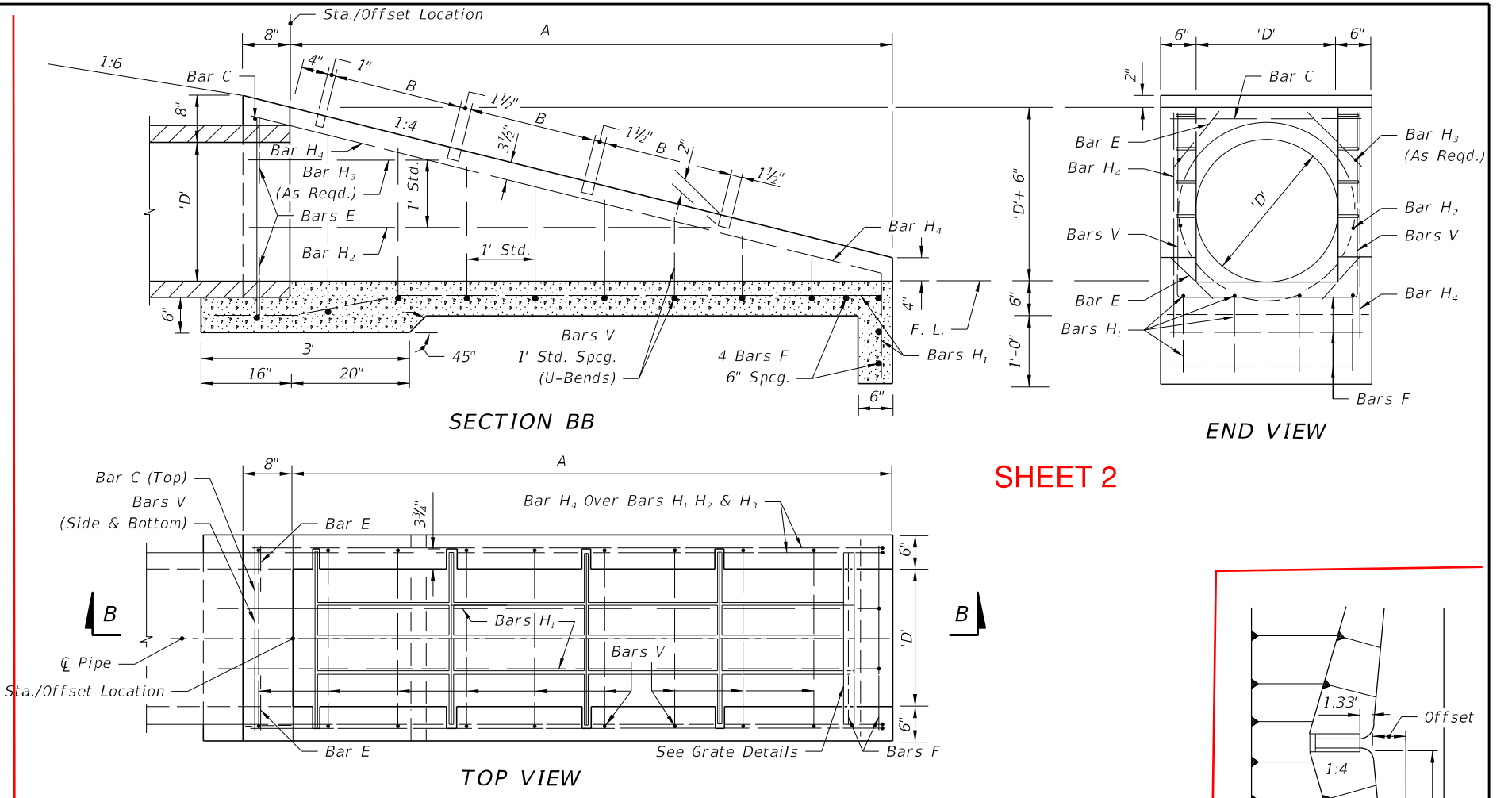
Bars to be evenly spaced across dimension 'D'  
All bars 1/2" x 2"

**SHEET 3**



Pipe Size	Grate Bars Req'd.	Grate (lb)
18"	3	33.69
24"	4	43.63
30"	5	53.55

Bars to be evenly spaced across dimension 'D'.  
All bars 1/2" x 2".



**SHEET 2**

Slope	Pipe Size D	A	B	Class I Conc. (CY)	Reinf. Steel (lb)	Number Of Grates Req'd.		Total Grate Wt. (lb)	Sodding (SY)	Slope Transition	
						Type No. 1	Type No. 2			Offset	L
1:4	15"	5.67'	2.38'	0.85	56	2	0	57.86	15	4.2'	42'
	18"	6.67'	1.875'	1.01	73	0	3	101.08	16	4.8'	48'
	24"	8.67'	1.875'	1.65	97	0	4	174.52	19	5.8'	58'
	30"	10.67'	1.875'	2.33	129	0	5	267.75	21	6.9'	69'

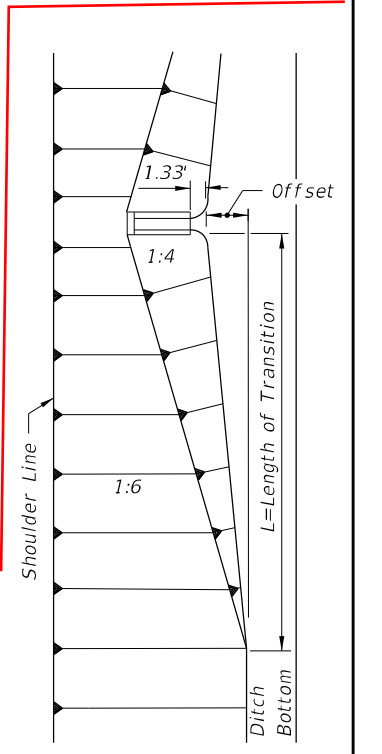
**GENERAL NOTES**

- This endwall is to be used only in the clear zone for the drainage of medians and other areas having low design velocities and negligible debris.
- Reinforcing steel: All bars are size #4. Spacings shown are center to center. Laps to be 1'-5" minimum. Cover is 2" except as noted. Square welded wire fabric (two cages max.) having an equivalent cross sectional area (0.20 sq. in.) may be substituted for bar reinforcement.
- Grates shall be ASTM A242/A242M, A572/A572M or ASTM A588/A588M, Grade 50 steel. When "Alt. G" grates are specified in the plans, grates shall be galvanized in accordance with Section 975 and 425.3.2 of the Standard Specifications.
- Endwall to be paid for under the contract unit price for U-Endwall, Each. Payment shall include cost of concrete, reinforcing steel, grate, and accessories. Quantities shown are for estimating purposes only.
- Sod slopes 5' each side and above endwall. Sodding to be paid for under contract unit price for Performance Turf, SY.
- Precasting of this endwall will be permitted. Precast units shall conform to the dimensions shown or in accordance with approved shop drawings. Request for shop drawing approval shall be directed to the State Drainage Engineer. Use Index 425-001 for opening and grouting details.
- Concrete shall be Class I except ASTM C478 (4000 psi) concrete may be substituted for precast items manufactured in plants meeting the requirements of Section 449 of the Specifications.

**SPI?**

**Moved to Specifications**

**Covered in Specifications**



**FRONT SLOPE TRANSITION AT ENDWALL**

**SHEET 1**

**RENUMBERED**

10/30/2018 8:17:32 AM

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



**FY 2019-20 STANDARD PLANS**

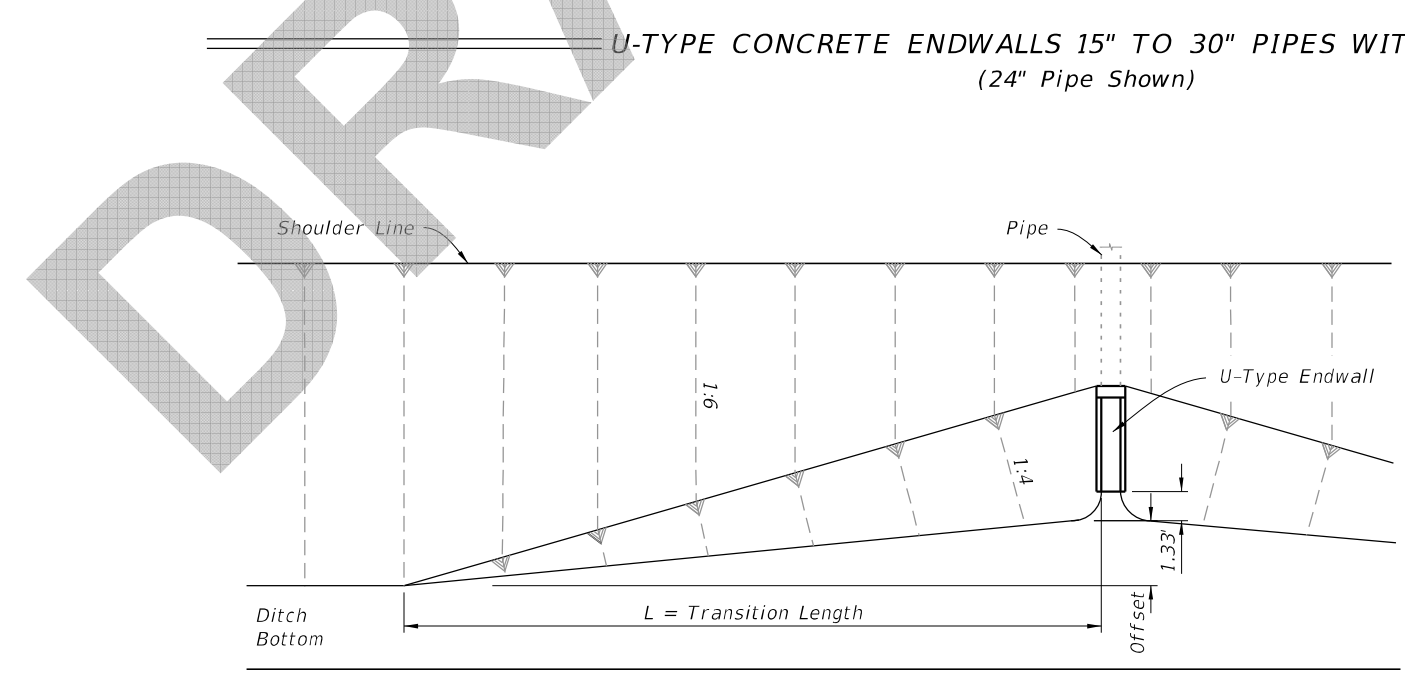
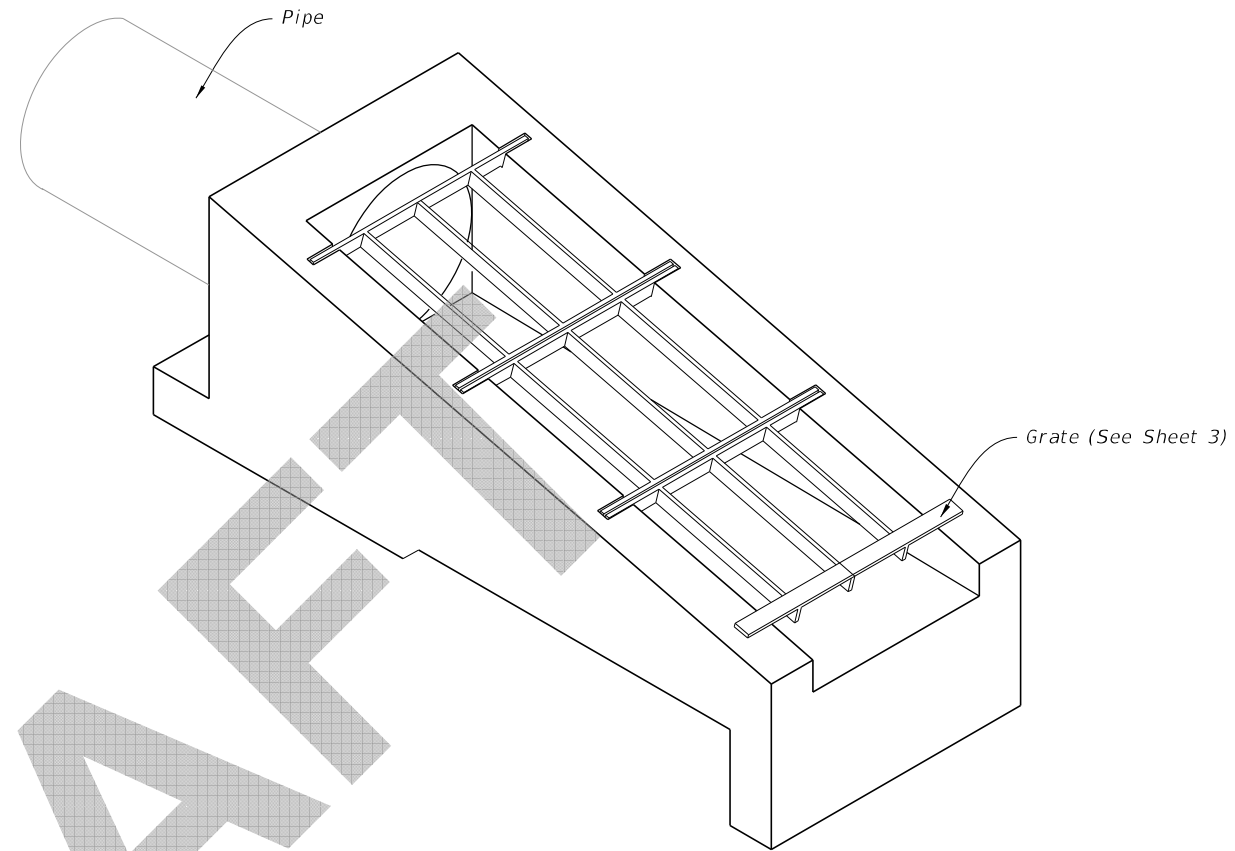
**U-TYPE CONCRETE ENDWALLS WITH GRATES 15" TO 30" PIPE**

INDEX	SHEET
430-010	1 of 1

**GENERAL NOTES:**

1. Use Class 1 concrete.
2. Reinforcing steel: All bars are size #4. Spacing's shown are center to center. Laps to be 1'-5" minimum. Cover is 2" except as noted. Square welded wire fabric (two cages max.) having an equivalent cross sectional area (0.20 sq. in.) may be substituted for bar reinforcement.
3. Endwall may be cast in place or precast concrete. Construct precast units to dimensions shown, or as shown in approved shop drawings. Use Index 425-001 for opening and grouting details.
4. Quantities shown are for estimating purposes only.

TABLE OF CONTENTS:	
Sheet	Description
1	General Notes and Contents
2	Dimensional and Reinforcing Details
3	Type 1 and Type 2 Grate Details

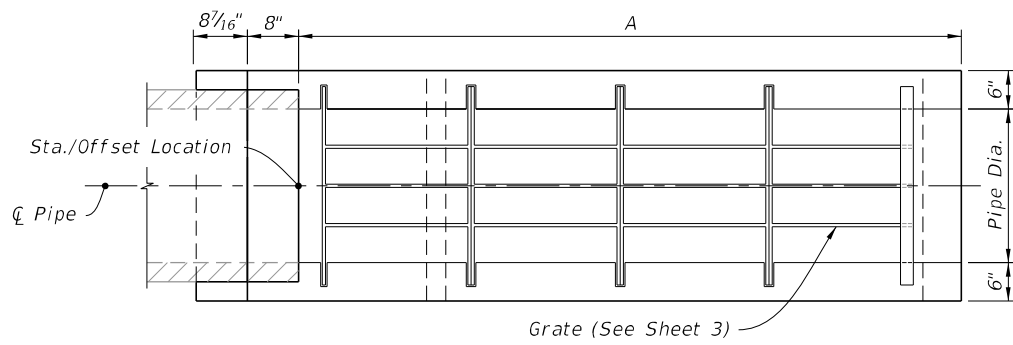


U-TYPE CONCRETE ENDWALLS 15" TO 30" PIPES WITH GRATES  
(24" Pipe Shown)

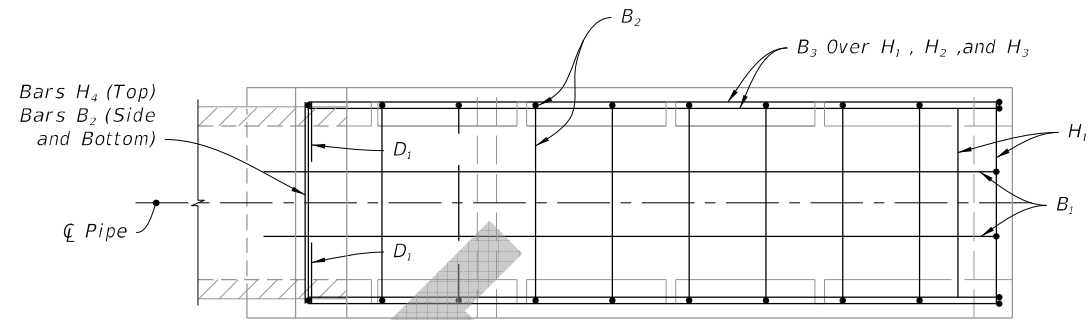
Slope	Pipe Dia.	Offset (Ft.)	L (Ft.)
1:4	15"	4.2	42
	18"	4.8	48
	24"	5.8	58
	30"	6.9	69

FRONT SLOPE TRANSITION AT ENDWALL

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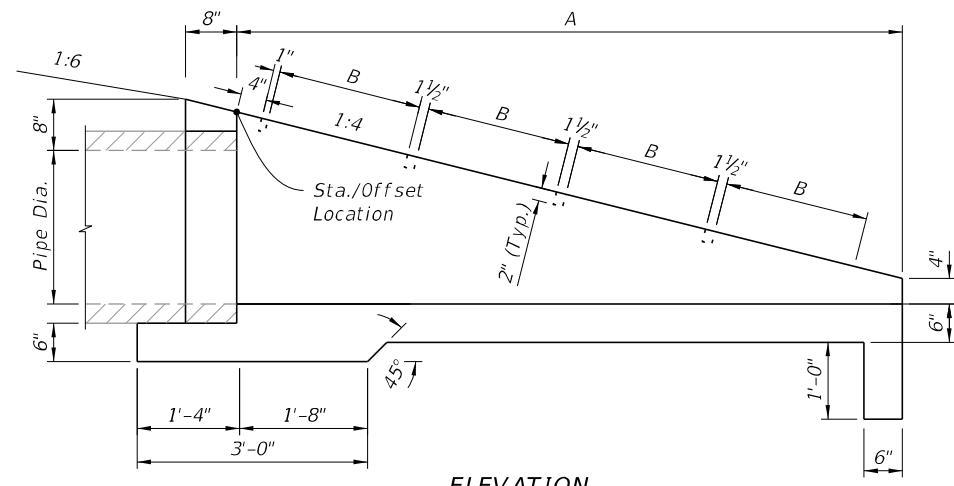


PLAN

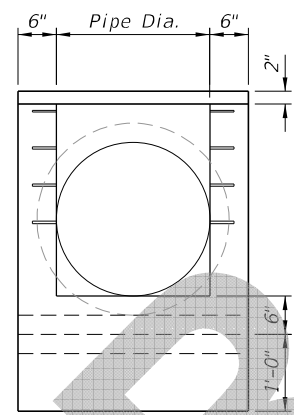


PLAN

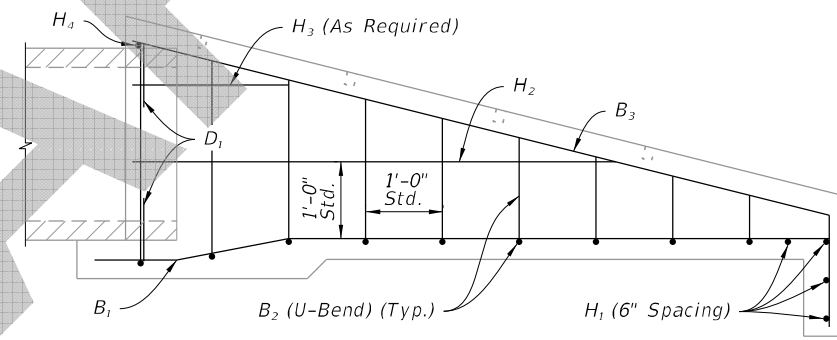
**LEGEND:**  
 H = Horizontal Bars  
 V = Vertical Bars  
 B = Bent Bars  
 D = Dowels or Diagonal Bars



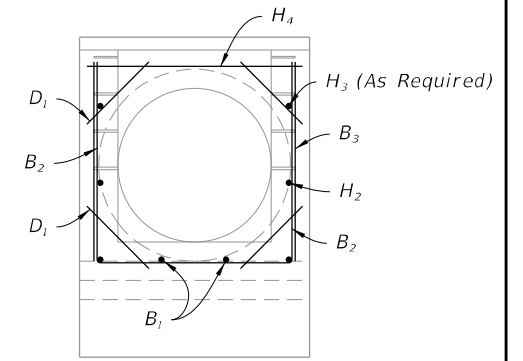
ELEVATION



END VIEW



ELEVATION



END VIEW

DIMENSIONAL DETAIL

REINFORCING DETAIL

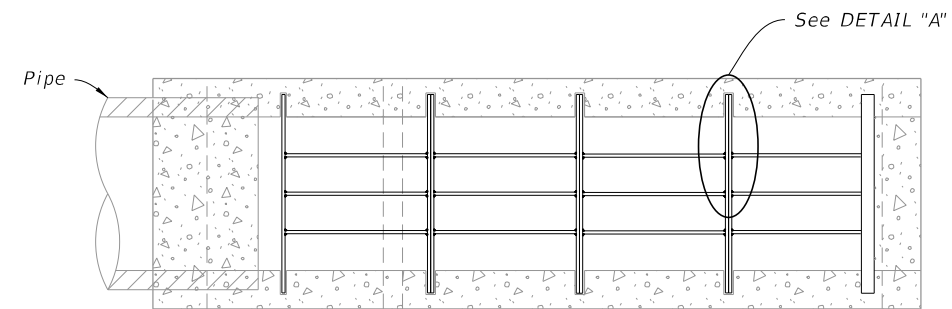
**TABLE 2  
 DIMENSIONS AND QUANTITIES**

	Pipe Dia.	A (Ft.)	B (Ft.)	Class I Conc. (CY)	Reinf. Steel (lbs.)
Slope 1:4	15"	5.67	2.38	0.85	56
	18"	6.67	1.875	1.01	73
	24"	8.67	1.875	1.65	97
	30"	10.67	1.875	2.33	129

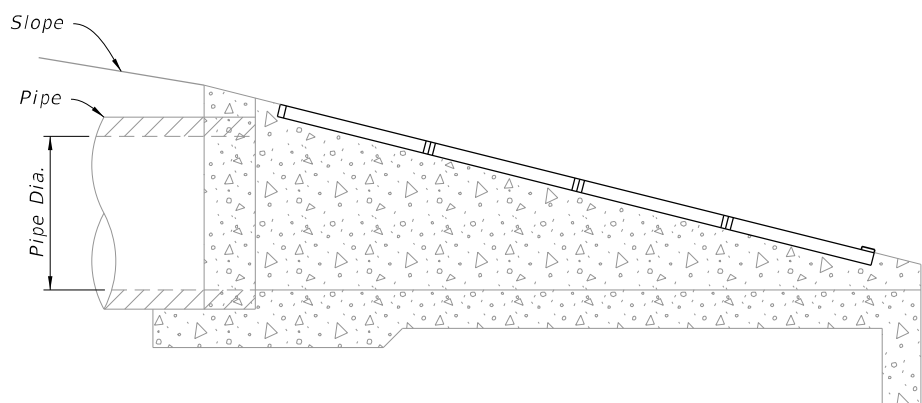
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**DIMENSIONAL AND REINFORCING DETAILS**

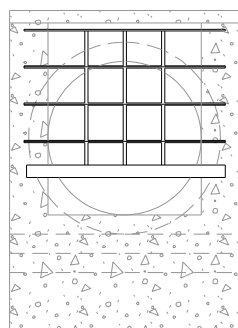
LAST REVISION 11/01/19	REVISION	DESCRIPTION:		FY 2020-21 STANDARD PLANS	U-TYPE CONCRETE ENDWALLS 15" TO 30" PIPES WITH GRATES	INDEX 430-010	SHEET 2 of 3
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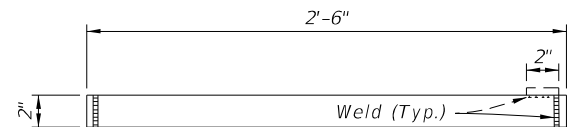
PLAN



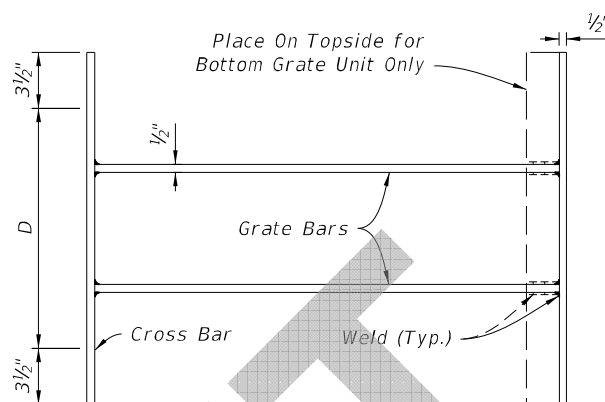
ELEVATION



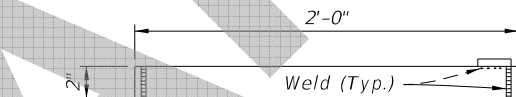
END VIEW



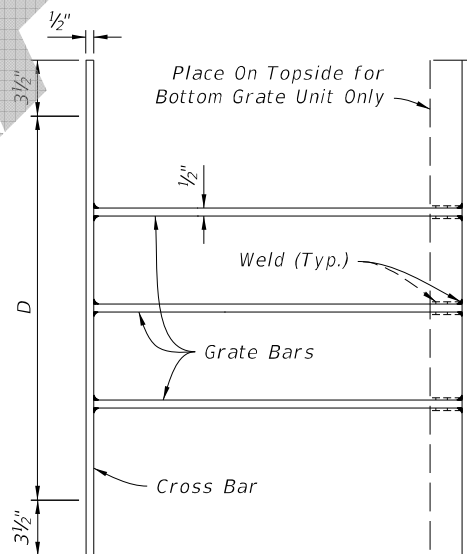
SIDE VIEW



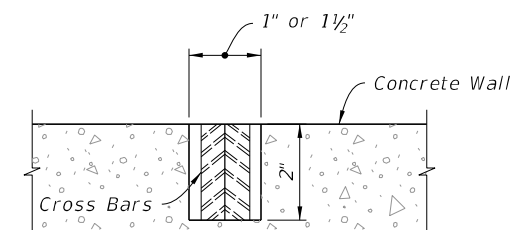
TOP VIEW  
TYPE 1



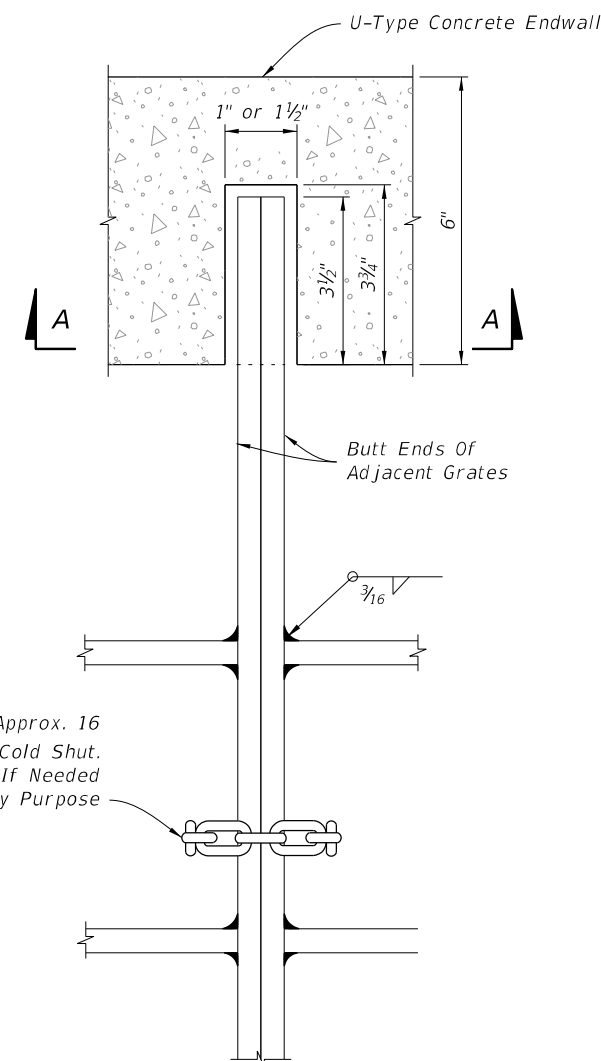
SIDE VIEW



TOP VIEW  
TYPE 2



SECTION A-A



GRATE, SEAT, WELD & CHAIN DETAIL

**NOTES:**

1. Install grate bars evenly spaced across dimension D.
2. All bars and grate bars are 1/2" x 2".

**TABLE 3  
NUMBER OF GRATE BARS AND GRATES REQUIRED**

Pipe Dia. D	Grate Bars Req'd.		Grate Wt. (lbs.)	Grate Req'd.		Total Grate Wt. (lbs.)
	Type No. 1	Type No. 2		Type No. 1	Type No. 2	
15"	2	0	28.93	2	0	57.86
18"	0	3	33.69	0	3	101.08
24"	0	4	43.63	0	4	174.52
30"	0	5	53.55	0	5	267.75

TYPE 1 AND TYPE 2 GRATE DETAILS

DETAIL "A"

TYPE 1 AND TYPE 2 GRATE DETAILS

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LAST REVISION 11/01/19	DESCRIPTION:
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FY 2020-21  
STANDARD PLANS

U-TYPE CONCRETE ENDWALLS  
15" TO 30" PIPES WITH GRATES

INDEX  
430-010

SHEET  
3 of 3