

Index 430-010

U-Type Concrete Endwalls With Grates - 15" to 30" Pipe

ORIGINATION

Date: May 7, 2018

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COMMENTARY

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

COMMENTS AND RESPONSES

BLACK = Industry Review Comments **RED** = Standard Plans Response

Name: Erin Yao

Date: August 8, 2019

COMMENT:

Sheet 1:

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

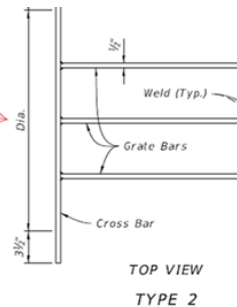
Sheet 3:

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 REQUIRED**

Pipe Dia.	Number Of Grate Bars Req'd.		Total Grate Wt. (lbs.)
	Type No. 1	Type No. 2	
15"	2	0	28.93
18"	0	2	33.69
24"	0	4	43.63
30"	0	5	53.55



Comment on 430-010: There is an issue with number of bars required per grate AND the number of grates required based on the pipe diameter. Somehow the number of grates per pipe diameter is missing from the new draft index. See Table 3 above. That weight is for the total number of grates per pipe diameter and not the individual grate.

**TABLE 2
DIMENSIONS AND QUANTITIES**

Slope	Pipe Dia.	Dimensions (Ft.)		Class 1 Conc. (CY)	Reinf. Steel (lbs.)
		A	B		
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

Table 2 is missing number of grates required depending on the dimension A.

RESPONSE: Date August 8, 2019: All comments will be addressed.

GENERAL NOTES:

1. Use Class I 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.

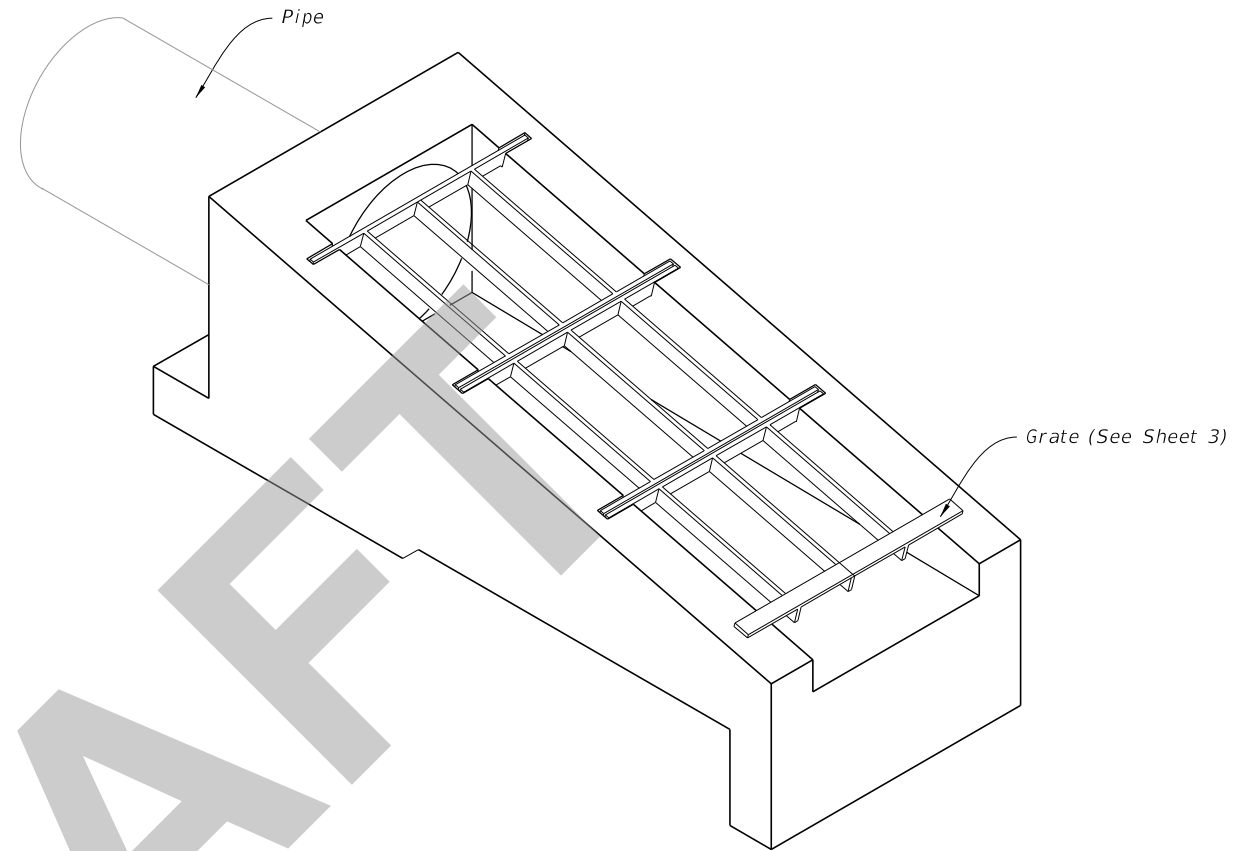
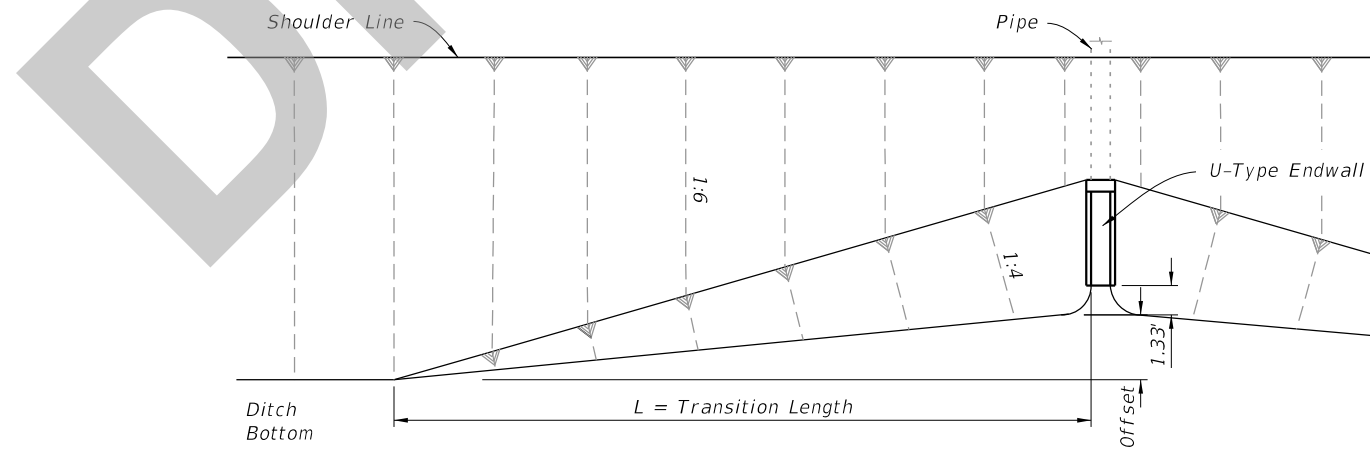


TABLE OF CONTENTS:	
Sheet	Description
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U-TYPE CONCRETE ENDWALLS 15" TO 30" PIPES WITH GRATES
(24" Pipe Shown)



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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LAST REVISION 11/01/19	DESCRIPTION:
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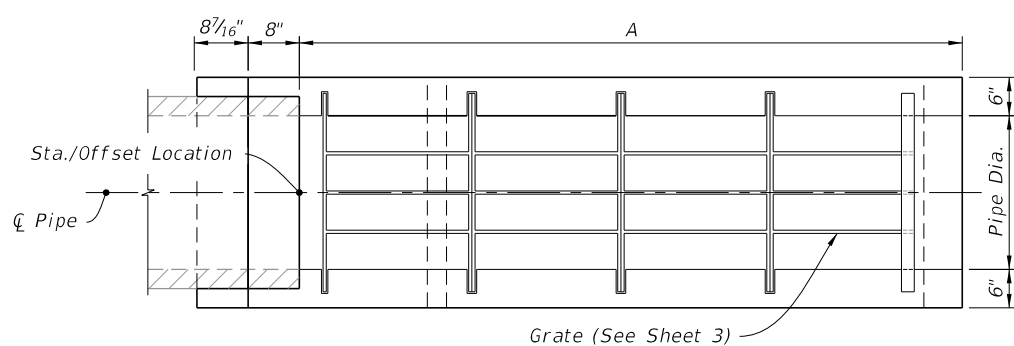


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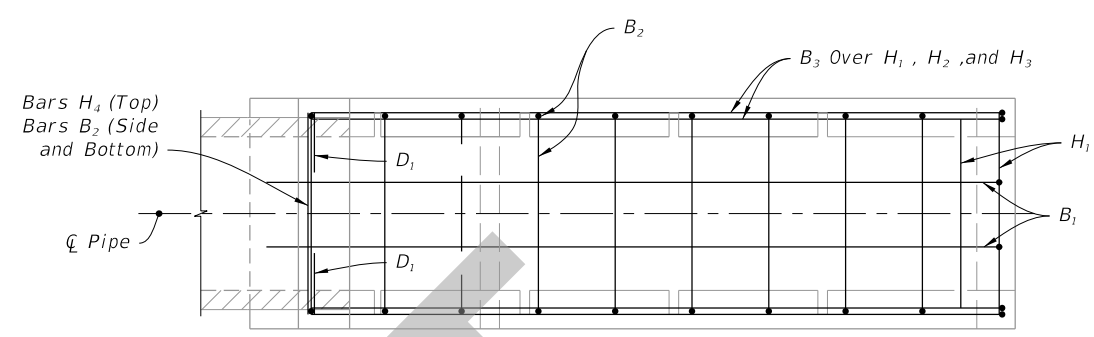
U-TYPE CONCRETE ENDWALLS
15" TO 30" PIPES WITH GRATES

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SHEET
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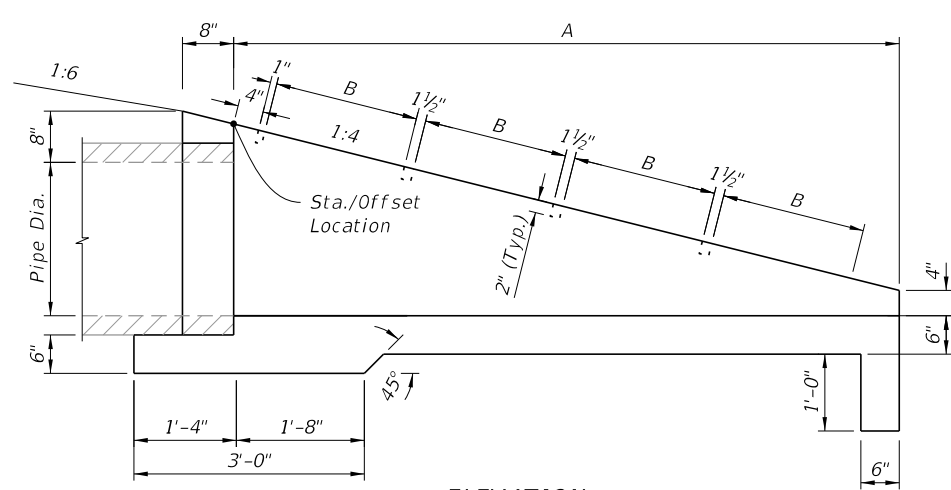


PLAN

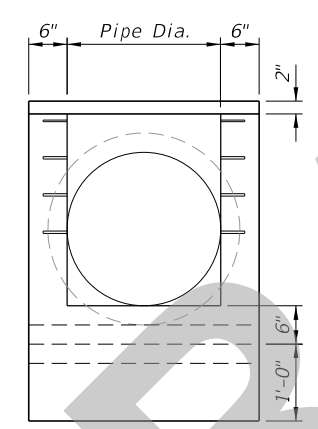


PLAN

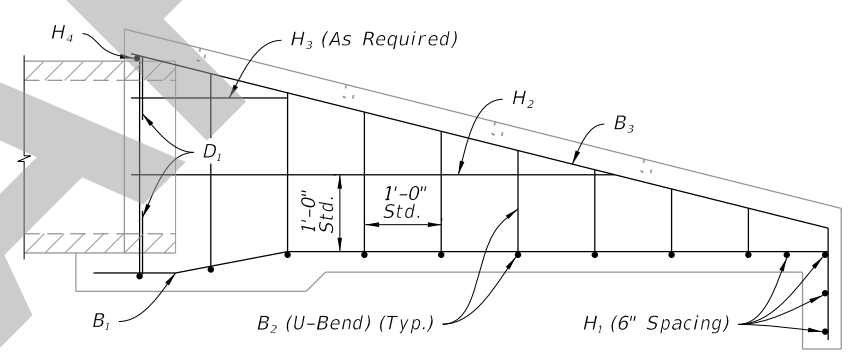
LEGEND:
 H = Horizontal Bars
 V = Vertical Bars
 B = Bent Bars
 D = Dowels or Diagonal Bars



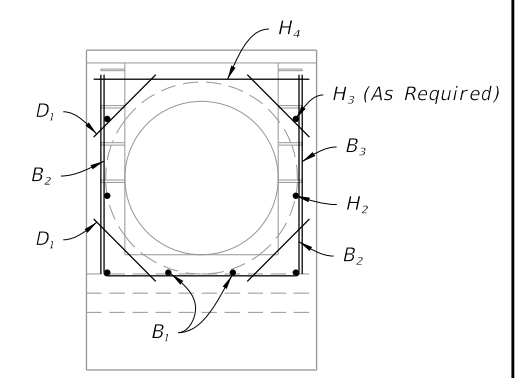
ELEVATION



END VIEW



ELEVATION



END VIEW

DIMENSIONAL DETAIL

REINFORCING DETAIL

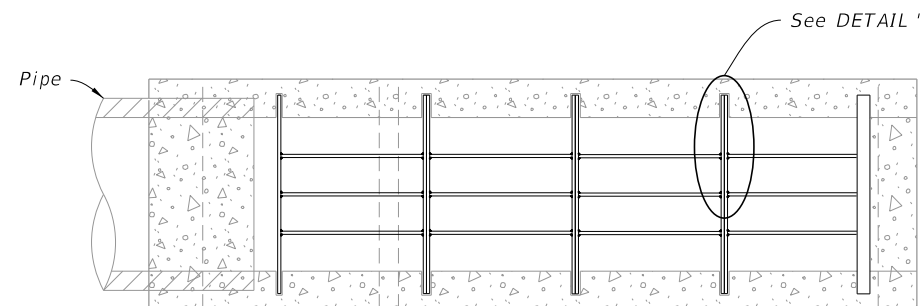
TABLE 2
DIMENSIONS AND QUANTITIES

	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

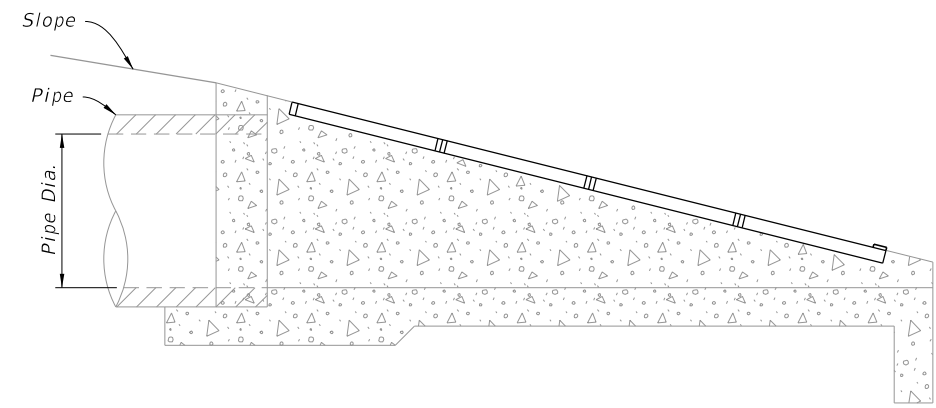
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DIMENSIONAL AND REINFORCING DETAILS

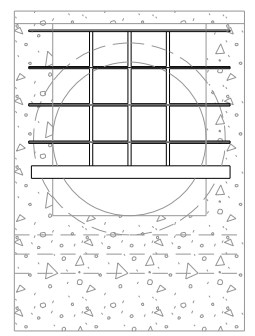
LAST REVISION 11/01/19	REVISION	DESCRIPTION:		FY 2020-21 STANDARD PLANS	U-TYPE CONCRETE ENDWALLS 15" TO 30" PIPES WITH GRATES	INDEX 430-010	SHEET 2 of 3
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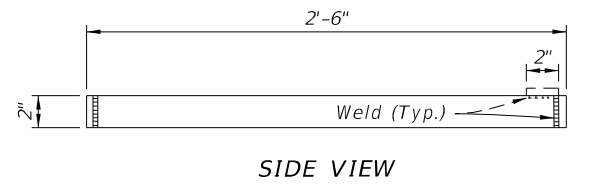
PLAN



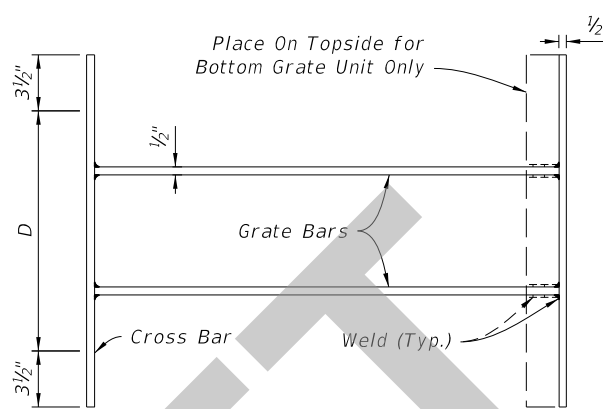
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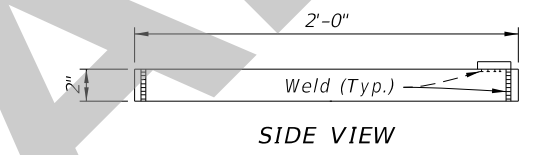
END VIEW



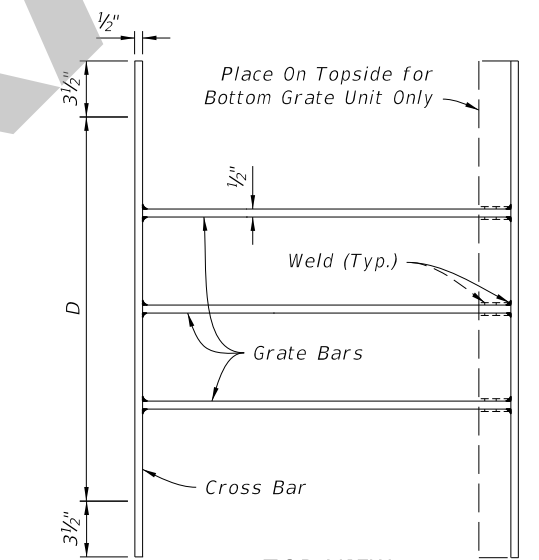
SIDE VIEW



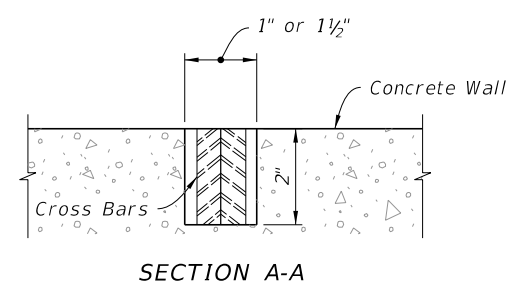
TOP VIEW
TYPE 1



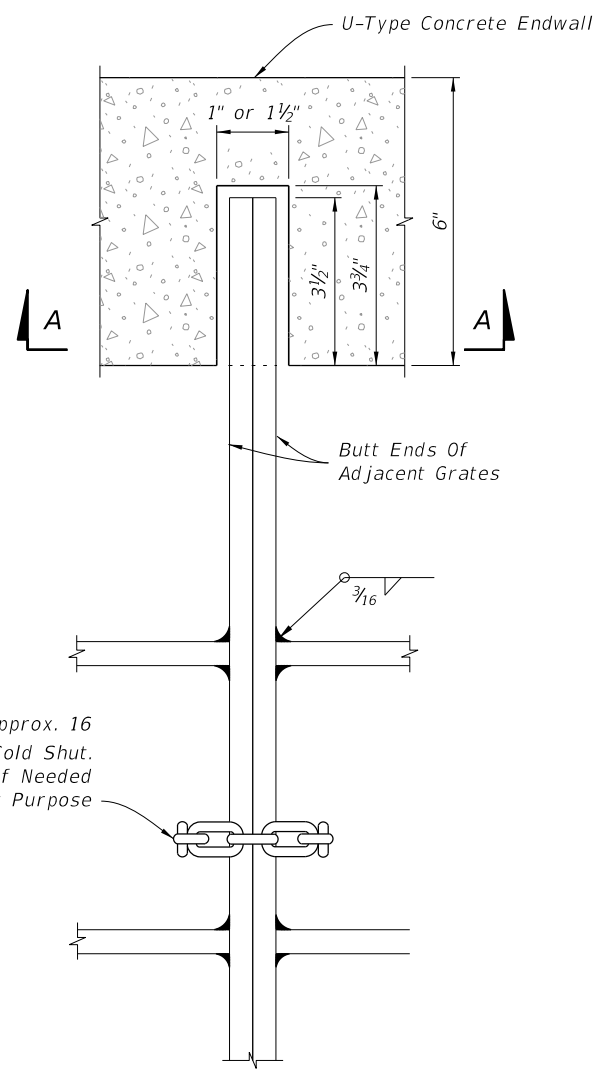
SIDE VIEW



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".

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**

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