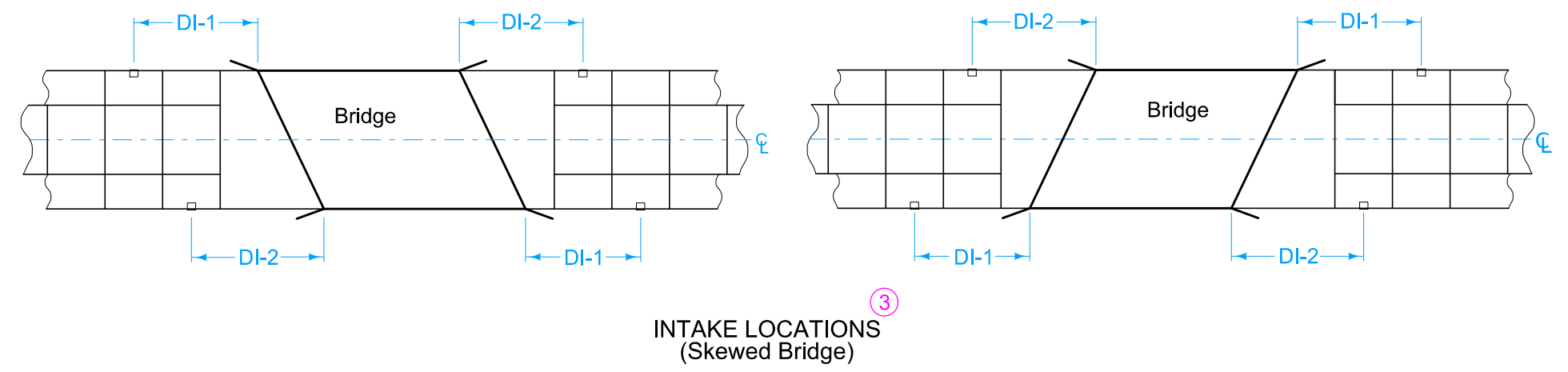
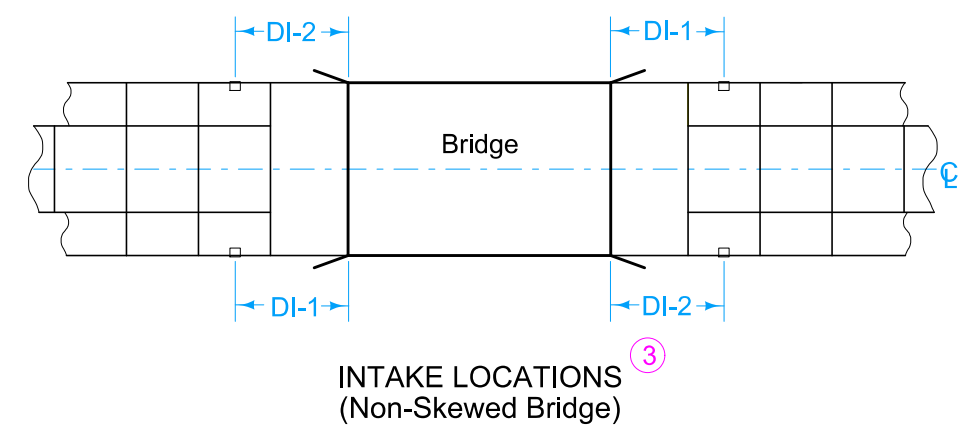
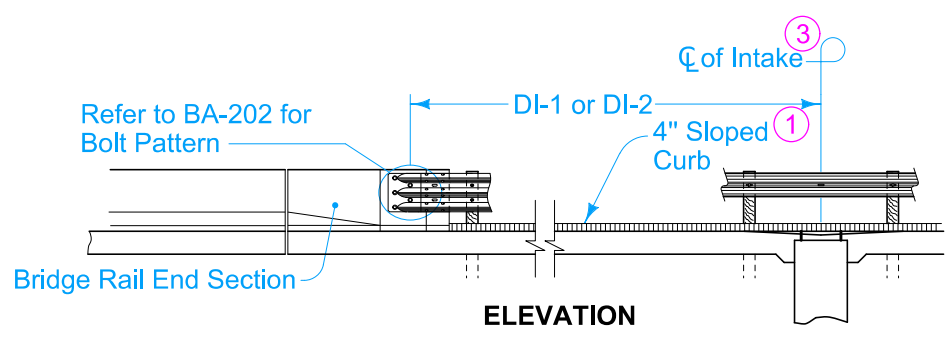
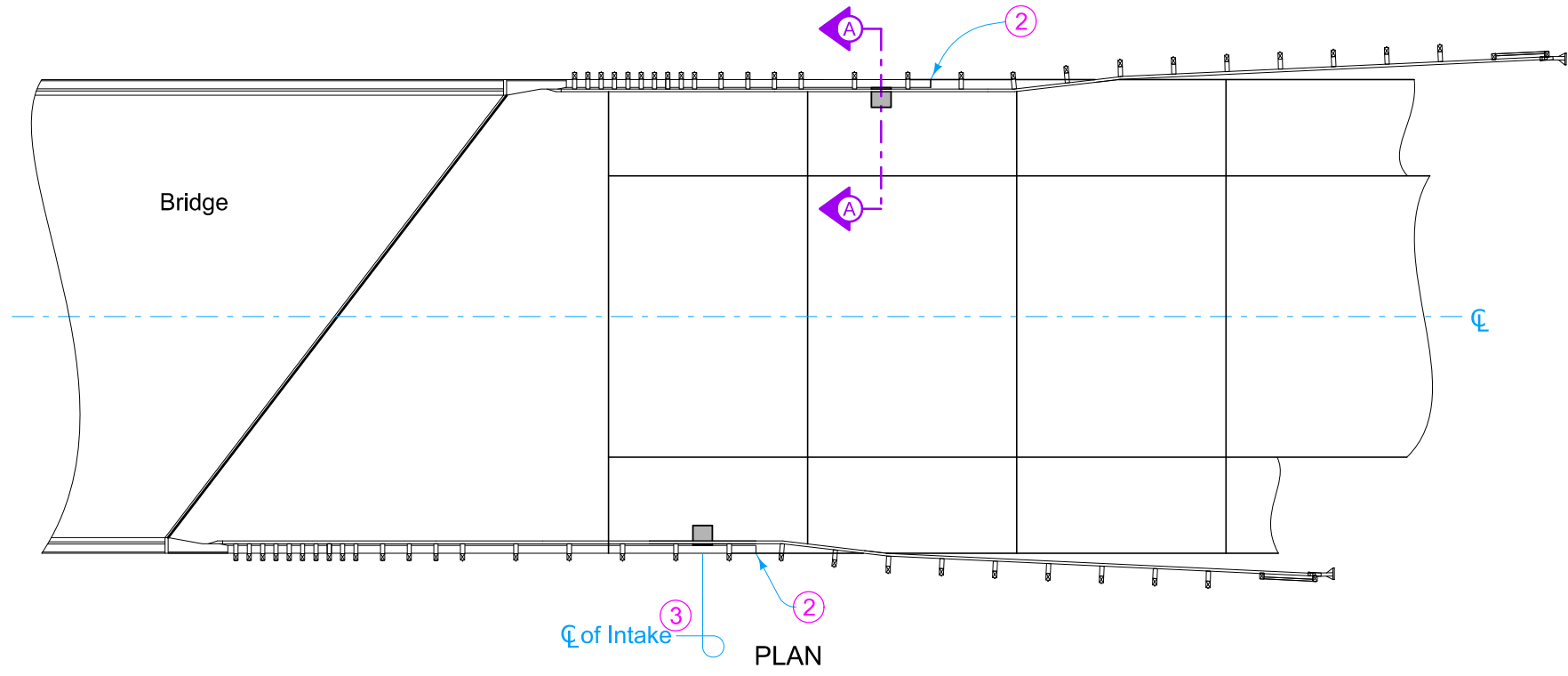


# DESIGNER INFORMATION

Price bid for "Intake for Bridge End Drain, SW-538" is full compensation for furnishing, installing, and constructing the Bridge End Drain as shown.

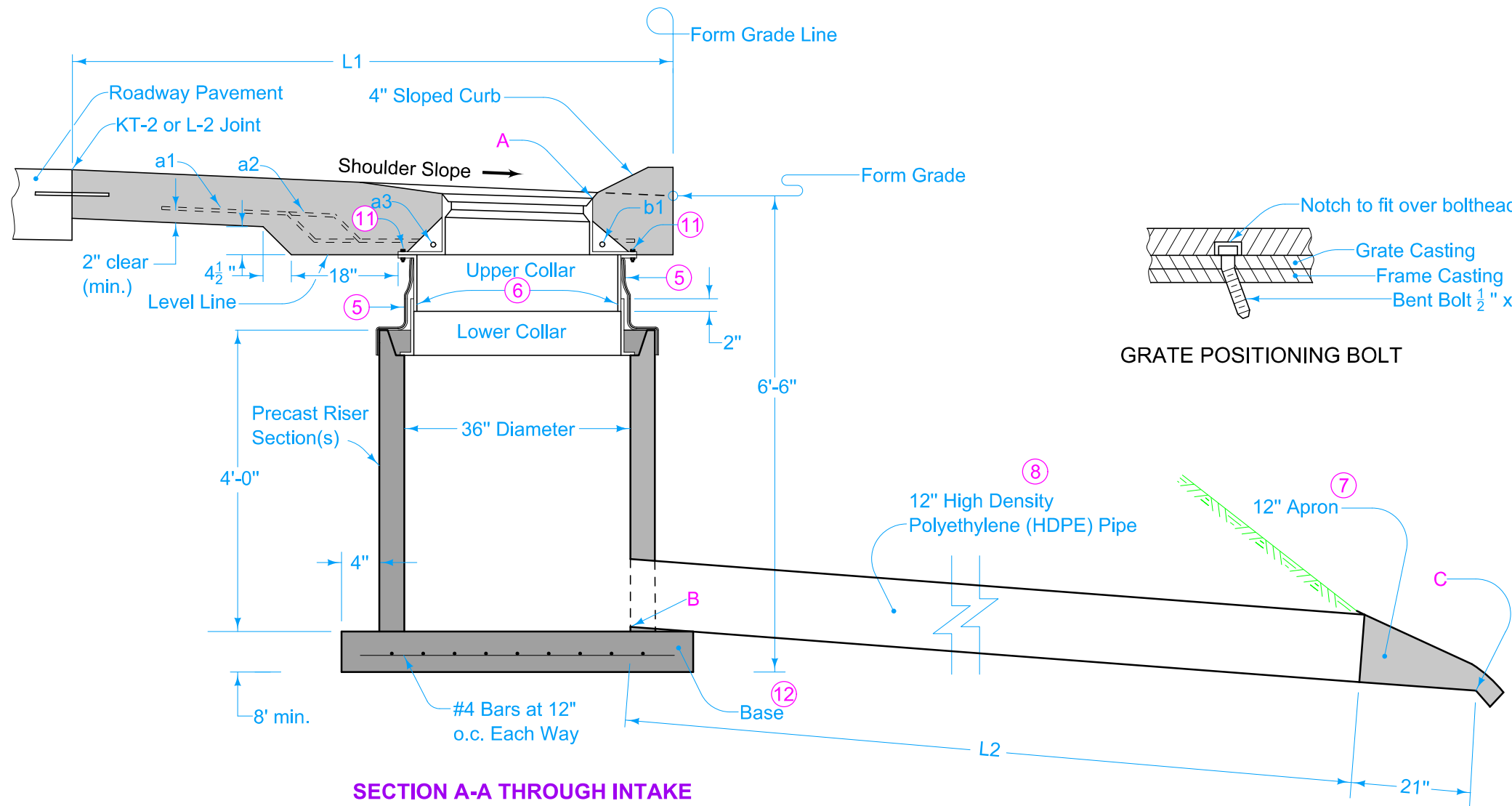
- ① Refer to BR-201, BR-202, BR-203, BR-204, or BR-205 for details of 4 inch sloped curb.
- ② Continue 4 inch Sloped Curb 5 feet beyond centerline of intake, then transition to no curb as shown on PV-102.
- ③ DI-1 and DI-2 distances measured from center of bolt hole pattern. Locate center of intake 6 feet or more from the nearest transverse pavement joint and between guardrail posts to allow for storm sewer outlet. Joints are determined by the bridge approach section.



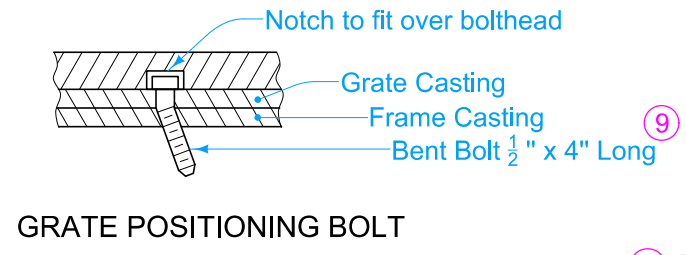
Possible Contract Items:  
Intake for Bridge End Drain, SW-538

Possible Tabulation:  
104-8

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STANDARD ROAD PLAN		SW-538
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REVISIONS: Removed shoulder panels.		
APPROVED BY DESIGN METHODS ENGINEER		
INTAKE FOR BRIDGE END DRAIN		



**SECTION A-A THROUGH INTAKE**



**GRATE POSITIONING BOLT**

Construct precast base using 4 in. x 4 in. No. 6 steel wire mesh reinforcing or equivalent.

To ensure water-tight joints, use an approved asphaltic sealer for all corrugated metal pipe joints constructed using connecting bands.

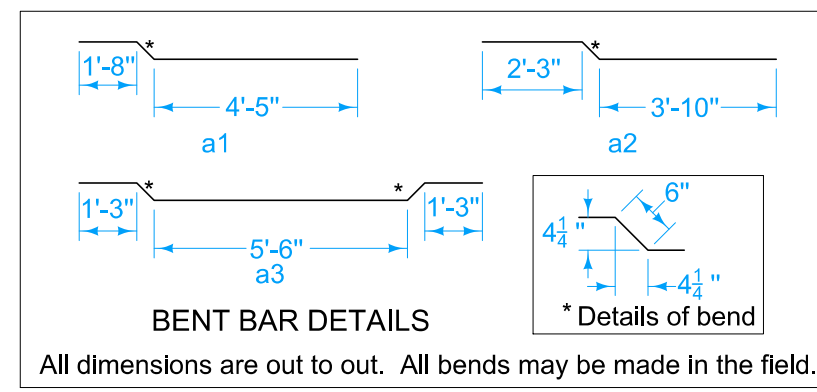
Flow line **A** elevation is 0.10 feet below Form Grade Elevation.

Flow line **B** elevation is 5.75 feet below flow line **A**.

Flow line **C** elevation is 0 - 0.5 feet above ditch grade.

Refer to project plans for actual flow line elevations of **A**, **B**, **C**, and dimensions **L1** and **L2**.

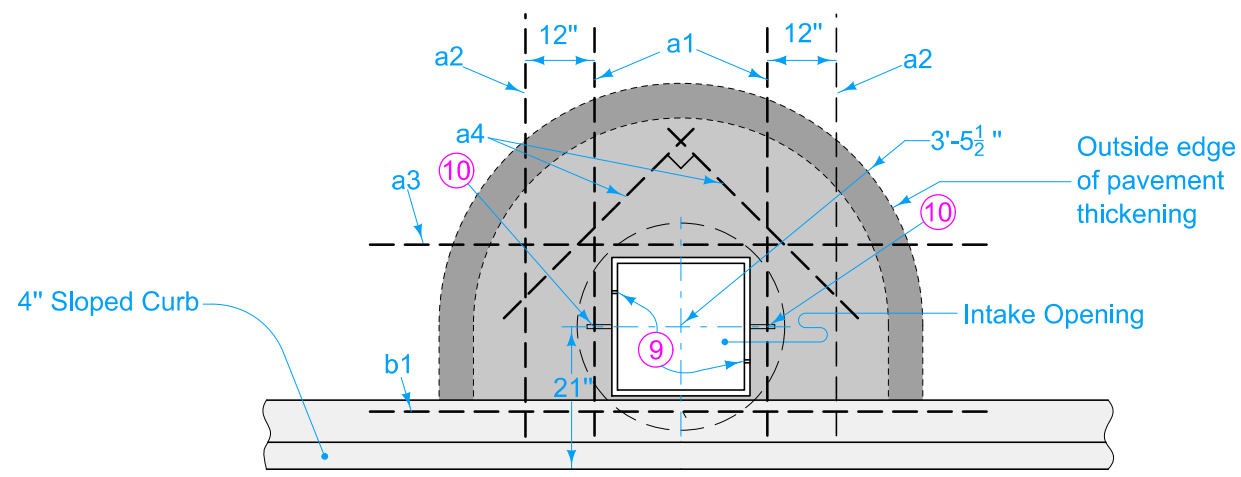
- ⑤ Before backfilling around the intake assembly, wrap two thicknesses of engineering fabric around the settlement collar. Tape all the way around with 2 inch duct tape immediately below the flange of upper section and 4 inches below the top of well pipe.
- ⑥ Fasten Slip joint temporarily with four 1/2 inch cap screws during pavement construction. Remove cap screws after pavement is hardened.
- ⑦ Refer to DR-203. Apron is incidental to Intake for Bridge End Drain and will not be paid for separately.
- ⑧ Connect to basin according to Section 2435 of the Standard Specifications. High Density Polyethylene (HDPE) Pipe is incidental to Intake for Bridge End Drain and will not be paid for separately.
- ⑨ Field place 1/2 in. x 4 in. long bolt in upstream side and bend underside to prevent removal.
- ⑩ Place bars a1, a3, and b1 through the appropriate holes in the intake frame.
- ⑪ Fasten frame casting to Upper Collar casting at four locations using 1/2 in. x 2 in. long hex bolts and 1/2 inch nuts.
- ⑫ Cast-in-place base shown. Base may be square. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.



**BENT BAR DETAILS**

All dimensions are out to out. All bends may be made in the field.

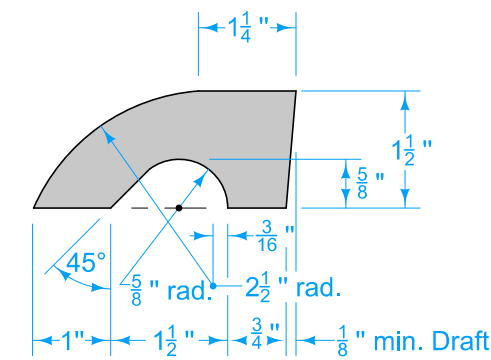
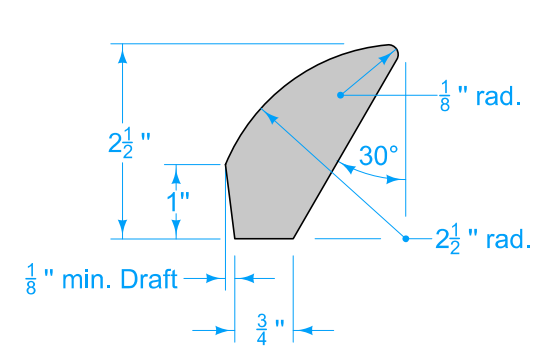
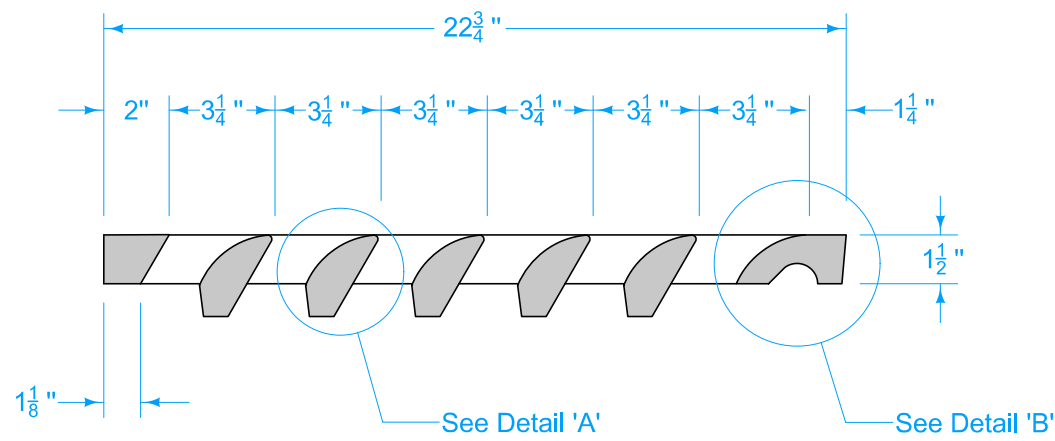
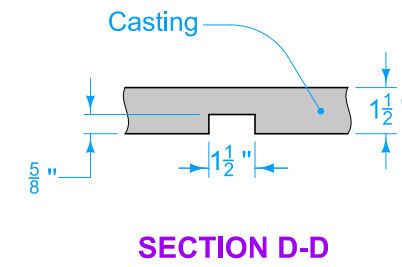
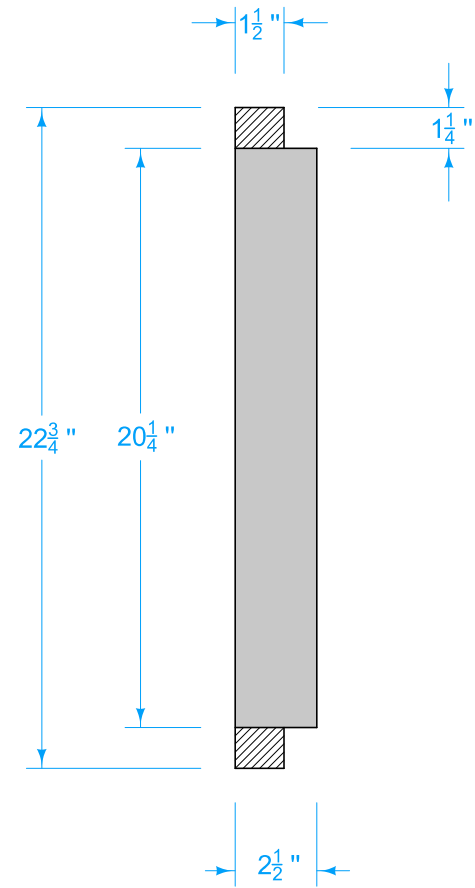
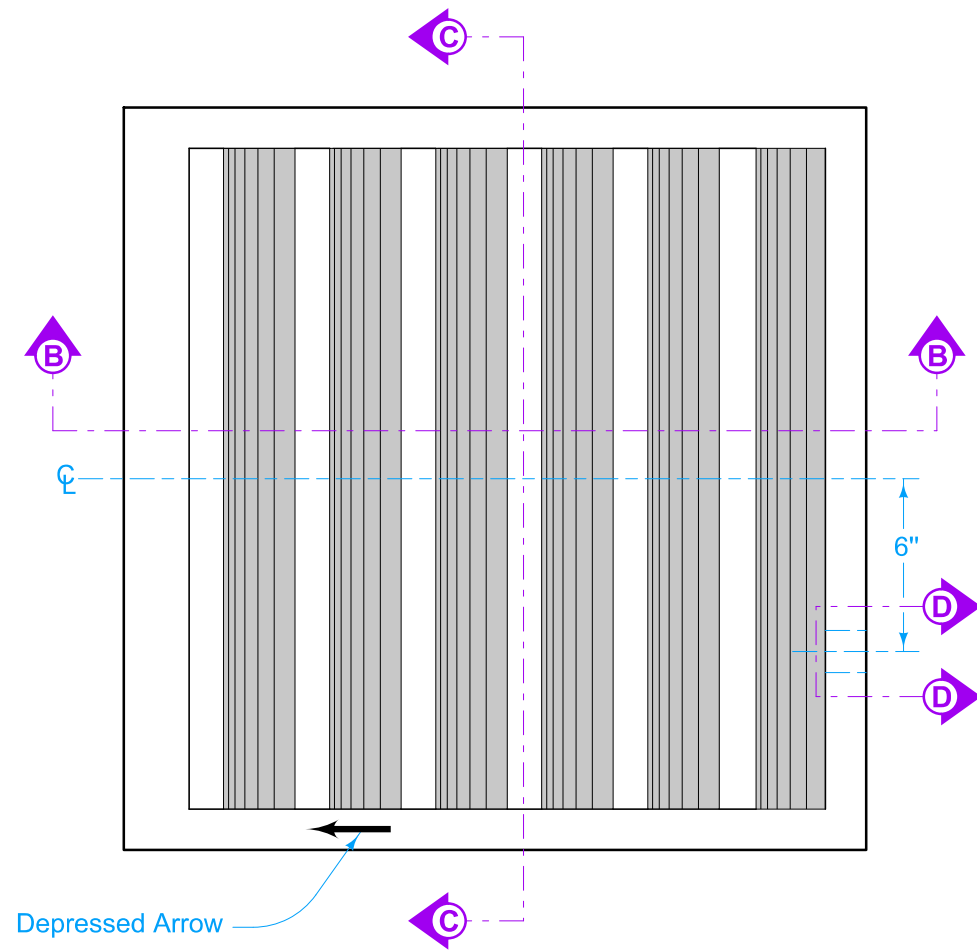
REINFORCING BAR LIST						
MARK	SIZE	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
a1 ⑩	4	Shoulder		2	6'-7"	9
a2	4	Shoulder		2	6'-7"	9
a3 ⑩	4	Shoulder		1	9'-0"	6
a4	4	Shoulder		2	4'-0"	5
b1 ⑩	4	Curb		1	8'-9"	6
Total						35 lbs.



**REINFORCING LAYOUT**

 <b>STANDARD ROAD PLAN</b>	<small>REVISION</small> 4 04-19-22
	<b>SW-538</b>
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<small>REVISIONS: Removed shoulder panels.</small>	
 <small>APPROVED BY DESIGN METHODS ENGINEER</small>	
<b>INTAKE FOR BRIDGE END DRAIN</b>	

Minimum Weight = 90 lbs.



GRATE

<b>IOWA DOT</b> <b>STANDARD ROAD PLAN</b>	REVISION	
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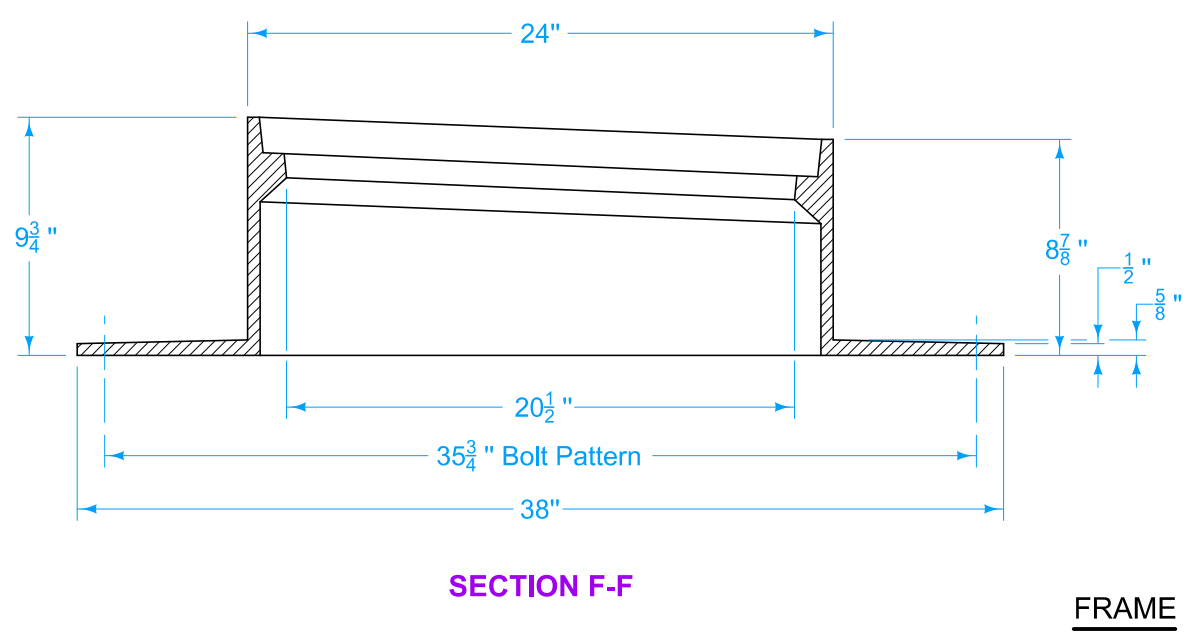
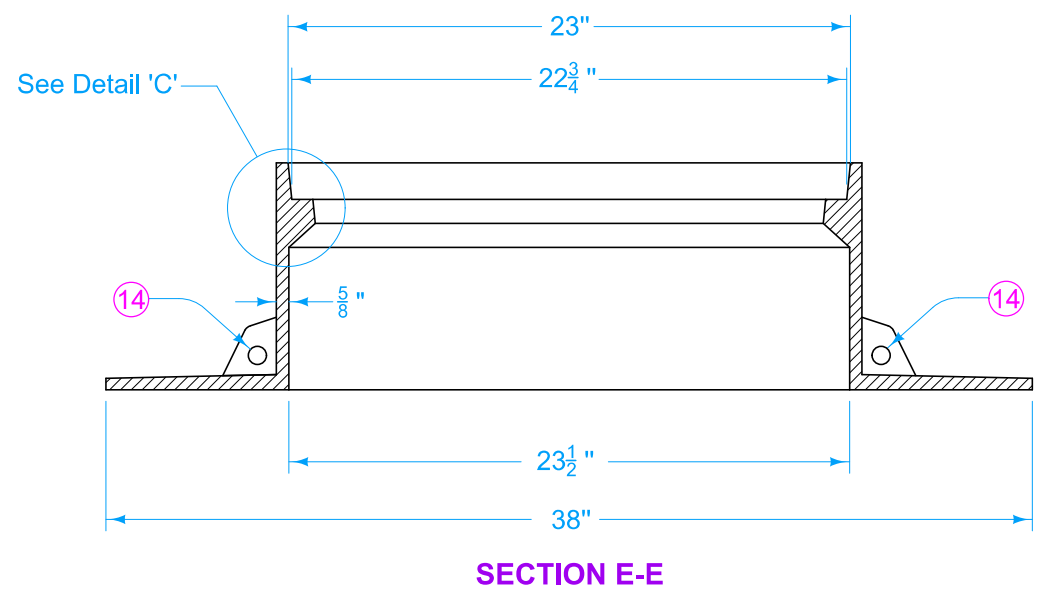
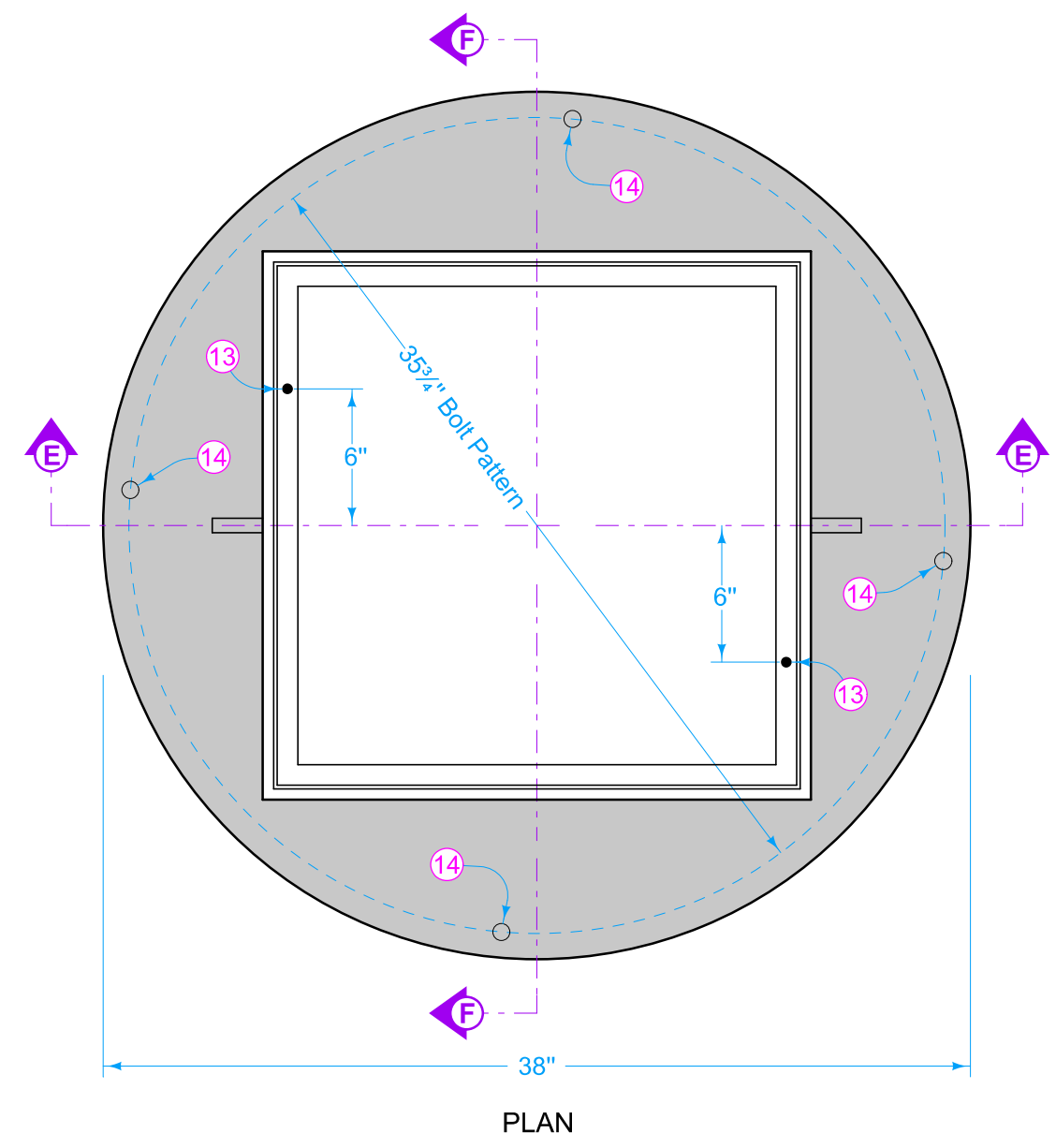
REVISIONS: Removed shoulder panels.

APPROVED BY DESIGN METHODS ENGINEER

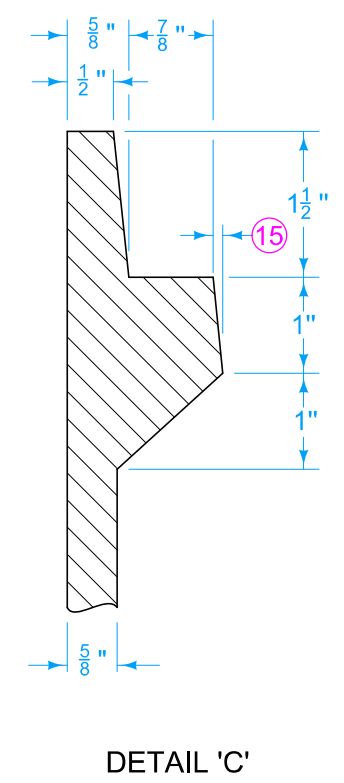
**INTAKE FOR BRIDGE END DRAIN**

Minimum Weight = 163 lbs.

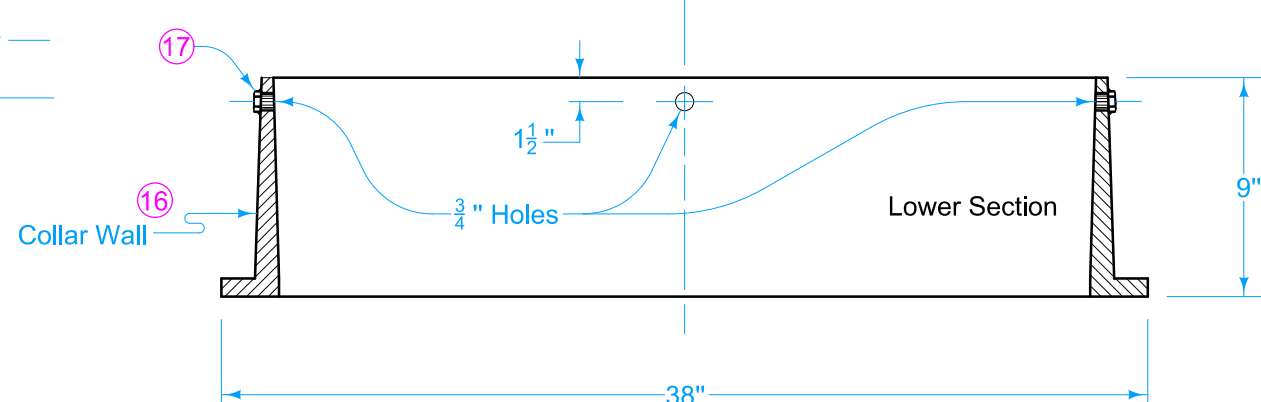
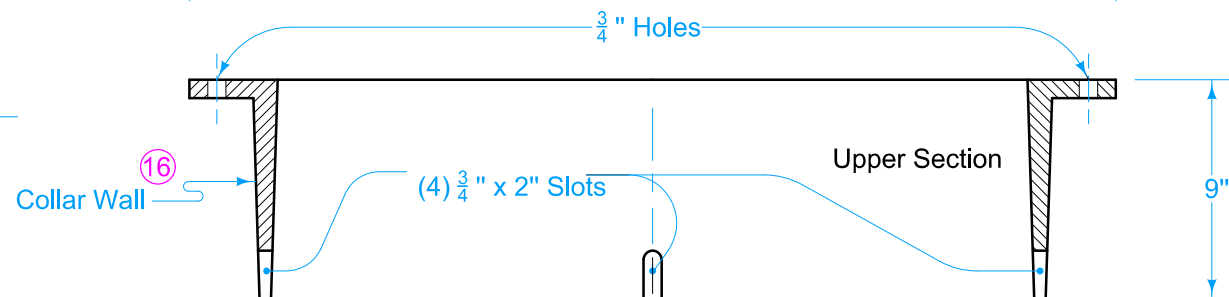
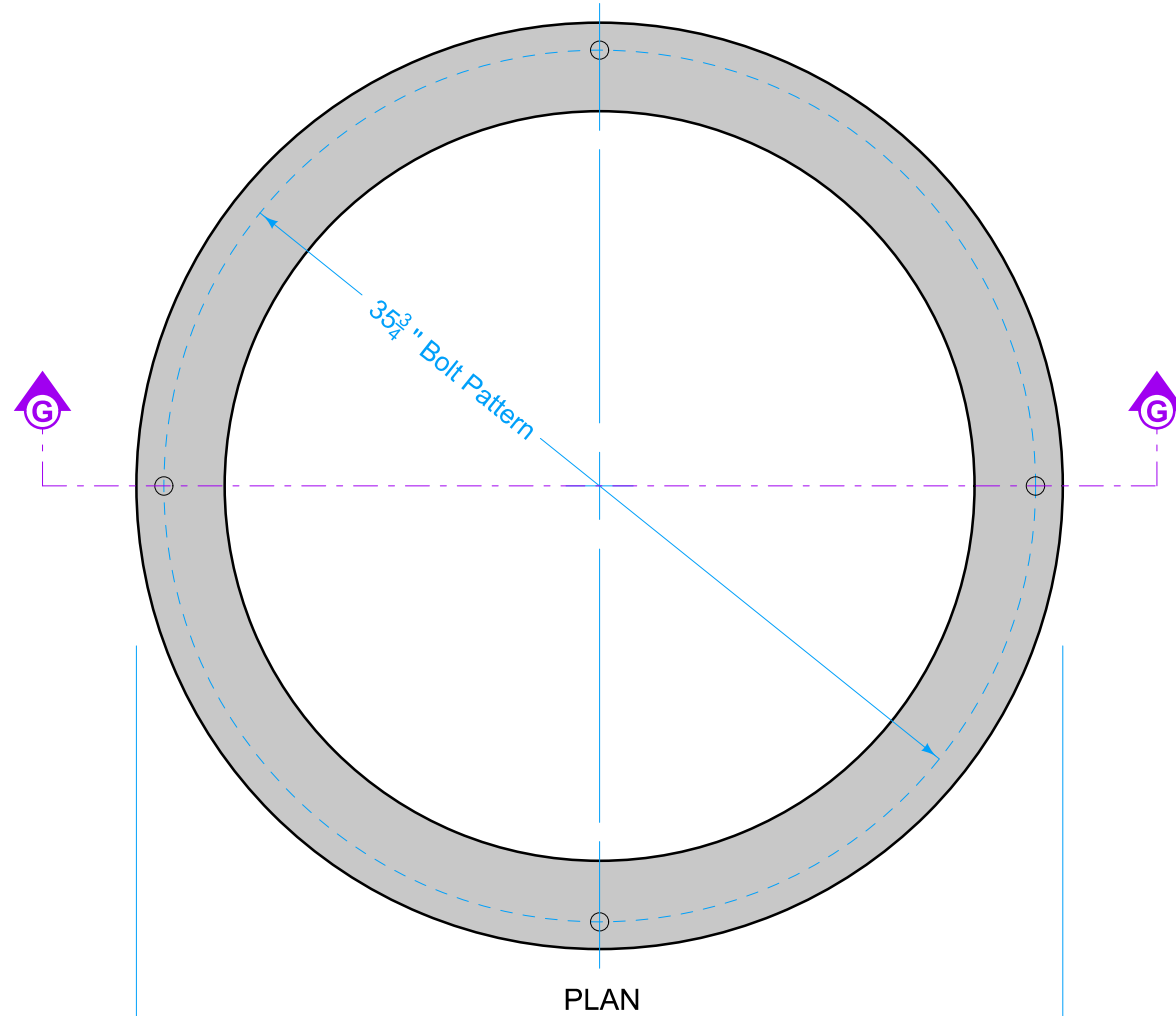
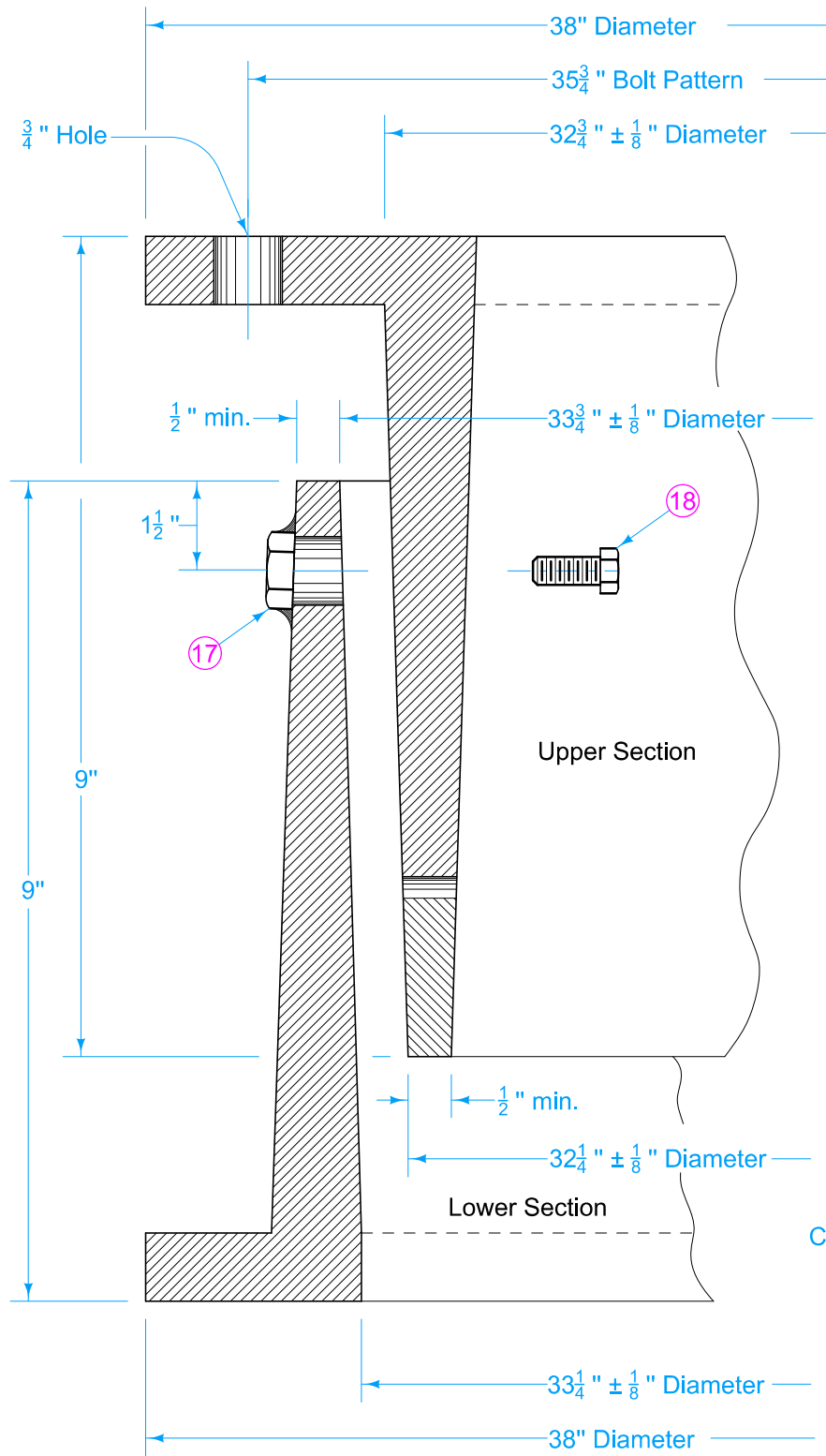
- ⑬ Provide  $\frac{9}{16}$  inch diameter holes at locations indicated.
- ⑭  $\frac{3}{4}$  inch holes. Drill or core if not already existing.
- ⑮ DRAFT (Small Casting Taper) will be permitted.



FRAME



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REVISIONS: Removed shoulder panels.		SHEET 4 of 5
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SETTLEMENT COLLAR

SECTION G-G

- 16 Wall thickness may vary uniformly from base to the top or bottom of the casting.
- 17 Tack weld four  $\frac{1}{2}$  inch nuts to outside of bottom settlement collar or drill and tap four holes for  $\frac{1}{2}$  inch Cap Screws in bottom settlement collar.
- 18 Remove the four  $\frac{1}{2}$  inch Cap Screws after surrounding concrete has set.

MINIMUM WEIGHT	
Upper Section	210 lbs.
Lower Section	210 lbs.

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<b>STANDARD ROAD PLAN</b>	<b>SW-538</b>
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REVISIONS: Removed shoulder panels.

*Shawn Miller*  
APPROVED BY DESIGN METHODS ENGINEER

**INTAKE FOR BRIDGE END DRAIN**