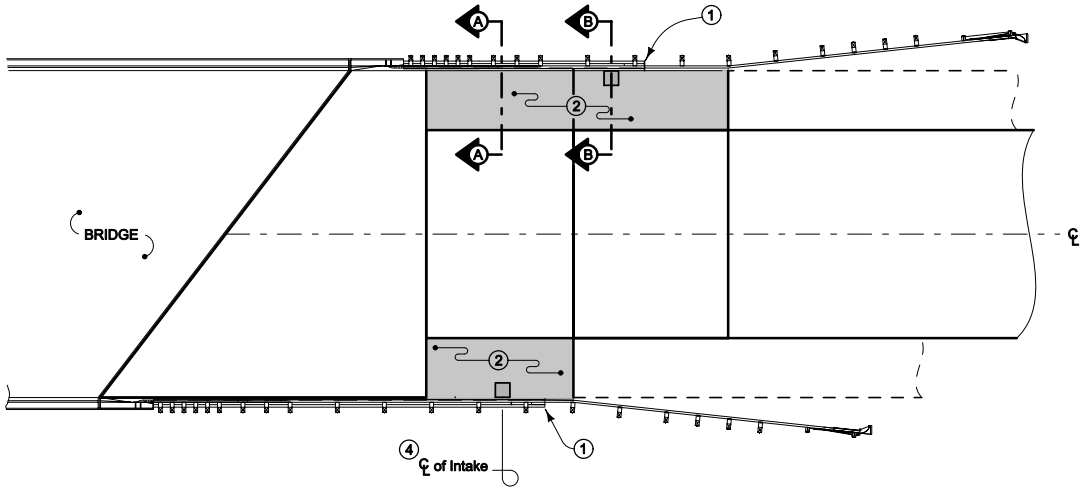
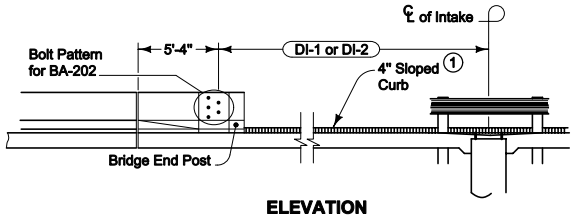
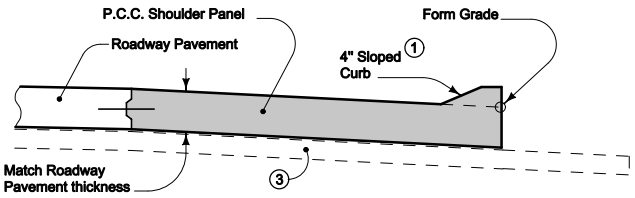


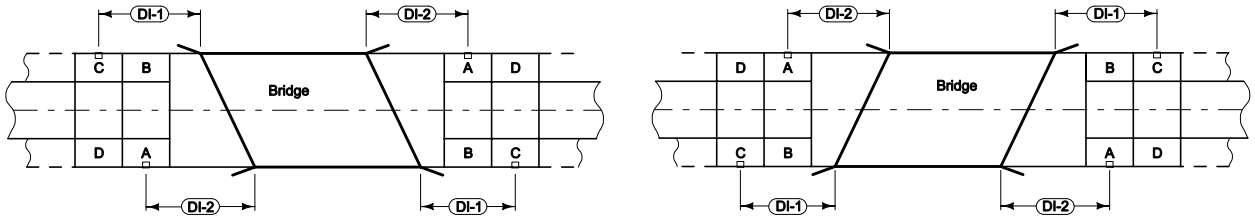
PLAN



ELEVATION



SECTION A-A
(Shoulder Panel)



PANEL LOCATIONS

Price bid for "Bridge End Drain, RF-38" is full compensation for furnishing, installing, and constructing the Bridge End Drain as shown.

(1) Build 4 inch Sloped Curb 5 feet beyond centerline of intake.

(2) Paved shoulder panel will be paid for as, "Paved Shoulders, P.C. Concrete."

(3) Install modified subbase and polymer grid under P.C.C. shoulder panels. See Section A-A (RK-20, RK-25, or RK-26) or Section C-C (RK-23).

(4) Place intake 5 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:
Bridge End Drain, RF-38
Paved Shoulder, P.C. Concrete

Incidental to Paved Shoulder:
Modified Subbase
Polymer Grid

Possible Tabulation:
104-8

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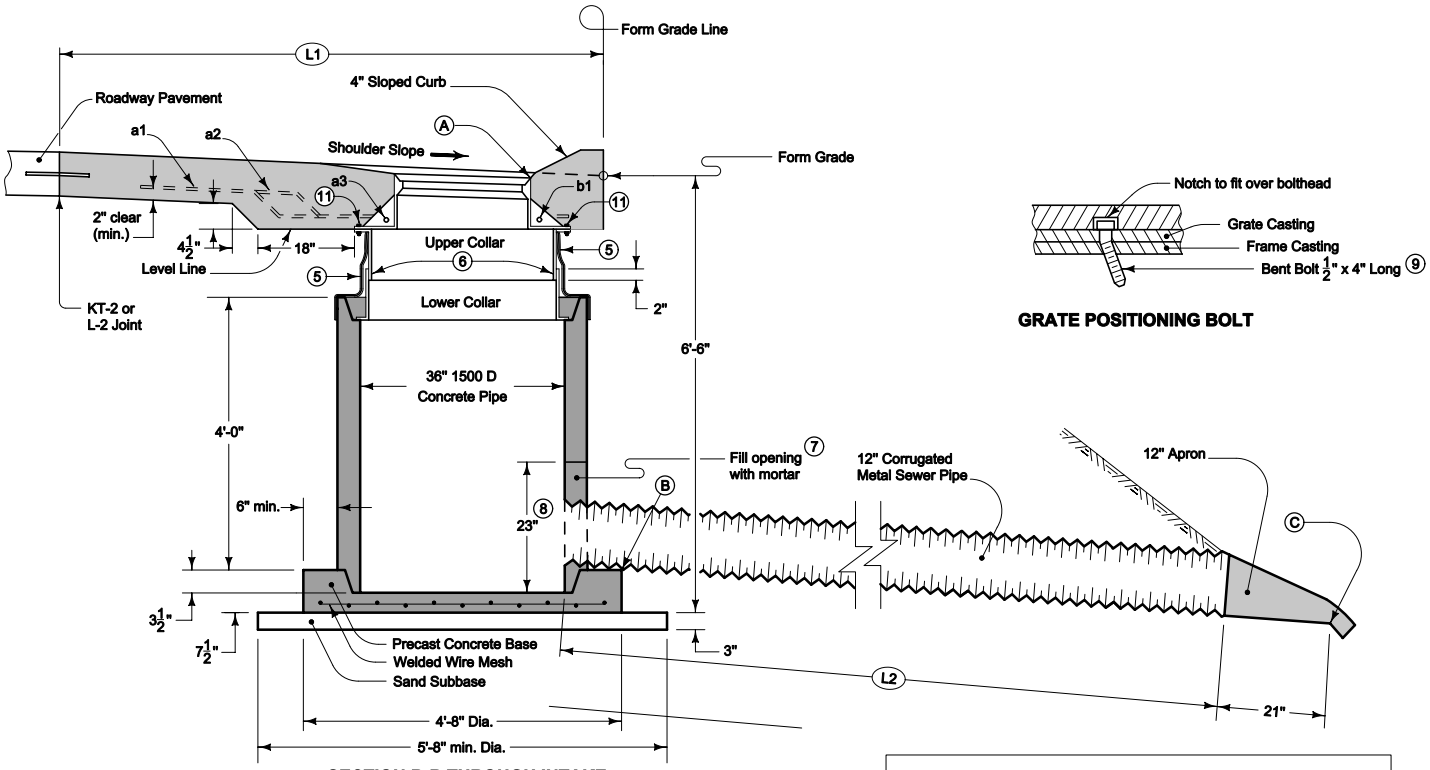
SHEET 1 of 5

REVISIONS: Added possible tabulation. Updated materials reference in circle note 7. Changed reference by bolt pattern on sheet 1. Added grate and collar info.

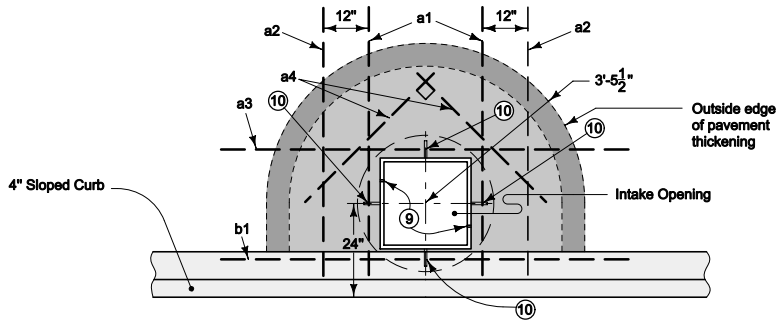
Deanna Maifuld
APPROVED BY DESIGN METHODS ENGINEER

INTAKE FOR BRIDGE END DRAIN



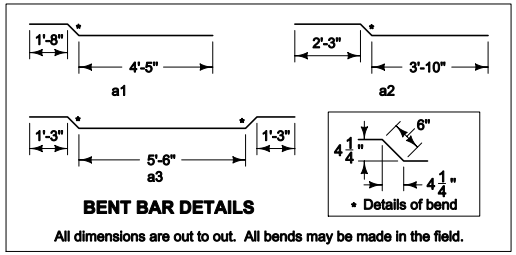
SECTION B-B THROUGH INTAKE

GRATE POSITIONING BOLT



REINFORCING LAYOUT

Note: Place bars a1, a3, & b1 through holes in intake casting.



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.

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

Install all joints in corrugated metal pipe made with connecting bands with approved asphaltic sealer to ensure a water-tight joint.

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

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

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

Refer to project plans for actual flow line elevations of Ⓐ, Ⓑ, Ⓒ, 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 ½ inch cap screws during pavement construction. Remove cap screws after pavement is hardened.

⑦ Refer to Materials I.M. 491.13.

⑧ 23 in. x 15 in. slot for insertion of 12 inch corrugated metal pipe.

⑨ Field place ½ in. x 4 in. long bolt in upstream side and bend underside to prevent removal.

⑩ Place reinforcing through the appropriate holes in the intake casting.

⑪ Fasten frame casting to Upper Collar casting at four locations using ½ in. x 2 in. long hex bolts and ½ inch nuts.

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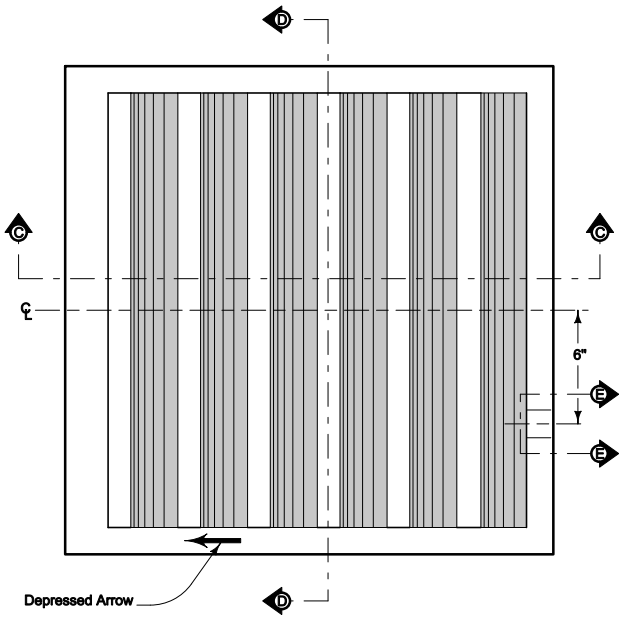
SHEET 2 of 5

REVISIONS: Added possible tabulation. Updated materials reference in circle note 7. Changed reference by bolt pattern on sheet 1. Added grate and collar info.

Deanna Maifield
APPROVED BY DESIGN METHODS ENGINEER

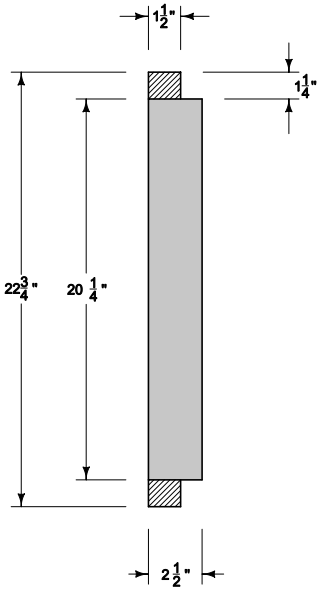
INTAKE FOR BRIDGE END DRAIN

Minimum Weight = 90 lbs.

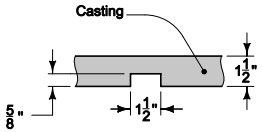


PLAN

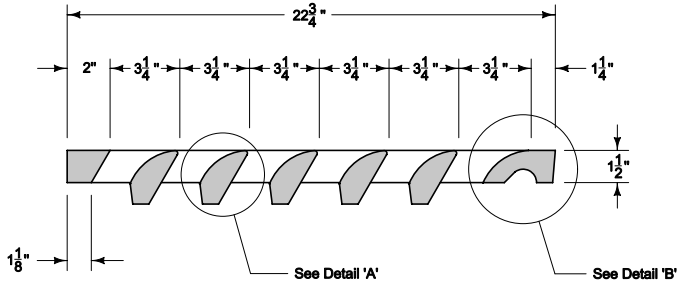
Flow



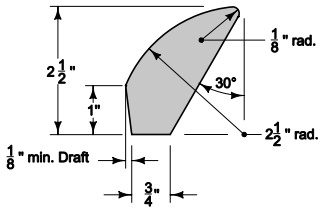
SECTION D-D



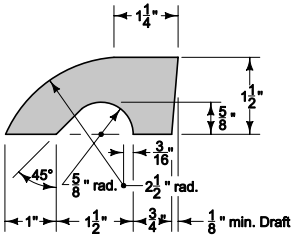
SECTION E-E



SECTION C-C



DETAIL 'A'



DETAIL 'B'

FRAME

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REVISIONS: Added possible tabulation. Updated materials reference in circle note 7. Changed reference by bolt pattern on sheet 1. Added grate and collar info.

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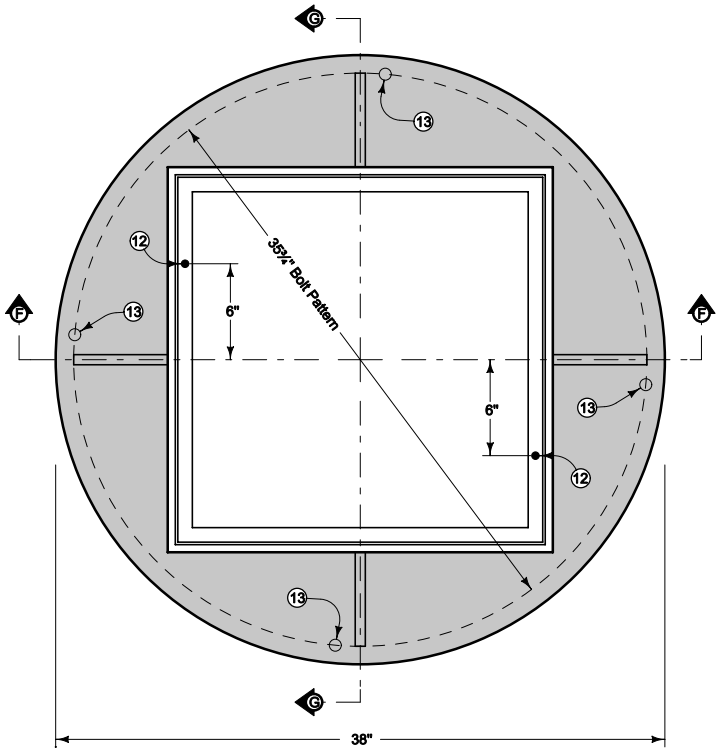
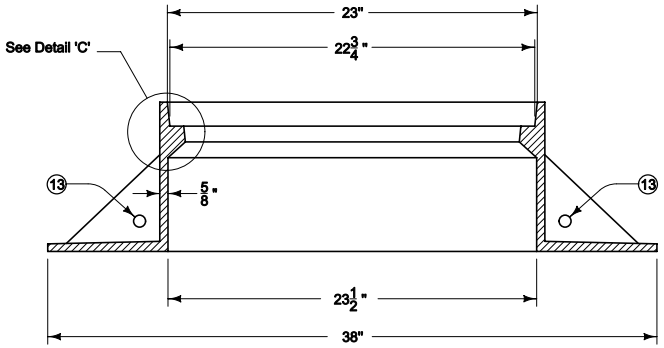
APPROVED BY DESIGN METHODS ENGINEER

INTAKE FOR BRIDGE END DRAIN



PLAN



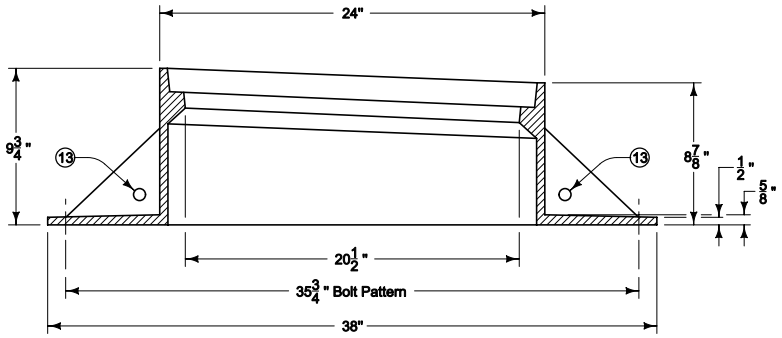
SECTION F-F

Minimum Weight = 210 lbs.

⑫ Provide $\frac{9}{16}$ inch diameter holes at locations indicated.

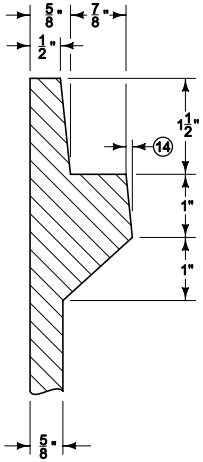
⑬ Drill or Core $\frac{3}{4}$ inch holes.

⑭ DRAFT (Small Casting Taper) will be permitted.



SECTION G-G

GRATE



DETAIL 'C'

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SHEET 4 of 5

REVISIONS: Added possible tabulation. Updated materials reference in circle note 7. Changed reference by bolt pattern on sheet 1. Added grate and collar info.

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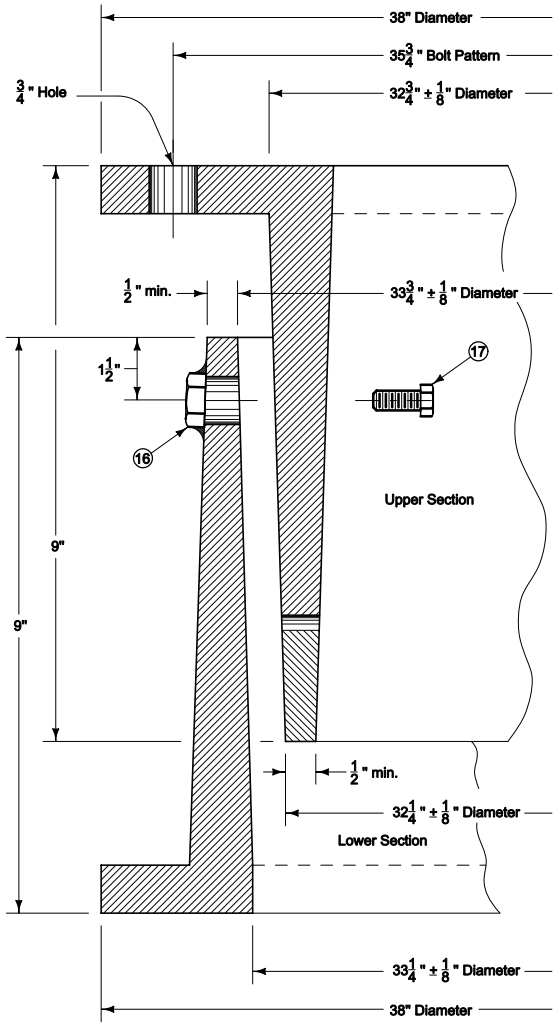
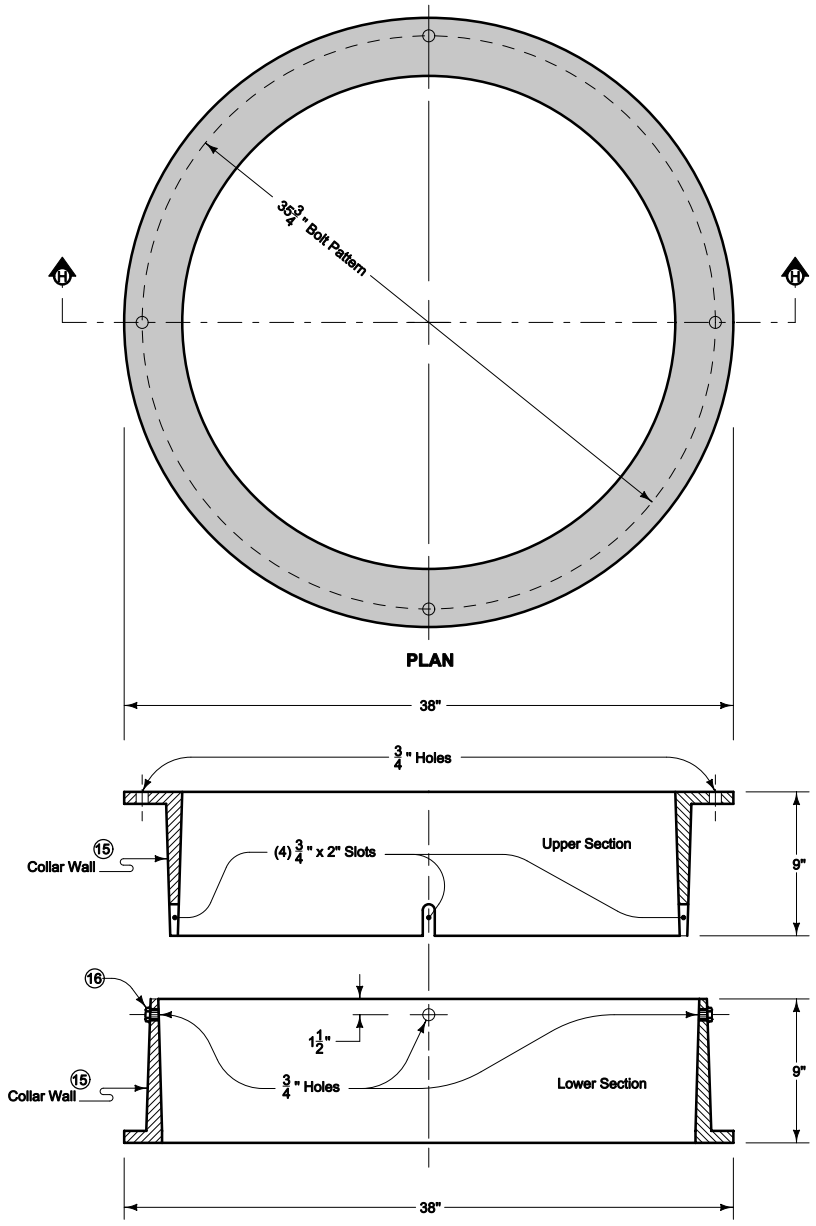
INTAKE FOR BRIDGE END DRAIN



SETTLEMENT COLLAR



SECTION H-H

15 Wall thickness may vary uniformly from base to the top or bottom of the casting.

16 Tack weld (4) 1/2 inch nuts to outside of bottom settlement collar or drill and tap (4) holes for 1/2 inch Cap Screws in bottom settlement collar.

17 Remove the (4) 1/2 inch Cap Screws after surrounding concrete has set.

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

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SHEET 5 of 5

REVISIONS: Added possible tabulation. Updated materials reference in circle note 7. Changed reference by bolt pattern on sheet 1. Added grate and collar info.

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INTAKE FOR BRIDGE END DRAIN