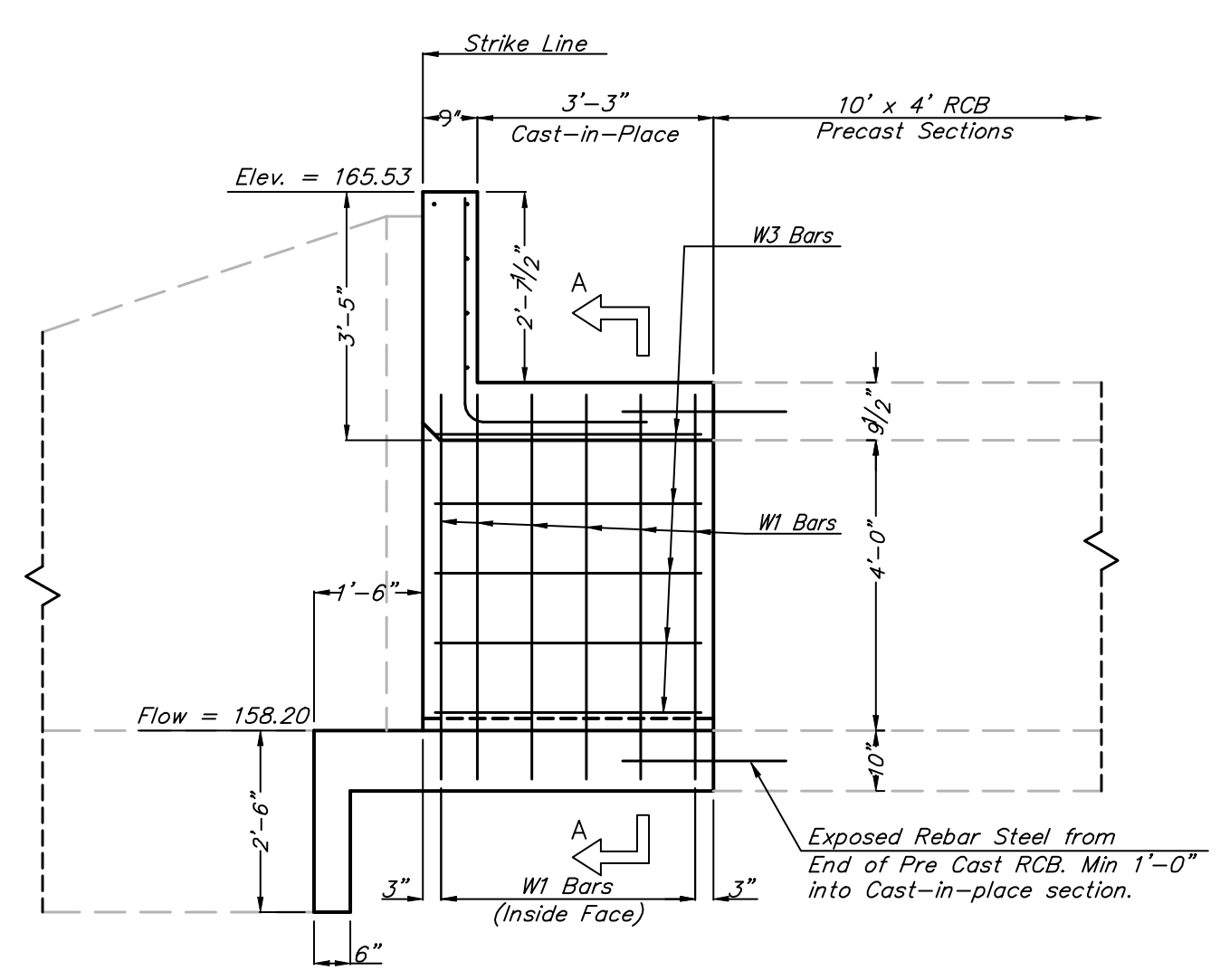
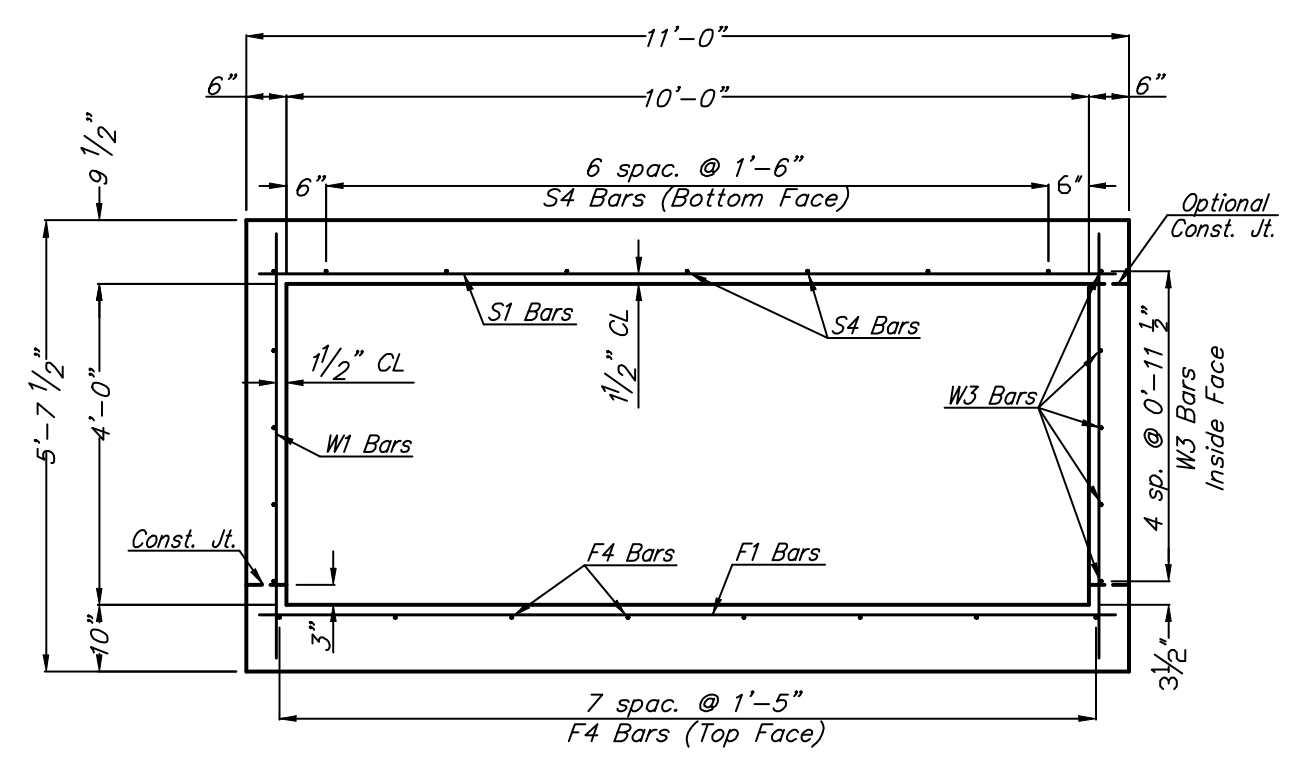


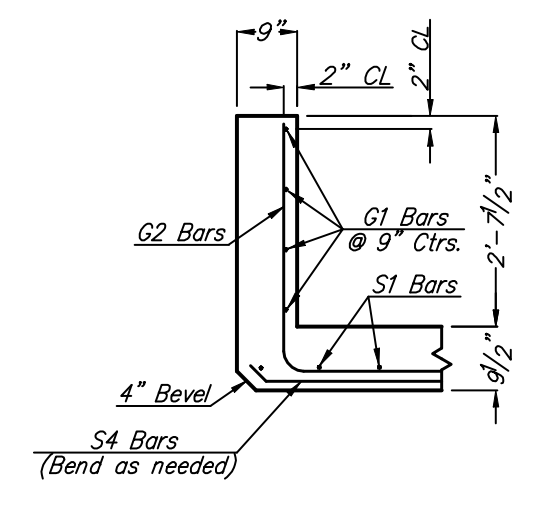
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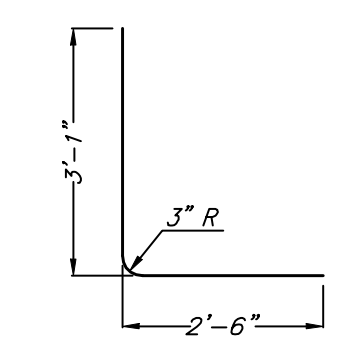
SECTION & ELEVATION



SECTION A-A



HUBGUARD DETAIL



G2

BENDING DIAGRAM  
(All Dimensions are Out-to-Out of Bars)

GENERAL NOTES

**LOADING:** HS20-44 AASHTO Specifications, 1983 Edition.  
**UNIT STRESSES:** Grade 4.0 Concrete;  $f'_c = 4,000$  p.s.i.  
 Reinforcing Steel;  $f_y = 60,000$  p.s.i.  
**FILL HEIGHT:** Unless otherwise noted, the Design Fill Height is measured from the riding surface at the culvert and shall include the surfacing.  
**CONCRETE:** Grade 4.0 Concrete shall be used throughout. Bevel all exposed edges with a  $\frac{3}{4}$  inch triangular moulding. Where Grade 4.0 Concrete (AE) is specified, it shall be placed in the top slab above the Construction Joint.  
**REINFORCING:** All reinforcing shall conform to ASTM A615, Grade 60. All dimensions relative to reinforcing steel shall be to centerline of bar unless otherwise noted.  
**EXCAVATION:** Excavation for culverts less than bridge length shall not be paid for directly but shall be subsidiary to Grade 4.0 Concrete.  
**SEAL COURSE:** A Seal Course may be required by the Engineer. The Seal Course shall be unreinforced Concrete (Commercial Grade) to a minimum depth of 3 inches or as determined by the Engineer.  
**FOUNDATION STABILIZATION:** Foundation Stabilization may be required as directed by the Engineer. The depth of Foundation Stabilization shall be determined by the Engineer.  
**QUANTITIES:** The quantities shown in the Culvert Summary include apron and/or soil saver quantities when their construction is required by the plans.  
**GRANULAR BACKFILL (WINGWALLS):** Special backfill procedures may be required at the direction of the Engineer. See Auxiliary Details Sheet.  
**STRIKE LINE:** Wingwalls and that portion of the RCB outside the Strike Line shall be constructed level. Footing for wingwalls shall be constructed with the culvert floor. See wingwall detail sheet.

△ Epoxy Coated      \* See Bending Diagram

CULVERT SUMMARY										Concrete			Reinf. Steel (Gr. 60)		
Flow Line Elev. Lt.	Flow Line Elev. Rt.	Crown Gr. Elev.	Design Fill Height	Skew (Lt.)	Left Wings	Right Wings	Scour Apron	Soil Saver		Barrel (Cu. Yds.)	Wings (Cu. Yds.)	Total (Cu. Yds.)	Barrel (Lbs)	Wings (Lbs)	Total (Lbs)
159.20	-	165.23	10'	0'	Flared	-	YES	YES		4.0	12.1	16.1	566	900	1466

Bar Schedule

F1			F4			△ S1			△ S4			W1			W3								
Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length				
6	5/2"	9	10'-8"	4	1'-5"	8	3'-8"	6	5/2"	9	10'-8"	4	1'-6"	7	3'-8"	4	9"	12	5'-4"	4	11"	10	3'-8"

△ G1			△ G2 *				
Size	Spa.	No.	Length	Size	Spa.	No.	Length
5	9"	4	10'-8"	6	9"	15	5'-7"

NOTE: Reinforcing Bar List is for outlet at one end of box only.

Minimum Splice Lengths	
#4	1'-4"
#5	1'-8"
#6	2'-0"

Summary of Quantities	
Concrete (Grade 4.0)	1.9 C.Y.
Concrete (Grade 4.0)(AE)	2.1 C.Y.
Reinforcing Steel (Gr. 60)	234 Lbs
Reinforcing Steel (Epoxy Coated)	332 Lbs
Class III Excavation	C.Y.

Drawing File: E:\eng\29th (Maire-119th)\Detail\RCB Detail 5  
 Project No. 0403-E828 CAPITAL IMPROVEMENT PROJECT  
 29th Street Paving Plan (10'x4')  
 Cast-in-Place RCB Detail Sta. 57+19.14, Lt.  
 Scale: 1"=30'

**B** Baughman Company, P.A.  
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 ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

MAY, 2007  
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