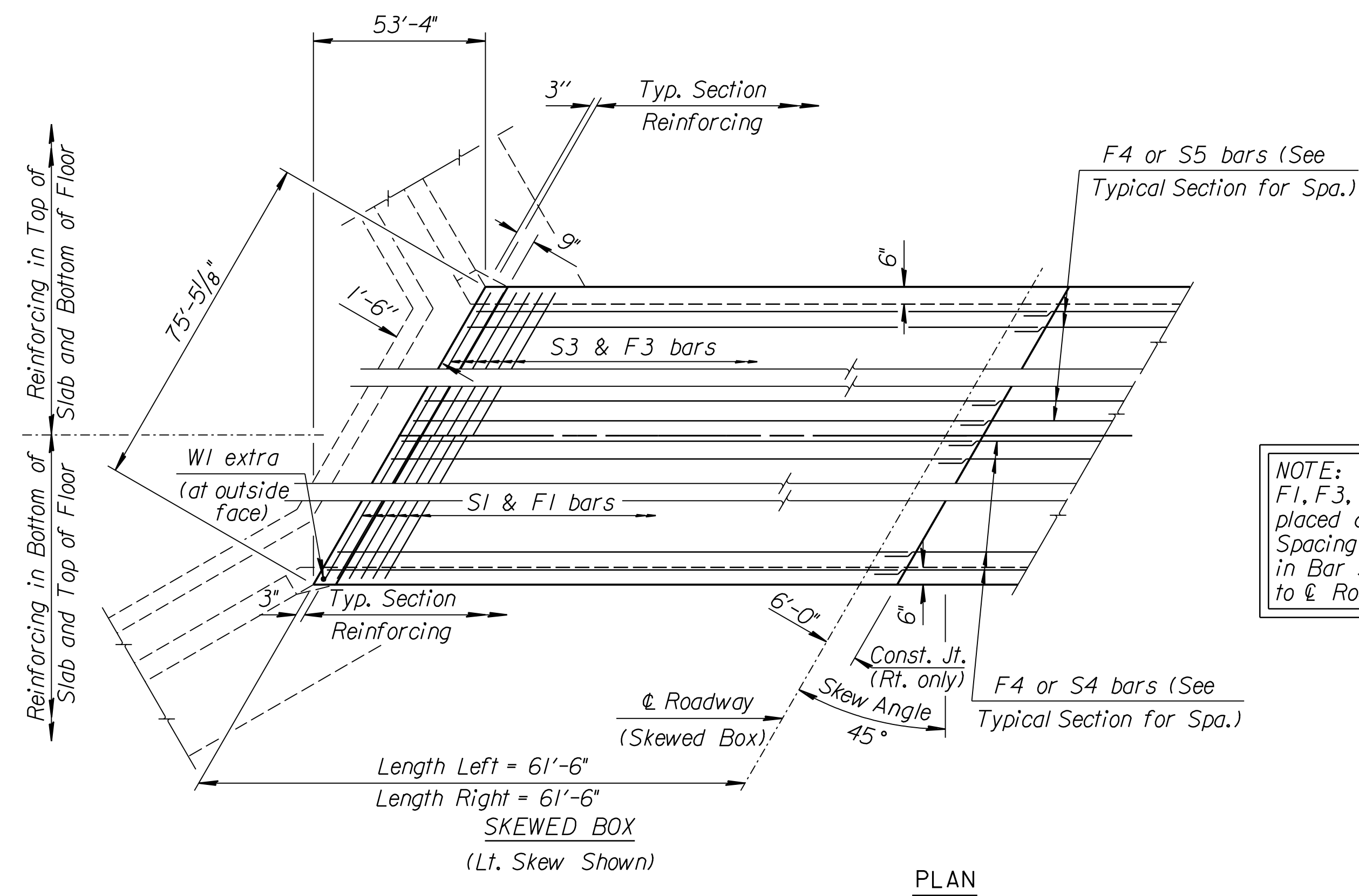


Project F4, S4, S5 & W3 bars the minimum splice length corresponding to the bar size +2" beyond (left of) the Construction Joint.

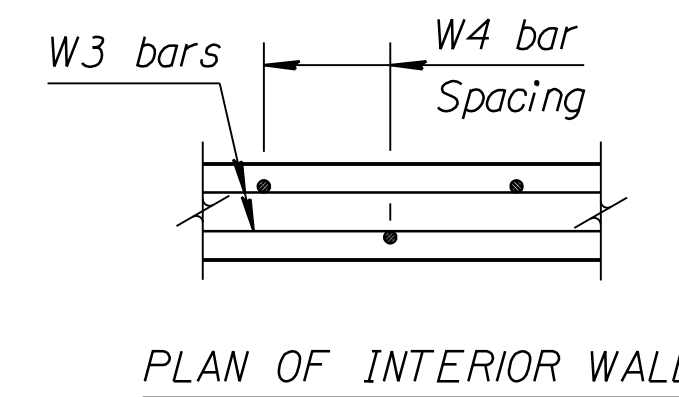
GENERAL NOTES

- LOADING:** HS20-44 AASHTO Specifications, 1983 Edition.
- UNIT STRESSES:** Grade 4.0 Concrete; f'c = 4,000 p.s.i. Reinforcing Steel; fy = 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 3/4 inch triangular mauling. 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. Excavation for RCB Bridges shall be paid for as Class III Excavation.
- 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. Concrete for the seal course shall be paid for at the unit price set for Concrete for Seal Course.
- FOUNDATION STABILIZATION:** The Foundation Stabilization quantity has been calculated to the limits shown on the "RCB Auxiliary Details" sheet. The depth may be increased by the Engineer. The Contractor may under-run Foundation Stabilization under the barrel if founded on firm material and with the Engineer's approval. Use Foundation Stabilization on all wingwalls unless founded on rock or granular material.
- QUANTITIES:** The quantities shown in the Culvert Summary include apron and/or soil saver quantities when their construction is required by the plans. Payment for additional quantities that result from including seal course and/or floating apron, as a change in original plans, shall be made at the Unit Price bid for the various items involved.
- 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.

See RCB Auxiliary Details for Optional Splice.



NOTE: F1, F3, S1 & S3 bars are placed along the skew. Spacing of these bars given in Bar Schedule is NORMAL to Roadway.



BENDING DIAGRAM

All Dimensions are out to out of bars.

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

CULVERT SUMMARY												Concrete (Right of Const. Jt.)			Reinf. Steel (Gr. 60) (Right of Const. Jt.)		
Floor Elev. Lt.	Floor Elev. Rt.	Crown Gr. Elev.	Design Fill Ht.	Skew RT	Left Wings	Right Wings	Scour Apron	Soil Saver	Barrel (Cu.Yds.)	Wings & Parapets (Cu.Yds.)	Apron (Cu.Yds.)	Total (Cu.Yds.)	Barrel (Lbs.)	Wings (Lbs.)	Total (Lbs.)		
1326.20	1326.20	1333.76	0	45	FLARED	FLARED	YES-RT.	YES-LT.	223.05	27.93	24.66	275.64	54,974	2,735	57,709		

BAR SCHEDULE (RIGHT OF CONST. JT.)																																	
F1				F3				F4				Δ S1				Δ S3				Δ S4				Δ S5									
Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length						
6	5"	180	38'-6"	N/A	N/A	N/A	N/A	6	5"	180	38'-6"	4	160	27'-10"	6	5"	180	38'-6"	N/A	N/A	N/A	N/A	6	5"	180	38'-6"	5	60	54'-8"	4	70	27'-10"	
W1				W3				W4				Δ G2				Δ G3 **																	
Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length	Size	Spa.	No.	Length						
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4	9"	144	5'-5"	N/A	N/A	N/A	N/A	4	52	27'-10"	4	9"	284	5'-5"	8	16	38'-10"	6	9"	202	4'-10"	N/A	N/A	N/A	N/A

SUMMARY OF QUANTITIES (RIGHT OF CONST. JT.)	
Concrete (Grade 4.0)	171.0 C.Y.
Concrete (Grade 4.0)(AE)	104.7 C.Y.
Reinforcing Steel (Gr. 60)	29,040 Lbs.
Reinforcing Steel (Gr. 60)(Epoxy Coated)	28,670 Lbs.
Class III Excavation	217 C.Y.
Foundation Stabilization	90 C.Y.
Bridge Handrail (Metal)(3'-6")	118 L.F.

NO.	DATE	REVISIONS	BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION BR. NO. 4304008700SBT09 S+G. 122+85 QUINTUPLE 10 ft x 4 ft RCB (45*SKEW RT.) RIGHT OF CONSTRUCTION JOINT BR-310.4-P Sedgwick Co.				
FHWA APPROVAL		6-5-91 APP'D		KENNETH F. HURST
DESIGNED	BS DETAILED	BS QUANTITIES	BS TRACED	
DESIGN CK.	AH DETAIL CK.	AH QUAN CK.	SB TRACE CK.	

Plotted By: -
 File: \$\$\$\$\$\$DGN\$SPEC\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$
 Plot Date: 11/24/2009