

### GENERAL NOTES

**DESIGN SPECIFICATION:** AASHTO SPECIFICATIONS, 1983 EDITION.

**DESIGN LOADING:** HS20-44

**UNIT STRESSES:** CONCRETE GRADE 4.0 (AE)  $f'_c = 4,000$  psi  
 REINFORCING STEEL  $f_y = 60,000$  psi

**CONCRETE:** GRADE 4.0 (AE) CONCRETE SHALL BE USED THROUGHOUT THE STRUCTURE. MINIMUM CLEARANCE TO REINFORCING SHALL BE 1 1/2", EXCEPT WHERE NOTED OTHERWISE. BEVEL ALL EXPOSED EDGES WITH A 3/4" TRIANGULAR MOULDING.

**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 SHALL BE PAID FOR AT THE UNIT PRICE SET FOR SAID ITEM.

**FOUNDATION STABILIZATION:** FOUNDATION STABILIZATION MAY BE REQUIRED BY THE ENGINEER. THE DEPTH OF FOUNDATION STABILIZATION SHALL BE DETERMINED BY THE ENGINEER. FOUNDATION STABILIZATION SHALL BE PAID FOR AT THE UNIT PRICE SET FOR SAID ITEM. SEE "RCB AUXILIARY DETAILS".

**QUANTITIES:** THE QUANTITIES SHOWN IN THE CULVERT SUMMARY INCLUDE APRON QUANTITIES WHEN THEIR CONSTRUCTION IS REQUIRED BY THE PLANS. PAYMENT FOR ADDITIONAL QUANTITIES THAT RESULT FROM INCLUDING A 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. ITEMS NOT LISTED SEPARATELY IN THE SUMMARY OF QUANTITIES ARE SUBSIDIARY TO OTHER ITEMS IN THE PROPOSAL.

**FOUNDATION AND BACKFILL MATERIAL:** SOILS JUDGED AS HIGH PLASTICITY CLAYS, FAT CLAYS, EXPANSIVE CLAYS OR ORGANIC CLAYS ARE NOT SUITABLE FOR FOUNDATION AND/OR BACKFILL MATERIAL FOR WINGWALLS AND SHALL NOT BE USED.

**WEEPHOLES:** FREE DRAINING GRANULAR MATERIAL SHALL BE PLACED BEHIND ALL WEEPHOLES. PAYMENT FOR PLACEMENT OF THE FREE DRAINING GRANULAR MATERIAL BEHIND THE WEEPHOLES SHALL NOT BE MADE DIRECTLY, BUT SHALL BE SUBSIDIARY TO OTHER ITEMS IN THE PROPOSAL.

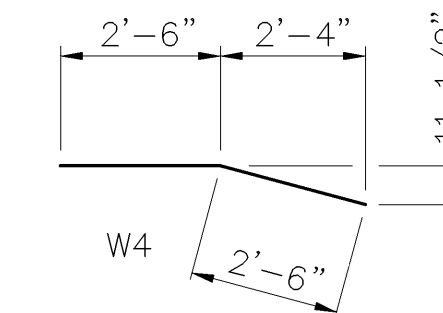
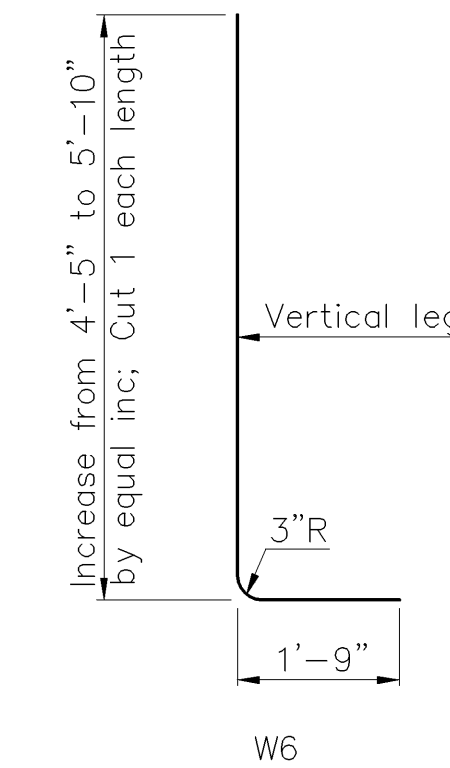
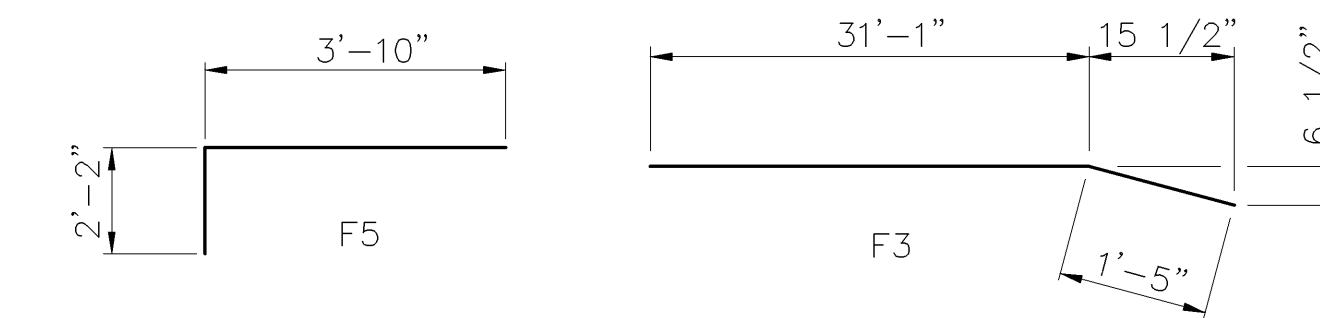
**TRANSVERSE JOINTS:** PLACE NO REINFORCING THROUGH TRANSVERSE CONSTRUCTION JOINTS EXCEPT THE DESIGNATED D1 BARS AT SPECIFIED DOWELLED JOINT LOCATIONS.

SUMMARY OF QUANTITIES	
GRADE 4.0 CONCRETE (AE)	604.4 CU. YDS.
REINFORCING STEEL (GR. 60)	133,480 LBS.
CLASS III EXCAVATION	2,410 CU. YDS.
FOUNDATION STABILIZATION (SET)	1 CU. YDS.
CONCRETE FOR SEAL COURSE (SET)	1 CU. YDS.


BILL OF REINFORCING STEEL							
STRAIGHT BARS				BENT BARS			
Mark	Size	No.	Length	Mark	Size	No.	Length
T1	#6	1,668	23'-1"	F3	#4	3	32'-6"
T3	#6	84	Varies	F5	#4	40	6'-0"
				W4	#4	8	5'-0"
T2	#5	1,668	23'-1"	W6	#4	18	Varies
T4	#5	84	Varies				
T5	#5	4	32'-7"				
B1	#4	984	25'-2"				
B2	#4	132	Varies				
B3	#4	6	30'-8"				
B4	#4	10	26'-10"				
B5	#4	10	22'-10"				
B6	#4	3	36'-3"				
B7	#4	132	Varies				
B8	#4	6	26'-6"				
B9	#4	10	23'-7"				
B10	#4	5	39'-9"				
B11	#4	3	33'-10"				
B12	#4	132	Varies				
B13	#4	6	27'-9"				
B14	#4	10	24'-0"				
B15	#4	5	38'-9"				
B16	#4	3	31'-5"				
D1	#4	330	2'-0"				
F1	#4	4	22'-10"				
F2	#4	1	32'-6"				
F4	#4	3	18'-6"				
V1	#4	2,299	4'-11"				
W1	#4	3	16'-4"				
W2	#4	1	10'-5"				
W3	#4	1	17'-9"				
W5	#4	4	4'-0"				

### BENDING DIAGRAMS

All dimensions are out to out of bars



Increase from 2'-1" to 22'-7" by 6" inc; Cut 2 each length	T3
Increase from 2'-1" to 22'-7" by 6" inc; Cut 2 each length	T4
Increase from 19'-3" to 30'-8" by equal inc; Cut 4 each length	B2
Increase from 17'-11" to 26'-6" by equal inc; Cut 4 each length	B7
Increase from 16'-10" to 27'-8" by equal inc; Cut 4 each length	B12

PROJECT NO. 87 N-0306-01		 <b>Cook, Flatt &amp; Strobel</b> ENGINEERS, P. A.
3-7' X 4' R.C.B.		
29TH STREET NORTH		DESIGNED RSC SCALE DETAILED DEG DATE 9/2005 QUANTITIES SHEET 38 OF 111
STA. 131+80.17 - 135+82.82 CITY OF WICHITA		