N.S. Indicates near surface
F.S. Indicates far surface
E.S. Indicates each surface

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472–84703	2010	11	36

BILL OF REINFORCING STEEL
PHASE I CONSTRUCTION

	STRAIGHT BARS				BENT BARS			
	Mark	Size	No.	Length	Mark	Size	No.	Length
Epoxy Coated	T1	#7	56	38'–5"	S1	#6	112	6'–8"
	T3	#6	67	38'–5"				
	B1	#4	72	34'–3"				
Uncoated	T2	#7	56	38'–5"	F1	#6	112	6'–4"
	V1	#6	132	6'–3"	F4	#4	3	14'–1"
					F6	#4	3	11'–9"
	V2	#5	66	6'–3"	F7	#4	24	6'–9"
					F8	#4	36	5'–3"
	B2	#4	78	34'–3"	WF1	#4	7	5'–0"
	F1	#4	1	37'–6"	WF3	#4	7	5'–0"
	F2	#4	3	36'–3"	W9	#4	13	5'–0"
	F3	#4	4	16'–1"	W10	#4	15	4'–11"
	F5	#4	4	13'–3"				
	T4	#4	65	38'–5"				
	WF2	#4	5	3'–6"				
	WF4	#4	5	3'–0"				
	W1	#4	1	11'–8"				
	W2	#4	3	11'–6"				
	W3	#4	1	4'–10"				
	W4	#4	1	9'–8"				
	W5	#4	3	9'–6"				
	W6	#4	1	4'–0"				
	W7	#4	8	Varies				
	W8	#4	7	Varies				
	W11	#4	8	3'–3"				

BILL OF REINFORCING STEEL
PHASE II CONSTRUCTION

	STRAIGHT BARS				BENT BARS			
	Mark	Size	No.	Length	Mark	Size	No.	Length
Epoxy Coated	T1	#7	66	38'–5"	S1	#6	132	6'–8"
	T3	#6	79	38'–5"				
	B1	#4	72	38'–10"				
Uncoated	T2	#7	66	38'–5"	F1	#6	132	6'–4"
	V1	#6	156	6'–3"	A2	#4	51	3'–2"
					F4	#4	3	14'–1"
	V2	#5	78	6'–3"	F6	#4	3	11'–9"
					F7	#4	24	6'–9"
	A1	#4	6	26'–5"	F8	#4	36	5'–3"
	B2	#4	78	38'–10"	WF1	#4	7	5'–0"
	F1	#4	1	37'–6"	WF3	#4	7	5'–0"
	F2	#4	3	36'–3"	W9	#4	13	5'–0"
	F3	#4	4	16'–1"	W10	#4	15	4'–11"
	F5	#4	4	13'–3"				
	T4	#4	77	38'–5"				
	WF2	#4	5	3'–6"				
	WF4	#4	5	3'–0"				
	W1	#4	1	11'–8"				
	W2	#4	3	11'–6"				
	W3	#4	1	4'–10"				
	W4	#4	1	9'–8"				
	W5	#4	3	9'–6"				
	W6	#4	1	4'–0"				
	W7	#4	8	Varies				
	W8	#4	7	Varies				

GENERAL NOTES

DESIGN LOADING:
HS20–44 AASHTO SPECIFICATIONS, 1983 EDITION.

UNIT STRESSES: CONCRETE (GRADE 4.0) f'c = 4,000 psi
REINFORCING STEEL fy = 60,000 psi

CONSTRUCTION SPECIFICATIONS: KANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION, 2007 AND SPECIAL PROVISIONS.

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 (AE) CONCRETE SHALL BE USED ABOVE THE CONSTRUCTION JOINT AND GRADE 4.0 CONCRETE SHALL BE USED BELOW THE CONSTRUCTION JOINT. SEE THE "TYPICAL SECTION". ALL CONCRETE IN THE SOIL SAVER AND APRON SHALL BE GRADE 4.0. BEVEL ALL EXPOSED EDGES WITH A 3/4" TRIANGULAR MOULDING.

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.

EPOXY COATING: ALL REINFORCING BARS DESIGNATED "EPOXY COATED" SHALL BE COATED WITH EPOXY AS SET FORTH IN THE SPECIAL PROVISIONS. BAR SUPPORTS IN THE SLAB SHALL BE COATED.

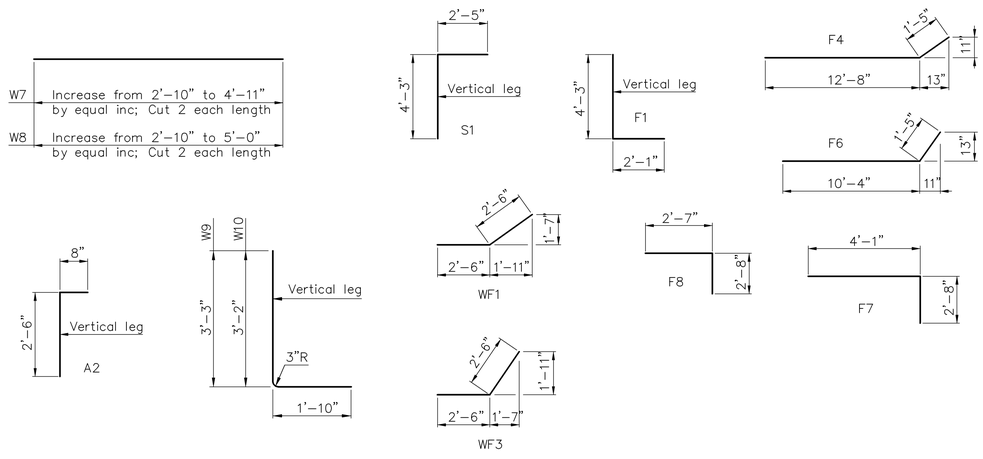
BRIDGE EXCAVATION: ALL EXCAVATION SHALL BE CLASS III. SEE THE BRIDGE EXCAVATION SHEET FOR THE LIMITS OF PAY EXCAVATION.

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, AS A CHANGE IN ORIGINAL PLANS, SHALL BE MADE AT THE UNIT PRICE BID BID FOR THE VARIOUS ITEMS INVOLVED.

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

RAIL: SEE NOTES ON RAIL DETAILS.

BENDING DIAGRAMS
All dimensions are out to out of bars



SUMMARY OF QUANTITIES

	PHASE I CONST.	PHASE II CONST.	TOTAL	
CONCRETE (GRADE 4.0)	66.2	69.2	135.4	CU. YDS.
CONCRETE (GRADE 4.0) (AE)	58	69	127.0	CU. YDS.
REINFORCING STEEL (GR. 60) (UNCOATED)	11,950	13,390	25,340	LBS.
REINFORCING STEEL (GR. 60) (EPOXY COATED)	11,030	12,930	23,960	LBS.
STEEL RAIL	65	65	130	LIN. FT.
CLASS III EXCAVATION	75	95	170	CU. YDS.

PROJECT NO. 472–84703

3–12' X 5' X 72'–1 1/8" R.F.B.

LINCOLN STREET OVER
ARMOUR BRANCH GYPSUM CREEK

STA. 20+67 CITY OF WICHITA

CFS
Cook, Flatt & Strobel
ENGINEERS, P.A.

DESIGNED	RSC	SCALE	
DETAILED	DEG	DATE	
QUANTITIES		SHEET	OF

J:\2008PROJ\08566\DWGS\RCB 1"=4'