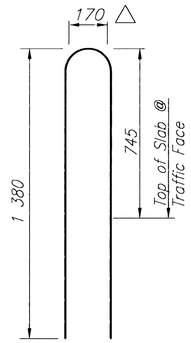
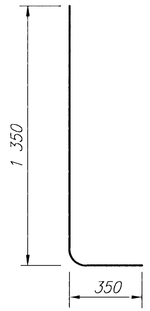
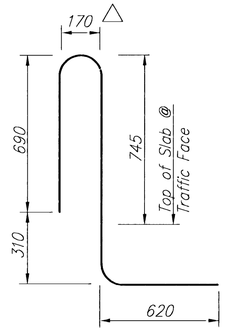


R1

△ Nonstandard hook
Plus 0, Minus 10 mm



R2



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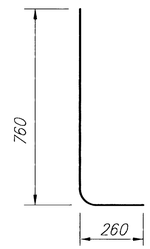
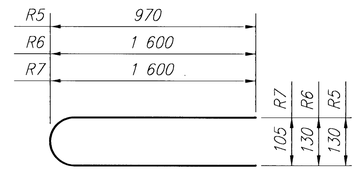
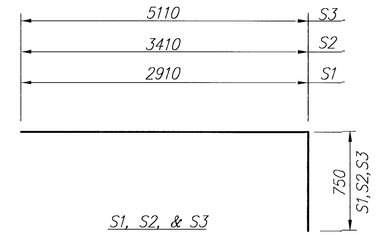


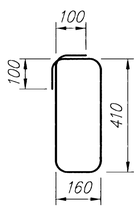
R4



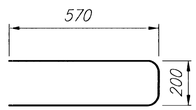
R5, R6 & R7



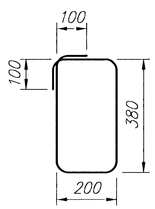
S1, S2, & S3



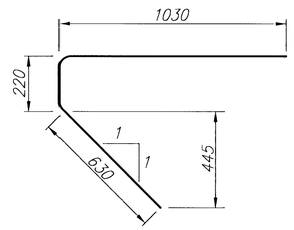
R8



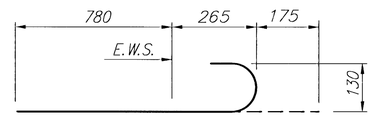
R9



R10



A5



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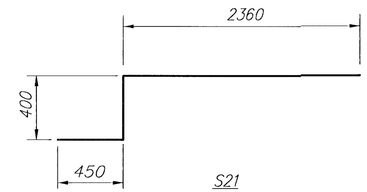
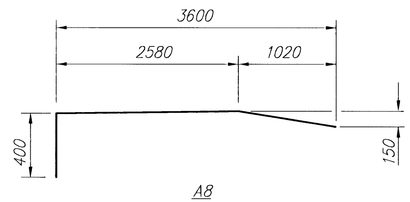


S21



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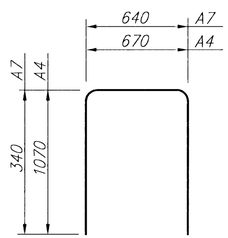
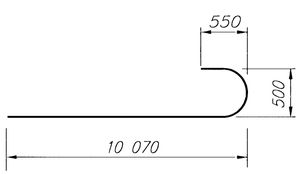
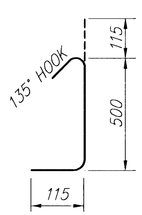


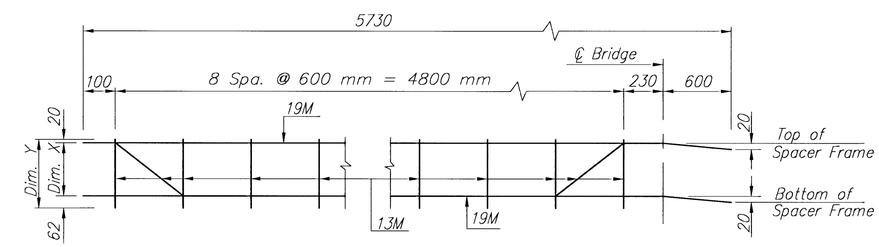
A4 & A7



PW2

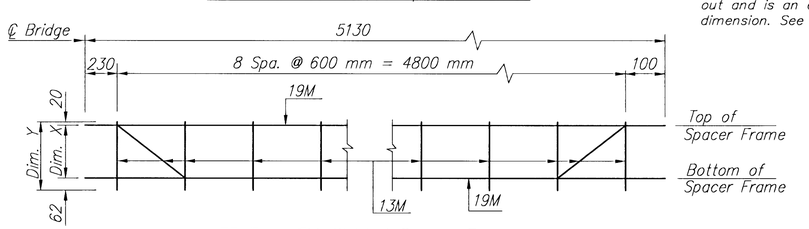


PW3



T12 Thru T20 Welded Spacer Frames

Note: Dim. X is out to out and is an exact dimension. See Detail A.

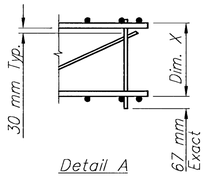


T3 Thru T11 Welded Spacer Frames

SPACER FRAMES
(Epoxy Coated)

Mark	No. Ea.	Dim. X	Dim. Y
T3, T12	11	261	348
T4, T13	4	265	352
T5, T14	4	276	363
T6, T15	4	294	381
T7, T16	4	320	407
T8, T17	4	354	441
T9, T18	4	394	481
T10, T19	4	442	529
T11, T20	4	498	585

Mass of spacer frames included in the mass of reinforcing steel.



Detail A

BENDING DIAGRAMS

(All dimensions are out to out of bars.)

BILL OF REINFORCING STEEL
Epoxy Coated – Grade 420

		Straight Bars				Bent Bars			
		Mark	Size	Number	Length	Mark	Size	Number	Length
SUPERSTRUCTURE	Abutment – Deck – Rail	S4	32	52	17 950	S1	25	44	3660
		S5	32	44	11 000	S2	25	44	4160
		S6	32	44	5700	S3	25	52	6860
		S8	32	44	14 710				
		S9	32	32	14 410	R1	22	24	2830
		S11	32	32	6800	R2	22	4	1700
		S15	32	22	18 000	R3	22	236	2380
		S10	29	32	8600	A2	16	89	1220
		S16	29	16	18 000	R5	16	8	1990
		S17	29	16	9600	R6	16	8	3250
		S18	29	16	7200	S21	16	590	3210
		A1	25	16	17 350				
		R11	19	24	2470	A4	13	218	2810
		R12	19	156	2900	A5	13	89	1880
		S7	19	16	10 570	A7	13	28	1320
						R4	13	236	1020
		A3	16	20	17 350	R7	13	4	3240
		T1	16	163	10 570	A8	16	16	4000
						R8	10	410	1340
						R9	10	112	1340
		S20	16	56	11 780	R10	10	56	1340
		A6	13	4	7600	T3–T20			*
		C2	13	16	11 750				
		SC1	13	84	2000				
		T2	13	127	10 570				
	Pier Head	PH1	16	6	10 570				
		PH2	13	4	10 570				

Non–Epoxy

SUBSTRUCTURE	Pier Wall	PW1	13	108	6320	PW2	13	52	10 900
						PW3	13	252	730

* See Bending Diagrams

MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

PROJECT NAME: MURDOCK AVENUE BRIDGE

SHEET TITLE: BILL OF REINFORCING STEEL AND BENDING DIAGRAMS

DESIGN BY:	DRAWN BY:	CHECKED BY:
KJS	DPG	PAF

DATE	JOB NO.	SHEET/OF
FEB. 1999	97042	23 / 39

K:\CIVIL\97042\DETAILS\97042REIN.DWG Wed Mar 24 13:13:38 1999 BY MLW