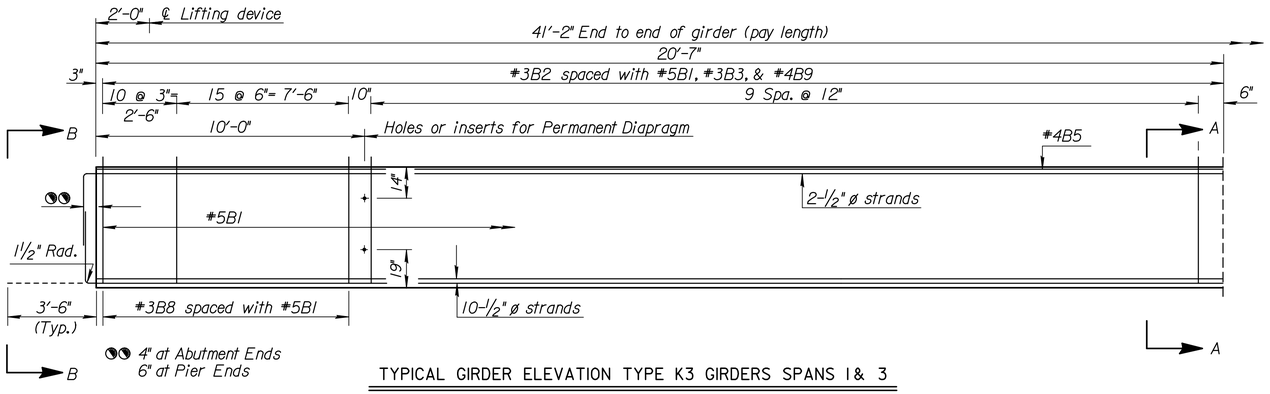
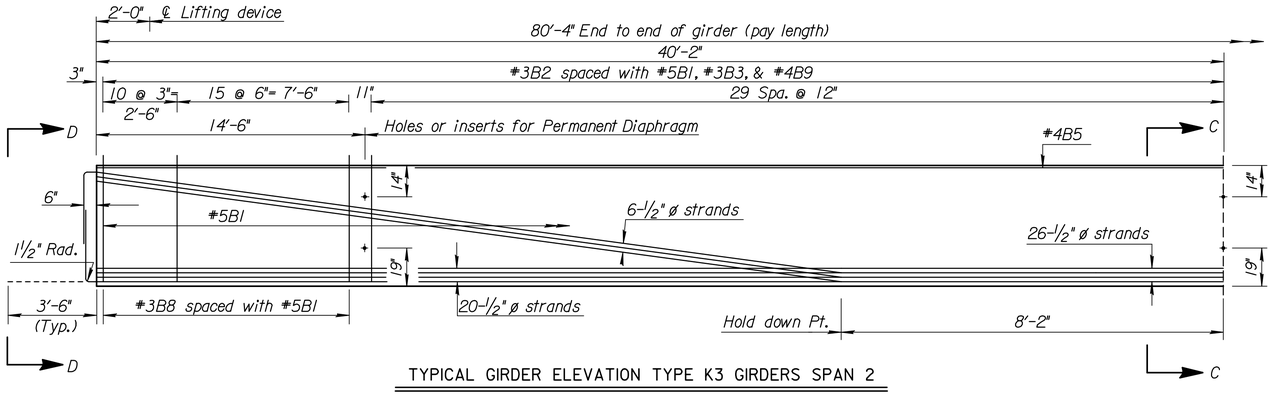
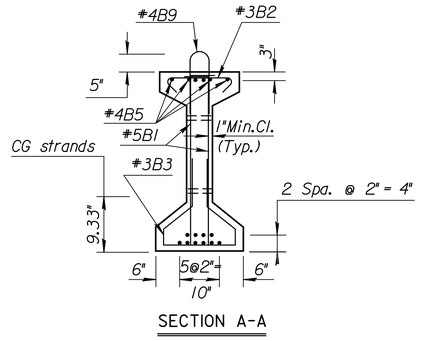
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-85066	2014	112	388



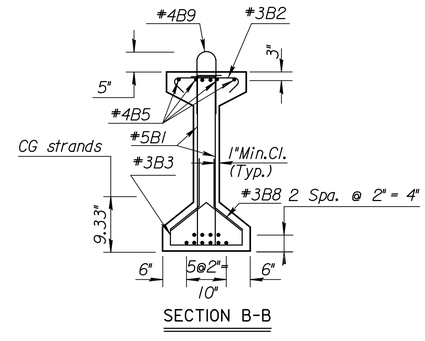
TYPICAL GIRDER ELEVATION TYPE K3 GIRDERS SPANS 1& 3



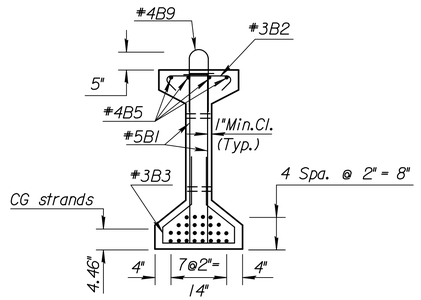
TYPICAL GIRDER ELEVATION TYPE K3 GIRDERS SPAN 2



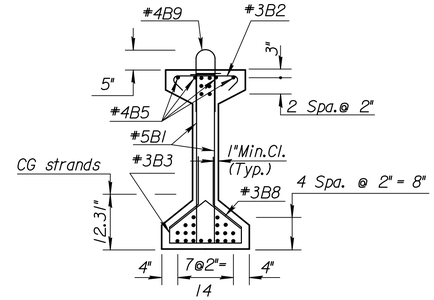
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

NOTE: During transportation and construction only, support beams on bearing points a maximum of 5 feet from the beam end for 41'-2" beams and 8 feet from the beam end for 80'-4" beams. The Fabricator shall show the proposed support locations on the shop drawings.

NOTE: The hold down force at the harp points for 6 strands at 2.92 kips per strand = 17.52 kips total.

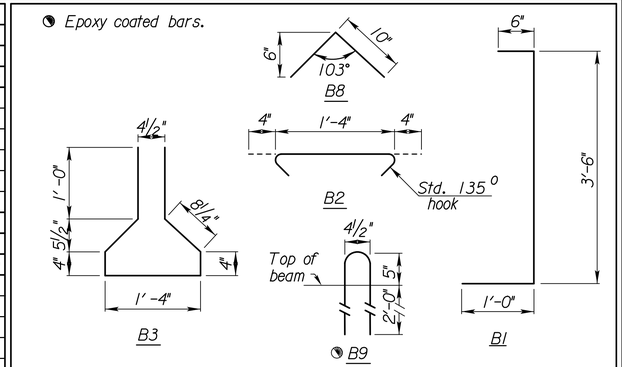
† If Welded Wire Fabric (WWF) is used in-lieu of reinforcing steel bars shown on this sheet, the spacing of wires for the WWF shall be equal or less than the vertical bars shown in the typical beam section above. The equivilant A_S for the WWF shall be equal to or greater than typical beam section above.

Note: Extend 8 strands 3'-6" beyond the end of the beam. Strands not shown shall be cut flush with the end of the beam. See "Strand Extension Details".

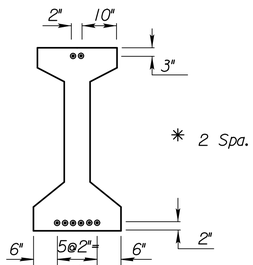
Welded Wire Fabric Equivilant Steel A_S †						
Size	3"	6"	9"	12"	15"	18"
#3	0.440	0.220	0.147	0.110	0.088	0.073
#4	0.800	0.400	0.267	0.200	0.160	0.133
#5	1.234	0.617	0.411	0.308	0.247	0.206
#6	1.761	0.880	0.587	0.440	0.352	0.293

BILL OF REINFORCING STEEL							
41'-2" Girder (1 Listed-8 Reqd.) (End spans)							
Straight bars				Bent bars			
Mark	No.	Size	Length	Mark	No.	Size	Length
B5	4	#4	40'-8"	BI	144	#5	5'-0"
				B2	72	#3	2'-0"
				B3	72	#3	5'-5"
				B8	52	#3	1'-9"
				◔ B9	72	#4	5'-0"
80'-4" Girder (1 Listed-4 Reqd.) (Interior spans)							
Straight bars				Bent bars			
Mark	No.	Size	Length	Mark	No.	Size	Length
B5	8	#4	40'-6"	BI	222	#5	5'-0"
				B2	111	#3	2'-0"
				B3	111	#3	5'-5"
				B8	52	#3	1'-9"
				◔ B9	111	#4	5'-0"

◔ Epoxy coated bars.

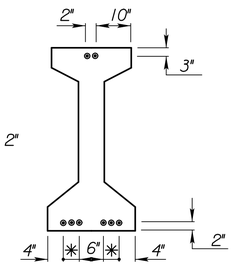


BILL OF MATERIAL		
Item	Unit	Quantity
Prestressed concrete beams (K3) End spans	Lin.Ft.	329'-4"
Prestressed concrete beams (K3) Interior spans	Lin.Ft.	321'-4"
The following quantities are given for information only and shall not be paid for directly but shall be made subsidiary to the bid item "Prestressed Concrete Beams"		
Beam concrete (f'c= 6,000 PSI) (per end span beam)	Cu.Yds.	5.56
Beam concrete (f'c= 6,000 PSI) (per interior span beam)	Cu.Yds.	10.85
Approx. Wt. per 41'-2" beam	Tons	11.26
Approx. Wt. per 80'-4" beam	Tons	21.97
1/2"ø Prestressing strand (270 KSI low relaxation fy= 243 KSI)	Lin.Ft.	12,984.7
Epoxy reinforcing steel (fy=60,000 PSI)	Lbs.	3,406.8
Reinforcing steel (fy=60,000 PSI)	Lbs.	15,628.7
Elastomeric Brg. pads (3/4"x8"x1'-8")	Each	24
1" ø Formed Hole	Each	56
Lifting devices	Each	24
Bearing plates (1 1/2" x 15" x 1'-8")	Each	24



STRAND EXTENSION DETAIL

(41'-2" beams)



STRAND EXTENSION DETAIL

(80'-4" beams)

NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1	5-10-00	Current Release	RAM	KFH

KANSAS DEPARTMENT OF TRANSPORTATION

Br. No. 96-87-32.78 (412) E.B. Sta. 463+49.36

Br. No. 96-87-32.79 (411) W.B. Sta. 463+48.72

K3 BEAM DETAILS

K-96 OVER GREENWICH ROAD

Proj. No. 472-85066 Sedgwick Co.

SHEET NO. OF	DATE 9-1-96	APP'D
DESIGNED	DETAILED GFK	QUANTITIES TRACED
DESIGN CK.	DETAIL CK.	QUAN.CK. TRACE CK.

Std. Base File: br302b.dgn
Plotted By: msn
Plot Location:
File: I:\2009\09521\Office Check 03-2012\Bridge\09521-BR-br302b.dgn
Plot Date: 12/30/2013