

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	87 N-0247-01	2005	17	48

Items	SUMMARY OF QUANTITIES										
	Excavation		Concrete		Reinforcing Steel		*Steel Pile	Handrail (Metal)(54")	Handrail (Metal)(38")	Drilling & Grouting	Concrete Masonry Coating
	Class I	Class II	Grade 4.5 (AE)	Grade 4.5 (AE)(SW)	(Grade 60) Epoxy Coated	(Grade 60)					
Location	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Lbs.	Lbs.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Each	Lump Sum
Abutment No. 1	8						36				
Pier No. 1		36	11.9			2,425					
Pier No. 2	30	38	11.9			2,425					
Abutment No. 2	8						64				
Total Substructure	46	74	23.8			4,850	100				
Total Superstructure				117.5	22,020			233.0	233.0	326	
Grand Total	46	74	23.8	117.5	22,030	4,850	100**	233.0	233.0	326	Lump Sum

\*\*Includes: 2 @ 18' & 2 @ 32'

\* Note: Only Steel Piles HP10X42 shall be used on this structure.

**GENERAL NOTES**

DESIGN: HS20-44 AASHTO SPECIFICATIONS 2002 EDITION WITH APPROPRIATE INTERIM SPECIFICATIONS AND A 15 psf FUTURE WEARING SURFACE.

UNIT STRESSES:  
 CONCRETE (GRADE 4.5) f'c = 4,500 psi  
 CONCRETE (GRADE 4.5)(AE) f'c = 4,500 psi  
 CONCRETE (GRADE 4.5)(AE)(SW) f'c = 4,500 psi  
 REINFORCING STEEL (GRADE 60) fy = 60,000 psi

EMBANKMENT: THE CONTRACTOR SHALL COMPLETE THE EMBANKMENT AT THE ABUTMENTS AS SHOWN ON THE BRIDGE EXCAVATION SHEET PRIOR TO DRIVING ABUTMENT PILING. THE EMBANKMENT SHALL BE COMPLETED AS DIRECTED BY THE ENGINEER.

BRIDGE EXCAVATION: ELEVATION 1281.60 SHALL DESIGNATE THE EXCAVATION BOUNDARY PLANE OF CLASS I AND CLASS II EXCAVATION; CLASS I ABOVE THE PLANE AND CLASS II BELOW. SEE BRIDGE EXCAVATION SHEET FOR LIMITS OF PAY EXCAVATION.

SPREAD FOOTING EXCAVATION: WHEN ROCK OR SHALE IS ENCOUNTERED, ALL EXCAVATION BELOW THE TOP OF THIS MATERIAL OR TOP OF THE FOOTING, WHICHEVER IS LOWER, SHALL BE TO NEAT LINES. NO SIDE FORMING IS PERMITTED BELOW THE TOP OF THE ROCK, SHALE, OR THE TOP OF THE FOOTING, WHICHEVER IS LOWER. CUT SPREAD FOOTINGS IN ROCK TO NEAT LINES WITH HAND EQUIPMENT ONLY. NO MACHINE EXCAVATION WILL BE ALLOWED BELOW THE TOP OF THE FOOTING.

IF THE BOTTOM OF THE SPREAD FOOTINGS IS IN SHALE, MINIMIZE THE TIME THE SHALE IS EXPOSED TO THE ELEMENTS. SEE KDOT SPECIFICATIONS.

PIER BACKFILL: THE BACKFILL AT PIERS SHALL BE PLACED IN SUCH A MANNER AS TO PREVENT MOVEMENT OF THE COLUMNS.

PILING: ALL PILING SHALL BE DRIVEN TO PENETRATE OR BEAR ON THE HARD SHALE MEMBER. DRIVING SHALL STOP WHEN IN THE OPINION OF THE ENGINEER, ADDITIONAL DRIVING MAY DAMAGE THE PILING.

ALL PILING SHALL BE DRIVEN TO THE ALLOWABLE BEARING VALUE: 55.8 TONS

WHEN USING THE PILE DRIVING FORMULA IN THE K.D.O.T. SPECIFICATIONS, THE CONTRACTOR SHALL NOT DRIVE THE PILE TO MORE THAN 83.7 TONS.

SLOPE PROTECTION: SLOPE PROTECTION (RIPRAP STONE) (LIGHT 24") SHALL BE PLACED TO THE LIMITS AND THICKNESSES AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

COLUMN CONSTRUCTION: CURE THE COLUMN FOOTINGS TWO DAYS BEFORE BEGINNING THE COLUMN CONSTRUCTION (PLACING RESTEEL OR FORMWORK). DO NOT PLACE CAST IN PLACE SHEAR BOLTS, COIL INSERTS OR OTHER DEVICES USED AS FALSEWORK SUPPORT IN THE COLUMN WITHOUT THE APPROVAL OF THE ENGINEER. DO NOT REMOVE COLUMN FORMWORK WITHOUT THE APPROVAL OF THE ENGINEER. CURING SHALL CONTINUE AFTER THE FORMWORK IS REMOVED AS REQUIRED BY THE KDOT SPECIFICATIONS.

CURE THE COLUMNS TWO DAYS BEFORE BEGINNING SUPERSTRUCTURE CONSTRUCTION (PLACING RESTEEL OR FORMWORK). DO NOT DRILL AND GROUT BOLTS OR OTHER DEVICES INTO THE COLUMNS USED FOR FALSEWORK SUPPORT. CURE THE COLUMNS FOUR DAYS BEFORE PLACING SUPERSTRUCTURE CONCRETE.

CONCRETE: SUPERSTRUCTURE CONCRETE SHALL BE BID AS CONCRETE (GRADE 4.5)(AE)(SW). SUBSTRUCTURE CONCRETE SHALL BE BID AS CONCRETE (GRADE 4.5)(AE). IF DESIRED, THE CONTRACTOR MAY USE CONCRETE (GRADE 4.5) IN THE PIER FOOTINGS. BEVEL ALL EXPOSED EDGES WITH A 3/4" TRIANGULAR MOUNDING, EXCEPT AS OTHERWISE NOTED ON THE PLANS.

REINFORCING STEEL: ALL DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING STEEL ARE TO THE CENTERLINE OF BARS UNLESS OTHERWISE NOTED. BAR BENDING DIMENSIONS SHALL BE AS SHOWN AND NOTED IN THE BENDING DIAGRAMS. ALL REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615, GRADE 60.

EPOXY COATED REINFORCING: ALL REINFORCING BARS DESIGNATED "EPOXY COATED" SHALL BE COATED WITH EPOXY AS SET FORTH IN THE KDOT STANDARD SPECIFICATIONS, 1990 EDITION. ALL BAR SUPPORTS SHALL BE COATED.

EPOXY GROUTING: THIS ITEM SHALL CONSIST OF GROUTING REINFORCING STEEL INTO THE EXISTING CONCRETE, WHERE REQUIRED BY THE ENGINEER, WITH AN EPOXY GROUT. LOCATE EACH HOLE WITH THE AID OF A PACHOMETER TO MISS THE EXISTING REINFORCING STEEL. DRILL THE HOLES TO THE SPECIFICATIONS REQUIRED BY THE GROUT MANUFACTURER AND IN SUCH A MANNER AS NOT TO DAMAGE ADJACENT CONCRETE OR BARS. AFTER THE HOLE IS DRILLED, REMOVE ALL LOOSE MATERIAL BY USING A WIRE BRUSH TO FREE THE DUST FROM THE SIDE OF THE HOLE AND THEN VACUUMING TO REMOVE MATERIAL AND DUST. FILL THE HOLE 30% TO 50% FULL OF EPOXY GROUT AND INSERT THE BAR. THEN FILL THE HOLE TO 1/4" FROM THE TOP OF THE HOLE. FOLLOW THE MANUFACTURER'S DIRECTIONS FOR MIXING, APPLICATION AND CURING. THE TOOLS, MATERIALS, LABOR AND INCIDENTALS NECESSARY TO COMPLETE THE WORK SHALL BE PAID FOR PER EACH BY THE BID ITEM "DRILLING AND GROUTING".

FALSEWORK PLANS: A LICENSED PROFESSIONAL ENGINEER SHALL DESIGN THE FALSEWORK DETAILS. DETAILS SHALL BEAR THE SEAL OF A LICENSED PROFESSIONAL ENGINEER. SEE THE BRIDGE DESIGN MANUAL, SECTION 5.1 "REVIEW AND APPROVAL OF FALSEWORK PLANS", FOR A LISTING OF ITEMS TO BE INCLUDED ON THE FALSEWORK PLAN. SUBMIT THREE SETS OF DETAILS IN COMPLIANCE WITH KDOT SPECIFICATIONS TO THE FIELD ENGINEER FOR REVIEW.

DIMENSIONS: UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE HORIZONTAL.

BACKFILL COMPACTION: BACKFILL COMPACTION IS REQUIRED AT THE ABUTMENTS.

REMOVAL OF EXISTING STRUCTURE: ALL REMOVAL OF PORTIONS OF THE EXISTING STRUCTURE IS INCLUDED IN THE BID ITEM "REMOVAL OF THE EXISTING STRUCTURE", LUMP SUM. THE ABOVE ITEMS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.

EXISTING STRUCTURE: PLANS OF THE EXISTING STRUCTURE ARE ON FILE AND AVAILABLE FOR INSPECTION BY QUALIFIED BIDDERS AT THE CITY OF WICHITA PUBLIC WORKS DEPARTMENT.

EXISTING UTILITIES: THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES DURING THE REHABILITATION OF THIS BRIDGE. THE TELEPHONE LINES ON THE WEST SIDE OF THE BRIDGE WILL BE DISCONNECTED FROM THE STRUCTURE AND TEMPORARILY SUPPORTED (BY OTHERS). THESE LINES WILL STILL BE IN CLOSE PROXIMITY TO THE BRIDGE DURING CONSTRUCTION AND WILL REMAIN IN SERVICE. THE CONTRACTOR IS EXPECTED TO WORK AROUND THE UTILITIES AND NOT DAMAGE THEM. ANY INSERTS OR HANGERS REQUIRED TO REATTACH THE UTILITIES WILL BE SUPPLIED BY OTHERS AND INSTALLED BY THE CONTRACTOR. THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE SUBSIDIARY TO OTHER ITEMS OF THE CONTRACT.

THE UTILITY COMPANIES WILL BE RESPONSIBLE FOR PLACEMENT OF THE SERVICE LINES BACK ONTO THE BRIDGE AND THE REMOVAL OF ANY TEMPORARY SUPPORTS.

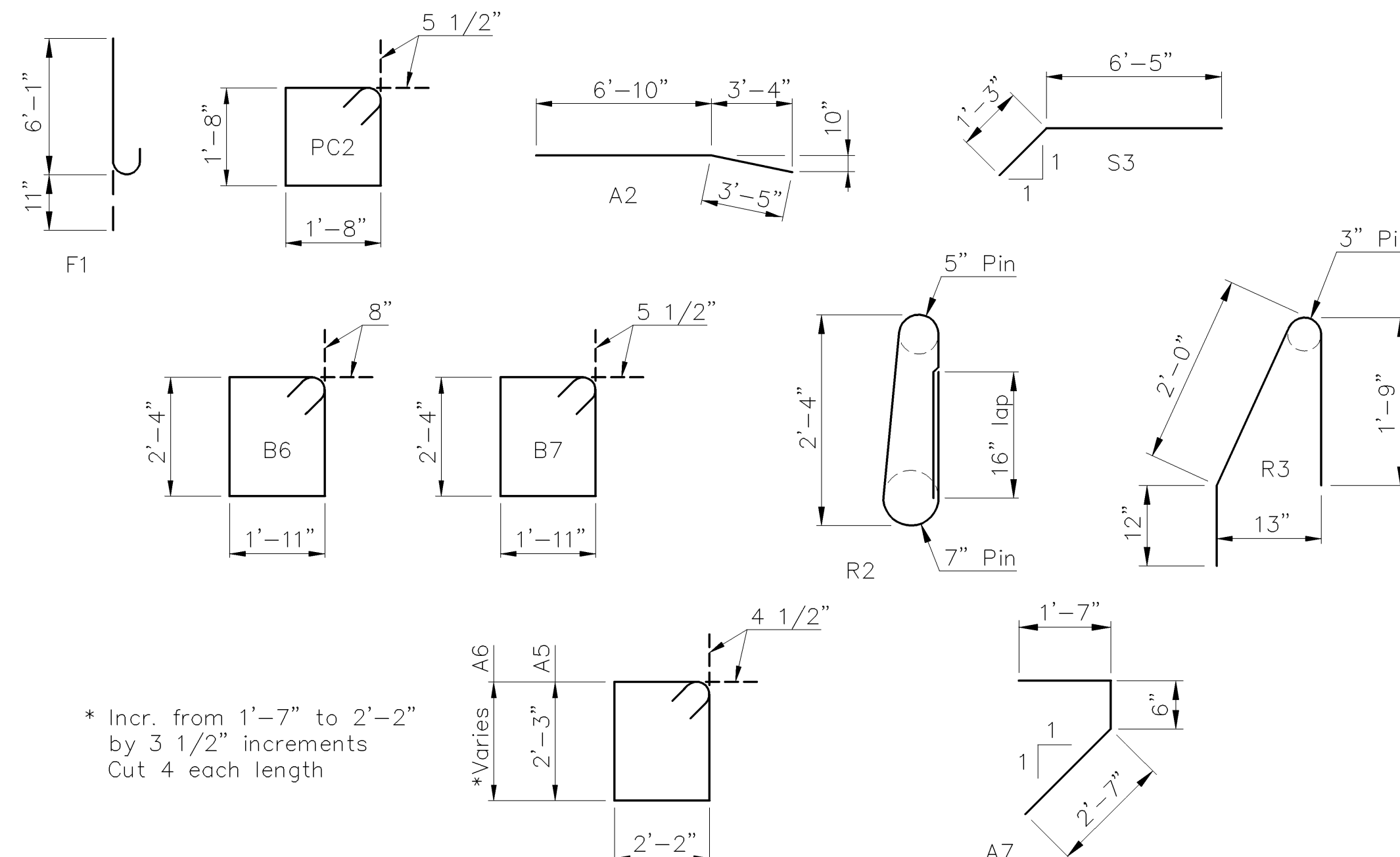
CONCRETE MASONRY COATING: CONCRETE MASONRY COATING SHALL BE APPLIED TO THE FOLLOWING EXTERIOR CONCRETE SURFACES OF THE BRIDGE: BOTH SIDES AND TOP OF THE BARRIER RAILS AND BOTH SIDES AND TOP OF THE BARRIER TRANSITIONS ON THE APPROACH PAVEMENT. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A SPECIFICATION/CERTIFICATION FOR PROPOSED MATERIAL TO BE USED, INCLUDING PROPOSED PLACEMENT METHOD, PRIOR TO THE WORK BEING DONE. THE COATING SHALL BE TINTED TO MATCH COLOR NO. 30318 (LIMESTONE TAN) OF FEDERAL STANDARD NO. 595B. CLEAN THE SURFACES TO BE COATED BY SAND BLASTING TO REMOVE ALL FOREIGN MATERIALS AND LOOSE MORTAR.

BILL OF REINFORCING STEEL								
SUBSTRUCTURE (Un-coated)	STRAIGHT BARS				BENT BARS			
	Mark	Size	No.	Length	Mark	Size	No.	Length
	PC1	#8	32	34'-0"	F1	#8	32	7'-0"
	F2	#6	64	3'-6"	PC2	#5	128	7'-7"
SUPERSTRUCTURE (Epoxy Coated)	*B1	#9	20	35'-0"	A2	#8	16	10'-3"
	*B2	#9	20	23'-7"				
					B6	#6	36	9'-10"
	A1	#8	16	9'-10"				
	*B3	#8	8	45'-0"	B7	#5	288	9'-5"
	*B4	#8	16	36'-1"	R2	#5	250	6'-7"
					R3	#5	250	4'-5"
	R1	#6	4	59'-11"	S3	#5	224	7'-8"
	A3	#5	8	9'-10"	A5	#4	24	9'-7"
	A4	#5	4	5'-8"	A6	#4	12	Varies
	B5	#5	24	40'-5"	A7	#4	24	4'-8"
	S1	#5	54	40'-5"				
S2	#5	224	7'-8"					
	A8	#4	12	2'-0"				
	R4	#4	30	40'-3"				

\* Mechanical splice required.

**BENDING DIAGRAMS**

All dimensions are out to out of bars.



\* Incr. from 1'-7" to 2'-2" by 3 1/2" increments  
Cut 4 each length

J:\2003PROJ\03548\DWGS\MISC 1"=1'

PROJECT NO. 87 N-0247-01														
GENERAL NOTES & QUANTITIES														
OLIVER ST. BRIDGE OVER GYPSUM CREEK		<table border="1"> <tr> <td>DESIGNED</td> <td>RSC</td> <td>SCALE</td> </tr> <tr> <td>DETAILED</td> <td>DEG</td> <td>DATE</td> </tr> <tr> <td>QUANTITIES</td> <td></td> <td>SHEET</td> </tr> <tr> <td></td> <td></td> <td>OF</td> </tr> </table>	DESIGNED	RSC	SCALE	DETAILED	DEG	DATE	QUANTITIES		SHEET			OF
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STA. 26+53.8	CITY OF WICHITA													