

DATE	BY

SUMMARY OF BRIDGE QUANTITIES

ITEM	BASE BID ITEM QUANTITY	UNIT	ALTERNATE NO. 1 ITEM QUANTITY	UNIT
Embankment (Granular Fill)	2,922	CY	-	-
Excavation (Class III)	971	CY	-	-
Concrete Grade 4.0 (AE) (Special)	0	CY	782	CY
Concrete Grade 4.0 (AE)	383	CY	-	-
Concrete Grade 4.0 (AE)	940	CY	(782)	CY
Concrete Masonry Coating	697	SY	(697)	SY
Concrete Sealer	697	SY	-	-
Graffiti Control System	639	SY	-	-
Structural Steel (ASTM A709 Gr 50T2) (Bridge)	525,425	LBS	-	-
Structural Steel (ASTM A709 Gr 50T2) (Pier/Bridge)	-83,680	LBS	-	-
Structural Steel (ASTM A500, Gr B) (Collision Beam)	21,219	LBS	-	-
Expansion Device (Sliding Plate)	127	LF	-	-
Headed Stud Anchors	3,936	EA	-	-
Reinforcing Steel (Gr. 60)	126,240	LBS	-	-
Reinforcing Steel (Gr. 60) (Epoxy-Coated)	42,480	LBS	-	-
Steel Piles (HP 14X89)	10,036	LF	-	-
Test Piles (Special) (HP 14X89)	360	LF	-	-
Dynamic Pile Testing	4	EA	-	-
Electric Bearing Devices (Type K)	8	EA	-	-
Steel Bearing Device (EXP)	9,018	LBS	-	-
Steel Bearing Device (FIX)	12,615	LBS	-	-
Bridge Handrail (Steel-Type 2 & 2A)	303	LF	-	-
Abutment Strip Drain	446	SY	-	-
Bridge Backwall Protection System (Type K)	447	SY	-	-
Water Underdrains (4.0") (Deck)	170	LF	-	-
Water proofing (Plaster-Bridges)	532	SY	-	-
Water proofing (Plaster-Bridges)	163	SY	-	-

This sheet designed by:



ARCHITECTS ENGINEERS PLANNERS

BRIDGE GENERAL NOTES

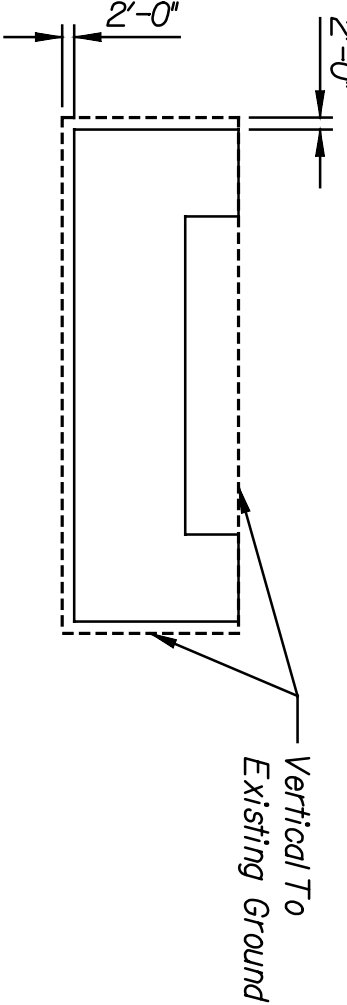
RAILROAD BRIDGE DESIGN SPECIFICATIONS: AREMA Manual for Railway Engineering, 2002.
 CONSTRUCTION SPECIFICATIONS Wichita Central Corridor Railroad Grade Separation Project, 25th Street to Waterman, Wichita, Kansas-Project Specifications, HNTB Corporation, 2005.
 MATERIAL and TESTING SPECIFICATIONS: The material and test specifications, current as of the publication of the project specifications, will be used. In cases of discontinuance or material changes to the specification, the engineer will be contacted for guidance.

REFERENCES:
 Wichita Central Corridor Railroad Grade Separation Project, Douglas Avenue to 21st Street, Wichita, Kansas-Final Geotechnical Investigation Report, HNTB Corporation, September 2003.
 Wichita Central Corridor Railroad Grade Separation Project, Douglas Avenue to 21st Street, Wichita, Kansas-Hazardous Materials Screening Report, HNTB Corporation, September 2000.
 BNSF Railway Guidelines, 2002.
 BNSF Railway / Union Pacific Railroad Standard Drawings
 Engineering and Shop Drawings for Existing Bridges at 2nd Street, 1st Street and Douglas Avenue.

HORIZONTAL & VERTICAL GEOMETRY CONTROL:
 Refer to Railroad and Street plans for horizontal and vertical geometry control.
 The track profile grade is at the top of rail.

All elevations shown are U.S.G.S. Datum (NGVD 29) City Datum = U.S.G.S. Datum - 1187.41.

STRUCTURAL EXCAVATION:
 Structural excavation shall be in accordance with the plans and specifications.
 STRUCTURAL BACKFILL:
 Structural backfill shall be located within the limits identified in the plans and specifications. Structural backfill shall meet or exceed the requirements of Embankment.



EXCAVATION FOR PAYMENT LIMITS

Abutment Footing Plan Shown

*NOTES:
 Negative quantities are denoted by the number surrounded by parentheses (xx). Negative quantities or subtractions from the base bid quantities, all other quantities are additions. The extension of the negative quantities on the official bid tab will reduce the overall cost of the Alternate. This project will be awarded to the Contractor with the lowest and best total base bid amount plus alternates selected by the City, the total of which is within the Owner's approved budget.

Alternate 1 - White Concrete

Sheets WC4.3 & WC4.6 replace sheets B4.3 & B4.6 Respectively. For all other plan details, see Sheets B4.1 through B4.28.

Explanation: The bridge abutments are cast using Concrete Grade 4.0 (AE) (Special) with a concrete sealer and graffiti control protection on the exposed surfaces. The purpose of this alternate is to provide an integrally colored white cement concrete.

REINFORCING:
 All bar bending dimensions and tolerances are in accordance with CRSI's Manual of Standard Practice.

Reinforcing bars will be designated as follows: SSCOM SS = Bar Size (No. 3 to No. 18)
 CC = Component Designator, as follows:
 A-Abutment F-Footing D-Dowel
 P-Pier PB-Pier Beam PC-Pier Column
 PW-Pier Wall S-Slab/Deck R-Railing
 C-Curb

IN = Bar Mark Sequence (00-99)
 Reinforcing Bar Annotation Example:
 I1A12 A #11 Bar, located in the abutment, 12th bar in bar size/location sequence

EMBANKMENT:
 Fill material located within the volume bounded by the back face the abutment, back face of the wingwall(s), ends of the wingwall(s) and above the limits of structural backfill shall be classified as embankment.

Excavated materials not considered suitable for use as backfill or embankment shall be wasted off site. All embankment quantities are anticipated to be from an approved borrow site provided by the Contractor. Reuse of excavated materials in the embankment will only be permitted if the Contractor provides tests verifying the materials proposed for reuse meet the requirements for compacted granular fill. Embankment materials shall consist of compacted granular fill with a minimum effective internal friction angle of 32 degrees when tested by the standard direct shear test AASHTO T-236 utilizing a sample of the material compacted to 100% of maximum laboratory dry density of optimum moisture content. For all embankment materials placed on the project, except for the UPRR track construction work between 17th and 21st Streets, the moisture content of the fill at the time of placement and compaction shall be within the range of 3% below to 3% above the optimum moisture content value determined by the Standard Proctor (ASTM D-698). Embankment shall be compacted to at least 100% of the material's maximum Standard Proctor dry density (ASTM D-698). Embankment materials shall be free of organic material, debris and less than 10% by weight shall pass the no. 200 sieve. The fill shall be placed and compacted in lifts of 8 inches or less in loose thickness. Where the existing embankment is left in place, new embankment shall be stair-stepped into the existing embankment. The Contractor is responsible for furnishing and placing compacted granular fill that meets the design and performance requirements of the project. Payment for embankment shall be based on plan quantities. No additional payment will be authorized unless the Engineer approves embankment beyond the plan limits.

PROTECTIVE SHORING:
 Provide protective shoring as required by the BNSF Railway, federal, state and local regulations.

Provide protective shoring as indicated in the plans and specifications. Additional shoring may be required.

Protective shoring plans & calculations shall be designed and sealed by a professional engineer licensed in the State of Kansas.

Protective shoring calculations, plans and details shall be submitted eight (8) weeks prior to commencing shoring operations.

Protective shoring calculations, plans and details shall be submitted to the Engineer and distributed to the BNSF, UPRR and WURA for approval. Protective shoring construction shall not begin until approved by the Engineer and the railroads.

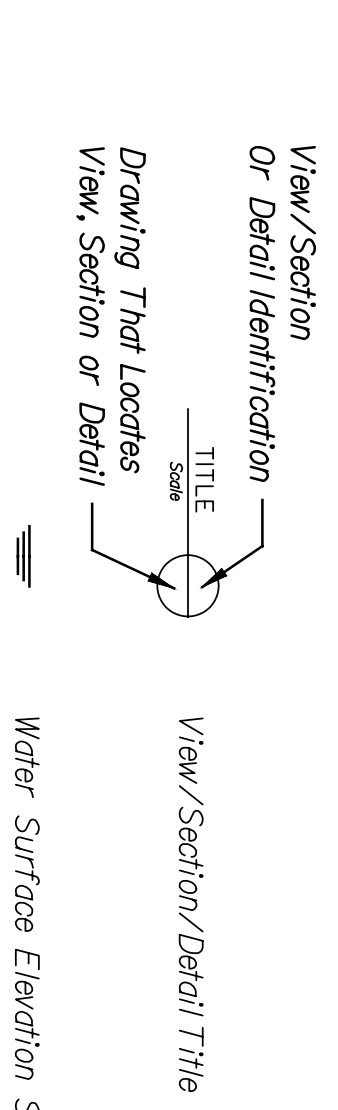
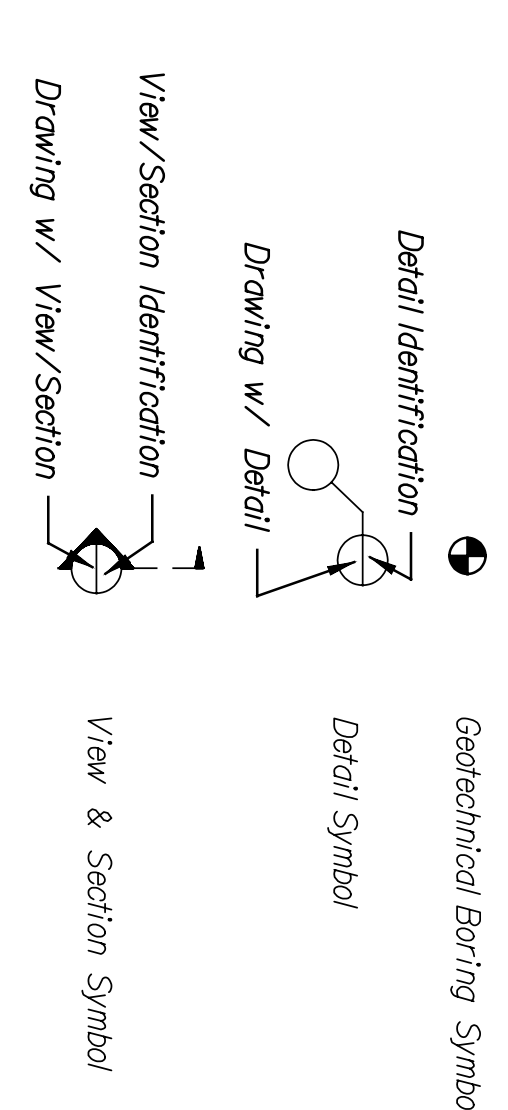
QUANTITIES:
 Items not listed separately in the Summary of Bridge Quantities are subsidiary to other items.

QUALITY CONTROL:
 Prior to placing structural steel, verify that the bridge seat elevations are equal to the plan elevation +/- 1/8" and submit the documentation of the elevations to the Engineer.

STATE	KANSAS	PROJECT NO.	472-84011	YEAR	2005	SHEET NO.	WC4.3	TOTAL SHEETS	
-------	--------	-------------	-----------	------	------	-----------	-------	--------------	--

ABBREVIATIONS:	AASHTO	American Association of State Highway & Transportation Officials	IN.	Inches
	ACI	American Concrete Institute	KIP	1000 Pounds
	AISC	American Institute of Steel Construction	KSF	Kips per Square Foot
	ANSI	American National Standards Institute	L.F.	Linear Feet
	AREMA	American Railway Engineering and Maintenance-of-Way Association	Lbs.	Pounds
	ASME	American Society of Mechanical Engineers	max.	0.001 inches Minimum Maximum
	ASTM	American Society of Testing and Materials	N/A	Not Applicable
	AWA	American Welding Society	N.F.	Not Face
	BNSF	Battion of Burlington Northern and Santa Fe Railway Company	PCF	Pounds per Cubic Foot
	Btm	Bottom	PLF	Pounds per Linear Foot
	CRSI	Concrete Reinforcing Steel Institute (www.crsi.org)	P.L.	Point of Intersection
	C.F.	Cubic Feet	P.V.C.	(Horizontal Curves) Point of Vertical Curvature
	C.S.	Curve to Spiral Point	P.V.I.	Point of Vertical Intersection
	C.Y.	Cubic Yards	P.V.T.	Point of Vertical Tangency
	dft	dry film thickness	R	Radius
	E.F.	Each Face	S.C.	Spiral to Curve Point
	E.S.	Equal Spaced	S.C.	Similar
	E.W.	Each Way	S.T.	Spiral to Tangent Point
	F	Minimum 28-day Concrete Compressive Strength	SSPC	SSPC-The Society for Protective Coatings
	F.F.	Fairment	SY	Square Yards
	FT.	Feet	T/	Top of
	Galvanized	Galvanized	T.S.	Tangent to Spiral Point
			T.Y.	Typical
			U.M.O.	Unless Noted Otherwise
			USACOE	U.S. Army Corps of Engineers
			UPRR	Union Pacific Railroad
			WURA	Wichita Union Terminal Association

SYMBOLS
 Diameter Symbol
 Geotechnical Boring Symbol
 Detail Symbol



NO.		DATE		REVISIONS	
1					
2					
3					

SHEET NO.		OF		SCALE AS NOTED		APPD.	
DESIGNED	ENR	DETAILS	QUANTITIES	DU	TRACED	DU	
DESIGN	CK.	CHK.	CHK.	CHK.	CHK.	CHK.	

CITY OF WICHITA
 WICHITA CENTRAL CORRIDOR
 ALTERNATE 1
 CENTRAL
 SUMMARY OF QUANTITIES AND GENERAL NOTES