STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-84071	2005	B4.3	

SUMMARY OF BRIDGE QUANTITIES

ITEM	ITEM QUANTITY	UNIT
Embankment (Granular Fill)	2,922	CY
Excavation (Class III)	971	CY
~~Concrete Grade 4.0 (AE) (Special)~~	~~782~~	~~CY~~
Concrete Grade 4.0	383	CY
Concrete Grade 4.0 (AE)	940	CY
Concrete Masonry Coating	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) (Planter 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
~~Elastomeric Bearing Devices (1 7/8") (Planter Bridge)~~	~~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	447	SY
Pipe Underdrains (4.0") (Type K)	170	LF
Waterproofing (Deck)	532	SY
~~Waterproofing (Planter Bridges)~~	~~163~~	~~SY~~

This sheet designed by:

HNTB

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".

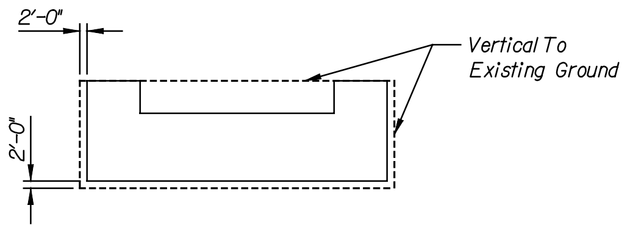
HORIZONTAL & VERTICAL GEOMETRY CONTROL:
Refer to Railroad and Street plans for horizontal and vertical geometry control.

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 - 1187.4).

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

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

Reinforcing bars will be designated as follows: SSCCNN
SS = Bar Size (No. 3 to No. 18)

CC = Component Designator, as follows:

A-Abutment	F-Footing	D-Dowell
P-Pier	PB-Pier Beam	PC-Pier Column
PW-Pier Wall	S-Slab/Deck	R-Railing
C-Curb		

NN = Bar Mark Sequence (00-99)

Reinforcing Bar Annotation Example:
11A12
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 at 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 WUTA for approval. Protective shoring construction shall not begin until approved by the Engineer and the railroads.

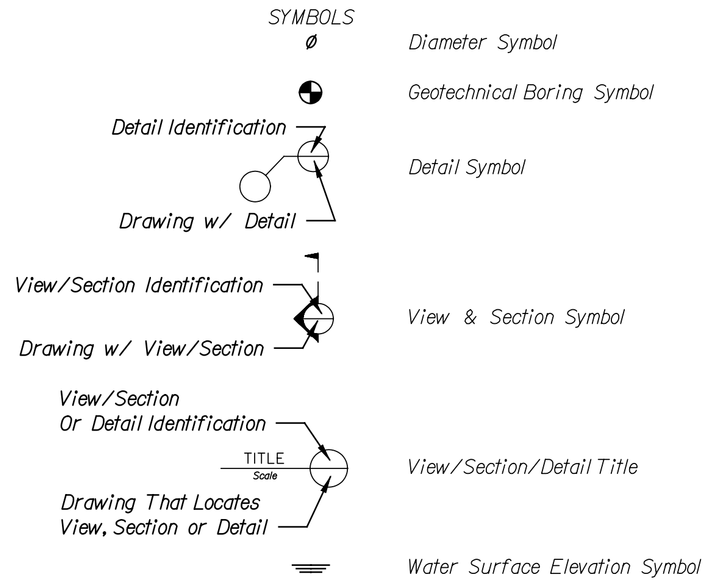
QUANTITIES:
Items not listed separately in the Summary of Bridge Quantities are subsidiary to other items.

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.

ABBREVIATIONS:

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

SYMBOLS



NO.	DATE	REVISIONS	BY	APP'D
3				
2				
1				

CITY OF WICHITA

WICHITA CENTRAL CORRIDOR

CENTRAL
SUMMARY OF QUANTITIES AND GENERAL NOTES

SHEET NO.	OF	SCALE AS NOTED	APP'D				
DESIGNED	FKD	DETAILED	DJJ	QUANTITIES	DJJ	TRACED	DJJ
DESIGN CK.	CMS	DETAIL CK.	JWH	QUAN.CK.	DMH	TRACE CK.	DMH

LOCATION:
BNSF BR. 21L8
WICHITA, KS
LINE SEGMENT 7400

Plotted on: 04-JAN-2005 13:51 $time$
djamison Plot Queue: $queue$ Pen Table: $pentable$
Plot Scale: $scale$
Design Filename: k:\b29049\bridges\Dec2004\Base Bid\Central\drawings\c00.dgn