FHWA REG NO.	STATE	PROJECT NO.	YEAR	SHEET NO	TOTAL SHEETS
7	Kansas	87N-0195-01	2001	28	127

SUMMARY OF QUANTITIES

Item / Location	Excavation Class I m3	Excavation Class II m3	Concrete Grade 30 (AE) m3	Concrete Grade 30 (AE)(SA) m3	Reinforcing Steel Epoxy Coated Grade 420 kg	Reinforcing Steel Grade 420 kg	Concrete Piles * m	Concrete Test Piles m	Bridge Backwall Prot. System m2	Abutment Strip Drain m2	Slope Protection (Light Stone Riprap) m3	Concrete Masonry Coating m2	Bridge Handrail (Steel) m	Bridge Plaque (Non-Part.) Each	40 mm Latex Modified Overlay m2	Contractor Staking (Bridge Only) Lump Sum
Abutment No. 1	7	--	--	**	**	--	142.20	25.70	15	12	184.5	--	--	--	--	--
Pier No. 1	--	116	26.1	--	--	705	345.10	--	--	--	--	--	--	--	--	--
Pier No. 2	--	116	26.2	--	--	705	320.45	26.65	--	--	--	--	--	--	--	--
Abutment No. 2	7	--	--	**	**	--	165.90	--	15	12	184.5	--	--	--	--	--
Substr. Total	14	232	52.3	--	--	1,410	973.65	52.35	30	24	369	--	--	--	--	--
Superstr. Total	--	--	--	436.4	58,250	--	--	--	--	--	--	341	96.9	--	668.3	--
Total	14	232	52.3	436.4	58,250	1,410	973.65 †	52.35 †	30	24	369	341	96.9	1	668.3	1

** Quantities are included in the Superstr. Total Quantity.

† Summary of Piling

Abut. No. 1 – 6 piles @ 23.70 m, 1 test pile @ 25.70 m
Pier No. 1 – 14 piles @ 24.65 m
Pier No. 2 – 13 piles @ 24.65 m, 1 test pile @ 26.65 m
Abut. No. 2 – 7 piles @ 23.70 m

* NOTE: Use only 325 mm Dia. x 9.5 mm closed-end, cast-in-place pipe pile on this project.

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	Standards
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GENERAL NOTES

EMBANKMENT: Complete the embankment at the abutments as shown on the Bridge Excavation sheet prior to driving the abutment piling or commencing with the abutment footing excavation.

BRIDGE EXCAVATION: Elevation 402.10 shall designate the Excavation Boundary Plane of Class I or Class II Excavation; Class I above the plane, Class II below the plane. See the Bridge Excavation sheet for the limits of pay excavation.

BACKFILL COMPACTION: Compact backfill at the abutments.

PILING: Drive all pier piling to a minimum elevation of 378.18 Drive all abutment piling to a minimum elevation of 378.64 Driving shall stop when in the opinion of the Engineer additional driving may damage the piling. Drive all piling to the minimum computed bearing value equal to:

Abutment No. 1	421 kN
Pier No. 1	466 kN
Pier No. 2	466 kN
Abutment No. 2	421 kN

When using the pile driving formula in the KDOT Specifications, drive the pile to the min. computed bearing value and penetration, but in no case shall the pile be driven to MORE THAN 700 kN. At any location where problems are experienced, pile damage is suspected, or apparent refusal occurs significantly above the design pile tip elevation, the Engineer may request that the Pile Driving Analyzer (PDA) equipment be used.

TEST PILING: Drive test piling at the locations shown on the plans or as directed by the Engineer. The test piling shall remain in place as permanent piling.

CORRAL RAIL: Build the corral rail after the falsework is released or struck.

ABUTMENT STRIP DRAIN: See the General Notes on the "Abutment Strip Drain sheet.

BRIDGE BACKWALL PROTECTION SYSTEM: See the General Notes on the "Abutment Strip Drain sheet.

BROKEN CONCRETE: Waste the broken concrete from the existing bridge on sites provided by the Contractor and approved by the Engineer.

REMOVAL OF EXISTING STRUCTURES: Removal of existing structure is included in the bid item, "Removal of Existing Structures", Lump Sum. All materials removed from the existing structure shall become the property of the Contractor. Remove this material from the site.

CONCRETE: Superstructure concrete is bid as Concrete (Grade 30)(AE)(SA). Substructure concrete is bid as Concrete (Grade 30)(AE). The Contractor may use Concrete (Grade 30) in the footings. Bevel all exposed edges of all concrete with a 20 mm triangular molding, except as otherwise noted on the plans. Construction joints are optional with the Contractor, but if used, place only at locations shown, or at locations approved by the Engineer.

REINFORCING STEEL: All reinforcing steel dimensions are to the centerline of bars unless otherwise noted. All reinforcing steel, except the spiral bars, shall conform to the requirements of ASTM A615M-96, Grade 420. Spiral bars may meet the requirements of either ASTM A615M-96 (Gr. 300 or 420) or A82M, and are included in the bid item "Reinforcing Steel (Gr. 420)".

CAMBER: Provide camber as shown on the Camber Diagram unless the Contractor uses either long span steel beam falsework (concrete dead load deflection greater than 5 mm) or timber falsework with greater than 3.75 m clear span. If either case exists, submit falsework plans which show the additional required camber.

FALSEWORK PLANS: A licensed Professional Engineer shall design the falsework details. Details shall bear the seal of a licensed Professional Engineer. Submit three sets of details in compliance with KDOT Specifications to the Field Engineer for review.

FALSEWORK PLANS AND SHOP DRAWINGS: Use the SI system of units on falsework plans and shop drawing details.

FALSEWORK: Leave the falsework in place in the last span cast and in the next adjacent span until 15 days have elapsed or longer as directed by the Engineer. Notify the Engineer a minimum of two days prior to removal of the falsework. The Engineer will measure and record bridge deck elevations before the falsework is released or struck.

SLOPE PROTECTION (Light Stone Riprap): Place Slope Protection (Light Stone Riprap) to the limits and thicknesses shown on the plans or as directed by the Engineer. Stone used in light stone riprap shall meet the City of Wichita quality requirements. Construct Toewalls per City of Wichita specifications along all unprotected edges of stone riprap construction.

Excavation and grading for placement of slope protection and all work and material to install geotextile fabric shall be subsidiary to slope protection.

Underlay Slope Protection with geotextile fabric. Replace fabric damaged or displaced during construction at no cost to the City of Wichita. Install and secure fabric as recommended by fabric manufacturer. Submit one (1) copy of the fabric manufacturer's installation procedure to the Engineer. The installation procedure shall show details of the splices, overlaps and pin layout. Minimum overlap of geotextile shall be 300 mm. Anchor fabric along edges and splices at a maximum of 1 m centers with staples or pins (w/ washers). Pin or staple interior area of fabric as recommended by the manufacturer but not more than 1.5 m centers. Pins or staples shall be a minimum of 300 mm in length. Geotextile fabric shall meet the requirements of KDOT Specifications.

CANTILEVERED WALKWAYS: The concrete for the cantilevered walkways shall be placed after the falsework for the bridge slab has been released or struck. The falsework for the walkways shall remain-in-place until the concrete has attained a minimum compressive strength of 21 MPa. Walkways shall be constructed in segments as shown in the plans. The concrete shall cure a minimum of 4 days prior to constructing adjacent segments.

CONCRETE MASONRY COATING: Concrete masonry coating shall be applied to the surfaces and limits shown on the plans. The coating shall be tinted to match Color No. 30318 (Limestone Tan) of the Federal Standard No. 595b Color Reference Chart from the U.S. General Services Administration. Clean the surfaces to be coated by sand blasting to remove all foreign materials and loose mortar.

CONCRETE PLACING SEQUENCE: The sequence of placing concrete in the slab and curbs shall be as shown, or the Contractor may submit an alternate placing sequence for review. Submit the alternate placing sequence to the Engineer at the Preconstruction Conference. Include the proposed rate of concrete placement in m3/h, the plant capacity, placement direction, construction joint location a description of the equipment used in placing the concrete, proposed admixtures, and the quantity of concrete in each placing segment. Any additional cost for the Contractor's alternate plan of placing concrete, including admixtures, shall be at the Contractor's expense and shall be considered subsidiary to the bid item, "Concrete (Grade 30)(AE)(SA)". Approval of the contractor's alternate sequence is required prior to placement of concrete in the deck.

Concrete for walkways shall be placed only after the bridge deck falsework has been released or struck.

SLAB CURING PERIOD: No traffic is permitted on the deck, sub-deck, or overlay until the seven day curing period is complete. Operations necessary to complete placement of the deck, sub-deck, or overlay are permitted, for a minimum practical time, as noted in the Standard Specifications. No work to place reinforcing steel or forms for the bridge rail or barrier is allowed during this curing period.

SLAB ELEVATIONS: The Contractor shall record bridge deck elevation readings at the following times:

1. Immediately prior to removal of the falsework.
2. Immediately after removal of all falsework from a span and its adjacent spans.

The Contractor shall note the date the bridge rail is placed.

The Contractor will obtain deck elevations at the centerline of all supports (abutments and piers), at mid-span on interior spans and at 0.4 span away from the abutments on exterior spans. Elevation points shall be located longitudinally along three lines; one at the centerline of the roadway and at 300 mm from the face of each bridge rail.

The Contractor shall submit this information to the City Engineer, City of Wichita, KS.

DESIGN DATA

DESIGN SPECIFICATIONS:
AASHTO Specifications, 1996 Edition and latest Interim Specifications. Load Factor Design

DESIGN LOADING:
MS18-44

Design Dead Load includes an allowance of 0.72 kPa for a future wearing surface.

UNIT STRESSES:

Concrete (Grade 30)	f'c	=	30 MPa
Concrete (Grade 30)(AE)	f'c	=	30 MPa
Concrete (Grade 30)(AE)(SA)	f'c	=	30 MPa
Reinforcing Steel (Grade 420)	fy	=	420 MPa

DESIGN PILE LOAD:

Loading		Design Load (kN per Piling)	Allowable Load (kN per Piling)
Abutments	Group I (100%)	421	* 466
Piers	Group I (100%)	466	* 466

* 375 kN allowable friction capacity based on 0.25Fy with an additional 91 kN available from end bearing for piling driven to between elevations 379.54 and 376.49. See Geotechnical Engineering Report dated June 21, 2001 prepared by Terracon.

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MAPLE STREET BRIDGE (OVER CALFSKIN CREEK)
PROJECT NAME

GENERAL NOTES AND QUANTITIES
SHEET TITLE

MDK	DPG	KJS
DESIGN BY:	DRAWN BY:	CHECKED BY:
NOVEMBER 2001	00142GEN	28 / 127
DATE	DRAWING NAME	SHEET / OF

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