

CONSTRUCTION VALUE ENGINEERING CONCEPT PROPOSAL
MISSOURI DEPARTMENT OF TRANSPORTATION

Date 03/06/09

Contract ID 090123-303 Job No. J3P2146 & J3P2146C
County Lincoln Route 61 & U Original Bid Cost \$8,374,042.13
Iron Mountain Construction
Contractor Services By Chris A. Wilmes
Designed By MODOT Phone (636) 978-9835

VECP 09-11

1. Description of existing requirements and proposed change(s). Advantages/Disadvantages

Existing:

Build a 4 span Bridge (A7621) that will carry Rte U traffic over Rte 61 as per plans.

Proposed:

Redesign the proposed Bridge A7621 from a 4 span to a 2 span structure. The proposed Bridge will be of similar type, with the elimination of spans 1 & 4 along with substructure units 2 & 4. The basic superstructure layout will remain the same. End bents shall be pile bents with MSE walls. Intermediate bent 3 will remain and is not anticipated to change. The temporary relocation of Ameren-UE facilities will not be required as well as the outside A2 shoulder replacement on Rte 61.

2. Estimate of reduction in construction costs. \$450,000.00

MoDOT Savings - \$225,000.00

Iron Mountain Savings - \$225,000.00

(See attached spreadsheet with quantity adjustments)

3. Prediction of any effects the proposed change(s) will have on other department costs, such as maintenance and operations.

There will be significantly less bridge to maintain and inspect in the future. Eliminating the rock blanket slopes and installing MSE wall ends will also reduce maintenance and improve appearance beneath the bridge.

4. Anticipated date for submittal of detailed change(s) of items required by Section 104.6 of the Specifications.

04/01/2009

(date)

5. Deadline for issuing a change order to obtain maximum cost reduction, noting the effect of contract completion time or delivery schedule.

02/25/2009 Need to design and order bridge materials.

(date)

(effect)

6. Dates of any previous or concurrent submission of the same proposal.

N/A

(date and/or dates)

Additional Comments:

Pictures of the Lake St. Louis overpass over I-70 in St. Charles County have been attached for your review and information. This is one of several structures constructed in St. Charles and St. Louis Counties of similar design utilizing MSE walls at the end bents. This structure is very similar in size (length and width) and provides a likeness to the diamond interchange being proposed on this project. The aesthetic appearance of the MSE walls is very pleasing and can include the Ashlar Stone pattern, stained to meet the color requirements. The original 4 span structure would require a temporary relocation of Ameren UE facilities during construction of the Bridge. Our proposed change will eliminate this relocation and the cost associated with it.

**** Portion Below This Line To Be Filled Out By MoDOT ****

Comments:

RECOMMEND APPROVAL OF REVISED VE PROPOSAL FOR BRIDGE A762].
NEED CONTRACTOR TO PROVIDE DOCUMENTATION FROM AMEREN ON RELOC. COSTS
QUANTITIES REPORTED AT LINES 1970 AND 2440 ON THE VE ESTIMATE
ARE FOR THE "2146C" JOB. WILL REPORT ON CHANGE ORDER AT LINES
0120 AND 1050 FOR "2146" JOB. UNIT PRICES THE SAME EACH JOB
FOR TYPE 5 BASE AND 9" NR PCCP.

Submitted by Resident Engineer

03/10/09
Date

Comments: Recommend approval of revised VE to include
savings associated with Ameren UE's temporary relocation
that will not be needed due to change in bridge design.
Talked with MoDOT District Utilities and cost will be documented
from Ameren UE and is being worked on currently for submittal.

- Approval
 Recommended
 Rejection
 Recommended

For Paula Gough District Engineer

3/18/09
Date

Comments:

Concur with District.

- Approval
 Rejection

State Operations Engineer

3-16-09
Date

Distribution: Resident Engineer, District Operations Engineer, State Operations Engineer
*Value Engineering Administrator - *MoDOT, P.O. Box 270, Jefferson City, MO 65102

OK pending Bridge Plans issue. DMG 3/11/2009

Bridge No. A7621 VE

Line Item	Description	Units	Plan Quantity	Unit Price	Proposed Quantity	Unit Price	Difference	Unit Price	Total
0040	CLASS A EXCAVATION	CUYD	90,840.00	\$4.20	91,340.00	\$4.20	500.00	\$4.20	\$2,100.00
0070	COMPACTING EMBANKMENT	CUYD	266,286.00	\$0.25	262,286.00	\$0.25	-4,000.00	\$0.25	\$1,000.00
0120	Type 5 Aggregate for Base	SQYD	33,462.00	\$4.50	32,973.10	\$4.50	-488.90	\$4.50	(\$2,200.05)
0200	GUARDRAIL TYPE A	LF	838.00	\$14.74	1,156.00	\$14.74	318.00	\$14.74	\$4,687.32
0350	FURNISHING TYPE 2 ROCK BLANKET	CUYD	730.00	\$17.70	0.00	\$17.70	-730.00	\$17.70	(\$12,921.00)
0350	PLACING TYPE 2 ROCK BLANKET	CUYD	730.00	\$20.00	0.00	\$20.00	-730.00	\$20.00	(\$14,600.00)
0720	PERMANENT EROSION CONTROL GEOTEXTILE	SQYD	3,090.00	\$2.10	1,898.00	\$2.10	-1,192.00	\$2.10	(\$2,503.20)
1100	Type A2 Shoulder	SQYD	7,157.50	\$25.50	6,668.60	\$25.50	-488.90	\$25.50	(\$12,466.95)
1670	CLASS 1 EXCAVATION	CUYD	470.00	\$25.00	85.00	\$25.00	-385.00	\$25.00	(\$9,625.00)
1690	STRUCTURAL STEEL PILES (12 IN.)	LF	2,706.00	\$75.00	1,194.00	\$75.00	-1,512.00	\$75.00	(\$113,400.00)
1700	PRE-BORE FOR PILING	LF	1,356.00	\$39.00	396.00	\$39.00	-960.00	\$39.00	(\$37,440.00)
1710	PILE POINT REINFORCEMENT	EA	156.00	\$115.00	60.00	\$115.00	-96.00	\$115.00	(\$11,040.00)
1720	CLASS B CONCRETE (SUBSTRUCTURE)	CUYD	491.90	\$345.00	200.40	\$345.00	-291.50	\$345.00	(\$100,567.50)
1730	SLAB ON CONCRETE I-GIRDER	SQYD	3,074.00	\$208.00	1,824.00	\$208.00	-1,450.00	\$208.00	(\$301,600.00)
1740	CORRAL CURB	LF	730.00	\$91.00	412.00	\$91.00	-318.00	\$91.00	(\$28,938.00)
1750	FORM LINERS	SQYD	319.00	\$32.00	192.00	\$32.00	-127.00	\$32.00	(\$4,064.00)
1760	TYPE 6 (54 IN.), PRESTRESSED CONC I-GIRD	LF	3,328.00	\$150.00	1,738.00	\$150.00	-1,590.00	\$150.00	(\$236,500.00)
1770	REINFORCING STEEL (BRIDGES)	LB	57,690.00	\$1.05	18,350.00	\$1.05	-39,340.00	\$1.05	(\$41,307.00)
1780	AESTHETIC CONCRETE STAIN	LS	1.00	\$26,500.00	0.75	\$26,500.00	-0.25	\$26,500.00	(\$6,525.00)
1790	STEEL INTERMEDIATE DIAPHRAGM FOR P/S CON	EA	38.00	\$460.00	18.00	\$460.00	-18.00	\$460.00	(\$8,280.00)
1800	SLAB DRAIN	EA	32.00	\$305.00	18.00	\$305.00	-14.00	\$305.00	(\$4,270.00)
1810	DRAINAGE SYSTEM (ON STRUCTURE)	LS	1.00	\$51,000.00	0.00	\$51,000.00	-1.00	\$51,000.00	(\$51,000.00)
1840	LAMINATED NEOPRENE BEARING PAD	EA	60.00	\$130.00	40.00	\$130.00	-20.00	\$130.00	(\$2,600.00)
1970	TYPE 5 AGGREGATE FOR BASE	SQYD	34,666.00	\$4.50	36,116.00	\$4.50	1,450.00	\$4.50	\$6,525.00
2440	CONCRETE PAVEMENT (9 IN. NON-REINFORCED)	SQYD	27,770.00	\$35.00	29,220.00	\$35.00	1,450.00	\$35.00	\$50,750.00
New	MECHANICALLY STABILIZED EARTH WALL	SQFT	0.00	\$56.00	8,526.00	\$56.00	8,526.00	\$56.00	\$477,456.00
New	CONCRETE MASONRY PROTECTION	SQFT	0.00	\$0.50	8,526.00	\$0.50	8,526.00	\$0.50	\$4,263.00
New	CONCRETE STAINING OF MSE WALLS	SQFT	0.00	\$1.50	8,526.00	\$1.50	8,526.00	\$1.50	\$12,789.00
New	Ameren-UE Relocation Savings	LS	1.00	\$43,000.00	0.00	\$43,000.00	-1.00	\$43,000.00	(\$43,000.00)
New	ENGINEERING DESIGN	LS	0.00	\$31,000.00	1.00	\$31,000.00	1.00	\$31,000.00	\$31,000.00

VE Savings to be shared (50/50)

(\$456,377.38)

MoDOT Portion - 50%

(\$228,188.69)

Iron Mountain Portion - 50%

(\$228,188.69)

VALUE ENGINEERING CHECK SHEET

TYPE OF WORK

(Check one that applies)

- Bridge/Structure/Footings
- Drainage Structures (RCP, RCB, CMP's, ect.)
- TCP/MOT
- Paving (PCCP, ect.)
- Grading/MSE Walls
- Signal/Lighting/ITS
- Misc. _____

SUMMARY OF PROPOSAL

(If needed, condense summary to a couple of lines)

Substitute a 2 span bridge for a 4 span bridge by adding MSE walls at the end bents.

SCANNING OF DOCUMENT

If the proposal is large, please mark or make note, which pages need to be scanned into the database. If there are special instructions, make note of them here.
