

VALUE ENGINEERING CHANGE PROPOSAL  
MISSOURI DEPARTMENT OF TRANSPORTATION

Conceptual Proposal       Final Proposal

Date 7/22/2010

Contract ID 100618-603

Job No. J6P1884, 1900, 1901, 1977

County St. Louis

Original Bid Cost \$5,278,882.98

Contractor St. Louis Bridge Construction Co.

By Pete Johnson

Designed By \_\_\_\_\_

Phone \_\_\_\_\_

VECP# 10-69 (to be completed by C.O.)

VECP  or PDVECP

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

For Bridge A21692, Spirit of St. Louis Blvd. over Route 40, the contract specifies half-sole and full depth repairs, partial overhang replacement, hydro demolition, LowP overlay, and curb blockout be performed in a three stage configuration in order to rehabilitate the existing 43 year-old deck. With a full closure of the bridge, the entire deck and barrier can be removed and replaced at essentially the same cost to the state. The advantages are a completely new deck as opposed to one that has been rehabilitated - a 20 year increase in service life and 20 years free from disruptions to the traveling public due to deck repairs to a structure that was built in 1967.

2. Estimate of reduction in construction costs. Costs to the state will increase by \$13,568.97

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

MoDOT bridge cost for design of new deck, today, is offset by cost to perform the same operation 10 years from now. Most all bridge maintenance costs will be eliminated for the next 30 years. The cost of ongoing public relations and traffic management concerns with the traveling public and the City of Chesterfield will be eliminated for about 30 years. the traveling public will be delighted with the elimination of future lane restrictions and costs that would result from rehabilitation instead of replacement of the bridge deck at this time.

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

Provided on 7/22/2010

(date)

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

7/28/2010

(date)

Bridge will be open to traffic on or before 12/01/2010

(effect)

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

N/A

(date and/or dates)

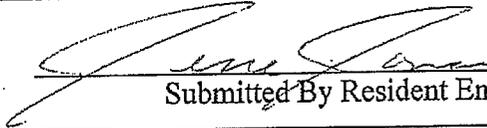
**Additional Comments:**

Quantities for deck removal, slab on steel, and safety barrier curb, including rebar and concrete estimations, are from original drawings. Deck forms will be SIP. Liquidated Damages as per the original contract must change to be tied to the bridge being opened to traffic and not to be bridge completion. Form stripping, protective coating, painting, and other remaining work may continue past this date, as weather allows, with no damages being assessed and with a deadline of the latest contract completion date.

**\*\* Portion Below This Line To Be Filled Out by MoDOT \*\***

**Comments:**

MoDOT West County core team has reviewed this proposal, it is not an full FHWA oversight project. This proposal has also been run through the county and city of Chesterfield due to the local impacts they will face with a full bridge closure. All team members, MoDOT, County and City are in agreement that the minimal additional cost is truly the best value for the State of Missouri.



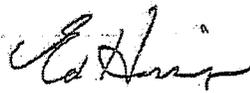
Submitted By Resident Engineer

7-27-10

Date

**Comments:**

A new bridge deck is better than a patched bridge deck any day. Make sure that Bridge Division is in agreement with all the changes. As noted all the other parties are in favor of the VE as am I. Approval is recommended.



Digitally signed by Matthew Budd  
DN: cn=Matthew Budd, o=MoDOT, ou=D6 Construction and Materials, email=Matthew.Budd@modot.mo.gov, c=US  
Date: 2010.07.27 10:59:55 -05'00'

Approval Recommended

Rejection Recommended

District Engineer

Date

**Comments:**

Approval Recommended

Rejection Recommended

Federal Highway Administration  
Required for FHWA Full Oversight Projects

Date

**Comments:**

Approved based on the obvious value to the citizen and that the community accepts the inconvenience of closing the structure. Denis Glascock. 8/6/2010



Digitally signed by Denis Glascock  
DN: cn=Denis Glascock, c=US, o=MoDOT, ou=3H35, email=Denis.Glascock@modot.mo.gov  
Date: 2010.08.06 12:51:38 -05'00'

Approval

Rejection

State Construction and Materials Engineer

Date

Distribution: Resident Engineer, Project Manager, District Construction & Materials Engineer, State Construction & Materials Engineer, FHWA Value Engineering Administrator – MoDOT, P. O. Box 270, Jefferson City, MO 65102

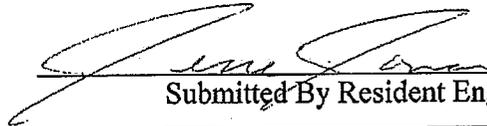
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Submitted By Resident Engineer

7-27-10  
Date

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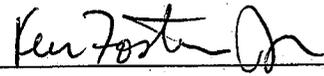
- Approval Recommended
- Rejection Recommended

\_\_\_\_\_  
District Engineer

\_\_\_\_\_  
Date

**Comments:**

- Approval Recommended
- Rejection Recommended

  
Federal Highway Administration  
Required for FHWA Full Oversight Projects

8/2/10

\_\_\_\_\_  
Date

**Comments:**

- Approval
- Rejection

\_\_\_\_\_  
State Construction and Materials Engineer

\_\_\_\_\_  
Date

Distribution: Resident Engineer, Project Manager, District Construction & Materials Engineer, State Construction & Materials Engineer, FHWA Value Engineering Administrator - MoDOT, P. O. Box 270, Jefferson City, MO 65102

PROJECT NUMBER	LINE ITEM NUMBER	ITEM CODE	CATEGORY NUMBER	DESCRIPTION	UNITS	UNITS PREVIOUSLY PROVIDED FOR	UNITS TO BE CONSTRUCTED	UNITS OVERRUN, UNDERRUN, CONTINGENT	CONTRACT OR AGREED UNIT PRICE	AMOUNT OF OVERRUN OR PLUS CONTINGENT	AMOUNT OF UNDERRUN OR MINUS CONTINGENT
16P1901	0830	6173600D		TEMPORARY TRAFFIC BARRIER, CONTRACTOR FURNISHED/RETAINED	LF	674.0000	0.0000	(674.0000)	\$25.00		(\$16,850.00)
	0840	6175010A		RELOCATING TEMPORARY TRAFFIC BARRIER	LF	674.0000	0.0000	(674.0000)	\$15.00		(\$10,110.00)
	0860	6205301B		PREFORMED REMOVABLE MARKING TAPE 4 IN., WHITE	LF	340.0000	0.0000	(340.0000)	\$1.00		(\$540.00)
	0870	6205303B		PREFORMED REMOVABLE MARKING TAPE 4 IN., YELLOW	LF	3,362.0000	0.0000	(3,362.0000)	\$1.00		(\$3,362.00)
	0900	6207001		PAVEMENT MARKING REMOVAL	LF	7,264.0000	0.0000	(7,264.0000)	\$0.40		(\$2,905.60)
	0920	2161500		REMOVAL OF SEAL COAT	SQFT	8,745.0000	0.0000	(8,745.0000)	\$1.00		(\$8,745.00)
	0940	2163000		PARTIAL REMOVAL OF EXISTING BRIDGE DECKS	SQFT	288.0000	0.0000	(288.0000)	\$65.00		(\$18,720.00)
	0980	5050001		ALTERNATE CONCRETE WEARING SURFACE	SQYD	993.0000	0.0000	(993.0000)	\$150.00		(\$148,950.00)
	1000	7034214		CLASS B-2 CONCRETE	CUYD	13.2000	3.5000	(9.7000)	\$2,200.00		(\$21,340.00)
	1010	7034600		CURB BLOCKOUT	LF	402.0000	0.0000	(402.0000)	\$100.00		(\$40,200.00)
	1020	7039903		MISC. CURB AND PARAPET	LF	116.0000	0.0000	(116.0000)	\$250.00		(\$29,000.00)
	1050	7040103		SUPERSTRUCTURE REPAIR (UNFORMED)	SQFT	75.0000	0.0000	(75.0000)	\$139.00		(\$10,425.00)
	1060	7040105		PARTIAL DEPTH REPAIR	CUYD	20.0000	0.0000	(20.0000)	\$700.00		(\$14,000.00)
	1070	7040106		FULL DEPTH REPAIR	SQFT	100.0000	0.0000	(100.0000)	\$130.00		(\$13,000.00)
	1080	7040107		SLAB EDGE REPAIR (BRIDGES)	LF	20.0000	0.0000	(20.0000)	\$131.00		(\$2,620.00)
	1090	7040109		TOTAL SURFACE HYDRO DEMOLITION	SQYD	993.0000	0.0000	(993.0000)	\$140.00		(\$139,020.00)
	1100	7101000		REINFORCING STEEL (EPOXY COATED)	LB	2,300.0000	0.0000	(2,300.0000)	\$1.30		(\$2,990.00)
	2162500		REMOVAL OF EXISTING BRIDGE DECKS	SF	0.0000	9,661.0000	9,661.0000	\$12.58	\$121,535.38		
	7034212		SLAB ON STEEL	SY	0.0000	1,073.0000	1,073.0000	\$316.38	\$340,012.24		
	7034215		SAFETY BARRIER CURB	LF	0.0000	519.0000	519.0000	\$67.05	\$34,798.95		
<b>Totals</b>										<b>\$496,346.57</b>	<b>(\$482,777.60)</b>

**Net Change to Contract    \$13,568.97**

7/22/2010

MoDOT  
J8P1901  
Route 40  
St. Louis County

Spirit of St. Louis Blvd VE Item Breakdown  
Item 216-25.00 Removal of Existing Bridge Decks

Labor	Hours	Rate	Amount
Assist Sawcut/Clean Up/Traffic Control	80	52	4,160.00
Loosen Slabs w/ Woodpecker	60	52	3,120.00
Remove Slabs incld Traffic Control	400	52	20,800.00
Install Safety Lines/Clean Beam Tops	125	52	6,500.00
Night Premium	705	2.5	1,762.50
			0.00
<b>Total Labor</b>			<b>36,342.50</b>

Equipment	Quan	Unit	Rate	Amount
Excavator	1	wks	3451.30	3,451.30
Slab Bucket	1	wks	1000.00	1,000.00
Backhoe	1	wks	2195.51	2,195.51
Woodpecker for Backhoe	1	wks	830.77	830.77
Woodpecker for Excavator	1	wks	1381.28	1,381.28
Wheel Loader	1	wks	1333.25	1,333.25
Manlift	1	wks	1749.54	1,749.54
Manlift	1	wks	1749.54	1,749.54
<b>Total Equipment (from attached detail)</b>				<b>13,491.19</b>

Material	Quan	Unit	Rate	Amount
Static Line / Safety Materials	1	ls	2000.00	2,000.00
Haul off	1	ls	15000.00	15,000.00
Handle Slabs at Yard	1	ls	4000.00	4,000.00
				0.00
<b>Total Material</b>				<b>21,000.00</b>

Subcontract	Quan	Unit	Rate	Amount
Sawcut Deck	2616	lf	10	26,160.00
Sawcut Parapet	122	ea	100	12,200.00
				0.00
<b>Total Subcontract</b>				<b>38,360.00</b>

Total Labor	36,342.50
Total Equipment	13,491.19
Total Material	21,000.00
<b>Subtotal LEM</b>	<b>70,833.69</b>
15% Overhead	10,625.05
5% Profit	3,541.68
<b>Subtotal LEM, Overhead and Profit</b>	<b>85,000.43</b>
Subtotal Subcontract	38,360.00
6% Overhead	1,918.00
<b>Subtotal Subcontract, Overhead</b>	<b>40,278.00</b>
<b>TOTAL</b>	<b>125,278.43</b>

9961 sf @	12.58 per sf
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MoDOT  
 J8P1901  
 Route 40  
 St. Louis County

7/22/2010

Split of St. Louis Blvd VE Item Breakdown  
 Item 703-42.12 Slab on Steel

Labor	Hours	Rate	Amount
Install SIP	390	52	20,280.00
Form/Strip OH, Edge, End, service IW	879	52	45,708.00
Install/Adjust/Remove Finishing Machine and Rail	152	52	7,904.00
Set up/Pour/Finish/Cure/Clean up	491	52	25,532.00
Clean Deck and Apply Linseed Oil	44	52	2,288.00
Traffic Control	280	52	14,560.00
<b>Total Labor</b>			<b>116,272.00</b>

Equipment	Quan	Unit	Rate	Amount
Gomaco Bridge Deck Finishing Machine	3	Weeks	1131.00	3,393.00
Manlift	4	Months	6709.10	26,836.40
Manlift	2	Months	6709.10	13,418.20
<b>Total Equipment (from attached detail)</b>				<b>43,647.60</b>

Material	Quan	Unit	Rate	Amount
Concrete	253	cy	85.00	21,505.00
Concrete Pumping	253	cy	18.00	4,554.00
Form Materials, embedded hdwr, freight, misc materials	1	ls	7615.00	7,615.00
Yard Costs for OH Brackets, handle deliver materials	1	ls	12019.00	12,019.00
<b>Total Material</b>				<b>45,693.00</b>

Subcontract	Quan	Unit	Rate	Amount
Rebar	76183	lbs	0.821	62,546.24
Chairs	1	ls	2000	2,000.00
SIP	1	ls	24290	24,290.00
<b>Total Subcontract</b>				<b>88,836.24</b>

Total Labor	116,272.00
Total Equipment	43,647.60
Total Material	45,693.00
<b>Subtotal LEM</b>	<b>205,612.60</b>
15% Overhead	30,841.89
5% Profit	10,280.63
<b>Subtotal LEM, Overhead and Profit</b>	<b>246,735.12</b>
<b>Subtotal Subcontract</b>	<b>88,836.24</b>
5% Overhead	4,441.81
<b>Subtotal Subcontract, Overhead</b>	<b>93,278.06</b>

**TOTAL 340,013.18**

1073 sy @ 316.88 per sy

MoDOT  
 J6P1901  
 Route 40  
 St. Louis County

7/22/2010

Spirit of St. Louis Blvd VE Item Breakdown  
 Item 703-42.15 Safety Barrier Curb

Labor	Hours	Rate	Amount
Install/Remove Bulkheads	32	52	1,664.00
Saw/Seal Joints	20	52	1,040.00
Set Up/Pour/Finish/Cure/Clean Up	80	52	4,160.00
Assist IW	10	52	520.00
		52	0.00
		52	0.00
<b>Total Labor</b>			<b>7,384.00</b>

Equipment	Quan	Unit	Rate	Amount
				0.00
				0.00
				0.00
<b>Total Equipment</b>				<b>0.00</b>

Material	Quan	Unit	Rate	Amount
Concrete	55	cy	82.50	4,537.50
Form Materials, Sealant	1	ls	500.00	500.00
				0.00
				0.00
<b>Total Material</b>				<b>5,037.50</b>

Subcontract	Quan	Unit	Rate	Amount
Rebar	9700	lbs	0.897	8,700.90
Slipform	519	lf	19.74	10,245.06
				0.00
<b>Total Subcontract</b>				<b>18,945.96</b>

Total Labor	7,384.00
Total Equipment	0.00
Total Material	5,037.50
<b>Subtotal LEM</b>	<b>12,421.50</b>
15% Overhead	1,863.23
5% Profit	621.08
<b>Subtotal LEM, Overhead and Profit</b>	<b>14,905.80</b>
Subtotal Subcontract	18,945.96
5% Overhead	947.30
<b>Subtotal Subcontract, Overhead</b>	<b>19,893.26</b>
<b>TOTAL</b>	<b>34,799.06</b>

519 lf @	67.05 per lf
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# 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)

This VE involves the complete replacement of a bridge deck in lieu of the original design that included various forms of deck repair. Replacement is an option in this instance because the community was receptive to closing the bridge to allow the work to progress efficiently.

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## **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.

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