

VALUE ENGINEERING CHANGE PROPOSAL
MISSOURI DEPARTMENT OF TRANSPORTATION

#9

Date 9-11-08

Contract ID 080523-403
County Lafayette Route 24
Contractor APAC
Designed By _____
VECP# VECP 08-87

Job No. J4P2020
Original Bid Cost 4,828,521.06
By Casey Castrop
Phone 573-449-0886
VECP or VECPP/PDU

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

Plans call for 3.75" of BP-1 at the west end of project and through Tabo Creek. Plans do not have a shouldering item to fix the edge differential created at the edge of shoulder. APAC proposes to slope the shoulders from the 2.75" mainline depth to 1" on the outside edge of pavement, thus eliminating a need for creating a line item to import a rock edge treatment. See attached sheet for breakdown of totals.

2. Estimate of reduction in construction costs. \$ 114,282.10

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

This proposal will not only save the above listed amount, but the unforeseen costs of an item to fix the edge differential. Based on MODOTs average prices, this item would have resulted in an additional :

Type 1 aggregate @ \$ 6.63/sy = \$ 142,916.28

Shoulder prep @ \$134.15/ sta. = \$ 26,025.10

Unforeseen cost totals-----\$ 168,941.38

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

(date)

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

(date) (effect)

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

(date and/or dates)

Additional Comments:

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

Comments: *SEE ATTACHED*

[Signature] _____ *9-19-08*
Submitted By Resident Engineer Date

Comments: *AGREE TO APPROVE AS 75/25 VE.*

Approval Recommended
 Rejection Recommended

Elizabeth A. Wight *(PTA)* _____ *10/14/08*
District Engineer Date

Comments: *APPROVED PER DISTRICT RECOMMENDATION*

Approval
 Rejection

David D. Cooper *by PEG* _____ *10-21-08*
State Construction and Materials Engineer Date

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

Value Engineering # 9

Shoulder Slope @ West End & Tabo Creek

West End

11,689.92' x 10' x 1.875" = 1,399.68tns. VE Savings
x \$ 47.95 /ton BP-1
= \$67,114.66 VE Savings

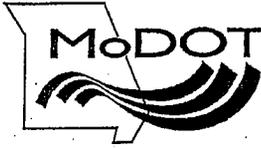
Tabo Creek

2,756.16 x 10' x 1.875" = 330tns.
5,459.52' x 10' x 1.875" = 653.68tns.
= 983.68 total tons reduced
x \$ 47.95 /ton BP-1
= \$47,167.46 VE Savings

Total Reduction of 2,383.36 tns, BP-1

Total reduction of \$ 114,282.10

Elimination of an added item to import shoulder rock, savings in excess of \$100,000.00



MEMORANDUM

Missouri Department of Transportation

Construction
Richmond Project Office

TO: Perry Allen-4co
CC: File
FROM: Brian K. Iles 
Resident Engineer
DATE: September 19, 2008
SUBJECT: VE Concept Proposals
Job No. J4P2020
Contract ID 080523-403
Route 24, Lafayette County



Attached are four Construction Value Engineering Concept Proposals for the above referenced project submitted by APAC-MO. The following are my recommendations for each VECP. Feel free to contact me with any questions or comments.

VECP No. 6 – J4P2020 (Rte. 24)

The contractor proposes shortening the length of the modified milling at six locations from 137.50-feet to 87.50-feet. In addition, the contractor proposes a zero to one-inch transition of the surface leveling lift over one hundred feet. The proposed modified milling area would be 2,566.67-SY. The plan quantity is 4,216.67-SY. However, the contract failed to include the modified milling east of the Tabo Creek Bridge so there is a 183.84-SY discrepancy in the contract quantity. As result, the savings to MoDOT is \$628.86 less than that proposed in the VECP.

This proposal would minimize milling on the existing roadway. In addition, it reduces the depth of the headers that will be exposed to traffic. This project will be profilographed, so it is in the best interest of the contractor to ensure a smooth pavement transition. Therefore, I recommend approval of this Construction Value Engineering Concept Proposal No. 6.

AGREED (PTN)
7/5/25

VECP No. 7 – J4P2020 (Rte. 24)

The contractor proposes installing 2.75-inches of BP-1 on the mainline and shoulders of the concrete adjacent to the Tabo Creek Bridge. This pavement received multiple full depth pavement repairs but it still needs an overlay to provide additional structure and smoothness. MoDOT previously determined to change the overlay thickness on the concrete from 3.50-inches to a minimum thickness of 2.75-inches to avoid encountering steel when conducting modified milling. MoDOT informed the contractor of this in a letter dated July 10, 2008. Since MoDOT already implemented this design change over two months ago, I do not recommend approval of Value Engineering Concept Proposal No. 7. The July 10, 2008 letter is attached for review.

AGREED (PTN)

VECP No. 8 - J4P2020 (Rte. 24)

The contractor proposes eliminating the 3.75-inch milling and overlay on the intersecting asphalt roadways. MoDOT proposed this design change to the contractor in a letter dated September 5, 2008. The VECP suggests this was a collaborative effort, which is incorrect. MoDOT held a meeting with the contractor on September 5, 2008, but this change was never discussed. MoDOT only discussed this topic with the contractor after the contractor received the letter, which was on September 8, 2008. This design change should not be considered as value engineering because it is already an underrun identified by MoDOT. Therefore, I do not recommend approval of Value Engineering Concept Proposal No. 8. The September 5, 2008 letter is attached for review.

AGREED
PTW

VECP No. 9 - J4P2020 (Rte. 24)

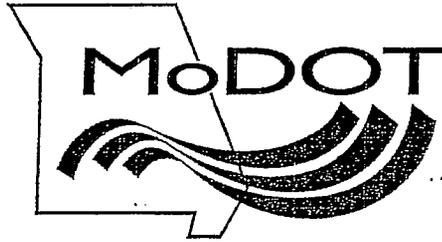
The contractor proposes to slope 2.75-inches to 1-inch on the 10-foot shoulders at the west end of the project and on the 10-foot shoulders adjacent to the Tabo Creek Bridge. The majority of the shoulders on this project are 4-feet wide. The 10-foot sections exist due to the construction of Tabo Creek Bridge and the four-lane transition of Rte. 24. The 10-foot shoulders are in good to fair condition. Capping the shoulders is needed to provide some additional structure but I consider the primary benefit will be providing the project with an improved appearance. Therefore, the contractor's proposal should provide similar benefit when compared to the planned overlay.

The contract thickness for these shoulders is incorrect. The contract indicates capping the 10-foot shoulders with 3.75-inches of BP-1. The mainline in these sections is only receiving a 2.75-inch overlay. Therefore, an extra 1-inch of BP-1 has been wrongly included in the contract. This is a 1,347.13-ton error, which is \$64,594.88 of the \$114,282.10 savings proposed in the VECP. As result, the contractor's proposal is more of an underrun of quantity than true savings.

I recommend approval of Construction Value Engineering Concept Proposal No. 9 since it provides an adequate product for the 10-foot shoulders. However, I recommend this be considered a practical design value engineering proposal since more than half of the savings is an underrun caused by a plan error.

AGREED 7/5/25
PTW

Missouri
Department
of Transportation



Richmond Project Office
201 Wollard Blvd.

Richmond, MO 64085
(816) 470-6115

Fax (816) 470-3511

Toll free 1-888 ASK MoDOT

Brian K. Iles, Resident Engineer



2007 Missouri Quality Award Winner

July 10, 2008

Phil Raines
APAC-Missouri
P.O. Box 1117
Columbia, MO 65205

Subject: Contract 080523-403
Project F.A.F.-24-1(68)
Job Number J4P2020
Route 24, Lafayette County

Dear Mr. Raines:

Due to the possibility of encountering steel when conducting modified milling, MoDOT is eliminating the 3.50 inches of BP-1 at log mile 49.803 to 50.085 and 50.146 to 50.604 and changing it to 1 inch of surface leveling capped with 1.75 inches of BP-1.

If you have any questions, please contact this office.

Sincerely,

Todd W. Matthews
Senior Construction Inspector

Copies: File

Missouri
Department
of Transportation



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Project Office

201 Wollard Blvd.
Richmond, MO 64085
(816) 470-6115

Fax (816) 470-3511
Toll free 1-888 ASK MoDOT

Brian K. Iles, Resident Engineer



2007 Missouri Quality Award Winner

September 5, 2008

APAC-Missouri, Inc.
Mr. Casey Castrop
P.O. Box 1117
Columbia, MO 65205

RE: Side Road Construction
Contract 080523-403
Job No. J4P2020
Route 24, Lafayette County

Dear Mr. Castrop:

The plans indicate milling the asphalt side roads to compensate for installing 3.75-inches of BP-1. MoDOT has determined that the cold mill depth could be detrimental to the existing pavement structure of these roadways. As result, MoDOT requests APAC-MO install 1.75-inches of BP-1 on asphalt side roads in lieu of 3.75-inches indicated in the plans.

Please feel free to contact this office with any questions or comments.

Sincerely,

Brian K. Iles, P.E.
Resident Engineer

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)

_____ Modify shoulder slope to eliminate need for edge treatment

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.

_____ Scan proposal
only. _____
