

**VALUE ENGINEERING CHANGE PROPOSAL  
MISSOURI DEPARTMENT OF TRANSPORTATION**

Conceptual Proposal       Final Proposal      Date Feb. 1, 2010

Contract ID 080919-401      Job No. J4I1650

County Jackson      I - 470      Original Bid Cost 14,338,653.90

Contractor Emery Sapp and Sons Inc.      By Manuel Bailon

Designed By Tim Paulson      Phone 816-221-3500

VECP# 10-38 (to be completed by C.O.)      VECP  or PDVECP

**1. Description of existing requirements and proposed change(s). Advantages/Disadvantages**  
 The current design of Strother consists of Bridge Item A7505, Porous Backfill, underdrain and Type B Gutter. Proposed change will eliminate these items at Sta. 44+00.00 to 46+33.47 LT. Proposed changes include Type 2 Rock blanket at 3:1, French Drain, lowering elevation of adjacent property left of Sta. 44+00.00 to 46+33.00 to 984.00. The main advantage of this proposal, besides cost savings, is the elimination of safety hazards created by existing KCPL power pole located 67.18 ft. left of Sta. 46+65. See additional comments.

**2. Estimate of reduction in construction costs.**      \$157,478.70

**3. Prediction of any effects the proposed change(s) will have on other department costs, such as maintenance and operations.**  
 None.

**4. Anticipated date for submittal of detailed change(s) of items required by Section 104.6 of the Specifications.**  
Feb. 1, 2010  
 (date)

**5. Deadline for issuing a change order to obtain maximum cost reduction, noting the effect of contract completion time or delivery schedule.**  
March 5, 2010      None  
 (date)      (effect)

**6. Dates of any previous or concurrent submission of the same proposal.**  
Jan. 29, 2010  
 (date and/or dates)

**Additional Comments:**

Currently, there is an overhead electrical line that runs in a north to south direction across future Strother Road at approximately Sta: 45+65. This line has a direct buried utility pole located 67.18 left of Sta: 45+65 that does not allow for either the planned Bridge Item A7505 or this alternate Value Engineering proposal to be safely excavated or constructed. The cost for relocating this light pole and eliminating the safety hazard associated with it's location is included in this VE.

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

**Comments:**  
See attached sheet for Resident Engineer comments.

Shelie Daniel  
Submitted By Resident Engineer

03-03-10  
Date

**Comments:** *BASED ON THE RECOMMENDATION OF THE RESIDENT ENGINEER AND PROJECT MANAGER AND WITH CONCURRENCE FROM THE CITY OF LEE'S SUMMIT STAFF, I RECOMMEND APPROVAL OF THIS CONCEPTUAL SUBMITAL.*

Approval Recommended  
 Rejection Recommended

Elizabeth A. Uff  
District Engineer

3/4/10  
Date

**Comments:**

Approval Recommended  
 Rejection Recommended

[Signature]  
Federal Highway Administration  
Required for FHWA Full Oversight Projects

4/12/10  
Date

**Comments:** *APPROVED IN CONCEPT SUBJECT TO FHWA STIPULATIONS IN ATTACHED DOCUMENTS. CHANGE ORDER WILL BE RETURNED TO ASSUME COMPLIANCE.*

Approval  
 Rejection

David A. Cooper  
State Construction and Materials Engineer

4-7-10  
Date

Resident Engineer comments

I recommend conceptual approval for this VECP. The contractor's proposal to lower the elevation of the adjacent property eliminates the need for the retaining wall. The contractor will provide the final design plans that are signed and sealed by a Missouri Professional Engineer. The final design will go through the MoDOT review and approval process. The final cost savings will be based on the final construction costs, utility relocation costs and the engineering costs. The conceptual VE Proposal has been accepted by the City of Lee's Summit along with MoDOT Design.

The following shall be considered during the development of the design: The contractor is to provide a legal description of the proposed temporary easement with the adjacent property owner. The City of Lee's Summit will secure the temporary easement. The graded earth must not drain across the sidewalks; This change does not incur any additional cost or time to the contract. The final design will go through the MoDOT review and approval process.

This VECP would be a 50% MoDOT/50% Contractor cost savings split. See attached sheets for expected cost savings, preliminary cross-sections and typical section.

Shelie Daniel, P.E.  
Resident Engineer

**Itemized Cost Breakdown for Value Engineering Proposal**

<b>Item</b>	<b>Units</b>	<b>Price per unit</b>	<b>Total Price</b>
<b>Utility Relocation</b>			<b>\$ 18,270.00</b>
Remove	1 each	\$ 9,135.00	\$ 9,135.00
Replace	1 each	\$ 9,135.00	\$ 9,135.00
<b>Incidental Grading</b>			<b>\$ 22,964.80</b>
Unclassified Excavation	1,796 cy	\$ 6.30	\$ 11,314.80
Class 3 Exc. in Rock	28 cy	\$ 50.00	\$ 1,400.00
Engineering & TOPO	1 each	\$ 7,500.00	\$ 7,500.00
Seed and Mulch	1 acres	\$ 1,750.00	\$ 1,750.00
Blasting Support	1 each	\$ 1,000.00	\$ 1,000.00
<b>Permanent Erosion Control</b>			<b>\$ 23,576.00</b>
French Aggregate Under-drain	250 lf	\$ 40.00	\$ 10,000.00
Furnish Type 2 Rock Blanket	398 cy	\$ 13.50	\$ 5,373.00
Place Type 2 Rock Blanket	398 cy	\$ 18.50	\$ 7,363.00
*Furnish/Place Type 2 Rock Liner (at field inlet)	20 cy	\$ 42.00	\$ 840.00
<b>Temporary Erosion Control (Silt Fence)</b>			<b>\$ 1,012.50</b>
<b>Mobilization</b>			<b>\$ 5,000.00</b>
<b>Restock/Return Form Liners</b> (Special Order-No Returns)	<b>1 each</b>	<b>\$ 8,500.00</b>	<b>\$ 8,500.00</b>

\*Final amount to be determined by Engineer plan

<b>Grand Total:</b>	<b>\$ 81,949.30</b>
<b>Retaining Wall Cost:</b>	<b>\$239,428.00</b>
<b>Total Savings:</b>	<b>\$157,478.70</b>
<b>Our Savings:</b>	<b>\$ 78,739.35</b>



<Kevin.Irving@dot.gov>

03/03/2010 02:14 PM

To <Shelie.Daniel@modot.mo.gov>

cc <Robert.Ruffini@modot.mo.gov>,  
<Michael.Warren@modot.mo.gov>,  
<Allan.Ludiker@modot.mo.gov>,

bcc

Subject RE: VECP #6, J4I1650, I-470, Jackson County

Shelie,

Our main initial concern with this VE Proposal was the temporary easement consideration and how compliance with the Uniform Act (UA) will be assured. This has been addressed in the revised version; however, MoDOT is still required to assure that Lees Summit has complied with the UA. In order to avoid similar issues on subsequent VE's, my recommendation is to add language to the VECP Guidance in the EPG to clarify that all VECP's that require additional ROW be forwarded to the appropriate ROW staff for review. My other comment that we discussed earlier today pertained to the contractor including the costs to relocate the utility pole, which would be necessary with both design options. Why wouldn't the utility company be responsible for relocation costs in this scenario? I would recommend removing that as a line item cost in the VE savings calculation.

I concur with the recommendation to approve this conceptual VECP upon satisfactory resolution to my comments above.

Thanks,  
Kevin

---

**From:** Shelie.Daniel@modot.mo.gov [mailto:Shelie.Daniel@modot.mo.gov]

**Sent:** Wednesday, March 03, 2010 12:35 PM

**To:** Perry.Allen@modot.mo.gov; Irving, Kevin (FHWA); Dennis.Bryant@modot.mo.gov

**Cc:** Robert.Ruffini@modot.mo.gov; Michael.Warren@modot.mo.gov; Allan.Ludiker@modot.mo.gov

**Subject:** Fw: VECP #6, J4I1650, I-470, Jackson County

**Importance:** High

The previously submitted VECP recommendation has been changed and clarified. Please review and process accordingly. If possible, please have concurrence back to me by March 5th so I can notify the contractor to proceed with the design. Thank you.

Shelie Daniel, P.E.  
Resident Engineer  
5101 NW Gateway  
Riverside, MO 64150  
(816) 741-7030  
(816) 215-7275 (cell)  
(816) 741-0200 (fax)

----- Forwarded by Shelie A Daniel/D4/MODOT on 03/03/2010 12:03 PM -----

**Shelie A  
Daniel/D4/MODOT**

To Perry J Allen/D4/MODOT, kirving, Dennis G Bryant/SC/MODOT  
cc Michael S Warren/D4/MODOT@MODOT, Robert W Ruffini/D4/MODOT@MODOT, Richard T  
Miller/SC/MODOT@MODOT

02/17/2010 01:20 PM

Subject: VECP #6, J4I1650, I-470, Jackson County  
ct

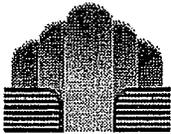
Please find the attached VECP #6 with supporting documents for your review and approval.

All VE submissions must be processed as quickly as possible in order to prevent construction delays and provide the greatest savings.

If you have specific questions on this change, please call Mike Warren or me at the office.

Shelie Daniel, P.E.  
Resident Engineer  
5101 NW Gateway  
Riverside, MO 64150  
(816) 741-7030  
(816) 215-7275 (cell)  
(816) 741-0200 (fax)

ESS



Shelle A Daniel/D4/MODOT  
02/24/2010 10:38 AM

To "Perry Allen" <perry.allen@modot.mo.gov>  
cc  
bcc

Subject Fw: Fw: VECP #6, J4I1650, I-470, Jackson County

----- Original Message -----

**From:** Allan J Ludiker  
**Sent:** 02/19/2010 03:25 PM CST  
**To:** "Robert Netterville" <Robert.Netterville@cityofls.net>; Robert Ruffini  
**Cc:** Bradley Brunk; "Dena Mezger" <Dena.Mezger@cityofls.net>; "George Binger III" <George.Binger@cityofls.net>; John Ortner; "Michael Anderson" <Michael.Anderson@cityofls.net>; Michael Warren; Shelle Daniel; Timothy Holman  
**Subject:** RE: Fw: VECP #6, J4I1650, I-470, Jackson County

Bob Netterville,

I just spoke with Kelly Lucas, who is head of the right of way department in Central Office. She has been talking with FHWA about the VE#6 proposal and more specifically about the temporary easement that would be needed to do the grading work proposed. FHWA would be looking for us to demonstrate how we can assure that easement is acquired within the Uniform Act and 49 CFR Part 24. In short, it doesn't sound like FHWA or MoDOT would be comfortable with the contractor obtaining the easement and knowing that it is done properly. I would therefore think that city would need to acquire the easement, with review by MoDOT, as was done for the rest of the project right of way acquisition. With BWE providing the project surveying, I would assume that they could easily put together the legal description necessary for the easement. Additionally, it expected that this is to be a donation of the easement by the landowner. If this is not the case, I'm assuming that neither the city or MoDOT are in support of the VE proposal?

Bob Ruffini - It is my understanding that any staff or design consultant costs incurred by the city for the easement, as part of the VE proposal, would be taken out of the VE proposal savings? Is this correct? If so, what would need to be provided as documentation of the expenses by the city?

Allan J. Ludiker, P.E.  
Transportation Project Manager  
Missouri Department of Transportation  
816.622.0464  
Allan.Ludiker@modot.mo.gov

"Robert Netterville"  
<Robert.Netterville@cityofls.net>

To <Allan.Ludiker@modot.mo.gov>, <Robert.Ruffini@modot.mo.gov>  
cc <Bradley.Brunk@modot.mo.gov>, "Dena Mezger" <Dena.Mezger@cityofls.net>, "George Binger III" <George.Binger@cityofls.net>, <John.Ortner@modot.mo.gov>, "Michael Anderson" <Michael.Anderson@cityofls.net>, <Michael.Warren@modot.mo.gov>, <Shelle.Daniel@modot.mo.gov>

02/19/2010 02:21 PM

Su RE: Fw: VECP #6, J4I1650, I-470, Jackson County  
bjc  
ct

Allan,

The attached "sketch" is the typical section through the sidewalk and back slope along Strother Road. Now I understand Kevin Irving's concern about the 1" gravel rolling onto the sidewalk.

We will accept a VE containing this redesign of the sidewalk section.

Thanks,

**Bob Netterville, PE**

Sr. Staff Engineer  
Public Works  
City of Lee's Summit  
816-969-1813

**From:** Allan.Ludiker@modot.mo.gov [<mailto:Allan.Ludiker@modot.mo.gov>]  
**Sent:** Friday, February 19, 2010 10:37 AM  
**To:** Robert.Ruffini@modot.mo.gov  
**Cc:** Bradley.Brunk@modot.mo.gov; Robert Netterville; Dena Mezger; George Binger III; John.Ortner@modot.mo.gov; Michael Anderson; Michael.Warren@modot.mo.gov; Shelie.Daniel@modot.mo.gov  
**Subject:** RE: Fw: VECP #6, J4I1650, I-470, Jackson County

Bob,

Can you please forward Bob Netterville, and me, a copy of what was provided to FHWA so that we know specifically what FHWA's question refer to? Thanks.

Allan J. Ludiker, P.E.  
Transportation Project Manager  
Missouri Department of Transportation  
816.622.0464  
Allan.Ludiker@modot.mo.gov

"Robert Netterville"  
<Robert.Netterville@cityofls.net>  
02/18/2010 04:37 PM  
To <Allan.Ludiker@modot.mo.gov>  
cc <Michael.Warren@modot.mo.gov>, <Shelie.Daniel@modot.mo.gov>, <Bradley.Brunk@modot.mo.gov>, <John.Ortner@modot.mo.gov>, <Robert.Ruffini@modot.mo.gov>, "Michael Anderson" <Michael.Anderson@cityofls.net>, "George Binger III" <George.Binger@cityofls.net>, "Dena Mezger" <Dena.Mezger@cityofls.net>  
Su RE: Fw: VECP #6, J4I1650, I-470, Jackson County  
bje  
ct

Allan,

From my understanding of the meeting between George Binger and Mike Anderson, City Public Works Staff, and the contractor there was an agreement on the final geometry of this area. The attachment that Shellie refers to, VECP #6 with supporting documents, was lost before the email I received so I am not sure what the contractor has submitted at this time. The configuration that was described to me, in a meeting with George and Mike in our offices, had the retaining wall replaced with a 3:1 side slope covered with rock similar in size to the spill slope under the bridges on I-470. The 1" rock described in Kevin Irving's, FHWA, email, is to fill the space between the toe of slope and the proposed sidewalk which will direct surface and ground water to the proposed storm water system along Strother Road. This also was agreed to be the George and Mike during the on-site meeting.

I agree that the contractor should be fiscally responsible for obtaining easements and the necessary surveying for new drawings and descriptions of these easements. They should also be responsible for all costs to relocate the power pole in question.

I see that Kevin Irving asked about redesign costs of this slope. This brings the cost of designing a structural retaining wall back to my mind. The cost of creating a design for that structural wall must have been much higher than the cost of designing a 3:1 slope. Are there no circumstances where the original design would be considered while evaluating a Value Engineering request?

To help us verify the design of the latest VECP #6, please forward the attachments referred to in Shellie's original email and I'll make sure George and Mike have an opportunity to review and comment on this latest VECP #6.

Thanks,

**Bob Netterville, PE**

Sr. Staff Engineer  
Public Works  
City of Lee's Summit  
816-969-1813

**From:** Allan.Ludiker@modot.mo.gov [<mailto:Allan.Ludiker@modot.mo.gov>]

**Sent:** Thursday, February 18, 2010 1:57 PM

**To:** Robert.Ruffini@modot.mo.gov

**Cc:** Robert.Netterville; Michael.Warren@modot.mo.gov; Shelie.Daniel@modot.mo.gov;  
Bradley.Brunck@modot.mo.gov; John.Ortner@modot.mo.gov

**Subject:** Re: Fw: VECP #6, J4I1650, I-470, Jackson County

Bob (Ruffini),

This is in response to your question below regarding comments #3 and #4 from FHWA.

Lee's Summit was/is responsible for all of the right of way acquisition (state and city) for the project. This is part of the project agreement with the city.

As has been mentioned, the wall was included with the project in order to limit the right of way impacts with the adjacent property. This is what was worked out with the property owner in order to fit with the

property site development plan during design and right of way acquisition.

The city mentioned in their review comments of the VE #6 proposal that the contractor would need to provide the appropriate easements to do the VE proposed work. I don't believe the city is willing to expend additional resources to acquire the additional easement for making plan changes that are being proposed by the contractor. It was assumed that the contractor would have to provide any additional easements to perform the VE proposed work, as they would similarly be responsible for any redesign work.

In talking with John Ortner in our R/W department, I don't think that it is necessary that the city (or state) be the one to acquire the temporary easement for the contractor to do the work, as long as the easement is acquired in conformance with the Uniform Act. With that being said, a donated temporary easement should not be difficult to obtain, by us or the city. The key would be getting a legal description from a PLS for the easement. The simplest thing, I can see, would be for the contractor to pay Bartlett & West to put the legal description together, since they did the original survey and could legally write the description, considering they wrote legal descriptions for the original right of way acquisitions.

Bob Netterville - Please chime in with your ( or the city's thoughts) on this.

Allan J. Ludiker, P.E.  
Transportation Project Manager  
Missouri Department of Transportation  
816.622.0464  
Allan.Ludiker@modot.mo.gov

Robert W Ruffini/D4/MODOT

02/18/2010 06:46 AM

To Allan J Ludiker/D4/MODOT@MODOT  
cc Shelle A Daniel/D4/MODOT@MODOT, Michael S Warren/D4/MODOT@MODOT  
Subject Fw: VECP #6, J411650, I-470, Jackson County

Allan,  
Please take a look at the below email from Michelle Hilary (FHWA ROW Specialist) VECP #6 with the issue of working on the adjacent property. Since this is Lee's Summit ROW would they need to take care of this?

Bob Ruffini  
Riverside Project Office - 4CN  
Senior Construction Inspector  
Office: (816) 741-7030  
Fax: (816) 741-0200

Cell: (816) 365-8085.

Email: [robert.ruffini@modot.mo.gov](mailto:robert.ruffini@modot.mo.gov)

----- Forwarded by Robert W Ruffini/D4/MODOT on 02/18/2010 06:42 AM -----

Shelie A Daniel/D4/MODOT

02/17/2010 04:35 PM

To "Bob Ruffini" <[robert.ruffini@modot.mo.gov](mailto:robert.ruffini@modot.mo.gov)>, "Mike Warren" <[michael.warren@modot.mo.gov](mailto:michael.warren@modot.mo.gov)>

cc

Subject Fw: VECP #6, J4I1650, I-470, Jackson County

t

Please begin working on Kevin's questions. Feel free to call him.

Forward design questions to Allan.

Thanks.

---

----- Original Message -----

**From:** [Kevin.Irving@dot.gov]

**Sent:** 02/17/2010 05:22 PM EST

**To:** Shelie Daniel

**Cc:** Perry Allen; Dennis Bryant; <[Edward.Stephen@dot.gov](mailto:Edward.Stephen@dot.gov)>; <[Michelle.Hilary@dot.gov](mailto:Michelle.Hilary@dot.gov)>

**Subject:** FW: VECP #6, J4I1650, I-470, Jackson County

Shelie,

I wanted to provide some quick comments to the proposed VE.

1. The cross section files are very difficult to read in the format that were sent. It's difficult to distinguish the elevation changes from the original design and how the proposed design changes the original design. It would be beneficial if you could provide a typical section with the proposed changes and the original design in order to better visualize the change being proposed.
2. What are the anticipated redesign costs?
3. Please refer to the following email correspondence from our ROW Specialist. I would recommend

that you run this by your District ROW folks. MoDOT will need to negotiate any ROW acquisition and/or easements necessary.

4. Did Design originally consider the option of laying the slope back instead of a retaining wall? I would guess that they did and there was good reason for choosing the retaining wall option (perhaps ROW impacts).
5. The proposed 1" clean rock has the likelihood of spilling over onto the sidewalk and therefore will be a maintenance issue and a nuisance to pedestrians and bicyclists.
6. How will the coordination for the utility pole relocation be done? Are there any anticipated delays associated with the pole conflict?
7. I did not notice any consideration for the time savings associated with this VE. By not having to construct the retaining wall, the contractor stands to save several days of construction time.
8. The deadline for issuing a change order to realize the maximum benefit of this VECP is FEB. 5<sup>th</sup>. What effect will approval after the FEB. 5<sup>th</sup> deadline have on the overall cost savings and schedule?

Please let me know if you have any questions regarding my comments and questions. I can be reached at (573) 638-2612.

Thanks,  
Kevin

**From:** Hilary, Michelle (FHWA)  
**Sent:** Wednesday, February 17, 2010 3:00 PM  
**To:** Irving, Kevin (FHWA)  
**Subject:** RE: VECP #6, J4I1650, I-470, Jackson County

No, that is not acceptable. If the contractor is to do any work on the adjacent properties, then MoDOT will need to obtain temporary construction easements from the landowners. Failure to obtain these easements would be a violation of the Uniform Act and 49 CFR Part 24.

*Michelle C. Hilary, JD*  
*FHWA - Missouri Division*

**From:** Irving, Kevin (FHWA)  
**Sent:** Wednesday, February 17, 2010 2:23 PM

**To:** Hilary, Michelle (FHWA)

**Subject:** FW: VECP #6, J4I1650, I-470, Jackson County

Michelle,

I just received this VE proposal and saw that it contained some language in the "VE #6 Recommendation.doc" file that states the following: "The following shall be considered during the development of the design: The contractor is required to gain all necessary permissions and/or agreements with the adjacent property owner."

I wanted to get your comments on this proposal as it pertains to the effect on the adjacent landowner and the contractor dealing directly with the landowner etc. I would appreciate your thoughts on this as quickly as possible, as these VECP's are prone to fast turnaround times.

Thanks,  
Kevin

**From:** Shelie.Daniel@modot.mo.gov [<mailto:Shelie.Daniel@modot.mo.gov>]

**Sent:** Wednesday, February 17, 2010 1:20 PM

**To:** Perry.Allen@modot.mo.gov; Irving, Kevin (FHWA); Dennis.Bryant@modot.mo.gov

**Cc:** Michael.Warren@modot.mo.gov; Robert.Ruffini@modot.mo.gov; Richard.T.Miller@modot.mo.gov

**Subject:** VECP #6, J4I1650, I-470, Jackson County

Please find the attached VECP #6 with supporting documents for your review and approval.

All VE submissions must be processed as quickly as possible in order to prevent construction delays and provide the greatest savings.

If you have specific questions on this change, please call Mike Warren or me at the office.

Shelie Daniel, P.E.

Resident Engineer

5101 NW Gateway

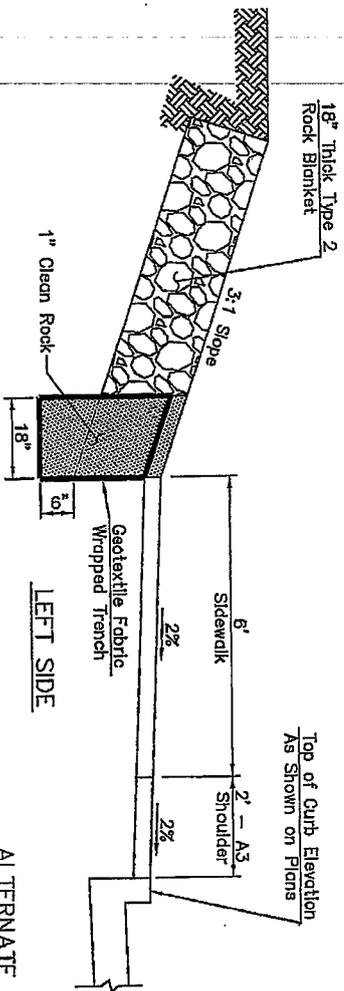
Riverside, MO 64150

(816) 741-7030

(816) 215-7275 (cell)

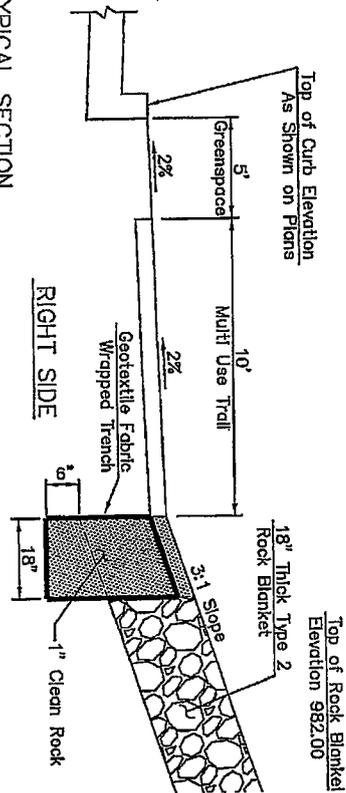
(816) 741-0200 (fax) [attachment "VE#6 Hand Sketch 2-19-10.pdf" deleted by Allan J

Ludiker/D4/MODOT]

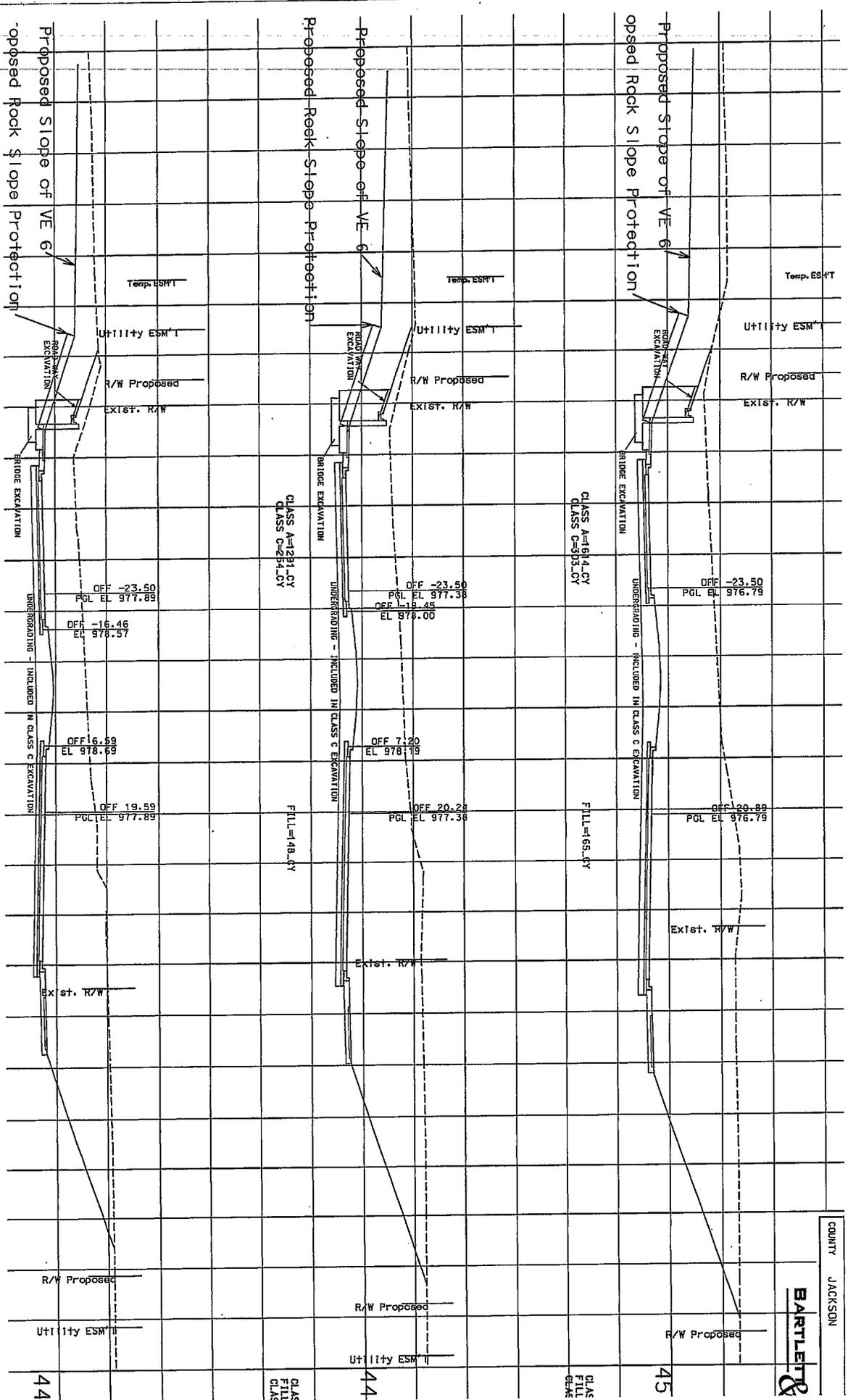


LEFT SIDE

ALTERNATE GRADING TYPICAL SECTION  
 Right Side Sta. 43+00 to Sta. 46+50  
 Left Side Sta. 44+00 to Sta. 46+50  
 Not To Scale



RIGHT SIDE



COUNTY JACKSON



44

CLASS FILL CLASS

44

CLASS FILL CLASS

45

# 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)

\_\_\_\_\_ Adjust grading elevations to eliminate need for retaining wall.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## *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.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_