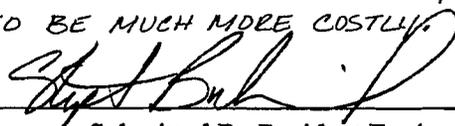


Additional Comments:

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

Comments: I RECOMMEND THIS PROPOSAL BE REJECTED. THE EXISTING CULVERTS @ STA 880+26.7 & 736+02.5 ARE STRUCTURALLY DEFICIENT TO HANDLE THE ADDITIONAL FILL PLACED ON THEM. THE CMP INSERTS AND FLOWABLE FILL IDENTIFIED WERE CHOSEN AS THE MOST COST EFFECTIVE SOLUTION. OTHER SOLUTIONS PROPOSED DURING DESIGN PHASES WERE LIGHTWEIGHT FILL, BUT PROVED TO BE MUCH MORE COSTLY.


Submitted By Resident Engineer

02 JUL 08
Date

Comments: Contractor's proposal to eliminate work does not add value and does not address the structural problems with eliminating the work. The work in question was actually part of a MoDOT project team informal VE effort. See attachments for various information and comments.

Approval Recommended
 Rejection Recommended

Mark Shelton by P. Allen
District Engineer

7-3-2008
Date

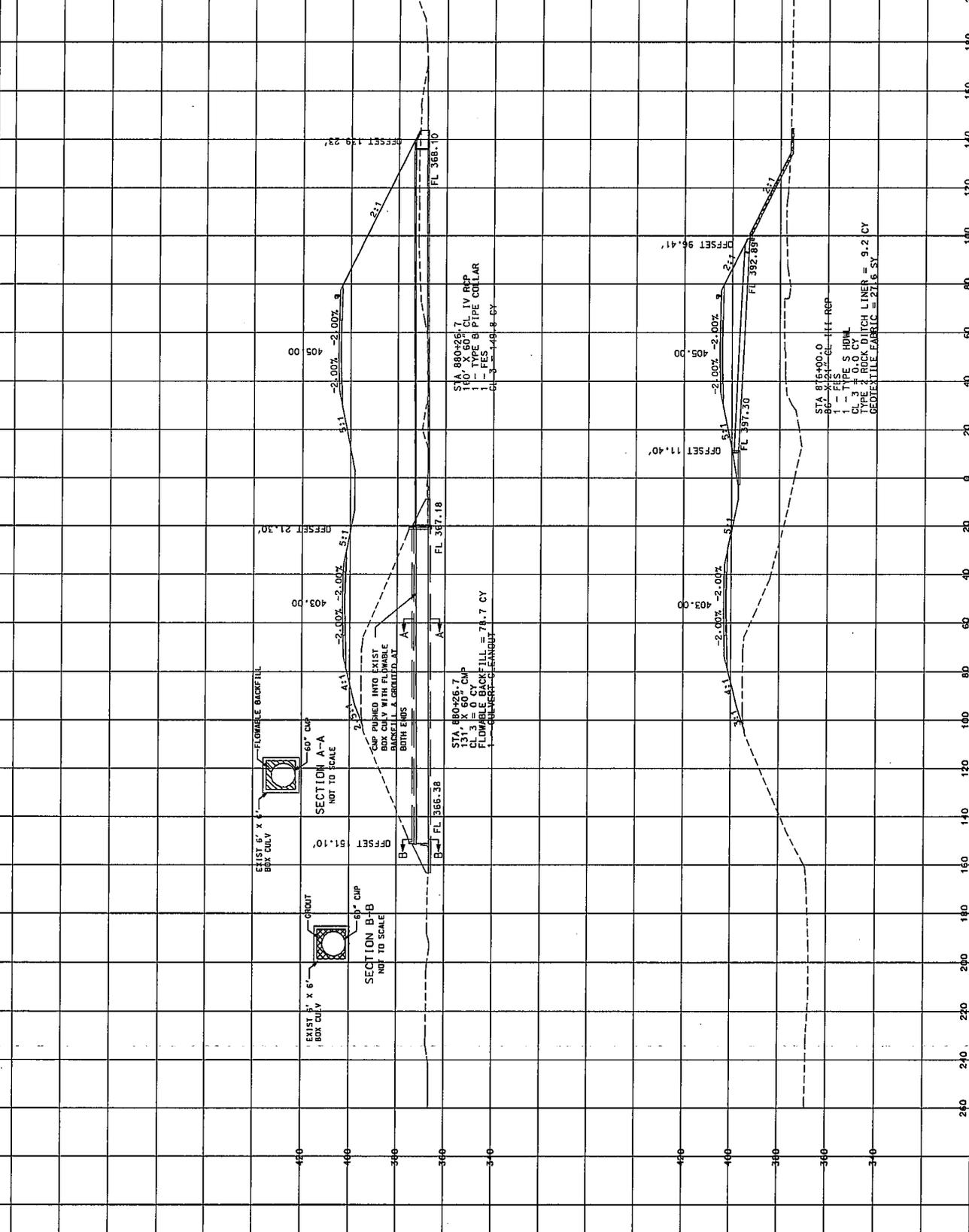
Comments: Agree w/ project office and district recommendations.


State Operations Engineer

7-17-08
Date

Approval
 Rejection

ROUTE	STATE	DISTRICT	SHEET NO.
67	MO	10	217
JOB NO. JOP0931		CONTRACT ID.	
PROJECT NO.		COUNTY WAYNE	
DATE			



880+26.7000

876+00.0000

CULVERT SECTIONS
SHEET 20 OF 41



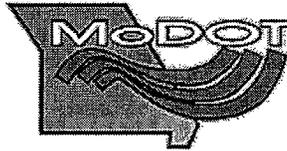
Dean D Franke/SC/MODOT
07/17/2008 08:12 AM

To Brian A Williams/SC/MODOT@MODOT
cc Thomas E Allen/SC/MODOT@MODOT, Keith J
Ferrell/SC/MODOT@MODOT, Lynelle S
Luther/D10/MODOT@MODOT, Stephen A
bcc

Subject Re: Fw: VE J0P0931 - box culvert modifications

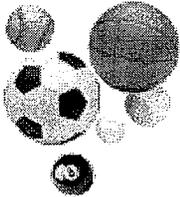
I agree with the rejecting the proposal. These boxes were not designed for the additional fill that is being placed on them. They were checked for the new fill height and they were found to be overstressed. The additional fill would make them structurally unsound.

Sincerely,
Dean Franke, P.E.
Structural Project Manager
MoDOT, Bridge Division
Phone (573) 526-0246
Fax (573) 526-5488



Dean.Franke@modot.mo.gov

Brian A Williams/SC/MODOT



Brian A Williams/SC/MODOT
07/15/2008 08:48 AM

To Dean D Franke/SC/MODOT@MODOT
cc

Subject Fw: VE J0P0931 - box culvert modifications

Dean,

Give me a call to discuss.

Thanks,

Brian A. Williams, PE
Construction and Materials Liaison Engineer
Phone (573) 751-2806
Cell (573) 301-2583
Fax (573) 526-4354
brian.williams@modot.mo.gov

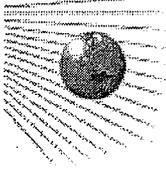
----- Forwarded by Brian A Williams/SC/MODOT on 07/15/2008 08:47 AM -----



Andrew L Meyer/D10/MODOT
07/03/2008 12:16 PM

To Thomas E Allen/SC/MODOT@MODOT
cc Brian A Williams/SC/MODOT@MODOT, Keith J
Ferrell/SC/MODOT@MODOT, Lynelle S
Luther/D10/MODOT@MODOT, Stephen A
Bubanovich/D10/MODOT@MODOT, Tammy M
Hefner/D10/MODOT@MODOT, Dean D
Franke/SC/MODOT@MODOT, Jason M
Williams/D10/MODOT@MODOT, Jay W
Trammell/D10/MODOT@MODOT, Gretchen F
Hanks/D10/MODOT@MODOT

Subject Re: VE J0P0931 - box culvert modifications



Andrew L Meyer/D10/MODOT

07/03/2008 12:16 PM

To Thomas E Allen/SC/MODOT@MODOT

cc Brian A Williams/SC/MODOT@MODOT, Keith J Ferrell/SC/MODOT@MODOT, Lynelle S Luther/D10/MODOT@MODOT, Stephen A

bcc

Subject Re: VE J0P0931 - box culvert modifications

That is a very good question.

I feel that 88026 needs to stay the way we designed it for the very reason you mentioned: the inlet. I wouldn't be opposed to sealing the grout at the inlet end with a concrete cap and paying for it as an additional collar.

The existing box culvert at STA 73602.5 includes an 8'x6' segment from the original road construction that was previously extended with a 4'x3' box in the early 40's. If you look at the embankment it becomes evident that the last time this box was extended the fill was increased over the 8'x6' segment. We began to ask ourselves if there was the possibility that this box might already be overloaded in a similar fashion to what we are trying to avoid with our new construction (which Dean Franke thankfully caught on the new pipes during the design process). Maintenance generally doesn't have the resources to deal with 90 year old partially collapsed box segments under 30 feet of fill. We thought that since we were there with a contractor it might be a good idea to extend the liner through the box segment constructed in the 1920's and take care of any problems that would eventually occur with future increases in traffic loading (can anybody say increased commercial truck traffic?). Using a CMP and flowable backfill to accomplish this was the most economical solution we could come up with, and it is substantially reasonable in comparison to staged construction w/engineered sheet piles walls and box replacement.

I suppose if someone would be willing to get in the circa 1927 8'x6' segment and determine if any observed cracking is due to serviceability issues or overloading from additional fill and then perform the structural calculations to support leaving it alone, taking into account future increases in traffic, I would be willing to go along with under-running the length of CMP and backfill by stopping at the 4'x3' transition to a 8'x6' and forming a wall at that location to hold the backfill. Whoever completes that analysis would probably want to seal that sheet.

The other option previously mentioned for each of these locations, installation of lightweight fill, was estimated at several hundred thousand dollars more and involved engineering issues that would have slowed the construction down considerably.



D10 Safe & Sound Contact

Andy Meyer, P.E., NSPE

Project Manager

Ofc # 573.472.5296

Cell # 573.703.4526

Andrew.Meyer@modot.mo.gov

Thomas E Allen/SC/MODOT



Thomas E Allen/SC/MODOT

07/03/2008 11:29 AM

To Stephen A Bubanovich/D10/MODOT@MODOT, Keith J Ferrell/SC/MODOT@MODOT

cc Andrew L Meyer/D10/MODOT@MODOT, Brian A Williams/SC/MODOT@MODOT, Lynelle S Luther/D10/MODOT@MODOT, Tammy M



Thomas E Allen/SC/MODOT

07/03/2008 11:29 AM

To Stephen A Bubanovich/D10/MODOT@MODOT, Keith J Ferrell/SC/MODOT@MODOT

cc Andrew L Meyer/D10/MODOT@MODOT, Brian A Williams/SC/MODOT@MODOT, Lynelle S Luther/D10/MODOT@MODOT, Tammy M

bcc

Subject Re: VE J0P0931

I agree w/ rejecting the VECP as per the reasoning in attached note- but, I counter w/ this- can we underrun the length of pipe- just put it where the culvert has added fill- not the entire culvert? For instance- @ sta 736+02 use 70', not 177', @ sta 880+26, use 85', not 131', @ this location the grouted end would be the inlet side, we may need to do something extra here.

To me, this idea addresses purpose & need and provides the basic function we are trying to accomplish, no more, no less. Am I missing anything?

Keith- please review, then let's discuss.

TEA

Stephen A Bubanovich/D10/MODOT

**Stephen A
Bubanovich/D10/MODOT**

07/02/2008 03:38 PM

To Brian A Williams/SC/MODOT@MODOT, Lynelle S Luther/D10/MODOT@MODOT, Thomas E Allen/SC/MODOT@MODOT

cc Tammy M Hefner/D10/MODOT@MODOT, Andrew L Meyer/D10/MODOT@MODOT

Subject Re: VE J0P0931

Attached are plan sheets for your reference.

sab-



- 217.pdf



- 207.pdf

Stephen A Bubanovich/D10/MODOT

**Stephen A
Bubanovich/D10/MODOT**

07/02/2008 09:33 AM

To Lynelle S Luther/D10/MODOT, Thomas E Allen/SC/MODOT, Brian A Williams/SC/MODOT

cc Andrew L Meyer/D10/MODOT@MODOT, Tammy M Hefner/D10/MODOT@MODOT

Subject VE J0P0931

**Stephen A
Bubanovich/D10/MODOT**
07/02/2008 09:33 AM

To Lynelle S Luther/D10/MODOT@MODOT, Thomas E
Allen/SC/MODOT@MODOT, Brian A
Williams/SC/MODOT@MODOT
cc Andrew L Meyer/D10/MODOT@MODOT, Tammy M
Hefner/D10/MODOT@MODOT
bcc
Subject VE J0P0931

All:

Attached is a VE proposal from Flynn Companies regarding to box culverts. I have instructed the contractor we cannot do their proposal.

The two existing box culverts were designed based on the loadings they would experience from the original fills. The expansion of US67 to four lanes adds considerable fill material to both culverts, overstressing the structures. The original design incorporated "lightweight fill" in these locations. This method was very costly and a alternative design was chosen by our design staff in close consultation with Bridge. The resulting design incorporates a CMP liner pushed through each culvert and the resulting void filled with flowable backfill. This design eliminated the need for "lightweight fill" and saved the taxpayers several thousands dollars.

If you need any other information, please call at 573.840.9781 or 573.429.7727(cell)

sab-



VE J0P0931.pdf



MEMORANDUM

Missouri Department of Transportation
Construction
2675 North Main

TO: Brian A. Williams
Construction and Materials

CC: Poplar Bluff Construction
file

FROM: Debbie Strobel 
DFPRP

DATE: July 7, 2008

SUBJECT: District 10 - Construction
Value Engineering Proposal
Job No. JOP0931
Route 67
Wayne County

Attached is the above-mentioned proposal for your consideration. Please sign and date and return to District 10 for distribution. If you have any questions, please contact Lynelle Luther.

Attachment

ds

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)

Contractor is proposing to eliminate the CMP placement and grouting in existing box culverts. The culverts were built in 1920's and 1940's. They are not structurally sound for additional fill much less for the existing fill. The estimated practical design savings total of \$36,621.10 is not worth the risk of 30'+ fill that will be over these culverts. This proposal is rejected for that reason.

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.
