Form C-104
Rev. 09/2008

VALUE ENGINEERING CHANGE PROPOSAL
MISSOURI DEPARTMENT OF TRANSPORTATION

Date 1/7/2009

Contract ID 080919-701 **Job No.** J7I0599

County LAWRENCE **Original Bid Cost** $ 6,344,873.92

Contractor APAC-MISSOURI, INC. **By** DAVID B. TAG, P.E.

Designed By APAC / SPRENKLE & ASSOC. **Phone** (573) 449-0886

VECP# 09-04 **(to be completed by C.O.)** **VECP** ☒ **or** **VECP/PDU** ☐

1. **Description of existing requirements and proposed change(s). Advantages/Disadvantages**
   Bridge No. A7574 is currently designed as a 4 span, 5 bent structure of Route 39 over Route I-44. This proposal is to eliminate spans 1-2 and 4-5 on the structure and replace Bents 2 and 4 with End Bents on piling behind MSE walls. The MSE walls will tie into the Route 39 fill slopes, minimizing changes to the excavation quantities. This will result in reduction is many bridge quantities and some roadway quantities. The advantages of this proposal are total cost savings, smaller bridge area for maintenance in the future, and less impact to Route I-44 during construction. The disadvantages are the time required for engineering design and review and the cost of the design.

2. **Estimate of reduction in construction costs.** $ 131,418.78 A detailed summary is attached.

3. **Prediction of any effects the proposed change(s) will have on other department costs, such as maintenance and operations.**
   APAC foresees no costs to maitenance or operations.

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

   January 12, 2008
   (date)

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

   January 19, 2008 (date)

   Start of construction would be delayed with possible delays in aquiring the necessary bridge and MSE Wall materials. (effect)

6. **Dates of any previous or concurrent submission of the same proposal.**
   ATC Bid in Call 801 of MoDOT
   November 21, 2008 Letting
   (date and/or dates)

Additional Comments:

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

Comments: The attached "Revised Layout" for I-44 was approved by Dan Smith, MoDOT, on 11/04/08. The revised bridge plans are currently being designed. This proposal is being submitted now to expedite approval of final design. The attached savings schedule is preliminary as final qty's are not yet determined. Final savings will be verified before acceptance. I recommend approval provided final savings is near that proposed here. All design costs are the responsibility of the contractor.

Steve contacted APAC about design costs. APAC placed cost of design work into the unit cost of contingent items.

[signature] 01/08/09

Submitted By Resident Engineer — Date

Michael C. Mitchell 1/9/09

Comments: I concur.

We are waiting on the revised bridge plans from APAC to make final approval.

☒ **Approval Recommended**

☐ **Rejection Recommended**

Becky Baltz — 1-9-08

District Engineer — Date

Comments:

FHWA RECOMMENDED REJECTION DGB.

☐ **Approval Recommended**

☐ **Rejection Recommended**

Federal Highway Administration — Date

Required for FHWA Full Oversight Projects

Comments:

CONCEPTUAL APPROVAL SUBJECT TO DETAIL DESIGN

50/50 SPLIT

~~☒ Approval~~

* ☒ **Rejection**

David D. Allen by DGB — 1-30-09

State Construction and Materials Engineer — Date

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

* PROPOSAL REJECTED – UNABLE TO ACHIEVE ACCEPTABLE DETAIL DESIGN, 3-3-09 DGB

MEMORANDUM

Missouri Department of Transportation
Construction & Materials
District 7

Dennis Bryant

TO: Dave Ahlvers
State Construction & Materials Engineer

FROM: Michael C. Middleton M.C.M.
District Construction & Materials Engineer

RECEIVED
JAN 14 2009
Construction & Materials - ECI

DATE: January 12, 2008

SUBJECT: Contract 080919-701
Job No. J7I0599
Route 44, Lawrence County
Value Engineering Proposal

Attached you will find three copies of a Value Engineering Proposal from APAC–Missouri, Inc. on the above referenced project for your review and signature.

Please return two copies to my attention, retaining the third copy for your records.

Thank you.

602985 - Route I44, Lawrence Co., J7I0599
Value Engineering Proposal

SAVINGS

Item	Description	Plan Quantity	Revised Quantity	Change	Unit	Price	SAVINGS
140	Class A Excavation	47822	48222	400	CY	$ 4.00	$ (1,600.00)
160	Compacting Embankment	38830	39230	400	CY	$ 1.00	$ (400.00)
210	Type 5 Aggregate Base - 4 Inch	37212	38032.6	820.6	SY	$ 6.00	$ (4,923.60)
350	Type A Guardrail	1613	1711	98	LF	$ 18.15	$ (1,778.70)
460	Drain Basin	2	0	-2	EA	$ 3,000.00	$ 6,000.00
480	Furnishing Type 2 Rock Blanket	566	0	-566	CY	$ 25.00	$ 14,150.00
490	Placing Type 2 Rock Blanket	566	0	-566	CY	$ 25.00	$ 14,150.00
820	Perm. Erosion Control Geotextile	850	0	-850	SY	$ 2.00	$ 1,700.00
930	24 In. Class III RCP	106	356	250	SY	$ 40.00	$ (10,000.00)
970	24 In. Precast Flared End Section	1	5	4	SY	$ 320.00	$ (1,280.00)
1130	Concrete Pavement - 9 Inch	29461.1	30103.5	642.4	SY	$ 45.55	$ (29,261.32)
1750	Class 1 Excavation	300	95	-205	CY	$ 80.00	$ 16,400.00
1760	Temporary Shoring	1	0	-1	LS	$ 15,000.00	$ 15,000.00
1790	Struct. Steel Piling - 12 Inch	2978	1472	-1506	LF	$ 60.00	$ 90,360.00
1800	Pre-Bore for Piling	129	0	-129	LF	$ 35.00	$ 4,515.00
1810	Pile Point Reinforcement	88	40	-48	EA	$ 118.00	$ 5,664.00
1820	Class B Concrete Substr.	397.3	232.7	-164.6	CY	$ 595.00	$ 97,937.00
1830	Slab on Concrete I-Girder	1996	1259 1268	-737	SY	$ 285.00	$ 210,045.00
1840	Safety Barrier Curb	576	380	-196	LF	$ 66.00	$ 12,936.00
1850	54 Inch Prestressed I-Girder	2093	1319	-774	LF	$ 180.00	$ 139,320.00
1860	Reinforcing Steel (Bridges)	52050	18830	-33220	LBS	$ 1.60	$ 53,152.00
1890	Slab Drains	10	0	-10	EA	$ 335.00	$ 3,350.00
1920	Laminated Neoprene Bearing Pad	32	16	-16	EA	$ 140.00	$ 2,240.00
1930	Lam. Tapered Neoprene Bearing Pad	24	8	-16	EA	$ 225.00	$ 3,600.00
5001	MSE Wall - Bent 1	0	3800	3800	SF	$ 57.45	$ (218,310.00) # 53.90/SY ON Rte 60
5002	MSE Wall - Bent 3	0	3800	3800	SF	$ 57.45	$ (218,310.00)
5003	Type D Barrier Wall (MSE)	0	200	200	LF	$ 129.00	$ (25,800.00)
5004	Removal of I-44 Shoulder (MSE)	0	1	1	LS	$ 6,625.00	$ (6,625.00)
5005	10" PCCP I-44 Shoulder (MSE)	0	177.8	178	SY	$ 78.00	$ (13,868.40)
5006	Type B Gutter (MSE)	0	400	400	LF	$ 46.75	$ (18,700.00)
5007	Type A Gutter	0	200	200	LF	$ 51.20	$ (10,240.00)
5008	CMP Pile Spacers	0	320	320	LF	$ 0.01	$ (3.20)

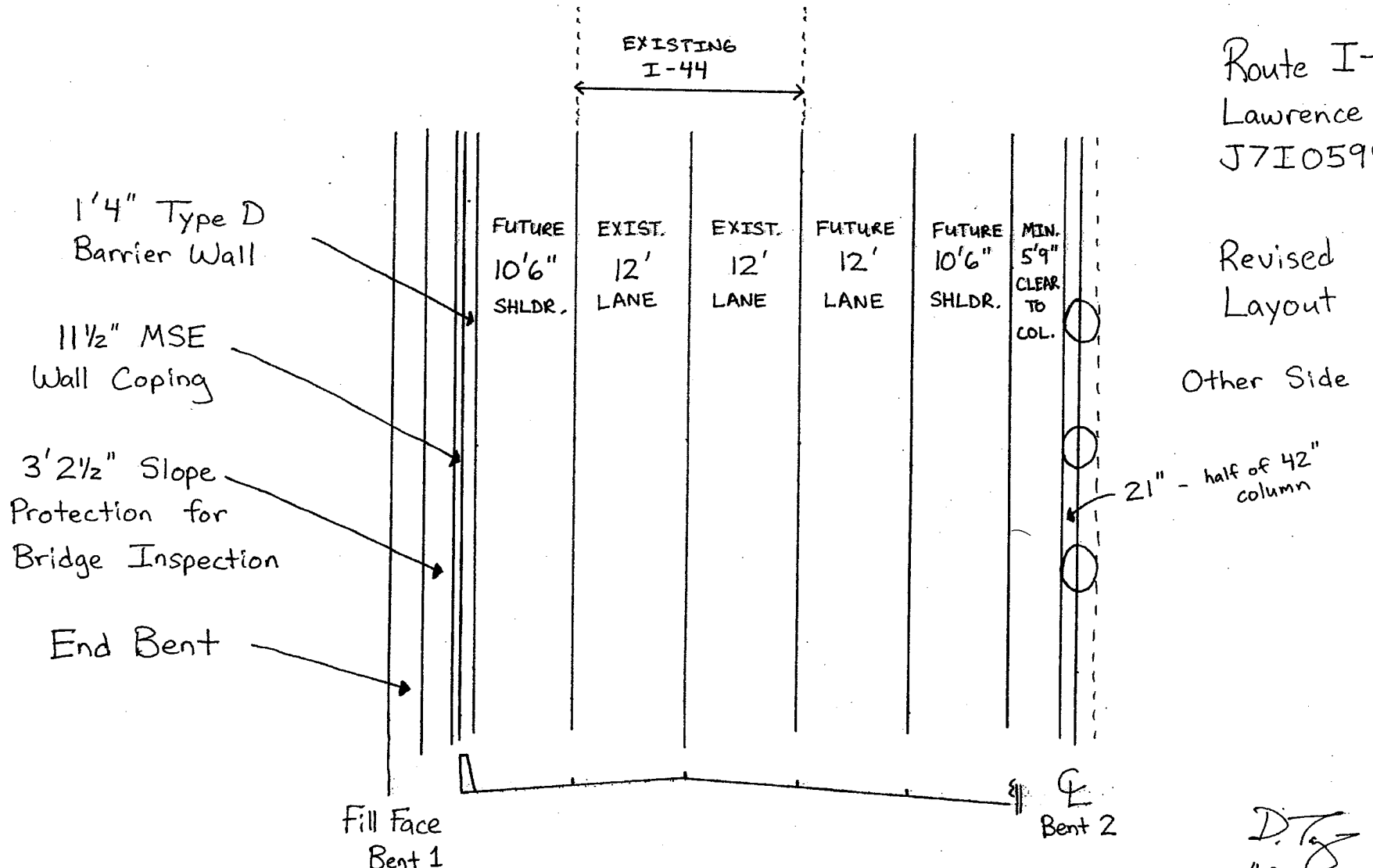
SAVINGS VE PROPOSAL **$ 131,418.78**

129,418.78

Route I-44
Lawrence Co.
J7I0599

Revised
Layout

Other Side Sym.



D.T.
11-3-08

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

83'- 83' Prestressed Concrete I-Girder Spans

ROUTE	STATE	DISTRICT	SHEET NO.
I-44	MO	BR	1

JOB NO. J710599

CONTRACT ID.

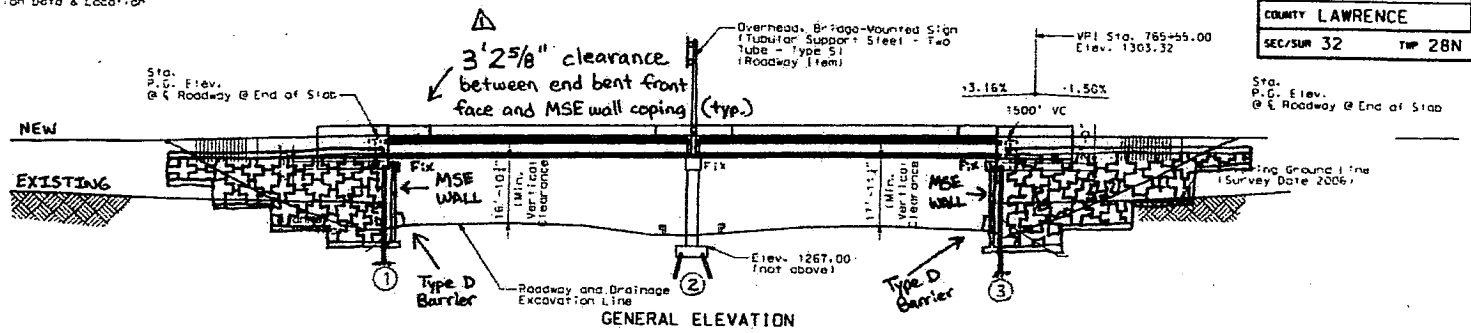
PROJECT NO.

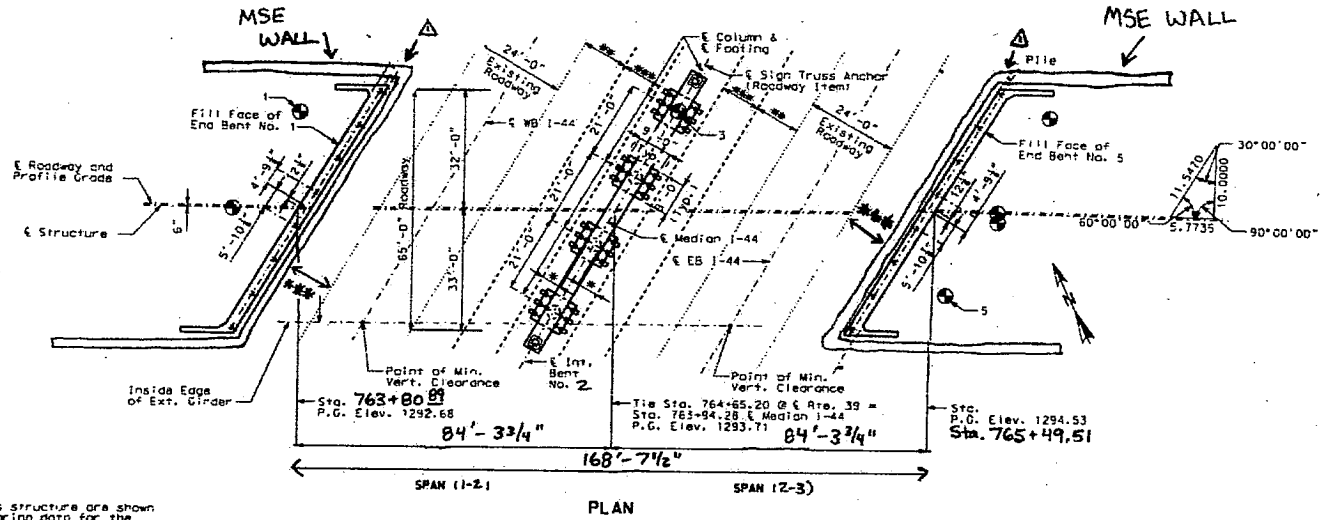
COUNTY LAWRENCE

SEC/SUR 32 TWP 28N RGE 26W

Note:
Roadway fill shall be completed to the final roadway section and up to the elevation of the bottom of the concrete beam within the limits of the structure and for not less than 25 feet in back of the fill face of the end bents before any piles are driven for any bents falling within the embankment section.

For General Notes, Estimated Quantities, Estimated Quantities for Slab on Concrete I-Girder, Foundation Data & Location Sketch, see Sheet No. 2.





"⊕" Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the bridge plan sheets for this structure. Boring data for the numbered locations is shown on Sheets No. 3 & 4. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, is available from the Project Contact upon written request as outlined in the Project Special Provisions. No greater significance or weight should be given to the boring data depicted on the plan sheets than is subsurface data available from the district or elsewhere.

The Commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the Commission.

*Min. Horizontal Clearance
= 0'-0" @ End Bents No. 1 & 3 (Typ.)
= 5'-5" @ Int. Bent No. 2 (Typ.)
**12'-0" Future Lane
***10'-6" Future Shoulder

B.M. ELEV. 1263.82, CP #118 - SET IRON ROD W/CAP LOCATED AT THE CENTERLINE OF I-44 IN THE CENTER OF MEDIAN AT CENTERLINE STA. 754+00.00 ±

BRIDGE: RTE. 39 OVER I-44

STATE ROAD FROM RTE. 97 TO RTE. 174

ABOUT 3 MILES S.W. OF RTE. 174

STA. 763+94.28

D. Tag 11-3-08

STD. 609.00
STD. 617.10
STD. 706.35
STD. 903.06
A7574

Designed Feb. 2008
Detailed Mar. 2008
Checked Apr. 2008

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 40

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

F/o

VALUE ENGINEERING CHECK SHEET

TYPE OF WORK

(Check one that applies)

X 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 bridge to eliminate 2 spans.

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.