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I 44 1 (77)
VECP #4

Form C-104
Rev. 10/07

JN 8-6-09

CONSTRUCTION VALUE ENGINEERING CHANGE PROPOSAL
MISSOURI DEPARTMENT OF TRANSPORTATION

Date 6/15/09

Contract ID 080919-701 | Job No. J710599
County Lawrence | Route 44 | Original Bid Cost $6,344,873.92
Contractor APAC-Missouri, Inc. | By David Wilkins
Designed By APAC-Missouri, Inc. | Phone 417-868-6700

VECP 09-55

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

The original design called for removing Rt. 39 and replacing it with either 13' asphalt or 9" non-reinforced concrete. The plans specified that certain areas could be bid as optional pavement, and some to be bid as mandatory 9" non-reinforced concrete pavement. APAC-Missouri, Inc. bid 9" non-reinforced concrete pavement for the entire project. APAC-Missouri, Inc. is proposing to leave Rt. 39 in place where existing Rt. 39 and new Rt. 39 alignment allow, and construct a 9" concrete base widening capped off with an 3.5" of SP125B 76-22; constructed in two 1-3/4" lifts. Rt. 39 would be widened with 9" concrete from Sta. 773+35.93 to Sta. 782+05 and from Sta. 748+76.70 to Sta. 755+25. This would allow for approximately 1,441.5 SY of Rt. 39 to be left in place and overlayed with an 1-3/4" SP125B 76-22. The vertical curve would have to be modified to allow for Rt. 39 to be left in place. At Sta. 755+50 we propose that the new pavement grade match the existing pavement, and match existing cross slope of Rt. 39. From Sta. 755+50 to the new bridge, the grades would be transitioned back to plan elevations. I have attached a drawing of the proposed cross slopes from Sta. 771+50 to Sta. 775+50 to allow for the new pavement to tie-in with existing Rt. 39.

Note: No engineering fees were included in the above proposal. We are requesting that if any engineering is required, MoDOT perform the engineering at no cost to APAC-Missouri, Inc or this proposal. APAC-Missouri, Inc. to exclusively retain asphalt bonuses and deducts. We are submitting this as a VE 50/50 split. Asphalt prices in this proposal are based upon April 2009 MoDOT AC index and would be adjusted accordingly at the time placed.

The advantage of overlaying Rt. 39 in lieu of replacing it is that it will serve the same purpose at a lower cost to the taxpayers. It will also allow for faster construction time and thus minimizing disruption to the traveling public.

APAC-Missouri, Inc. does not foresee any disadvantages to the above proposal.

The estimated net savings is $31,725.61. See attached quantity summary.

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

FHWA
MO DIV
RECEIVED
JUL 21 2009

DA | ADA | Planning | ROW | Env Review | Env Pro | Fin Mgr | Fin Spec | Fin Tech | Bridge | Civil Rights | Safety | Operations | TE1 | TE2 | TE3 | TE4

EXAMINED & RECOMMENDED FOR APPROVAL July 21, 2009
Date
Value Engineering Proposal. dot

Federal Highway Administration

APAC-Missouri, Inc. foresees no additional costs for MODOT.

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

Detailed breakdown is attached
(date)

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

June 19, 2009	No change to completion date or schedule.
(date)	(effect)

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

N/A
(date and/or dates)

Additional Comments:

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

Comments: I recommend acceptance of this VE proposal in concept. It will allow the new roadway to be constructed in a sequence that will result in the safest construction methods and least inconvenience to the traveling public. This proposal will construct the new roadway in a manner similiar to that planned, but provide a more consistent final pavement typical. This proposal provides a final surface on the SB that is concrete from E.S. to ES for a distance out from each end of the new bridge. The remainder of the surface and tie ins will be 2 lifts of SP125B 76-22 placed over 9" of base widening. With the traffic volumes, using the interchange, I feel this is a good construction alternative.

Submitted By Resident Engineer — Date: 6/16/09

Comments:

☒ Approval Recommended
☐ Rejection Recommended

Becky Balty — District Engineer — 6-16-09 — Date

Comments:

☒ Approval
☐ Rejection

David D. Geaver (DDG) — State Construction and Materials Engineer — 7-21-09 — 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

EXAMINED & RECOMMENDED FOR APPROVAL July 21, 2009
Date
FELIX R. GONZALEZ
Federal Highway Administration

50/50 SHARE

FHWA CONCUR with APAC proposal for concrete base widening and overlaying Rte. 39. - J7I0599 / 080919-701

FHWA
MO DIV
RECEIVED
JUL 21 2009

DA	
ADA	
Planning	
ROW	
Env Review	
Env Pro	
Fin Mgr	
Fin Spec	
Fin Tech	
Bridge	
Civil Rights	
Safety	
Operations	
TE1	
TE2	July 21/09
TE3	
TE4	

Springfield Branch Office
P.O. Box 1187
Springfield, Missouri 65801
(417) 868-6700 • Fax (417) 868-6785

APAC – Missouri, Inc. • Missouri Division • P.O. Box 1117 • Columbia, Missouri 65205 • (573) 449-0886 • Fax (573) 449-7966

June 15, 2009

MoDOT Dist. #7
Attn: Steve Campbell, RE
1501 Malcolm Mosby Dr.
Neosho, MO 64580

Re: JOB NO: J7I0599
Rt. 44, Lawrence County

Dear Steve,

Attached are four copies of our proposal for concrete base widening and overlyaing Rt. 39 the above referenced project. We are submitting this proposal under section 104.6 of the Missouri Standard Specifications for Highway Construction. We feel that the proposal meets the Value Engineering requirements because it reduces the overall cost of the project for the taxpayers. As noted in our proposal, no engineering costs have been added to our proposal. I am requesting a response from MoDOT, in writing, by no later than June 19, 2009. I feel this deadline is fair since based upon previous correspondence, the VE is approved conceptual, however, MoDOT did not like the idea of such a thin lift over concrete base widening. The revised proposal is the exact same as the last proposal submitted June 4, however, in lieu of petromat, we are proposing to place an 1.75" of SP125B 76-22. This would bring the total asphalt thickness on the concrete base widening to 3.5" of SP125B 76-22.

If you have any questions, feel free to call.

Sincerely,

David Wilkins
Project Engineer

RT. 44 LAWRENCE VE SUMMARY SHEET

Original Contract

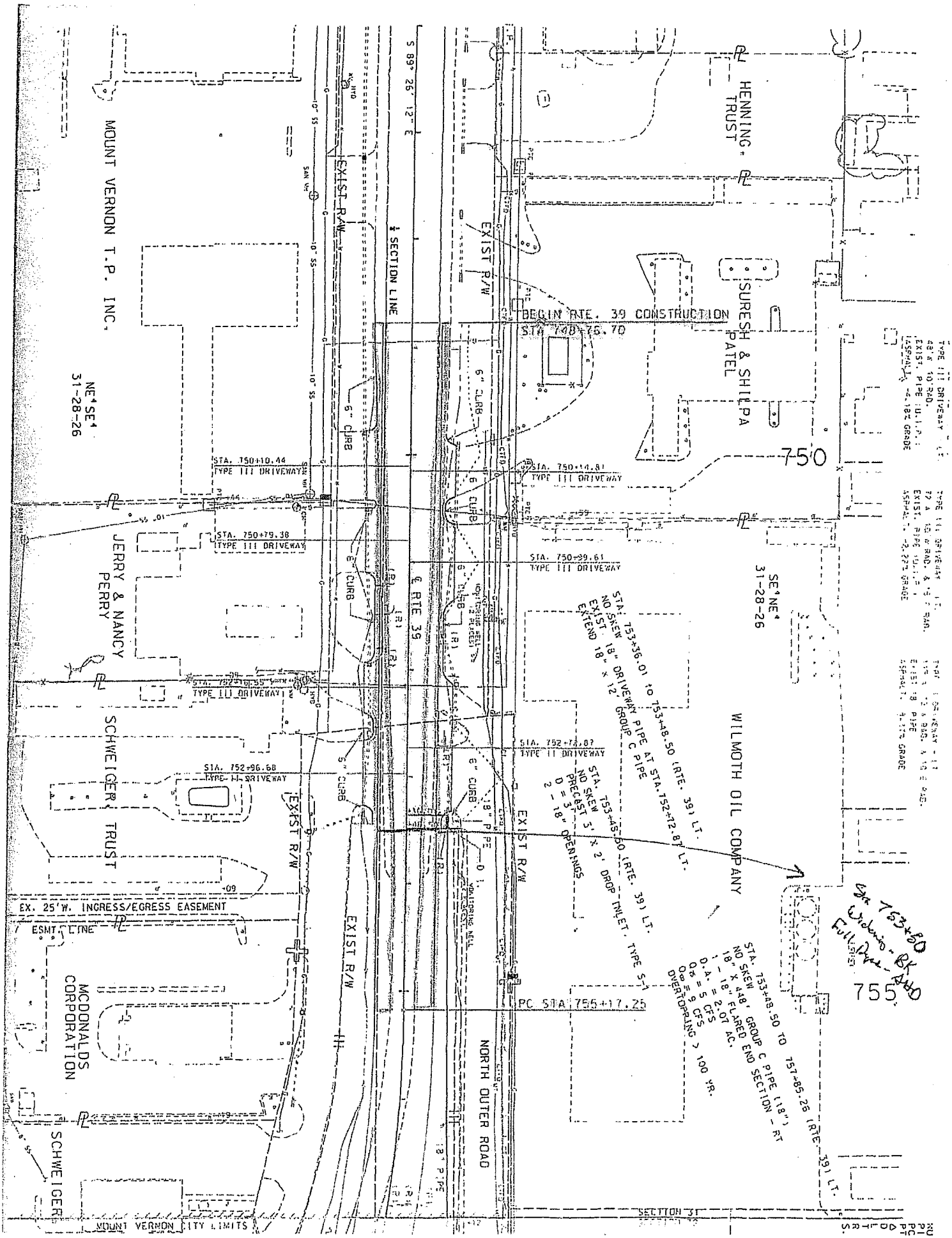
Item Number	Item Description	Bid Quantity	Units	Unit Price	Total
210	TYPE 5 AGGREGATE FOR BASE (4 IN. THICK)	37212	SY	$6.00	$223,272.00
270	ASPHALTIC CONCRETE MIXTURE PG 70-22 (SP125C MIX)	107.2	TONS	$150.00	$16,080.00
280	ASPHALTIC CONCRETE MIXTURE PG 76-22 (SP125BSMR MIX)	323.1	TONS	$150.00	$48,465.00
290	TACK	330	GAL	$2.85	$940.50
1130	CONCRETE PAVEMENT (9 IN. NON-REINFORCED 15 FT. JOINTS)	29461.1	SY	$45.55	$1,341,953.11
			Total		$1,630,710.61

VE Proposal

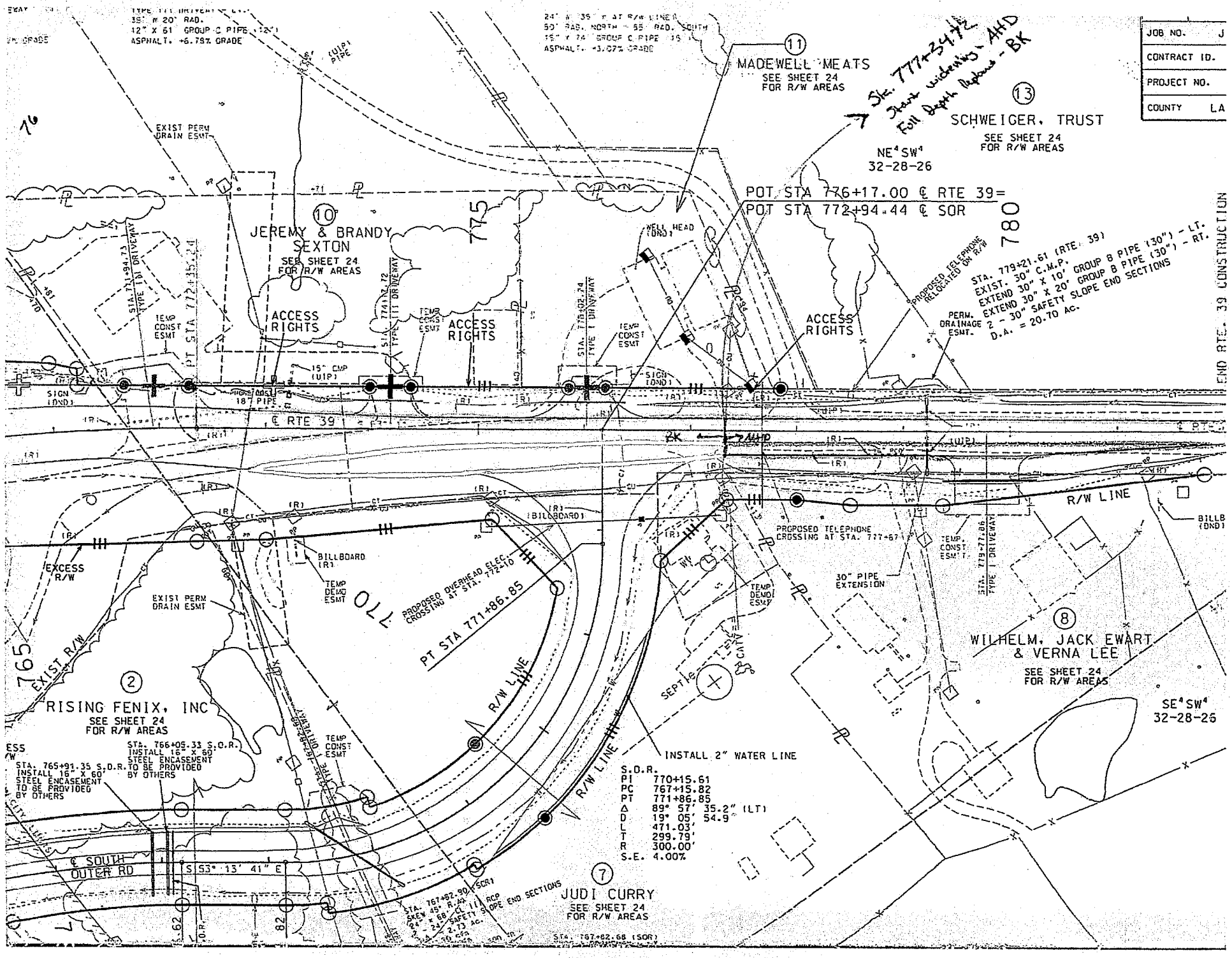
Item Number	Item Description	C.O. Qty	Bid Quantity	Units	Unit Price	Total
210	TYPE 5 AGGREGATE FOR BASE (4 IN. THICK)	-1441.5	35770.5	SY	$6.00	$214,623.00
270	ASPHALTIC CONCRETE MIXTURE PG 70-22 (SP125C MIX)	-107.2	0	TONS	$150.00	$0.00
280	ASPHALTIC CONCRETE MIXTURE PG 76-22 (SP125BSMR MIX)	-323.1	0	TONS	$150.00	$0.00
290	TACK	150	480	GAL	$2.85	$1,368.00
1130	CONCRETE PAVEMENT (9 IN. NON-REINFORCED 15 FT. JOINTS)	-1441.5	28019.6	SY	$45.55	$1,276,292.78
xx1	OVERLAY EXISTING AND NEW CONCRETE W/ SP125B 76-22*	1211	1211	TONS	$88.11	$106,701.21
				Total		$1,598,984.99

Total Savings $31,725.61

*Concrete to be overlayed with two 1 3/4" lifts, existing roadway to be overlayed with 1 3/4"



MOUNT VERNON T.P. INC.
NE¼SE¼
31-28-26
HENNING TRUST
SURESH & SHILPA PATEL
750
SE¼NE¼
31-28-26
JERRY & NANCY PERRY
SCHWEIGER TRUST
MCDONALDS CORPORATION
SCHWEIGER
WILMOTH OIL COMPANY
755
NORTH OUTER ROAD
EXIST R/W
SECTION LINE
S 89° 26' 12" E
BEGIN RTE. 39 CONSTRUCTION
STA 748+76.70
STA. 750+10.44
TYPE III DRIVEWAY
STA. 750+79.38
TYPE III DRIVEWAY
STA. 750+14.81
TYPE III DRIVEWAY
STA. 750+99.61
TYPE III DRIVEWAY
STA. 752+16.55
TYPE III DRIVEWAY
STA. 752+96.68
TYPE II DRIVEWAY
STA. 752+72.87
TYPE II DRIVEWAY
STA. 753+36.01 to 753+48.50 (RTE. 39) LT.
NO SKEW
EXIST. 18" DRIVEWAY PIPE AT STA. 752+72.87 LT.
EXTEND 18" x 12' GROUP C PIPE
STA. 753+48.50 (RTE. 39) LT.
NO SKEW
PRECAST 3' x 2' DROP INLET, TYPE S-1
D = 3'
2 - 18" OPENINGS
STA. 753+48.50 TO 757+85.26 (RTE. 39) LT.
NO SKEW
18" X 448' GROUP C PIPE (18")
1 - 18" FLARED END SECTION - RT
D.A. = 2.07 AC.
Qs = 5 CFS
Qw = 9 CFS
OVERTOPPING > 100 YR.
PC STA 755+17.25
EX. 25'W. INGRESS/EGRESS EASEMENT
ESMT. LINE
6" CURB
18" PIPE
VOLITORING WELL
SECTION 31
MOUNT VERNON CITY LIMITS



JOB NO. J
CONTRACT ID.
PROJECT NO.
COUNTY LA
Sta. 777+34.72
Start widening - AHD
Full Depth Replace - BK
11
MADEWELL MEATS
SEE SHEET 24
FOR R/W AREAS
13
SCHWEIGER, TRUST
SEE SHEET 24
FOR R/W AREAS
NE⁴SW⁴
32-28-26
POT STA 776+17.00 ℄ RTE 39=
POT STA 772+94.44 ℄ SOR
780
10
JEREMY & BRANDY
SEXTON
SEE SHEET 24
FOR R/W AREAS
775
ACCESS
RIGHTS
ACCESS
RIGHTS
ACCESS
RIGHTS
PROPOSED TELEPHONE
RELOCATED ON R/W
STA. 779+21.61 (RTE. 39)
EXIST. 30" C.M.P.
EXTEND 30" X 10' GROUP B PIPE (30") - LT.
EXTEND 30" X 20' GROUP B PIPE (30") - RT.
2 - 30" SAFETY SLOPE END SECTIONS
D.A. = 20.70 Ac.
PERM. DRAINAGE ESMT.
END RTE. 39 CONSTRUCTION
EXIST PERM
DRAIN ESMT
TEMP
CONST
ESMT
15" CMP
(UIP)
SIGN
(DND)
18" PIPE
℄ RTE 39
BK
AHD
R/W LINE
BILLB
(DND)
PROPOSED TELEPHONE
CROSSING AT STA. 777+67
TEMP.
CONST.
ESMT.
30" PIPE
EXTENSION
TEMP
DEMO
ESMT
BILLBOARD
(R)
TEMP
DEMO
ESMT
EXCESS
R/W
EXIST PERM
DRAIN ESMT
PROPOSED OVERHEAD ELEC.
CROSSING AT STA. 772+10
770
PT STA 771+86.85
R/W LINE
765
EXIST R/W
2
RISING FENIX, INC
SEE SHEET 24
FOR R/W AREAS
8
WILHELM, JACK EWART
& VERNA LEE
SEE SHEET 24
FOR R/W AREAS
SE⁴SW⁴
32-28-26
SEPTIC
INSTALL 2" WATER LINE
STA. 766+05.33 S.O.R.
INSTALL 16" X 60'
STEEL ENCASEMENT
TO BE PROVIDED
BY OTHERS
STA. 765+91.35 S.O.R.
INSTALL 16" X 60'
STEEL ENCASEMENT
TO BE PROVIDED
BY OTHERS
TEMP
CONST
ESMT
S.O.R.
PI 770+15.61
PC 767+15.82
PT 771+86.85
Δ 89° 57' 35.2" (LT)
D 19° 05' 54.9"
L 471.03'
T 299.79'
R 300.00'
S.E. 4.00%
℄ SOUTH
OUTER RD
S 53° 13' 41" E
7
JUDI CURRY
SEE SHEET 24
FOR R/W AREAS
STA. 767+82.90 (SOR)
SKEW 45° R.A.
24" x 68' CL III RCP
2 - 24" SAFETY SLOPE END SECTIONS
2.73 Ac.
STA. 767+82.68 (SOR)

amount of wedging	dist from proposed profile	Station
these #'s should be high if I can adjust x-slopes some		771+00
	+ 0.05	771+50
	+ 0.10±	772+00
	772+30± end of savings±	
3 ft²		
	+ 0.18±	772+50
1.5 ft²		
	+ 0.22±	773+05
2.5 ft²	+ 0.27±	773+50
3.5 ft²	+0.23±	774+00
1.5 ft²	+ 0.18±	774+50
0	+ 0.1±	775+00
0	+ 0.05	775+50

field adjustments may need to be made from 774+50 to 777+00
minor x-slope adj. may need to be made from 772+00 to 774+50

VALUE ENGINEERING CHECK SHEET

TYPE OF WORK

(Check one that applies)

- ☐ Bridge/Structure/Footings
- ☐ Drainage Structures (RCP, RCB, CMP's, ect.)
- ☐ TCP/MOT
- X Paving (PCCP, ect.)
- ☐ Grading/MSE Walls
- ☐ Signal/Lighting/ITS
- ☐ Misc. _____

SUMMARY OF PROPOSAL

(If needed, condense summary to a couple of lines)

_____Overlay a portion of intersecting route in lieu of remove and replace.

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.