



MEMORANDUM

Missouri Department of Transportation
District 8 Construction & Materials
Springfield Project Office

TO: Joe Jones
MoDOT Design Division

CC: Jim McDiarmid
D8 Construction & Materials

FROM: Johnny L. Teegardin 
Resident Engineer

DATE: December 1, 2008

SUBJECT: Value Engineering Submittal
Contract ID: 071130-805
Job No. J8S0851 / J8S0795
Route. 266 / Airport BLVD
County: Greene

This Value Engineering proposal is one of eight Value Engineering (VE) proposals submitted to date on this project resulting in a net savings of \$271,274.20 keeping this project under 1% overrun. This proposal covers the installation of 12" Rock Fill Base in lieu of the 4" Type 1 and 5 base shown in the typical sections for portions of Rte 266 and Airport BLVD and reduce the thickness of the asphalt by 2" resulting in a cost savings of \$184,274.20 to be split 50/50 between the contractor and MoDOT.

The contractor proposed this change to Rock Fill Base in an effort to complete this project in a timely manner. This project had been delayed due to the inclement weather encountered during the spring and early summer in 2008. This weather combined with the 3 feet of topsoil that was in this area created issues with the contractor's ability to dry out the material enough to make grade until July 2008. The contractor was able to make this proposal due to their grading subcontractor having a borrow agreement with Springfield Underground to allow them to take what material they needed for the project. The benefit to this portion of the VE had no monetary benefit; it was primarily timesaving.

The true cost savings comes from the reduction of the thickness of asphalt by 2 inches in the lowest SP-250 lift in these areas. Jeff City pavement selection team approved this reduction for all pavements. However, MoDOT District 8 required that the pavement for Haseltine north of Rte 266 to remain at the 10" plan depth due to concerns of needing the planned pavement thickness for the truck traffic from the future underground storage and quarry operations.

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2009 APPLICATION FORM

(required for each entry)

Complete this section for (check one): Small Project Large Project
 Post-Design Solution Off System Project

Job No. J8S0851 / J8S0795 Route 266 / AIRPORT BLVD County / LPA GREENE

Description (attach separate sheet if necessary) This VE covers the proposal by the contractor to replace the 4" Base Rock under the asphalt with 12" of Rock Fill Base. The pavement was then reduced by 2" in these areas resulting in a cost savings of \$184,274.20 to be split 50/50 (See attached VE).

Complete this section for: **Process Improvement**

Process or Product _____

Description (attach separate sheet if necessary) _____

Project Leader JOHNNY TEEGARDIN - RE

Key Team Members (include key personnel irrespective of employer-nine individuals maximum)

STEVE HOWELL - MoDOT

PAGE MORGAN - MoDOT

JIM HARTMAN - MoDOT

DOUG FRONICK - APAC

Project Budget:

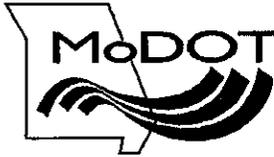
Initial Cost / Estimate \$ 11,889,618.21

Final Cost / Award \$ Project Not Complete

What would make this entry stand out from the rest of the entries when considering MoDOT's practical design philosophy? (In layman's terms - 200 words or fewer-attach separate sheet if necessary) _____

The original intent by the contractor was to help accelerate the project to get it back on schedule due to the heavy rains. This project is built across farmland. The soil was black dirt with little or no rock which was prone to long drying times before gaining workability. Therefore, the contractor proposed the use of 12" rock fill base due to easy accessibility from a quarry being opened just off of the project. The contractor's agreement with the property owner made this option available even though the soil reports noted that rock fill base was non-advantageous due to not having rock on the job. MoDOT took this proposal one step further by reducing the thickness of the asphalt by 2". This resulted in a net savings of \$184,274.20 to be split 50/50.

Send entries to: MoDOT Design Division, ATTN: Joe Jones
1320 Creek Trail Dr., Jefferson City, Missouri 65109



MEMORANDUM

Missouri Department of Transportation

District 8
Springfield Construction

TO: Andy Mueller
Assistant District Engineer

CC:

FROM: Johnny Teegardin 
Resident Engineer

DATE: September 11, 2008

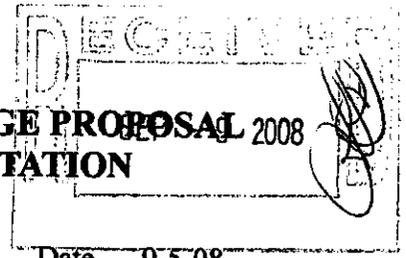
SUBJECT: VE Proposal # 8 – Change to 12" Rock Fill Base
Job No.: J8S0795/851
Route: Airport BLVD / 266
County: Greene

Please find enclosed for your review, comments, and recommendation/rejection and forward to Construction Division this VE proposal to use 12" Rock Fill Base (RFB) in lieu of the proposed 4" Type 1 and 5 bases under the relocated Airport BLVD and Rte 266 pavements. The 12" RFB will be paid utilizing the unit prices for Type 1 and 5 base resulting in no cost savings. However, the Project Manager and Central Office Pavement Selection Team reviewed this proposal and recommended a 2" reduction in asphalt paving thicknesses resulting in a net savings of \$184,274.20. This savings shall be split 50/50 due to agreement with contractor who submitted the original VE.

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CONSTRUCTION VALUE ENGINEERING CHANGE PROPOSAL 2008
MISSOURI DEPARTMENT OF TRANSPORTATION



Date 9-5-08

Contract ID 071130-805 Job No. J8S0851 and J8S0795
 County Greene Route 266 & Airport Blvd. Original Bid Cost \$11,889,618.21
 Contractor APAC-Missouri, Inc. By Doug Fronick
 Designed By APAC-Missouri, Inc. Phone 417-868-6700

VECP 08-81

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

The original typical section for Rt. 266 and Airport Blvd was designed for 12" Superpave over 4" Type 5 base rock and the connector roads were 10" Superpave over 4" Type 1 base rock. APAC-Missouri, Inc. proposes to substitute 12" rock base instead of the 4" base rock in the following areas:

J8S0795

Airport Blvd: STA 36+49.49 (South end of the RR Bridge) to STA 74+70.98 20,521.7 SY

J8S0851

Rt. 266:	STA 615+00 to STA 652+00	36,177.8 SY
Golf Road North	STA 8+10 to STA 9+66	1,102.2 SY
Golf Road South	STA 10+34 to STA 14+40	2,515.4 SY
Haseltine South	STA 35+65.56 to STA 31+57.35	2,533.3 SY
Haseltine North	STA 11+42.67 to STA 30+88.4 (445 SY was changed in previous V.E.)	7,355 SY

The 12" rock base will be paid for at the same unit prices as the 4" base rock:

J8S0795	Item 780 12" Rock Base instead of 4" Type 5 Base	20,521.7 SY @ \$3.28/SY
J8S0851	Item 2110 12" Rock Base instead of 4" Type 5 Base	36,177.8 SY @ \$3.70/SY
	Item 2100 12" Rock Base instead of 4" Type 1 Base	13,505.9 SY @ \$4.16/SY

The change to rock base in the above areas has allowed the pavement thickness to be decreased by 2" except for Haseltine North which will remain the same as the original typical sections. The 2" will be removed from the bottom lift of SP250C/E 64-22. The original profile grade will remain the same with all the changes. The following is a breakdown of the asphalt lifts:

Airport Blvd and Rt. 266 12" asphalt changed to 10"

Original lift thicknesses

1-3/4" SP125C 70-22

3" SP250C 70-22

7-1/4" SP250C 64-22

Changed lift thicknesses

1-3/4" SP125C 70-22

3" SP250C 70-22

5-1/4" SP250C 64-22

Golf Road North, Golf Road South, and Haseltine South 10" asphalt changed to 8"

Original lift thicknesses

1-3/4" SP125C 64-22

8-1/4" SP250E 64-22

Changed lift thicknesses

1-3/4" SP125C 64-22

6-1/4" SP250E 64-22

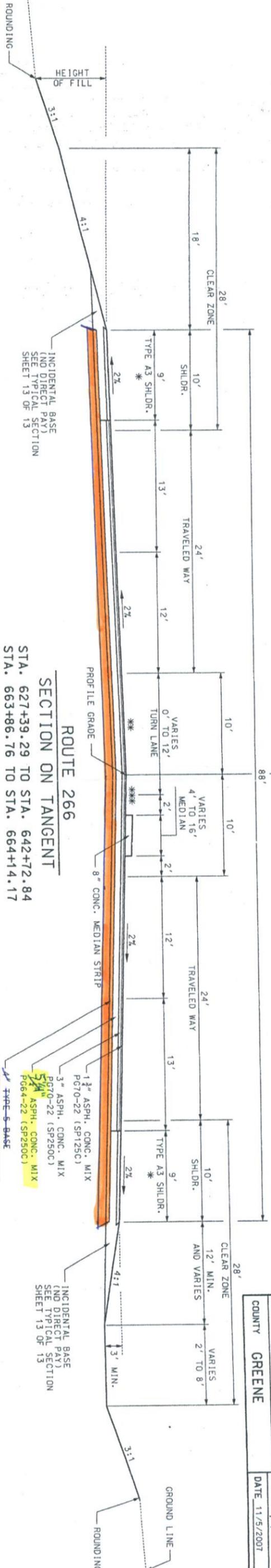




THE DESIGN GUIDE FOR THE WIDTH OF RIGHT OF WAY FOR THIS PROJECT WILL BE 200 FEET. MORE OR LESS RIGHT OF WAY MAY BE SECURED TO SATISFY THE REQUIREMENTS OF THE DESIGN FEATURES OF THIS HIGHWAY. CONTROLLED ACCESS RIGHT OF WAY IS TO BE ACQUIRED FOR THIS PROJECT.

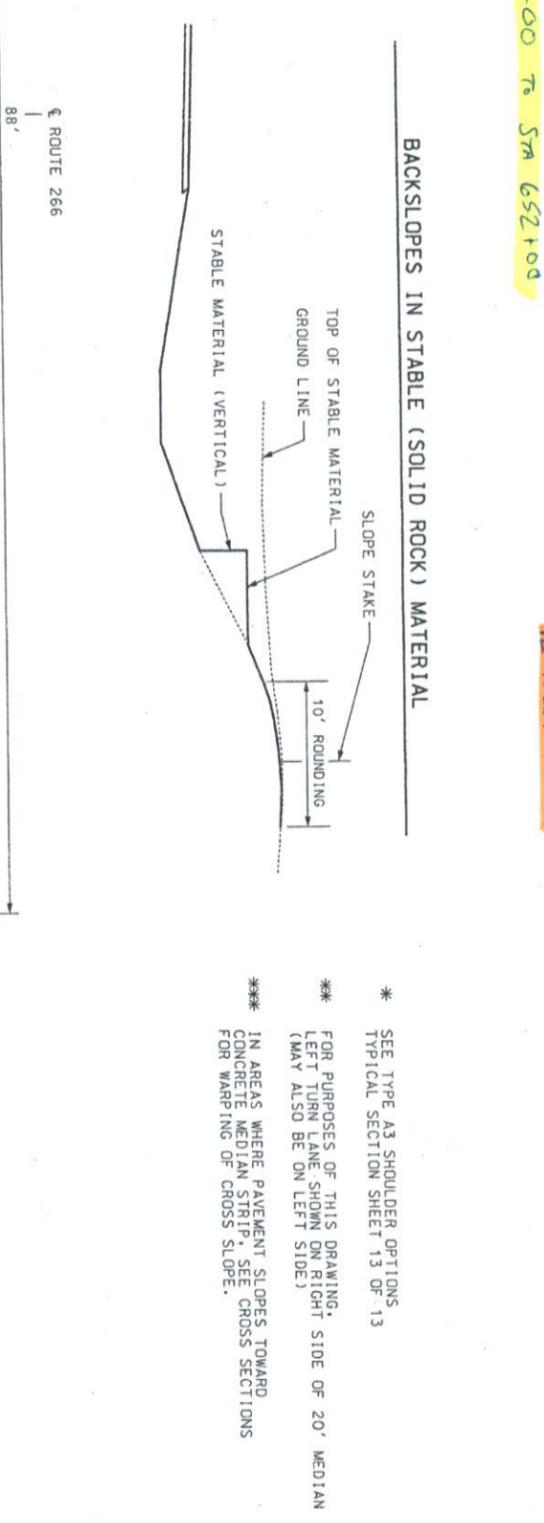


ROUTE 266	STATE MO	DISTRICT 8	SHEET NO. 2
JOB NO. J8S0851			
CONTRACT 10.			
PROJECT NO.			
COUNTY GREENE			
DATE 11/5/2007			



ROUTE 266 SUPERELEVATION TRANSITIONS

MATCH EXISTING	MATCH EXISTING	0%	-2%	0%	-2%	0%	-2%
600+17.35	618+64.83	643+68.84	653+91.88	654+87.88	663+03.19	663+86.76	664+13.35
600+50.00 TO 609+38.19	619+00.35	644+64.84	654+87.88	654+87.88	662+19.61	663+86.76	664+13.35
610+34.19	619+60.83	645+36.84	655+59.88	655+59.88	662+19.61	663+86.76	664+13.35
611+30.19	620+56.83	645+36.84	655+59.88	655+59.88	662+19.61	663+86.76	664+13.35
612+26.19	621+52.83	645+36.84	655+59.88	655+59.88	662+19.61	663+86.76	664+13.35
617+08.35	626+43.29	652+77.55	663+03.19	663+03.19	663+03.19	663+86.76	664+13.35
617+68.83	627+39.29	652+77.55	663+03.19	663+03.19	663+03.19	663+86.76	664+13.35
618+04.35	627+39.29	652+77.55	663+03.19	663+03.19	663+03.19	663+86.76	664+13.35

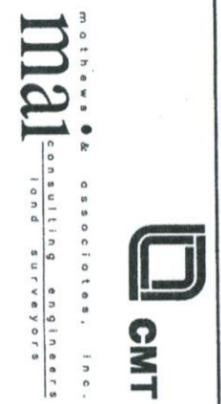


APPLICATION RATES (TYP.)

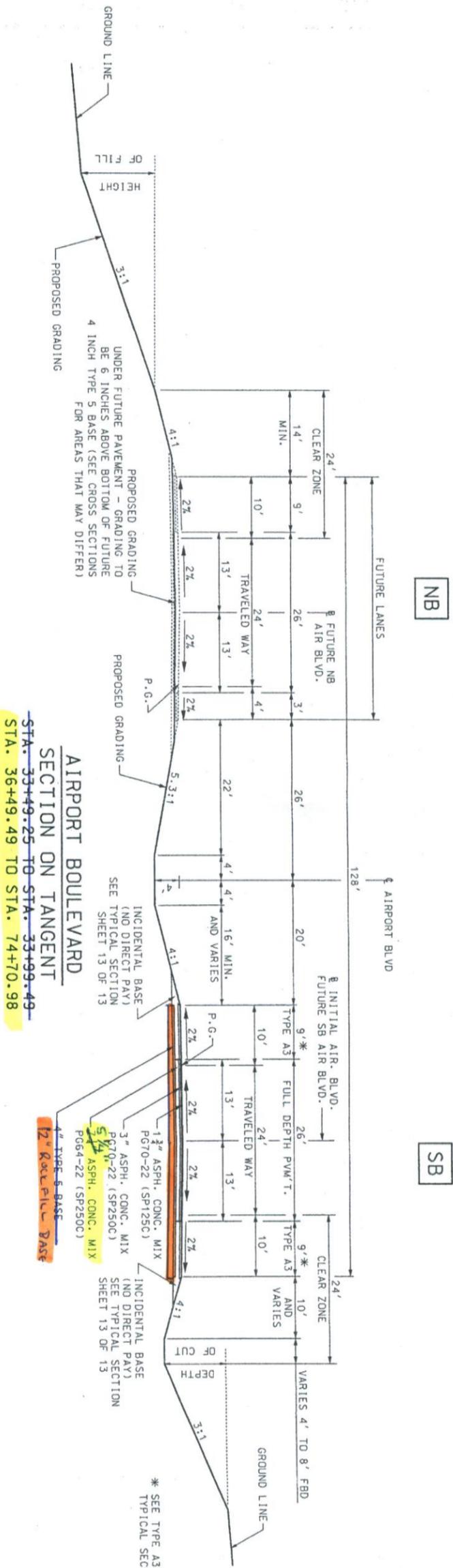
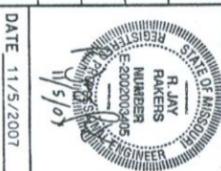
ASPHALTIC CONCRETE MIXTURE PG70-22 (SP125C)	1.980 TON/CYD @ 5.3% AC
ASPHALTIC CONCRETE MIXTURE PG70-22 (SP250C)	2.005 TON/CYD @ 4.2% AC
ASPHALTIC CONCRETE MIXTURE PG64-22 (SP250C)	2.005 TON/CYD @ 4.2% AC
BITUMINOUS PAVEMENT MIXTURE PG64-22 (BP-1)	2.007 TON/CYD @ 4.7% AC
TACK COAT	0.05 GAL/SYD

SECTION ON SUPERELEVATED CURVE
 STA. 614+20.14 TO STA. 627+39.29
 STA. 642+72.84 TO STA. 663+86.76

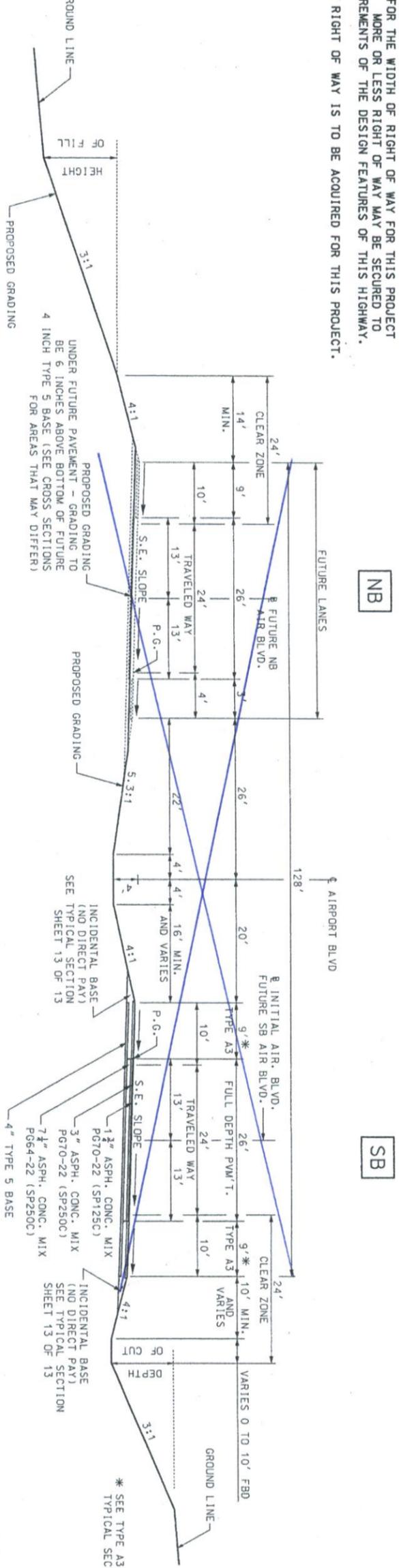
TYPICAL SECTIONS
 ROUTE 266 - 4 LANE
 ALTERNATE A



ROUTE	STATE	DISTRICT	SHEET NO.
AIR BLVD.	MO	8	2
JOB NO.	J8S0795		
CONTRACT ID.			
PROJECT NO.			
COUNTY	GREENE		



SEE TYPE A3 SHOULDER OPTIONS
 TYPICAL SECTION SHEET 13 OF 13

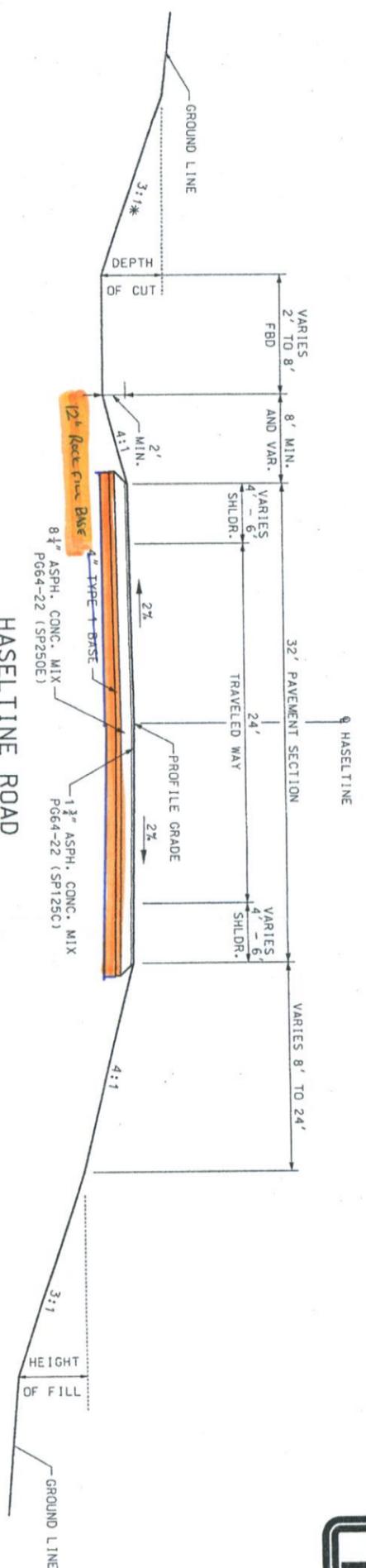


SEE TYPE A3 SHOULDER OPTIONS
 TYPICAL SECTION SHEET 13 OF 13

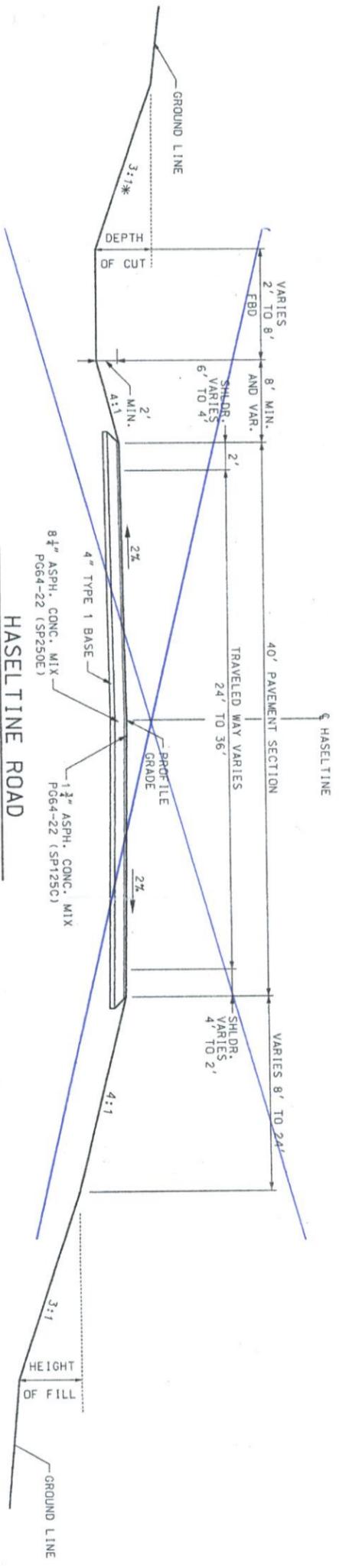
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AIRPORT BOULEVARD
 SECTION ON SUPERELEVATED CURVE
 STA. 8+81.97 TO STA. 9+76.49
 STA. 29+35.05 TO STA. 30+00.00

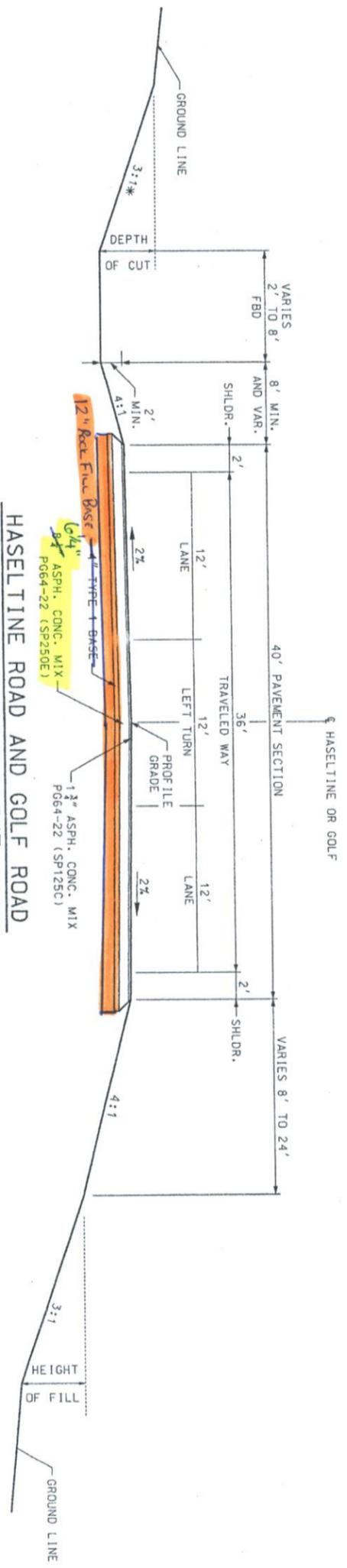
TYPICAL SECTIONS
 AIRPORT BOULEVARD
 ALTERNATE A



HASSELLTINE ROAD
 SECTION ON CURVE AND TANGENT
 (FARM ROAD 115)
 STA. 11+42.67 TO STA. **30+88.4**
28+10.35



HASSELLTINE ROAD
 SECTION ON TANGENT
 (FARM ROAD 115)
 STA. 28+10.35 TO STA. 29+30.35



HASSELLTINE ROAD AND GOLF ROAD
 SECTION ON TANGENT
 STA. 29+30.35 TO STA. 35+65.56 - HASSELLTINE
 STA. 8+10.00 TO STA. 14+40.00 - GOLF

* BACKSLOPE DETERMINED BY SOIL SURVEY

ROUTE	STATE	DISTRICT	SHEET NO.
266	MO	8	2
JOB NO. J8S0851			
CONTRACT ID.			
PROJECT NO.			
COUNTY GREENE			
DATE			11/5/2007



SHEET 5 OF 13
 TYPICAL SECTIONS
 ACCESS ROADS
 ALTERNATE A