DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE STP00-9336-00(001), Rockdale County
P.I. No. 752270
Project Description

OFFICE Program Delivery

DATE October 16, 2012

FROM for Genetha Rice-Singleton, State Program Delivery Engineer

TO Lisa Myers, State Project Review Engineer
Attention: Matt Sanders

SUBJECT **Value Engineering (VE) Study – Request for Reversal of Recommendation**

The Office of Program Delivery requests the reversal of a recommendation for implementation of VE Alternative B-4 in the Implementation of Value Engineering Study Alternatives report dated February 23, 2010. The VE Study was conducted on October 5-9, 2009 by your office.

The original recommendation for VE Alternative B-4: *Revise pavement structure by reducing GAB from 12 inches to 10 inches.* Prior to the recommendation, the State Pavement Engineer revised the proposed GAB from 10 inches to 12 inches and approved the design. Subsequent to the recommendation, the State Pavement Engineer maintained that 12 inches of GAB was preferable based on geotechnical guidelines.

This Office requests reversal of the recommendation for implementation of VE Alternative B-4 for the above stated reason. If there are any questions please contact Krystal Stovall-Dixon at (404) 631-1572.

Approved: Lisa L Myers Date: 10/17/12
State Project Review Engineer

Approved: [signature] Date: 10/22/12
Director of Engineering

Approved: [signature] Date: 10/23/12
Chief Engineer

GRS:HPP:KESD

Attachments: Implementation of Value Engineering Study Alternatives
Email correspondence with State Pavement Engineer
Approved Pavement Design

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: STP00-9336-00(001) Rockdale
P.I. No.: 752270
Old Covington Highway Widening

OFFICE: Engineering Services

DATE: February 23, 2010

FROM: Ronald E. Wishon, State Project Review Engineer REW

TO: Russell McMurray, PE, State Roadway Design Engineer
Attn.: Neal O'Brien

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

The VE Study for the above project was held October 5-9, 2009. Responses were received on February 22, 2010. Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. The Project Manager shall incorporate the VE alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT #	Description	Potential Savings/LCC	Implement	Comments
A-2	Reduce typical section by reducing shoulder from 16 ft to 12 ft and curb and gutter from 30 in to 24 in.	$96,100	No	A 10 ft multi-use trail is proposed for this section of Old Covington Highway. In order to accommodate the County's plans for the trail and to allow for utilities, the shoulder cannot be reduced. The narrower gutter would affect the gutter spread and require additional drainage structures, thereby negating the proposed savings.
B-4	Revise pavement structure by reducing GAB from 12 in to 10 in	$26,726	Yes	This will be done.
C-1	Use modular block wall for Wall Nos. 1-4	$296,857	Yes	This will be done.
G-1	Reduce longitudinal drainage system by eliminating pipe between structures A17 and A19	$10,446	Yes	This will be done.
H-1	Eliminate landscaping	$110,000	Yes	This will be done.

The Office of Engineering Services concurs with the Project Manager's responses.

Approved: _____ **Date:** 3/1/10
Gerald M. Ross, PE, Chief Engineer

REW/LLM
Attachments

c: Ben Buchan
Chuck Hasty/Neal O'Brien
Mickey McGee
Ken Werho
Lisa Myers
Matt Sanders

VE Team: Otis Clark
Darrell DeJean
Bobby Hilliard
Krystal Stovall-Dixon
Josh Taylor

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE STP00-9336-00(001), Rockdale County
P.I. No. 752270-
CR 164/Old Covington Highway from
Green Street to SR 20/SR 138

OFFICE Roadway Design

DATE February 22, 2010

FROM Russell R. McMurry, P.E., State Roadway Design Engineer

TO Ron Wishon, State Project Review Administrator
Attention: Lisa Myers

SUBJECT **Value Engineering Study Report Response**

This office has received and reviewed the recommendations of the Value Engineering (VE) Study Workshop Report dated November 3, 2009. The above project is being designed under a local government agreement with Rockdale County. The county hired Street Smarts to complete all phases of preliminary engineering. Attached are responses to the VE report recommendations provided by Street Smarts. This office has reviewed and concurs with the attached responses.

If there are any questions or comments concerning these recommendations, please contact Neal O'Brien at (404) 631-1725.

RRM:WNO

cc: Ben Buchan, Director of Engineering
Attachment

Responses to VE Recommendations
For Old Covington Hwy Widening
STP00-9336-00(001)
Rockdale County
P.I. No.: 752270
February 22, 2010

Recommendation A-2: Reduce Border Area

This recommendation calls for reducing the 16 feet shoulder to 12 feet and reduce the curb and gutter from 30 inches to 24 inches. This will reduce the overall required ROW on each side by 5 feet for a total reduction of 10 feet.

Potential savings: $96,100

Response from Street Smarts: From a multi-agency study, entitled "Rockdale to Newton County Greenway Trail Master Plan", a 10 foot multi-use trail is proposed for this section of Old Covington Road. This trail project will be included in the TIP at the earliest opportunity. Therefore reducing the shoulder is not recommended in order to allow for this proposed trail and to also allow for utility relocations. Reducing the width of the curb and gutter is also not recommended.

In order to accommodate the County's proposed plans for a 10 foot multi-use trail along this corridor we recommend keeping the 16 feet shoulder.

In regards to the reduced width of curb and gutter, utilizing GDOT's Detailed Estimate program the costs for the 24 inch curb and gutter is approximately $24/linear foot and the costs for the 30 inch curb and gutter is approximately $12/linear foot; therefore it would increase the project cost by $161,856 (13488 LF x $12). In addition, reducing the width of the gutter would affect the gutter spread and potentially increase the number of structures required. Therefore we do not recommend changing the type of curb and gutter.

Recommendation B-4: Revise Pavement Structure

This recommendation reduces the GAB thickness from 12 inches to 10 inches.

Potential savings: $26,276

Response from Street Smarts: This should be implemented.

The original pavement structure, 12 inch GAB, resulted in a 4.8% over-design (not 4.8% under-design as stated in the study) and the revised 10 inches of GAB resulted in 2.8% under-design which is acceptable; therefore the pavement section should be revised.

Recommendation C-1: Modular Block Walls

This recommendation is to replace the four Class B concrete gravity walls with Modular Block Walls.

Potential savings: $296,857

Responses to VE Recommendations
For Old Covington Hwy Widening
STP00-9336-00(001)
Rockdale County
P.I. No.: 752270
February 22, 2010

Response from Street Smarts: This should be implemented.

This recommendation should be implemented.

Recommendation G-1: Reduce the Longitudinal Drainage System

This recommendation is to eliminate the longitudinal pipe between structures A17 and A19 and add a cross drain between structures A18 and A19.

Potential savings: $10,446

Response from Street Smarts: This should be implemented.

This should be implemented if drainage calculations can verify that this design meets current GDOT drainage guidelines.

Recommendation H-1: Provide No Landscaping

This recommendation eliminated the landscaping from the project.

Potential savings: $110,000

Response from Street Smarts: This should be implemented.

The approved Concept Report and Preliminary plans included Landscaping per the County's request; however, all landscaping was eliminated from GDOT's projects due to the recent drought. In addition, due to the budget constraints of GDOT, we concur that Landscaping should be eliminated from this project.

PRECONSTRUCTION STATUS REPORT FOR PI:752270-

CR 164/OLD COVINGTON HWY FM GREEN STREET TO SR 20/138 - GRTA

PROJ ID :	752270-	MPO:	Atlanta TMA	PRIORITY CODE:	[illegible]	MGMT LET DATE :	
COUNTY :	Rockdale	TIP #:	RO-034	DOT DIST:	7	MGMT ROW DATE :	10/20/2006
LENGTH (MI) :	0.90	MODEL YR :	2010	CONG. DIST:	4	BASELINE LET DATE:	12/10/2009
PROJ NO.:	STP00-9336-00(001)	TYPE WORK:	Widening	BIKE:	N	SCHED LET DATE :	6/9/2011
PROJ MGR:	Obrien, Neal	CONCEPT:	WIDEN & RECONST	MEASURE:	E	WHO LETS?:	Local Let
AOHD Initials:	CAH	PROG TYPE:	Reconstruction/Rehabilitation	NEEDS SCORE:	04	LET WITH :	
OFFICE :	Program Delivery	Prov. for ITS:	N	BRIDGE SUFF:			
CONSULTANT:	Local Design, Reimbursed by GDOT funds	BOND PROJ :	GRTA ARTERIAL				
SPONSOR :	Rockdale County						
DESIGN FIRM:	Street Smarts /Transportation Consulting mda, Inc.						

BASE START	BASE FINISH	LATE START	LATE FINISH	TASKS	ACTUAL START	ACTUAL FINISH	%
				Concept Development	1/14/2005	2/28/2006	100
				Concept Meeting	12/5/2005	12/6/2005	100
				PM Submit Concept Report	1/22/2006	2/1/2006	100
				Receive Preconstruction Concept Approval	2/14/2006	2/21/2006	100
				Management Concept Approval Complete	**2/21/2006**	**2/28/2006**	**100**
			3/9/2010	Value Engineering Study	7/27/2009		83
				Public Information Open House Held	8/9/2005	8/9/2005	100
				Environmental Approval	**5/18/2005**	**6/21/2006**	**100**
				Mapping	2/9/2007	3/1/2007	100
				Field Surveys/SDE	2/2/2007	3/1/2007	100
				Preliminary Plans	**4/27/2006**	**4/27/2006**	**100**
8/29/2008	1/8/2009	2/26/2010	7/8/2010	Underground Storage Tanks			0
8/29/2008	12/11/2008	2/26/2010	6/10/2010	404 Permit Obtainment			0
				FFPR Inspection	4/26/2006	4/26/2006	100
				R/W Plans Preparation	4/5/2006	6/27/2006	100
				R/W Plans Final Approval	**6/28/2006**	**6/29/2006**	**100**
				L & D Approval	6/27/2006	6/30/2006	100
				R/W Authorization	8/11/2006	1/16/2007	100
12/5/2008	12/18/2008	6/4/2010	6/17/2010	Stake R/W			0
				Soil Survey	1/3/2006	3/31/2006	100
8/29/2008	**7/9/2009**		**1/6/2011**	**Final Design**	**6/27/2006**		60
7/11/2009	8/3/2009	1/28/2011	1/31/2011	FFPR Inspection			0
8/17/2009	8/28/2009	2/14/2011	2/25/2011	Submit FFPR Responses (OES)			0

PROGRAMMED FUNDS

Activity	Approved	Proposed	Cost	Fund	Status	Date Auth
PE	2004	2004	15,436.49	42210	AUTHORIZED	1/26/2004
PE	2004	2004	84,563.51	CFTS	AUTHORIZED	1/26/2004
ROW	2007	2007	59,575.18	CFTS	AUTHORIZED	1/16/2007
ROW	2007	2007	4,656,274.82	RRB	AUTHORIZED	1/16/2007
CST	LR	LR	4,954,377.62	L240	PRECST	

PE Cost Est Amt:	15,436.49	Date	
PE Cost Est Amt:	84,563.51	Date	
ROW Cost Est Amt	59,575.18	Date:	6/30/2006
ROW Cost Est Amt	4,656,274.82	Date	6/30/2006
CST Cost Est Amt	3,347,000.00	Date	1/6/2009

STIP AMOUNTS

Activity	Cost	Fund
PE	0.00	42210
PE	0.00	CFTS
ROW	0.00	RRB
ROW	0.00	CFTS
CST	2,364,000.00	L240

PDD:	BOND LR 9/27/04 Need 731047 first! 3/10/04 Let w/ or after 731047 (SR138) bridge/RR 9/1/04
Bridge:	NO BRIDGE REQUIRED
Design:	ROW Acquisition Active/ Need VE Study (5-8-09)
EIS:	CE(Apvd6-21-06)(Ref6-19-07)(OnSchedCST)Rish(12-5-08)
LGPA:	PMA SGN ROCKDALE DO PE|ROW|UTIL & CST 9-29-03
Planning:	Amend reqd to convert bonds- CST
Prog. Develop:	TOTAL $1,391,000 PER PMA + $823K 3-21-07
Programming:	TEMP SR 1167 1167TA-TC#2 7-08
ROW:	need more funds, need to rebid since original contract not signed-sjp 10-23-09, bid mtg 5-8-08
Traffic Op:	SEND LOCAL CONSULTANT PLANS & REV|PFPR sent 4 7 06 w/r
Utility:	WW Need plans 12/2004
EMG:	RECST/REHAB (WIDENING), FLY 6248/03, PE BY COUNTY

District Comments

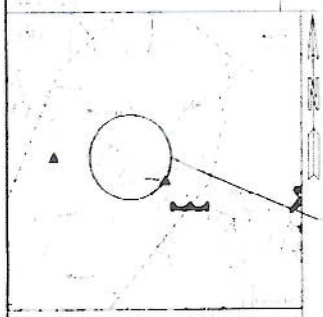
NO UST'S COUNTY PROJECT MAY NEED TO BE RESURRECTED DUE TO "HOME DEPOT" TUNNEL (3/10/04) LOCALS ADVERTISING FOR DESIGN CONSULTANT (11/15/04) CONSULTANT TO BE ON-BOARD IN JAN (1/15/05) STREET SMART TO BE CONSULTANT (7/18/05) PIOH TO BE HELD 8/9/05 (10/12/05) COUNTY REVISITING SCOPE, PIOH HELD (2/8/06) FINAL CONCEPT SUBMITTED TO GDOT || County req GDOT acquire ROW because of funding problem ROW Appraisale contracts have not been executed (1-9-09) Consultant addressed survey made ROW revisions. ROW active (6-8-09)

Prel. Parcel CT:	57	Total Parcel in ROW System:	57	Cond. Filed:	0	Acquired by:	DOT	DEEDS CT:	0
Under Review:	18	Options - Pending:	0	Relocations:	3	Acquisition MGR:	Phillips, Sherry		
Released:	0	Condemnations- Pend:	0	Acquired:	0	R/W Cert Date:			

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

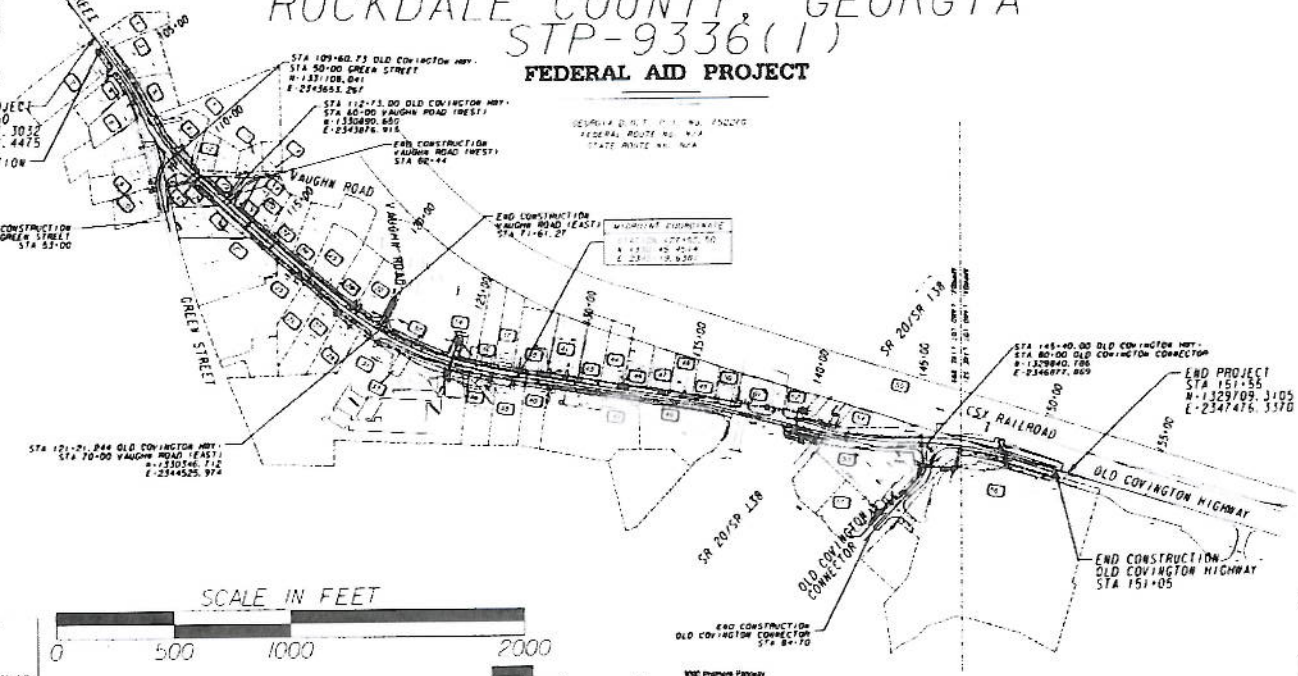
PLAN AND PROFILE OF PROPOSED
WIDENING AND RECONSTRUCTION
OF OLD COVINGTON HIGHWAY
ROCKDALE COUNTY, GEORGIA
STP-9336(1)

FEDERAL AID PROJECT



LOCATION SKETCH

NOTE: THE COORDINATES LISTED ARE WEST ZONE GRID COORDINATES BASED ON THE GA. STATE PLANE COORDINATE SYSTEM OF
HORIZONTAL DATUM: NAD 1927 NAD
VERTICAL DATUM: NAVD 1988



SCALE IN FEET

0 500 1000 2000

NOTE: THESE PLANS ARE IN ENGLISH UNITS

THIS PROJECT IS LOCATED WITHIN ROCKDALE COUNTY AND CONGRESSIONAL DISTRICT 13

PROJECT DESIGNATION: EXEMPT
FOR CLASSIFICATION: MAJOR
FUNCTIONAL CLASSIFICATION: URBAN COLLECTOR/LOCAL ROAD

NOTE:
ALL REFERENCES IN THIS DOCUMENT, WHICH INCLUDES ALL MAPS, WRITINGS, DOCUMENTS, DRAWINGS, OR PHOTOGRAPHS USED OR TO BE USED IN CONNECTION WITH THIS DOCUMENT, TO "STATE HIGHWAY DEPARTMENT OF GEORGIA", "STATE HIGHWAY DEPARTMENT", "GEORGIA STATE HIGHWAY DEPARTMENT", "HIGHWAY DEPARTMENT", OR "DEPARTMENT" WHEN THE CONTEXT THEREOF MEANS THE STATE HIGHWAY DEPARTMENT OF GEORGIA MEAN, AND SHALL BE DEEMED TO MEAN THE DEPARTMENT OF TRANSPORTATION.

THE DATA, TOGETHER WITH ALL OTHER INFORMATION SHOWN ON THESE PLANS, OR IN ANY WAY INDICATED THEREON, WHETHER BY DRAWINGS, ON NOTES, OR IN ANY OTHER MANNER, ARE BASED UPON FIELD INVESTIGATIONS AND ARE BELIEVED TO BE INDICATIVE OF ACTUAL CONDITIONS. HOWEVER, THE SAME ARE SHOWN AS INFORMATION ONLY, ARE NOT GUARANTEED, AND DO NOT BIND THE DEPARTMENT OF TRANSPORTATION IN ANY WAY. THE ATTENTION OF THE BIDDER IS SPECIFICALLY DIRECTED TO ARTICLES 102.04, 102.05 AND 104.02 OF THE SPECIFICATIONS OF THE DEPARTMENT OF TRANSPORTATION, STATE OF GEORGIA, FOR THE CONSTRUCTION OF ROADS AND BRIDGES, CURRENT EDITION, AND ANY MODIFICATIONS THEREOF, WHICH WILL BE A PART OF THIS CONTRACT.

ALL WORK TO BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS OF THE DEPARTMENT OF TRANSPORTATION OF GEORGIA, CURRENT EDITION, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.

street SMARTS

3000 Pinnacle Parkway
Suite 200
Duluth, GA 30097
phone: 770-813-0880
fax: 770-813-0886

DESIGN DATA: OLD COVINGTON HWY		
TRAFFIC A.D.T.:	3,790	(2008)
TRAFFIC A.D.T.:	5,700	(2028)
TRAFFIC D.H.V.:	470 /580	(2028)
DIRECTIONAL DIST:	65% /35%	
% TRUCKS:	3%	
% 24 HR TRUCKS:	4%	
SPEED DESIGN:	35 MPH	

LENGTH OF PROJECT	MILES
NET LENGTH OF ROADWAY	0.695
NET LENGTH OF BRIDGES	0.0
NET LENGTH OF PROJECT	0.695
NET LENGTH OF EXCEPTIONS	0.0
GROSS LENGTH OF PROJECT	0.695

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
ROCKDALE	STP-9336(1)	1	107

PLANS PREPARED BY
STREET SMARTS, INC.

UNDER THE SUPERVISION OF

RECOMMENDED FOR APPROVAL BY: STATE / DESIGN ENGINEER

DATE

LOCATION AND DESIGN APPROVAL DATE: (MM/DD/YR)

REVISION DATES

Stovall-Dixon, Krystal E.

Subject: FW: PI# 752270, Rockdale County - Pavement Design
Attachments: Approved Pavement Design.pdf; D752270_Check_perKSD 12.pdf; TrafficProjection752270_xlsx.pdf

From: Jubran, Abdallah (AJ)
Sent: Tuesday, June 28, 2011 3:38 PM
To: Stovall-Dixon, Krystal E.
Cc: Pahno, Steve V
Subject: FW: PI# 752270, Rockdale County

Krystal,

I have reviewed the full depth section design. The design you have with 12 inches is acceptable based upon projecting traffic to 2012 using the implied growth rate. The design needs to be revisited again when traffic is updated; traffic volumes may change.

The 12 inch GAB in the approved design is based upon Geotechnical guidelines. The red handwriting, increasing the GAB to 12 inches in the Approved Pavement Design you submitted is my handwriting. This was my edit, when I presented, I should have added my initials when it became the formal copy (expediting in the interest of time).

I have attached traffic projections, and a design check using updated traffic volume.

A.J. Jubran, P.E.
State Pavement Engineer
Georgia Department of Transportation
404-608-4771 <<< New Telephone Number

ajubran@dot.ga.gov

Help GDOT serve you better. Visit http://www.howsmyservice.dot.ga.gov and rate the service you received from Team GDOT.

From: Stovall-Dixon, Krystal E.
Sent: Tuesday, June 14, 2011 7:14 AM
To: Jubran, Abdallah (AJ); Pahno, Steve V
Subject: PI# 752270, Rockdale County

Hi AJ and Steve,

The project referenced above has been on hold since 2007 and is now being reactivated. Attached is the approved pavement design. Would you mind doing a cursory review to determine if I need to update the pavement design and submit for approval? I have placed the typical, cross sections and the last set of traffic data that I have on PC Common in a folder named "752270".

If you feel the approved pavement design is still acceptable, then my next question is whether we can change the GAB back to 10 inches? Someone marked through the 10" and wrote in 12". The reason I ask is because a VE Study was done on the project a few years ago and one of the VE recommendations was to reduce the GAB to 10". The recommendation was agreed to, so we either need to change the GAB to 10" or reverse our decision to implement this cost savings recommendation.

Thank you for your assistance.

Krystal

Krystal Stovall-Dixon, PMP
Project Manager
Georgia Department of Transportation
One Georgia Center, 25th Floor
600 West Peachtree Street
Atlanta, GA 30308
Office: 404-631-1572
Cell: 404-308-2896

PAVING APPROVAL CHECKLIST

PROJECT: STP-9336(1) DATE: 7/2/06
P.I. NO.: 752270 LET DATE: December 2007
COUNTY: ROCKDALE
SUBMITTED BY: James Tidwell
☒ CONSULTANT PROJECT SCHEDULED COMPLETION DATE: ____

PLEASE CHECK ALL ITEMS BEFORE SUBMITTING YOUR DESIGN. UNDERSTANDABLY, SOME ITEMS ARE NOT APPLICABLE. **ENCLOSE THIS COMPLETED CHECKLIST WHEN SUBMISSION IS MADE.**

1) **GENERAL**
- ☒ COMPLETE COVER, TYPICAL SECTION, PAVING ANALYSIS, TRAFFIC DIAGRAM, EXISTING PAVING EVALUATION, SOIL SURVEY
- ☒ BRIEF DESCRIPTION OF PROJECT(I.E., PASSING LANE, BRIDGE REPL., ETC.) _____(ALSO ATTACH DETAILED PROJECT DESCRIPTION)

2) **COVER**

- ☒ PROJECT NUMBER
- ☒ COUNTY
- ☒ FEDERAL ROUTE
- ☒ STATE ROUTE
- ☒ P.I. NO.
- ☒ LENGTH
- ☒ % WITHIN COUNTY
- ☒ % WITHIN CONGRESSIONAL DISTRICT
- ☒ HORIZONTAL DATUM
- ☒ VERTICAL DATUM
- ☒ EAST OR WEST ZONE COORDINATES
- ☒ ENGLISH OR METRIC

DESIGN DATA
- ☒ TRAFFIC TWO WAY
- ☒ TRUCK % and 24 HOUR TRUCK %
- ☒ SPEED DESIGN
- ☒ FUNCTIONAL CLASSIFICATION
- ☒ FOS/EXEMPT/STATE FUNDED
- ☒ NORTH ARROW
- ☒ LOCATION SKETCH - FLAG PROJECT
- ☒ CHIEF ENGINEER
- ☐ OTHER
- ☒ PROJECT MIDPOINT
- ☒ PROJECT COOR. APPROX. MIDPOINT

3) **PAVEMENT DESIGN FORM**
- ☒ PROJECT NUMBER
- ☒ COUNTY
- ☒ P.I. NO.
- ☒ DESCRIPTION
- ☒ 24 HOUR TRUCK %
- ☒ AADT, ONE WAY
- ☒ LDF, LANE DISTRIBUTION FACTOR
- ☒ 18-K EQUIVALENT, ESAL
- ☒ TERMINAL SERVICEABILITY
- ☒ SOIL SUPPORT
- ☒ REGIONAL FACTOR
- ☒ PROPOSED PAVEMENT STRUCTURE
- ☒ % OVER/ UNDER DESIGN
- ☐ PRECONSTRUCTION ENGINEER'S REVIEW AND SIGNATURE
- ☒ DOES PLAN TYPICAL MATCH PAVING DESIGN ANALYSIS

4) **TYPICAL**
- ☒ MATERIAL LAYERS LABELED
- ☒ ALLOWABLE RANGE TABLE
- ☐ GUARDRAIL DETAIL
- ☒ SLOPE CONTROLS
- ☒ CROSS-SLOPE INDICATED
- ☐ INDENTATION RUMBLE STRIPS
- ☒ SPREAD RATES
- ☐ ALTERNATE SECTIONS IF REQUIRED
- ☒ CLASS "B" CONCRETE DETAIL
- ☒ SUPERPAVE MIX DESIGN LEVEL NOTE
- ☒ PAVEMENT REINFORCING FABRIC DETAIL

REMEMBER

- ☒ DESIGN FOR CLEAR ZONE
- ☐ IF DESIGN VARIANCES ARE USED, PLEASE PROVIDE ADEQUATE JUSTIFICATION
- ☒ NEW PAVEMENT – UNDER DESIGN - 10-15% RURAL, 0-5% URBAN AND BRIDGE APPROACHES
- ☒ SUBMIT DESIGN AROUND 6 TO 9 MONTHS PRIOR TO LET DATE OR CONSULTANT COMPLETION DATE

REVISED: 2-27-03

BUCHAN
HASTY
RICHARDSON
VANMETER
OTHER
GROUPS
FILE

DEPARTMENT OF TRANSPORTATION

RECEIVED
JUL 16 2007
URBAN DESIGN

STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE

FILE STP-9336(1) Rockdale
PI No. 752270

OFFICE Materials and Research
DATE July 20, 2007

FROM Georgene M. Geary, P. E., State Materials and Research Engineer

TO James B. Buchan, P. E., State Urban Design Engineer
Attention: Neal O'Brien

SUBJECT Revised Pavement Evaluation Summary
Widening and Reconstruction of Old Covington Highway

As requested, we have prepared a revised pavement evaluation summary for the aforementioned site. The descriptions of the cores in *Section 6: Asphalt Cores* were corrected.

If additional information is needed, please contact Mehdi Bashirian of the Pavement Management Branch at 404-675-1556.

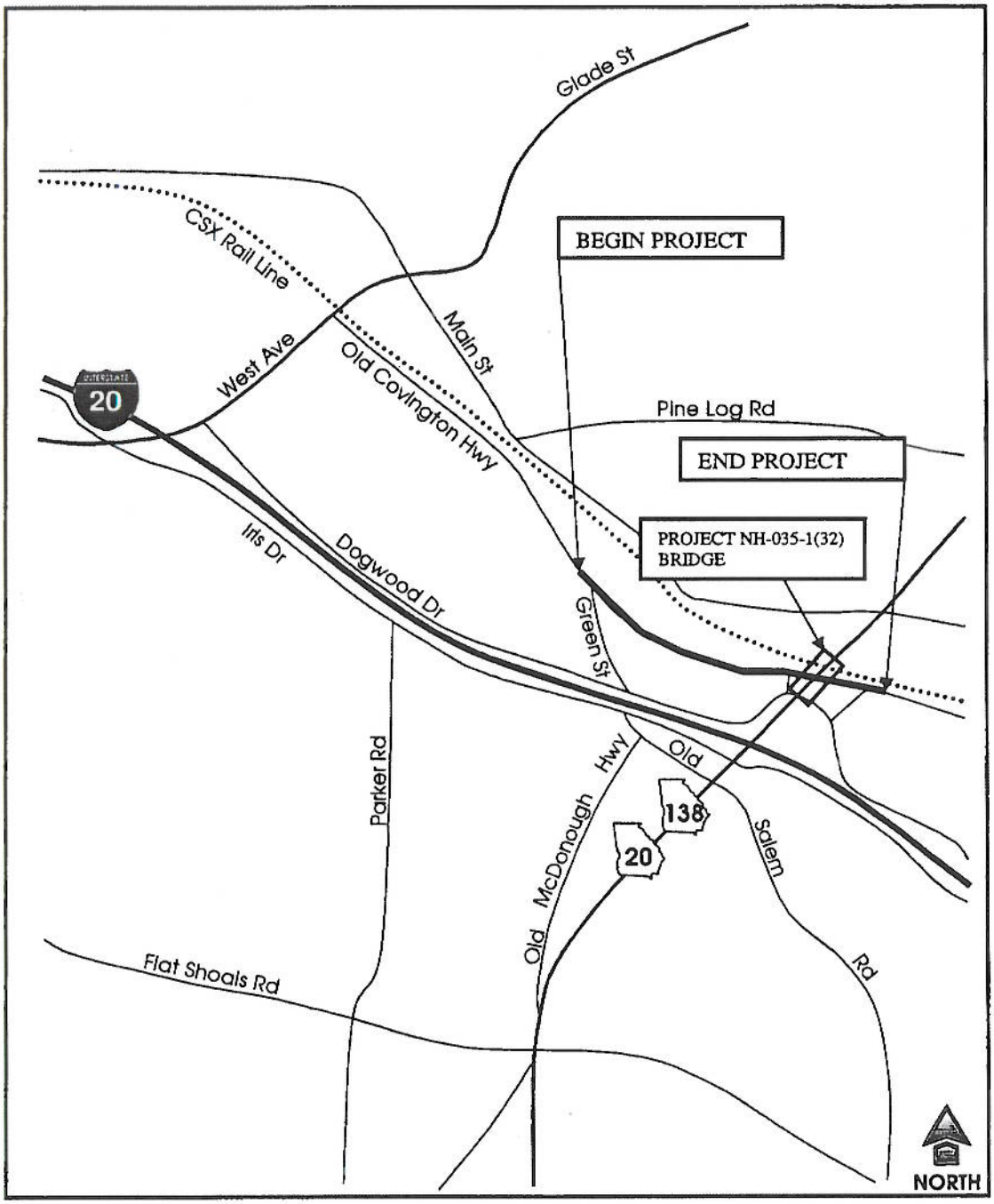
GMG: JTR: AJJ: SVP: MJB

Attachments
Pavement Evaluation Summary
Full-Depth Design
Overlay Design

Copy: file
Sheila Hines, State Bituminous Construction Engineer, Forest Park
Bryant Poole, District Engineer, Chamblee
Thomas C. Parker, Area Engineer, Decatur

D752270PES

SITE LOCATION MAP



Project: STP-9336(1) Rockdale County **PI No.:** 752270
Description: Widening and Reconstruction of Old Covington Highway from Green Street to SR 20/SR 138.

Pavement Design
STP-9336(1), Rockdale County
Old Covington Highway
P.I. No. 752270

Project STP-9336(1) consists of the widening/reconstruction of Old Covington Highway from Green Street to east of SR 20/SR 138. The project will include the reconstruction of the Green Street intersection at Old Covington Highway, adding a two-way left-turn center lane, curb and gutter, sidewalk, and will reconnect Old Covington Highway east and west of SR 20/138.

Old Covington Highway is a two-lane local street that begins at an intersection with Green Street. From here, the project runs eastbound and ends at a connector to Dogwood Drive just west of SR 20/SR 138. The roadway picks up again east of SR 20/SR 138 with another connector to Dogwood Drive.

Green Street will be realigned to tie into the reconstructed Old Covington Highway and will require full depth construction as well as overlay construction.

Vaughn Road west will be realigned to tie into Old Covington Highway at 90 degrees and will require full depth construction as well as overlay construction. Vaughn Road east will be widened and will require full depth construction as well as overlay construction.

The existing section of Old Covington Highway will be realigned to tie into the new construction at 90 degrees and will be renamed Old Covington Connector. Full depth construction as well as overlay construction will be required.

See attachment for existing pavement analysis.

Mainline and Sidestreets
1.25" – 9.5 mm Superpave
2" – 19 mm Superpave
3" – 25 mm Superpave
10" – Graded Aggregate Base

Mainline Overlay
Mill 1.5" and inlay the following:
1.25" – 9.5 mm Superpave
2" – 19 mm Superpave
3" – 25 mm Superpave

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: STP-9336(1) **County:** Rockdale
P.I. no.: 752270
Description: Widening and Reconstruction of Old Covington Highway

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 4.00%
AADT initial year of design period: 2,400 vpd (2008)
AADT final year of design period: 3,600 vpd (2028)
Mean AADT (one-way): 3,000 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
3,000	*	1.00	*	0.040	*	0.73	=	89

Total predicted design period loading = 89 * 20 * 365 = 649,700

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 2.50
Regional Factor: 1.60

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
9.5 mm Superpave	1.25	(32)	0.44	0.55
19 mm Superpave	2.00	(51)	0.44	0.88
25 mm Superpave	1.25	(32)	0.44	0.55
	1.75	(44)	0.30	0.53
Graded Aggregate Base	12 ~~10~~.00	(254)	0.16	~~1.60~~ 1.92

Required SN = 4.26 Proposed SN = ~~4.11~~ 4.43

3.75 overdesign

>>> Proposed pavement is ~~3.4%~~ Underdesign <<<

Remarks: Full Depth Structure

Prepared by James Tidwell, PE June 29, 2007
Date

Recommended James B Bucha (ABHD) 22 Aug 07
State Urban Design Engineer **Date**

Approved 8/22/07
State Pavement Engineer **Date**

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: STP-9336(1) **County:** Rockdale
P.I. no.: 752270
Description: Widening and Reconstruction of Old Covington Highway

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 4.00%
AADT initial year of design period: 2,400 vpd (2008)
AADT final year of design period: 3,600 vpd (2028)
Mean AADT (one-way): 3,000 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
3,000	*	1.00	*	0.040	*	0.73	=	89

Total predicted design period loading = 89 * 20 * 365 = 649,700

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 2.50
Regional Factor: 1.60

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
	*** OVERLAY ***			
9.5 mm Superpave	1.25	(32)	0.44	0.55
19 mm Superpave	2.00	(51)	0.44	0.88
25 mm Superpave	1.25	(32)	0.44	0.55
	1.75	(44)	0.30	0.53
	*** EXISTING PAVEMENT ***			
Asphaltic Concrete	3.50	(89)	0.30	1.05
Sand-Clay Base	6.00	(152)	0.10	0.60

Required SN = 4.26 Proposed SN = 4.16

>>> Proposed pavement is 2.3% Underdesign <<<

Remarks: Mill 1.5 inches, inlay above structure

Prepared by James Tidwell, PE June 29, 2007
Date

Recommended James B Buchan (ABWB) 22 Aug 07
State Urban Design Engineer **Date**

Approved 8/22/07
State Pavement Engineer **Date**

PAVEMENT EVALUATION SUMMARY

For

STP-9336-(1) Rockdale County
PI No. 752270

1. *LOCATION / DESCRIPTION*

This project is for the widening and reconstruction of Old Covington Highway in Rockdale County. The project begins at Station 104+00± and continues east to Station 151+25±. The project is located at the southern city limits of Conyers in Rockdale County.

2. *PAVEMENT CONDITION SUMMARY*

The existing pavement on Old Covington Highway is in poor condition due to the distresses listed in *Section 5: Pavement Distresses*. This road should be reconstructed full-depth.

3. *FULL-DEPTH SECTIONS*

The following full-depth pavement option is recommended for use on this project:

PAY ITEM NUMBER	MATERIAL	COURSE	THICKNESS	SPREAD RATE
402-3131	9.5 mm Superpave	Surface	1.25 inches	135 lbs/yd^2
402-3190	19 mm Superpave	Binder	2 inches	220 lbs/yd^2
402-3121	25 mm Superpave	Asphalt Base	3 inches	330 lbs/yd^2
310-1101	Graded Aggregate Base	Base	10 inches	N/A

4. *OVERLAY SECTIONS*

The following mill and inlay section is recommended (see *Section 8: Additional Recommendations*) as a temporary solution for use on this project in the event that the full-depth construction option is not selected:

Pay Item Number	Material	Course	Thickness	Spread Rate
402-3131	9.5 mm Superpave	Surface	1.25 inches	135 lbs/yd^2
402-3130	19 mm Superpave	Binder	2 inches	220 lbs/yd^2
402-3121	25 mm Superpave	Asphalt Base	3 inches	330 lbs/yd^2

5. *PAVEMENT DISTRESSES*

Except for the following, no other distresses were encountered during the field investigation of this project:

Load Cracking On Old Covington Highway, Level 2 cracking was observed.

Block/ Transverse Cracking On Old Covington Highway, Level 2 block/ transverse cracking was observed.

Reflection Cracking On Old Covington Highway, Level 2 cracking was observed.

6. *ASPHALT CORES*

Cores were recovered from 4 locations in the travel lanes of this project to determine the thicknesses of the existing pavement sections. The results of this work are as follows:

Core Number	Location	Station	Asphalt Core Length	Underlying Material
1	Old Covington Highway Eastbound	108+12±	6 ½ inches	Soil
2	Old Covington Highway Eastbound	114+13±	6 ¾ inches	Soil
3	Old Covington Highway Westbound	126+56±	7 ¼ inches	Soil
4	Old Covington Highway Westbound	124+30±	5 ¼ inches	2 ½ inches Cement Base

7. *OTHER INFORMATION*

The attached design uses the pavement design values recommend in the final Soil Survey Summary that was revised on March 8, 2006.

8. *ADDITIONAL RECOMMENDATIONS*

The existing pavement structure is in poor condition due to numerous patches, excessive cracks, and potholes. Hence, we recommend that the entire project be reconstructed full-depth.

If the full-depth construction option is not selected for use on this project, then a temporary solution would be to mill 1.5 inches of the existing asphalt and inlay with the pavement structure recommended in *Section 4: Overlay Sections.*

Reported By: Mehdi J. Bashirian

Reviewed By: A. J. Jubran, P. E.

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: STP-9336(1) **County:** ROCKDALE
P.I. no.: 752270
Description: Widening and reconstruction of old Covington Highway

Traffic Data (NOTE: AADTs are one-way)
24-hour Truck Percentage: 4.00%
AADT initial year of design period: 2,400 vpd (2008)
AADT final year of design period: 3,600 vpd (2028)
Mean AADT (one-way): 3,000 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Daily Loads
3,000	*	1.00	*	0.040	*	0.72[illegible]	=	89

Total predicted design period loading = [illegible] * 365 = 649,700

Design Data
Terminal Serviceability Index: 2.50
Soil Support: 2.50
Regional Factor: 1.60

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
9.5 mm Superpave	25	[illegible]	0.44	0.55
19 mm Superpave	2[illegible]	(51)	0.44	0.88
25 mm Superpave	1[illegible]	(32)	0.44	0.55
[illegible]	[illegible]	(14)	0.30	0.53
Graded Aggregate Base	10[illegible]00	(254)	0.16	1.60

Required SN = [illegible].26 Proposed SN = 4.11

>>> Proposed pavement is 3.4% Underdesigned <<<

Remarks: Old Covington Highway and Old Covington-Dogwood Connector

Prepared by Mehdi Bashirian June 07, 2007
Pavement Design Engineer Date

Recommended _____
Office Head Date

Approved _____
State Pavement Engineer Date

DRAFT

FLEXIBLE PAVEMENT DESIGN ANALYSIS

Project: STP-9336 (1) **County:** Rockdale
PI No.: 752270
Description: Widening and reconstruction of Old Covington Highway

Traffic Data (NOTE: AADTs are one-way)

24-Hour Truck Percentage: 4.00%
AADT Initial Year of Design Period: 2,400 vpd (2008)
AADT Final Year of Design Period: 3,600 vpd (2028)
Mean AADT (one-way): 3,000 vpd

Design Loading

Mean AADT		LDF		Trucks		18-K ESAL		Total Loadings
3,000	*	1.00	*	0.040	*	0.73	=	89

Total predicted design period loading = 89 * 20 * 365 = 649,700

Design Data

Terminal Serviceability Index: 2.50
Soil Support: 2.50
Regional Factor: 1.60

PROPOSED FLEXIBLE PAVEMENT STRUCTURE

Material	Thickness Inches	Thickness (mm)	Structural Coefficient	Structural Value
		*** OVERLAY ***		
9.5 mm Superpave	1.25	(32)	0.44	0.55
19 mm Superpave	2.00	(51)	0.44	0.88
25 mm Superpave	1.25	(32)	0.44	0.55
	1.75	(44)	0.30	0.53
		*** EXISTING PAVEMENT ***		
Asphaltic Concrete	3.50	(89)	0.30	1.05
Sandy-Clay	6.00	(152)	0.10	0.60

Required SN = 4.26 Proposed SN = 4.16

>>>Proposed Pavement is 2.3% underdesigned <<<

Remarks: Mill 1.5 inches, inlay as shown above

Prepared By: Mehdi Bashirian — June 27, 2007
Pavement Design Engineer — Date

Recommended By: _____
Office Head — Date

Approved By: _____
State Pavement Engineer — Date

DRAFT

PROJECT FILE

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE

FILE STP-9336(1), Rockdale County
Widening & Reconstruction of
Old Covington Highway
PI No. 752270

OFFICE Materials and Research

DATE March 31, 2006

FROM Georgene M. Geary, P.E., State Materials and Research Engineer

TO James B. Buchan, P.E., State Urban Design Engineer
Attention: Neal O'Brien

SUBJECT Final Acceptance of Consultant's Soil Survey Summary Report
Widening & Reconstruction of Old Covington Highway in Rockdale County

As requested, we have reviewed the revised Soil Survey Report Summary that was written on March 8, 2006 by Willmer Engineering Inc. of Atlanta, Georgia. This report is acceptable for use in design and during construction. Copies of this report should be forwarded to the appropriate DOT offices.

If additional information is needed, please contact Melissa Quinton, B.I.T. of the Geotechnical Engineering Bureau at 404-363-7546.

GMG:MAQ

Copy: A.J. Jubran, P.E., State Pavement Engineer, Forest Park

Willmer Engineering, Inc.
3772 Pleasantdale Road, Suite 165
Atlanta, GA 30340
Attention: Harshad V. Modi, P.E.

SOIL SURVEY REPORT

(Revised March 8, 2006)

Widening and Reconstruction of Old Covington Highway

GDOT Project No.STP-9336 (1)

P.I. No. 752270

Rockdale County, Georgia

WILLMER ENGINEERING INC.

Willmer Project No. ATL-171-2815

Prepared for

STREET SMARTS
Duluth, Georgia

Prepared by

WILLMER ENGINEERING INC.
3772 Pleasantdale Road
Suite 165
Atlanta, Georgia 30340-4270

770.939.0089

WILLMER ENGINEERING INC. | WE

December 8, 2005
(Revised March 8, 2006)

VIA U.S. MAIL

James Tidwell, PE
Street Smarts
3090 Perimeter Parkway
Suite 200
Duluth, Georgia 30097

SUBJECT: **Soil Survey Report**
Widening and Reconstruction of Old Covington Highway
GDOT Project No. STP-9336 (1)
P.I. No. 752270
Rockdale County, Georgia
Willmer Project No. ATL- 171-2815

Dear Mr. Tidwell:

Willmer Engineering Inc. (Willmer) is pleased to provide this Soil Survey Report for the proposed Old Covington Highway Widening and Reconstruction project in Rockdale County, Georgia. The soil survey was performed in general accordance with Willmer Proposal P04-381, dated November 1, 2004 and Georgia Department of Transportation (GDOT) guidance documents for Soil Surveys for road design. This is a revised report that incorporates changes to our recommendations in response to the review comments from GDOT that were transmitted to us in a correspondence dated February 24, 2006.

The following summary presents site and subsurface conditions, our conclusions, and recommendations related to the project design and construction.

We appreciate the opportunity to be of service on this project. If you have any questions concerning this report or require further assistance, please call.

Sincerely,

WILLMER ENGINEERING INC.

for Harshad V. Modi, PE
Senior Geotechnical Engineer

James L. Willmer, PE
Vice President/Principal Consultant

HVM/JLW:kas

Enclosures
L:\Word Processing\Projects\171-GEO\171-2815\Reports\171-2815 Old Covington Hwy SS Report - Revised 030806.doc

Attachments: Soil Survey Summary
Pipe Culvert Material Alternates
Benching Detail
Figure 1, Site Vicinity Map
Figures 2.1 through 2.6, Boring Location Plan
USCS Soil Classification Legend
Records of Soil Survey Borings, Sheets 1 through 3
GDOT Boring 2
Laboratory Data, Sheets 1 through 3

3772 Pleasantdale Road
Suite 165
Atlanta, GA 30340-4270

P: 770.939.0089
F: 770.939.4299

www.willmerengineering.com

SOIL SURVEY SUMMARY
For
GDOT Project No. STP-9336 (1), Rockdale County
P.I. No. 752270
Widening and Reconstruction of Old Covington Highway

1. Location/Description: This project is for widening and reconstruction of the Old Covington Highway in Rockdale County, Georgia. The project begins at Station 104+00 and continues southeast to Station 151+25±. The realigned roadway will be crossing under the existing SR 138 embankment at Station 139+60± through Station 141+08±. The starting point of the project is about 0.6 miles southeast of Conyers, Georgia and the total length of the project is about 0.9 miles.

2. Geology: This project is geologically sited in the Georgia Piedmont Region. Associated rock formations are the Granitic Gneiss Undifferentiated Formation west of SR 138, and the Biotitic Gneiss/Mica Schist/Amphibolite Formation east of SR 138.

3. Rock: Rock was not encountered at or above the proposed grade.

4. Removal: No material requiring removal was encountered. However, the natural moisture content of several soil samples were higher than their corresponding optimum water content required to achieve maximum dry density according to the standard Proctor compaction test. Thus, soils from the following areas should be removed and either dried out and replaced, or replaced with drier soils:

Station to Station	Location
121+75± to 126+50±	Lt. & Rt.
138+00± to 143+75±	Lt. & Rt.

We recommend that the wet soil removal extend to 24-inch depth below the planned subgrade. This work should be done at the direction of the Engineer, and may be eliminated if the subgrade soils are dry and stable at the time of construction.

The effort to aerate the wet soils will primarily depend on the seasonal weather pattern. At other areas of the site, at grade or where fill construction is anticipated, in-situ soils may require undercutting, aeration, and then compaction to achieve specified dry density. Exposed areas must be stable under proof rolling prior to the construction of either additional fill or aggregate base.

5. Waste: None of the materials found on this project will require wasting.

6. Subgrade Materials: No additional subgrade material will be required for this project.

7. Pavement Design Values: We recommend the following values for use in the pavement design calculations for this project:

Soil Support Value	=	**2.5**
Regional Factor	=	**1.6**
Subgrade Reaction, k	=	**130 pci**

Graded aggregate base is the only base material recommended for use on this project.

8. Slopes: Maximum 2:1 slopes will be safe for this project.

9. Groundwater: Groundwater was not encountered in any of the borings at the time of the investigation. Groundwater is not expected to cause major problems during the construction.

10. Shrinkage: We recommend an average shrinkage factor of 25 % for use in the earthwork calculations for this project.

11. Culverts: We recommend that a 12-inch blanket of Type-II foundation Backfill material be placed under the barrel of all culverts and 48-inch diameter and larger cross-drains on this project.

12. Corrosion: Reference should be made to the attached "Pipe Culvert Materials Alternates" for materials allowable by the Laboratory corrosion test.

13. Bench Detail: Where new fills are to be placed on existing slopes steeper than 3:1, the existing slope should be benched in accordance with the attached detail.

14. Pavement Design: We recommend the use of a minimum 8 inches of graded aggregate base in the pavement section for this project. However, this depth of base material may be slightly reduced on side streets with low volume traffic.