



Addendum #1 – ITB 2019-005

Contents

- Acknowledgement Receipt of Addendum #1

- Pre-Proposal Conference Meeting Minutes from March 11, 2019
 - Additional Information about 2019 LMIG Resurfacing Project
 - Questions & Responses from the meeting
 - Questions & Responses from email messages

- Revised Exhibit C – Cost Proposal – Bid Alternate for Turner Hill Rd

- The 2019 Stonecrest LMIG Resurfacing Location Map (excluding Turner Hill Rd)

- Geotechnical Report for Turner Hill Rd

CITY OF STONECREST

ACKNOWLEDGEMENT RECEIPT OF ADDENDUM #1 ITB #2019-005

Stonecrest 2019 LMIG Resurfacing Project
Upon receipt, please print and add to your proposal

Stonecrest Procurement

Email: procurement@stonecrestga.gov

I hereby acknowledge receipt of documents pertaining to the above referenced ITB.

COMPANY NAME: _____

CONTACT PERSON: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

PHONE: _____ FAX: _____

EMAIL ADDRESS: _____

SIGNATURE

DATE

ADDENDUM #1

ITB #2019-024

Stonecrest 2019 LMIG Resurfacing Project

PRE-PROPOSAL CONFERENCE SUMMARY HELD March 11, 2019 at 2:00 pm:

STONECREST CITY HALL

March 11, 2019

2:00 PM

Bid Open: **ITB 2019-005 | 2019 LMIG Street Resurfacing in Stonecrest – Phase 1**
(Posted on City's website)

Bid Posted: **February 22, 2019**

Bid Deadline: **Tuesday, March 19, 2019 at 2:00 PM**

Attendees:

Jason Lary, Mayor of Stonecrest
Plez Joyner, Deputy City Manager
Ken Hildebrandt, City Engineer

LaZai Williams, H.E. H Paving
Tony O'Neal, Atlanta Paving
Dona Lee Welch, Pittman Construction
Jeff Winebarger, Stewart Brothers
Michael Lotero, Blount Construction

The **LMIG Paving Bid Pre-Proposal Conference** meeting was called to order by Mr. Ken Hildebrandt at 2:07 p.m. and spoke on the deadlines, submittal requirements, questions submitted and provided additional information.

Deadline(s):

1. The deadline for submitting questions is Tuesday, March 12, 2019.
2. Responses to questions will be completed by Thursday, March 14, 2019.
3. Submit additional questions at Procurement@stonecrestga.gov.
4. Recommendation to the City Council on March 25, 2019.

Submittal Requirements:

1. Bid documents:
 - a. Cost Proposal(s)
 - b. Bid Bond
 - c. Insurance
 - d. Disclosure Form

- e. Addendum #1
2. Project to be completed by end of August 2019.
3. The **ITB 2019-005** Bid has are two parts:
 - a. **Base Bid:** 18 Local Residential Streets – strictly subdivisions
 - b. **Alternative Bid:** Turner Hill RoadNote: A Contractor can bid on the **Base** or **Alternative** or both. Need pricing on both. Can be awarded to different Contractors.
4. When working in local residential areas the hours are **8 AM to 5 PM**.
5. When working on Turner Hill Road the hours are **9 AM to 4 PM**.
6. There will be two (2) traffic signal loops – need pricing on those.
7. Tack pricing to be included in Asphalt price. Not a separate price.
8. Ten percent (10%) retainage on invoices.
9. Provide signed Addendum(s), two (2) hardcopies and one (2) electronic copies on USB Drive.
10. Applicant must provide **three (3)** references.

Additional Information:

1. This is Phase 1, the first resurfacing project in the city of Stonecrest.
Job #1: Requires QUALITY work and make citizens happy.
2. A Digital Pavement Study is underway.
3. The Stonecrest map (showing LMIG streets) and Turner Hill Rd Geotechnical Study to be posted to the website.
4. Identified the worse 18 local residential streets scattered throughout Stonecrest. Repairs to be done to GDOT specifications.
5. Added Turner Hill Road, a two-lane road section that is poor condition. Pave 1.75" 19mm and 1.25" of 9.5mm.
6. The **correct** order is milling (3"), patching where required (inspector will identify areas), leveling, resurfacing, and striping.
7. Contractor(s) to submit a schedule every week. This weekly schedule will provide a two (2) week schedule of roads to be completed; the weekly schedule will be posted on the City of Stonecrest website.
8. CEI Inspector will be on site everyday - TBD.
9. Notification method – large 4'x4' "SUBDIVISION PAVING TO BEGIN SOON" signs (provided by Stonecrest) to be installed on local streets. This will allow time for residents to move car(s) off streets and promote good public relations.
10. There is a traffic control item for Turner Hill Road. Temporary markings required; permanent markings twenty-one (21) days after laying asphalt. There is the Bid Bond and Performance Bond.
11. Edge milling is not applicable and will be removed from the bid sheet.
12. Milling areas not to be exposed for a long period. Since the local road resurfacing are relatively short distances, these roads shall be milled and paved the same day.
13. Keep the work areas clean by removing ALL asphalt, paving by-products, and residue daily.
14. Two-way traffic must be maintained at all times.
15. The DeKalb County will have the water and sewer adjustments; the City will work with the County to ensure water and sewer adjustments are maintained; a list of the street(s) will be provided.

Questions/Responses During LMIG Paving Bid Pre-Proposal Conference:

- Question:** What if the asphalt is higher than curve's height – will we go back to match it?
Response: Yes. In that case, we may be milling more than 3" inches. Will have a discussion and take on case-by-case.
- Question:** So, we are planning to tie into the existing curb already there? There may be some utility conflicts if we mill more than 3".
Response: We will have utilities located and discuss this on a case by case basis.
- Question:** How to handle tie-in to manholes if we are milling more than 3"?
Response: Manholes may need to be adjusted by DeKalb County- that should not slow the job down. Will be meeting with the inspector.

The meeting adjourned at 2:45 p.m.

ITB 2019-005 Questions / Responses Submitted via Email

- Question:** Could the city provide a list of the streets that will need striping? Per the proposal, striping is going in front of stop signs that lead into main road. I'm seeing 8 roads that fit that description which makes the paint quantities not match.
Response: The majority of the pavement markings will be on Hillendale Road. There are a couple of other locations that require a stop bar or crosswalk to be replaced.
- Question:** Does the bid alternate for Turner Hill Road require 12" Full Depth Reclamation? If not, can the city provide another method of pricing this street?
Response: Yes, see Special Condition #2:
- Question:** Please provide the Plans, Specs and Bid Docs for the above mentioned project.
Response: The bid document can be found on the City of Stonecrest website at stonecrestga.gov/doing-business.php
- Question:** On typical resurfacing projects the specifications to mill and resurface a road require the contractor to mill 2 inches off the existing roadway, then patching the roadway 4 inches as necessary, followed by inlaying 2 inches of surface course asphalt. When laying a binder course as proposed in the scope of work it is usually typical to mill 4 inches of existing road way then applying 2.5" of binder and 1.5" of surface mix. Would the city consider revising their paving specs in order to achieve a stronger and longer lasting roadway?
Response: We are balancing budget constraints with our desire to build a long lasting roadway. The method of milling 3", additional patching as necessary, 1.75" of 19mm, and 1.25" of 9.5mm has been successful in other cities.

5. **Question:** On the order of work the City of Stonecrest has in the bid documents is patching, leveling, milling, resurfacing and thermoplastic striping. Would the City consider changing that order to milling, patching, leveling, resurfacing and thermoplastic striping.
Response: Yes, the proper sequence should be milling, patching (as necessary), leveling (if necessary), resurfacing, striping.
6. **Question:** In the bid documents it states that the city wants pilot vehicles, is this just for major roads or all roads?
Response: This is just for Turner Hill Road.
7. **Question:** For the message boards to be placed on Turner Hill Road, can the City make a decision on how many message boards that they are placed for Turner Hill Road?
Response: Two - one on each end.
8. **Question:** The bid documents say bituminous tack of AC-20 or AC-30, would the City consider using the GDOT list of approved Bituminous Tack Coats?
Response: Yes, the selected contractor may submit a requested GDOT approved substitute.
9. **Question:** Does the City want the contractor to use Type I or II, 9.5 MM Superpave?
Response: Type 2.
10. **Question:** The City is requesting Type 1 & 3 RPM's be installed can the City add a line item so the RPM's can be paid?
Response: RPMs are only required on Turner Hill Road. A pay item is included.
11. **Question:** The City is asking for Loop repair but boxes to be installed if they are not, loop repairs is a complete different pay item than signal pull box installation.. Will the city consider either removing the pull boxes from the bid or adding a line item so it can be paid for?
Response: No pull box installations are anticipated and they should not be included in the pricing.
12. **Question:** What amount (percent) is required for the Bid Bond?
Response: 5 percent of the bid amount.
13. **Question:** Can a company bid on only the cost proposal Streets #1-18 and not bid on the alternate for Turner Hill Rd.?
Response: Yes, you may bid on either the base bid, the alternate bid, or both.
14. **Question:** Given all the base bid roads are just subdivisions, will the City consider extending the work hours? Doing so will give the City a better price allowing the contractor to work longer hours.
Response: Yes, 8 a.m. to 5 p.m.
15. **Questions:** Given that the City is requesting 1.25" of 9.5MM, should we assume that the City wants type 1?
Response: Type 2

16. **Question:** Would the City consider adding a pay item for Portland Cement by the ton at 55lbs per square yard for a total of 400 tons? This will allow a fair comparison of all bids submitted by all contractors. The winning contractor could then provide the mix design and daily testing for the road.
Response: We do not plan to add this pay item.
17. **Question:** In the pre-bid the City stated that there will be no removal of material on Turner Road and that we are raising the road 4.75". Will the City confirm this?
Response: You are Correct.
18. **Question:** Will the speed tables (speed bumps) be removed and replaced or are they to remain in place and pave up to them?
Response: The speed tables (speed bumps) are to remain in place. Mill and resurface up to them.
19. **Question:** There are numerous roads which appear to have less than 3 inches of existing pavement. Will the mill be into the subgrade? Or Mill only 1.25 inches and replace with 1.25 inches of 9.5mm?
Response: The milling will be 3". Yes, this may get into the subgrade.
20. **QUESTION:** If there is existing asphalt mix in the Curb and Gutter section, remove? Then tie into the gutter? Or Then feather back into the gutter?
RESPONSE: Overlay to the existing gutter edge. This may require milling in excess of 3". For the purpose of this bid please price 3" milling. We will work with the contractor on the additional quantity.
21. **QUESTION:** What is the time on covering the 3 inch mill? According to GDOT SPEC Section 150 over 2inches or greater has to be covered same day.
RESPONSE: The bid specifications require the milling to be exposed no longer than 1 week, but these smaller residential streets should be covered the same day. This will avoid the need to protect the exposed sewer manholes.

GEORGIA

STONECRIST

Exhibit C Cost Proposal – Bid Alternate for Turner Hill Road

BIDDERS UNIT PRICE FORM

ITEM #	DESCRIPTION	UNIT	APPROX. QUANTITY	UNIT PRICE	TOTAL AMOUNT
1	Traffic Control	LS	1		
2	12" Full Depth Reclamation	SY	14,000		
3	Mill Asphalt Conc. Pavement, 3" Depth (Decel Lanes)	SY	0		
4	Recycled Asphalt Conc., 19mm Superpave, Incl. Bitum. Material, H Lime & Tack Coat	Ton	2,500		
5	Recycled Asphalt Conc., 12.5mm Superpave, Incl. Bitum. Material, H Lime & Tack Coat	Ton	1,600		
6	Thermo. Solid Traffic Stripe, 5 IN, Yellow	LF	12,000		
7	Thermo. Solid Traffic Stripe, 5 IN, White	LF	12,000		
8	Thermo. Pvmt. Marking, Arrow, TP 2	EA	3		
9	Raised Pavement Markers, TP 1 & 3	EA	300		
10	Regrade and Stabilize Shoulder	LF	9,500		
TOTAL					

Company Name: _____

Address: _____

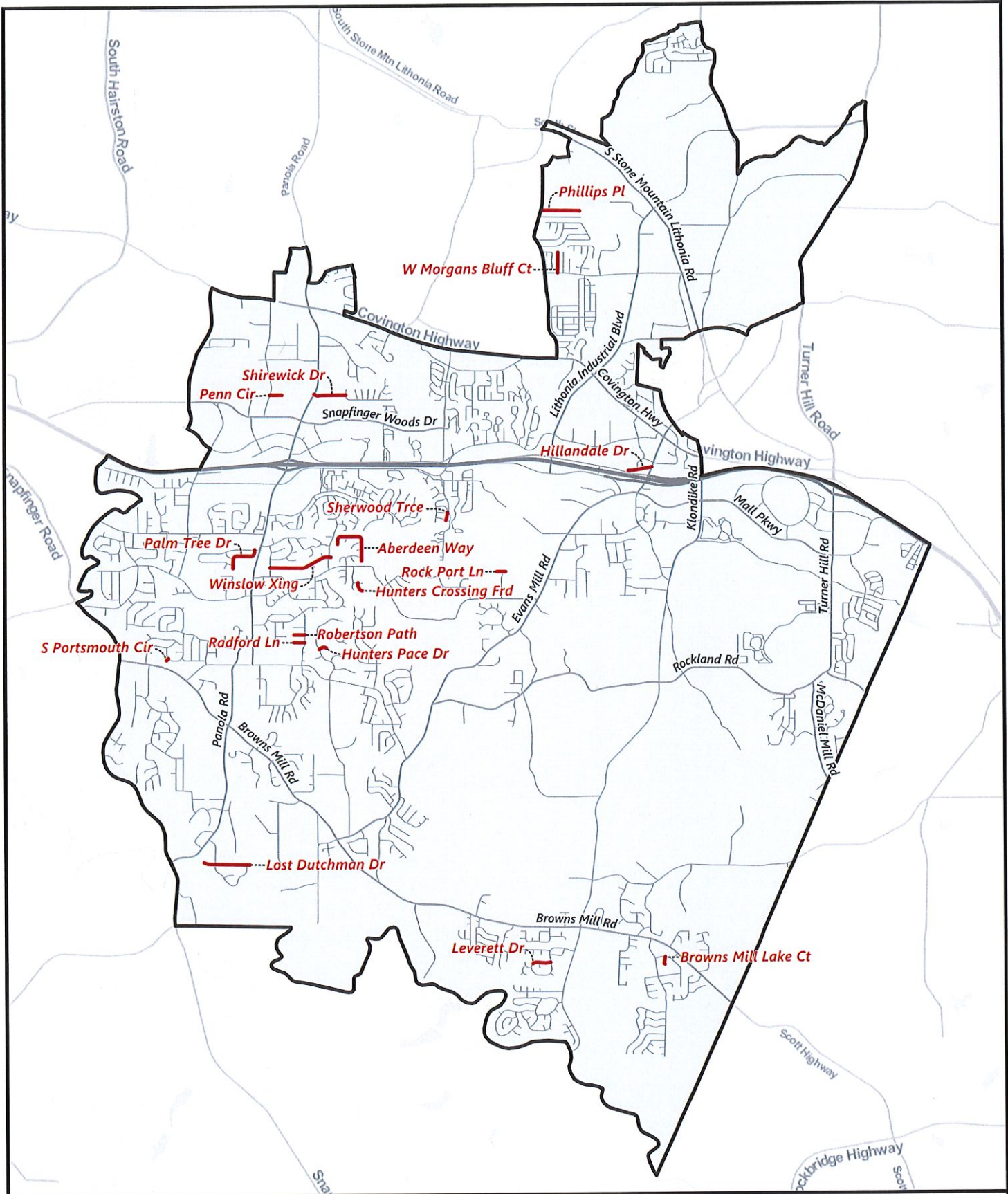
Contact Person: _____

Phone Number: _____

Email Address: _____

Signature: _____

*In case of discrepancy between the unit price and the total price on the completed Bid Schedule, the unit price will prevail, and the total price will be corrected.



PROPOSED RESURFACING

2019 LMIG APPLICATION





UNITED
CONSULTING

REPORT

Mr. Ken Hildebrandt, P.E.
City of Stonecrest

Pavement Coring Summary
Turner Hill Road
Between Rockland Road and near
Mall Parkway
DeKalb County
Stonecrest, Georgia





UNITED
CONSULTING

February 6, 2019

Mr. Ken Hildebrandt, P.E.
City of Stonecrest
3120 Stonecrest Blvd
Stonecrest, Georgia 30038

Via email: khildebrandt@stonecrestga.gov


PROJECT: Report of Pavement Coring Summary
Turner Hill Rd between Rockland Road and near Mall Parkway
Stonecrest, DeKalb County, Georgia
UC Project No. STNCR-19-GA-03011-01

Dear Mr. Hildebrandt:


United Consulting is pleased to submit this report of Pavement Coring Evaluation for the above referenced project site. We appreciate the opportunity to assist you with this project and look forward to working with you on future projects. If you have any questions regarding this report, or if we can of further assistance, please feel free to contact us.

Sincerely,

UNITED CONSULTING


Mehdi Moazzami, Ph.D., P.E.
Senior Geotechnical Engineer




Chris L. Roberds, P.G.
Senior Executive Vice President

NP/MM/CLR/nj

PAVEMENT CORING SUMMARY

For

Turner Hill Road

Between Rockland Road and 600± feet South of Mall Parkway Stonecrest, Georgia

1. LOCATION / DESCRIPTION

This project consisted of coring and evaluating pavement thickness (asphalt and graded aggregate base) on Turner Hill Road between Rockland Road and an area about 600 feet south of Mall Parkway in Stonecrest, DeKalb County, Georgia. For the purpose of this evaluation, the roadway designations are considered north-south oriented roadway. Travel lanes are designated with lane numbers starting with Lane 1 being the lanes (whether northbound or southbound) closest to the centerline. The stationing for Turner Hill Road was not provided; therefore, United Consulting designated the roadway's stationing as Station 0 + 00 at about 580 feet north of the intersection of Turner Hill Road and Hayden Quarry Road, and stationing increased southward along Turner Hill Road to station 47 + 00± at its intersection with Rockland Road. The total length of the project is approximately 0.89 linear miles. No curb and gutter were present along the road except along the southbound right turn lanes from Station 9+40± to Station 11+40± and from Station 14+20± to 20+00±. The shoulders were generally grass covered with intermittent ditch.

2. PAVEMENT CONDITION SUMMARY

According to the core condition and severity of the distress, the existing pavement for Turner Hill Road was in a poor condition. Predominantly level 3 and level 4 load cracking were observed in the travel lanes (northbound and southbound) with scattered areas of level 1 and 2 load cracking. Some level 1 block cracking was observed within the evaluated section. Also, occasional level 3 edge distress were also observed within the evaluated section. The core conditions are summarized in section 4 of this report.

3. PAVEMENT RECOMMENDATION SUMMARY

Based on our conversation with the client, we understand that Full Depth Replacement of the existing pavement is not an option for this project. Only mill and inlay/overlay is to be considered. However, for the pricing purpose, we have provided a Full Depth Reclamation (FDR) option. Based on our experience, deep milling and overlay sometimes is more expensive than FDR. The existing pavement section is currently about 36 to 59% under-designed for the proposed traffic volume. Based on the poor conditions of the pavement and the core conditions, we recommend deep patching be performed on the entire project. Deep patching requires the entire pavement thickness to be removed and replaced. Due to the existing pavement section, the pavement needs to be thickened by an average of 5.75 inches to provide serviceability for the anticipated traffic load.

If mill and overlay is the only option to be considered, the pavement needs to be thickened by 6.0 inches to provide serviceability for the anticipated traffic load.

The following constructions are recommended for use on this project.

Turner Hill Road				
Option 1: Deep Milling and Patching Construction				
PAY ITEM NUMBER	MATERIAL	COURSE	THICKNESS	SPREAD RATE
402-3103	12.5 mm Superpave	Surface	1.75 inches	192.5 lbs/yd ²
402-3190	19 mm Superpave	Binder	3.0 inches	330 lbs/yd ²
402-3121	25 mm Superpave	Asphalt Base	6.0 inches	660 lbs/yd ²

For Option 1 construction, the entire existing pavement will be removed and replaced with a thicker pavement.

Turner Hill Road				
Option 2: Mill/ Inlay or Overlay Construction				
PAY ITEM NUMBER	MATERIAL	COURSE	THICKNESS	SPREAD RATE
402-3103	12.5 mm Superpave	Surface	1.5 inches	165 lbs/yd ²
402-3190	19 mm Superpave	Binder	2.0 inches	220 lbs/yd ²
402-3121	25 mm Superpave	Asphalt Base	5.0 inches	550 lbs/yd ²

For Option 2 construction, mill 2.5 inches to remove some of the existing cracks. Additional milling quantities should be set up for extra depth milling.

Alternatively, the pavement could be reconstructed using full depth declamation (FDR) to restore road riding quality. FDR consists of pulverizing the existing asphalt and base material and mixing with cement (about 5 to 7 percent cement) and water and then re-compacting the produced mix as the base layer. The recommended FDR is a function of the existing asphalt and the base material. If FDR is used for this project, we recommend the following FDR pavement section.

Turner Hill Road				
Option 3: Full Depth Reclamation				
PAY ITEM NUMBER	MATERIAL	COURSE	THICKNESS	SPREAD RATE
402-3103	12.5 mm Superpave	Surface	1.75 inches	165 lbs/yd ²
402-3190	19 mm Superpave	Binder	3.0 inches	220 lbs/yd ²
306-0100	Full Depth Reclamation	Base	12.00	N/A

4. CORE CONDITIONS

Cores were recovered from seven (7) separate locations on the existing pavement to determine the thicknesses and condition of the existing pavement sections. The results of the coring operation are tabulated below:

Core/ Sample Number	Coring Location	Asphalt Core Length (inches)	Core Condition	Underlying Material
1	6+35±, SB, LN 1, PW, 8.0'R	4.75	Poor, vertical cracking to the bottom	3.0" GAB
2	15+85±, SB, RTL, PW, 19.5'R	6.5	Good, significant air void at 2.5"	5.5" GAB
3	40+40±, SB, LN 1, PW, 8.5'R	4.75	Poor, vertical cracking to the bottom, delamination at 1.5"	2.0" Gravel
4	45+80±, NB, LN 1, PW, 8.0'L	4.25	Good, significant air void at 3.5"	6.0" GAB
5	32+35±, NB, LN 1, DW, 2.5'L	5.0	Poor, vertical cracking to the bottom	2.0" Gravel
5A	32+35±, NB, LN 1, PW, 9.0'L	10.0	Good, vertical cracking to 1.25"	Clayey Sand
6	3+40±, NB, LN 1, PW, 9.5'L	4.0	Good, significant air void at 3.5"	6.0" GAB

Notation:

L = Left of The Centerline
R = Right of The Centerline
NB = Northbound
SB = Southbound
LN = Lane
RTL = Right Turn Lane
DW = Driver's Wheel Path
PW = Passenger's Wheel Path

5. OTHER INFORMATION

- A Soil Survey Summary for this project was not performed. The attached pavement designs used the design values recommended in Appendix G and H of the GDOT Pavement Design Manual.
- The traffic information provided below is based on the traffic volume provided by City of Stonecrest via email on January 28, 2019 and our subsequent communication.



- The mill and overlay design analyses are attached to this report. The design is based on a computer program named GDOT Pavement Design Version 2.0 developed by Georgia Department of Transportation, Pavement Management Branch.
- **Design Considerations for Langford Drive**
 - Number of lanes (in one-direction): 1
 - Without Curb and Gutter
 - Provided Traffic Dates A.D.T. (2020) 5,435; (2040) 14,420
 - **TRAFFIC DATA**
 - A.D.T. (2020): 5,435
 - A.D.T. (2040): 14,420
 - Directional Distribution: 50%
 - Lane Distribution: 100%
 - % 24 Hr. Trucks: 2%
 - % MU: 0.3%, % SU: 1.7%
 - Function Class: City Street
 - Speed Design: ≤ 35 mph
 - Terminal Serviceability Index: 2.50
 - Soil Support: 2.0
 - Regional Factor: 1.6
- **Testing**

No laboratory testing was performed.

6. **ADDITIONAL RECOMMENDATIONS**

- We recommend a minimum 50-foot tie-in transition for at the beginning and ending of the proposed alignment and on the side road. The tie-in transition will consist of milling 1.50 or 1.75 inches (consistent with the recommended surface layer thickness) and inlay with 12.5 mm Superpave asphalt concrete mix.
- New pavements should be constructed flush with all existing and/or new utility manholes or vaults.
- We recommend staggered joints for each asphaltic concrete layer to reduce the potential moisture migration of surface runoff to the subgrade soils.
- We recommend the application of a 2-foot wide pavement reinforcement fabric, centered on joints or distresses cracks to reduce the potential for crack migration through the new asphalt. The use of reinforcement fabric should be done at the discretion of the engineer.

7. ASSUMPTIONS AND JUSTIFICATIONS

- A Soil Survey Summary for this project has not been performed. Our pavement design used the design values recommended in Appendix G and H of the GDOT Pavement Design Manual.
- The station locations for Turner Hill Road were not provided or staked in the field by a surveyor. United Consulting determined the approximate locations of the stations by using a measuring wheel.

8. LIMITATIONS

This report is for the exclusive use of the **City of Stonecrest**, its agents, and the designers of the project described herein, and may only be applied to this specific project. Our conclusions and recommendations have been prepared using generally accepted standards of Pavement Engineering practice in the State of Georgia and are valid for a period of two years from the issuance of this report. Should the implementation of the recommendations presented in this report be delayed more than two years, re-evaluation of the pavement should be performed. No other warranty is expressed or implied. Our firm is not responsible for conclusions, opinions or recommendations of others. The right to rely upon this report and the data within may not be assigned without **UNITED CONSULTING'S** written permission.

Our preliminary conclusions and recommendations are based upon design information furnished to us, data obtained from the previously described exploration and testing program and our past experience. They do not reflect variations in the subsurface conditions that may be present intermediate of our coring/ borings and in unexplored areas of the site. Should such variations become apparent during construction, it will be necessary to re-evaluate our conclusions and recommendations based upon "on-site" observations of the conditions.

Our conclusions and recommendations are based on our site reconnaissance, and our past experience.

UNITED CONSULTING

Reported By: Nhan Pham

Reviewed By: Mehdi Moazzami, Ph.D., P.E.

Appendix A – Figure 1: Coring Location Plan (1 page)

Appendix B – Example Photographs – (6 pages)

Appendix C – Cores Photographs – (4 pages)

Appendix D - Traffic Information (2 pages)

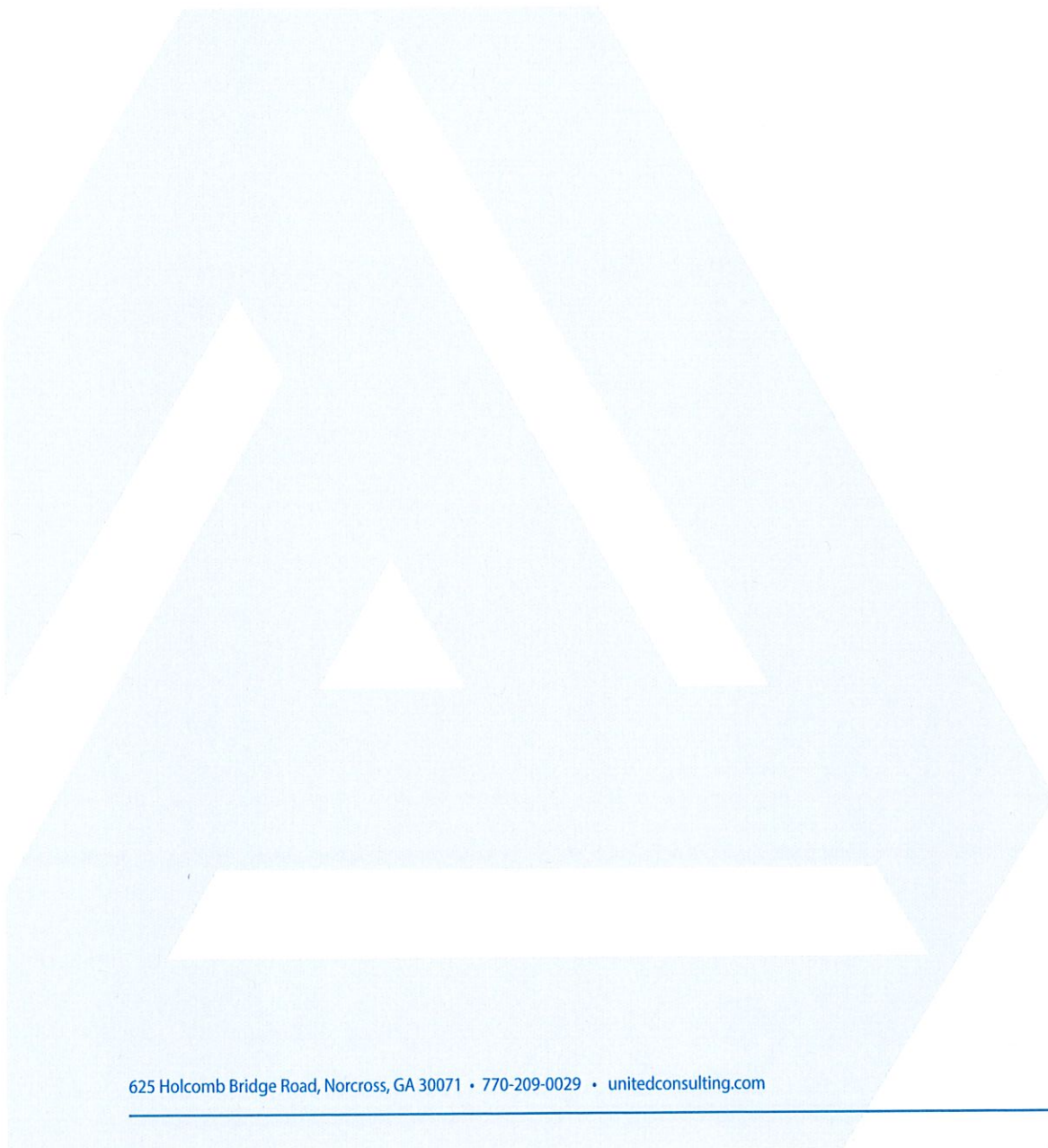
Deep Milling and Patching (1-page)

Milling and Overlay (1-page)


Full Depth Reclamation (1-page)

APPENDIX A

Figure 1: Coring Location Plan (1 page)





SCALE: NTS	DATE: 2/4/2019	REVISIONS:	TITLE: CORING LOCATION PLAN	FIG. 1
PREPARED: NP	PROJECT NO.: STNCR-19-GA-03011-01		TURNER HILL ROAD	
CLIENT: CITY OF STONECREST			UNITED CONSULTING 625 Holcomb Bridge Road, Norcross, GA 30071 Tel. 770/209-0029 FAX 770/582-2900 www.unitedconsulting.com	 <i>We're here for you</i> UNITED CONSULTING

APPENDIX B

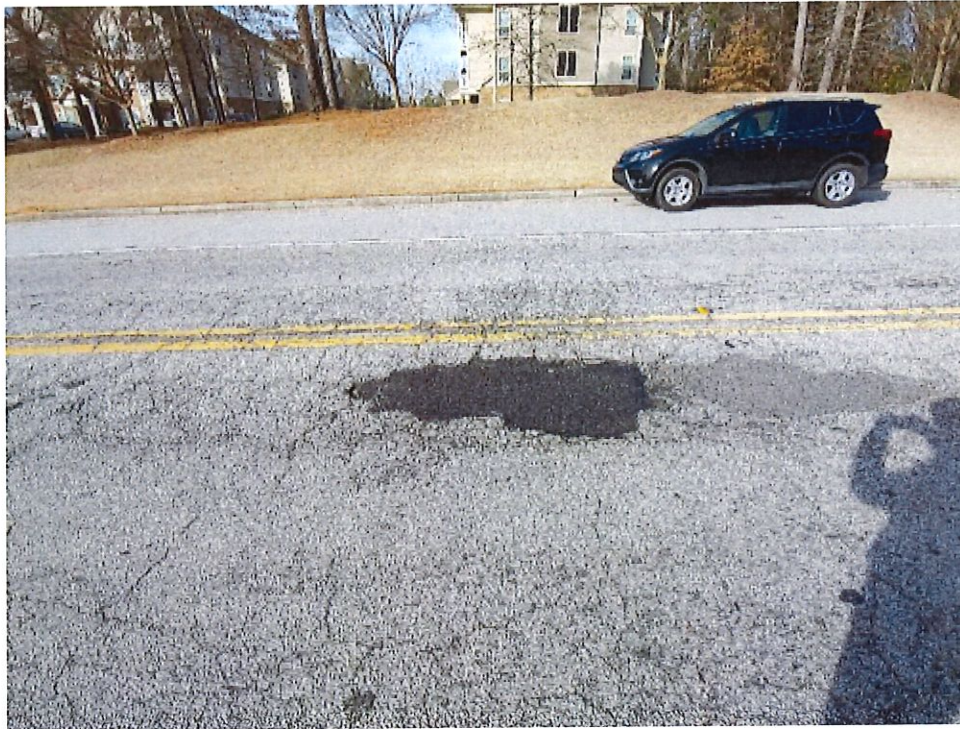
Example Photographs – (6 pages)



Level 4 load cracking, Southbound, Lane 1, Station 15+00±



Level 4 load cracking, Southbound, Lane 1, Station 16+00±



Patch/ Pothole, Northbound, Lane 1, Station 16+00±



Level 3 load cracking, Northbound, Lane 1, Station 25+50±



Level 3 load cracking, Southbound, Lane 1, Station 36+50±



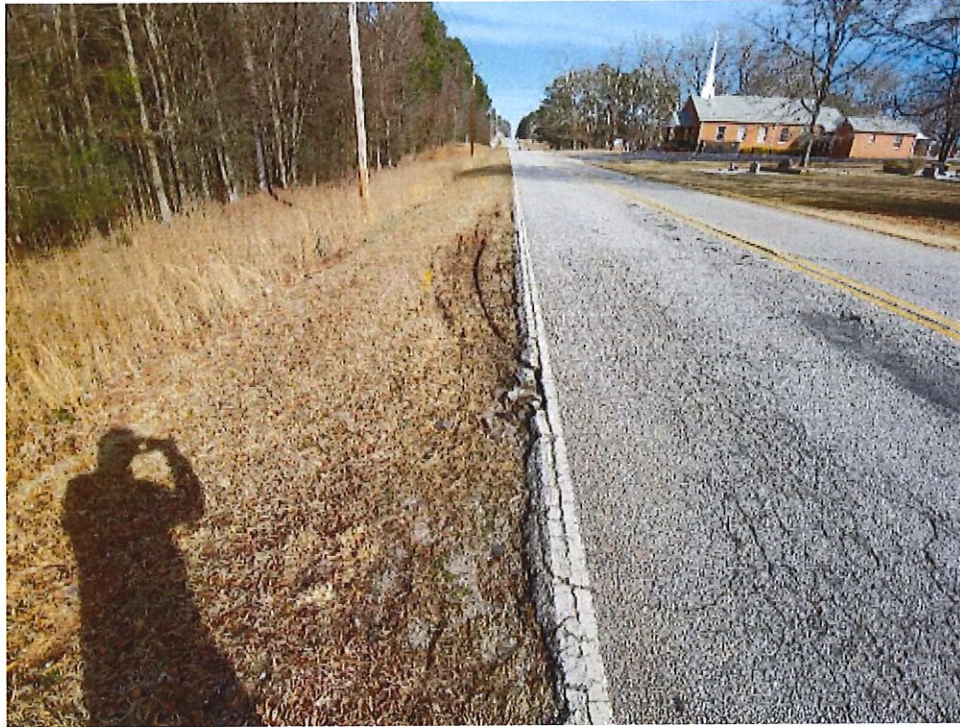
Level 1 load cracking, Northbound, Lane 1, Station 44+00±



Level 2 load cracking, Northbound, Lane 1, Station 42+00±



Patch/ Potholes, Southbound, Lane 1, Station 14+00±



Level 3 Edge Distress, Southbound, Station 29+50±



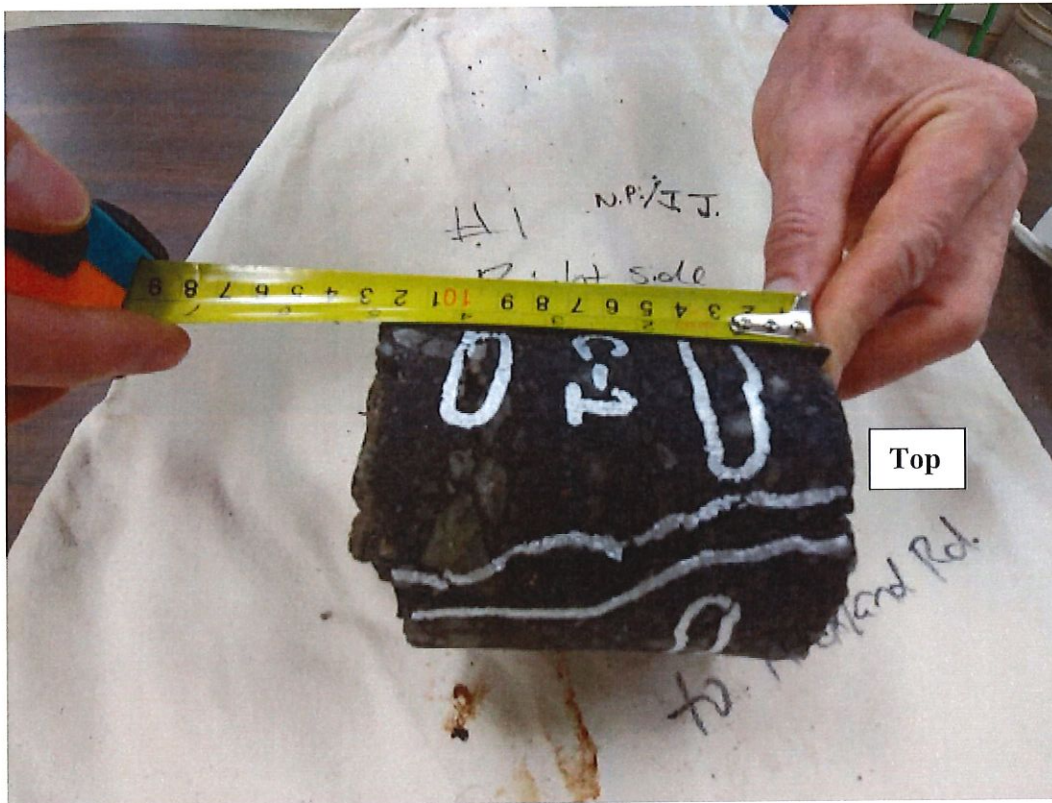
Level 3 Edge Distress, Southbound, Station 27+50±



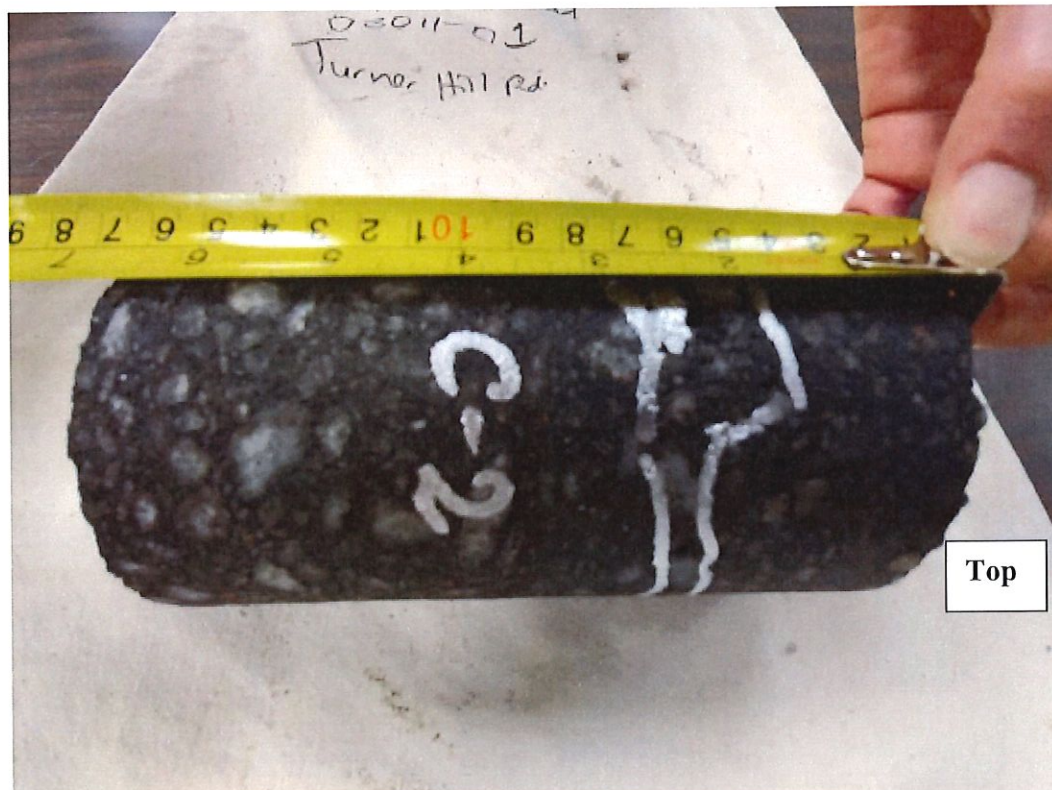
Level 2 block cracking, Northbound, Lane 1, Station 24+50±

APPENDIX C

Core Photographs – (4 pages)



Core 1, Turner Hill Road, Station 6+35±, Southbound, Lane 1, 8.0' Right



Core 2, Turner Hill Road, Station 15+85±, Southbound, Right Turn Lane, 19.5' Right



Core 3, Turner Hill Road, Station 40+40±, Southbound, Lane 1, 8.5' Right



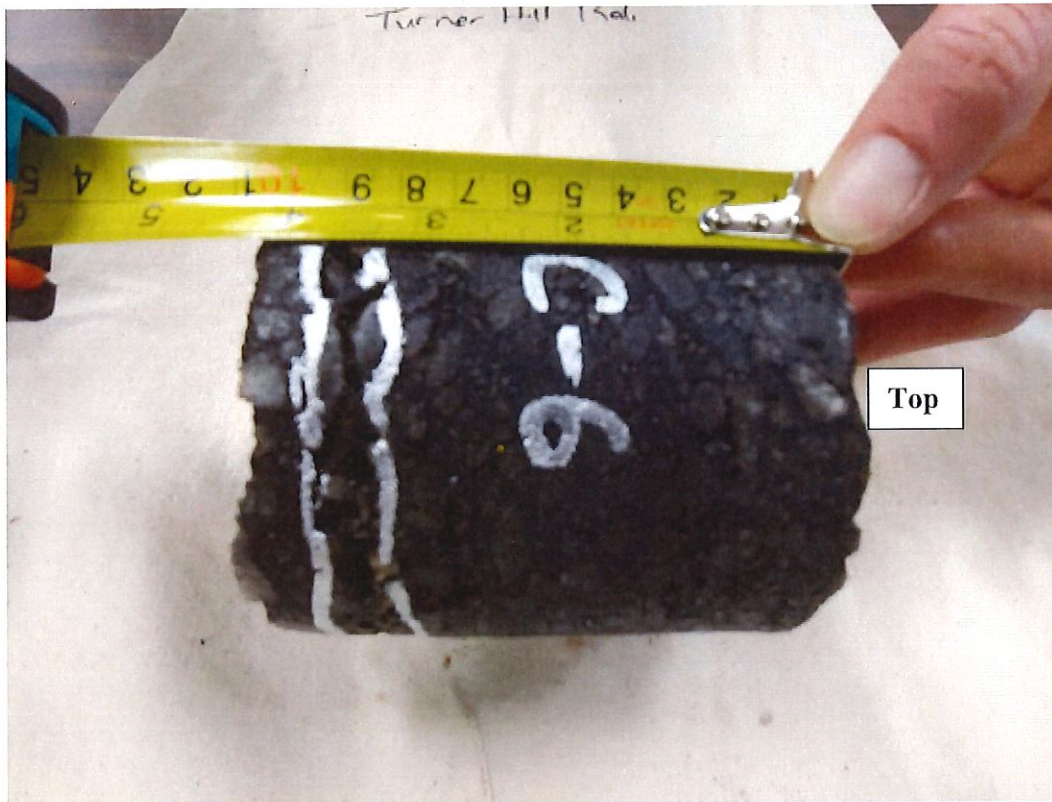
Core 4, Turner Hill Road, Station 45+80±, Northbound, Lane 1, 8.0' Left



Core 5, Turner Hill Road, Station 32+35±, Northbound, Lane 1, 2.5' Left



Core 5A, Turner Hill Road, Station 32+35±, Northbound, Lane 1, 9.0' Left



Core 6, Turner Hill Road, Station 3+40±, Northbound, Lane 1, 9.5' Left

APPENDIX D

Traffic Information (2 pages)
Recommended Pavement Section – (3 pages)

From: Mehdi Moazzami
Sent: Monday, January 28, 2019 4:38 PM
To: 'Ken Hildebrandt' <KHildebrandt@stonecrestga.gov>
Cc: Jay Ashtiani <jashtiani@unitedconsulting.com>
Subject: RE: United Consulting's Proposal No. P2019.2405.01; Turner Hill Road

Hi Ken

Please note that with 5% rate of growth the traffic volume for 2020 and 2040 will be

2020 AADT = 10,870
2040 AADT = 28,840

Thanks
Mehdi Moazzami; Ph.D., PE
United Consulting
770-582-2837

From: Ken Hildebrandt [<mailto:KHildebrandt@stonecrestga.gov>]
Sent: Monday, January 28, 2019 4:30 PM
To: Mehdi Moazzami <mmoazzami@unitedconsulting.com>
Cc: Jay Ashtiani <jashtiani@unitedconsulting.com>
Subject: Re: United Consulting's Proposal No. P2019.2405.01; Turner Hill Road

5% is fine.

Ken Hildebrandt, P.E., PTOE
City Engineer
City of Stonecrest
3120 Stonecrest Blvd.
Stonecrest, GA 30038

Phone 770-865-5645
khildebrandt@stonecrestga.gov

From: Mehdi Moazzami <mmoazzami@unitedconsulting.com>
Sent: Monday, January 28, 2019 11:01:09 AM
To: Ken Hildebrandt
Cc: Jay Ashtiani
Subject: RE: United Consulting's Proposal No. P2019.2405.01; Turner Hill Road

Ken

I will assume the let date to be 2020 and design year 2040. The rate of growth per year between 2015 and 2017 is almost 7% and between 2016 and 2017 is about 5%. What growth rate do you want me to assume?

Thanks
Mehdi Moazzami; Ph.D., PE
United Consulting
770-582-2837

From: Ken Hildebrandt [<mailto:KHildebrandt@stonecrestga.gov>]
Sent: Monday, January 28, 2019 10:53 AM
To: Mehdi Moazzami <mmoazzami@unitedconsulting.com>
Cc: Jay Ashtiani <jashtiani@unitedconsulting.com>
Subject: Re: United Consulting's Proposal No. P2019.2405.01; Turner Hill Road

Below is the GDOT breakdown.

	2017	2016	2015
AADT	9,390	8,870	8,130
Single Unit AADT	-	158	-
Combo Unit AADT	-	27	-
Truck %	-	2%	-

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Flexible Pavement Design Analysis

PI Number	NA	County(s)	DeKalb
Project Number	STNCR-19-GA-03011	Design Name	Deep Patching for Turner Hill Road
Project Description	Turner Hill Road		

Traffic Data (AADTs are one-way)						Miscellaneous Data	
Initial Design Year	2020	Initial AADT, VPD	5,435	24 Hour Truck %	2.00	Lanes in one direction	1
Final Design Year	2040	Final AADT, VPD	14,420	SU Truck %	1.70	Curb & Gutter/Barrier	No
		Mean AADT, VPD	9,928	MU Truck %	0.30	Milling Depth (inches)	5.00

Design Data							
Lane Distribution Factor (%)	100.00	Soil Support Value		2.00	Single Unit ESAL		0.40
Terminal Serviceability Index	2.50	Regional Factor		1.60	Multiple Unit ESAL		1.50
		User Defined 18-KIP ESAL		0.00	Calculated 18-KIP ESAL		0.57
Non-Standard Value Comment							

Design Loading (Calculated 18-KIP ESAL)					
Mean AADT, VPD	LDF (%)	Vehicle Type	Volume (%)	ESAL Factor	Daily ESAL
9,928	100.00	Single Unit Truck	1.70	0.40	68
		Multi Unit Truck	0.30	1.50	45
Total Daily ESALs					113
Total Design Period ESALs					824,900

Proposed Flexible Overlay Pavement Structure				
Course	Material	Thickness (inches)	Structural Coefficient	Structural Value
Overlay 1	12.5 mm Superpave	1.75	0.4400	0.77
Overlay 2	19 mm Superpave	2.75	0.4400	1.21
		0.25	0.3000	0.08
Overlay 3	25 mm Superpave	6.00	0.3000	1.80
Existing 1	Graded Aggregate Base	4.00	0.1600	0.64
Required SN	4.70	Proposed pavement is 4.29% Underdesigned		Proposed SN
				4.50

Design Remarks	Deep patching for Turner Hill Road
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Prepared By _____ Date 2/4/2019 5:13 PM

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Recommended By _____ Date _____

Consultant Design Phase Leader

Approved By _____ Date _____

State Pavement Engineer

Flexible Pavement Design Analysis

PI Number	NA	County(s)	DeKalb
Project Number	STNCR-19-GA-03011	Design Name	Mill and Overlay for Turner Hill Road
Project Description	Turner Hill Road		

Traffic Data (AADTs are one-way)						Miscellaneous Data	
Initial Design Year	2020	Initial AADT, VPD	5,435	24 Hour Truck %	2.00	Lanes in one direction	1
Final Design Year	2040	Final AADT, VPD	14,420	SU Truck %	1.70	Curb & Gutter/Barrier	No
		Mean AADT, VPD	9,928	MU Truck %	0.30	Milling Depth (inches)	2.50

Design Data							
Lane Distribution Factor (%)	100.00	Soil Support Value		2.00	Single Unit ESAL		0.40
Terminal Serviceability Index	2.50	Regional Factor		1.60	Multiple Unit ESAL		1.50
		User Defined 18-KIP ESAL		0.00	Calculated 18-KIP ESAL		0.57
Non-Standard Value Comment							

Design Loading (Calculated 18-KIP ESAL)					
Mean AADT, VPD	LDF (%)	Vehicle Type	Volume (%)	ESAL Factor	Daily ESAL
9,928	100.00	Single Unit Truck	1.70	0.40	68
		Multi Unit Truck	0.30	1.50	45
Total Daily ESALs					113
Total Design Period ESALs					824,900

Proposed Flexible Overlay Pavement Structure				
Course	Material	Thickness (inches)	Structural Coefficient	Structural Value
Overlay 1	12.5 mm Superpave	1.50	0.4400	0.66
Overlay 2	19 mm Superpave	2.00	0.4400	0.88
Overlay 3	25 mm Superpave	1.00	0.4400	0.44
		4.00	0.3000	1.20
Existing 1	Asphaltic Concrete	2.50	0.3000	0.75
Existing 2	Graded Aggregate Base	4.00	0.1600	0.64
Required SN	4.70	Proposed pavement is 2.69% Underdesigned		Proposed SN
				4.57

Design Remarks	Mill and Overlay for Turner Mill Road
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Recommended By _____ Date _____

Consultant Design Phase Leader

Approved By _____ Date _____

State Pavement Engineer

Flexible Pavement Design Analysis

PI Number	NA	County(s)	DeKalb
Project Number	STNCR-19-GA-03011	Design Name	Full Depth Reclamation - Turner Hill Rd
Project Description	Turner Hill Road		

Traffic Data (AADTs are one-way)						Miscellaneous Data	
Initial Design Year	2020	Initial AADT, VPD	5,435	24 Hour Truck %	2.00	Lanes in one direction	1
Final Design Year	2040	Final AADT, VPD	14,420	SU Truck %	1.70	Curb & Gutter/Barrier	No
		Mean AADT, VPD	9,928	MU Truck %	0.30		

Design Data					
Lane Distribution Factor (%)	100.00	Soil Support Value	2.00	Single Unit ESAL	0.40
Terminal Serviceability Index	2.50	Regional Factor	1.60	Multiple Unit ESAL	1.50
		User Defined 18-KIP ESAL	0.00	Calculated 18-KIP ESAL	0.57
Non-Standard Value Comment					

Design Loading (Calculated 18-KIP ESAL)					
Mean AADT, VPD	LDF (%)	Vehicle Type	Volume (%)	ESAL Factor	Daily ESAL
9,928	100.00	Single Unit Truck	1.70	0.40	68
		Multi Unit Truck	0.30	1.50	45
Total Daily ESALs					113
Total Design Period ESALs					824,900

Proposed Flexible Full Depth Pavement Structure				
Course	Material	Thickness (inches)	Structural Coefficient	Structural Value
Course 1	12.5 mm Superpave	1.75	0.4400	0.77
Course 2	19 mm Superpave	2.75	0.4400	1.21
		0.25	0.3000	0.08
Course 3	Full Depth Reclamation (FDR)	12.00	0.2000	2.40
Required SN	4.70	Proposed pavement is 5.14% Underdesigned		Proposed SN
				4.46

Design Remarks	Full Depth Reclamation for Turner Hill Road
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Prepared By _____ Date 2/6/2019 10:57 AM

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Recommended By _____ Date

Consultant Design Phase Leader

Approved By _____ Date

State Pavement Engineer

Important Information about This Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a civil engineer may not fulfill the needs of a constructor — a construction contractor — or even another civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. No one except you should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you — should apply this report for any purpose or project except the one originally contemplated.*

Read the Full Report

Serious problems have occurred because those relying on a geotechnical-engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

Geotechnical Engineers Base Each Report on a Unique Set of Project-Specific Factors

Geotechnical engineers consider many unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk-management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical-engineering report that was:

- not prepared for you;
- not prepared for your project;
- not prepared for the specific site explored; or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical-engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an

assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical-engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical-engineering report whose adequacy may have been affected by: the passage of time; man-made events, such as construction on or adjacent to the site; or natural events, such as floods, droughts, earthquakes, or groundwater fluctuations. Contact the geotechnical engineer before applying this report to determine if it is still reliable.* A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ — sometimes significantly — from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide geotechnical-construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are Not Final

Do not overrely on the confirmation-dependent recommendations included in your report. *Confirmation-dependent recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's confirmation-dependent recommendations if that engineer does not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A Geotechnical-Engineering Report Is Subject to Misinterpretation

Other design-team members' misinterpretation of geotechnical-engineering reports has resulted in costly

problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical-engineering report. Confront that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical-engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical-engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and constructors fail to recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help

others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Environmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold-prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold-prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical-engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

Rely, on Your GBC-Member Geotechnical Engineer for Additional Assistance

Membership in the Geotechnical Business Council of the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your GBC-Member geotechnical engineer for more information.



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