MEMORANDUM

EGS FILE: 18-115-12-02
DATE: October 9, 2012
TO: James Sullivan, P.E. – Vice President
Genesis Group, Inc.

FROM: Myron Hayden, P.E. – Principal Geotechnical Engineer
Environmental and Geotechnical Specialists, Inc.
Matthew Monteith, E.I. – Staff Engineer
Environmental and Geotechnical Specialists, Inc.

SUBJECT: ADDENDUM B – Anomaly Investigation
Report of Geotechnical Investigation
Lafayette Street Drainage Improvements
Leon County, Florida
(Report Dated August 4, 2008)

Environmental and Geotechnical Specialists, Inc. (EGS) has completed the investigation of the anomalies detected in the Ground Penetrating Radar (GPR) Study performed and reported in ADDENDUM A to this Report. The work conducted in this study was authorized by Genesis Group, Inc., and Leon County Department of Public Works. This Memorandum contains a summary of findings and recommendations concerning the likely makeup of the GPR anomalies.

SUBSURFACE INVESTIGATION

The additional subsurface investigation outlined in this Memorandum was conducted in October 2012 by Matthew Monteith, E.I., Staff Engineer, under the supervision of Myron Hayden, P.E., Principal Geotechnical Engineer.

A total of three (3) soil borings were installed for this study. The soil boring locations were based on locations of the anomalies detected in the GPR study. A detailed summary of the soil boring locations with baseline stationing and offset along with Global Positioning System (GPS) coordinates have been provided in TABLE B-1. In addition, the soil boring locations have been displayed graphically on “updated” Subgrade Plan and Profile sheets provided as Figures B-1 and B-2.

EGS cored the existing pavement structure at the three (3) soil boring locations. The soil borings were installed using a hand auger coupled with hand cone index (CPI) tests conducted on 2 ½ feet centers to a depth of approximately 10 feet below the pavement surface. The soil samples were collected on 6-inch centers and classified visually in the field by EGS personnel prior to being sealed and transported to EGS’s soils laboratory for further examination.
FINDINGS

A copy of the soil boring logs from the three (3) Soil Borings has been included as Figures B-3 through B-5. As can be seen in the Soil Boring Logs, the zones corresponding to anomalies detected in the GPR study are “Medium Dense Silty Fine Sand with Layers of Hard Cemented Sand”. The cemented sand has a consistency of concrete; however, in this case it likely occurred naturally and represents a “hardpan” layer created by cementation of calcium in the groundwater that “perched” on the underlying plastic clay soils.

The presence of this “hardpan” layer may impact the installation of small utilities, but likely will not have a significant impact on the excavation for the larger utilities prior to repaving the roadway.

RECOMMENDATION

Based on the soils and subsurface conditions encountered in this investigation, EGS does not believe that overexcavation and removal of this zone of Medium Dense Silty Fine Sand with Layers of Hard Cemented Sand is necessary or cost-effective.

PLAN NOTE

EGS recommends the following note be added to the Plans:

- Lenses of hard cemented sand may be encountered.

If you have any questions or concerns related to this project, feel free to contact myself or Matt Monteith, E.I., at (850) 386-1253.
# TABLE B-1
SOIL BORING LOCATION DATA
ADDENDUM B
LAFAYETTE STREET DRAINAGE IMPROVEMENTS
LEON COUNTY, FLORIDA

<table>
<thead>
<tr>
<th>BORING NUMBER</th>
<th>BORING DEPTH</th>
<th>EXISTING ELEVATION</th>
<th>BASELINE STATION</th>
<th>OFFSET FROM BASELINE</th>
<th>STATE PLANE COORDINATES</th>
<th>GLOBAL POSITIONING SATELLITE SYSTEM COORDINATES</th>
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<tr>
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<td>(FEET)</td>
<td>(FEET)</td>
<td>(FEET)</td>
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<td>EASTING</td>
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<td>LS-16</td>
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<td>114.7</td>
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<td>2039932</td>
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<td>LS-17</td>
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<td>423+40</td>
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<td>521891</td>
<td>2040246</td>
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<td>LS-18</td>
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<td>150.3</td>
<td>426+30</td>
<td>9.0 FEET RIGHT</td>
<td>521834</td>
<td>2040530</td>
</tr>
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</table>

**NOTES:**
1. DEPTHS ARE BELOW EXISTING PAVEMENT.
2. ELEVATION, BASELINE STATION, AND OFFSET DETERMINED FROM PLANS PROVIDED BY GENESIS GROUP, INC.
A 1,600 MHz ANTENNA PRODUCED BY MALA GEOSCIENCES.

1. GROUND PENETRATING RADAR SCANS WERE CONDUCTED USING

Environmental & Geotechnical Specialists, Inc.
3004 Eliza Road
Tallahassee, Florida 32308
Office: (850) 386-1253   Fax: (850) 385-8050


SOIL BORING LOCATION

WESTBOUND SUBGRADE SCAN

EASTBOUND SUBGRADE SCAN

SUBGRADE SOILS MAP

Plan View

Profile View

18-116-12-02

LEON COUNTY, FLORIDA

UPDATED SUBGRADE PLAN AND PROFILE

LA FAYETTE STREET

DRAINAGE IMPROVEMENTS

EGS

Environmental & Geotechnical Specialists, Inc.
3004 Eliza Road
Tallahassee, Florida 32306
Phone: (850) 386-1253   Fax: (850) 386-4080

OCTOBER 2012
<table>
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<tr>
<th>DEPTH (METERS)</th>
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<th>DESCRIPTION</th>
<th>USCS/AASHTO</th>
<th>TEST RESULTS</th>
<th>Wc (%)</th>
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<th>N-Value</th>
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<tr>
<td>4</td>
<td>MEDIUM DENSE BROWN SILTY FINE SAND WITH CEMENTED SAND</td>
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<td>SC A-2-6</td>
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This information pertains only to this boring and should not be interpreted as being indicative of the site.

FIGURE B-3
**PROJECT:** LAFAYETTE STREET DRAINAGE IMPROVEMENTS  
**CLIENT:** GENESIS GROUP  
**PROJECT NO.:** 18-115-12-02  
**PROJECT LOCATION:** LEON COUNTY, FLORIDA  
**BORING NO.:** LS-17  
**DRILLER:** W. DUNLAP  
**DEPTH TO - WATER> INITIAL:** > 10.5'  
**AFTER 24 HOURS:** N/M  
**CAVING>** NONE  

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<th>DEPTH (METERS)</th>
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FIGURE B-4
**DEPTH TO WATER**

- **INITIAL:** > 10.5'
- **AFTER 24 HOURS:** N/M

**SAMPLING RESULTS**

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This information pertains only to this boring and should not be interpreted as being indicative of the site.

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**FIGURE B-5**