

# Central Testing Laboratory

ENGINEERING AND MATERIALS TESTING

EB 0002407

Reply to:

Leesburg

January 29, 2021

Lake County Department of Economic Growth  
Planning & Zoning Division  
P.O. Box 7800  
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Tavares, FL 32778  
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Attention: Steve K. Greene, AICP  
Chief Planner  
[sgreene@lakecountyfl.gov](mailto:sgreene@lakecountyfl.gov)

Subject: Supplemental Review of Additional Information provided for  
Mining Conditional Use Permit (MCUP) Application  
For White Water Farms, Lake County, Florida  
CTL Project No. 2084129.201

Dear Mr. Greene:

Per your authorization, Central Testing Laboratory (CTL) has completed our review of several documents provided by your office to CTL. The purpose of this review was to provide our opinions relating to the following:

- Conformance to the requirements of Lake County Land Development Regulations.
- Scope and Content to industry standard guidance documents.
- Evaluations and Conclusions presented in the report.

This review and report were performed and prepared by Theodore J. Strouse, P.E., Principal Engineer.

## **Information Provided for Review**

The documents provided for our review are identified as follows:

*Letter of Response to Staff comments*, dated December 11, 2020, prepared by Wicks Engineering Services, Inc.

*Geotechnical Investigation Report*, dated November 12, 2020, prepared by Andreyev Engineering, Inc.

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### **Review of Information Provided**

The *Letter of response to staff comments*, dated December 11, 2020 was written as a response to a staff comments letter dated December 8, 2020. The letter provides responses to review comments and informational comments made by the various Offices and Departments involved in the review process.

This review is for additional information provided in response to review comment 1. From the Office of Planning and Zoning requiring soil boring and hydrogeologic data.

The *Geotechnical Investigation Report*, dated November 12, 2020, prepared by Andreyev Engineering, Inc. in response.

### **Conformance Opinion**

After review of the documents provided, it is CTL's opinion that the *Geotechnical Investigation Report* includes some of the information required but is missing certain information required by the Land Development Regulations.

Section 6.06.03, B.,16 is the reference in the LDR requiring a hydrogeologic report prepared by a licensed professional as well as the minimum information required to be in the hydrogeologic report. Subsections a. through j. are listed in this section and describe the information required to be included in the hydrogeologic report.

- a. Identification of the type of Ore and Overburden on-site and the proposed maximum depth of mining.  
**Soil borings were provided identifying the type of overburden on-site. The maximum depth of mining was not addressed in the Geotechnical Report. Maximum depth of mining is shown on the site plans.**
- b. Groundwater contours, including direction of flow for the surficial and Floridan Aquifers determined from Site specific data. Contours for the Floridan Aquifer may be determined by literary research in the case of clay and peat Mines.  
**No Groundwater contours were provided in the Geotechnical Report. Site specific data has been collected. Please provide groundwater contours including direction of flow for the surficial and Floridan Aquifers.**
- c. Site-specific geologic information presented on at least one (1) geologic cross-sectional drawing referenced to NAVD 88. This cross Section Shall show the subsurface from the existing Land surface to the top of the Floridan Aquifer and Shall identify the major lithologic and hydrologic groups and the bottom elevation(s) of the proposed Mine.  
**A geologic profile was provided in the slope stability analysis using data from a single soil boring in proximity to a cross section shown on the site plan. The profile used in the analysis shows a water level above the bottom of the excavation.**

- d. Information on both the Surficial Aquifer and Confining Units necessary to identify the hydrological environment of the Site. This information Shall, unless specifically exempted by the County, include porosity, specific yield, hydraulic conductivity, and other hydrologic characteristics derived from field tests (i.e., slug test, permeability testing or other County-approved Aquifer tests).

**Information was provided on Surficial Aquifer including permeability data and porosity in the Geotechnical Report.**

- e. Background Surficial Aquifer Water Quality measurements of pH, specific conductance, temperature, chlorides, and total dissolved and suspended solids. Peat and muck Mines Shall be required to provide Surface Water Quality measurements of pH, specific conductance, temperature, chlorides, TDS, TSS, BOD, COD, nutrients, organic compounds, and heavy metals.

**No Background Water Quality measurements were included in the Geotechnical Report**

- f. Proposed water withdrawal volumes, water Discharge volumes and water budget for the proposed mining operation.

**There was no information relating to the water budget in the Geotechnical Report provided**

- g. Hydrologic and hydrogeologic impacts of mining activities, water withdrawal and water Discharge on surrounding properties and resources. The impacts addressed Shall, unless specifically exempted by the County, include but not be limited to the following: Groundwater levels, Recharge to and Discharge from Aquifers, Lake levels, Flood storage, stormwater, Surface Water flow patterns, base flow of Streams, Erosion, Sediment load, Stream velocity and evapotranspiration.

**Hydrologic and hydrogeologic impacts of mining activities were not specifically addressed in the Geotechnical Report.**

- h. Sufficient borings Shall be made to provide data necessary to meet the above requirements. Borings Shall be sufficiently deep to determine depth to the intermediate Confining Unit. Consideration Shall be given to placing one (1) upgradient boring to the top of the weathered limestone of the Floridan Aquifer as needed to ascertain the lithology of the Site. Borings Shall be conducted according to either ASTM Standard D-1586 (Standard Penetration Test), augured or continuously cored. Boring Logs in the report Shall as a minimum include the following:

- (1) The reference point for all depth measurements both to existing Land surface and to NAVD 88.
- (2) The identification and description of the material of which each stratum is composed.
- (3) The depth and height of any cavities, intervals of falling rod and lost circulation of drilling fluids.
- (4) Depth at which the water in the Surficial Aquifer was encountered.

**No elevation references were provided for the borings in the Geotechnical Report provided for review. All other information was included on the boring logs.**

- i. In the case of peat Mines, unless specific adverse conditions are identified, the following Shall generally be considered sufficient to supply Site specific data required to comply with Subsections c., d., and h. above. A muck probe survey with probes done on one hundred (100) foot centers to determine the depth of the peat deposit Shall be performed. Probing Shall be performed to the bottom of the deposit. In Addition, one (1) boring to a depth of twenty (20) feet below the proposed Mine depth to characterize the hydrogeologic setting of

the Site Shall be required. The location of this boring Shall be adjacent to the area to be Mined and selected in consultation with County staff. (Under h., boring logs, requirements (1) through (4) would still apply). This data will be incorporated into the required report(s). Where the data indicate a possible and/or potential Connection to the Floridan Aquifer, Additional probes and/or borings Shall be performed.

**This Subsection does not apply.**

- j. Other information which may be beneficial to the review of the hydrogeological condition of the Site and vicinity, including but not limited to any other geologic, hydrogeologic and geotechnical reports prepared on the mining Site.

**Elevation references added to the boring logs will aid in the development of the requested groundwater contours. A comparison of the groundwater contours to the maximum depth of excavation will provide additional information that can be used in the evaluation of the hydrogeologic condition of the site.**

Based on the information provided for this review, it is CTL's opinion that the information required by the Land Development Regulations as outlined above will provide a basis for the evaluation of the hydrogeologic condition of the site. The data presented in the *Geotechnical Investigation Report* appears to indicate that the depth of excavation will extend to depths below the seasonal high-water levels shown. This condition is contradictory to statements made elsewhere in the permit application. In our opinion this condition needs to be addressed prior to approval of the permit.

**Closure**

The professional engineering opinions and comments presented in this report are based solely on the information and data provided to our office for review. CTL has not visited the site for observations nor have we performed any subsurface exploration or tests.

CTL appreciates the opportunity to provide our services on this project. Should you have any questions concerning this report please do not hesitate to contact our Leesburg office at (352) 787-1268 or by e-mail at [tstrouse@ctlfl.com](mailto:tstrouse@ctlfl.com).

Respectfully submitted,

  
Justin Carroll, E.I.  
Staff Engineer



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