

RESOLUTION NO. R17-839

**A RESOLUTION TO AUTHORIZE THE ACQUISITION OF
GEOPHYSICAL SURVEY SERVICES TO LOCATE WELL DRILLING
SITES**

WHEREAS, the City of Stockbridge ("City") is a municipal corporation duly organized and existing under the laws of the State of Georgia and is charged with being fiscally responsible concerning the use and expenditure of all public funds; and

WHEREAS, the City proposes to approve the acquisition of certain geophysical survey services;

THEREFORE, THE CITY COUNCIL OF THE CITY OF STOCKBRIDGE HEREBY RESOLVES:

SECTION 1. Approval of Purchase. The request for the proposal for geophysical survey services attached hereto as Exhibit A is hereby approved by the City Council.

SECTION 2. Public Record. This document shall be maintained as a public record by the City Clerk and shall be accessible to the public during all normal business hours of the City of Stockbridge.

SECTION 3. Authorization of Execution. The Mayor is hereby authorized to sign all documents necessary to effectuate this Resolution.

SECTION 4. Attestation. The City Clerk is authorized to execute, attest to, and seal any documents which may be necessary to effectuate this ordinance, subject to approval as to form by the City Attorney.

SECTION 5. Effective Date. This resolution shall become effective immediately upon its adoption by the Mayor and City Council of the City of Stockbridge as provided in the City Charter.

[SIGNATURES APPEAR ON FOLLOWING PAGE]

SO RESOLVED this 28th day of June, 2017.



JUDY NEAL, Mayor

ATTEST:



VANESSA HOLIDAY, City Clerk

APPROVED AS TO FORM:



MICHAEL WILLIAMS, City Attorney

GROUND-WATER SERVICES, INC.

Exploration and Development

3842 Crestmore Drive

Kennesaw, GA 30144

770-364-8442

www.groundwaterrock.com

[email:support@groundwaterrock.com](mailto:support@groundwaterrock.com)

June 9, 2017

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Mr. Decius Aaron
Public Works Director
City of Stockbridge
4640 North Henry Blvd.
Stockbridge, GA 30281

Subject: Proposal For Exploration Geophysical Surveys
To Locate Well Drilling Sites-Reeves Creek Trail

Dear Mr. Aaron:

Per our meeting on 6-5-17, I have prepared this proposal to provide exploration geophysical surveys for well site selections on the Reeves Creek Trail property. I understand that there are two wells (Well E and F) south of the creek (Fayette County) and two abandoned wells north of the creek. The wells are approximately located on the attached Henry County Tax map. The map also shows the wetlands (green color). Well E produced 100 gallons per minute (gpm); Well F was less than 100 gpm and the two abandoned wells were even less. Most of the property is within the 100 year flood plain.

The general area of the property is underlain with a rock complex termed Granite Gneiss / Amphibolite (Geologic Map of Georgia, 1976). Ground water exists within fractures (openings) within the rock. The location and depth of the fractures are critical to successful wells. Site-specific geologic conditions vary from site to site. That is why the geophysical surveys are critical in determining favorable from unfavorable geologic conditions. The subsurface presence of fractures cannot be ascertained by merely looking at the ground surface features; one should explore remotely with geophysical surveys before drilling, just as a surgeon reviews an x-ray or an MRI before surgery, or a dentist conducts x-rays to determine if you have cavities.

The geophysical techniques I utilize can locate the position, depth and character of the fractures within the rock. Geophysical surveys provide subsurface information over a wide area and guide the drilling program.

Information about geophysical techniques and ground water can be found on our web page www.groundwaterrock.com.

First, I propose to conduct an electromagnetic (EM) survey of the available areas for the wells. There are three areas available; these are the west end (parking area), the north section and the east section to Tye Street. The wetland areas will not be surveyed.

The survey will identify the electromagnetic anomalies within the subsurface. Fractures containing ground water and quartz are more electrically conductive than the solid rock. An electrically conductive zone emits electromagnetic energy, which the instrument records as an anomaly. A map of the survey data will be prepared showing the favorable locations for further investigation with the electrical resistivity sounding technique.

Second, I propose to conduct electrical resistivity (ER) soundings at the favorable locations. Upon access approval to Wells E and F, a sounding will be conducted at these two wells for comparison purposes. The soundings will be conducted to 600 feet and deeper, if possible. If physical limitations are an issue, the depth of the soundings will be adjusted. This phase will detail the depth and character of the fractures, thereby determining the final location and depth of the well. Graphs of the sounding data will be prepared with hydrogeologic interpretations.

The method requires laying out small electrical lines and driving steel rods into the soil zone, and cannot be conducted over concrete or asphalt unless the pavements are cracked and the rods can be driven into the cracks. A 600-foot deep sounding requires 1,200 feet of wire layout across the ground.

A final report will be prepared explaining the data, the recommended drilling sites, depths and the expected flow rates. The success in finding ground water is 100 %, and the success in correctly estimating the flow rate is currently 77 %.

Please be aware that all sites which are geologically favorable (abundant and /or significant fractures) may not be hydrologically favorable, i. e., initially not yield the customer's desired nor my expected flow rate. There is a degree of risk involved with having a well drilled. The exploration techniques are conducted to reduce the risk. The sounding graph of Well E (major fracture at 500-510 feet) will be used for comparison and will reduce the risks even more.

However, by obtaining the most subsurface knowledge possible prior to drilling, an informed decision can be made concerning the drilling site(s), and other options following the initial 6-inch drilling. The options include hydrofracing and 8-10 inch reaming. In your overall budget please consider these options as possibilities if the well does not yield as expected.

Hydrofracing, which is conducted by others, is a process conducted after the drilling of the 6-inch hole to increase the flow rate. A camera is typically lowered into the well to determine the exact depth of the fractures and the physical condition of the rock in the well. The process involves forcing fresh water into the well at high pressures. Well flows which vary from high to low (surging) may not be good candidates for hydrofracing. The increase in yield can be 50-100 % or greater.

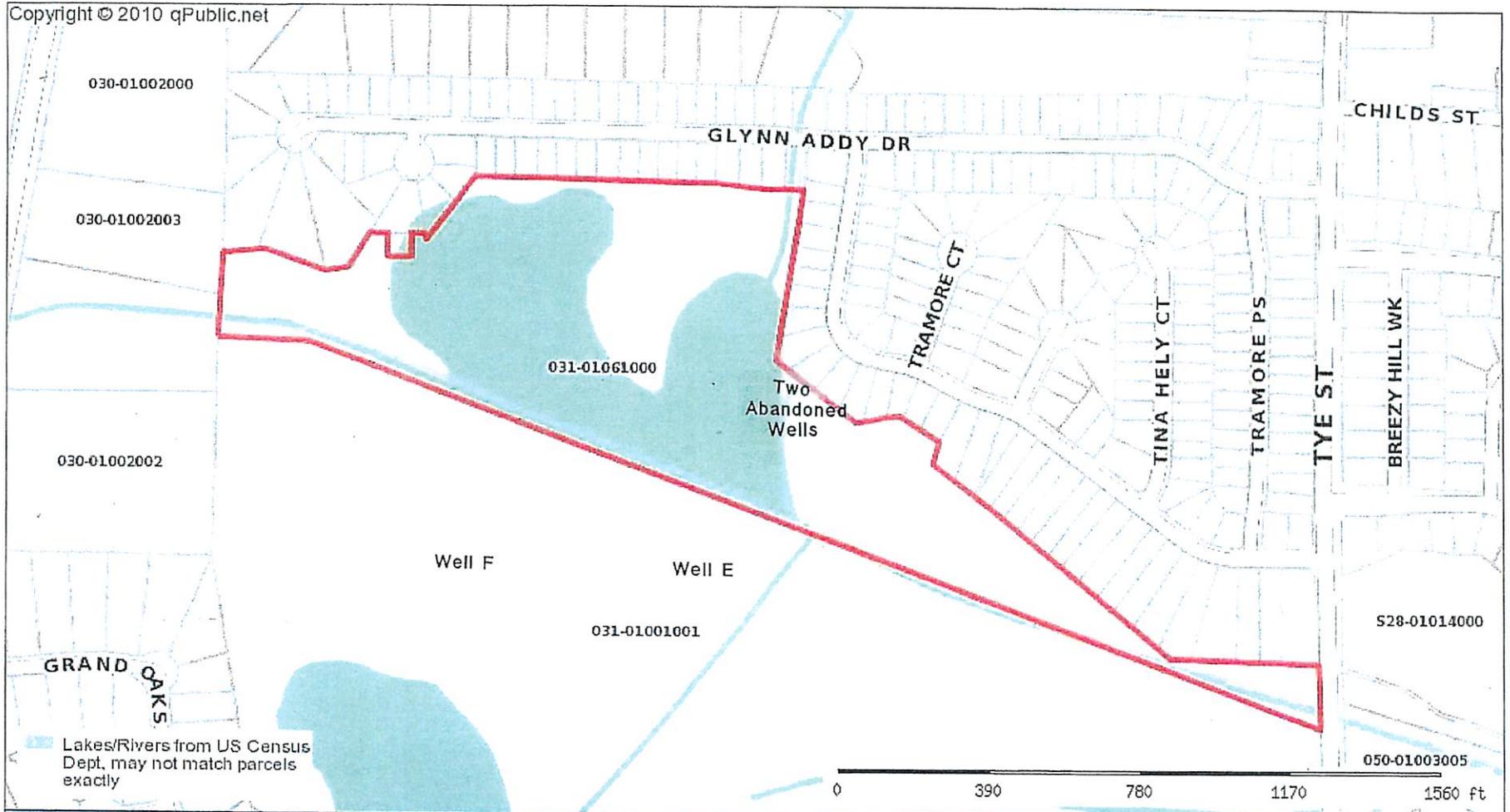
The geophysical surveys are the exploration phase of my business, and the hydrogeological services after the exploration phase are the ground-water development phase of my business. The development phase includes water well design, drilling and well installation supervision, the assessment and implementation of the options described above, ground-water sampling and aquifer pumping tests. Public drinking water wells must meet the GAEPD Well Head Protection Rules and the Rules for Safe Drinking Water.

The not-to-exceed cost of the exploration surveys is \$9,700.00. Services will be performed according to our Mission Statement, which is on our web page. I am committed to praying for and providing knowledge and truth for the faithful investment in the well, and God willing, through His Son Jesus Christ, a blessing for the city.

PAYMENT IS DUE WITHIN 30 DAYS OF RECEIPT OF THE REPORT AND INVOICE. YOUR ATTENTION TO THIS REQUIREMENT WILL BE GREATLY APPRECIATED. If you are in agreement with the above services, costs and payment terms, please sign a copy of this acceptance letter and return a copy to me. This proposal is intended for the sole use of the City of Stockbridge. **This proposal shall not be copied or the described techniques conveyed to outside parties without written permission of Ground-Water Services, Inc.**

Sincerely,
GROUND-WATER SERVICES, INC.
H. Dan Harman, Jr.
H. Dan Harman, Jr. P. G.
Senior Hydrogeologist and President

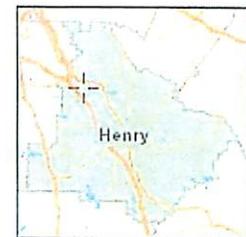
acting City mng.
Accepted: *Judy Deal*
(Authorized Signature)
Date: *06.12.17*



Henry County Assessor

Parcel: 031-01061000 Acres: 26

Name:	CITY OF STOCKBRIDGE	Land Value:	\$65,900.00
Site:		Building Value:	\$0.00
Sale:	\$0 on 01-2001 Reason=WD Qual=U	Misc Value:	\$1,300.00
Mail:	4640 NORTH HENRY BLVD STOCKBRIDGE, GA 30281	Total Value:	\$67,200.00



Parcel lines depicted on the maps do not reflect a true and exact representation of property boundaries and should not be relied upon for said purpose. Property boundary lines are depicted on recorded plats available at the Henry County courthouse or can be determined by employing the services of a licensed surveyor.
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