Geophysical Investigation Report

Location:

316 Huguenot Street
8 Westchester Place
64 Centre Avenue
New Rochelle, NY
(AGInc. Job No. 1919577)

Prepared for:

SESI Consulting Engineers
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Investigated and prepared by:

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Completed on:

September 24th, 2020

INTRODUCTION

American Geophysics, Inc. (AGInc.), is a geophysical survey and investigation services firm which provides Environmental & Engineering Geophysics (EEG) services to the environmental consulting, construction, and engineering communities. Led by over 20 years of field experience, AGInc. takes pride in providing the highest training for our technicians and the use of the most current and state-of -the-art equipment. This winning combination of experience and technology results in the most accurate findings.

METHODOLOGY

Geophysical surveys are typically accomplished by employing the following techniques; Ground-penetrating Radar (GPR), electromagnetic metal detector (Fisher TW6), radio frequency line locating (RF), Electromagnetic Profiler (EM). Underground storage tanks (USTs), utilities, and metallic anomalies are typically traced and mapped with RF, GPR, EM, and a magnetometer depending on the size, matrix and conductive properties of the targets. Site conditions and client specifications of the areas of concern (AOCs), determine the survey approach and equipment used to provide the most comprehensive data possible.

Equipment Used:

Radiodetection RD8000 PDL pipe and cable locator

Radiodetection RD1100 250MHz ground penetrating radar (GPR)

Fisher TW6 Magnetometer

SCOPE OF WORK

On September 24th, 2020, a geophysical survey and investigation was completed at all of the above mentioned locations (316 Huguenot Street, 8 Westchester Place and 64 Centre Avenue). The scope of work was to mark all detected utilities and anomalies in client-specified areas of concern (AOCs), for proposed boring locations. Also, the client requested a UST investigation to confirm the existence, or removal, of former USTs at the 316 Huguenot Street, 8 Westchester Place and 64 Centre Avenue locations. The AOCs were a vacant lot where buildings once stood; and the front lot, back parking lot, and inside of a hardware store. Surface conditions consisted of asphalt, gravel, and bare soils. The locations were scanned using an RD1100 250MHz (GPR), Fisher TW-6 Magnetometer, and Radiodetection RD8000 PDL pipe and cable locator.

SURVEY RESULTS

The GPR and RD8000 units were used in an octagonal grid pattern over the AOC. 3D data was collected and 2D locations were logged. The RD 8000 was also used in many different modes, directly and passively, along with the TW-6 Magnetometer. All detected utilities were marked in APWA coded paints and any unknown subsurface linear anomalies were marked in white paint. Two metallic subsurface anomalies consistent with USTs were detected with the TW6, near the entrance of the 8 Westchester Place AOC. They had estimated dimensions ~(10-11ft. x 5ft.), and were marked in pink paint. A fill port was detected and investigated in between both detected anomalies, with detected lines leading to both, along with three suspected vents in the middle of the property. Various other unknown cut pipes were located, induced upon, and traced out with pink paint. The proposed boring location inside of the hardware store was marked with duct tape and green marker so as to not mark the finished floor. All findings were marked on site and discussed with the client representative. Please see the figures section.

LIMITATIONS

The GPR signal penetration depth was less than good and estimated as ~(2ft.-4ft.) below ground surface (BGS) in the majority of the areas of the exterior of the property. Due to surface conditions and the dielectric properties of the subsurface and properties of concrete, plastic polymer, and fiberglass, not all subsurface anomalies and utilities may have been detected. Buildings, concrete barriers, wet soils, saturated conditions, cracked surfaces, curb lines, metal structures, may have affected survey results near and immediately beneath them.

Figures

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Fig. 1: Images of the areas investigated at 8 Westchester Place, with detected anomalies and utilities in pink paint, and the proposed boring locations marked as circles with an X inside.

Fig. 2: Images of the detected metallic subsurface anomalies.

Fig. 3: Images of the areas investigated at 64 Centre Avenue (first picture, store parking lot), 316 Huguenot Street (second picture, store back lot), and the inside location, with detected anomalies and utilities in APWA coded colors.

WARRANTIES

· ***American Geophysics, Inc. does not guarantee that utilities, conduit, and steel reinforcement will be avoided during drilling, cutting, trenching, and coring.***

· ***All utility designating will be in compliance with ASCE 38-02 (level B).***

· ***All field services were conducted in compliance with the industry standard of care guidelines found in CSDA-BP-007 and marked in appropriate colors as per the APWA (American Public Works Association).***

· ***The GPR unit must have direct contact with the concrete in order to collect quality data.***

· ***Any areas covered with debris cannot be scanned correctly with GPR.***

· ***Wet floors will not allow proper marking with paint and/or permanent marker.***

· ***All concrete slabs must be monolithic pours.***

· ***Dairy brick and some types of tile may cause signal interference.***

· ***New concrete can adversely affect the signal penetration and should be given a minimum of one month curing time.***

· ***All areas should be clear for scanning and marking.***

The field observations and measurements reported herein are considered sufficient in detail and scope for this project. American Geophysics, Inc. warrants that the findings and conclusions contained herein have been promulgated in accordance with generally accepted geophysical methods. There is a possibility that conditions may exist which could not be identified within the scope of this project and were not apparent during the site activities performed for this project.

American Geophysics, Inc. represents that the services were performed in a manner consistent with that level of care and skill ordinarily exercised by geophysical consultants under similar circumstances. No other representations to Client, express or implied, and no warranty or guarantee is included or intended in this agreement, or in any report, document, or otherwise.

American Geophysics, Inc. believes that the information provided in this report is reliable. However, American Geophysics, Inc. cannot warrant or guarantee that the information provided by others is complete or accurate. No other warranties or guarantees are implied or expressed.

GPR data is subject to signal anomalies and operator interpretation. The GPR data is intended to provide the locations of areas of concern requiring additional investigation or the approximate location of underground structures and utilities. Great care must be utilized when excavating, drilling, and cutting around subsurface structures and utilities, since GPR data can only be used for estimation purposes and GPR data, is subject to misinterpretation. American Geophysics, Inc. cannot guarantee that utilities, post-tension cables, and/or rebar will not be incurred during drilling, cutting, coring, and excavation activities.

Hand clearing or vacuum-excavation should be performed within 2.5’ of any marks. American Geophysics, Inc. does not guarantee that utilities will not be encountered during

drilling and/or excavation. Mark-out services performed by American Geophysics, Inc. do not satisfy state mark out requirements. By law, the appropriate state mark-out service must be notified prior to any digging activities (i.e. NJ one-call, PA one-call, CT call before you dig, MD & VA miss utility, dig safely NY, FL one-call, 811 one-call, call before you dig, Sunshine State One-Call).

This report was prepared pursuant to the contract American Geophysics, Inc. has with the Client. That contractual relationship included an exchange of information about the property that was unique and between American Geophysics, Inc. and its client and serves as the basis upon which this report was prepared. Because of the importance of the communication between American Geophysics, Inc. and its client, reliance or any use of this report by anyone other than the Client, for whom it was prepared, is prohibited and therefore not foreseeable to American Geophysics, Inc.

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