DELTA Geophysics Inc.

GEOPHYSICAL INVESTIGATION REPORT

SITE LOCATION:

277 North Avenue,
New Rochelle, New York

PREPARED FOR:

AKRF
440 Park Avenue South,
New York, New York

PREPARED BY:

Bradley Moore
Delta Geophysics Inc.
738 Front Street
Catasauqua, PA 18032

November 30th, 2020

Delta Geophysics, Inc. (Delta) is pleased to provide the results of the geophysical survey conducted at 277 North Ave, New Rochelle, NY.

1.0 INTRODUCTION

On November 4th, 2020, Delta Geophysics personnel performed a limited geophysical investigation at 277 North Ave, New Rochelle, NY. The area of interest was all accessible areas of the property. Subsurface conditions were unknown at the time of survey.

SCOPE OF WORK

The survey was conducted to investigate the subsurface for anomalies consistent with underground storage tanks (UST). A secondary objective was to locate and mark detectable underground utilities throughout accessible areas of the property.

2.0 METHODOLOGY

Selection of survey equipment is dependent upon site conditions and project objectives. For this project the technician utilized the following equipment to survey the area of concern:

- Geophysical Survey Systems Inc. SIR-3000 cart-mounted Ground Penetrating Radar (GPR) unit with a 400 Mhz antenna.
- Radiodetection RD7000 precision utility locator.
- Fisher M-Scope TW-6 pipe and cable locator.

Ground penetrating radar (commonly called GPR) is a geophysical method that has been developed over the past thirty years for shallow, high-resolution, subsurface investigations of the earth. GPR uses high frequency pulsed electromagnetic waves (generally 10 MHz to 1,000 MHz) to acquire subsurface information. Energy is propagated downward into the ground and is reflected back to the surface from boundaries at which there are electrical property contrasts. GPR is a method that is commonly used for environmental, engineering, archeological, and other shallow investigations.

The GSSI SIR-3000 GPR can accept a wide variety of antennas which provide various depths of penetration and levels of resolution. The 400 MHz antenna can achieve depths of penetration up to about 20 feet, but this depth may be greatly reduced due to site-specific conditions. Signal penetration decreases with increased soil conductivity. Conductive materials attenuate or absorb the GPR signal. As depth increases the return signal becomes weaker. Penetration is the greatest in unsaturated sands and fine gravels. Clayey, highly saline or saturated soils, areas covered by steel reinforced concrete, foundry slag, of other highly conductive materials significantly reduces GPR depth of penetration.

The GPR was configured to transmit to a depth of approximately 10 feet below the subsurface, but actual signal penetration was limited to approximately 1-4 feet below ground surface (bgs). The limiting factor was signal attenuation from near surface soils.

The RD7000 precision utility locator uses radio emission to trace the location of metal bearing utilities. This radio emission can be active or passive. Active tracing requires the attachment of a radio transmitter to the utility, passive tracing uses radio emissions that are present on the utility. Underground electrical utilities typically emit radio signals that this device can detect.

The TW-6 is designed to find pipes, cables and other metallic objects such as underground storage tanks. One surveyor can carry both the transmitter and receiver together, making it ideally suited for exploration type searches of ferrous metal masses. Metal detectors of this type operate by generating a magnetic field at the transmitter which causes metallic objects in the subsurface to generate a secondary magnetic field. The induced secondary field is detected by the receiver, which generates an audible tone equal to the strength of the secondary field.

3.0 SURVEY FINDINGS

All accessible areas throughout the property were examined during this investigation. Each location was examined with the RD7000 for potential subsurface utilities then surveyed with GPR and TW-6 for potential anomalies.

Metallic Anomaly

A metallic anomaly was detected with the TW-6 and confirmed with GPR adjacent to the eastern corner of the building. Approximate dimensions measure 12 feet by 5 feet. GPR transects imaged a cylindrical anomaly at 2 feet bgs. A vent line was traced to the anomaly where it terminated. The metallic anomaly is consistent with a UST. The area was marked onsite in pink paint.

Utility Survey

Delta performed a utility survey throughout accessible areas of the property. The following were identified: electric, telecommunication, storm sewer, sanitary sewer, and unknown. All utilities were marked onsite with appropriate colors.

5.0 SURVEY LIMITATIONS

GPR depth of penetration was limited to approximately 1-4 feet bgs. The limiting factor was due to conductive soils. GPR transects were limited in the northern corner of the property due to barricades.

WARRANTIES AND DISCLAIMER

As with any geophysical method, it must be stressed that caution be used during any excavation or intrusive testing in proximity to any anomalies indicated in this report. In addition, the absence of detected signatures does not preclude the possibility that targets may exist. To the extent the client desires more definitive conclusions than are warranted by the currently available facts; it is specifically Delta's intent that the conclusions stated herein will be intended as guidance.

This report is based upon the application of scientific principles and professional judgment to certain facts with resultant subjective interpretations. Professional judgments expressed herein are based on the facts currently available within the limit or scope of work, budget and schedule. Delta

represents that the services were performed in a manner consistent with currently accepted professional practices employed by geophysical/geological 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.

This report was prepared pursuant to the contract Delta has with the Client. That contractual relationship included an exchange of information about the property that was unique and between Delta and its client and serves as the basis upon which this report was prepared. Because of the importance of the understandings between Delta 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 Delta.

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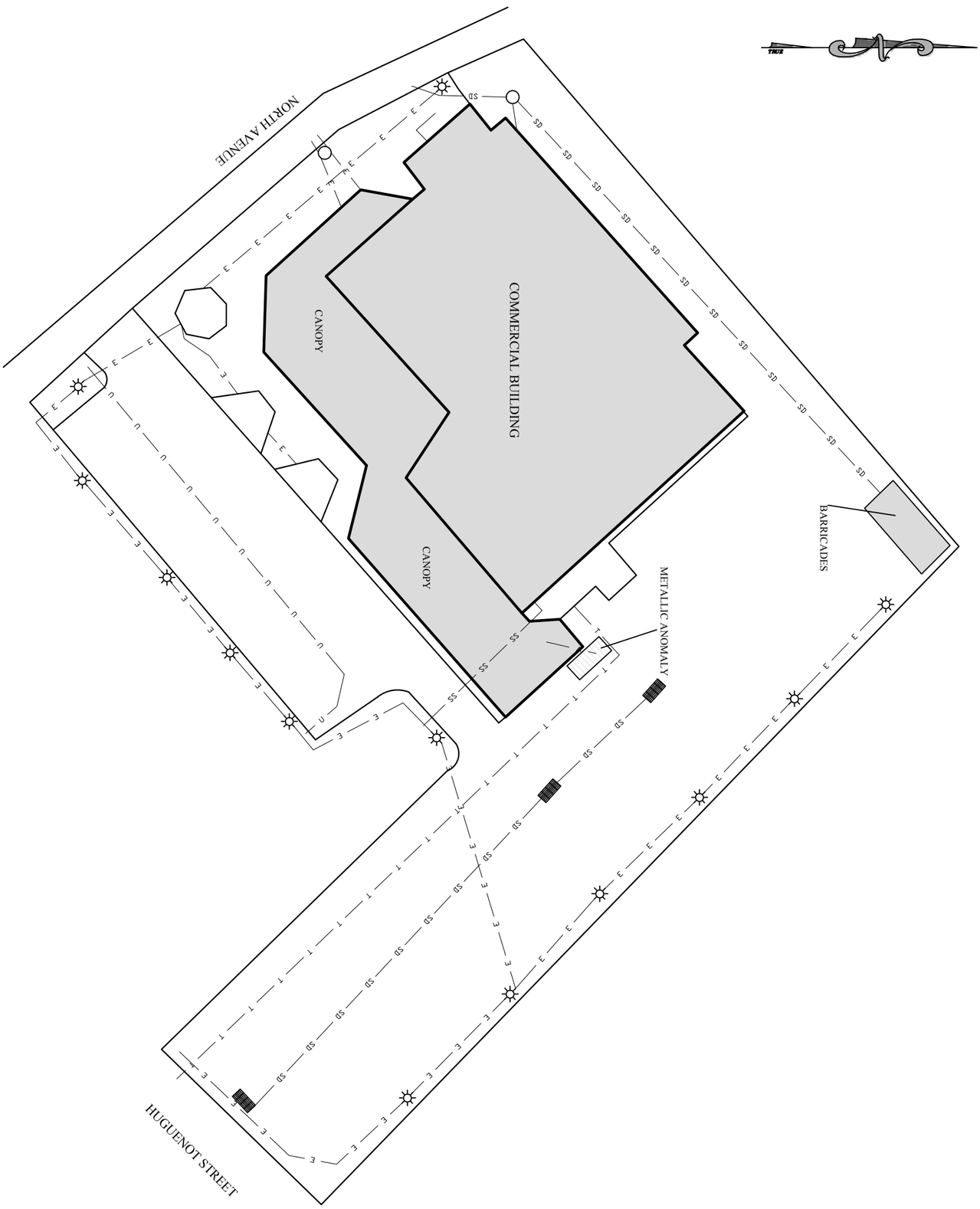

LEGEND

- MANHOLE COVER
- STORM DRAIN
- LIGHT
- E — ELECTRIC
- T — TELECOMMUNICATION
- SD — STORM SEWER
- SS — SANITARY SEWER
- U — UNKNOWN UTILITY
- V — VENT

0 15 30 60 90

GRAPHIC SCALE IN FEET

NOTES:

This site plan was produced from data positioned by differential GPS measurments collected in the field. Due to the errors normally present in DGPS data, this document is not intended or represented to be of survey precision. Caution should be used in all field measurments based on this site plan.

As with any geophysical method, it must be stressed that caution be used during any excavation or intrusive testing in proximity of any anomalies indicated in this document. The absence of detected signatures does not preclude the possibility that targets exist. The geophysical data and results presented in this site plan are based upon the application of scientific principles and professional judgements to certain facts with resultant subjective interpretations. Professional judgements expressed herein are based on the facts currently available within the limits of the existing data, scope of work, budget, and schedule.

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DATE	11-30-20
SCALE	1'' = 30'
DWG NO.	D110420
SHT NO.	1 OF 1
PROJECT.	

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FOR
AKRF

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