

# RICHARD D. BARTLETT & ASSOCIATES, LLC

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MARK C. SARGENT, L.L.S.

DANIEL J. MULLEN, L.L.S.

Est. 1973

• BOUNDARY SURVEYS

• SUBDIVISIONS

• DESIGN AND LAYOUT

• ON-SITE SANITARY SEWAGE SYSTEMS

• GPS CONTROL

December 12, 2014

Ms. Tina Stanislaski, AIA  
HMFH Architects, Inc.  
130 Bishop Allen Drive  
Cambridge, MA. 02139

Re: Land Surveying Services—Dover, NH H.S. & Regional Career Technical Center

Dear Tina;

Thank you for consulting with our firm on the land surveying services needed at the above referenced site. It is our understanding that you require an existing conditions survey of the three subject parcels. The properties involved are the Dover High School, which is 44 acres in size, the Dover Middle School, which is 20 acres and the Bellamy Fields which is approximately 15 acres. Including with our proposal is a proposal from Ground Penetrating Radar Systems, Inc. out of Manchester, NH for the location of underground utilities. To complete this project we have prepared the following scope of services and estimate of cost based on the AIA document you provided to us, for the land surveying portion of this project.

### Scope of Services

- Research of City, County and State records to ascertain current abutters, previous surveys, highway right-of-way data, utility records and development of deed histories on the subject premises and all abutting parcels (approximately 35 properties).
- Establishment of horizontal and vertical control within the project area, the horizontal control based on the NH State Plane Coordinate System, NAD 83 and the vertical datum on NGVD 1929.
- Establishment of vertical benchmarks throughout the project area, and measurement of floor elevations at each building entrance.
- Field reconnaissance and survey locating and measuring boundary monumentation, buildings, roads and driveways, parking areas, pavement markings, curbing, fences, stonewalls, marked utilities, utility structures with rim and invert elevations and pipe sizes and types, signs, retaining walls, delineated wetlands, the edge of the Bellamy River, individual trees greater than 6" in diameter in open areas, flagged specimen trees and tree lines along wooded areas, topographic relief, landscape features and other important natural and man-made features within the project area in accordance with the AIA document provided to us.
- Office reduction of field data, plotting of field located features, plotting of underground utilities based on field observations and record information, calculation of topography at a one foot contour interval and calculation of the boundaries of each parcel.
- Preparation of final plat, in a form as outlined in the AIA document depicting all field located features, the boundary of the parcels, flood plain limits, and required buffers and setbacks.
- Monumentation of missing property corners with steel pins (30 assumed).

Ms. Stanislaski

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**Limitations**

The above scope of services does not include the resolution of a boundary line agreement, should one or more be necessary. We are, however, able to provide this service if needed. Our scope also does not include the delineation of wetlands.

**Compensation**

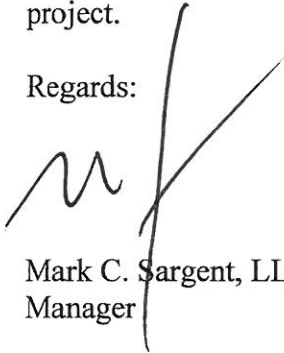
We have estimated the cost to complete the work outlined above to be \$56,795.00 plus the cost to monument any new or missing property corners, above the 30 assumed, at a rate of \$175.00 per pin set. The cost to identify underground utilities is identified on the accompanying proposal from Ground Penetrating Radar Systems, Inc. Our fee is based on no or minimal snow cover at the time of the field survey.

**Schedule**

Work can begin on this project as soon as receiving written authorization to proceed. Work will be completed within the 60 day requested time frame subject to delays caused by inclement weather.

Once again, thanks for considering our firm and we look forward to working with you on this project.

Regards:

A handwritten signature in black ink, appearing to read 'Mark C. Sargent', is written over the typed name and title.

Mark C. Sargent, LLS  
Manager



Friday, December 12, 2014

**Attn: Mark Sargent**  
Richard D. Bartlett & Associates, LLC  
214 North States Street  
Concord, NH 03301  
Cell: 603-225-6770  
Email: [mcsargent@richarddbartlett.com](mailto:mcsargent@richarddbartlett.com)

**GPR Investigation and Inspection of Utility Location – Dover H.S. and Regional Career Technical Center, Dover, NH 03820**

### **PROPOSAL**

We appreciate the opportunity to provide this proposal to you for the project mentioned above. Please forward all communication to your assigned representative. The representative assigned to your project is:

GPRS Inc.  
Attn: Peter Kessinger - Project Manager  
Phone: 857-248-1251, 603-703-6007 Fax: 866-392-5417  
Email: [Peter.Kessinger@gp-radar.com](mailto:Peter.Kessinger@gp-radar.com)

### **SCOPE OF WORK**

We understand the scope of the project is locating any underground utilities over three parcels of land to include the 44-acre parcel identified as 25 Alumni Drive, the property identified as 16 Daley Drive, and the town owned property with play fields identified as Belamy Road in Dover, NH. Prior to entering property grounds GPRS will contact Jeffrey White (Facilities Director, Dover School District) at 603-516-6882 for coordination. All underground gas, electric, communication, water, storm sewer and or sanitary sewer lines will be located as may be required prior to land surveying operations conducted by Richard D. Bartlett & Associates, LLC. It is estimated to take 22 days (2 acres/day) to fully conduct a GPR investigation of the 3 properties depending upon the complexity of underground utilities. Upon location, all of the anomalies found will be painted and or flagged directly on the ground surface with their depth; this is our typical and standard output. Reporting has not been requested for this project if reporting is needed please notify us 1 week in advance. The following equipment will be used on this project:

- GSSI Ground Penetrating Radar – This device transmits an electromagnetic pulse through the ground and displays the reflection on a screen for interpretation.
  - 400 MHz antenna – This antenna allows for GPR signal penetration 6’-8’ through the ground.
- RD-7000 locator – This device detects live power and RF signals underground, allowing us to locate electrical or telephone lines even if they are below the minimum size requirements to be detected by GPR. It also allows us to detect utilities via induction or conduction with an exposed or known surface of the utility.

Our company provides Ground Penetrating Radar Services. GPRS provides utility location services in accordance with ASCE Standard 38-02, Quality Level "B", which includes Ground Penetrating Radar (GPR) Services. Ground Penetrating Radar (GPR) is a Geophysical Mapping technique. GPR is a great tool for utility locating; however, it is not without its limitations. In general, our maximum depth penetration is 3'-7' deep, however, this depth is completely dependent on the composition of soils, the condition of concrete or asphalt, and the presence of voids, water, salt, and reinforcing in the area being investigated. A good rule of thumb is for every foot deep the pipe/utility is buried it must be at least one inch in diameter. For example, at 4 ft. deep the pipe would need to be at least 4 inches in diameter. With these factors in mind we CANNOT guarantee we will be able to locate ALL utilities on site. Please keep this in mind as you review our services.

### **EQUIPMENT LIMITATIONS**

- Size of target – typically, a target (utility) must be at least 1" in diameter per 1' of depth in order for it to be located with GPR. IE, a pipe at 7' in depth will need to be at least 7" in diameter in order to be located with GPR.
- Soil conditions – wet soil, soil with a high salt content from cracked asphalt, soil with voids, or soil which contains high amounts of debris can limit the effectiveness of GPR.
- Surface conditions – brush, standing water, metal plating, reinforcing within concrete, or anything which blocks direct access to the area to be scanned limits the ability to perform GPR. If any of these conditions exist please notify us so we can discuss appropriate action.

### **COMPANY INFORMATION**

#### **Corporate Headquarters:**

Ground Penetrating Radar Systems, Inc.  
6800 W. Central Ave.  
Suite E-1  
Toledo, OH 43617  
Phone: 419-843-9804

Fed ID: 31-1803412

**All W9 and Insurance information can be found at [gp-radar.com/forms.html](http://gp-radar.com/forms.html)**

**GENERAL COSTS TO CONDUCT AN INVESTIGATION**

(On site for 0-1 hours)	\$600
(On site for up to 4 hours)	\$800
(On site for 5-8 hours)	\$1,600

<u>Dover H.S. and Regional Career Technical Center</u>	
Utility Locate:	\$1600/day
Standard Report:	N/A
<b>Total</b>	<b>\$35,200</b>
*(price includes mobilization and scanning with appropriate/required equipment and reporting)	

(Mobilization Fee is issued when we have to travel further than 100 miles from Boston, MA) \$100

**\*Please have the areas to be scanned CLEARLY MARKED AND IDENTIFIED on the surface prior to our arrival. Failure to do so may incur additional costs because we charge based on the time that we are on site. If we need to preform work while elevated, please have the staging/lift prepared for our arrival. We do not work on ladders because we cannot maintain 3 points of contact with the ladder while scanning and marking our findings on the surface.**

**Optional Services** – Please initial next to requested services. We will need notification of request of these services at least 1 week prior to the start of work.

**Standard Report\*:** (\$200) Initial\_\_\_\_\_  
\*(includes a detailed description of the scope of work, inspection methods, and equipment used. Also includes visuals such as site locations, images of data, and site photos.)

**GPS Mapping of located utilities/items\*:** (TBD) Initial\_\_\_\_\_  
\*(includes GPS coordinates of located items and reference items. Please let us know in what format you would like the drawing. For example, Google Earth Image Overlay)

**CAD Mapping of located utilities/items\*:** (TBD) Initial\_\_\_\_\_  
\*(Please supply us with a CAD drawing of the area that we can add to. This is considered an add-on service in conjunction to the GPS Mapping noted above.)

**Scanning with 200/270Mhz Antenna\*:** **Price (Cost of Shipping Equipment)**  
\*(Scanning with the 200-270MHz antenna could add 20-25% to our maximum depth penetration listed above with respect to the 400MHz antenna. If interested please contact us with project details to determine feasibility.)

**Scanning with 2GHz Palm/Mini/900MHz/1000MHz Antenna\*:** **Price (Cost of Shipping Equipment)**  
\*(Scanning with the 2Ghz Palm Antenna will allow us to get within 2" of any obstruction (we can only get within 4" of any obstruction with the 1600MHz antenna, which is our standard concrete antenna) and the 2GHz Palm Antenna is required to scan any **cylindrical objects**. Scanning with the Mini is required when we need to scan multiple locations on a **wall or ceiling** because it is a light, all-in-one, handheld, GPR device. Scanning with the 900MHz/1000MH Antenna is required when we need to penetrate concrete that is between 15"-36" thick. If interested please contact us with project details to determine feasibility.)

**UTILITY LOCATING TERMS & CONDITIONS**

1. GPRS, Inc. provides Ground Penetrating Radar (GPR) services. While a good percentage of our work does deal with assisting in the detection of underground utility location, we are not a utility locating company. GPRS, Inc. provides utility location services in accordance with ASCE Standard 38-02, Quality Level "B" that includes Ground Penetrating Radar (GPR) Services. GPR is a good tool for utility locating; however, it is not without its limitations. In general, our maximum depth penetration is 3-7' deep, however, this depth is completely dependent on the composition of soils in the area being surveyed. Customer fully understands that for every foot in depth penetration with the GPR equipment, the pipe/utility must be at least 1" in diameter to be located. For example, at 4 feet in depth, the pipe/utility must be 4" or larger to be detected. Some types of pipes are very difficult to locate, such as clay or concrete pipes, and empty pvc type pipes. Given these factors, GPRS CANNOT guarantee it will be able to locate ALL utilities on site.

2. Our goal is to provide you with the answers to your questions regarding what lies below the surface, and where it is located. Customer acknowledges it understands that our answers are based upon an interpretation of retrieved data and are what GPRS believes lies below the surface. The decision to proceed with cutting, coring, drilling, boring, or excavation is left entirely up to the customer.

3. GPRS does not accept liability for an inaccurate interpretation or any other reason, and customer agrees to release and indemnify GPRS and its owners and agents from all losses and damages from all alleged negligence and/or contract claims by customer or any third party. These terms and conditions supersede any/all other terms and conditions either oral or written.

4. Payment is due upon receipt of invoice.

By signing below you agree to the terms and conditions as mentioned above,

Print Name \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

PO # \_\_\_\_\_ Job # \_\_\_\_\_