



**DOVER SCHOOL
DISTRICT**

JOINT BUILDING COMMITTEE – DOVER HIGH SCHOOL AND REGIONAL CTC MEETING NOTICE

Meeting Type:	Regular Meeting
Meeting Location:	Superintendent's Conference Room, McConnell Center
Meeting Date:	Thursday, June 23, 2016
Meeting Time:	4:15 P.M.

1. Call to order and roll call
2. Citizens' Forum
3. Approval of Meeting Minutes from June 7, 2016
4. Financial Report
 - a. Approve Manifests
5. Discuss Irrigation proposal
6. Review fee from the geotechnical engineer for the soils testing under the building
7. Review and approve GMP Amendment for early work packages
8. Review and possibly approve RAM Aggregate package
9. Updates:
 - a. Security meeting
 - b. CTC/DHS space ratio
 - c. Storage
 - d. Fundraising
10. Discuss date for "ground breaking"
11. Review future meeting schedule
12. Matters of Interest
13. Build next agenda and review action items
14. Adjournment

**Dover High School and Career Technical Center
Feasibility Study
Summary of Contract Amounts and Total Costs**

		63.50%		36.50%				
		\$571,500.00		\$328,500.00		\$328,500.00		
Vendor	Description	(A) Contract Totals	(B) HS Portion @ 76%	(C) CTE Portion @ 24%	(D = B+C) Total Expenditures To Date	(E = A-D) HS & CTE Remaining Balance (Obligations)	(F = C x 25%) District Share of CTE @ 25%	(G = C x 75%) State Share of CTE @ 75%
		Account	4015.1.600.46900. 4715.07101	4015.1.600.46900 4725.07108				
	Budget (Appropriation #1 & State Funding)	\$900,000.00						\$13,500,000.00
HMFH	Feasability Study	\$485,000.00	\$368,600.00	\$116,400.00	\$485,000.00	\$0 - Complete	\$26,346.32	\$0.00
HMFH	PSS#1 Frank Locker Visioning Study	\$26,500.00	\$20,140.00	\$6,360.00	\$26,500.00	\$0 - Complete	\$6,360.00	\$0.00
HMFH	PSS#1 Visioning-Cost to Procure Add'l Svs - 10%	\$2,650.00	\$2,014.00	\$636.00	\$2,650.00	\$0 - Complete	\$636.00	\$0.00
HMFH	PSS#2 Universal Environmental, (Haz Mat)	\$5,700.00	\$4,332.00	\$1,368.00	\$5,700.00	\$0 - Complete	\$1,368.00	\$0.00
HMFH	PSS#2 Haz Mat-Cost to Procure Add'l Svs-10%	\$570.00	\$433.20	\$136.80	\$570.00	\$0 - Complete	\$136.80	\$0.00
HMFH	PSS#2 McPhail Associates, (GeoTech)	\$21,500.00	\$14,772.88	\$4,665.12	\$19,438.00	\$2,062.00	\$4,665.12	\$0.00
HMFH	PSS#2 Geo Tech-Cost to Procure Add'l Svs-10%	\$2,150.00	\$1,477.30	\$466.51	\$1,943.81	\$206.19	\$466.51	\$0.00
HMFH	PSS#2 Sebago Technics, (Site Survey)	\$39,800.00	\$26,068.00	\$8,232.00	\$34,300.00	\$5,500.00	\$8,232.00	\$0.00
HMFH	PSS#2 Site Survey-Cost to Procure Add'l Svs-10%	\$3,980.00	\$2,606.80	\$823.20	\$3,430.00	\$550.00	\$823.20	\$0.00
HMFH	Add'l Services: Travel, Postage, Printing	\$10,450.00	\$5,936.53	\$1,874.72	\$7,811.25	\$0 - Complete	\$1,874.72	\$0.00
Dover School District	Clerical, Legal and Supply Costs	\$25,000.00	\$11,040.79	\$3,486.56	\$14,527.35	\$0 - Complete	\$3,486.56	\$0.00
PC Construction	Construction Manager Services	\$96,000.00	\$44,840.00	\$14,160.00	\$59,000.00	\$37,000.00	\$14,160.00	\$0.00
								\$0.00
								\$0.00
								\$0.00
TOTALS, 6/21/2016		\$719,300.00	\$502,261.50	\$158,608.91	\$660,870.41	\$45,318.19	\$68,555.23	\$0.00
BUDGET BALANCE		\$180,700.00	\$69,238.50	\$169,891.09	\$239,129.59	\$193,811.40	\$259,944.77	\$13,500,000.00

Total Feasibility Study Funds Remaining (Column B Budget Balance + Column F Budget Balance + Column G Total (-) Column E Total): \$283,865.08 *

**Remaining funds do not include all state funding requests for CTE*

Dover High School and Career Technical Center
Design Services, Additional Geotechnical Engineering Services & Construction
Summary of Contract Amounts and Total Costs

			\$55,480,000.00	\$17,520,000.00			\$4,380,000.00	\$13,500,000.00
Vendor	Description	(A) Contract Totals	(B) HS Portion @ 76%	(C) CTE Portion @ 24%	(D = B+C) Total Expenditures To Date	(E = A-D) HS & CTE Remaining Balance (Obligations)	(F = C x 25%) District Share of CTE @ 25%	(G = C x 75%) State Share of CTE @ 75%
		Account	4016.1.600.46900. 4725.07101	4016.1.600.46900. 4725.07108				
	Budget (Appropriation #2)	\$23,300,000.00						
	Budget (Appropriation #3)	\$49,700,000.00						
HMFH	PSS#3 Schematic Design (15%)	\$1,008,000.00	\$766,080.00	\$241,920.00	\$1,008,000.00	\$0 - Complete	\$241,920.00	\$0.00
HMFH	PSS#3 / PSS#6 Design Development (20%)	\$1,316,000.00	\$1,000,160.00	\$315,840.00	\$1,316,000.00	\$0.00	\$315,840.00	\$0.00
HMFH	PSS#3 / PSS#6 Construction Documents (25%)	\$1,633,000.00	\$372,324.00	\$117,576.00	\$489,900.00	\$1,143,100.00	\$117,576.00	\$0.00
HMFH	PSS#3 Bidding (5%)	\$336,000.00			\$0.00	\$336,000.00		\$0.00
HMFH	PSS#3 Construction Administration-Phase 1 (30%)	\$2,016,000.00			\$0.00	\$2,016,000.00		\$0.00
HMFH	PSS#3 Construction Administration-Phase 2 (5%)	\$336,000.00			\$0.00	\$336,000.00		\$0.00
HMFH	Add'l Services: Travel, Postage, Printing	\$85,000.00	\$8,693.09	\$2,745.21	\$11,438.30	\$73,561.70	\$2,745.21	\$0.00
HMFH	PSS#4 McPhail Associates - Geotechnical	\$37,000.00	\$24,455.70	\$7,722.87	\$32,178.57	\$4,821.43	\$7,722.87	\$0.00
HMFH	PSS#4 HMFH Coordination Fee - 10%	\$3,700.00	\$2,291.26	\$723.59	\$3,014.85	\$685.15	\$723.59	\$0.00
HMFH	PSS#5 Synthetic Turf Field Design	\$67,500.00	\$34,200.00	\$10,800.00	\$45,000.00	\$22,500.00	\$10,800.00	\$0.00
HMFH	PSS#5 GGD-Technology Procurement	\$32,000.00			\$0.00	\$32,000.00		\$0.00
HMFH	PSS#5 UEC-Add'l HazMat Services	\$18,000.00	\$10,450.00	\$3,300.00	\$13,750.00	\$4,250.00	\$3,300.00	\$0.00
HMFH	PSS#5 PLS - Furniture & Equip Procurement	\$100,000.00	\$20,254.00	\$6,396.00	\$26,650.00	\$73,350.00	\$6,396.00	\$0.00
HMFH	PSS#5 HMFH Coordination Fee	\$21,750.00	\$6,490.40	\$2,049.60	\$8,540.00	\$13,210.00	\$2,049.60	\$0.00
HEA	Commissioning Agent	\$171,630.00	\$2,226.80	\$703.20	\$2,930.00	\$168,700.00	\$703.20	\$0.00
Dover School District	Clerical Support, Legal and Supply Costs	\$12,064.65	\$9,169.13	\$2,895.52	\$12,064.65	\$0.00	\$2,895.52	\$0.00
	TOTALS, 6/21/2016	\$7,193,644.65	\$2,256,794.38	\$712,671.99	\$2,969,466.37	\$4,224,178.28	\$712,671.99	\$0.00
	BUDGET BALANCE	\$42,506,355.35	\$53,223,205.62	\$16,807,328.01	\$70,030,533.63	\$68,775,821.72	\$3,667,328.01	\$13,500,000.00

Total Design Services, Geotech Svs & Construction Funds Remaining (Column B Budget Balance + Column F Budget Balance + Column G Total (-) Column E Total): \$52,666,355.35 *

**Remaining funds do not include all state funding requests for CTE*

PROJECT SUMMARY				
	Appropriation #1	Appropriation #2 & #3	State of NH Funding	Total
Budget:	\$900,000.00	\$73,000,000.00	\$13,500,000.00	\$87,400,000.00
Expensed to Date:	\$660,870.41	\$2,969,466.37	\$0.00	\$3,630,336.78
Obligations to Date:	\$45,318.19	\$4,224,178.28	\$0.00	\$4,269,496.47
% Expensed/Obligated:	78.47%	9.85%	0.00%	16.94%
Budget Availability:	\$193,811.40	\$65,806,355.35	\$13,500,000.00	\$79,500,166.75

NOTE: Total Expenditures To Date (Column D) reflect expenses paid on 6/2/2016 to HEA for services rendered between 4/2/16 and 4/29/16; and to HMFH for services rendered through 4/30/2016 in the amount of \$348,035.76

MAN. NO. CIPM#DHSCTC026
DATE: 6/21/2016

VENDOR VOUCHER MANIFEST
SCHOOL DISTRICT SAU #11

1. DATE	2. PAYEE NAME AND ADDRESS	3. FINANCE PO NO:	4. AMOUNT EXPENDED	5. AMOUNT OF CHECK	6. PROJECT NAME
1. 6/21/2016	Horizon Engineering Associates, LLP 800 Veterans Memorial Highway, Suite 301 Hauppauge, NY 11788-2948				DHS/CTC Fac. Improv.
	<u>4016.1.600.46900.4725.07101.16.000.000.700</u>	201609442		\$ 1,862.00	FY: 2016
	<u>4016.1.600.46900.4725.07108.16.000.000.700</u>	201609442		\$ 588.00	
				<u>\$ 2,450.00</u>	Inv No. 2
	Professional Services from 4/30/2016 - 5/27/2016				
TOTALS				\$2,450.00	

TO THE TREASURER; PAYMENTS AUTHORIZED AND ORDERED
TO THE PERSONS LISTED ABOVE FOR THE SUMS INDICATED
IN COLUMN 5. AMOUNT OF CHECK AMOUNTING IN THE
AGGREGATE TO:

2,450.00

Superintendent of Schools or Business Administrator

Date

Robert Carrier, Deputy Mayor, JBC Chair

Date

PROFESSIONAL SERVICES SUPPLEMENT #7

AIA Document G604

In accordance with the AGREEMENT dated:

December 2, 2014

BETWEEN:

**The Dover School District
School Administrative Unit #11
McConnell Center
61 Locust Street, Suite 409
Dover, NH 03820-4132**

and:

**HMFH Architects, Inc.
130 Bishop Allen Drive
Cambridge, MA 02139**

for the Project:

Dover High School and Regional Career Technical Center

☒ authorization is requested

{ ☒ to proceed with Additional Services
☐ to proceed with revised scope of Basic Services
☐ to incur Reimbursable Expenses

OR

☐ notification is made

{ ☐ of the need to proceed with Contingent Additional Services
☐ of the need for other services

AS FOLLOWS:

Additional Irrigation alternates for an automatic, underground irrigation system for the combination natural turf fields and the courtyard.

Halvorson Design Partnership, Inc./Irrigation Consulting, Inc.	\$8,500.00
HMFH Coordination Fee – 10%	<u>\$850.00</u>
Total	\$9,350.00

(insert provisions covering time of commencement and completion of authorized services as applicable).

Prompt written notice is required if the services indicated are not needed.

SUBMITTED BY: HMFH Architects, Inc.

AUTHORIZATION IS GIVEN or
NOTIFICATION IS ACKNOWLEDGED BY:



(signature)

(signature)

Laura Wernick, AIA, Treasurer
(printed name and title)

(printed name and title)

6/16/2016
(date)

(date)



June 5, 2016

Mr. Charles Kozlowski
Halvorson Design Partnership
25 Kingston Street, 5th Floor
Boston, MA 02111

Dear Chuck:

Irrigation Consulting, Incorporated is pleased to provide you with a proposal for irrigation design and consulting services for the Dover High School project, located in Dover, New Hampshire. Our fee proposal is based on your email of June 3, 2016 and the accompanying Design Development Landscape Plans, L-1 to L-4, dated March 15, 2016 at various scales. The following proposal covers our scope of work, fee structure, exclusions, terms and conditions.

BASIC SCOPE OF WORK

1. Irrigation Consulting will provide complete construction documents including irrigation plans, written technical specifications and typical installation details as necessary for an automatic, underground irrigation system for the combination natural turf fields and the courtyard broken into bid alternates as required.
2. Our irrigation design assumes a potable water supply originating from the building at the proper flow and pressure to a landscaped area by others. We will coordinate, but not design, the mechanical and electrical points of connection of the system with your office, as well as with other sub-consultants involved in the project. The design of the required water meter, backflow prevention device, interior piping, etc. and will be part of the MEP drawings to be produced by others and will not be included on our drawings or in our specifications. Booster pump system design is not included in our proposal.
3. Two document submissions are included in our scope of work. The first submission shall be at 90% CD followed by the 100% CD level.
4. Irrigation Consulting will provide construction coordination services. This will include review and approval of shop drawings/product submittals submitted by the irrigation contractor as well as responding to contractor initiated RFI's regarding irrigation.
5. Irrigation Consulting will provide one (1) construction observation site visit and one (1) final

punch list visit. Site visits will help to ensure the quality of the installation and will be used to monitor the progress as well as conformance to the contract documents. All site visits will be followed by a written report to your office outlining our findings.

We will perform our work using the final landscape, utility and site plans when provided in an AutoCAD format. Any changes to these files can be updated through e-mail as required. We will prepare and return the final irrigation drawings in AutoCAD and PDF format. Specifications will follow CSI standards, and will be customized to match the project format of fonts, headers, footers, etc. Specifications will be provided in an MS Word format.

PROFESSIONAL FEES, TERMS AND CONDITIONS

- Our fixed fee for the above basic scope of work is EIGHT THOUSAND FIVE HUNDRED AND 00/100 DOLLARS ... (\$8,500.00) which includes all direct expenses. Our fee breaks down as follows:

Construction Documents	\$5,500.00
Construction Coordination	\$2,500.00
Expenses	\$ 500.00

- Additional site visits or meetings requested by the Halvorson Design Partnership will be billed at an hourly rate commensurate with the ICI staff conducting the work.
- Services will be billed on a monthly basis for services performed in that month, or immediately upon completion of the work. All services are based on a maximum rate of \$135.00 per hour. Payment terms are Net 10 Days from the date of payment to the Halvorson Design Partnership by their Client.

EXCLUSIONS

- Specifically excluded from this proposal is electrical systems design, water supply design, permitting, booster pump design, storage tank design, well design, hydro-geological services, rain water harvesting, building design, meetings and site visits other than those specifically listed, interior conduit or pipe routing, irrigation design of more than the areas indicated in the proposal and on the drawings, stamping by a New Hampshire registered professional engineer and record drawing production.

If you have any questions, please do not hesitate to contact our office. Please sign and date below to authorize services to be performed, and to allow this proposal to act as a letter of agreement between Irrigation Consulting, Incorporated and the Halvorson Design Partnership. Please also indicate any purchase order or reference numbers required to invoice this project.

We appreciate your consideration and look forward to working with you on another project.

Sincerely,



Brian E. Vinchesi, LEED AP, EIT, CID, CLIA
Design Engineer

Accepted by: _____
(Halvorson Design Partnership Representative)

Date: _____

P. O. Number: _____



June 20, 2016

HMFH Architects, Inc.
130 Bishop Allen Drive
Cambridge, MA 02139

Attention: Ms. Tina Stanislaski

Reference: Dover High School; Dover, New Hampshire
Proposal for Construction-Phase Geotechnical Engineering Services

Ladies and Gentlemen:

We are pleased to present our proposal for providing construction-phase geotechnical engineering services for the proposed Dover High School development located in Dover, New Hampshire.

Project Overview

The Dover High School campus occupies an irregularly shaped site that is bounded by Dover Middle School and the Bellamy River to the north, Durham Road to the southeast, residential properties to the south and Bellamy Road to the west. Currently, the campus is occupied by the existing high school building which is located on the southeastern quadrant of the site with parking areas immediately surrounding and to the south of the existing school. The school fronts to the south onto Alumni Drive which crosses the southern half of the site. Athletic fields are located to the north and west of the existing building. A separate small school building is located to the southwest of the main high school structure on the south side of Alumni Drive. Ground surface slopes gently down from southwest to both the north and east with athletic fields benched into the existing grade changes.

The proposed development involves the construction of a new school building to the northwest of the existing school. Based on the information provided to us, the proposed 3-story building will occupy a footprint of approximately 185,000 square feet. It is understood that the proposed building will not contain any below grade space but will be benched into the existing slope of the site which drops from southwest to northeast across the proposed building footprint. The proposed lowest level slab within the northeastern end of the proposed building will be constructed at Elevation +84. The lowest level slab across the remainder of the building is understood to be at about Elevation +98. A courtyard and walkways will occupy the central portion of the building footprint. In addition, it is understood that current football/soccer field will be replaced with a synthetic turf field and new track.

Previous geotechnical related services provided by McPhail Associates LLC (McPhail) for this project included the preparation of the following:

- Preliminary Foundation Engineering Report, Dover High School; Dover, New Hampshire dated May 14, 2015;



- Final Foundation Engineering Report, Dover High School; Dover, New Hampshire dated November 2, 2015;
- Revised Foundation Engineering Recommendations Letter, Dover High School; Dover, New Hampshire dated March 21, 2016;
- Foundation Engineering Report, Proposed Animal Science Building and Covered Riding Paddock, Dover High School; Dover, New Hampshire dated June 13, 2016;
- Building Earthwork Specifications, Dover High School & Career Technical Center; Dover, New Hampshire dated May 17, 2016; and
- Aggregate Pier Specifications, Dover High School & Career Technical Center; Dover, New Hampshire dated May 17, 2016.

Based on the proposed scope of development and the subsurface conditions encountered at the site, Foundation Engineering Reports prepared for this project by McPhail recommended that the proposed building be founded on a conventional spread footing foundation system in conjunction with slab-on-grade construction for the lowest level slab. It is recommended that spread footings bearing in the glacial till or marine deposits, or on compacted structural fill placed directly over the undisturbed marine and/or glacial till deposit after removal of the existing fill material, or on the fill and marine deposits improved with aggregate piers.

Construction Phase Engineering Services

Construction monitoring is required to observe compliance with the design concepts incorporated into the Contract Documents. Installation of aggregate piers and preparation of the footing and slab-on-grade subgrades requires observation to confirm that proper methods are being utilized and that the actual in-situ conditions are consistent with those upon which the design was predicated.

Based on the provided construction schedule, it is understood that preparation of the areas for Aggregate Piers and their installation will begin around August 16, 2016 and will be finished on October 25, 2016. In addition, it is understood that foundation subgrade preparation will start on September 14, 2016 and it will be completed around February 21, 2017. Lastly, it is anticipated that slab-on-grade preparation will require about twelve (12) weeks to complete.

Therefore, it is recommended that a representative of McPhail be present during the earthwork and foundation construction phase of the project to observe installation of aggregate piers, preparation of footing and slab subgrades, and placement and compaction of fill materials. Our involvement during the construction phase of the work should minimize costly delays due to unanticipated field problems since our field engineer would be under the direct supervision of our project manager who was responsible for foundation design recommendations documented in the foundation engineering reports mentioned herein.



We propose to provide the following scope of foundation construction monitoring services associated with the proposed project:

1. Review the Contractor's submittals for fill materials, dewatering, and methods for fill placement and design and installation methods for ground improvement for conformance with the project earthwork specification requirements;
3. Provide a field engineer on-site on a full-time and a part time basis for eighteen (18) weeks (720 hours) and ten (10) weeks (200 hours), respectively, to monitor installation of the ground improvement consisting of aggregate piers, preparation of foundation and slab-on-grade bearing surfaces, and placement of engineered backfill within the building footprint;
4. Prepare and submit field reports summarizing each day's construction activities while on-site;
5. Attend job meetings as required and provide consultation on geotechnical-related issues and problems which may arise during the course of the work; and
6. At the completion of the geotechnical-phase of the project, prepare a cover letter summarizing the observations documented in the daily field reports and the conformance of both the placement of engineered fill and foundation bearing surface preparation with the requirements of the Contract Documents.

The fee for engineering services would be based on a multiple of 2.5 times salary cost for technical personnel directly attributable to the project plus any direct expenses (e.g. mileage, report reproduction) at cost plus 15 percent.

Our current salary cost ranges for McPhail Associates, LLC personnel are:

Principal	\$77.88 - \$90.87/hr.
Project Manager/Associate	\$43.20 - \$63.61/hr.
Project Engineer/Field Engineer	\$34.76 - \$47.93/hr.
Technician/Draftsman	\$32.40 - \$38.48/hr.

Based on the proposed scope of construction and our experience on similar sized projects, the earthwork, and foundation construction is estimated to require our field personnel to be present on the site on a full-time and a part time basis for eighteen (18) weeks (720 hours) and ten (10) weeks (200 hours), respectively. Predicated on the above and assuming no unusual construction difficulties, the estimated fee for the construction-phase geotechnical engineering services is \$126,500.

Our total fee would be dependent upon the duration of our required presence on the site which is, of course, a function of the Contractor's progress and phasing of activities. Should our presence on the site be required for a greater or lesser period, the cost of our field representative's time would be adjusted accordingly.



HMFH Architects, Inc.
June 20, 2016
Page 4

It is hereby understood that the presence of our field representative on the site will be solely for the purpose of monitoring the above-described construction. Our work does not include supervision or direction of the actual work of the Contractor or his employees. The Contractor should be informed that neither the presence of our field representative nor the observations and testing of our firm shall relieve him in any way from his responsibility concerning defects discovered in his work. It is also understood that we will not be responsible in any way for job site safety as this will be the sole responsibility of the Contractor.

Our scope of services under this proposal specifically excludes geoenvironmental engineering services pursuant to the Massachusetts Oil and Hazardous Materials Release Prevention and Response Act (MGL Chapter 21E) and pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000). Our scope of services also excludes chemical testing of the soil and groundwater. These services are available from McPhail Associates, LLC should they be required for this project.

The geotechnical engineer's liability for damages due to professional negligence will be limited to an amount not to exceed \$1,000,000 in accordance with the terms and conditions of our policy.

Invoices for services would be submitted monthly and payment would be due within 90 days. The Client agrees to pay interest at the rate of 1.5 percent per month on monies outstanding in excess of 90 days and collection costs on monies outstanding in excess of 120 days.

To authorize us to proceed with the services proposed above, please sign and return a copy of this letter. We appreciate the opportunity to submit this proposal and look forward to being of continued service to HMFH Architects, Inc. on this project. Should you have any questions or require further information, please do not hesitate to contact us.

Very truly yours,

McPHAIL ASSOCIATES, LLC

HMFH ARCHITECTS, INC.

A handwritten signature in blue ink, reading "Fatima Babic-Konjic".

Fatima Babic-Konjic, P.E.

BY _____

A handwritten signature in black ink, reading "Ambrose J. Donovan".

Ambrose J. Donovan, P.E., L.S.P.

DATE _____



CONSTRUCTION

AT PC WE GO ABOVE AND BEYOND ON EVERY JOB, PERIOD.

June 20, 2016

Mr. Robert Carrier
Joint Building Committee Chair
DHS-CTC Building Project
McConnell Center
61 Locust Street, Suite 409
Dover, NH 03820-4132

Re: Dover School District – Dover High School & Career Technical Center
PC Project #15027 Early Work GMP Amendment

Mr. Carrier:

Please find attached AIA Document A133 – 2009 Exhibit A, Early Work Guaranteed Maximum Price Amendment in the amount of \$4,270,636. This estimated value includes scope of work that we anticipate will occur thru October 7, 2016 when the final GMP is executed. Also attached is our estimate spread sheet and clarifications.

The final GMP amendment shall supersede this GMP amendment and shall incorporate this scope of work.

We are available at your convenience to review our estimate and answer any questions you may have. We look forward to working with the Dover School District and your entire team on this exciting project.

Sincerely,

Joseph Picoraro
Vice President

cc: Garret Bertolini
Scott Blair
Melissa Henerberry (JBC)
Laura Wernick
Tina Stanslaski
Bobby Williams



Document A133™ – 2009 Exhibit A

Guaranteed Maximum Price Amendment

for the following PROJECT:

(Name and address or location)

Dover High School and Regional Career Technical Center
Dover, New Hampshire
PC Project No. 15027

THE OWNER:

(Name, legal status and address)

Dover School District
61 Locust Street, Suite 409
Dover, NH 03820-4132

THE CONSTRUCTION MANAGER:

(Name, legal status and address)

PC Construction Company
193 Tilley Drive
South Burlington, VT 05403

This document has important legal consequences.

Consultation with an attorney is encouraged with respect to its completion or modification.

AIA Document A201™–2007, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

ARTICLE A.1

§ A.1.1 Guaranteed Maximum Price

Pursuant to Section 2.2.6 of the Agreement, the Owner and Construction Manager hereby amend the Agreement to establish a Guaranteed Maximum Price. ~~Price for Procurement and Early Work from June 20, 2016 to October 7, 2016.~~ As agreed by the Owner and Construction Manager, the Guaranteed Maximum Price is an amount that the Contract Sum shall not exceed. The Contract Sum consists of the Construction Manager's Fee plus the Cost of the Work, as that term is defined in Article 6 of this Agreement.

§ A.1.1.1 The Contract Sum is guaranteed by the Construction Manager not to exceed Four Million, Two Hundred Seventy Thousand, Six Hundred Thirty-six Dollars (\$ 4,270,636.00), subject to additions and deductions by Change Order as provided in the Contract Documents.

§ A.1.1.2 Itemized Statement of the Guaranteed Maximum Price. Provided below is an itemized statement of the Guaranteed Maximum Price organized by trade categories, allowances, contingencies, alternates, the Construction Manager's Fee, and other items that comprise the Guaranteed Maximum Price.
(Provide below or reference an attachment.)

See Estimating/Cost Analysis Sheet dated 06/20/16, also labeled 15027 Dover HS Early Work Estimate.

§ A.1.1.3 The Guaranteed Maximum Price is based on the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:
(State the numbers or other identification of accepted alternates. If the Contract Documents permit the Owner to accept other alternates subsequent to the execution of this Amendment, attach a schedule of such other alternates showing the amount for each and the date when the amount expires.)

Init.

None

§ A.1.1.4 Allowances included in the Guaranteed Maximum Price, if any:
(Identify allowance and state exclusions, if any, from the allowance price.)

Item	Price (\$0.00)
<u>None</u>	

§ A.1.1.5 Assumptions, if any, on which the Guaranteed Maximum Price is based:

None

§ A.1.1.6 The Guaranteed Maximum Price is based upon the following Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
<u>None</u>			

§ A.1.1.7 The Guaranteed Maximum Price is based upon the following Specifications:
(Either list the Specifications here, or refer to an exhibit attached to this Agreement.)

None

Section	Title	Date	Pages
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§ A.1.1.8 The Guaranteed Maximum Price is based upon the following Drawings:
(Either list the Drawings here, or refer to an exhibit attached to this Agreement.)

None

Number	Title	Date
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§ A.1.1.9 The Guaranteed Maximum Price is based upon the following other documents and information:
(List any other documents or information here, or refer to an exhibit attached to this Agreement.)

See Estimating/Cost Analysis Sheet dated 06/20/16, also labeled 15027 Dover HS Early Work Estimate.

ARTICLE A.2

§ A.2.1 The anticipated date of Substantial Completion established by this Amendment:

October 7, 2016

OWNER (Signature)



CONSTRUCTION MANAGER (Signature)

(Printed name and title)

Joseph Picoraro, Vice President

(Printed name and title)

ESTIMATING/COST ANALYSIS SHEET

Project # 15027
 Project Name: Dover HS & CTC
 Priced By: GTB

No. 0
 Subject: Procurement & Early Work from June 20, 2016 to October 07, 2016 (16 Weeks)

Date: 06/20/16

Item No.	Description	Quantity	Man-hours		Labor		Material		Equipment		Sub Trades		Total Cost	
			Unit	Total	Unit	Total	Unit	Total	Unit	Total	Unit	Total	Unit	Total
01	Mobilization & Trailer Set up	1	LS	0			\$0				\$49,083	\$49,083	\$49,083	\$49,083
02	Estimated PC Operations thru October 7, 2016	16	WKS	0			\$0				\$25,000	\$25,000	\$25,000	\$400,000
03	Sitework (work thru 10/7/16)	1	LS	0			\$0				\$1,500,000	\$1,500,000	\$1,500,000	\$1,500,000
04	Electrical Ductbank Installation	1	LS	0			\$0				\$30,000	\$30,000	\$30,000	\$30,000
05	Rammed Aggregate Piers	1	LS	0			\$0				\$285,917	\$285,917	\$285,917	\$285,917
06	Concrete Foundation	1	LS	0			\$0				\$750,000	\$750,000	\$750,000	\$750,000
07	Structural Steel Submittals and Materials	1	LS	0			\$0				\$900,000	\$900,000	\$900,000	\$900,000
08	MEP Enabling & Utility relocations	1	LS	0			\$0				\$50,000	\$50,000	\$50,000	\$50,000
09	Elevator Shop Drawings	1	LS	0			\$0				\$20,000	\$20,000	\$20,000	\$20,000
10		1	LS	0			\$0				\$0	\$0	\$0	\$0
11		1	LS	0			\$0				\$0	\$0	\$0	\$0
12		1	LS	0			\$0				\$0	\$0	\$0	\$0
13		1	LS	0			\$0				\$0	\$0	\$0	\$0
14		1	LS	0			\$0				\$0	\$0	\$0	\$0
15		1	LS	0			\$0				\$0	\$0	\$0	\$0
16		1	LS	0			\$0				\$0	\$0	\$0	\$0
17		1	LS	0			\$0				\$0	\$0	\$0	\$0
18		1	LS	0			\$0				\$0	\$0	\$0	\$0
19		1	LS	0			\$0				\$0	\$0	\$0	\$0
20		1	LS	0			\$0				\$0	\$0	\$0	\$0
21		1	LS	0			\$0				\$0	\$0	\$0	\$0
		1		0			\$0				\$0	\$0	\$0	\$0
	Raw Cost Subtotals			0			\$0				\$3,985,000	\$3,985,000		\$3,985,000
	Contingency	3.00%												\$119,550
	Builders Risk Insurance	0.15%												\$6,406
	Liability Insurance	0.75%												\$32,030
	P&P Bond	0.55%												\$23,488
	Subtotal													\$4,166,474
	Fee	2.50%												\$104,162
	Total													\$4,270,636

See clarifications dated June 20, 2016

DHS: SCOPE OF WORK CLARIFICATIONS

Division 1 – General Conditions

- 1.01 This Interim GMP is based on Site Drawings dated 5/4/16 and rammed aggregate pier drawings dated 5/25/16.
- 1.02 This interim GMP is for early work anticipated to be performed thru the execution of the final GMP which will supersede this GMP amount. The costs include partial amounts for PC management costs, site work, utilities foundations, structural steel, and elevator. The full recommended value for the rammed aggregated pier work is also included.
- 1.03 This estimate is for work anticipated from now until October 7, 2016.
- 1.04 Builder's Risk insurance is included, loss of use is excluded.
- 1.05 A performance and payment bond has been included.
- 1.06 Temporary heat fuel to be provided by Owner.
- 1.07 Consumption costs for electrical energy and water are to be provided by Owner.
- 1.08 The following items are excluded:
 - A. Sales tax
 - B. Third-party commissioning for MEP systems, automation controls and building
 - C. Owner's protective insurance
 - D. Impact fees at the Federal, State & Local Level
 - E. All permits apart from trade-specific permits
 - F. Design Fees
 - G. Owner contingency
 - H. Design contingency
 - I. Escalation (Except as noted)
 - J. Renting costs for new modular classrooms
 - K. Preconstruction services are included under a separate contract

Division 2 – Sitework

- 2.01 An estimated value for Site work shall include site submittals, site permits, erosion control, site utilities and building excavation.

Division 3 – Concrete

3.01 An estimated value for Concrete submittals and partial foundations is included.

Division 14 – Elevators

14.01 An estimated value for the elevator engineering and submittals is included.

Division 15 – Plumbing

15.01 An estimated value for Plumbing system includes the relocation of the sewer to support the existing HS while the new school is being constructed and any underground utilities that might require relocation.

Division 16 – Electrical

16.01 An estimated value for Electrical includes temporary power provision to the office trailers and site and power and site lighting relocations as required.



CONSTRUCTION

AT PC WE GO ABOVE AND BEYOND ON EVERY JOB, PERIOD.

June 20, 2016

Mr. Robert C. Carrier
Joint Building Committee Chair
DHS-CTC Building Project
McConnell Center
61 Locust St, Suite 409
Dover, NH 03820

Re: Letter of Recommendation – BP 31.2 Rammed Aggregate Piers
Dover High School & Career Technical Center
PC Project No. 15027

Dear Robert:

Listed below are the bid results for the above referenced procurement package.

Bidders	Bid Amount	Leveled Bid Amount
Subsurface Constructors, Inc.	\$228,097	\$285,917
Hayward Baker	\$354,700	\$389,700
Helical Drilling, Inc.	\$548,435	\$580,935
Scope additions to base bid values.		
Stockpiling pier installation spoils		\$ 21,300
Field Locating all Piers		\$ 7,150
Additional Mobilization		\$ 29,370
Recommended subcontract value		\$285,917
Design Development Estimate value for Rammed Aggregate Piers		\$720,270

Based upon our final analysis, we recommend the work be awarded to Subsurface Constructors, Inc. We request your authorization by signature below to notify Subsurface Constructors, Inc., that they are the apparent low bidder and that we will enter into a contract in the amount of \$285,917 with Subsurface Constructors, Inc., contingent upon execution of the GMP between PC and The Dover School District.

Sincerely,

Joint Building Committee

Scott Blair
Project Manager

Authorization

Date

cc: Garret Bertolini
Joe Picoraro
Melissa Henerberry (JBC)
Laura Wernick
Tina Stanislaski
Bobby Williams

Bid Form

Bid Package No. 31.2
Rammed Aggregate Piers

Project: Dover High School and Career Technical Center
Bid Date: June 16, 2016
Bid Time: 02:00 PM

To: Scott Blair
PC Construction Company
166 Horseshoe Drive
Waterbury, VT 05672

BIDDER: Subsurface Constructors, Inc.
(Company Name)

ADDENDA

Bidder acknowledges receipt of Addenda # _____, # _____, # _____, # _____, # _____, # _____

BASE BID

Two hundred twenty four thousand two hundred eighty five DOLLARS, \$ 224,285.00 (no bond)
(In Words)

EMR

Current EMR rating 1.08

BREAKOUT PRICING

\$ 29,370 Mobilization (includes design)
\$ 189,915 Rammed Aggregate Piers
\$ 5,000 Modulus Test
\$ 3,812 Cost of Bond (included in Base Bid)
\$ 228,097 **TOTAL** (Same as Base Bid above)

TOTAL MANHOURS

Total man-hours figured in the base project # 160

Proposed crew hours and equipment:

3 rigs
3 operators.

List all jobs working on concurrently to the work schedule for this scope:

See attached project list.

MINORITY/WOMEN BUSINESS ENTERPRISE

Is this bidder a qualified MWBE? YES/NO no

Are any subcontractors affiliated with this bidder a qualified MWBE? YES/NO _____

If yes to either of the questions above; please provide accredited documentation upon award.

VALUE ENGINEERING List below any value engineering proposals you may.

Description	\$ Amount
1. _____	_____
2. _____	_____
3. _____	_____

EXCEPTIONS, IF ANY List any clarifications or exceptions to the scope of work, terms and conditions, or other requirements under the Bid Package. Be specific and indicate items such as specific spec section and paragraph, attachment form number, name and paragraph, etc.

See Subsurface Constructors, Inc. proposal dated
June 14, 2016

ADDITIONAL INFORMATION

Names of any second-tier subcontractors or major suppliers Bidder intends to use:

Names of key personnel including projects of a similar size and nature performed by each person

PROJECT MANAGER

Bill Faherty
Project _____ Location _____

ONSITE SUPERVISOR

Project

Location

AWARD

The Bidder acknowledges and understands that PC Construction Company reserves the right to reject any or all Bids, to waive any informality in any Bid, and generally take such action as shall be in the Owner's and PC Construction Company's best interest.

PC Construction reserves the right to combine project bid packages and project scopes as appropriate to provide the Dover School District with the best value.

INSURANCE REQUIREMENTS

Bidder has verified with insurance carrier that they can meet all PC requirements as called out on the attached sample certificate of insurance.

PAYMENT AND PRICING TERMS

Bidder acknowledges that subcontract, if awarded, will be subject to the following payment and pricing terms.

a. A payment and performance bond is a requirement for all subcontractors whose contract value is in excess of \$100,000. For bid responses greater than \$100,000, the cost for the payment and performance bond must be identified separately as shown on the bid response form and also included in the total bid amount. For bid responses with an amount less than \$100,000, an add-alternate cost for a bond must be provided. PC reserves the right to require a bond on any subcontractor, regardless of contract amount.

b. Subcontractor to submit schedule of values to be approved by the Project Manager prior to the first payment.

c. Payment will be made in accordance with Article 9 of the P220 Subcontract Terms and Conditions, with 10% retainage.

d. To receive payment for the month's work, subcontractor must submit a requisition and a properly executed Waiver of Lien and Release of Claim (Form P-235) on or before the 25th of each month for work completed through the last day of the month. Payments will be forwarded to subcontractors by the last business day of each month.

e. This project is tax exempt. State and Local Taxes are not to be included.

f. HOURLY RATE PRICING.

For the purpose of evaluating or determining the cost of any additional work list hourly rates. Rates should include all costs including benefits, insurances, OH&P, etc. Rates shall be in effect for the duration of the project.

Position	Hourly Rate	Premium Rate*	Overtime Rate**	Deduct Rate
Ldr Oper	\$99.00			
Drill Oper	\$106.00			
Vibro Oper	\$121.00			

*Premium Rate is off hours, not overtime

** Overtime Rate should reflect time and one half on the base hourly rate. Overtime Rate does not apply until 40 hours are worked, on this project, in a given week.

Deduct Rate shall be used for any reductions in scope made throughout the course of the project.

Mark up on change orders will be as follows. These markups also apply to any vendors and second tier subcontractors used on the project.

MATERIAL - Invoice cost plus 10% overhead and profit.

EQUIPMENT - Rental invoice cost plus 10% overhead and profit, or if owned equipment Bluebook rate without any additional mark up.

SECOND TIER SUBCONTRACTOR - Second tier subcontractor cost plus 5% overhead and profit.

g. UNIT PRICE.

Aggregate Pier installation \$ 13.56 /lf add only.

ATTACHMENTS INCORPORATED HEREIN BY REFERENCE

Bidder to initial next to each attachment representing that he has thoroughly examined each Attachment, that the amounts on the Bid Form reflect any and all costs associated with complying with terms, conditions and other requirements of the Attachments, and further represents that the bidder can and will enter into a subcontract, if awarded, that is subject to the same.

Initial

☒	AIA Sample Form
☒	E018b.Policy Regarding Discrimination and Harassment and Equal Employment Opportunity - Bilingual
☐	P220.Subcontract Terms and Conditions
☐	P220A.Subcontractor Safety Agreement
☒	P235.Waiver of Lien and Release of Claim
☒	P350.Subcontract Performance Bond
☒	P355.Subcontract Labor and Material Payment Bond
☒	SF060.Subcontractor Safety and Health Questionnaire
☐	Sitework Bid Drawings 050416
☒	Design Development Specifications, Volume 1, 3/15/16
☒	Design Development Specifications, Volume 2, 5/26/16
☒	Draft Construction Phasing Plan 050416
☒	Geotechnical Report 03/21/16
☒	GEO.1 Foundation Support Type Plan, 5/2/16
☒	GEO.2 Underslab Drainage Plan, 5/17/16
☒	Project Specific Requirements
☒	Progress Structural Foundation Drawings 052516

The undersigned agrees that Bidder shall enter into a subcontract, if awarded, in accordance with this Bid Package and subject to the terms, conditions, and other requirements of the Attachments hereto and of the Contract Documents, and shall do so within five days of receipt of said subcontract.

Company Name: Subsurface Constructors, Inc.

By: Bruce Fawcett

Title: Proj. Eng.

Date: 6/20/16

SUBSURFACE CONSTRUCTORS, INC.

515 Groton Road, Suite 203
Westford, MA 01886
Phone: (978) 846-0482
Phone: (866) 421-2460



June 14, 2016

**Re: STONE COLUMN GROUND IMPROVEMENT
Dover High School and Career Technical Center
Dover, New Hampshire**

Subsurface Constructors, Inc. (SCI) proposes to install a ground improvement consisting of vibro stone columns to support the foundations on the referenced project.

Work Details:

Subsurface Constructors, Inc. plans to install a ground improvement system consisting of vibro stone columns. This work will take place beneath all spread and continuous wall footings and floor slab as shown and sized on drawing(s) S2.0A, S2.0B, S2.1F only dated 5/25/16 (footings ~~not shown on these drawings~~ and/or referred to on additional drawings are not included in our work). A post treatment allowable bearing capacity of 4,000 psf will be provided beneath all isolated pad footings and continuous wall footings. Maximum uniformly distributed floor load of 150 psf.

All installation will be recorded and monitored on our on board computer monitoring system that will transmit the data electronically to Subsurface Constructors, Inc. engineers for review. Subsurface Constructors, Inc. operator has the ability to view the compaction effort on the lift of stone as the stone column is being installed. Hard copies of these records can be provided to you upon receipt and review by Subsurface Constructors, Inc. engineers.

Geotechnical Engineering Reports dated November 2, 2015 performed by McPhail Associates, LLC has been utilized in the preparation of this proposal and are considered to be representative of the actual subsurface conditions.

Proposal:

SCI proposes to install a ground improvement system to provide for an increased bearing capacity and settlement control for the shallow foundations associated with the Dover High School and Career Technical Center located in Dover, New Hampshire.

The estimated cost to perform this work is **\$224,285.00.**

If you would like for us to provide the layout (field staking) of the stone columns only add \$7,150.00. Layout will be based upon four (4) building corner stakes and coordinates provided to us by others.

If you would like for us to stockpile only, the spoils generated by our work (approximately 550 CY), and place them immediately adjacent to our work area add \$21,300.00. Stockpiled materials will need to be removed by others as required for our work to progress.

If Payment and Performance bonds are required add \$3,815.00.

Scope of Work:

SCI has included the following in the above costs:

1. One mobilization.
2. Design and Specifications on Vibro Stone Columns. Design is based upon stone column type equipment and design methodology.
3. Vibro Stone Column Material and Labor.
4. Installing and performing (1) modulus test.
5. Sales tax on permanent stone column material. *If the project is tax exempt deduct (\$9,322.00).*
6. \$4 million insurance.
7. Allowable post treatment bearing capacity of 4,000 psf for isolated pad footings and continuous wall footings. Maximum uniformly distributed floor load of 150 psf.
8. Estimated long term total settlements for footings of less than or equal to one (1) inch. Estimated long term differential settlements of adjacent footings should be less than or equal to ½ inch.
9. Installing Vibro Stone Columns from an elevation within 6 inches from final subgrade.
10. Ground improvement design will be for increased bearing capacity and settlement control only.
11. Estimated working duration of about 22 working days after mobilization and setup.

Work Performed by Others to Support SCI and/or Work Excluded:

1. Firm, dry, level, safe all-weather access for our equipment and material deliveries.
2. Rig access. Rigs have approximate working dimensions of 55-ft tall, 15-ft wide, and 25-ft long. Rigs have approximate working weights of 90,000 lbs.
3. All layout, Subsurface Constructors, Inc. requires that each stone column be located in the field. Approximately 950 locations.
4. Spoil removal and haul off as required for our work to progress. Estimated spoils quantity could be about 550 CY.
5. Footing excavation. Footing excavation bottoms and exposed stone columns will need to be compacted with hand operated, mechanical compaction equipment after excavation and prior to placing footing steel and concrete. Footing excavations should be monitored by a third party inspector and all inspections reports copied to SCI.
6. Footings excavated should be poured in the same day as excavation. If footing cannot be poured then a mud mat will need to be placed to protect bearing elements.
7. Tension and/or uplift anchors.
8. Bottom Stabilization tests.
9. Dynamic Cone Penetrometer tests.
10. Post treatment pressuremeter testing or SPT.
11. Geotechnical testing and inspection. All scheduling of testing agency is by others.
12. Locating and clearing utilities.
13. Hazardous materials.
14. Removal of overhead/underground obstructions.
15. Concrete coring.

16. Man-made obstructions.
17. Flagmen, temporary fence, barricades, barriers, signage and/or traffic control.
18. Concrete coring, core drilling, cutting and patching required.
19. Obstruction removal, if required, can be performed on a time and material basis.
20. Cold weather protection or the effects of frozen ground.
21. Installing ground improvement in low headroom or limited access conditions.
22. ICC (formerly ICBO) certification.
23. Special protection of existing structures. Special protection of existing building, adjacent property, and structures, public and on-site utilities, and all other existing facilities from damage, settlements or adverse effects.
24. Underpinning of existing structures.
25. Street cleaning.
26. Costs associated with Textura Payment system.
27. Dewatering or pumping of site water.
28. Subsidence or repair of subsided areas.
29. Liquidated damages.
30. Payment and performance bonds.
31. Schedule maintenance.
32. Excavation, backfill, and/or grading.
33. Repairing and/or restoring subgrade
34. Vibration monitoring.
35. Subgrade protection. Proper drainage of work area should be provided to prevent effect of weather during construction. Slab areas will be exposed to weather and construction traffic, as well as utility and other construction related activities. Subgrade areas should be kept free of standing water at all times. Failure to protect subgrade could result in additional costs in subgrade preparation.

Terms and Conditions:

Progress payments will be made within 30 days of receipt of our invoice. Full and final payment will be issued upon the completion of our work. SCI shall not be liable for damages, losses or claims arising from: the job layout (benchmark provided to us must be accurate), damage to utilities or other underground installations or any kind, and with respect to any claims for any such damage you agree to indemnify and hold harmless unless we are notified in writing the locations of the same prior to commencement of our work, delays due to weather, strikes, governmental regulations, or any other conditions beyond our control, the time for its performance to be extended to the extent of any such delays.

We make no warranty as to soil or soil conditions. We have relied on the Geotechnical Engineering reports issued for the project as being representative of the actual subsurface conditions.

As experienced Ground Improvement Engineers and contractors we sometimes find our designs reviewed by firms with less experience in this area. We will thoroughly study any reviews of our work and incorporate any changes as we deem appropriate. However, should we not concur with a review and cannot find error in our design and design assumptions we reserve the right to: a) proceed with the work at our risk b) make changes per the reviewers recommendation and any additional costs will be the responsibility of the client or c) decline the work and be released without penalty from the contract.

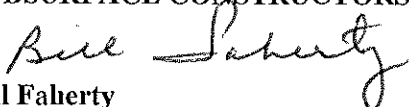
Except on hourly work, the jobsite shall be made available so as to permit prompt and expeditious performance for our work without delay, interference or limiting of operating speeds. SCI does not guarantee nor take responsibility for project schedule, liquidated damages, or any penalty related to job schedule.

Project specific design information is proprietary to SCI and cannot be shared without SCI written consent.

The proposal is good for 60 days from the date issued. This proposal is based on agreement to the terms and conditions above, and is for your immediate acceptance. This proposal will form an integral part of the subcontract.

RESPECTFULLY SUBMITTED;

SUBSURFACE CONSTRUCTORS, INC.


Bill Faherty
Project Engineer

ACCEPTED BY: _____

NAME: _____

TITLE: _____

DATE: _____

NOTICE TO OWNER

Failure of this contractor to pay those persons supplying material or services to complete the contract can result in the filing of a mechanic's lien on the property which is the subject of this contract pursuant to chapter 429 RSMo. To avoid this result you may ask this contractor for 'Lien Waivers' from all persons supplying material or services for the work described in this contract. Failure to secure lien waivers may result in your paying for labor and material twice.



CONSTRUCTION

INVITATION TO BID Dover High School and Career Technical Center Bid Package 31.2 Rammed Aggregate Piers

Project Information

Project	15027: Dover High School and Career Technical Center
Project Desc.	Construction of new 300,000 sf High School and Career Technical Center, site upgrades to service new facility, new athletic fields, new parking lots, demolition of existing High School and Career Technical Center.
Architect	HMFH Architects, Inc. 130 Bishop Allen Drive Cambridge, MA 02139
Owner	Dover School District 61 Locust Street 409 Dover, NH 03820-4132

Bid Information

Title	Bid Package 31.2 Rammed Aggregate Piers
Issue Date	26-May-2016

Direct Questions To

Scott Blair
PC Construction Company
166 Horseshoe Drive
Waterbury, VT 05672

T: 603.343.3289
F:
E: sblair@pcconstruction.com

Deliver Bids To

Scott Blair
PC Construction Company
105 S. Main St
Durham, NH 03824

T: 603-343-3289
F:
E: sblair@pcconstruction.com

Pre-Bid Meeting

Date & Time at :
Location

Proposal

Due Date & Time **16-Jun-2016 at 02:00 PM**
Ant. Award Date **29-Jun-2016**

Instructions for Bidders

PC Construction Company hereby invites you to submit a bid for Bid Package 31.2 Rammed Aggregate Piers.

This bid pertains to the Dover High School and Career Technical Center project.

- * Please indicate in writing if you accept or decline to bid on this bid package by 02-Jun-2016.
- * Questions must be directed to the contact shown above and will be conveyed to all bidders. Questions must be submitted by noon on 07-Jun-2016.
- * The bid shall remain valid for 60 days from the bid due date.
- * Bidder's authorized representative must initial each page of this Bid Package and sign the Bid Form.
- * The completed Bid Package and Bid Form may be submitted in a sealed envelope bearing the bidder's name and address, the Bid Package number and title, and the project name and must be delivered to the location and at the time specified herein or by electronic means (email or fax).

Each bidder must examine the Bid Documents thoroughly, visit the site to familiarize himself with local conditions that may in any manner affect cost, progress or performance of the work, familiarize himself with Federal, State and local laws, ordinance, rules and regulations that may in any manner affect the cost, progress or performance of the work, and study and carefully correlate bidder's observation with the Bid Documents. The Bid Documents include this Bid

Package, the Attachments hereto, and the Contract Documents.

The submission of a bid will constitute an incontrovertible representation by the bidder that he has complied with every requirement of this Bid Package and that the Bid Documents are sufficient in scope and detail to indicate and convey understanding of all items and conditions for performance of the work.

Should a bidder find any conflict, discrepancy, error, or omission within the Bid Documents, or between the Bid Documents and any applicable law, ordinance, rule, or regulation, or be in doubt as to the Bid Documents meaning, bidder shall make a written request to PC Construction Company requesting clarification.

General Project Requirements and Scope of Work

The information provided in the GENERAL PROJECT REQUIREMENTS section below provides direction in fulfilling the requirements of the Project and will be incorporated into the subcontract, if awarded. Each listed requirement applies unless a) the requirement is stated otherwise in the Bid Package, or b) the requirement is clearly unrelated to the Bid Package, and cannot reasonably be inferred to relate to the Bid Package. The Bidder is responsible, in case of any doubt about the application of these listed requirements, to request in writing clarification from the Contractor.

Furnish all labor, supervision, materials, tools, equipment, testing, inspection, certifications, scaffolding, safety appliances, hoists, lights, licenses, services and other items necessary as described in and required under this Bid Package and in the Bid Documents, including any work not specified that may reasonably be implied to be within such scope, as they pertain to the SCOPE OF WORK section.

SCOPE OF WORK

Note that this is a "plan and spec" project and as such, the scope of work includes all of the work described by these documents along with the following additional "scope of work clarifications", which are intended to clarify (and not limit) the contract documents where further clarification is necessary.

The subcontractor's scope of work is defined without limitation in all of the documents referenced by this Bid Package, including, but not necessarily limited to furnish all labor, material, equipment, supervision, field layout, consumable items, administrative tasks, testing, engineering, permits and fees necessary to complete all Rammed Aggregate Pier Bid Package work. Work will be performed in accordance with the contract documents as well as in compliance with all applicable local and state requirements and codes. It is the subcontractor's responsibility to thoroughly review all contract documents and to fully understand the scope of work, including any work not specified that may reasonably be implied to be within such scope of work.

*****IMPORTANT INFORMATION*****

Deadline for RFI from Subs & Vendors 06/07/16

PC Project Award Period will be 06/28/16 - 7/01/16

Specifications include but are not necessarily limited to the following:

All Division 00 - Procurement and Contracting Requirements, as applicable

All Division 01 - General Requirements, as applicable

All Division 02 - Existing Conditions, as applicable

All Division 03 - Concrete, as applicable

All Division 31 - Earthwork, as applicable

Section 316630 - Aggregate Piers, complete

All other Specifications and Contract Drawings that reference, effect, or are applicable

The following items are specifically included in the scope of work, but in no way limit any requirements of the Contract Documents:

1. Subcontractor shall fully review P220 Subcontractor Terms and Conditions prior to submitting their proposal. Any modifications to this document must be included in the bid proposal. No revisions will be made post-bid unless the revisions are included with the proposal.
2. Furnish all labor, materials, equipment, supervision and incidentals to complete all work described in this bid package in accordance with the contract documents.
3. The Sitework Subcontractor shall provide clear access to the site for wheeled and tracked subcontractor equipment

and keep the site and access ramps (if any) trafficable for subcontractor equipment.

4. Any traffic control required while performing the specified scope outside of the fence shall be included in subcontractors scope of work. Traffic control will be performed in strict accordance with OSHA rules and regulations and will include all required barricades, warning lights and signs to meet those requirements.
5. Subcontractor is responsible to provide all equipment required to perform this scope of work.
6. Areas for aggregate stockpiles will be provided within 300 feet of the installation area of aggregate materials. Coordinate laydown area with Sitework Subcontractor.
- ~~7. Excess spoils generated by the rammed aggregate pier installation process shall be removed from the site and dispose of in accordance with local and state regulations by this Subcontractor.~~ 
8. Design requirements, calculations, layout plans, details, construction drawings and specifications shall be provided by this Subcontractor. Designs are to be sealed by a professional engineer in the state of New Hampshire.
9. Progress Structural drawings have been included. We anticipate update structural foundation plans with loading information by 5/31/16. Upon receipt the updated documents will be issued via Addenda.
10. Include Quality Control Representative as specified.
11. Efforts should be made to avoid truck traffic and deliveries during the busiest times of day. Traffic on Alumni Drive will be heavy from 7:00-7:30am and from 2:00-3:00pm and significant delays should be expected.
12. Coordinate with sitework subcontractor for layout and placement of sewer piping to avoid interference with either pipe or pier installation.
13. Overall project schedule is currently being finalized. It is anticipated that Rammed Aggregate Pier installations would start around September 1, 2016 and be complete by October 30, 2016. This subcontractor shall acknowledge this schedule is obtainable in their bid response.
14. Provide a unit price as noted on the bid form for aggregate pier installation per linear foot of depth. Price shall include all equipment, labor, materials, etc required to install an aggregate pier per the approved design.

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Bid Form

**Bid Package No. 31.2
Rammed Aggregate Piers**

Project: Dover High School and Career Technical Center
Bid Date: June 16, 2016
Bid Time: 02: 00 PM

To: Scott Blair
PC Construction Company
166 Horseshoe Drive
Waterbury, VT 05672

BIDDER: Hayward Baker Inc
(Company Name)

ADDENDA

Bidder acknowledges receipt of Addenda # _____, # _____, # _____, # _____, # _____, # _____

BASE BID

Aggregate Piers DOLLARS, \$ 354,700
(In Words)

EMR

Current EMR rating 0.58

BREAKOUT PRICING

\$ <u>35,000</u>	Mobilization
\$ <u>310,700</u>	Rammed Aggregate Piers
\$ <u>5,500</u>	Modulus Test
\$ <u>3,500</u>	Cost of Bond (included in Base Bid)
\$ <u>354,700</u>	TOTAL (Same as Base Bid above)

TOTAL MANHOURS

Total man-hours figured in the base project # 980

Proposed crew hours and equipment:

5 workers, 2 rigs (pre-drill rig and aggregate pier
installation rig) and front end loader. Each shift will be 5
workers x 10 hours per workers, therefore 50 hours per
shift. Approximately 20 shifts including
mobilization/demobilization

List all jobs working on concurrently to the work schedule for this scope:

Unknown at this point

MINORITY/WOMEN BUSINESS ENTERPRISE

Is this bidder a qualified MWBE? YES/NO NO

Are any subcontractors affiliated with this bidder a qualified MWBE? YES/NO NO

If yes to either of the questions above; please provide accredited documentation upon award.

VALUE ENGINEERING List below any value engineering proposals you may.

Description	\$ Amount
1. <u>Eliminate aggregate pier slab support at area between Column Lines A15 and B23 where the FFE is El. 84</u>	<u>TBD</u>
2. <u>Eliminate aggregate pier slab support at area between Column Lines A4 and A15 where the FFE is El. 98</u>	<u>TBD</u>
3. _____	_____

EXCEPTIONS, IF ANY List any clarifications or exceptions to the scope of work, terms and conditions, or other requirements under the Bid Package. Be specific and indicate items such as specific spec section and paragraph, attachment form number, name and paragraph, etc.

Article 3 of Terms and Conditions: Schedule to be mutually agreed upon between PC Construction and Hayward Baker

Article 11 of Terms and Conditions: Notwithstanding Article 11 subcontractor shall be responsible to defend, indemnify, insure and hold harmless only to the extent of its negligence.

Site Control (to be provided by other), Hayward Baker will perform aggregate pier layout. Excavation of obstruction unable to be advance beyond with pre-augers.

Utility relocation necessary to advance aggregate piers. Soil spoils management, disposal, handling.

ADDITIONAL INFORMATION

Names of any second-tier subcontractors or major suppliers Bidder intends to use:

Aggregate supplier (Pike Industries is anticipated)

Names of key personnel including projects of a similar size and nature performed by each person

PROJECT MANAGER

Springfield Columbia Gas Springfield, MA

Project

Location

Bidder's Initials

hi

Cooper Street Residences	Waltham, MA
Stamford Hospital Parking	Stamford, CT

ONSITE SUPERVISOR

Project	Location
Springfield Columbia Gas	Springfield, MA
Cooper Street Residences	Waltham, MA
Stamford Hospital Parking	Stamford, CT

AWARD

The Bidder acknowledges and understands that PC Construction Company reserves the right to reject any or all Bids, to waive any informality in any Bid, and generally take such action as shall be in the Owner's and PC Construction Company's best interest.

PC Construction reserves the right to combine project bid packages and project scopes as appropriate to provide the Dover School District with the best value.

INSURANCE REQUIREMENTS

Bidder has verified with insurance carrier that they can meet all PC requirements as called out on the attached sample certificate of insurance.

PAYMENT AND PRICING TERMS

Bidder acknowledges that subcontract, if awarded, will be subject to the following payment and pricing terms.

a. A payment and performance bond is a requirement for all subcontractors whose contract value is in excess of \$100,000. For bid responses greater than \$100,000, the cost for the payment and performance bond must be identified separately as shown on the bid response form and also included in the total bid amount. For bid responses with an amount less than \$100,000, an add-alternate cost for a bond must be provided. PC reserves the right to require a bond on any subcontractor, regardless of contract amount.

b. Subcontractor to submit schedule of values to be approved by the Project Manager prior to the first payment.

c. Payment will be made in accordance with Article 9 of the P220 Subcontract Terms and Conditions, with 10% retainage.

d. To receive payment for the month's work, subcontractor must submit a requisition and a properly executed Waiver of Lien and Release of Claim (Form P-235) on or before the 25th of each month for work completed through the last day of the month. Payments will be forwarded to subcontractors by the last business day of each month.

e. This project is tax exempt. State and Local Taxes are not to be included.

f. HOURLY RATE PRICING.

For the purpose of evaluating or determining the cost of any additional work list hourly rates. Rates should include all costs including benefits, insurances, OH&P, etc. Rates shall be in effect for the duration of the project.

Position	Hourly Rate	Premium Rate*	Overtime Rate**	Deduct Rate
Operating Engineer - Driller	\$43.73			
Operating Engineer - Crane	\$51.05			



*Premium Rate is off hours, not overtime

** Overtime Rate should reflect time and one half on the base hourly rate. Overtime Rate does not apply until 40 hours are worked, on this project, in a given week.

Deduct Rate shall be used for any reductions in scope made throughout the course of the project.

Mark up on change orders will be as follows. These markups also apply to any vendors and second tier subcontractors used on the project.

MATERIAL - Invoice cost plus 10% overhead and profit.

EQUIPMENT - Rental invoice cost plus 10% overhead and profit, or if owned equipment Bluebook rate without any additional mark up.

SECOND TIER SUBCONTRACTOR - Second tier subcontractor cost plus 5% overhead and profit.

g. UNIT PRICE.

Aggregate Pier installation \$ 21.50 /lf

ATTACHMENTS INCORPORATED HEREIN BY REFERENCE

Bidder to initial next to each attachment representing that he has thoroughly examined each Attachment, that the amounts on the Bid Form reflect any and all costs associated with complying with terms, conditions and other requirements of the Attachments, and further represents that the bidder can and will enter into a subcontract, if awarded, that is subject to the same.

Initial

_____	AIA Sample Form
_____	E018b.Policy Regarding Discrimination and Harassment and Equal Employment Opportunity - Bilingual
_____	P220.Subcontract Terms and Conditions
_____	P220A.Subcontractor Safety Agreement
_____	P235.Waiver of Lien and Release of Claim
_____	P350.Subcontract Performance Bond
_____	P355.Subcontract Labor and Material Payment Bond
_____	SF060.Subcontractor Safety and Health Questionnaire
_____	Sitework Bid Drawings 050416
_____	Design Development Specifications, Volume 1, 3/15/16
_____	Design Development Specifications, Volume 2, 5/26/16
_____	Draft Construction Phasing Plan 050416
_____	Geotechnical Report 03/21/16
_____	GEO.1 Foundation Support Type Plan, 5/2/16
_____	GEO.2 Underslab Drainage Plan, 5/17/16
_____	Project Specific Requirements
_____	Progress Structural Foundation Drawings 052516

The undersigned agrees that Bidder shall enter into a subcontract, if awarded, in accordance with this Bid Package and subject to the terms, conditions, and other requirements of the Attachments hereto and of the Contract Documents, and shall do so within five days of receipt of said subcontract.

Company Name: Hayward Baker Inc

By: David Mazzei

Title: Project Manager

Date: June 16, 2016



Hayward Baker
9 Whipple Street, Unit 1
Cumberland, RI 02864-5399

Tel: 401-334-2565
Fax: 401-334-3337
Web: www.HaywardBaker.com



June 16, 2016

Reference: Proposed Dover High School and Career Technical Center
25 Alumni Drive
Dover, New Hampshire

Mr. Scott Blair
PC Construction

Subject: Aggregate Pier Pricing

Hayward Baker Inc. (HBI) is pleased to present this proposal for installation of aggregate piers for the above-referenced project. We can provide aggregate pier installation services for \$354,700 as discussed herein for the proposed development (refer to Schedule of Prices on Page 6 of 9).

This proposal is based on correspondence between PC and HBI, and available construction documents provided via e-mail on May 26 and June. Electronic versions of the construction documents referenced in this proposal include:

- A geotechnical engineer report prepared by McPhail Associates, Inc. of Cambridge, Massachusetts, dated March 2016;
- Foundation Support Type Plans, Sheet GEO.1 and GEO.2, prepared by McPhail, indicating the extent of the aggregate pier work;
- Foundation Progress Set Structural plans prepared by Foley, Buhl, Roberts and Associates, of Newton, Massachusetts, dated May 25, 2016;
- Civil plans prepared by HMFH Architects of Cambridge, Massachusetts, dated March 15, 2016; and,
- Aggregate Pier and Earthwork Specifications, prepared by HMFH Architects.

BACKGROUND

The project site is located near the existing Dover High School located at 25 Alumni Drive in Dover, New Hampshire. The site is currently used as playing fields, track, and tennis courts. The property is bound by Alumni Drive to the south, woods and the aforementioned features to the north, east and west. Existing grades range from about El. 80 to 94 feet.

The project includes the construction of a new High School and Technical Center. The proposed building will require the use of aggregate piers, but only through the approximately southern 1/3 of the building footprint. The remaining portions of the building will be founded on shallow foundations bearing on natural soils, or compacted fill overlying natural soils. The area where aggregate piers are required will have two finished floor elevations (FFE's); between approximately Column Lines A4 and A15 the FFE will be El. 98 ft; between about Column Lines A15 and B23



California • Colorado • Florida • Georgia • Illinois
Maryland • New Jersey • New York • North Carolina
Rhode Island • Tennessee • Texas • Washington
www.haywardbaker.com

the FFE will be El. 84 ft.

A geotechnical report was prepared by McPhail in March 2016. Subsurface conditions were considered for this proposal based on 6 soil borings (B-3, B-101 through B-104 and B-107) performed within and around the development area. Subsurface conditions observed within the borings include (as encountered with depth):

- Granular fill to a depth of about 4 to 9 feet below ground surface (bgs), corresponding to El. 82 to 94 feet, consisting of loose to medium dense, gray, brown to red/brown, fine to coarse sand, clay, some gravel and roots; overlying,
- Very soft to hard cohesive soils, ranging between about 4 and 22 feet thick, overlying;
- Very dense glacial till soils.

Groundwater was observed at depths ranging between 8 to 20 feet below bgs, corresponding to about El. 74 to 82 feet.

APPROACH

We propose to install aggregate piers to support column foundations and slab-on-grade areas for the proposed development as indicated on Sheet GEO.1 prepare by McPhail. We understand that aggregate piers are required to extend through the existing fill, clay, and terminate at the glacial till layer.

We understand there is an existing utility located between Column Lines A14 and A15 that will remain in place. Therefore, we have excluded scope within the area 10 feet on either side of the utility.

We would like to offer a value engineering option to the aggregate pier work consisting of shorter aggregate piers terminating at the top of the very stiff to hard clay layer at slab locations between Column Lines A4 and A15 where the finished floor elevation is El. 98. We would eliminate slab-support aggregate piers at the area between Column Lines A15 and B23 with a FFE of El. 84 ft. We can prepare a separate proposal for these VE conditions.

BEARING CAPACITY AND SETTLEMENT

We have based our aggregate pier design on a bearing capacity of 4 kips per square foot (ksf). We have assumed the dead to live load split is 70%/30%. Furthermore, we have assumed a 50% reduction of live load based on ASCE 7-05 provisions.

We have prepared a design to limit acceptable post-construction settlement to 1 inch and ½ -inch for total and differential, respectively.

CONSTRUCTION ASSUMPTIONS

We have made the following assumptions in order to prepare this proposal:

We assume all earthwork associated with removing asphalt, debris, existing utilities building foundations (if present), other existing deleterious materials, and preparing a flat working platform for aggregate pier installation will be performed prior to mobilization.



We have assumed a working grade platform at about **El. 96 feet between about Column Line A4 to A15; El. 82 feet between about Column Line A15 and B23.**

We have assumed that the lower area at working grade El. 82 can be performed first. After aggregate piers have been installed in this area, we assume that the site will be prepared between about column lines A13 and A15 such that aggregate pier installation at El. 96 can be performed safely. We have not assumed any additional costs for downtime associated with waiting for this area to be backfilled and prepared in order to facilitate work, but additional costs may apply. We also assume that the structural and geotechnical engineer are amenable to working within 5 to 6 feet of the wall, or other temporary structure, to facilitate aggregate pier construction in this area.

We will require an accessible, flat, level and stable working surface to complete installation of aggregate piers. After installation, the tops of the aggregate piers shall be removed to bottom of footing elevation, and compacted with a vibratory roller or plate compactor. Crushed Stone or Structural fill placed between the bottom of footing and the top of the exposed aggregate piers shall be placed in controlled lifts and compacted to at least 95% of the maximum dry density.

We will pre-drill all our aggregate pier locations as part of our installation method. Pre-drilling significantly reduces the likelihood of required obstruction excavation and provides a means of visual observation of soil encountered at the bottom of the pier. However, in the event that pre-drilling does not fully penetrate through obstructions, excavation of obstructions will be required to install aggregate piers. Excavation of obstructions will be performed by others. We did not include any costs for obstruction identification or removal.

Pre-drilling will generate some spoils. We did not include any costs to handle, stockpile, cover, test or dispose of spoil. We assumed that our work can proceed continuously without work stoppage related to spoil segregation/stockpiling.

We require that all excavations performed to remove obstructions prior to our arrival are backfilled so that a stable subgrade is maintained for our equipment.

We included physical layout of the aggregate pier locations in our base price. We will require foundation drawings and control point plans in CAD format prior to commencement of work. We will require control points during construction, to be provided and maintained by others.

We assumed level D PPE. If additional PPE is required additional costs will apply.

We assumed all work will be performed during one mobilization of one rig with continuous progression of work. If a break in work and/or additional mobilizations are required, additional costs will apply.

We included one industry standard modulus load tests on a sacrificial element. One test will be performed on an ungrouted aggregate pier. If more than one modulus test is required additional costs will apply.

SITE CONDITIONS

In addition to the terms and conditions attached to this proposal, HBI understands that the following site conditions will be provided or performed by others:



- All overhead utilities impacting our operations will be relocated by others.
- Underground utilities impacting our operations will be relocated by others such that they do not impact our work.
- Sufficient access for our equipment shall be provided by others.
- Sufficient area within close proximity to the work area will be provided for an aggregate stockpile by others.
- Natural and/or man-made obstructions shall be removed by others, should they be encountered during installation. Hayward Baker will attempt to install elements at all locations. However, if obstructions are encountered that cannot be penetrated or forced aside, excavation of the obstruction will be required.
- Pre-construction surveys, settlement monitoring, any post installation testing, and vibration monitoring and are not included as part of this proposal. We can provide vibration monitoring upon request.
- Any damage to adjacent buildings caused by the installation of the aggregate piers shall be repaired by others.
- Layout of aggregate piers is included based on control points provided and maintained by others.
- Adequate protection of pedestrians and traffic including, but not limited to, a site fence with continuous fabric covering will be provided by others.
- All site preparation will be provided by others. HBI has assumed that all deleterious surface materials (asphalt and concrete pavement, existing foundations and slabs, curbs, topsoil, etc.) will be stripped from the site, and that the site will be graded approximately flat to elevation listed below by others prior to our arrival.
- A level, dry, firm working surface (at elevations described above) will be provided by other such that HBI can move all equipment around the site without impediment.
- We have not included management/disposal of drill spoils.
- We did not include costs for grading and regrading of the site prior to, during, and after installation of aggregate piers.
- As-built locations will be based on the proposed pier locations and deviation measurements from proposed locations. A separate post-construction as-built survey is not included.

SCHEDULE

We have based this schedule on working 5 days per week, 8 to 10 hours per day during normal working hours (i.e. between about 7AM and 5PM). We have also assumed that the work can be performed during a period of time that does not include any weekends or holidays. Based on these assumptions, we anticipate the installation to be complete within about 4 weeks (assuming one rig is mobilized).

Upon receipt of a letter of intent, we generally require approximately two weeks to complete submittals and two weeks to mobilize to the site. This time frame is dependent on resource availability when the letter of intent is received.



ACCEPTANCE

The acceptance of the price of this proposal shall evidence the concurrent acceptance of all terms and conditions recited herein or incorporated by reference. Any resulting contract will not include any other agreements or documents not specifically given to HBI and referenced herein. We trust this proposal is of interest to you and look forward to being of service. If we can be of assistance in clarifying any points in this proposal, please contact us at (401) 334-2565.

Hayward Baker Inc.

Accepted by:

David Mazzei, P.E.
Project Manager

Attached: Specific Terms and Conditions
 General Terms and Conditions

© This proposal is copyright of Hayward Baker Inc. June 2016.



SCHEDULE OF PRICES

HBI proposes to perform the work described in the accompanying letter for the prices listed below. It is understood that final payment will be based on the actual quantities and that the estimated quantities listed below are for budgeting purposes only.

AGGREGATE PIER SCOPE					
Item	Description	Est'd Quantity	Unit	Unit Price	Total Price
1	Design (including stamped shop drawings), mobilization, demobilization, performance of one modulus load test and installation of Aggregate Pier Ground Improvements at footing and slab-on-grade areas	1	LS	\$351,200. ⁰⁰	\$351,200. ⁰⁰
2	Performance and Payment Bond, required by the Project	1	At Cost	\$3,500. ⁰⁰	\$3,500. ⁰⁰
3 (Add)	Additional modulus test, if required	1	LS	\$5,500. ⁰⁰	\$5,500. ⁰⁰
4 (Add)	Additional mobilization, if required	1	LS	\$35,000. ⁰⁰	\$35,000. ⁰⁰

SPECIFIC TERMS AND CONDITIONS

The following facilities and services are to be provided to HBI by others free of all costs to HBI:

Site Access: Preparation and maintenance of clear, well drained, uninterrupted access ways and working platforms suitable for HBI equipment moving under its own power. Access includes adequate ramps at suitable levels and should be available at the time and to the extent necessary to suit HBI's operations.

Sequence: Work is to be made available in a sequence that will enable HBI to work efficiently and systematically without restriction.

Progression of the Work: HBI's proposal is based upon carrying out the work in an unobstructed manner during regular working hours, Monday through Friday, in a single uninterrupted visit to the site. HBI reserves the right to work overtime or weekends at HBI's own discretion without incurring charges for inspection, site overhead or other consequential charges. In the event that HBI's work is interrupted for any reason beyond our control, including non-natural formations, HBI shall be compensated at the standby rate of \$1,100 per hour per rig for the crew and equipment.

Site Preparation and Maintenance: Removal of all surface or subsurface topsoil, brush, organic material and other unacceptable material in accordance with the requirements of the contract documents.

Water Control: All work necessary to control and maintain the site and excavations free of ground or surface water problems as they relate to HBI's operations.

Site Work: The work under this proposal does not include any excavation, grading or sealing work required on the site to establish a working platform or to restore the site to the original or finished grade other than that which is explicitly stated otherwise in the body of this proposal. All such work is to be furnished by others in a timely manner, so as not to impede the progress of the work or cause damage to the finished work.

Excavation and Spoil Removal: All necessary excavation and disposal, including removal of solid



and liquid waste materials resulting from the work. This may include water, soil, and wash water used to clean equipment. Additionally, should any obstruction be encountered during aggregate pier installation, the General Contractor shall be responsible for removing such obstructions, or the probe location shall be relocated or abandoned. Obstructions include, but are not limited to: boulders, timbers, concrete, bricks, utility lines, etc. that prevent penetration of the vibratory probe or augers to the required depth or cause the vibratory probe or augers to drift from the required location. Dense natural rock or weathered rock shall not be deemed obstructions, and piers may be terminated short of design lengths on such materials. It is understood that if obstructions are encountered, HBI will abandon the vibratory probe or augers at the location of the obstruction, move to another location, and resume production installation. While HBI proceeds with production installation at another location, the general contractor will provide an operated backhoe for obstruction removal. Once the obstruction is removed, HBI will complete the installation of the affected vibratory probe or auger location.

Support of Adjacent Ground Structure: Any necessary additional protection of existing structures, utilities, or roadways, which may be affected by HBI's work.

Traffic Control: All pedestrian and vehicular traffic control including signs and barricades, if and when required.

Utilities: Location of utilities is not included in the scope of work of HBI. The [Owner or Contractor] is obligated to ensure that all utilities are properly located including the proper notification of any utility locating service applicable to the work. Furthermore, it is possible that damage may occur as a result of heave, settlement or intrusion caused by material due to the unforeseeable condition of the ground or utility. For this reason, HBI cannot accept responsibility for damages thus caused.

Layout: HBI will layout all the individual aggregate pier locations from a network of control points provided and maintained by others. HBI will require a copy of the control point network drawing in CAD format tied to the building structural grid ~ 1 week prior to scheduled mobilization.

Permits and Easements: All site permits and easements required to legally perform the work.

Lighting: Reasonable site lighting for night work and site security.

Water Supply: We will require a water supply at hydrant pressure provided by others.

Sanitary Facilities: On-site sanitary facilities for the use of HBI employees.

Security: Site security during nights and weekends.

Labor Affiliations: This proposal is made with the understanding that HBI will employ Union labor working harmoniously with other trades. Teamster steward, teamsters, laborer steward, master mechanic, lead engineer, dock builder general foreman if required in accordance with the local bargaining agreements.

Hazardous Material: In the event that HBI encounters any hazardous material on the site, which has not been rendered harmless, HBI shall immediately stop work in the area affected and report the condition in writing to the Owner and Engineer. To the fullest extent permitted by law, the Owner and Contractor shall indemnify and hold harmless HBI, their agents, consultants, and employees from and against all claims, damages, losses and expenses, including but not limited to attorney fees arising out of or resulting from performance of the work in the affected area.

Taxes: We included sales tax for this project.

The following additional terms and conditions will apply to the proposed work:

Liquidated Damages: HBI requires that no liquidated damages or other time-related penalties be



applied to the work.

Bonds: The cost of a bond is not included in this proposal. A bond can be provided upon request. The cost of the bond will be 1.0% of the final contract value.

Confidentiality: All specifications, drawings, price and technical data submitted by HBI are to be treated as confidential and shall not be used for any purpose other than the evaluation of this bid, nor shall such information be disclosed to any third party for any purposes without the express written consent of HBI. Such information shall remain HBI's property and be returned to HBI upon demand.

Period of Acceptance: This Proposal is offered for acceptance for a period of 30 days.

Exclusions: Any items of work not specifically included in this proposal shall not be the responsibility of HBI.

GENERAL TERMS AND CONDITIONS

Payment Terms: Progress payments will be submitted monthly and shall be payable within 30 days of the invoice date.

All other amounts due, including retention (if any), will be paid in full within 45 days of substantial completion of HBI's work, regardless of the anticipated project completion date of the project.

An interest charge of 1-1/2% percent per month will be added to invoice amounts not paid within 30 days from date of invoice. All costs of collection, including attorneys' fees and court costs, will be added to unpaid invoice amount.

Changed Conditions: Notwithstanding all clauses of this subcontract, if Subcontractor, during its work, encounters 1) subsurface or latent physical conditions which differ from those indicated in this Agreement, or 2) unknown physical conditions of an unusual nature, differing from those ordinarily encountered, then Subcontractor shall be entitled to an equitable price and schedule adjustment to compensate it for such changed condition.

Insurance: HBI will provide the following insurances within limits as shown.

Comprehensive General Liability: (Combined Single Limit, Bodily Injury and Property Damage)	\$1,000,000.00
Automobile Liability: (Combined Single Limit, Bodily Injury and Property Damage)	\$1,000,000.00
Workman's Compensation:	Statutory

Force Majeure: HBI cannot accept any liability for default or delay in the completion of the work when caused by strike, riot, war, or Act of God or other similar circumstances beyond HBI control.

Limitation of Liability: We will perform the work in a professional manner in cooperation with soils engineer. However, we cannot accept liability on any further damage to the structure, landscaping, utilities, french drains, septic systems, wells, etc. and/or any consequential damages that may result from the normal performance of the work. All utilities and other services left in place shall be located, exposed, and shown to our onsite representative prior to commencement of work.

Liability: No liability can be accepted by HBI, nor shall HBI accept as in any way responsibility



for defects of any kind whatsoever arising from a cause which is outside HBI's immediate control or knowledge, or for any fault in the junction between HBI's work and subsequent work carried out by others.

Indemnity: Subject to the terms of the Liability Clause above, and to the correct soil conditions having been provided to us prior to our work, HBI shall insure, indemnify and hold harmless the Owner and their employees from and against all claims, damages, losses, and expenses, including attorney's fees, but only to the extent of the negligence of HBI, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to the injury to or destruction of tangible property (other than the work itself) including the loss of use resulting there from, and only to the extent such claim is covered under the General Liability Policy of HBI.

Standard Construction Contracts: As an alternate to accepting HBI's proposal as the contract document, HBI considers the "Standard Form Construction Contract" as prepared jointly by AGC, ASA and the ASC, 1994 Edition to be balanced and fair to all parties. Such contract, with no changes to the standard text thereof, along with this proposal and the specific documents herein, could form the contract for the work herein proposed. Any other contract form will require our review. Where incorporated into a contract, this proposal shall supersede all conflicting terms of such a contract.



Bid Form

Bid Package No. 31.2
Rammed Aggregate Piers

Project: Dover High School and Career Technical Center
Bid Date: June 16, 2016
Bid Time: 02: 00 PM

To: Scott Blair
PC Construction Company
166 Horseshoe Drive
Waterbury, VT 05672

BIDDER: HELICAL DRILLING, INC.
(Company Name)

ADDENDA

Bidder acknowledges receipt of Addenda # RFI 1, # _____, # _____, # _____, # _____, # _____

BASE BID

FIVE HUNDRED THIRTY NINE THOUSAND DOLLARS, \$ 539,500 (plus bond if needed)
(In Words) FIVE HUNDRED

EMR

Current EMR rating 0.90

BREAKOUT PRICING

\$ INC. Mobilization
\$ 539,500 Rammed Aggregate Piers
\$ INC. Modulus Test
\$ 8,935 Cost of Bond (included in Base Bid)
\$ 548,235 **TOTAL** (Same as Base Bid above)

TOTAL MANHOURS

Total man-hours figured in the base project # _____

Proposed crew hours and equipment:

List all jobs working on concurrently to the work schedule for this scope:

} Lump sum /
unit price
work.

MINORITY/WOMEN BUSINESS ENTERPRISE

Is this bidder a qualified MWBE? YES/NO NO

Are any subcontractors affiliated with this bidder a qualified MWBE? YES/NO NO

If yes to either of the questions above; please provide accredited documentation upon award.

VALUE ENGINEERING List below any value engineering proposals you may.

Description

\$ Amount

1. See proposal page 3 regarding
increasing bearing pressure. project
(materials)
2. See proposal page 5 regarding
reduced scope. \$50k, could vary
based on design
team feedback
3. _____

EXCEPTIONS, IF ANY List any clarifications or exceptions to the scope of work, terms and conditions, or other requirements under the Bid Package. Be specific and indicate items such as specific spec section and paragraph, attachment form number, name and paragraph, etc.

See proposal

ADDITIONAL INFORMATION

Names of any second-tier subcontractors or major suppliers Bidder intends to use:

Names of key personnel including projects of a similar size and nature performed by each person

PROJECT MANAGER

Derek Simpson - Have managed over 75 Geopier RAP
Project Location Projects.

AVALON NORTH RES. CAMBRIDGE, MA (AVALON BAY)
WINTHROP HS WINTHROP, MA (GILBANE)
RIVER'S EDGE RES. MEDFORD, MA (CALLAHAN)

ONSITE SUPERVISOR
 (TBD)

Project	Location
_____	_____
_____	_____
_____	_____

AWARD

The Bidder acknowledges and understands that PC Construction Company reserves the right to reject any or all Bids, to waive any informality in any Bid, and generally take such action as shall be in the Owner's and PC Construction Company's best interest.

PC Construction reserves the right to combine project bid packages and project scopes as appropriate to provide the Dover School District with the best value.

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Bidder has verified with insurance carrier that they can meet all PC requirements as called out on the attached sample certificate of insurance.

PAYMENT AND PRICING TERMS

Bidder acknowledges that subcontract, if awarded, will be subject to the following payment and pricing terms.

a. A payment and performance bond is a requirement for all subcontractors whose contract value is in excess of \$100,000. For bid responses greater than \$100,000, the cost for the payment and performance bond must be identified separately as shown on the bid response form and also included in the total bid amount. For bid responses with an amount less than \$100,000, an add-alternate cost for a bond must be provided. PC reserves the right to require a bond on any subcontractor, regardless of contract amount.

b. Subcontractor to submit schedule of values to be approved by the Project Manager prior to the first payment.

c. Payment will be made in accordance with Article 9 of the P220 Subcontract Terms and Conditions, with 10% retainage.

d. To receive payment for the month's work, subcontractor must submit a requisition and a properly executed Waiver of Lien and Release of Claim (Form P-235) on or before the 25th of each month for work completed through the last day of the month. Payments will be forwarded to subcontractors by the last business day of each month.

e. This project is tax exempt. State and Local Taxes are not to be included.

f. HOURLY RATE PRICING.

For the purpose of evaluating or determining the cost of any additional work list hourly rates. Rates should include all costs including benefits, insurances, OH&P, etc. Rates shall be in effect for the duration of the project.

Position	Hourly Rate	Premium Rate*	Overtime Rate**	Deduct Rate
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

} lump sum/
 unit price
 work

*Premium Rate is off hours, not overtime

** Overtime Rate should reflect time and one half on the base hourly rate. Overtime Rate does not apply until 40 hours are worked, on this project, in a given week.

Deduct Rate shall be used for any reductions in scope made throughout the course of the project.

Mark up on change orders will be as follows. These markups also apply to any vendors and second tier subcontractors used on the project.

MATERIAL - Invoice cost plus 10% overhead and profit.

EQUIPMENT - Rental invoice cost plus 10% overhead and profit, or if owned equipment Bluebook rate without any additional mark up.

SECOND TIER SUBCONTRACTOR - Second tier subcontractor cost plus 5% overhead and profit.

g. UNIT PRICE.

Aggregate Pier installation \$ 35 /lf

*See proposal page 6
for unit rates.*

ATTACHMENTS INCORPORATED HEREIN BY REFERENCE

Bidder to initial next to each attachment representing that he has thoroughly examined each Attachment, that the amounts on the Bid Form reflect any and all costs associated with complying with terms, conditions and other requirements of the Attachments, and further represents that the bidder can and will enter into a subcontract, if awarded, that is subject to the same.

Initial

<u>DS</u>	AIA Sample Form
<u>DS</u>	E018b.Policy Regarding Discrimination and Harassment and Equal Employment Opportunity - Bilingual
<u>DS</u>	P220.Subcontract Terms and Conditions
<u>DS</u>	P220A.Subcontractor Safety Agreement
<u>DS</u>	P235.Waiver of Lien and Release of Claim
<u>DS</u>	P350.Subcontract Performance Bond
<u>DS</u>	P355.Subcontract Labor and Material Payment Bond
<u>DS</u>	SF060.Subcontractor Safety and Health Questionnaire
<u>DS</u>	Sitework Bid Drawings 050416
<u>DS</u>	Design Development Specifications, Volume 1, 3/15/16
<u>DS</u>	Design Development Specifications, Volume 2, 5/26/16
<u>DS</u>	Draft Construction Phasing Plan 050416
<u>DS</u>	Geotechnical Report 03/21/16
<u>DS</u>	GEO.1 Foundation Support Type Plan, 5/2/16
<u>DS</u>	GEO.2 Underslab Drainage Plan, 5/17/16
<u>DS</u>	Project Specific Requirements
<u>DS</u>	Progress Structural Foundation Drawings 052516

The undersigned agrees that Bidder shall enter into a subcontract, if awarded, in accordance with this Bid Package and subject to the terms, conditions, and other requirements of the Attachments hereto and of the Contract Documents, and shall do so within five days of receipt of said subcontract.

Company Name: HELICAL DRILLING, INC.

By: DORRICK SIMPSON

Title: PM

Date: 6/15/16



GEOPIER®
HELICAL Delivers Geopier®
Ground Improvement

June 15, 2016

GNE-1387

PC Construction
193 Tilley Drive
South Burlington, VT

Subject: Geopier® Rammed Aggregate Pier® Ground Improvement Proposal
Proposed Dover High School – Areas 4 and 5
25 Alumni Drive
Dover, NH

Attn: Mr. Scott Blair

Dear Scott,

Helical Drilling, Inc. (“Helical” or “HDI”) is pleased to provide this proposal to PC Construction (“PC” or “General Contractor”) to design and install Geopier Rammed Aggregate Pier (RAP) elements for support of the subject project. Helical is a local geotechnical design/build contractor that introduced Geopier ground improvement to the Northeast over 15 years ago as a cost-effective alternative to excavate/replace or deep foundations. We have since constructed over 400 Geopier element ground improvement projects in the Northeast (refer to the attached Exhibit A). We are geotechnical engineers that design, build, and manage all of our jobs with local engineering, manpower, and equipment.

This proposal is subject to the Project Requirements attached as Exhibit B.

REFERENCE INFORMATION

Our proposal is based on the following reference information:

- Subsurface soil conditions described in the three geotechnical engineering reports prepared by McPhail Associates (dated 5/14/15, 11/2/15, and 3/21/16).
- Structural foundation plans S2.0A, S2.0F, S2.1A, and S2.1F prepared by Foley Buhl Roberts (dated 5/25/16).
- Plan GEO.1 prepared by McPhail Associates (dated 5/2/16).
- Specification section 316630 “Aggregate Piers” (dated 5/17/16).
- Our proposal is in accordance with a preliminary evaluation by James R. Wheeler, P.E. of Design/Build Geotechnical, LLC (D/BG), Helical’s Designer for Geopier element ground improvement systems.



PROJECT UNDERSTANDING AND ASSUMPTIONS

Based on the reference information above, we understand the following about the proposed building:

- The building consists of a 3-story steel-framed structure with no basement level.
- The building footprint is approximately 185,000 square feet (SF). With reference to plan GEO.1, ground improvement is specified within Areas 4 and 5, which have a combined footprint of approximately 65,000 SF.
- Structural column service (unfactored) loads were not provided per our RFI. Total bottom-of-footing design loads (based on the maximum allowable design bearing pressure of 4 ksf) are shown on the foundation plans and range from 64 to 576 kips. Based on our past experience on similar jobs, these loads may exceed actual service loads. Per page 4, we would require column service loads for submittal preparation.
- Wall service loads were not provided. Total bottom-of-footing design loads (based on the maximum allowable design bearing pressure of 4 ksf) are shown on the foundation plans and range from 8 to 48 kips per linear foot (klf). Based on our past experience on similar jobs, these loads may exceed actual service loads. Per page 4, we would require wall service loads for submittal preparation.
- 5- to 6-inch-thick concrete floor slab-on-grade with a dead load (superimposed and self-weight) of 90 psf and a live load of up to 150 psf.
- In Area 4, the finished floor elevation is El. 98 feet versus existing grade of approximately El. 89-99 feet, thus up to a 8.5-foot net raise-in-grade is planned below the proposed slab-on-grade. In Area 5, the finished floor elevation is El. 84 feet versus existing grade of approximately El. 89-91 feet, thus up to a 7.5-foot cut is planned below the proposed slab-on-grade.
- Specification section 316630 paragraph 1.3.E indicates that the RAP Designer/Installer shall coordinate RAP locations with underground utilities to be installed. Note that our RAP designs typically include coordination requirements for adjacent utility excavations. Please contact the undersigned if further coordination beyond this typical approach is required for specific utilities.
- Per specification section 316630 paragraph 1.7.E, there is an active sewer line that traverses through Areas 4 and 5 that will remain in-service during RAP construction. We have included pre-augering RAP locations within 10 feet of the sewer line to help limit potential damage of the line. There are other existing features (buildings, utilities, etc.) located within relatively close proximity of the proposed building footprint. Geopier element installation generally generates vibration levels that are comparable to (or less than) vibration levels generated by large vibratory rollers and other construction equipment. We assume that the Owner's geotechnical consultant (or others) will monitor construction vibrations at/near the drain line during Geopier element installation. If the measured vibrations exceed specified tolerances, Helical must be notified immediately. In such instances, we may have to alter our installation procedures to reduce vibration levels to acceptable tolerances.
- There are (or may be) existing buried and/or overhead utilities within/near the proposed building footprint. We assume that these utilities will be relocated outside of the proposed



building footprint prior to Geopier element installation. We require free and clear access, including no overhead obstructions and proper OSHA clearances.

- In general, Geopier elements can be installed within about 4 to 5 feet of structures (5 to 6 feet in corners) due to the size of our installation equipment. We assume that the General Contractor (GC) will provide this minimum distance from any structures, including excavation support walls and associated bracing components. We can provide further input to the GC in this regard as the project moves forward.
- This proposal includes Geopier element support of footings and interior slabs-on-grade within Areas 4 and 5. Our proposal does not include support of any other features such as sidewalks, site walls, utilities, cranes, crane paths, etc.
- This proposal only includes the work stated herein and does not include any other work that may be indicated on the drawings or in the specifications such as (but not limited to):
 - Permitting;
 - Furnish/installation of footing pads;
 - Fire watch;
 - Obstruction excavation/penetration;
 - Laboratory testing;
 - Site monitoring such as settlement or vibration monitoring.

Based on the information provided, D/BG performed a preliminary evaluation for Geopier element support of the proposed spread/strip footing foundations (using a maximum allowable bearing pressure of *4 ksf) and the slab-on-grade. The preliminary evaluation indicates that Geopier element support will limit post-construction total settlement to less than 1 inch and differential settlement to less than ½ inch.

****Helical's VE Suggestion #1: With our planned Geopier RAP ground improvement approach, we are able to provide a maximum allowable bearing pressure of 6 ksf, which is higher than the current design pressure of 4 ksf. This may present the opportunity to reduce footing sizes and save material costs on the project. For example, 8'x8' column footings could possibly be reduced to 6.5'x6.5'; 12'x12' column footings could possibly be reduced to 10'x10'; 7'-wide continuous footings could possibly be reduced to 5'-wide; 12'-wide continuous footings could possibly be reduced to 8'-wide, and so on. This is a VE suggestion that would need to be vetted/approved by the design team, including the geotechnical and structural engineers, prior to implementation.***

SCOPE OF WORK

Our proposed scope of work includes the preparation of a design submittal by D/BG that will include design calculations, Geopier element layout plans, details and specifications. After providing copies of the design submittal for review and comment by the project team, Helical will mobilize an ABI Rig, a high lift tool carrier, one or two tracked bobcats, and a grout plant or concrete pump (if grouted or concrete elements are required as discussed below) to the site. Our ABI Rig is roughly the size of a pile driving rig with a mast that extends up to about 60 feet vertically.



For this project, we propose using displacement-type Geopier Rammed Aggregate Pier (RAP) elements for footing and slab support. Displacement RAPs typically generate minimal to no spoils, are about 20 to 24 inches in diameter, and are constructed from a dry and stable working pad subgrade provided by others.

Per page 6 of McPhail's 11/2/16 report, we understand that the intent is to perform ground improvement work after site grades are filled/cut to slab subgrade elevation. We agree with this approach as it will help preconsolidate the clay layer in Area 4 (net fill area) and reduce RAP drill lengths in Area 5 (net cut area). With that understanding, we assume that our working subgrades will be El. 97 feet and 83 feet in Areas 4 and 5, respectively. In Area 5 it's likely that the clay layer will be encountered at working subgrade. As such, the GC may need to place a working mat of crushed stone to ensure a stable working subgrade.

The elements will be constructed from working subgrade to depths up to about 20-25 feet below grade. As specified, the elements will fully penetrate the unsuitable fill and marine clay layers and terminate in the underlying natural glacial till layer.

The tops of the RAP elements will terminate approximately at grade. Due to the presence of the compressible/sensitive marine clay layer, we intend to use grouted RAPs (or "GAPs") below footings to help provide enhanced element stiffness and mitigate settlement risk. For GAPs, a "footing pad" will be required below most footings. Footing pads would need to be provided/installed by the site contractor and consist of 6 inches of compacted crushed stone (note that the projects drawings currently specify 3 inches of compacted crushed stone below footings). Footing pads would need to extend about 1 foot beyond the edges of footings in plan view. The site contractor will need to excavate the top portion of the GAPs down to bottom-of-footing-pad elevation within 2-3 hours of element installation (for grout height control). For the majority of footings bound by column lines A7.5, AD, and A15.3, these thicker footing pads (and associated GAP excavation) will not be required.

After the completion of our work (including an accepted modulus test if required), excavations for footings may be completed in a conventional manner, exposing and removing the upper portion of each Geopier element. Compacted structural fill may also be placed up to the slab subgrade elevation to support the proposed slab-on-grade. Exposed footing and slab subgrade surfaces should be compacted and protected from any softening or disturbance (including from ponding of water or trafficking) prior to filling and/or placement of footing/slab concrete, consistent with conventional subgrade preparation construction techniques for spread footings/slabs-on-grade. Helical is not responsible for footing/slab subgrade compaction or protection.

At least three weeks prior to the submittal due date, the following information must be provided by the Structural Engineer of Record.

- The final Foundation Plan in AUTOCAD format, fully dimensioned and to scale.



- Final working loads. These loads must include column/strip footing/slab loads and footing pressure distributions when they are not uniform (example: exterior wall acting as a retaining wall).

This proposal is based on the assumption that our work may be performed between the hours of 7:00 AM and 5:30 PM, Monday through Saturday. As part of our general conditions, the GC will furnish the items of the attached Exhibit B at no charge to Helical. We assume that we will be provided with complete, unobstructed access to the site, including no overhead obstructions. Prior to Helical's arrival on site, the GC shall locate the center of all Geopier elements using field survey methods based on plans provided by HDI to help ensure continuous production.

In summary, our proposal includes the following:

- Geopier element ground reinforcement design calculations, layout plans, details, construction drawings, and specifications, sealed by a Professional Engineer registered in New Hampshire.
- One mobilization and demobilization to/from the project site.
- Completion of one full scale modulus test to verify the design assumptions. The modulus test would be performed to 150% of the RAP design top-of-pier stress (which is an accepted local standard practice).
- Installation of the Geopier elements from working subgrade, as described above, that completely penetrate the fill and marine clay layers and terminate in the underlying glacial till layer at depths up to approximately 20-25 feet below ground surface.

PRICE

Based on the information and assumptions summarized herein, the price for providing Geopier RAP support is \$539,500, which includes one mobilization.

Helical's VE Suggestion #2: With reference to the attached "HDI Sketch 061516", it appears that some footings within Area 5 may be within about 2 to 4 feet of the natural glacial till layer. As such, the Owner's design team might consider eliminating RAP support below certain footings and have the footings bear directly on the glacial till layer, or on engineered fill placed over the glacial till layer. For example, if the team decided to eliminate RAPs below footings within the clouded area on the Sketch, then we could reduce our price by \$50,000 to \$489,500. Note that the Sketch and associated reduction in pricing are meant to convey a concept for consideration by the design team. Any scope adjustments shall be determined by the design team.

The existing fill generally appears loose to medium dense and we understand that additional fill will be placed in Area 4 prior to RAP ground improvement work. Our price includes penetrating local areas of dense soil fill but does not include obstruction removal, such as granite blocks or large pieces of concrete. Obstruction removal shall be completed by others as required. If obstructions need to be removed, the GC will be notified and Helical will continue with work in other areas.



If an additional modulus test is required by the design team, the additional cost will be \$8,500 per test. Standby time will be billed at \$950 per hour if we are not able to work continuously (at our normal production rates and without delay) due to circumstances beyond our control, such as an unsurveyed or otherwise unprepared site. Similarly, if an additional mobilization is required, the additional cost will be \$25,000 per mobilization. If additional Geopier element footage is required due to the presence of relic foundations, other obstructions, project design changes, or other changes, it will be billed at \$35 per linear foot of installed element plus design fees as applicable. Please note that our goal on all jobs is to get "in-and-out" as efficiently and cost-effectively as possible (without changes). Please feel free to contact the undersigned to discuss how we can work together to achieve that goal.

We are an Open Shop Contractor and will be paying Prevailing Wages.

No Bond is included in our price. If a bond is necessary, add approximately 1.7% to our price.

We would look forward to working with you on this project.

Sincerely,

Derek Simpson, P.E.
HELICAL DRILLING, INC.

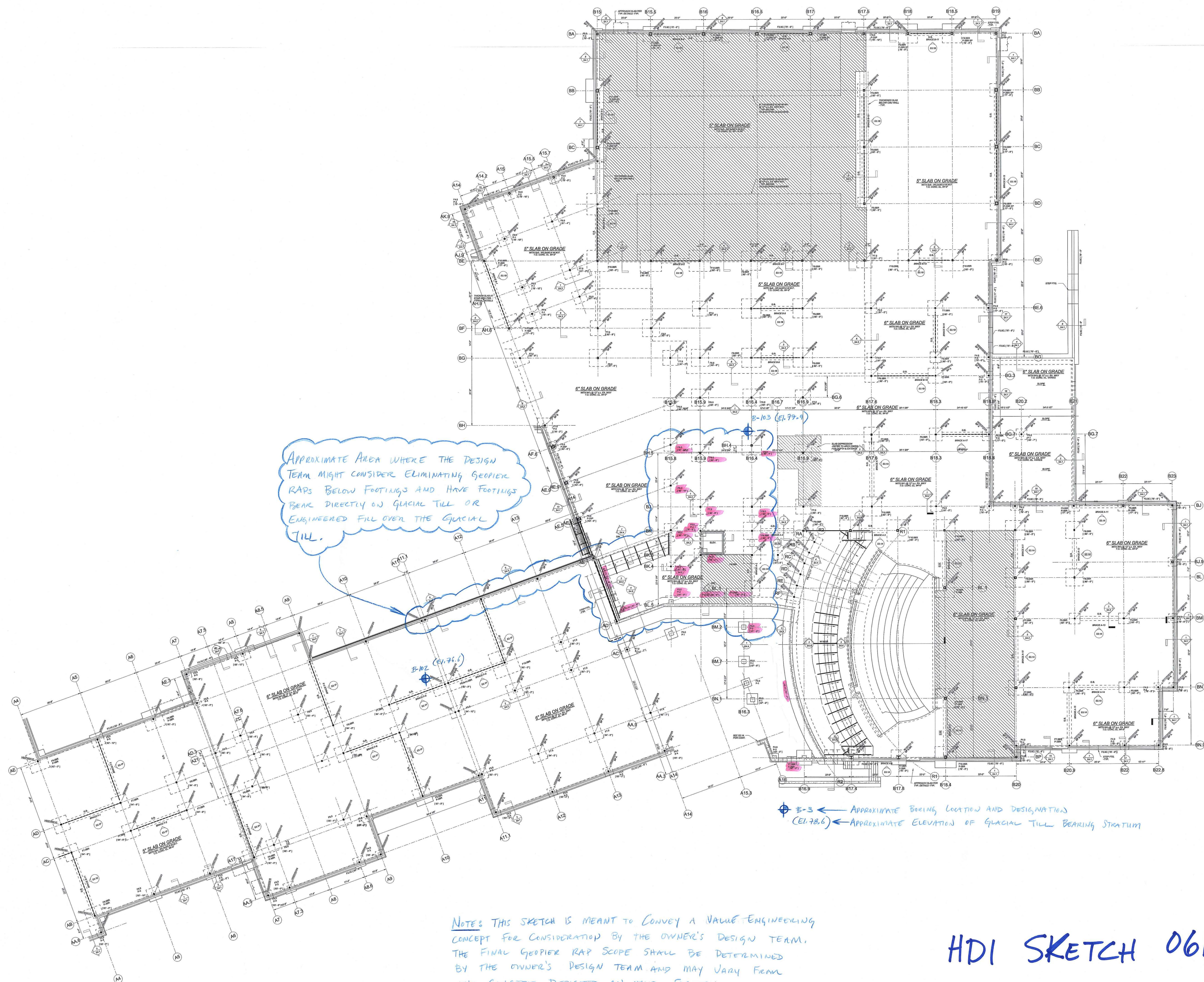
PC Authorized Signature

(Date)

Estimate Reviewed by: CG (6/15/16)

Attachments: -HDI Sketch 061516
-Exhibit A, Helical's Completed Geopier Element Jobs in the Northeast
-Exhibit B, Project Requirements

File: Helical's Geopier RAP Proposal 061516



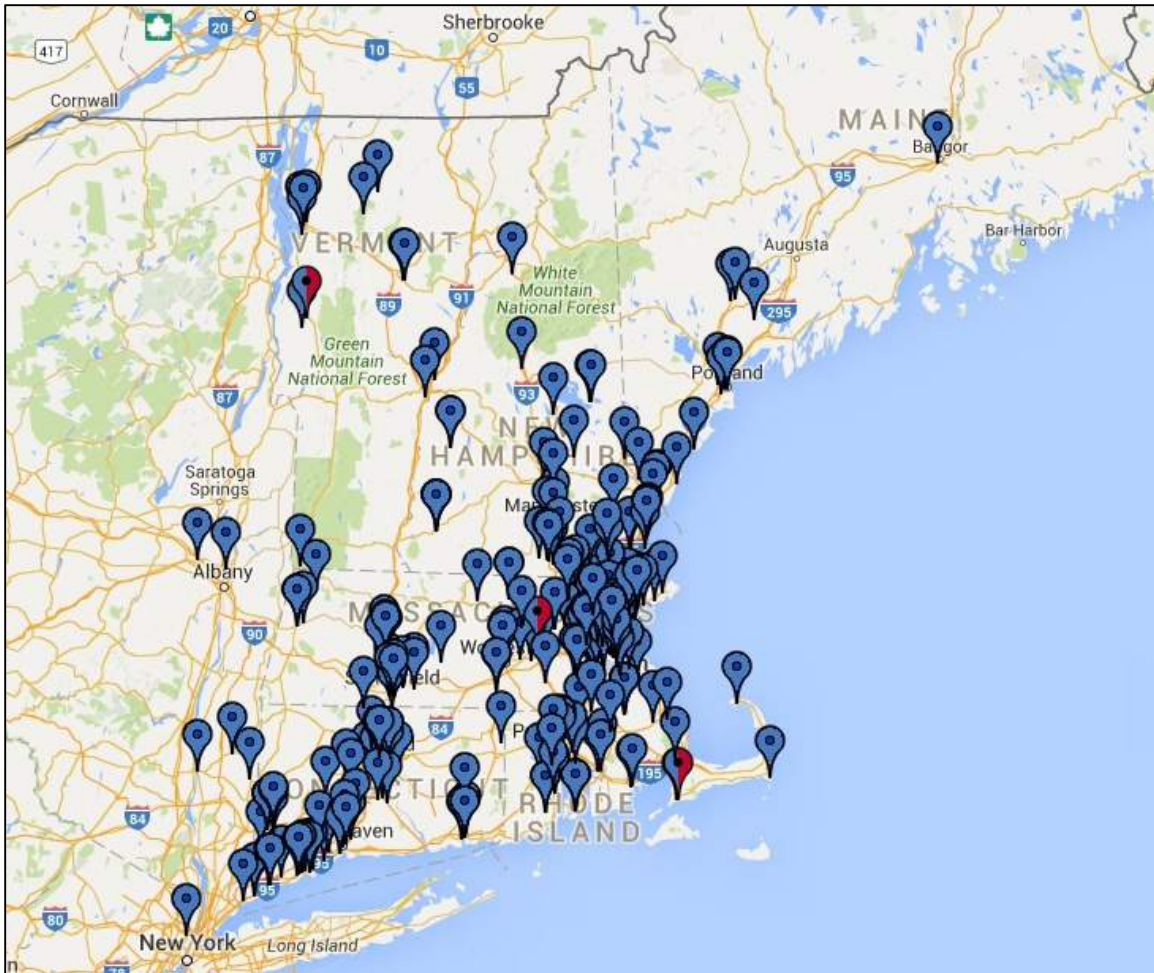
NOTES: THIS SKETCH IS MEANT TO CONVEY A VALUE ENGINEERING CONCEPT FOR CONSIDERATION BY THE OWNER'S DESIGN TEAM. THE FINAL GEOPIER RAP SCOPE SHALL BE DETERMINED BY THE OWNER'S DESIGN TEAM AND MAY VARY FROM THE CONCEPT DEPICTED ON THIS SKETCH.

HDI SKETCH 061516



HELICAL DRILLING, Inc. "Exhibit A"

Our Completed Geopier® Element Jobs in the Northeast



Helical Drilling Inc. (Helical) is a local/Massachusetts geotechnical design/build contractor that designs and installs Geopier element ground improvement projects. Helical introduced Geopier element ground improvement to the Northeast over 15 years ago as a cost-effective alternative to excavate/replace or deep foundations. We have since designed and constructed over 400 Geopier element ground improvement projects in the Northeast. We are geotechnical engineers that design, build, and manage our jobs with local engineering, manpower, and equipment.



HELICAL DRILLING, Inc. "Exhibit B", June 15, 2016

Geopier® Element Installation, Project Requirements

The following shall be provided/accepted by the General Contractor (GC) or others at no cost to HDI:

Site Preparation

1. Prior to Geopier element installation work, the GC shall grade the site to within six inches of the understood working pad subgrade elevation stated in HDI's proposal. Any backfilling prior to Geopier element installation shall be performed in accordance with HDI's Geopier design submittal.
2. Prior to Geopier element installation work, the GC shall locate the center of all Geopier elements using field survey methods within ½-inch accuracy. The GC may need to relocate the center of Geopier elements for elements that need to be reconstructed due to obstructions. Refer to HDI's "Standard Geopier Layout Requirements" to be provided separately.
3. The GC shall provide free and clear access to the site for wheeled and tracked Geopier equipment and shall keep the site and access ramps (if any) trafficable for equipment. Ramps shall be stable, at least 20 feet wide, and have a maximum 3H:1V incline. Free and clear access shall include clearances from overhead obstructions, including (but not limited to) proper OSHA clearances from overhead lines.
4. The GC shall remove frost / frozen ground greater than 6-inches-thick prior to Geopier element installation. Note that Geopier element installation does not improve frozen ground. Also, ground that freezes after Geopier element installation is considered disturbed/un-improved.
5. For footing Geopier elements, the GC shall provide HDI with bottom of footing elevation at each footing location prior to construction. For slab Geopier elements (and for liquefaction mitigation Geopier elements if applicable to the project), the GC shall provide HDI with the bottom of slab elevation at each Geopier element location prior to construction.
6. The GC shall provide areas for aggregate stockpiles within 100 feet of Geopier element installation areas and within excavations requiring Geopier elements. Stockpile areas shall be large enough to hold at least six tandem dump truck loads of aggregate. Stockpile areas must remain truck accessible and suitable for tracked equipment.
7. The GC shall provide HDI with all necessary water (including permits, fees, and metering as required) from an adequate source, within 200 feet of the aggregate stockpiles and work pad, for moisture control of graded aggregate and/or for grouted Geopier elements. The water source shall have a minimum flow rate of 30 gallons per minute.
8. The GC shall be responsible for site work, traffic control, dust control, and any other project site requirements.
9. The GC shall ensure that the site is adequately drained and a stable working pad subgrade is maintained to allow movement of wheeled and tracked construction equipment needed for Geopier element installation work.



10. The GC shall remove any underground obstructions, above ground obstructions, or unsuitable materials that prevent Geopier element installation. Excavations resulting from the removal of such obstructions and/or unsuitable materials shall be backfilled in accordance with HDI's Geopier design submittal. Obstructions include (but are not limited to) underground or above ground concrete, pipes, tanks, utilities, trees, tree branches, overhead lines, adjacent building overhangs, etc. These obstructions need to be removed within two hours of being notified that they exist.
11. Handling, stockpiling, on-site reuse, and/or disposal of excess soils and crushed stone are the responsibility of the GC or others. A cone of crushed stone (having a volume of about 5 to 15 cubic feet) is typically left at each Geopier element location.
12. The GC shall provide a dumpster for HDI's use.
13. The GC shall furnish portable toilet facilities on site for HDI employees.

Geopier Element QA/QC, Subgrade Protection, Preparation, and Documentation

14. HDI's crew includes a full-time internal QA/QC person. It is standard practice for the GC and/or Owner to engage a third-party Geotechnical Field Representative observe and document Geopier element installation.
15. After Geopier element installation (and prior to placing structural fill, steel, or concrete), the GC shall compact exposed subgrades consistent with conventional shallow spread/strip footing and slab-on-grade construction techniques, the requirements contained in HDI's design submittal, and building code requirements. HDI is not responsible for footing or slab subgrade compaction/protection.
16. After Geopier element installation, the GC shall protect Geopier elements from damage, including (but not limited to) breakage from heavy equipment, such as cranes.
17. After Geopier element installation, the GC or Owner shall provide documentation from their Geotechnical Field Representative that all foundation excavation, subgrade preparation, and backfill placement was completed in accordance with the requirements included in HDI's submittal and other applicable project specification requirements. This documentation shall include (but not be necessarily limited to) field compaction testing results for backfill placement.

Exclusions

18. Geopier element installation requires ground vibration by definition and generally generates vibration levels that are comparable to (or less than) vibrations generated by large vibratory rollers and other construction equipment. Specifying a system that uses vibration comes with the inherent risks of possible settlement and/or vibrational damage to nearby existing structures. We assume that the GC or Owner has evaluated and is comfortable with accepting these risks. If they are not, then we can provide pricing for alternate foundation support systems (such as Helical Piles, Drilled Micropiles, or Ductile Iron Piles) that pose little or no vibration/settlement risk.
19. Vibration monitoring of existing nearby structures/utilities shall be performed by others as needed. We assume that the GC or others will monitor vibrations at existing structures/utilities as required. If vibration monitoring indicates that HDI's work is causing excessive vibrations, notify HDI in writing



immediately such that mitigating measures can be implemented as necessary. Mitigating measures by HDI may require additional cost to the GC.

20. Unless stated otherwise, a Bond is not included in our price. If a bond is required and not stated in HDI's proposal, add approximately 1.7% to our price.
21. Unless stated otherwise, our price does not include any special minority or residency requirements.
22. We have not budgeted for special hygienic requirements associated with working in/on contaminated grounds. We assume that HDI personnel and equipment will not require special equipment, clothing, decontamination procedures, or training associated with working in/on contaminated grounds. If special equipment, clothing, decontamination procedures, or training is required, it shall be provided by the GC or HDI will bill the GC for these additional items. If needed, the GC shall provide hygienists at the site.
23. HDI's work does not include settlement platform installation, settlement monitoring, or any other type of geotechnical instrumentation or monitoring. If geotechnical instrumentation or monitoring is required (by D/BG, HDI or others), it shall be performed by others.
24. Subsurface utility clearance shall be performed by others. We assume that the GC will notify DIGSAFE (or local equivalent) prior to HDI's mobilization to the site. We also assume that other site utilities (such as Town/City water and sewer departments) not included on the DIGSAFE ticket will be notified and cleared by the GC prior to HDI's mobilization to the site. If conflicts exist between existing utilities and proposed Geopier element locations, notify HDI immediately. HDI will not accept any liability for damage to any buried or concealed utilities. Buried or concealed utilities must be clearly premarked in the field by others prior to commencement of HDI's work.
25. HDI is responsible for the health and safety of HDI personnel only.
26. Permits and police details shall be obtained by others.

Retainage

27. Retainage for this project, if any, shall not to exceed 10% of the value of the completed work. Such retainage shall be reduced to 5% at completion of our work and total release no later than 4 months after our personnel leave the job site.