

**CONTRACT FOR DESIGNER SERVICES**

**AMENDMENT NO. 3**

**WHEREAS**, the TOWN OF BROOKLINE (“Owner”) and JONATHAN LEVI ARCHITECTS LLC. (the “Designer”) (collectively, the “Parties”) entered into a Contract on August 31, 2018, (“Contract”) for Designer Services for the New Construction of the Michael Driscoll Elementary School, Abatement and Demolition of the Existing School, Site Improvements and All Associated Work at the 64 Westbourne Terrace, Brookline, MA 02446; and

**WHEREAS**, the scope of this work is summarized in the two attached Proposals for Geotechnical Engineering and a Geothermal Test Well and for Sound Noise Measurements; and

**WHEREAS**, Contract Amendment No. 2 was approved by the Town of Brookline on January 17, 2020; and

**WHEREAS**, effective as of March 18, 2020, the parties wish to amend the contract, as amended:

**NOW, THEREFORE**, in consideration of the promises and the mutual covenants contained in this Amendment, and other good and valuable consideration, the receipt and legal sufficiency of which are hereby acknowledged, the Parties, intending to be legally bound, hereby agree as follows:

1. The Owner hereby authorizes this Contract Amendment No. 3 for the total value of \$123,173.00. This Amendment is based on McPhail’s Proposal, dated March 12, 2020 and attached, for Geotechnical Engineering Services and a Geothermal Test Well and Acentech’s Proposal, dated March 16, 2020 and attached, for Sound Noise Measurements on the Driscoll School Site. The Designer is herein authorized to commence the services outlined in this Amendment, pursuant to the terms and conditions set forth in the Contract, as amended.
2. For the performance of services required under the Contract, as amended, the Designer shall be compensated by the Owner in accordance with the following Fee for Basic Services:

<b>Fee for Basic Services</b>	<b>Original Contract</b>	<b>Previous Amendments</b>	<b>Amount of This Amendment</b>	<b>Total of All Amendments</b>
Feasibility Study/Schematic Design Phase	\$1,179,260	\$ 500	\$ 0	\$ 1,179,760
Design Development Phase	\$ 0	\$ 1,814,766	\$ 0	\$ 1,814,766
Construction Documents Phase	\$ 0	\$ 2,540,672	\$ 0	\$ 2,540,672
Bidding Phase	\$ 0	\$ 290,363	\$ 0	\$ 290,363
Construction Phase	\$ 0	\$ 2,540,672	\$ 0	\$ 2,540,672
Completion Phase	\$ 0	\$ 72,590	\$ 0	\$ 72,590
Geotechnical Engineering – Geothermal Test Well	\$ 0	\$ 0	\$ 117,673	\$ 117,673

Acoustical Engineering – Noise Sound Measurements	\$ 0	\$ 0	\$ 5,500	\$ 5,500
Extra Services Estimate – \$376,827 Remaining	\$ 0	\$ 0	\$ 0	\$ 0
<b>Total Fee</b>	<b>\$1,179,260</b>	<b>\$ 7,259,563</b>	<b>\$ 123, 173</b>	<b>\$ 8,561,996</b>

This Amendment is a required to establish a baseline noise level for the site prior to the start of construction activities and to install a geothermal test well to calculate the performance and to inform the design of the geothermal system.

3. The Construction Budget shall be as follows:

Original Budget: \$ 93,335,813  
 Amended Budget \_\_\_\_\_

4. The Project Schedule shall be as follows:

Original Schedule: Phase 1 Substantial Completion – 11/4/2022  
Phase 2 Substantial Completion – 8/31/2024  
 Amended Schedule \_\_\_\_\_

Phase 1 – New Building, Roadways and Sidewalk Work  
 Phase 2 – Abatement & Demolition of Existing Building, Geothermal Wells & Site Improvements

5. This Amendment contains all of the terms and conditions agreed upon by the Parties as amendments to the original Contract, as amended. No other understandings or representations, oral or otherwise, regarding amendments to the original Contract, as amended, shall be deemed to exist or bind the Parties, and all other terms and conditions of the Contract, as amended, remain in full force and effect.

IN WITNESS WHEREOF, the Owner, with the prior approval of the Authority, and the Designer have caused this Amendment to be executed by their respective authorized officers.

**OWNER:**

**DESIGNER:**

\_\_\_\_\_  
 (print name)

Philip Gray  
 (print name)

\_\_\_\_\_  
 (print title)

Principal  
 (print title)

By: \_\_\_\_\_  
 (signature)

By:   
 (signature)

Date: \_\_\_\_\_

Date: 3/30/20

27 March 2020

Mr. Jim Rogers  
Principal  
LEFTFIELD Project Management  
225 Franklin Street, 26th Floor  
Boston, MA 02110

Re: *Fee Proposal, Geothermal Test Well  
Driscoll School, Brookline MA*

Dear Jim,

Attached please find a proposal from McPhail for Geothermal Test Well Services to be performed as a subconsultant to JLA.

**Fee**

As described in Article 4.11 of the Contract for Designer Services, the services associated with this proposal are to be invoiced on a lump sum basis as Extra Services, plus the 10% standard markup specified in Articles 9.1 and 9.1.1.

Task 1: Drill 900' test well	\$82,363
10% markup by McPhail included above	
Task 2: Field representation	\$12,500
10% markup	\$1,250
Task 3: Report	\$6,000
10% markup	\$600
Task 4: drilling fluid disposal	\$14,960
<u>10% Markup by McPhail included above</u>	
<b>Total</b>	<b>\$117,673</b>

Please do not hesitate to contact me if you would like us to clarify or modify our assumptions, or if there is anything represented here which does not conform to your expectations.

Sincerely,

Philip Gray  
Associate Principal  
Jonathan Levi Architects



March 12, 2020

Jonathan Levi Architects  
266 Beacon Street  
Boston, MA 02116

Attention: Mr. Philip Gray

Reference: Driscoll School; Brookline, Massachusetts  
Proposal for Geothermal Engineering Services  
Task A: Geothermal Test Well

Ladies and Gentlemen:

We are pleased to present our proposal for providing geothermal engineering services associated with the above-referenced project which consists of a new school building. The scope of work contained herein includes the completion of a test well program (Task A). Note the scope of work herein does not include geothermal design and construction phase services which will be provided in separate proposals.

### **Background**

A network of vertical closed-loop geothermal wells servicing ground source heat pumps may be installed as part of the project to heat and cool the proposed building. Closed-loop geothermal wells are typically installed to depths of about 400 to 900 feet below ground surface and circulate a water-antifreeze solution in a continuous closed piping loop through the heat pumps and mechanical equipment and return the water to the well field.

Currently, the Schematic Design documents indicate that the well field may consist of approximately 56, 675-foot deep High-Performance Geo Xchange (HPGX) (aka Ryan) closed-loop wells located in the central portion of the site, west of the proposed new school building.

The use of deeper wells, on the order of 900 feet, may be viable to increase the capacity per well and thus reduce the total number of wells required if enough space is not available for a greater number of shallower wells. Decreasing the number of wells would likely reduce the footprint required for the well field(s) and result in less horizontal trenching and piping. Therefore, we propose to install and test a 900-foot deep Ryan well.

### **Task A: Geothermal Test Well Program**

The proposed scope of work for Task A includes the installation of a 900-foot deep HPGX geothermal test well and the performance of a 48-hour duration thermal conductivity test on the completed well. The average formation thermal conductivity, the formation thermal diffusivity, and an estimate of the undisturbed soil temperature will be obtained from the test results. This information will be utilized to determine the size of the permanent well field. Furthermore, the test well will provide information to be used for bidding and



construction purposes such as the depth to bedrock, the quality of bedrock, rock fractures, groundwater production and borehole stability.

For the purposes of this proposal, it is assumed that the depth to the top of bedrock is located within 50 feet of ground surface. The steel well casing will extend a minimum of 5 feet into bedrock. The HPGX test well will consist of 4.36-inch diameter epoxy-based filament wound, fiberglass pipe backfilled with high-performance, high density carbon grout. Should the Owner decide to incorporate geothermal energy into this project, our intent is for the test well to be reusable and integrated into the permanent well field.

A temporary dewatering system will be provided to minimize the potential impact of surface water runoff on the surrounding area. The dewatering system will consist of sumps and trenches around the drilling operation and an 8,000-gallon sedimentation tank. Upon completion, the well pipe will be cut-off below grade and the ground surface around the well head will be provided with cold patch and a manhole cover placed over the well head.

In addition to the above, the following assumptions were made for development of this scope of work:

1. The test well installation will be performed between the period of April 18 and April 26;
2. Prevailing wages are not included;
3. No bond or retainage is assumed;
4. Erosion control, matting or silt fence is not included;
5. Work will be completed Monday through Friday between the hours of 7 AM and 5 PM. Saturday and Sunday work are also a possibility and would be performed between the hours of 8 AM and 5 PM;
6. The drilling of the well will generate approximately 5 to 7 cubic yards of "clean" spoils, consisting mostly of rock cuttings, which will require off-site removal. The removal of the "clean" spoils off-site is included;
7. Drilling fluids and groundwater generated from the test well will be managed by pumping from a localized circulating pit around the well head into a sedimentation tank. An allowance for the off-site disposal/removal of up to 16,000 gallons of liquid is included below. The final cost for the off-site disposal/removal of liquid from the dewatering system will be based on the unit price provided by the drilling contractor with the requisite mark-up by McPhail;
8. The drilling equipment and the dewatering system will be able to accommodate a flow rate of up to about 150 gallons per minute. Should a high-water bearing zone be encountered in bedrock and the flow rate exceeds about 150 gallons per



minute, the RYGAN pipe will either be installed at a shallower depth or it will be necessary to stop drilling and mobilize an additional high pressure air package at an additional cost of \$5,500 per day;

9. The formation thermal conductivity test would be performed approximately one week following the completion of the test well installation in order to allow the grout temperature to equilibrate. The test will likely be setup and started on Friday May 1<sup>st</sup> and concluded the evening of Sunday May 3<sup>rd</sup> or the morning of Monday May 4<sup>th</sup>. Depending on the drillers schedule, the test may also be performed the following weekend. The test requires the use of a trailer-mounted 25 kVa diesel-powered generator which is operated continuously for a minimum of 48 hours. The report would be submitted about three weeks after completion of the test.

As such, we propose to provide the following scope of services associated with the test well program:

1. Subcontract with a well-drilling contractor to drill one (1) 900-foot deep geothermal test well and install 4.36-inch diameter HPGX assembly;  
  
Cost to Complete Item 1: \$82,363 (With McPhail's 10% Markup)
2. Provide a field representative from McPhail to: layout the geothermal test well, observe the installation of the geothermal test well, obtain soil or rock samples at minimum 100-foot intervals of depth, to record the rate of penetration of the drill rods, and to prepare field logs of the well installation. It is assumed that the installation of the well will be completed in one (1) week or less. In addition, provide normal project manager oversight including coordination with the Owner's Project Manager and the school, including attendance at a site meeting and preparation of a geothermal test well logistics plan.

Cost to Complete Item 2: \$12,500

3. Prepare and submit a report incorporating the test well findings and recommendations regarding the design of the geothermal well network to meet the needs of the ground source heat pumps, including such items as:
  - a) Thermal conductivity, thermal diffusivity, and soil temperature.
  - b) Water flow rates.
  - c) Soil composition.
  - d) Formation type encountered and its depth including water zones.

Cost to Complete Item 3: \$6,000



4. Legally remove/dispose of drilling fluids and groundwater from the dewatering tank off-site at an appropriate receiving facility. The final cost for the off-site removal of liquid from the dewatering system will be based on the following unit price provided by Ogden which include the requisite 10% mark-up by McPhail;
  - a) \$0.935 per gallon

For the purposes of this estimate, it is assumed that up to 16,000 gallons of water will require off-site disposal/removal.

Allowance to Complete Item 4: \$14,960

The estimated not-to-exceed fixed fee to complete Task A is **\$115,823**.

*In order to procure the HPGX materials for the test well, the well-drilling contractor will require a down payment a minimum of three (3) weeks prior to mobilizing to the site. As such, upon receipt of written authorization to proceed McPhail will issue Client an invoice for \$13,200 for the 900-foot well (prices include McPhail's 10% mark-up). McPhail will provide payment to the well-drilling contractor prior to receiving payment from client in order to maintain the project schedule, but it is understood that Client will submit the McPhail invoice to the Town of Brookline for immediate payment.*

### **Fee Summary**

We would not exceed the fixed fee stated herein without receiving prior authorization.

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 subcontractors (e.g. drilling subcontractor) at cost plus 10 percent and direct expenses at cost. Hourly billing rates will not exceed \$150.00/hour.

### **Terms and Conditions**

The Client agrees to provide right of entry to the site in order that the subsurface exploration program can be performed. While McPhail will take reasonable precautions to avoid damage to property, subterranean structures or utilities, the Client agrees to hold McPhail harmless for any damage to subterranean structures or utilities not shown on the plans furnished or evident in the field. The Client agrees to accept the unrestored and restored condition of the site, as applicable, after the geothermal well has been completed.

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



Jonathan Levi Architects  
March 12, 2020  
Page 5

**Closing**

We appreciate the opportunity to submit this proposal and we look forward to continuing to work with Jonathan Levi Architects and the design team on the proposed Driscoll School. To authorize our geothermal engineering services as proposed above, please sign and return a copy of this proposal.

We trust that the above is sufficient for your present requirements. Should you have any questions, please call us.

Very truly yours,

McPHAIL ASSOCIATES, LLC

A handwritten signature in blue ink, appearing to read "Jonathan W. Patch".

Jonathan W. Patch, P.E.

A handwritten signature in blue ink, appearing to read "Joseph G. Lombardo, Jr.".

Joseph G. Lombardo, Jr., L.S.P.

JONATHAN LEVI ARCHITECTS

BY 

DATE 3/13/20

17 March 2020

Mr. Jim Rogers  
Principal  
LEFTFIELD Project Management  
225 Franklin Street, 26th Floor  
Boston, MA 02110

Re: *Fee Proposal, Baseline Site Noise Measurements  
Driscoll School, Brookline MA*

Dear Jim,  
Attached please find a proposal from Acentech for Baseline Site Noise Measurement Services to be performed as a subconsultant to JLA.

**Fee**

As described in Attachment A of the Contract for Designer Services, the services associated with this proposal are to be invoiced on a lump sum basis as Extra Services, plus the 10% standard markup specified in Articles 9.1 and 9.1.1.

Measurement and Report	\$5,000
<u>10% Markup</u>	<u>\$500</u>
<b>Total</b>	<b>\$5,500</b>

Please do not hesitate to contact me if you would like us to clarify or modify our assumptions, or if there is anything represented here which does not conform to your expectations.

Sincerely,



Philip Gray  
Associate Principal  
Jonathan Levi Architects



33 Moulton Street  
Cambridge MA 02138  
617 499 8000  
acentech.com



March 16, 2020

Philip Gray  
Jonathan Levi Architects  
266 Beacon Street  
Boston, MA 02116

**Subject**            Proposal for Site Noise Measurements  
                          Driscoll School – Brookline, MA  
                          Acentech Proposal No. 631454

Dear Philip:

Thank you for requesting this proposal to provide guidance regarding the background noise levels at the Driscoll School in Brookline, MA.

To assist you in addressing the project with respect to sound, we will:

1. Measure the background noise level so that new equipment associated with the school can be selected to comply with the MA-DEP noise guideline (301 CMR 7.10). The guideline states that the noise from new equipment should not exceed by more than 10 dB the existing noise levels at the property line and at any inhabited nearby residence, and that the noise should not be tonal. To this end, we propose to install four sound level meters continuously for a period of approximately one week, at four approximate property line locations around the project site. The exact locations are to be determined prior to installation of these sound level meters.
2. Prepare a letter report summarizing our observations and measurement results.
3. Participate in a follow-up conference call with you to discuss our report.

We propose to provide these for a fixed fee of \$5,000 in accordance with the attached Terms and Conditions.

I trust this proposal provides you with the services you require at this time. If you find this proposal acceptable you may authorize our services by sending us a Purchase Order or, if you find it convenient, by filling in the signature block at the end of this letter and returning a signed copy to me. Please call me at 617-499-8070 with any questions or comments. I look forward to hearing from you and to working with you on this project.

Sincerely,

Nicole Cuff, PE  
Senior Consultant

ACCEPTED for JLA
By (Signature): _____
Title: _____
Date: _____

cc:                    Jack Briskie, Acentech  
Attachments:    Terms and Conditions

# ACENTECH TERMS AND CONDITIONS

Acentech Incorporated (Acentech) will perform the work ("Services") specified in the Scope of Services contained in the Proposal to which these Terms and Conditions are attached, in accordance with the following provisions. Unless a superseding agreement with alternative terms and conditions is mutually agreed to, these Terms and Conditions will be in effect from the time that Acentech receives notice to proceed from the Client.

## I. SERVICES TO BE PROVIDED; STANDARD OF CARE

Acentech and its Subconsultants will perform the Services with the degree of care and skill ordinarily exercised by similarly situated consultants. Client agrees that the Services will be provided without warranty, express or implied, except as may be stated explicitly in the Proposal. Acentech will exercise usual and customary professional care in its efforts to comply with applicable codes, regulations, laws, rules, ordinances and other such requirements in effect as of the date of the acceptance of the Proposal.

## II. COMPENSATION AND PAYMENT

Client will compensate Acentech on a time-and-materials or fixed price basis as specified in Acentech's Proposal.

### A. Time and Materials

1. **Best Efforts:** Acentech will use reasonable efforts to complete the Scope of Services within the estimated fees specified in the Proposal. Acentech will not provide the proposed Services beyond the estimated fee without the Client's authorization for additional funds.
2. **Professional Staff:** Acentech will furnish the services of its employees at its standard hourly rates at the time Services are provided.
3. **Other Services and Costs:** Expenses incurred by Acentech required for the completion of the Scope of Services, including travel, meals, supplies and professional services obtained from third parties are reimbursable at cost plus a 10% administrative handling charge. Other services provided, including instrumentation usage and reproductions, will be billed at Acentech's standard rates. All applicable sales tax, customs and Project-specific insurance premiums will be billed at cost.

### B. Fixed Price

1. **Services Specified:** Acentech will deliver the services specified in the Scope of Services on a fixed price basis billed on a percentage of work completed unless an alternative billing schedule has been accepted. Any Project or phase fully billed at 100% will be considered complete unless otherwise agreed.
2. **Reimbursable Expenses:** Unless specifically included in the fixed fee, reimbursable expenses including travel, meals, supplies and other professional services obtained from third parties are reimbursable at cost plus a 10% administrative handling charge.

### C. Changes in Scope of Services / Additional Services

1. Any services authorized by Client not explicitly included in the Scope of Services within the Acentech Proposal will be considered Additional Services and will be billed on a time and materials basis unless a contract modification or change order has been agreed to by Acentech and Client.
2. Additional Services result from, but are not limited to: a) changes in the Project size, budget or programmed use; b) the Project schedule is significantly delayed; c) changes from the Client requiring redesign of previously completed work; d) Acentech's design recommendations are not reviewed in a timely manner resulting in additional work; e) any rework required for the Documents or additional services due to design changes; and, f) any other delays beyond Acentech's control.
3. Document modifications or additional construction administration services requested by Client due to issues beyond Acentech's control will be considered additional services and will be billed on a time and materials basis as outlined in paragraph B.1.

### D. Payments

Invoices are due upon receipt. Client shall be responsible to Acentech for payments, and such obligation shall not be conditioned upon Client's receipt of payments from the Owner or any other party.

## III. INSTRUMENTS OF SERVICE / OWNERSHIP OF DOCUMENTS

- A. Acentech shall be deemed the author and owner of all Instruments of Service, including drawings, reports and specifications, and shall retain all common law, statutory and other rights, including copyrights in such Instruments of Service, subject only to a limited, non-exclusive, non-transferable license to use the Instruments of Service solely in connection with the Project. Submission or distribution of Instruments of Service to meet official regulatory requirements or for similar purposes in connection with the Project is not to be construed as publication.

- B. The Client agrees not to use or distribute the Instruments of Services for future additions or alterations to this Project or any other project(s), and agrees not to make changes or modifications to such Instruments, without Acentech's express written consent. Acentech reserves the right to seek remedies for unauthorized use of Acentech documents.
- C. Unauthorized use or modification of the Documents by the Client will be at the Client's sole risk and without liability to Acentech or its Subconsultants. Client shall defend, indemnify, and hold harmless Acentech from and against any and all losses, claims, demands, liabilities, suits, actions, damages and expenses (including reasonable attorney's fees) arising out of or resulting from such unauthorized use or modification, including any expenses incurred by Acentech to enforce its rights hereunder.

#### IV. PUBLICITY

Acentech may publish its role in the Project unless otherwise directed by the Client.

#### V. INSURANCE AND LIMITATIONS OF LIABILITY

- A. Acentech will furnish appropriate insurance certificates for general and professional liability upon request.
- B. Acentech and the Client waive consequential damages, including but not limited to, damages for loss of profits, loss of revenue and loss of business, loss of business opportunities, for claims, disputes or other matters in question arising out of or relating to this Agreement. The Client agrees that Acentech's total aggregate liability to the Client or any third party for any and all injuries, claims, losses, expenses, or damages including reasonable attorney's fees, arising out of or in any way related to the Project or this Agreement from any cause or causes, including, but not limited to, ACENTECH'S AND/OR SUB-CONSULTANTS' NEGLIGENCE, ERRORS, OMISSIONS, STRICT LIABILITY OR BREACH OF CONTRACT, SHALL NOT EXCEED THE GREATER OF \$25,000 OR TWO TIMES THE FEE FOR THE SERVICES PROVIDED BY ACENTECH UNDER THIS AGREEMENT.
- C. Acentech and Client mutually agree, to the fullest extent permitted by law, to indemnify and hold each other harmless from any and all damage, liability or cost (including reasonable attorney's fees and defense costs) to the extent caused by their own negligent acts, errors or omissions and those of anyone for whom they are legally liable and arising from the Project that is the subject of this Agreement and due to their failure to perform their obligations hereunder.
- D. Acentech shall not be in default of its obligations to the extent that its performance is delayed or prevented by causes beyond its control, including but not limited to acts of God, delays in delivery by vendors, and strikes or other labor disturbances.

#### VI. TERMINATION

Either party may terminate this Agreement in whole or in part at any time by written notice to the other; such notice is effective upon receipt. In the event of a termination initiated by the Client, Acentech shall be compensated in accordance with this Agreement for the services rendered and expenses incurred or committed to up to the effective date of notice of termination. The provisions of this Agreement that contemplate surviving the expiration or termination of this Agreement and the Services shall survive the completion of the Services and/or termination or expiration of this Agreement.

#### VII. GENERAL

- A. **Agreement**

The Agreement between the parties consists solely of the Proposal and these Terms and Conditions and represents the entire agreement between the parties with respect to the Services and supersedes all prior agreements.
- B. **Governing Law**

The substantive laws of the Commonwealth of Massachusetts shall govern any disputes between Acentech and the Client arising out of the interpretation and performance of this Agreement.
- C. **Mediation**

Acentech and the Client agree that any disputes arising under this Agreement and the performance thereof shall be subject to nonbinding mediation as a prerequisite for further legal proceedings.
- D. **Certification**

Acentech shall not be required to sign any documents that would result in Acentech's having to certify, guaranty or warrant the existence of conditions that would require knowledge, services or responsibilities beyond the proposed Scope of Services.
- E. **Relationship of Parties**

In furnishing the Services, Acentech is acting as an independent contractor. The Parties do not intend to create a contract of agency, a joint venture or a partnership of any type. Acentech is not an agent of Client and has no authority to represent Client as to any matters, except as expressly authorized in the Agreement.