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SPECIFICATIONS FOR LABOR AND MATERIALS

FOR

**LINCOLN CENTRAL ELEMENTARY SCHOOL BORE FIELD**

100 7<sup>TH</sup> Street, Lincoln, IL 62656

FOR

LINCOLN ELEMENTARY SCHOOL DISTRICT NO. 27

DISTRICT OFFICE: 304 EIGHTH STREET, LINCOLN, IL 62656

DISTRICT SUPERINTENDENT: KENT FROEBE

PROJECT NUMBER: 25821422A

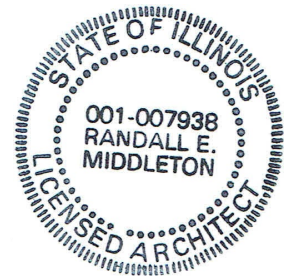
ISSUE DATE: October 25, 2022

**PRE-BID:** Wednesday, November 9, 2022 at 2:00 p.m. at Central Elementary  
(Meet at north entrance to the Gymnasium; Park on 8<sup>th</sup> Street which runs  
parallel to the north elevation of the Gymnasium)

**SITE VISITS:** Arrange ahead of desired visit. Contact Kent Froebe at 217/732-2522

**BID DATE:** Thursday, November 17, 2022 at 2:00 p.m. prevailing time  
District 27 Office  
304 Eighth Street  
Lincoln, Illinois 62656

Specification Booklet #: \_\_\_\_\_



A handwritten signature in blue ink that reads "Randall E. Middleton".



DIVISION 0 – BIDDING & CONTRACT REQUIREMENTS  
Section 00 0110 – Table of Contents

PROJECT TITLE: Lincoln School District No. 27  
**CENTRAL ELEMENTARY BORE FIELD**  
100 7<sup>th</sup> Street, Lincoln, IL 62656

FOR: Lincoln School District No. 27, Logan County  
District Office: 304 8<sup>th</sup> Street, Lincoln, IL 62656

SUPERINTENDENT OF SCHOOLS: Kent Froebe

ARCHITECT/ENGINEER: Middleton Associates, Incorporated  
1702 W. College Avenue, Suite E  
Normal, IL 61761-2793  
[middleton@middletonassociates.net](mailto:middleton@middletonassociates.net)

ENGINEER: Mid Mo Engineering Alliance (MMEA)  
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Jefferson City, Mo 65101  
573/636-2116  
E-Mail: [Wayne@Mmeaeng.Com](mailto:Wayne@Mmeaeng.Com)  
Website: [www.Mmeaeng.Com](http://www.Mmeaeng.Com)

A/E PROJECT NO.: 25821422A

ISSUE DATE: October 25, 2022

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DOCUMENT LIABILITY

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END 00 0110

DIVISION 0 - BIDDING & CONTRACT REQUIREMENTS  
Section 00 0301 - Drawings Index

1. GENERAL

1.1. SCHEDULE OF APPLICABLE DRAWING SHEETS: CENTRAL ELEMENTARY  
SCHOOL BORE FIELD

G100 COVER SHEET

MS1 SITE PLAN

M3.1 GEOTHERMAL SYSTEM FLOW DIAGRAM

END 00 0301



DIVISION 0 – PROCUREMENT REQUIREMENTS

Section 00 03 02– Required Alternates

1. GENERAL

1.1. DESCRIPTION

- A. The alternates are to provide the Owner with optional systems and comparative material prices for determining the most advantageous construction package.
- B. Work included in alternates shall be commensurate with and in compliance with all the applicable project specifications and conditions and shall include all necessary related project adjustments and additional labor and/or material as may become apparent to complete the alternative work. No additional charge will be considered after bidding for the purposes of making additional construction or adjustments in order to accomplish alternative work which has been included in the Contract.
- C. All Base Bid requirements and material specifications not specifically mentioned or deleted by the alternate shall remain as originally set forth.
- D. All Contract Document requirements shall apply to alternates.
- E. Incidental Work: All necessary adjustment in the work shall be made to accommodate accepted alternates without cost change in and above the alternate cost.

1.2 Alternate Bids

- A. No required alternates at time of posting. Check addendum if issued.

END 00 03 02





DIVISION 0 - PROCUREMENT FORMS  
Section 00 03 03 - Voluntary Alternate and Substitution Form

The Bidder should include this form with the Bid Forms if a material substitution is offered at that time.

The Base Bid and Alternate Bids include only those products specified in the bidding documents. Following is a list of substitute products which bidder proposes to furnish on this project, with the difference in price being added to or deducted from the Base Bid or Alternate Bids.

Bidder understands that acceptance of any proposed substitution is at Owner's option. Approval or rejection of any substitutions listed below will be subject to review after Contract award. Hold open for thirty-five (35) days from Bid Date.

**SUBSTITUTIONS**

MANUFACTURER'S NAME AND PRODUCT	ADD OR (DEDUCT)
_____	_____
_____	_____
_____	_____
_____	_____

**VOLUNTARY ALTERNATE  
DESCRIPTION**

ADD OR (DEDUCT)

_____	_____
_____	_____
_____	_____
_____	_____

EVALUATION. Contract award will be made in accord with Instructions to Bidders. Only the lowest responsible bidder's Proposed Product Substitution Voluntary Alternates Form will be evaluated.

Attach with herewith or submit on day of bid a general description of the proposed option being offered.

Provide detailed information promptly upon request.

END 00 03 03



DIVISION 0 – BIDDING & CONTRACT REQUIREMENTS  
Section 00 0400 – Proposal Form

1 GENERAL

1.1. WORK INCLUDES

A. Base Bid

1. All vertical loop pipe installation, all horizontal collector pipe installation, cleaning / flushing of system, installation of glycol, grading, compacting and seeding.
2. Purge Pit provided by this Contractor. Purge Pit to be installed by this contractor.
3. **ADD ALLOWANCE OF \$12,000.00 TO BASE BID.**
4. All unused allowance shall be credited to Owner on final pay request.

- 1.2. Contractor submit bid on the following pages: 00 0400-2 and 00 0400-3.

PROPOSAL FORM, SUBMIT WITH LIVE SIGNATURES

BID DUE DATE: Thursday, November 17, 2022 TIME: 2:00 p.m. (prevailing time)

PROPOSAL TO: Kent Froebe, Superintendent  
Lincoln School District No. 27 District Office  
304 8<sup>th</sup> Street  
Lincoln, IL 62656

BID FOR: **Project No. 25821422A**  
**Specifications & Drawings Titled:**  
**LINCOLN CENTRAL ELEMENTARY SCHOOL BORE FIELD**  
**A/E #: 25821422A**

SUBMITTED BY: \_\_\_\_\_

This proposal is in compliance with the documents for the: Lincoln Central Elementary School Bore Field, Middleton Associates Incorporated Project Number 25821422A. This proposal is made without exception to any requirements as set forth or reasonably inferred in the documents and in making this proposal, I/we agree that we are familiar with on site existing conditions, the work required, the Specifications, inclusive of DIVISION 0, DIVISION 1, the Drawings, and all Addenda received and the extent of labor and materials necessary to fully complete the work within the time slot allowed between on site start-up and on site substantial completion. This proposal is made by the Contractor and the Contractor's signature thereto demonstrates his concurrence with the Owner's rights as advertised and restated herein as follows:

It is the intention of the Owner to accept the lowest bid received in accordance with the documents. The Owner, however, reserves the right to reject any or all bids, waive formalities and informalities as may be applicable to the bidding, and accept a bid, as deemed, by the Owner to be most advantageous to the Owner's interest.

ADDENDA: Addenda received and included (please check) #1\_\_ #2\_\_ #3\_\_ #4\_\_

BASE BID: \_\_\_\_\_ \$ \_\_\_\_\_  
(Include Allowance of \$12,000.00)

5% BID SECURITY ENCLOSED

- BID BOND
- CASHIER'S CHECK

**START/COMPLETION:** I/We agree to provide all the labor and material in a timely sequence to allow for construction commencement at the earliest possible date after **contract signed by the Board of Education** (see Section 00 2113) and to allow for Substantial Completion of all work on or prior to: **May 29, 2023** (see Section 00 2113).

**CERTIFICATIONS:**

**I CERTIFY THAT:** All labor and wage compensation required in the execution of this contract and provided by this contractor or his subcontractors will comply with the Illinois Prevailing Wage (820 ILCS 130/.01 et. seq.) see <http://labor.illinois.gov/>

**I CERTIFY THAT:** This proposal is made without any connection with any person making another bid for the same contract, that the bid is in all respects fair and without collusion or fraud, that no member of the Board of Education, officer thereof, or any person in the employment of designated school district is directly or indirectly interested in the bid or any portion of the profit therefrom, except as allowed by the Illinois School Code.

**I CERTIFY THAT:** I have not been barred from bidding on a contract involving public funds as a result of a conviction for either bid rigging or bid rotating or other violation under Article 33E Criminal Code of the Illinois Revised Statutes, or convicted of a felony pursuant to the Illinois Procurement Code, Section 50-10.

**I AGREE** to provide a drug-free workplace as required by the Illinois Drug-free Workplace Act. I, the undersigned, do hereby certify that I am either the bidder or duly authorized agent of the referenced bidder, and I am authorized to execute the certifications hereon.

**I AGREE** to comply with applicable provisions of the Illinois Human Rights Act (775 Illinois Compiled Statutes 5), the U.S. Civil Rights Act, the Americans with Disabilities Act, Section 504 of the U.S. Rehabilitation Act and the rules applicable to each. The equal opportunity clause of Section 750.10 of the Illinois Department of Human Rights Rules is incorporated herein. Contractor/vendor shall comply with Executive Order 11246, entitled "Equal Employment Opportunity", as amended by Executive Order 11375, and as supplemented by U.S. Department of Labor regulations (41 C.F.R. Chapter 60). Contractor/vendor agrees to incorporate this clause into all Subcontracts under this Contract.

**I CERTIFY THAT:** By submission of this proposal the bidder confirms that he is familiar with the site, existing conditions, the Bid Documents and the project schedule. **Project completion by May 29, 2023.**

EXPIRATION OF PROPOSAL - I/We agree that this proposal shall be binding for a period of thirty (30) days following the bid due date set forth in the advertisement for bids.

SUBMITTED BY: \_\_\_\_\_

SIGNED BY: \_\_\_\_\_

END 00 0400

CORPORATE SEAL  
(for corporations only)



DIVISION 0 - BIDDING & CONTRACT REQUIREMENTS

Section 00 0402 – Form of Agreement

1 GENERAL

- 1.1. The following Agreement (00 0402-2) will be filled out by the Architect after the bidding process and sent to the Owner and Contractor for signature.

**OWNER-CONTRACTOR FORM OF AGREEMENT**

Between:

The Owner: Lincoln Elementary School District No. 27  
304 8<sup>th</sup> Street  
Lincoln, IL 62656

And the Contractor: \_\_\_\_\_

For the Project:

**LINCOLN CENTRAL ELEMENTARY SCHOOL BORE FIELD  
FOR LINCOLN ELEMENTARY SCHOOL DISTRICT NO. 27**

The Owner and Contractor agree to enter into a contract in accordance with the terms and conditions of the Documents (Plans & Specifications), A/E Project Number 25821422A and the Contractor's Proposal dated November 17, 2022, which become the Contract for completion of the project as follows:

Base Bid Substantial Completion Date: May 16, 2023

Additional Terms & Conditions: None (or as applicable)

Addenda: #1 \_\_\_\_\_ #2 \_\_\_\_\_ #3 \_\_\_\_\_ #4 \_\_\_\_\_ (list as applicable)

**Contract Amount:** (to be listed as appropriate)

Base Bid Proposal	\$ _____
Alternate Bids as awarded to be listed	\$ _____
Total Contract Amount	\$ _____

(Written) \_\_\_\_\_ Dollars

**Date of Agreement:** \_\_\_\_\_

**Signatures:**

**Owner:**  
Lincoln Elementary School District No. 27

**Contractor:**

_____	_____
_____	_____
_____	_____

Contractor's Seal  
(Corporation Only)

This Agreement must be signed and returned with the Contractor's Performance Labor and Materials Payment Bonds within fifteen (15) days of notice to the Contractor.

END 00 0402



DIVISION 0 - BIDDING & CONTRACT REQUIREMENTS

Section 00 0450 – Prevailing Wage

1. GENERAL

- 1.1. This is a project requiring the payment of prevailing wages. Proper written notification as required under Public Act 96-0437:

This contract calls for the construction of a “public work,” within the meaning of the Illinois Prevailing Wage Act, 820ILCS 130/.01 *et seq.* (“the Act”). The Act requires contractors and subcontractors to pay laborers, workers and mechanics performing services on public works projects no less than the current “prevailing rate of wages” (hourly cash wages plus amount for fringe benefits) in the county where the work is performed. The Department publishes the prevailing wage rates on its website at <http://labor.illinois.gov/>. The Department revises the prevailing wage rates and the contractor/subcontractor has an obligation to check the Department’s web site for revisions to prevailing wage rates. For information regarding current prevailing wage rates, please refer to the Illinois Department of Labor’s website. All contractors and subcontractors rendering services under this contract must comply with all requirements of the Act, *including but not limited to*, all wage requirements and notice of record keeping duties.

END 00 0450



DIVISION 0 - BIDDING & CONTRACT REQUIREMENTS

Section 00 0500 - General Conditions of the Contract

1. GENERAL

- 1.1. The General Conditions of these Contract Documents are included herein by reference: AIA Document A201, 1997 Edition and 2007 Edition.
- 1.2. Copies are available for inspection and review from the Architect and will be made available upon request. Copies that are checked out of the Architect's office shall be recorded as an attachment to the documents and shall be subject to return in usable condition along with the Drawings and Specifications Booklets.
- 1.3. See Section 00 0700 Supplementary General Conditions.

END 00 0500



DIVISION 0 – BIDDING & CONTRACT REQUIREMENTS  
Section 00 0700 – Supplementary General Conditions

1. GENERAL

1.1. AUTHORITY

- A. The conditions outlined in this and following paragraphs are to supplement and complement the conditions found in the Articles of the AIA Document A201, 1997 Edition, included in these Specifications by reference as AIA Document A201 General Conditions. This Section (00800) supersedes the previous articles in areas of conflict only and further delineates conditions applicable to this project.

1.2. SIGNING OF DOCUMENTS AND INSTRUMENTS

- A. All documents shall be signed by persons fully and duly authorized to so sign. Any documents signed by a person other than person prescribed by the Contractor's legal organization shall enclose with his signature the evidence of "Power of Attorney."

1.3. SUPPLEMENTS TO AIA DOCUMENT A201 (1997 EDITION) THE GENERAL CONDITIONS OF THE CONTRACT

A. TO ARTICLE 2/OWNER

- 1. To Subparagraph 2.2.2, add 2.2.2.1
- 2. Easements off site required by the Contractor to execute the work, such as space for storage, access, lane enclosure, etc., shall be arranged and paid for by the Contractor.
- 3. To Subparagraph 2.2.4, change the wording in the second sentence of subparagraph 2.2.4 from "any other information, etc." to "any other essential information, etc."
- 4. To Subparagraph 2.4.1, add the following sentence:
  - a. Failure on the part of the Contractor to provide and pay said difference levied, the owing shall revert to the Labor, Payment and Performance Bond carrier on projects where said bond or bonds have been furnished, paid for by the Contractor, included in the Contract Bid and issued in the Owner's protective favor.

B. TO ARTICLE 3/CONTRACTOR

- 1. To Subparagraph 3.3.1, delete the last two (2) sentences listed under 3.3.1 in their entirety.
- 2. Add Subparagraph 3.3.1.1:
  - a. 3.3.1.1 Neither the Architect or the Owner shall furnish, advise, opinion, nor share responsibility or liability applicable to means, methods, scheduling, techniques, sequences or procedures of construction. Neither the

Owner nor the Architect can direct the Contractor's personnel in how or when to perform tasks, however, they can give notice when the apparent results of the Contractor's efforts will not or may not give acceptable finished project results.

3. Add Subparagraph 3.12.6.1
  - a. 3.12.6.1 Submittals unmarked will not be reviewed by the Architect, however, said unmarked submittals will be returned to the Contractor for resubmittal and the time loss shall not extend the time of completion of the project.

C. TO ARTICLE 4/ADMINISTRATION OF THE CONTRACT

1. To paragraph 4.3.10, add 4.3.10.3 as follows:
  - a. 4.3.10.3 This waiver of consequential damages extends only to the extent of the Contract scope and schedule.
2. To paragraph 4.6, subparagraph 4.6.1, revise the word shall to may (if both parties agree to mediation).
3. To paragraph 4.6, subparagraph 4.6.2, in the first sentence, change the word shall to may (if both parties agree to arbitration).
4. To paragraph 4.6.3, add subparagraph 4.6.3.1 as follows:
  - a. 4.6.3.1 Should mediation be requested by one party to the construction contract and rejected by the other, the claimant may seek satisfaction through the appropriate court jurisdiction.

D. TO ARTICLE 5/SUBCONTRACTORS

1. To Paragraph 5.3, add 5.3.2:
  - a. 5.3.2 The assignment of work by the Contractor to Subcontractors is the election of the Contractor and in no way changes or reduces the Contractor's obligations under the Contract to properly complete the work and/or provide clear title to the work.

E. TO ARTICLE 7/CHANGES IN THE WORK

1. To Subparagraph 7.1.2, add subparagraph 7.1.2.1 and 7.1.2.2 as follows:
  - a. The Contractor and/or his Subcontractor shall not proceed with any work, directive or change for which he intends to claim extra cost without providing written notice to the Architect.

- b. The Architect and Owner shall provide response to claims for additional cost within a reasonable time period upon receipt of notice or quote.
  - 2. Add subparagraph 7.2.1.4 as follows:
  - 3. Prior notice of intent for Change Orders requiring a claim for additional cost or adjustment in project schedule for any work shall be made IN WRITING to the Architect. Except in an emergency situation, do not proceed with such change without WRITTEN approval. This is to include all work, including field revisions, construction change directives, or any actual or perceived adjustment in the work, for any reason.
  - 4. To Paragraph 7.2.2, add subparagraph 7.2.2.1 as follows:
    - a. Change Order quotes shall be based on an approved quote or estimate which shall be based on labor and material cost, actual or estimated as prior agreed upon, and:
    - b. Overhead and profit proportional to this category on the Contractor's CSV, but not exceeding fifteen percent (15%) for the Contractor's own work forces or ten percent (10%) Subcontractor, ten percent (10%) Contractor, twenty percent (20%) total for work completed under a Subcontractor arrangement.
  - 5. Field personnel for supervision and General Conditions allowance(s) not exceeding the proportional value shown on the Contractor's CSV for the entire project.
- F. TO ARTICLE 9/PAYMENT AND COMPLETION
- 1. To Subparagraph 9.6.1, add Subparagraph 9.6.1.1:
  - 2. Wherein the Owner is governed by a public Board, payment requests must be received twelve (12) days prior to the next regular Board Meeting. Payments will be made within fifteen (15) days following Board approval. Failure to comply with schedule will result in a one (1) month delay in payment.
- G. TO ARTICLE 10/PROTECTION OF PERSONS AND PROPERTY
- 1. To paragraph 10.2.1, add Subparagraph 10.2.1.4
    - a. 10.2.1.4 The Contractor shall be responsible to provide and maintain on site MSDS Sheets for all paints to be brought on site.
- H. TO ARTICLE 11/INSURANCE & BONDS
- 1. To Paragraph 11.1, Subparagraph 11.1.1 add the following subparagraphs

- a. 11.1.1.9: Required coverage shall include the following under General Liability:
  - 1) Comprehensive Form
  - 2) Explosion & Collapse Hazard
  - 3) Products Completed Operations Hazard
  - 4) Broad Form Property Damage
  - 5) Premises Operation
  - 6) Contractual Insurance
  - 7) Independent Contractors
  - 8) Personal Injury
2. The Contractor expressly agrees that he is in charge of and in control of the Work and he shall have sole exclusive responsibility to direct the work processes and comply with the requirements of OSHA, State and Federal regulations for scaffolding, barriers and supports. Neither the Owner nor the Architect is in charge of the means, methods and procedures employed to construct the Work. The obligation of the Contractor shall include, but not be limited to injury or damage resulting from failure to use or misuse scaffolding, hoists, cranes, stay ladders, support of other mechanical contrivance erected or constructed by a person or any or all other kinds of equipment whether or not owned or furnished by Contractor. The Contractor expressly agrees that he is exclusively responsible to compliance with OSHA and local regulations for construction and that he is the "employer" within the meaning of those regulations. Any provision in the Contract Documents in conflict with this paragraph shall be superseded this subparagraph.
3. Minimum Limits of Liability for preceding coverage in paragraphs 11.1 and subparagraphs therefollowing.
  - a. Workers Compensation - Statutory Limit
  - b. Personal Injury - \$2,000,000 per person, \$5,000,000 aggregate
  - c. Property Damage - \$2,000,000 per occurrence, \$5,000,000 aggregate
4. Insurance coverage limits may be accomplished either through the primary carrier or primary plus an umbrella carrier.
5. In the event that a claim is filed or a settlement reached whether related to this project or not which compromises the aggregate limits of liability then the Owner and Architect shall be notified and arrangements shall be made to provide additional insurance as needed to keep aggregate limits in force for the remainder of the Contract.
6. Contractor's insurance shall be maintained in force through basic warranty - guarantee periods, not less than one (1) year.
7. With respect to all insurance required herein, the Contractor shall provide such insurance naming the Owner and its employees and agents, the Architect and Architect's consultants, as additional insured, named insured or provide separate Owner's protective



insurance which names Owner, Architect and Architect's Consultants, including coverages with respect to damages, losses, expenses and claims, including attorneys' fees, for all liability based upon any claims brought against the Owners, its employees or agents and the Architect, by any party, the Contractor or any Subcontractor, material men or suppliers or the employees thereof, arising from whatsoever cause, relating to arising out of or concerning the performance of the subject project.

I. TO ARTICLE 11/INSURANCE & BONDS

1. To Paragraph 11.4, add Subparagraphs 11.4.2 and 1.4.3 as follows:

J. The Owner's property and vandalism insurance has \$1,000 deductible. The Contractor shall insure and thus pay the costs not covered by deductibles.

K. The Owner's Builder's Risk will cover only normally included risks, on site, Owner's interest only, excluding tools and property of the Contractor and improperly stored materials.

1. To Paragraph 11.5.1 add the following Subparagraphs:

2. The Contractor shall furnish Performance and Labor and Material bonds covering the faithful performance by the Contractor of the work specified in accordance with the plans and specifications and according to the time and terms and Conditions of the Contract, and also that the Contractor shall properly pay all debts incurred in the prosecution of the work, including those for labor and materials furnished. The cost of each bond shall be included in the Contract Sum plus any changes to the Contract Sum. The Contractor shall include in all bonds provisions as will guarantee faithful performance of the prevailing wage provisions of the Contract. Bonds shall be written by surety, approved by Owner, with a minimum rating of B or better, Financial Class V, or higher, in A.M. Best's Insurance Guide, current edition. The company must also be licensed in the State of Illinois.

3. The Contractor shall require the attorney-in-fact who executes the bonds on behalf of the surety to affix thereto a certified and current copy of power-of-attorney.

4. The Contractor shall deliver the required bonds to the Owner not later than fifteen (15) days following the date the agreement is executed.

L. TO ARTICLE 12/UNCOVERING AND CORRECTION OF WORK

1. Add Paragraph 12.4 WARRANTIES, and the following Subparagraphs:

a. 12.4.1 General. The Contractor warranty that all work provided under the Contract will be in conformance with the

Contract and free from defects in workmanship, materials, and equipment for a period of one (1) year or such longer period as may be specified in the Contract Documents, except as provided below. Warranty time periods shall commence with the date of Owner acceptance of the Certificate of Substantial Completion of the whole, or any part of the project. The warranty time period for any incomplete or uncorrected work at the time of Substantial Completion shall commence with the date of Final Completion.

- b. 12.4.2 Extended Warranties. The responsible Contractor warrants that its workmanship, material and equipment for those building systems subject to seasonal loads will be in conformance with the Contract and free from defects for a period of two (2) years, commencing with the date of the Certificate of Substantial Completion. This includes, but is not limited to, heating, ventilating, air conditioning, temperature control and test and balance work, as specified in the project manual.

M. Latent Defects. On demand, the Owner at any time within the ten (10) year period following Substantial Completion or Final Acceptance, if applicable, the Contractor shall promptly repair or replace all defective or non-conforming work resulting from, or constituting latent defects, fraud, fraudulent concealment or gross negligence. The Owner will give timely notice of such defects.

- 1. 12.4.4 Prompt Repair. Upon notice from the Owner or Architect of such defects or nonconforming work, the Contractor shall promptly visit the site in the company of the Owner's representative to determine the extent of all defects or nonconforming work. The Contractor shall provide all labor, material and equipment to promptly repair or replace the defective or nonconforming work. The repair shall include all adjacent work not necessarily provided by the Contractor, but damaged as a result of such defects or non-conforming work or as a result of remedying them. If the Contractor does not promptly repair or replace defective or non-conforming work, the Owner may repair or replace such work and charge the cost thereof to the Contractor. Work which is repaired or replaced by the Contractor shall be inspected and shall be warranted by the Contractor in accordance with this Article. The warranties set forth herein are in addition to all warranties or guarantees expressed or implied by operation of law, statute or ordinance.

N. Commercial Warranties. The Contractor shall deliver all commercial and extended warranties received from manufacturers to the A/E prior to Final Completion, but this shall no reduce the Contractor's obligations under this Article.

O. TO ARTICLE 13/MISCELLANEOUS PROVISIONS

1. Add Subparagraph 13.1.2

- a. 13.1.2 The Contractor shall, to the best of his knowledge and capability, perform all work encompassed by the documents, in compliance with the Environmental Barriers Act (Ill. Rev. Stat. 1985, ch. 111-1/2, pars. 3711 et seq. as amended), the Illinois Accessibility Code, 71 Illinois Administrative Code 400; The Uniform Federal Accessibilities Standards (UFAS); Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990 (effective January 26, 1992) known as ADA requirements. This obligation shall apply to the contractual work described as the project and the conduct of work processes initiated to accomplish the work.

2. Add Subparagraph 13.1.3

- P. The Owner and other parties to this Contract are subject to the rules and regulations of the Illinois Department of Human Rights and the statutory requirements thereof, including the requirement that every party to a public contract shall have adopted written sexual harassment policies (PA 87-1257).

1. Add Subparagraph 13.1.4

- Q. It shall be mandatory that the Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin or ancestry, age, marital status, physical or mental disabilities.

1. Add Subparagraph 13.1.5

- R. Illinois Department of Labor requirements. It shall be mandatory upon the Contractor to whom the Contract is awarded and upon any Subcontractors thereof to pay all laborers, workmen, and mechanics employed by them not less than the prevailing wages in the locality for each craft or type of workman or mechanic needed to perform such work and the general prevailing rate for legal holidays and overtime work as ascertained by the Illinois Department of Labor and pursuant to Illinois law and statutes in such case made and provided.

1. Add Subparagraph 13.1.6

- S. The Contractor and Subcontractors shall comply with the Illinois Prevailing Wage Act and shall include in Bids the cost for the current prevailing wage. A copy of the current Illinois Department of Labor Prevailing Wages for applicable County is included at the end of Section 00040 of these Specifications. As changes are made in these prevailing wages, the Contractor and Subcontractors performing work on the project will be

responsible for conforming to the changes and shall have the responsibility for determining when changes area made. No additional costs are to be incurred by the Owner as a result of changes in the prevailing wage. All record keeping requirements are the obligation of the Contractor and Subcontractors.

1. Add Subparagraph 13.1.7

T. To the extent that there are any violations of this Act and any demands are made upon the Owner or Architect by the Illinois Department of Labor or by any employee of the Contractor or Subcontractor performing work on the project, the Contractor or the particular Subcontractor and Contractor shall be responsible for indemnifying and holding both the Owner and Architect free and harmless from all costs incurred, directly or indirectly, by the Owner or Architect in responding to and complying with demands made by the Department of Labor, or an aggrieved employee and such amounts may be withheld from the payments to be made on the project. It is the intention that the Owner and the Architect shall suffer no time loss or other additional expenses in complying with any inquire made with regard to this Act.

1. To Paragraph 13.3.1 add Subparagraphs 13.3.1.1 and 13.3.1.2 as follows:

2. Notice served by facsimile (fax) to facsimile number used during bidding and construction shall be official written notice.

a. 13.3.1.2: The Bidder shall notify the Architect and/or the Owner at time of securing of bid documents of: Contractor's contact person's address, telephone number, and fax number and promptly notify the Architect and/or Owner of any change during the execution of the work and one (1) year thereafter.

U. TO ARTICLE 14/TERMINATION OF THE CONTRACT

1. To 14.2.1 Subparagraph, add Subparagraph 14.2.1.5:

2. If the Contractor shall institute proceedings or consent to proceedings requesting relief or arrangement under the Federal Bankruptcy Act or any similar or applicable federal or state law, or if a petition under any federal or state bankruptcy or insolvency law is filed against the Contractor and such petition is not dismissed within sixty (60) days from the date of said filing, or if the Contractor admits in writing his inability to pay his debts generally as they become due, or if he makes a general assignment for the benefit of his creditors, or if a receiver, liquidator, trustee or assignee is appointed on account of his bankruptcy or insolvency, or if a receiver of all or any substantial portion of the Contractor's properties is appointed, or if the Contractor abandons the Work, or if he fails, except in cases for which extension of time is provided, to prosecute promptly and diligently the Work, or to supply enough properly skilled workmen or proper, materials for the Work, or if he

submits and Application for Payment sworn statement, waiver of lien, affidavit or document of any nature whatsoever which is intentionally falsified, or if he fails to make prompt payment to Subcontractors or for materials or labor or otherwise breaches his obligations under any subcontract with a Subcontractor, or if a mechanic's or material man's lien or notice of lien is filed against any part of the Work or the site of the Project and not promptly bonded or insured over by the Contractor in a manner satisfactory to the Owner or if the Contractor disregards any laws, statutes, ordinances, rules, regulations or orders of any governmental body or public or quasi-public authority having jurisdiction of the Work, or the site of the Project, or if he otherwise violates any provision of the Contract Documents, then the Owner, without prejudice to any right or remedy available to the Owner under the Contract Documents or at law or in equity, may after giving the Contractor and the surety under the Performance Bond and under the Labor and Material Payment Bond described in Paragraph 11.4, seven (7) days' written notice, terminate the employment of the Contractor. If requested by the Owner, the Contractor shall remove any part or all of his equipment, machinery and supplies from the site of the Project within seven (7) days from the date of such request, and in the event of the Contractor's failure to do so, the Owner shall have the right to remove or store such equipment, machinery and supplies at the Contractor's expense. In case of such termination, the Contractor shall not be entitled to receive any further payment for Work performed by the contractor through the date of termination. The Owner's right to terminate the Owner-Contractor Agreement pursuant to this Subparagraph 14.2.1.5 shall be in addition to and not in limitation of any rights or remedies existing hereunder or pursuant hereto or at law or in equity.

END 00 0700



DIVISION 0 – BIDDING & CONTRACT REQUIREMENTS  
Section 00 1116 – Invitation for Bids

Sealed proposals will be received by: Lincoln Elementary School District No. 27

For Project: Central Elementary School Borefield  
A/E Project No. 25821422A

Proposals to be submitted prior to **2:00 p.m., prevailing time, Thursday, November 17, 2022.**  
Public opening following due time.

Submit to: District 27 Office  
304 Eighth Street  
Lincoln, IL 62656

Pre-Bid Meeting: **2:00 p.m., Wednesday, November 9, 2022 at Central Elementary School –  
meet at north entrance to the Gymnasium (park on 8<sup>th</sup> St.)**

Proposals shall be delivered to the above Lincoln Elementary School District No. 27 Office prior to the time of opening. Proposals shall be clearly identified on the outside of the envelope as "Sealed Proposal" and list the project title as shown above. Immediately following the stated time, proposals will be opened and publicly read.

Terms of the proposal:

- Bid Security is required, 5% Bid Bond payable to Lincoln Elementary School District No. 27
- Owner protective bonds are required in the amount of 100% of the Contract value.
- Illinois Prevailing Wage Act P.A. 86-799 and Illinois Certified payroll reporting P.A. 094-0515 apply to this contract.
- Revised Statutes of the Illinois Criminal Code, apply, including the School code.
- E-mail proposals received prior to bid due date and time will be read at bid opening. See specification section 002113 Paragraph 2.6.A.5.

The Board of Education has the right to reject or accept any or all parts of all bids submitted and to waive any irregularities in the bidding and to accept the lowest responsible bid.

Plans and specifications prepared by the Architect, Middleton Associates Incorporated, 1702 W. College Avenue, Suite E, Normal, Illinois 61761-2793, Phone 309/452-1271, FAX 309/454-8049. Plans and specifications are available after October 25, 2022 at [www.middletonassociates.net](http://www.middletonassociates.net). Sets may be purchased directly from The Copy Shop in Bloomington, phone 309/827-5466.

END 00 1116





DIVISION 0 – BIDDING & CONTRACT REQUIREMENTS

Section 00 2113 – Instructions for Bidders

1. GENERAL

1.1. LOCATION OF THE PROJECT:

- A. Lincoln Central Elementary School, 100 7<sup>th</sup> Street, Lincoln, IL 62656.

1.2. OBTAINING DRAWINGS & SPECIFICATIONS

- A. Drawings and Specifications may be obtained from the Architect, Middleton Associates Incorporated, 1702 W. College Ave., Normal, IL 61761, Tel. 309/452-1271, E-Mail: [www.middleton@middletonassociates.net](mailto:www.middleton@middletonassociates.net).
- B. All sets of Bid Documents, except those held by the low bidder, are to be returned to the Architect/Engineer in good usable condition within ten (10) days following bid opening. Drawings and Specifications may be examined at the office of the Owner or Architect/Engineer without charge.

1.3. INTERPRETATION OF DOCUMENTS (See AIA General Conditions Section 00 0050 and Supplementary General Conditions Section 00 0800).

- A. Anyone having a doubt concerning the meaning of the Contract Documents, or any other questions, may submit a request for interpretation from the Architect/Engineer. All pre-bid interpretation shall be requested FIVE (5) DAYS prior to the bid due date. Response, other than minor clarification, will be in the form of Addenda and will be mailed to each Bidder.
- B. It shall be the Architect/Engineer's responsibility to clarify conflicts in requirements as may be reported to the Architect/Engineer. After bid due date, the Architect/Engineer shall determine the course to be followed for said clarification with no cost change to the Owner.
- C. All work in these documents shall be included in the bid, including any and all trade subcontractors of the contractor's determination and designation with no cost increase to the Owner.

1.4. ERRORS AND OMISSIONS

- A. Any known conflict between requirements of various portions of the Contract Documents shall be reported to the Architect/Engineer prior bid due date and shall fall under the authority of Interpretation of Documents.
- B. The Drawings are descriptive and directive in concept and are not intended to exhaust all detail situations required to complete the work, however, the procedures detailed shall establish the general character of solutions needed for typical, non-typical, and peculiar situations at the job site.
- C. It is the intent of the documents that specified work and equipment be installed in a proper and finished manner, fully operational. All necessary

controls, accessories, brackets, fasteners, sealants, etc., to complete the installation shall be provided unless specifically specified otherwise. Each Contractor and Subcontractor shall coordinate and cooperate with the other Contractors to provide proper installation. Verify dimensions, services, and scheduling of the work.

1.5. ALTERNATES. The Bidder shall submit a proposal for every alternate listed in the Contract Documents.

A. Failure to bid an Alternate may disqualify the Bid.

1.6. ADDENDA

A. Addenda may be issued before the bid opening date to clarify or modify the Contract Documents. List all Addenda on the Bid Form.

B. Said addenda shall become a part of the Contract documents and supersede any conflicting specifications or clarify intent of same.

1.7. BID SECURITY

A. The Bidder shall furnish, along with his proposal, a bid bond or certified check in the amount of five percent (5%) of the bid proposal including all additive alternates. The above instrument shall be made payable to the Owner and shall serve as a guarantee that the Contractor will enter into the Contract with the Owner as per his bid, should the job be awarded to him.

B. Should said Contractor refuse or fail to enter into a Contract with Owner per his bid for the work included in these Contract Documents within forty-five (45) days following bid due date, said bid guarantee shall become collectible, in full, by the Owner in payment for damages. See 002113/1.12 "RETURN OF BID SECURITY."

1.8. WITHDRAWAL OF BIDS. Bids may be withdrawn prior to the bid due date and time, after which time no bids may be withdrawn for a period of forty-five (45) days unless a Bidder has been released by the Owner's action.

1.9. PROPOSAL (BID) FORMS

A. Each bidder shall submit his proposal, on proposal form provided.

1. Submitted bid forms may be copied
2. All applicable blank spaces on forms shall be filled out fully.
3. Numbers shall be stated in writing where noted and in figures.
4. Signatures shall be live in longhand by person authorized to sign bids as Owner or corporate officer or shall include Power of Attorney to sign the bid.
5. **Proposals may be emailed to Kent Froebe ([kfroebe@Lincoln27.net](mailto:kfroebe@Lincoln27.net)) PRIOR TO THE BID DUE DATE AND TIME will be read at the Bid Opening. Bids sent by email prior to Bid Opening will be retained unopened on the respective**

**computer until 15 minutes before Bid due time.**

- B. Completed forms shall be without delineation, clarification, alteration or modification.
  - 1. Correction of contractor inserted is acceptable if clearly identified and initialed by the signatory to the bid. Irregularities of such corrections may be grounds to disqualify the bid.
  - 2. Offers to clarify or modify may be made on voluntary alternates and substitution forms if provided in the bid package, but in no case should the base bid or requested alternate bids offered be based on anything but the document requirements.
- C. Voluntary alternates or offers for substitutions may be attached on forms provided or on the bidder's letterhead. These will be considered at the Owners option. Additional information may be requested prior to consideration.
  - 1. Voluntary alternates or substitutions cannot and will not affect or change the Base Bid Proposal. Voluntary alternates and/or substitutions will be implemented after the low bid proposal is accepted if the voluntary alternate and/or substitutions is beneficial to the owner.

1.10. SIGNING OF BIDS

- A. All proposals shall be signed (live signatures, no copies of signatures accepted) by persons fully and duly authorized to sign bids.
- B. Any bid signed by a person other than as set forth above shall enclose with his bid proposal evidence of Power of Attorney.

1.11. AWARD OF REJECTION OF BIDS

- A. Although it is the intention of the Owner to accept the lowest qualified bid the Owner specifically reserves the right to waive all formalities and/or informalities, to reject any and all bids and/or accept the bid that, in the Owner's judgment, will be in the Owner's best interest.
- B. Contractor will note all alternates that are applicable, or as may become applicable by addendum, must be bid.

1.12. RETURN OF BID SECURITY

- A. After bids have been read along with alternates as applicable and a successful Bidder has been approved by Owner, a Letter of Intent will be sent to the successful bidder and bid security may be returned to the unsuccessful bidders except the deposits of the two (2) most advantageous bidders will be retained until Owner/Contractor agreements have been consummated.

- B. Following the signing of the Contracts and receipt of bonds, remaining bid security will be returned. If the successful Bidder fails to accept the Contract and submit acceptable bonds, same will be grounds for forfeiture of his bid security.
- 1.13. OWNER'S PROTECTIVE BONDS: A 100% of value Labor and Material Payment Bond and a Performance Bond including all alternates accepted is required in the Contract and shall be included in the Contractor's Proposal.
- A. Periodic Change Orders that may occur to the Contract shall be included in each respective bond.
  - B. Bonds shall cover the entire Contract without regard to the Contractor's assignment of work to Subcontractors or Suppliers.
- 1.14. COMMENCEMENT OF CONSTRUCTION
- A. Contractor shall not commence work until the agreement has been executed by both the Owner and the Contractor, and Insurance Certificate and Owner's Protective Bonds have been accepted by the Owner and the Architect. However, work shall commence promptly upon the Owner and Architect's acceptance of Insurance certification and applicable bonds. Commencement, progress and work completion shall be coordinated with the Owner's programmed use of the buildings.
    - 1. **Start date – As soon as insurance/bonds are submitted and piping material is delivered to site.**
  - B. Progress at job site shall be continuous once work has commenced.
- 1.15. EXAMINATION OF SITE AND CONTRACT DOCUMENTS
- A. Bidder shall carefully examine bidding documents and inspect the sites to obtain first-hand knowledge of existing conditions.
    - 1. **Pre-Bid Meeting is scheduled for 2:00 p.m., Wednesday, November 9, 2022, at Central Elementary School. Meet at the north entrance to the Gymnasium.**
  - B. Each Bidder, by submitting his bid, represents that he has so examined the bidding documents and inspected the site and premises, that he understands the provisions of the bidding documents, and that he has familiarized himself with the local conditions under which the work is to be performed. Bidders will not be given extra payment or contract time for conditions, which could have been determined by such examination.
- 1.16. BIDDER QUALIFICATIONS
- A. Competency and responsibility of the Bidder, and of their proposed subcontractors, will be considered in making awards. Owner may require of the Bidder, prior to awarding the Contract, a detailed statement regarding

the business, technical organization and plant facilities for the work that is contemplated. Information pertaining to the financial resources, experience of personnel and previously completed construction projects may also be required. The Owner may use this information in considering a proposal.

- B. The Owner may reject a bidder, if an updated financial statement prepared by a CPA not in the Contractor's payroll (bearing the CPA's live signature) shows the net worth of a Contractor to be less than 25% of the Contractor's bid including elected alternates for this work. Said statement, if required by the Owner, shall be furnished and paid for by the Bidder.

#### 1.17. LIST OF SUBCONTRACTORS

- A. Within seven (7) business days after notification of intent to award, the Contractor shall submit to the Architect/ Engineer, a list of the names of the subcontractors and suppliers and other persons or organization as outlined in Paragraph 5.2, of AIA General Conditions of the Contract for Construction, subject to the approval of the Owner.
- B. Failure of any Bidder to furnish required lists within seven (7) business days after receipt of notification will be sufficient cause to disqualify his bid and Owner shall have every right to claim damages due under 00040/1.12.B. "RETURN OF BID SECURITY."
- C. After the Contractor's list of subcontractors and material suppliers has been accepted, no further changes shall be made without specific written authority and approval of the Architect/Engineer.

#### 1.18. SCHEDULING

- A. Schedule
  - 1. Submittals shall be prepared immediately following award. **Award is anticipated to be on December 14, 2022.**
  - 2. Upon receipt of review submittals, schedule material and equipment for delivery.
    - a. Materials and equipment may be stored on site in trailers or in suitable insured warehouse.
    - b. Materials and equipment delivered on site or suitably stored with proof of insurance may be submitted for payment, subject to inspection.
    - c. The Owner requests that equipment and materials to do the work be on site or readily available for delivery prior to the start of operations.
  - 3. **Well Field & Loop Piping: Drilling may begin after insurance and bonds are submitted, and Contractor has piping shop drawings approved by Engineer.**

- a. Provide adequate barrier around drilling unit. Consult Architect.
  - b. Well drilling, loop piping, flushing must be complete by May 16, 2023. Grading and seeding must be completed by May 29, 2023.
- C. Manning the work
  - 1. Contractors shall work Saturdays if work falls one (1) week behind schedule and shall continue to work Saturdays and 10-hour days, full crews or with additional crews until lost time is recovered.
  - 2. Loss of schedule identified prior to July 18, 2005 and thereafter shall automatically require additional crews be added to complete work for start of school.
- D. Sequence of work
  - 1. Well drilling needs to begin after Contract award, and continue non-stop until completed.
  - 2. Contractor needs to employ a demolition crew and a new piping crew as the two (2) areas of work will not generally interfere with one another.
  - 3. Work on the classrooms must be done first. This includes removal of existing heating equipment, removal / installation of FA louvers, and trimming of new geothermal unit to adjacent surfaces.
  - 4. Piping runs and equipment for multi-purpose rooms, etc, can be done simultaneously or after classroom work.

#### 1.19. PROGRESS PAYMENTS

- A. **Payments for work done will be submitted to the Board of Education on the Thursday before the second Wednesday.**
- B. Pay Requests must be approved by the Architect / Engineer and the District Superintendent, Kent Froebe. Submit all Pay Requests to the Architect.
  - 1. Pay Requests addressed to Lincoln Elementary School District No. 27 and submitted to Architect four (4) days before the end of month will be paid approximately within twenty (20) days following submittal, assuming no changes are requested.
- C. In accordance with the terms of the Contract periodic partial progress payments may be made monthly to the Contractor for: 90% of the value of the labor, materials, and/or equipment incorporated in the construction. Payment will be for installed materials only.
  - 1. See Paragraph A above.
- D. At the commencement of work the Contractor shall submit a complete master cost breakdown. Said cost breakdown shall be used by the Owner only for the purpose of checking and certifying requests for payment.

- E. Pay requests shall indicate amounts completed of all items listed from the master breakdown.
  - F. Submit notarized Contractor's affidavits with each pay request showing that total owed on Contract by Owner (after subject request has been paid to Contractor) is more than the amount to become due the Contractor for material, subcontractors and labor.
    - 1. 10% of each request will be retained by Owner until work has been satisfactorily completed. After 75% of the Contract has been satisfactorily completed retainage reduction will be considered upon application by Contractor.
  - G. All the applications for payment shall be made in three (3) copies with all copies bearing live seals and signatures, notarized and complete and accurately filled in.
    - 1. See AIA General Conditions, Paragraph 9.3.1, 9.3.2 and 9.3.3.
    - 2. Applications for payment shall be submitted to Architect/Engineer on AIA G-702A Forms.
    - 3. EACH SUCCESSIVE PAY REQUEST SHALL BE ACCOMPANIED BY PARTIAL WAIVERS OF LIEN, DOLLAR FOR DOLLAR MATCHING THE PRECEDING PAY REQUEST.
    - 4. Attach one (1) copy of Contractor's Payroll with Pay Request in accord with Dept. of Labor requirements. Include Payroll for the major Subcontractors, and upon request any minor or intermittent on-site Subcontractor.
- 1.20. FINAL PAYMENT: The final application for payment shall not be made until all work and deficiency (punch list) items have been satisfactorily completed and approved by the Architect/Engineer for documents compliance.
- 1.21. MATERIALS SPECIFIED AND QUALITY OF WORK
- A. Materials shall be as specified or approved equal.
  - B. "Approved equal" and "or equal" shall mean that the Contractor shall be required to receive the Owner's approval (via the Architect) on any substitute materials seven (7) days prior to the bid due date.
  - C. Requests for substitution approval shall be submitted to the Architect/Engineer.
    - 1. Prior to considering substitutions, the Owner (via the Architect/Engineer) may require submission of samples, descriptive, technical and catalog data and lab reports of tests.
    - 2. Said submittals shall be presented to Architect/ Engineer.
- 1.22. SEXUAL HARASSMENT POLICY

- A. The Owner will not tolerate sexual harassment in any form. Sexual harassment is defined, for the purpose of this policy, as "unsolicited, deliberate or repeated sexually derogatory statements, gestures or physical contact that cause discomfort or humiliation. Sexual harassment may involve pressure from a person of either sex against a person of the opposite sex or same sex . . ."
  - 1. Should evidence that a Contractor, or a Contractor's employee, has harassed a student or other individuals, the harasser shall be removed from the job site.

#### 1.23. EMPLOYEE-STUDENT RELATIONSHIPS

- A. Except in an emergency situation involving safety, intermingling of the Contractors' employees and the school faculty, staff and students is be avoided. Contractor or Subcontractor personnel violating this requirement shall be removed from employment at this site. The Contractor Superintendent shall monitor this to the best of his ability. Contractor employees experiencing problems with students or faculty shall report same to their Project Superintendent, who shall promptly report the problem to an authorized representative of the Owner and the Architect/Engineer.
  - 1. Avoid profanity and inappropriate subject matter in conversation as students and staff may be within audible range and walls or ceiling spaces may allow sound transmission.
  - 2. Verbal or physical action interpreted as sexual in nature or as sexual harassment will be grounds for removal of the employee. Further legal action remains the option of the persons affected.
  - 3. In all aspects of this provision, the Contractor's employees as adults have the greater responsibility and should not respond to inappropriate student behavior.
- B. Authorized agents of the Owner include the District Superintendent, the District Financial Services Director and the Architect/Engineer. The School Principal is authorized to discuss concerns regarding operations on site, but is not authorized to order changes in the work.
- C. Smoking shall not be permitted in the existing school or on school property - State law.

#### 1.24. CRIMINAL BACKGROUND INVESTIGATION AND SEX OFFENDERS ON SCHOOL GROUNDS

- A. Illinois School Code Provision 5/10-21.9 is applicable to this Contract.
- B. The Contractor shall not knowingly employ on school grounds any person who has not signed or will not sign an authorization for a criminal background check upon request.
  - 1. Forms will be provided by the Owner or Regional Office of



- Education.
2. Forms will be submitted upon request to the Owner.
  3. Cost of investigation will be borne by the Owner.
  4. The cost of investigation for Contractor's own information and use is to be borne by the Contractor and will not be performed by the Owner or Regional Office of Education.
- C. Any employee refusing to sign authorization for criminal background check shall not be employed on site.
- D. ILCS 5/10-21.9 c) The Contractor shall not knowingly employ a person on site who has been convicted for committing or attempting to commit any one or more of the following offenses: (i) those defined in Sections 11-6, 11-9, 11-14, 11-15, 11-15.1, 11-16, 11-17, 11-18, 11-19, 11-19.1, 11-19.2, 11-20, 11-20.1, 11-21, 12-13, 12-14, 12.14.1, 12-15 and 12-16 of the "Criminal Code of 1961" [720 ILCS 5/11-6, 720 ILCS 5/11-9, 720 ILCS 5/11-14, 720 ILCS 5/11-15, 720 ILCS 5/11-15.1, 720 ILCS 5/11-16, 720 ILCS 5/11-17, 720 ILCS 5/18, 720 ILCS 5/11-19, 720 ILCS 5/11-19.1, 720 ILCS 5/11-19.2, 720 ILCS 5/11-20, 720 ILCS 5/11-20.1, 720 ILCS 5/11-21, 720 ILCS 5/12-13, 720 ILCS 5/12-14, 720 ILCS 5/12-14.1, 720 ILCS 5/12-15 AND 720 ILCS 5/12-16]; (ii) those defined in the "Cannabis Control Act" [720 ILCS 550/1 et. seq.] except those defined in Sections 4(a), 4(b) and 5(a) of that Act [720 ILCS 550/4 and 720 ILCS 550/5]; (iii) those defined in the "Illinois Controlled Substances Act" [720 ILCS 570/100 et. seq.]; and (iv) any offense committed or attempted in any other state or against the laws of the United States, which if committed or attempted in this State, would have been punishable as one or more of the foregoing offenses.
- E. The Contractor and his Subcontractors shall not knowingly employ a child sex offender for work in any capacity on school grounds or within 500 feet of school grounds.
1. The Contractor and his Subcontractors shall make reasonable effort to enforce this requirement in accordance with PA 90-0234 (HB 157).
  2. Violation of this requirement is a Class 4 felony.
- F. The Contractor and his Subcontractors shall maintain an employee log of employees working on school grounds and this list shall be available to the Owner, Regional Superintendent of Schools, and Architect or other designated representative.
- G. The Contractor shall assume the responsibility to notify all on site employees or potential employees of this provision, and of the consequences of this provision.
- 1.25. PROJECT ACCESS: The Contractor shall be aware that the City of Lincoln has authority over various approach roads for site access and the Contractor is responsible to observe load limits and arrange for any exceptions to load restrictions that may be required for this project. Arrangements for road cleanup, barricades and surface patches and repairs shall comply with city requirements.

- 1.26. EQUAL OPPORTUNITY EMPLOYMENT: The following clause is applicable unless this Contract is exempt under the rules and regulations of the Secretary of Labor of the State of Illinois.
- A. During the Performance of this Contract, the Contractor agrees as follows:
1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age or national origin. The Contractor will take affirmative action to ensure that all applicants are considered and that employees are treated, during employment, without regard to their race, color, religion, sex, age or national origin."
- 1.27. PREVAILING WAGE: The Contractor shall pay and shall require his subcontractors to pay the prevailing hourly wages for the type of work performed in the job locality as is determined by the Illinois Department of Labor pursuant to the Illinois Prevailing Wage (820 ILCS 130/1 et. seq.) included at the end of this section. Provide payroll data per Dept. of Labor and HB 188.
- 1.28. SALES TAX
- A. Materials supplied to a public school district are exempt from state sales taxes.
- B. The Contractor shall determine the extent of exemption and shall comply with the regulations established by the Illinois Department of Revenue and allow for this in his proposal.
- 1.29. BUILDING PERMITS
- A. This project will require the Contractor to obtain a permit from the Logan County Health Department Environment Division, and notification of IEPA.
1. This Contractor shall fully cooperate with the local authorities and shall apply for and obtain all required permits and comply with local regulations and requirements. The contact information for the Logan County Health Department is 1-217-735-2317 or [info@lcdph.org](mailto:info@lcdph.org).
  2. Provide necessary permit related information to local city authorities.
  3. Fees for permits will be paid by **Lincoln School District No. 27**. Notify Architect when permit application will be sought so Owner has a chance to negotiate.

## 2. CONTRACT CHECKLIST

### 2.1. Proposal:

- A. Proposal Form properly filled out and signed, (live signatures)
- B. Bid Bond/Bid Security for 5% of base bid amount (live signatures)
- C. Return of documents within ten (10) working days after bid due date

### 2.2. Letter of Intent:

- A. Proposal & Contract Form prepared by the Architect
- B. Labor and Material Payment Bond, two copies (15 days after Award)
- C. Performance Bond, two copies (15 days after Award)
- D. Insurance Certificates, liability and hold harmless, 2 copies (7 days after Award)
- E. Master Cost Breakdown (7 days after Award)
- F. Bar Graph Progress Schedule, copies as required (7 days after Award)
- G. Supplier List, 2 copies (7 days after Award)
- H. Subcontractors List, 2 copies (7 days after Award)

### 2.3. Periodic Application for Payment:

- A. Submit per the monthly scheduling, to be determined
- B. Application and Certificate for Payment, 3 copies (AIA G702A)
- C. Contractor's Affidavit, 2 copies (AIA G706)
- D. Breakdown Estimate, 3 copies
- E. Partial Waivers of Lien, 2 copies
- F. Partial Waiver of Lien from Subcontractors/Suppliers, 2 copies
- G. Updated Progress Schedule, resubmit with each pay request
- H. Contractor's payroll information per HB 188.
- I. Insurance Certificate covering materials stored off site, 2 copies

### 2.4. Final Application for Payment:

- A. Letter to Architect that deficiency work is complete
- B. Final Lien Waiver from the Contractor, 2 copies
- C. Final Lien Waivers from Subcontractors/Suppliers, 2 copies
- D. Final Affidavit showing \$0.00 due to Subcontractors and \$0.00 due to Suppliers, 2 copies
- E. Final Payment Approval Letter from Bonding Co., 2 copies
- F. Certification of all guarantees, 2 copies
- G. Final Application & Certificate for Payment, 3 copies (AIA G702A)
- H. Additional certifications as may be requested, 2 copies
- I. Operating manuals & instructions, 3 copies-indexed and bound

\*THE OWNER AND THE ARCHITECT/ENGINEER MUST BE NAMED ADDED INSURED AND MUST BE SO LISTED ON THE CERTIFICATE OF INSURANCE.

END 00 2113



DIVISION 1 – GENERAL REQUIREMENTS  
Section 01 0051 - Grades, Lines & Levels

1. GENERAL

1.1. WORK INCLUDES

- A. The Contractor will lay out the work within and on the site.
- B. The Contractor will establish all working lines, levels, elevations and measurements.
- C. Each Contractor shall lay out his own work, including lines, levels, grades, slopes and shall coordinate with other trades.

1.2. RELATED WORK

- A. Specified elsewhere
  - 1. DIVISION 0 - BIDDING & CONTRACT REQUIREMENTS
  - 2. DIVISION 1 - GENERAL REQUIREMENTS
  - 3. DIVISION 23 – HEATING, VENTILATING, AND  
AIR-CONDITIONING (HVAC)
  - 4. DIVISION 31 - EARTHWORK

1.3. QUALITY ASSURANCE

- A. Layout Personnel
  - 1. Layout personnel shall be experienced in layout work of similar complexity.
  - 2. A layout person shall be at the job site during all major component erection, installation processes to verify adherence to lines and levels at all times.

1.4. CONTRACTOR RESPONSIBILITIES

- A. Each Contractor shall
  - 1. Lay out construction work for his trade area.
  - 2. Establish all working lines, levels, elevations and measurements for the work.
  - 3. Employ qualified personnel to perform the work.
- B. Each Contractor shall provide qualified personnel to perform layout work for specific system and equipment installations, as necessary.
- C. Each Contractor shall contact all utilities to spot locate all applicable utilities and verify the correctness of the locations indicated on the Drawings.
  - 1. The toll-free telephone number for the Joint Utilities Location

- Information for Excavators (J.U.L.I.E.) is 800/892-0123.
2. Call other utilities, if information is not provided by this source, i.e., water department, street department, telecable, etc.

1.5. ARCHITECT/ENGINEER RESPONSIBILITIES

- A. The Architect/Engineer shall furnish
  1. General data and instruction.
    - a. Improvements as applicable.
  2. Information as to available service and utility lines, both public and private.
    - a. Branch distribution on site lines are not all recorded and therefore the location and depth of some are not known.
  3. General work location from fixed points not affected by the Construction.
  4. Benchmark location and elevation where applicable.

END 01 0051

DIVISION 1 – GENERAL REQUIREMENTS  
Section 01 0100 – Project Summary

DIVISION 0 and DIVISION 1 are hereby made a part of each division and section of the project specifications as related items specified elsewhere.

1. GENERAL

1.1. REQUIREMENTS INCLUDE

- A. Base Bid – Lincoln Central Elementary School, Vertical Heat Exchanger & Loop Piping
  - 1. Bid Package
    - a. Bore field Contractor furnish: Site wells, site collection & distribution piping, site valves, cleaning & flushing of completed system, site restoration, purge pit and piping to Purge Pit.
    - b. Purge Pit furnished and installed by this Contractor.
    - c. Glycol installed by HVAC Contractor after interior work completed.
- B. The site of this school was the site of an earlier Elementary School building, which was razed in 2004 after the present building was completed in 2003. See Drawing Sheet ME.0. The extent of below grade demolition is not documented by drawings. If problems arise, the \$12,000 allowance will be applied.
- C. The Base Bid Bore Field is designed to be a complete heat exchanger for the existing building. If valve engineering is pursued after bidding, one of the existing two newer condensing boilers may be used to provide backup water heating for a reduction in the total number of bored wells and piping for same.

1.2. PRODUCTS FURNISHED BY OTHERS: All products, components, spaces, and equipment furnished by the Owner are currently in place and are to be relocated, disconnected and reconnected as set forth in these Documents (Specifications and Drawings) and/or required to accomplish these Documents. All added components shall be new and furnished by the Contractor.

1.3. WORK SEQUENCE

- A. The Owner will occupy the adjacent school facilities at varied occupation levels (full occupation will continue during school year) while the bore field is being constructed. During this construction period, some outside recreation area for students will be required. This Contractor will need to separate the bore field into two work areas so that part of the bore field is always available for school use. Weather conditions may limit school use of site where contractor use of site is possible.

#### 1.4. CONTRACTOR USE OF PREMISES

- A. Confine operations at site to areas permitted by:
  - 1. Pre-determined space for outdoor activities
- B. Do not unreasonably encumber site with materials or equipment. Do not block the Owner's pedestrian traffic patterns except as prior arranged with the Owner's approval.
- C. Assume full responsibility for protection and safekeeping of products stored on premises.
- D. Move and relocate as necessary all stored products or equipment that interferes with operations of the Owner.
- E. Obtain and pay for use of additional off site storage or work area needed for operations.
- F. Limited use of site for work and storage
  - 1. All vehicular on site activity shall have been prearranged and approved by the Owner.
- G. Cooperate with the Owner's use of the premises and other Contractors providing work on site under separate Contracts with the Owner.

#### 1.5. CONTINUOUS OCCUPANCY BY OWNER

- A. Owner will occupy areas for general site maintenance during construction, such as snow removal and mowing.
- B. Contractors shall provide
  - 1. Access by Owner's personnel and pupils when applicable.
  - 2. Adequate security of the premises in which work is in progress.
- C. Upon (after) the work being completed and accepted by Owner, the Owner shall provide:
  - 1. Routine site maintenance
  - 2. Security
  - 3. General custodial maintenance

#### 1.6. COORDINATION AND COOPERATION

- A. It is the intent and purpose of the Owner to cooperate with the Contractor to the extent feasible under existing applicable laws and regulations and the Owner and the Contractor alike shall not construe this portion of the documents, that is, Section Paragraph 1.6.A, and B to the disadvantage of the other.



- B. Should the bidding Contractor not understand the foregoing, he shall notify the Architect/Engineer for clarification prior to bidding in accordance with Section 00040, Paragraph 1.3., 1.4., and 1.15.
- C. This Contractor shall cooperate with other Contractors and their Subcontractors working on site duly employed by the Owner to perform service related and unrelated to work outlined by these Documents.

#### 1.7. FITTING AND FINISHING THE WORK

- A. Contractor shall verify all field conditions, dimensions, elevations that relate to the work and properly accommodate these in the work as appropriate to the intended result within the Contract amount.
  - 1. In place construction, obstacles and site conditions and elements which can be seen and reasonably inferred.
  - 2. New construction, obstacles and conditions that can be seen or are to occur in the completion of the work.
  - 3. It is assumed that the majority of bore field work will be completed before the interior HVAC work will begin.
- B. Contractor and his Subcontractors shall coordinate, accommodate, adjust and fit as appropriate all work to achieve the intended finished intent to normal commercial industry standards.
  - 1. Provide finishing elements, trim, sealants, scribes, receivers and accessories necessary and normal to the installations proposed and as recommended by manufacturers for proper use of products.
  - 2. All construction (all trades) to be weather and infiltration tight. Include appropriate weather seals, infiltration barriers, sealants, non-corrosive flashings and sealants to properly complete the intent of the project.

END 01 0100



DIVISION 1 - GENERAL REQUIREMENTS  
Section 01 0310 - Construction Schedules

1. GENERAL

1.1. DESCRIPTION

A. Work Includes:

1. Submittals of project construction schedules for work within seven (7) business days after Notice of Award.
2. Revision of schedules monthly. Said schedule shall accompany each Pay Request.

B. Content of Schedules:

1. Indicate complete sequence of construction by activity.
  - a. Shop drawings, product data and samples: In accordance with Section 01 0340.
  - b. Decision dates for the selection of finishes.
  - c. Product procurement date, fabrication of each element of the construction work.
  - d. Dates for beginning and completion of each element of the construction work.
  - e. Work to be substantially complete May 16, 2023.
2. Indicate cumulative percentage of work completed as of the day of Contractor's submittal of monthly pay request.
3. Furnish separate schedule, showing submittals, review items, procurement schedules and delivery dates, as required.
4. Define critical portions of entire schedule.

C. Updating monthly by indicating:

1. Progress of each activity since previous submission.
2. Projected completion dates for all activities.
3. Activities modified since previous submission.

END 01 0310



1. GENERAL

1.1. DESCRIPTION

- A. Related work specified elsewhere:
  - 1. 01 0100 - Summary of Work
- B. Contractor shall provide:
  - 1. Submittals of Master Cost Breakdown to Architect/Engineer at least fifteen days prior to submitting first Application and Certificate for Payment.
  - 2. Data to substantiate Master Cost Breakdown values if requested by Architect/Engineer.
  - 3. Submittal of quantities of designated materials where applicable.
  - 4. Listing of quantities for materials specified under unit prices.
  - 5. The Master Cost Breakdown shall serve as the only basis for the applications for payment.
- C. The Master Cost Breakdown shall serve as the only basis for the applications for payment.
- D. NOTE: PAYMENT FOR MATERIALS STORED ON OR OFF SITE WILL BE LIMITED TO THOSE MATERIALS LISTED IN THE MASTER COST BREAKDOWN.
  - 1. If Contractor requests payment for materials stored off the site, such materials must be insured and the Contractor must submit a Certificate of Insurance (identifying the location of the stored material and the stated value thereof) with the pay request.
  - 2. Said certificate shall insure the Owner's investment and identify the location of stored materials.

1.2. FORMAT OF SUBMITTALS

- A. Submit typewritten Master Cost Breakdown. (Contractor may use AIA Schedule of Value Form, i.e., continuation page from AIA Application and Certificate for Payment Form G702).
- B. Use the Table of Contents in these Specifications for the order of listing costs of all work. Verify all costs of the work.
- C. Identify each line item with the same number and title listed in the Table of Contents of these Specifications.

### 1.3. PREPARATION

- A. Itemize separate line item cost for each of the following cost items assignable to the entire project:
  - 1. Overhead and Profit.
  - 2. Bonds.
  - 3. Insurance.
  - 4. General Conditions and Operations.
- B. Itemize separate line item cost for work required by each section of specifications. Identify work of:
  - 1. Contractor's own labor forces.
  - 2. Each Subcontractor.
  - 3. Each major Supplier of products or equipment.
- C. Break down installed cost into:
  - 1. Delivered cost of product.
  - 2. Labor cost, excluding overhead and profit.
- D. Round off figures to the nearest ten dollars.
- E. Make sum of total costs of all items listed in the Schedule of Values equal to total Contract sum.

### 1.4. REVIEW AND RESUBMITTAL

- A. After review by the Architect/Engineer, revise and resubmit the Master Cost Breakdown, should same be required.
- B. Resubmit revised cost breakdowns in the same manner.

### 1.5. UPDATE

- A. Update the Master Cost Breakdown when:
  - 1. Directed by the Architect/Engineer - monthly.
  - 2. Change of Subcontractor or Supplier occurs.
  - 3. Change of product or equipment occurs.
  - 4. List change orders by number should same become applicable to the Contract.

END 01 0370

DIVISION 1 – GENERAL REQUIREMENTS  
Section 01 0400 – Quality Control

1. GENERAL

1.1. DESCRIPTION

A. Work includes

1. Testing Services: The Contractor shall perform material or installation tests as requested by Architect/Engineer wherein Architect/Engineer has doubt of compliance with Contract Documents. If tests indicate inadequate sizes, materials, product chemical make-up inadequacy or strength factors, any portions or areas of the job involving said materials shall be rectified by the Contractor as directed by Architect/ Engineer at no additional expense to the Owner. If tests indicate adequate materials and methods have been employed, the A/E will pay the cost of testing.
2. All tests as required by the Owner or Architect/Engineer shall be performed by an approved independent testing service assigned by the Architect/Engineer with procedures outlined in the applicable ASTM standards and/or as specifically requested by the Architect/Engineer.
3. Inspections: The Architect/Engineer or the Owner shall make periodic or continuous inspections at times deemed advisable to the Architect/Engineer or the Owner. If circumstances on the job site, however, required Architect/Engineer inspection due to unforeseen developments, etc., the Architect/Engineer or Owner shall make such inspections within a reasonable period of time following notification by the Contractor.
4. Employment of testing laboratory shall in no way relieve the Contractor of his obligation to perform work in accordance with the Contract Documents.
5. Inspections shall be made and judgment passed on the Contractor's performance based on the requirements of the Contract Documents.

1.2. CONTRACTOR'S RESPONSIBILITIES

A. Furnish product data.

B. Cooperate with laboratory personnel and provide access to the work or to Manufacturer's operations.

1. Provide or direct the superintendent to prepare each inspection, sampling and test and affix date, location, and time of sampling.
2. Provide laboratory with WRITTEN ACKNOWLEDGMENT of each inspection, sampling or test.
3. Within twenty-four (24) hours, notify the Architect/Engineer IN WRITING of reasons for not acknowledging laboratory field procedures.

- C. Provide to laboratory representative samples of the materials to be tested in the required quantities.
- D. Furnish casual labor and facilities:
  - 1. To provide access to work to be tested.
  - 2. To obtain and handle samples at site.
  - 3. To facilitate inspections and tests.
  - 4. For laboratory's exclusive use for storage and curing of test samples.
  - 5. Prepare concrete test cylinders and slump cone tests.
- E. Correct work which is defective or which fails to conform to the Contract Documents in accordance with the General Conditions. Corrective work shall not delay the project schedule or the work of other Contractors.
- F. All tests required by the Contract Documents shall be included in the Contractor's base bid for the work.
- G. Pay all the costs of retesting, after correction, when test results indicate noncompliance with Contract requirements.
- H. Patch all surfaces and areas disturbed by testing operations.

END 01 0400



1. GENERAL

1.1. DESCRIPTION OF DRAWINGS AND LAYOUT

- A. Drawing data is intended to be reasonably accurate, however, strict accuracy in detail is not guaranteed. The Contractor must verify all of the conditions, measurements, dimensions, rough-in requirements, piping, conduit, wiring, duct work requirements and coordination necessary for each item or piece of equipment in the Contract Documents. Verification is the Contractor's responsibility and shall be completed prior to the fabrication or installation processes. All corrections necessary to provide properly installed, finished and operable system, in accordance with the intent of the Documents, shall be made at no cost beyond the contract agreement.
- B. All measurements and conditions must be verified by actual observation at the building and the Contractor shall be responsible for all of his work fitting into place in a satisfactory and workmanlike manner in every aspect and detail subject to the approval of the Architect. The Contractor shall provide layout work and verification measurement at his own cost.
- C. Before starting his work, the Contractor shall examine all Contract Area Drawings and Specifications and if any discrepancies occur, he shall report same to the Architect IN WRITING and obtain WRITTEN INSTRUCTIONS for interpretation of the work. The Contractor shall perform all layout work pursuant to site, building, grades and levels, and furnish such engineering services as he may require to execute the intent of the work included.
- D. The Drawings are instructive and diagrammatic and shall be followed as closely as actual construction will permit. All changes from Drawings necessary to make the work of the Contractor conform to the documents shall be done at no added cost charge to the Owner above the amount shown on the Owner/Contractor Agreement.

END 01 0410



1. GENERAL

1.1. DESCRIPTION

A. Related work specified elsewhere

1. All work provided under the Contract Documents shall be inspected by the Contractor for conformance with the documents prior to the Architect's inspection.
2. All in place work shall be subject to inspection by the Architect/Engineer and the Owner for conformance with the requirements and standards set forth in the Contract Documents and first quality general construction standards.

1.2. WORK BY THE CONTRACTOR INCLUDES

A. The Contractor's superintendent of the project shall inspect all work performed by the Contractor, his employees, Subcontractors and the Installing Suppliers before same is submitted to the Architect/Engineer as work performed.

1. Inspect for proper installation.
2. Inspect for proper materials.
3. Inspect for workmanship.

1.3. WORK BY THE ARCHITECT/ENGINEER INCLUDES

A. The Architect/Engineer shall have access to the work at all times and shall make inspection of work in place, construction components and allow or disallow in accordance with these Specifications and the accompanying Drawings.

1.4. PROCEDURES AND REPORTS

A. The Architect/Engineer, after making inspections, may report same to Contractor separately or jointly, verbally or in writing, as related to the Contract Documents in general and related to certain requirements specifically.

B. Notice shall be given the Contractor of unsatisfactory materials, handling, and storing of project materials, in place installation, workmanship, and documents compliance conduct on the job site property.

C. The Contractor shall correct or replace same as applicable to the inspection report.

1.5. QUALITY ASSURANCE

A. The Architect/Engineer or appointed special inspector for certain

processes:

1. Will make intermittent inspections at the job site and notify the Contractor of deficiencies as and when observed.
  - a. Notifications to the Contractor will be written (if not agreed upon and/or promptly corrected following verbal notification) wherein the deficiency shall or may become covered up by continuation of progress, wherein the deficiency does not comply with the required procedures.
2. Will be available to the Contractor upon call for inspections which may come to the attention of the Contractor at times not corresponding with intermittent inspections by the Architect/Engineer.
  - a. The Architect/Engineer will endeavor to respond to the Contractor's call with due promptness and no later than twenty-four (24) hours.
3. Will disallow payment for uncorrected work on the upcoming submittal by the Contractor for periodic progress payment.

B. The Contractor

1. Shall correct all work associated with the inspections made by the Architect/Engineer promptly or present an approved schedule for same.
2. Shall, wherein redeliveries of materials and components are involved:
  - a. Promptly respond IN WRITING to the deficiency notice.
  - b. Issue a schedule of correction, if applicable.
  - c. Make right damages effected to work of other contractors involved, as applicable.
3. Shall notify the Architect/Engineer of the schedule for the following day by day operations at the job site:
4. Contractor shall notify Architect/Engineer twenty-four (24) hours in advance of commencement of operations.

1.6. OWNER

- A. Owner Representatives shall have access to the work at all times.

END 01 0420

1. GENERAL

1.1. WORK INCLUDES

A. Base Bid:

1. Provide and maintain clicker type temporary fence around entire well field during all work opportunities. Fence must be at least five feet (5') high.
2. Provide a movable section for entry and exit during work operations.
3. Remove when no longer needed, at completion of work or as directed to facilitate the Owner's regular use of this building and site.
4. Contractor shall replace any and all damage to buildings and grounds including plantings, walks, drives, trees, sod, and utilities and lights to pre-construction or better condition.
5. Do not leave construction aids, where accessible to passers-by or intruders in place overnight unattended.

1.2. RELATED REQUIREMENTS

A. Specified elsewhere

1. 01 0100 - Project Summary

2. PRODUCTS

2.1. MATERIALS

- A. Temporary materials may be new or used, suitable for purpose.
- B. Do not violate specified codes.
- C. Installed materials shall be new except as specifically noted by the drawings.

2.2. BARRIERS:

- A. Plastic clicker-type fence at least five feet (5') high.

3. EXECUTION

3.1. INSTALLATION

- A. Install to a neat and uniform appearance, structurally adequate for purposes.
- B. Maintain barriers during entire construction period.
- C. Relocate barriers as construction progresses.

### 3.2. TREE AND PLANT PROTECTION

- A. Preserve and protect existing trees and plants at site and those adjacent to site.
- B. Replace or repair, trees and plants which are damaged or destroyed due to construction operations.

### 3.3. UTILITIES

- A. Take all reasonable precautions against damage to utilities.
- B. The Contractor shall confirm locations of all existing utilities in the work areas before commencing any of his work.
- C. Verification should be made with electrical, telephone, cable, water, sewer, gas, and any other utility normally servicing the area. Before commencing any excavation call the Joint Utilities Location Information for Excavators (J.U.L.I.E.) toll free number 1-800-892-0123; call the City Sanitary Department; call the Telecable Service Company; and call the City Street Department, all as applicable.
- D. Whenever inadvertent damage or breaks occur in an existing gas, water, sewer, steam conduit, telephone, electrical main or service, the Contractor responsible shall immediately notify proper officials of utility interruptions.
- E. The Contractor shall render all possible assistance in restoring the services cut by him and shall assume all costs, charges or claims connected with the interruptions and repair of the same.

### 3.4. REMOVAL

- A. Completely remove barriers when construction has progressed to the point that they are no longer needed, and when approved by the Architect/Engineer.
  - 1. The steel chain link type fence needs to remain in place continuously as long as school is in session.
  - 2. Other barriers after students are no longer on site may be removed when security is provided by locked entry doors.
- B. Clean and repair damage caused by installation, fill and grade site areas to indicated elevations and slopes, and clean the area.

END 01 0530

1. GENERAL

1.1. WORK INCLUDES

- A. The Contractor shall
  - 1. Protect work, stored materials and construction equipment from theft and vandalism.
  - 2. Protect premises and project from entry by unauthorized persons.
  - 3. Cooperate with the Owner's maintenance personnel and protect the Owner's operations at the job site from theft, vandalism or damage from entry by unauthorized persons.
- B. The Contractor shall be responsible for the security of his materials and tools. The Contractor shall exercise reasonable security precautions at all times that the project is left unattended.
- C. The Contractors shall cooperate in maintaining the construction security by closing and locking all openings whenever the work is not manned and at the close of each day's work.

1.2. RELATED REQUIREMENTS

- A. Specified elsewhere
  - 1. 01 0100 - Project Summary
  - 2. 01 0530 - Barriers

1.3. MAINTENANCE OF SECURITY

- A. Initiate security program in compliance with Owner's system prior to mobilization.
- B. Maintain security program throughout construction period until substantial completion.
- C. Cooperate with the Owner to maintain security.
- D. Comply with Owner regulations for safety and security.

END 01 0540





DIVISION 1 – GENERAL REQUIREMENTS  
Section 01 0550 – Access Roads & Parking Areas

1. GENERAL

1.1. REQUIREMENTS INCLUDE

A. Contractor

1. Maintain equipment and materials vehicular delivery access to buildings in the project for the Owner's normal use of the facility.
2. Provide access to temporary construction facilities, storage and work areas for use by persons and equipment involved in project construction and for use by emergency vehicles.
3. Provide parking and work area access separate from regular school parking and access.

1.2. RELATED REQUIREMENTS

A. Specified elsewhere

1. 01 0100 - Project Summary

1.3. ON SITE ROADS AND PARKING AREAS

A. Contractor shall utilize existing roads, drives, walks and to provide access to construction work, storage and other areas required for execution of the Contract.

1. Location: The Contractor shall consult with the Owner's building administrator and comply with all regulations and limitations imposed thereby.
2. The Contractor arranges for parking facilities: Adequate to provide for employees and subcontractor employees.
3. The Contractor shall make his own arrangements concerning street traffic interference and barricade requirements.
4. Contractor and employees park on Maple Street.

B. Provide access for emergency vehicles.

C. Keep fire hydrants and water control valves free from obstruction and accessible for use.

1.4. EXISTING CONDITIONS

A. City improvements

1. Obtain city permission to operate equipment of excessive width or weight on public right-of-way.

B. Owner site improvements include paved parking areas, concrete sidewalk landscaping and play equipment.

1. Discuss with Owner planned equipment and material delivery routes to minimize damage.

2. PRODUCTS (Not Applicable)

3. EXECUTION

3.1. MAINTENANCE

- A. Maintain roads, walks and parking areas (where use of same has been allowed by the Owner) in a sound, safe and clean condition.
- B. Repair or replace all surfaces damaged during construction work progress.
  1. Contractor repair pavements, landscaping, or lawn areas damaged during construction.
  2. Contractor document any damage to pavement, landscaping or lawns that exist prior to construction operations.
    - a. This may be accomplished by photographs or in conference at the site with A/E and Owner.

END 01 0550

DIVISION 1 – GENERAL REQUIREMENTS  
Section 01 0600 – Material & Equipment

1. GENERAL

1.1. WORK INCLUDES

- A. The transportation and handling of material and equipment are the full responsibility of the Contractor and/or his subcontractors and suppliers for all work. The Contractor shall accept full responsibility for the conduct of and cooperation on the part of his subcontractors and suppliers.
- B. On site storage of the materials shall be limited to the materials immediately required to maintain progress.
  - 1. Such storage shall be prior arranged and the Contractor shall be fully responsible for damage or loss to stored materials.
  - 2. Storage of any materials not immediately required for progress shall be the Contractor's responsibility.
- C. All the stored materials shall be completely protected from damage due to abuse, vandalism and the environmental elements.
- D. All the stored materials shall be located as remote from the public access as possible and shall not interfere with exiting.

1.2. INSTALLATION

- A. All materials and equipment, as specified, are selected in accordance with manufacturer's data.
- B. The Contractor shall verify the actual installation refinements of each piece of material or equipment as delivered to the job by the Supplier and make all necessary fitting allowance for that equipment.
- C. All replaced equipment shall be properly installed and made operable without claim for additional charge to the Owner.
- D. Do not extend services to equipment in the Contract, or the associated contracts, until same is set in place and/or Manufacturer data is received indicating all clearances, piping, venting, and electrical requirements are met.
- E. All specified equipment shall be properly installed and made operable without claim for additional charge to the Owner. The Contractor shall make allowance in his proposal for fitting work.

1.3. MATERIAL AND EQUIPMENT SELECTION

- A. Most materials are specified by a specific manufacturer's trade name and model number to establish the standards of quality and performance and not for the purpose of limiting competition. Where one or more other

manufacturers are mentioned, the materials manufactured by them will be acceptable, providing they meet the requirement and intent of the Contract Documents.

- B. The naming of other manufacturers beyond the "first named" does not imply automatic approval of their materials. The materials, other than those "first named", in these Contract Documents will be approved only if they do indeed meet the requirements and intent of these Contract Documents.
- C. Where a specified piece of equipment is no longer available, the Contractor shall provide equivalent equipment by the same manufacturer or by another manufacturer as approved by the Owner or Architect. Said equipment shall be provided at no additional cost to the Contract.
- D. All extra costs for additional work, rearrangement of work, larger bases or enclosures, etc. caused by using other than the "first named" systems shall be borne entirely by the Contractor furnishing such equipment.

#### 1.4. SUBSTITUTIONS

- A. If a specific product is named and it is indicated that a product of equal quality may be used, the named product must be used unless substitute product is approved prior to signing contract.
- B. Requests for substitution shall include the following:
  - 1. Written request for substitution.
  - 2. Complete description of proposed substitute material or equipment.
  - 3. A submittal drawing showing equipment as it would be installed in this work.
  - 4. A listing of changes by the Contractor to services, piping, space allowance, etc. which may become necessary to accommodate the proposed substitute equipment.
- C. Following the bid date, requests for substitution may be made as described above. The Owner and Architect/Engineer may consider such requests and accept or deny the request without explanation.
- D. The Contractor or his Supplier requesting a substitution shall verify all conditions applicable to the product in this Contract or in the associated contracts. All costs for additional work, including rearrangement of work, larger bases, piping or electrical modifications as become necessary to accommodate the substitution, shall be borne by the Contractor furnishing the product and/or equipment.

END 01 0600

1. GENERAL

1.1. DESCRIPTION

- A. Work includes: The work in this section is required of the Contractor unless otherwise specified. The Contractor shall:
1. Maintain premises and adjacent properties free of waste, debris, and rubbish caused by construction operations.
  2. Clean up rubbish, tools, equipment, machinery, and surplus materials at the completion of work or when directed by Owner or Architect/Engineer.
  3. Clean all sight-exposed surfaces; leave work clean and ready for intended use at the completion of work.
  4. All ground loop piping must be totally clean and free of all sediment from construction process.
    - a. If there is any sediment in the piping system it will not function.
    - b. The well field contractor will be responsible for any malfunction of the interior system if earth sediment is the cause of malfunction.

1.2. SAFETY REQUIREMENTS

- A. Maintain the project in accordance with following safety and insurance standards:
1. Applicable Federal and State requirements.
  2. National Fire Protection Association (NFPA).
- B. Maintain hazards control.
1. Store volatile wastes in covered metal containers and remove from premises daily.
  2. Prevent accumulation of wastes that create hazardous conditions.
  3. Provide adequate ventilation during use of volatile or noxious substances.

2. PRODUCTS

2.1. MATERIALS

- A. Select and use all cleaning materials and equipment with care to avoid damage to surfaces cleaned.
- B. Use only cleaning materials recommended by the Manufacturer of surface to be cleaned.

- C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

### 3. EXECUTION

#### 3.1. DURING CONSTRUCTION

- A. Wet down materials and rubbish to lay dust and to prevent blowing dust.
- B. Weekly, and as needed during the progress of work, clean project area and adjacent properties, and dispose of waste materials, debris, and rubbish.

#### 3.2. FINAL CLEANING

- A. Clean all surfaces adjacent to work area of all evidence of spillage or mud tracks, etc, on parking lots, sidewalks and streets.
- B. Remove all discarded debris resulting from the construction operations.
- C. Restore all areas to same condition of adjacent property to the construction operations.

END 01 0710

DIVISION 1 – GENERAL REQUIREMENTS  
Section 01 0720 – Project Record Documents

1. GENERAL

1.1. REQUIREMENTS INCLUDE

A. Each Contractor

1. At the project site, shall maintain one (1) copy of:
  - a. Contract Drawings
  - b. Project Manual
  - c. Interpretations and supplemental instructions
  - d. Addenda
  - e. Reviewed, approved shop drawings and product data
  - f. Other modifications to Contract
  - g. Field test records
  - h. All schedules
2. Working and record documents shall be kept on the job site.
3. File documents in format in accord with Project Manual Table of Contents.
4. Maintain documents in clean, dry, legible condition.
5. Do not use record documents for field construction purposes.
6. Make documents available at all times for inspection by the Architect/Engineer and the Owner.

1.2. RELATED REQUIREMENTS

A. Specified elsewhere

1. 01 3300 - Submittals
2. 01 7800 - Project Closeout
3. 01 0730 - Operating & Maintenance Data
4. 01 0740 - Guarantees, Warranties & Bonds

1.3. MARKING DEVICES

- A. Provide black ballpoint pens for marking all work.

1.4. RECORDING

- A. Label each document "PROJECT RECORD DOCUMENTS" in two-inch (2") high printed letters.
1. Label front and back covers of Drawings and Project Manual with felt tip marker.
- B. Keep record documents current.

- C. Do not permanently conceal any work until specified information has been recorded.
- D. CONTRACT DRAWINGS - Legibly mark to record actual construction:
  - 1. Horizontal and vertical location of underground utilities and appurtenance referenced to permanent surface improvements.
  - 2. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
  - 3. Field changes of dimension and detail.
  - 4. Changes made by Change Order.
  - 5. Details not on original Contract Drawings.
- E. SPECIFICATIONS AND ADDENDA. Legibly mark up each section to record:
  - 1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
  - 2. Changes made by Change Order or Field Order.
  - 3. Other matters not originally specified.
- F. SHOP DRAWINGS Maintain as record documents and legibly annotate drawings to record changes made after review.

1.5. SUBMITTAL

- A. At completion of project each Contractor shall deliver record documents to the Prime Contractor. The Prime Contractor shall check all material and transmit to the Architect/Engineer within ten (10) days after Substantial Completion.
- B. Accompany submittal with transmittal letter, in duplicate, containing:
  - 1. Date
  - 2. Project title and number
  - 3. Contractor's name and address
  - 4. Title and number of each record document
  - 5. Certification that each document submitted is complete and accurate.
  - 6. Signature of the Contractor, or the Contractor's authorized representative.

END 01 0720



DIVISION 1 – GENERAL REQUIREMENTS  
Section 01 0730 – Operating & Maintenance Data

1. GENERAL

1.1. REQUIREMENTS INCLUDE

- A. It shall be the Contractor's responsibility to compile product data and related information appropriate for Owner's maintenance and operation of products and equipment provided under the Contract.
- B. The Contractor shall be responsibility to instruct Owner's personnel in the operation and maintenance of products, equipment and systems.

1.2. RELATED REQUIREMENTS

- A. Specified elsewhere
  - 1. 01 3300 - Submittals
  - 2. 01 7800 - Project Closeout
  - 3. 01 0720 - Project Record Documents
  - 4. 01 0740 - Warranties & Bonds
  - 5. DIVISION 23 – HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)
  - 6. DIVISION 31 – EARTHWORK

1.3. SUBMITTALS

- A. Manufacturer's standard product or equipment data of same type and form furnished to manufacturer's maintenance personnel. Provide sturdy manila or Kraft envelope, properly labeled, of sufficient size to contain all submittals.

1.4. MANUAL CONTENT

- A. Neatly typewritten Table of Contents for each volume, arranged in systematic order. Follow Project Manual Format.
  - 1. Contractor, name of responsible principal, address and telephone number.
  - 2. List of each product specified to be included, indexed to volume content.
  - 3. List with each product, the name address and telephone number of:
    - a. Subcontractor
    - b. Maintenance contractor, as appropriate
    - c. Identify area of responsibility of each
    - d. Local supply source for parts and/or replacement
- B. Product Data
  - 1. Include only sheets pertinent to specific product
  - 2. Annotate each sheet to:

- a. Clearly identify specific product or part installed
- b. Clearly identify data applicable to installation
- c. Delete references to inapplicable installation

C. Drawings

1. Coordinate Drawings with information in Product Record Documents to assure correct illustration of completed installation.
2. Do not use Project Record Documents as maintenance drawings.

D. Written text to supplement product data for particular installation

1. Organize in consistent format under separate headings for different procedures.
2. Provide logical sequence of instructions for each procedure.

E. Copy of each warranty, bond and service contract issued

1. Provide information sheet for Owner's personnel with:
  - a. Proper procedures in event of failure
  - b. Instances which might affect validity of warranties or bonds

1.5. MANUAL FOR MECHANICAL INSTALLATIONS AND EQUIPMENT

A. Provide the Owner, via the A/E, with two (2) copies of complete manual in final form, index as to contents.

1. Furnish to the Owner, three (3) copies of Operating & Maintenance Manuals as prepared by the equipment manufacturers for all items of equipment and systems furnished under this Contract.
2. Reviewed Shop Drawings shall be neatly folded to approximately 8-1/2" X 11" signed and inserted individually into Mylar No. 213 sheet protectors (Chicago Desk Pad Co.), punched and inserted into the Manual.

B. Provide a minimum of one (1) man day in two (2) trips to the job before the mob is accepted for the instruction and training of the Owner's representative in the operation and maintenance of the complete system. The equipment manufacturer's representative shall also visit the job and furnish such instruction as may be required.

1. The above does not relieve the Contractors of their responsibility of making service calls due to any defects which may develop during the guarantee period as stated in the "Guarantee" paragraph.

1.6. SUBMITTAL SCHEDULE

A. Contractor shall provide specified number of manual copies of approved data in final form ten (10) business days after final acceptance or approval and prior to final payment by the Owner.

END 01 0730

DIVISION 1 - GENERAL REQUIREMENTS  
Section 01 0740 - Guarantees, Warranties & Bonds

1. GENERAL

1.1. WORK INCLUDES

- A. Provide all guarantees, warranties and bonds, as specified.

1.2. RELATED WORK

- A. Specified elsewhere

1. All work.

- B. Submittals: The Contractor shall process, acquire and submit the Guarantees, Warranties and Bonds as specified below:

1. Bid Bond.
2. Labor & Material Payment and Performance Bonds, following award.
3. Guarantees: Submit on Contractor's letterhead a one-year material and labor guarantee for all work except for special warranties.

1.3. WARRANTY

- A. The Contractor warrants that all work provided under the Contract will be in conformance with the Contract and free from defects in workmanship, materials and equipment for a period of two (2) years or such longer period as may be specified in the Contract documents. Warranty time periods shall commence with the date of Owner acceptance of the Certificate of Substantial Completion or the whole or any part of the project. The warranty time period for any incomplete or uncorrected work at the time of Substantial Completion shall commence with the date of Final Completion.
- B. The Contractor warrants that all workmanship, materials and equipment for those building systems subject to seasonal loads will be in conformance with the Contract and free from defects for a period of two (2) years, commencing with the date of Owner acceptance of the Certificate of Substantial Completion. This includes, but is not limited to, Heating, Ventilation, Air Conditioning, Temperature Control and Test and Balance work as specified in the Project Specifications.
- C. Upon notice from the Owner or the Architect/Engineer of such defects or nonconformity, the Contractor shall promptly visit the site in the company of the Owner's representative to determine the extent of all defects on nonconformance and shall promptly repair or replace the defective or nonconforming work, including all adjacent work not necessarily provided by the Contractor, but damaged as a result of such defect or nonconformity or as a result of remedying them. If the Contractor does not promptly repair or replace a defective or nonconforming work the Owner may repair or

replace such work and charge the cost thereof to the Contractor. Work which is repaired or replaced by the Contractor shall be inspected and accepted in accord with the original standards of the Contract. The warranties set forth herein are in addition to all warranties or guarantees expressed or implied by operation of law, statute or ordinance.

D. The Contractor shall deliver all commercial warranties received from the manufacturer to the Architect/Engineer prior to Final Completion, but this shall not reduce the Contractor's obligations under this Article.

E. Special Warranties

DIVISION 23 – Ground Loop Piping

2113.33 Contractor Warranty – Two (2) years

2113.33 Manufacturer Pipe & Fitting – Twenty-five (25) years

END 01 0740

1. GENERAL

1.1. DESCRIPTION

- A. Prior to commencing the work, the Contractor shall verify the submittal procedure to assure compliance with the submittal requirements.
- B. Required Submittals
  - 1. Shop Drawings, Submittals, and Submittal Brochures
    - a. Submit four (4) copies minimum unless notes otherwise in a particular section.
    - b. Architect and/or Owner will retain two (2) copies.
    - c. Contractor will receive remaining copies for his use.
    - d. Shop drawings and material schedules shall be accompanied by catalog cuts or fliers giving full data, description, function, and capacity of item or component thus submitted. Catalogs and fliers shall be clearly and precisely marked as to submittal content. The Architect/Engineer's office will provide no sorting to assure the submittals compliance with documents.
  - 2. Samples
    - a. When samples are requested submit two (2) minimum.
    - b. All samples will be retained unless otherwise noted in the Specifications.
  - 3. The Contractor shall, within seven (7) days of Notice of Award, submit to the Architect the following:
    - a. Name of person under Contractor employment at the job site in charge of safety.
    - b. Name of project on site Superintendent of the work.
    - c. Submit three (3) bound, indexed copies minimum.
    - d. THE SHOP DRAWINGS RETAINED BY THE OWNER AND ARCHITECT ARE NOT AVAILABLE FOR PREPARING THESE MANUALS. If additional copies are required for this, the Contractor shall make allowance and submit additional sets.
  - 4. The Contractor, within thirty-one (31) business days of Notice of Award, submit in accord with 00 0040/1.17.
- C. IDENTIFICATION OF SUBMITTALS
  - 1. The Contractor shall clearly mark each submittal of the Shop Drawings, Catalog Cuts, Pamphlet, or Specification Sheet for

identification and record, for example:

- a. DATE: As submitted
  - b. BUILDING: Project Name
  - c. LOCATION: City
  - d. TYPE OF EQUIPMENT: (Example - Heating/Ventilating)
  - e. UNIT: (Example - #1)
  - f. SUBMITTED BY: Contractor's Name
2. Data shall also indicate model number selected for furnishing and indicate capacities or conditions or operation.
    - a. Catalog data of general advertising nature, without specific outline or rating for equipment, will be rejected.
    - b. Marked product manufacturer's catalogs and engineering data shall accompany the submittal.

#### D. AS-BUILT DRAWINGS AND OPERATION MANUALS

1. The Contractor shall provide the Architect/Engineer's Office with a marked set of drawings showing changes from the original drawings. Marked As-Built Drawings shall be submitted upon progress having complied with Substantial Completion progress.
2. The Contractor shall submit three (3) copies of bound equipment Operation Manuals.
  - a. These manuals shall include all Shop Drawings and all Submittals, all Equipment Brochures, Operating Manuals, Operating Instructions, names, addresses, and telephone numbers for guarantee work, all bound into a good quality binder or loose-leaf notebook, clearly labeled.

#### E. REVIEW OF SUBMITTALS

1. Submittals will be reviewed by the Architect and/or the Owner and will be checked for Contract compliance and the basic fabrication methods.
2. The Contractor must verify all the dimensions, field conditions, field clearances, and rough-in requirements with adaptations as necessary.
  - a. Architect/Engineer review of a submittal shall not relieve the Contractor of specification compliance unless same is specifically brought to the attention of the Architect and/or Owner IN A LETTER FORM attached to the submittal data and subsequently approved by the Architect/Engineer IN WRITING.
  - b. An omission on the shop drawings followed by a review oversight thereof by the Architect/Engineer shall not be construed as the calling of specific attention thereto.

END 01 3300

DIVISION 1 – GENERAL REQUIREMENTS  
Section 01 5000 – Temporary Utilities

1. GENERAL

1.1. REQUIREMENTS INCLUDE

- A. Contractor shall provide and maintain specified temporary utilities.
- B. Contractor may extend services from Owner's existing sources.
  - 1. Tap on and extension of services shall be implemented and paid for by the Contractor requiring utility.
- C. Contractor shall furnish (included in his Base Bid):
  - 1. The cost of all utilities required by him which:
    - a. Are in excess of existing available at the building and are necessary for the completion of his work.
    - b. Exceed the capacity of existing or permanent systems and are necessary for the completion of his work.
  - 2. Hoses and fittings from temporary standpipes or water service connection to his work.
  - 3. Drinking water for his own forces.
  - 4. Extension cords, extension lights and lamps from approved temporary power centers to his work.
  - 5. Ventilation for his storage spaces containing volatile or hazardous materials.
  - 6. Security for materials and equipment.
  - 7. Temporary toilet facilities.

1.2. RELATED REQUIREMENTS

- A. Furnished by Owner
  - 1. Authorization of existing facilities for temporary use.
    - a. Electrical power service.
    - b. Lighting extended by drop cords from existing sources.
    - c. Water service extended from existing outlets by the Contractor.
  - 2. Owner will pay all costs of consumables used for construction purposes for utilities it furnishes.
  - 3. The Contractor requiring Owner-furnished services shall provide and pay for extension or modification of services to perform the work and for restoration of services and Owner equipment at completion of the work.

### 1.3. DESCRIPTION OF UTILITY SYSTEMS

#### A. Electrical system:

1. Power is supplied to the site by Ameren IP.
2. The Contractor is advised to contact Ameren IP. to get temporary protection at electrical service entrance (over and adjacent to) the construction area. Phone 800/755-5000, as printed in the area phone book, further contact number may be provided by Owner.
3. The Contractor shall provide and maintain extensions of existing electric power system for construction needs throughout construction period.

#### B. Natural Gas

1. Provided by Nicor Gas Company (verify with Owner).

#### C. Water Service:

1. Water provided by the City of Lincoln.
2. For construction purposes: The Contractor shall provide and maintain temporary water service connection throughout construction period. Continually running water during construction operations is not allowed.
  - a. For temporary fire control.
  - b. For material preparation and mixing.
  - c. For cleaning operation.
3. The Contractor provides drinking water for his own employees.

### 1.4. REQUIREMENTS OR REGULATORY AGENCIES

- #### A. Compliance with specified codes and regulations (latest editions in effect as of the date of bidding documents) is the responsibility of the Contractor.

### 1.5. USE OF OWNER'S EXISTING SYSTEMS - RULES AND REGULATIONS

- #### A. Owner's mechanical systems shall remain in service throughout the construction except for prearranged temporary shutdowns.
- #### B. Make all arrangements with the Owner's Representative for use of electrical power for hand tools, temporary lighting, toilets and use of water. Temporary connections shall not interfere with or starve the ordinary use of the building or for ongoing maintenance and service activities therein.
- #### C. Limitations
1. Keep work areas enclosed to avoid energy waste.
  2. Keep away from any areas as directed by Owner/Representative.



- D. Modify temporary utility systems if requested by the Architect/ Engineer or the Owner.
- E. Upon completion of work, or when directed by Architect/Engineer, restore existing systems to original condition or specified conditions.

END 01 5000



DIVISION 1 - GENERAL REQUIREMENTS  
Section 01 7800 - Project Closeout

1. GENERAL

1.1. WORK INCLUDES

- A. Project Closeout procedures cannot be initiated until the steps on the following checklist have been taken:

FINAL APPLICATION FOR PAYMENT CHECKLIST

- \_\_\_\_ 1. Letter to A/E that deficiency work is complete
- \_\_\_\_ 2. Final Lien Waiver from the Contractor (2 copies)
- \_\_\_\_ 3. Final Lien Waivers from Subcontractor/Suppliers (2 copies)
- \_\_\_\_ 4. Final Affidavit showing \$0.00 due to Subcontractors and \$0.00 due to Suppliers (2 copies)
- \_\_\_\_ 5. Bonding Company Final Payment Approval Letter (2 copies)
- \_\_\_\_ 6. Certification of all guarantees beyond standard 1-year (2 copies)
- \_\_\_\_ 7. Contractor's Periodic Remaining for partial payments (2 copies)
- \_\_\_\_ 8. Additional warranty certifications as may be requested (2 copies)
- \_\_\_\_ 9. Operating manuals and instructions, neatly bound (3 copies)
- \_\_\_\_ 10. Manufacturer's Product Warranty Certification
- \_\_\_\_ 11. Care and Maintenance Instructions

- B. All the above documents submitted must bear live signatures.
- C. Signatures on all documents submitted shall be by an official within the company's legal organization designated to represent the company in legal transactions.
- D. The Contractor's signature shall be the same signature as appears on the Owner/Contractor Agreement. See 00 0400 - Proposal & Agreement.

END 01 7800



**DIVISION 23 - HVAC**  
**Section 23 2112.33 Ground Loop Heat Pump Piping**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Ground-coupled heat exchanger and connections to building piping system, serving:
  - 1. Hydronic piping system specified in Section 23 2113.
- B. The Contractor is responsible for all aspects involved with the complete geothermal loop field installation. All materials, drilling, excavation, hauling of backfill, pumping, soil compaction and labor required shall be included in the bid price.
- C. The contractor is personally responsible to verify all local soil conditions to determine the appropriate drilling method and when and if casing is necessary.
- D. The Contractor shall take note: There is no guarantee to the Contractor that the location of any existing utilities are exactly as indicated on the plans. Some areas may require hand digging to locate that utility. The Contractor must include in the bid price, the repair of any domestic water, electrical, communication or any service line that may be damaged during the construction of this project. Any offsets required to route over or under existing lines shall also be included in the bid price of the project.

**1.02 RELATED REQUIREMENTS**

- A. Section 31 2316.13 - Trenching: Procedures for trenching and backfilling for execution of work of this section.

**1.03 REFERENCE STANDARDS**

- A. ASHRAE Publication: Ground-Source Geothermal Systems for Commercial and Institutional Buildings by Kavanaugh, S.P., and K. Rafferty. 1997
- B. ASTM D2447 - Standard Specification for Polyethylene (PE) Plastic Pipe, Schedules 40 and 80, Based on Outside Diameter; 2003.
- C. ASTM D2683 - Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing; 2014.
- D. ASTM D2837 - Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products; 2013.
- E. ASTM D3035 - Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter; 2015.
- F. ASTM D3261 - Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing; 2012.
- G. ASTM D3350 - Standard Specification for Polyethylene Plastics Pipe and Fittings Material; 2012.
- H. ASTM F714 - Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Outside Diameter; 2013.
- I. ASTM F1055 - Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene and Crosslinked Polyethylene (PEX) Pipe and Tubing; 2013.
- J. IGSHA (GROUT) - Grouting Procedures for GHP Systems; International Ground Source Heat Pump Association; 1991.
- K. IGSHA (GVERT) - Grouting for Vertical GHP Systems; International Ground Source Heat Pump Association; 2000.
- L. IGSHA (INSTALL) - Closed-Loop/Geothermal Heat Pump Systems Design and Installation Standards; International Ground Source Heat Pump Association; 2009.
- M. PPI TR-4 - PPI Listing of Hydrostatic Design Basis (HDB), Hydrostatic Design Stress (HDS), Strength Design Basis (SDB), Pressure Design Basis (PDB), and Minimum Required Strength (MRS) Ratings For Thermoplastic Piping Materials or Pipe; 2013.

#### **1.04 ADMINISTRATIVE REQUIREMENTS**

- A. Pre-installation Meeting: Convene one week before starting work of this section. Require attendance by all installers involved with site work and HVAC work.

#### **1.05 SUBMITTALS**

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. No substitutions will be allowed without authorization from the Architect/Engineer
- C. Installers Qualifications, provide documentation of Contractor's:
  - 1. Copy of the Contractor's geothermal well driller license for the Illinois
  - 2. Copy of the Contractor's certification as the proposed high density polyethylene (HDPE) pipe manufacturer's authorized installer.
- D. Product Data, Polyethylene Piping: Provide manufacturer's data for piping and pipe fittings, showing compliance with specified requirements.
  - 1. Provide manufacturer's recommendations for fusion jointing.
  - 2. Include certification of long term hydrostatic basis, or test reports.
- E. Product Data, Grout and Slurry: Provide information on thermal conductivity of proposed materials.
- F. Test Reports, provide the following reports:
  - 1. Vertical Borehole Grout Testing
  - 2. System Pressure Test
  - 3. System Purging
  - 4. Bore Log Report
- G. Samples: Provide one 2-inch length of pipe in selected size.
- H. Record Documents: Record actual locations of all underground piping installed relative to Owner's permanent structure on same property and the following:
  - 1. Vertical Bores Locations.
  - 2. Well Field Valve Locations
- I. Contractors Certification: Submit certification that work completed as specified by this section and described by the plans has been constructed accordingly and in compliance with State and local requirements.
- J. Warranty: Submit manufacturer's warranty and ensure forms have been filled out in Owner's name and registered with manufacturer.
- K. Operation and Maintenance Data: Provide procedures for pressurizing, charging, and isolation for equipment replacement.

#### **1.06 QUALITY ASSURANCE**

- A. Installer Qualifications: Company specializing in performing the work of this section with minimum five years of documented experience and accredited by IGSHPA.
- B. The Contractor shall be a licensed geothermal well driller in Illinois and shall be versed in the completion of vertical loop heat exchangers as described in this section of these specifications.
- C. Heat Fusion Technician Certification: IGSHPA training and certification, certified within three years from the date of project commencement.
- D. Fabricators must be heat fusion certified by an authorized high density polyethylene (HDPE) pipe manufacturer's representative of the brand of pipe used. Certification must include: successful completion of a written heat fusion exam as well as demonstrating proper heat fusion techniques under the direct supervision of the authorized HDPE pipe manufacturer's representative.
- E. This design has been prepared in accordance with the materials standards and accepted This design has been prepared in accordance with the materials standards and accepted practices as well as all State and local regulations pertaining to the installation.

## **1.07 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver piping and fittings to project site in shipping containers with labeling in place.
  - 1. Verify that labels on piping indicate manufacturer's name, pipe or tube size, and PE cell classification.
  - 2. Verify that piping complies with specifications and is undamaged.
- B. Protect from weather, humidity and temperature variations, dirt and dust, and other environmental contaminants.
- C. Store piping capped or plugged until time of installation.

## **1.08 WARRANTY**

- A. Pipe (and fittings) for this section shall carry a Manufactures Warranty of no less than 25 years.

## **PART 2 PRODUCTS**

### **2.01 HEAT EXCHANGER**

- A. The ground-coupled heat exchanger has been designed; Contractor is responsible for execution as required in the Contract Documents.
- B. Heat Exchanger Performance:

### **2.02 MATERIALS**

- A. Pipe: High density polyethylene pipe, type PE3408, PE3608, or PE4710, with minimum ASTM D3350 cell classification of PE345364C.
  - 1. Each pipe shall be permanently indent marked with the manufacturer's name, nominal size, pressure rating, relevant ASTM standards, cell classification number and date of manufacture.
  - 2. Pipe Used in Vertical Bore Applications: Comply with ASTM D3035 with minimum working pressure rating of 160 psi.
    - a. All piping used for vertical heat exchanger will have factory hot-stamped lengths impressed on the side of the piping indicating the length of the Heat Exchanger at that point. The length stamp shall read zero on one end and the actual Heat Exchanger total length on the other end.
    - b. The vertical heat exchanger pipe will have a factory fused U-bend with lengths long enough to reach grade from the bottom of the bore so no field fusion are required below the header pit.
    - c. All piping used for vertical heat exchanger will ship from the factory pre-charged with air.
  - 3. Other Pipe of 3 Inches Diameter and Larger: Comply with ASTM D3035 DR15.5 or ASTM F714, with minimum working pressure rating of 100 psi.
  - 4. Other Pipe 1.25 Inches But Less Than 3 Inches In Diameter (Nominal): Comply with ASTM D3035 with minimum working pressure rating of 110 psi.
  - 5. Other Pipe Less Than 1.25 Inches in Diameter (Nominal): Comply with ASTM D3035 with minimum working pressure rating of 160 psi.
  - 6. Long Term Hydrostatic Design Basis: 1600 psi at 73 degrees F, when tested in accordance with ASTM D2837; appropriate listing in current edition of PPI TR-4 will constitute evidence of compliance with this requirement; otherwise, submit independent test results.
  - 7. Joints and Fittings: Polyethylene of same type as pipe, of sizes and types suitable for the pipe being used; use only heat fusion or stab-type mechanical fittings that are quality controlled to provide a leak-free union between piping ends that is stronger than the piping itself. Do not use other barbed fittings or hose clamps.
    - a. Electrofusion Type Fittings: Comply with ASTM F1055.
    - b. Butt Fusion Fittings: Comply with ASTM D3261.
    - c. Socket Type Fittings: Comply with ASTM D2683.
    - d. Where threaded fittings must be used for connection to equipment or dissimilar piping, use fittings and thread sealant compatible and effective with antifreeze used.

- e. Manifolds: HDPE pipe, joined together with heat fusion, shall be used for all of the main header piping.
- 8. Manufacturers:
  - a. Any manufacturer listed in PPI TR-4 for the material to be used.
- B. Detectable Underground Tape: Magnetic detectable conductor in 2 inch wide rot-resistant plastic tape or mesh, brightly colored, imprinted every 36" with "CAUTION GEOTHERMAL PIPELINE BURIED BELOW" in large letters.
- C. Backfill for Vertical Boreholes: Thermally enhanced bentonite.
  - 1. Thermally enhanced bentonite grout shall be used to seal and backfill each vertical U-bend well bore of the closed-loop ground heat exchanger to insure proper thermal contact with the earth and to ensure the environmental integrity of each vertical bore column. Once fully set (within 24 hours), the grouting material shall remain in a thick, putty-like, plastic state (moldable) throughout the life of the system and shall not generate heat during the hydration process.
    - a. A bentonite-based two-part, field mixed, high to extreme-high solids material that can be mixed to meet a range of thermal conductivity's from 0.45 to 1.40 Btu/hr-ft-°F. It shall have been specifically developed for closed-loop ground-coupled heat pump applications where thermal conductivity in the vertical bore column is critical to system performance.
    - b. The product is to certified by the National Sanitation Foundation International to ANSI/NSF Standard 60, "Drinking Water Treatment Chemical - Health Effects."
  - 2. No chemical polymers or organic matter shall be contained within the grout material.
  - 3. MIXING INSTRUCTIONS (per each unit):
    - a. When mixed according to manufactures instructions, the permeability is below the U.S. Environmental Protection Agency's maximum recommendations of  $1 \times 10^{-7}$ .
    - b. Mix Proportions of water, grout and sand per manufactures requirements.
    - c. Place fresh water in a conventional paddle mixing tank.
    - d. Start mixer and Bentonite Base (Part I).
    - e. Add silica sand at a moderate rate (in about 4 to 6 minutes) and continue to mix for another 1 to 2 minutes to obtain a consistent mixture.
    - f. Pump with a positive displacement pump (piston pump recommended) through a 1-1/4" inside diameter tremie pipe at a rate of 5 to 15 gallons per minute.

### **2.03 GROUT MANUFACTURES:**

- A. Geopro-thermal grout select
- B. Cetco
- C. Bariod-Barotherm Gold

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION AND PREPARATION**

- A. Verify location of existing structures and utilities prior to excavation.
- B. Verify soil composition and rock depth, if any, before beginning excavation.
- C. Protect adjacent structures from the effects of excavation.
- D. Verify that layout dimensions are correct and that available land is sufficient for design.
- E. Notify Architect of unsatisfactory conditions.
- F. The heat exchanger pipe must be connected as indicated on the plans. The header design accounts for balanced flow as well as flushing and purging flow rates. No variations can be made in the circuit hookup or the pipe sizes that are indicated without approval from Architect/Engineer
- G. The depth of all headers and supply and return piping is indicated on the plans and must be maintained.
- H. Do not proceed with installation until unsatisfactory conditions have been corrected.

#### **GROUND-LOOP HEAT-PUMP PIPING 23 2113.33-4**



- I. Coordinate work with site grading, site backfilling, and foundation construction.

### **3.02 EXCAVATION**

- A. Excavate in accordance with requirements of authorities having jurisdiction.
- B. The Contractor shall do all excavating, backfilling, shoring, bailing and pumping for the installation of his work and perform necessary grading to prevent surface water from flowing into trenches or other excavations.
  - 1. Sewer lines shall not be used for draining trenches.
- C. Vertical Boreholes: Drill to depths required.
  - 1. Use sufficient quantities of water during drilling process to eliminate dust escaping from the bore hole.
  - 2. The vertical boreholes will be drilled to a depth that allows complete insertion of the pipe used in heat exchanger to its specified depth.
  - 3. The maximum borehole diameter shall be six inches. If a larger diameter is required, it must be approved by Architect/Engineer
  - 4. Piping: Assemble heat exchanger piping and test before installation.
- D. Trenches: Excavate trenches for piping to lines and grades shown on drawings.
  - 1. Minimize over-excavation; fill over-excavated areas with backfill or excavated materials.
  - 2. Only material suitable for backfilling shall be piled a sufficient distance from banks of trenches to avoid overloading.
  - 3. Excavate to accommodate grade changes.
  - 4. Excavate using the procedures specified in Section 31 2316.13, Trenching for Site Utilities.
  - 5. Sheathing and shoring shall be done as necessary for protection of work and personnel safety.
  - 6. Unless otherwise indicated, excavation shall be open cut except for short sections.
  - 7. Maintain trenches free of debris, material, and obstructions that may damage pipe.
  - 8. Piping: Assemble heat exchanger piping and test before backfilling.

### **3.03 POLYETHYLENE PIPING**

- A. Join piping and fittings using heat fusion or electrofusion; do not use solvents, adhesives, or mechanical fittings.
  - 1. During Installation the socket shall be cleaned with individual alcohol wipes prior to heating for fusion. Rags where reuse is permitted is strictly prohibited.
- B. Provide flanges or unions to connect heat exchanger piping to equipment or piping of different type; locate all transitions between piping of different types inside the building or otherwise accessible (i.e. above grade).
- C. Keep dirt, water, and debris out of pipe assemblies; cap or plug open ends until connected to adjacent piping.
- D. Do not bend piping to shorter radius than recommended by pipe manufacturer; do not kink piping; use elbow or other fittings for sharp bends.
- E. Partially backfill radius bends in narrow trenches by hand to ensure that piping is properly supported and to prevent kinking.
- F. Confirm that factory fused U-bend pipe used in vertical heat exchanger has retained the pre-charge from the factory. If pre-charge is not present re-test.
- G. Test piping to be installed in boreholes after assembly but before installation in boreholes; re-cap tested assemblies before installation.
- H. Test piping to be installed in trenches after installation but before backfilling.
- I. If necessary, an iron (sinker) bar can be attached at the base of each vertical heat exchanger piping end to overcome bouncy. This iron bar will have all sharp edges adequately taped to avoid scaring and/or cutting of the polyethylene pipe. The entire piping assembly is inserted to the specified depth in the borehole

- J. The vertical heat exchanger pipe ends will be sealed with fusion caps or tape prior to insertion into the bore hole.
- K. Reasonable care shall be taken to ensure that the geothermal loop field pipe is not crushed, kinked, or cut. Should any pipe be damaged, the damaged section shall be cut out and the pipe reconnected by heat fusion.
- L. Testing: Perform hydrostatic test on all piping; portions of assembled piping may be tested separately.
  - 1. Prior to testing, isolate piping from all connections to building systems.
  - 2. Flush all dirt and debris using potable water flowing at twice the normal operating flow rate for a minimum of four hours or until no dirt or debris is visible, whichever is longer.
  - 3. Plug or cap piping.
  - 4. Pressurize piping to 150 psi for 30 minutes and monitor.
  - 5. If there is any pressure loss or visible leakage, identify leak and repair in accordance with manufacturer's recommendations.
  - 6. Repeat test until there is no loss of pressure for the duration of the test.
- M. Where piping passes through foundation walls, provide sleeves sealed with non-hardening, waterproof material.

### **3.04 BACKFILLING**

- A. Install in compliance with local authorities having jurisdiction.
- B. Vertical Boreholes: Backfill after pipe installation in accordance with IGSHPA Grouting Procedures for GHP Systems.
- C. The vertical boreholes are to be grouted immediately on completion of the hole and insertion of the pipe. Grouting from the bottom up, in a continuous fashion, using a one inch HDPE tremie pipe. The tremie pipe will be pulled out during the grouting procedure maintaining the pipe's end just below grout level within the borehole.
- D. All State and local regulations will be met for borehole grouting of the vertical boreholes.
- E. Protect piping from displacement
- F. Trenches:
  - 1. Provide minimum cover over piping as shown on the drawings.
  - 2. Backfill trenches after pipe has been installed and tested, using fill free of rocks and other debris.
  - 3. unsuitable backfill shall be removed as directed by Architect
  - 4. Install detectable tape continuously 18 inches above top of all buried pipe
  - 5. Backfill and compact using the procedures specified in Section 31 2316.13.
  - 6. Backfill to original grades with sufficient overfill to allow for settlement.
- G. Protect piping from displacement.

### **3.05 FIELD QUALITY CONTROL**

- A. Vertical Heat Exchanger Pipe Testing
  - 1. The pipe used in vertical heat exchanger shall be filled with water and pressurized to 100psi to check for leaks before insertion.
- B. Vertical Borehole Grout Testing
  - 1. Thermally enhanced bentonite used with the backfill for Vertical boreholes shall have three sample containers and return cartons provided for return to the manufacturer for analysis. Through the course of the project, three sample specimens will be taken of the mixed grouting material: once at the beginning of the installation; once approximately one-third through the installation; and once approximately two-thirds through the installation. An analysis of each sample will be performed by the grout manufacturer to verify the minimum specified thermal performance with a report being sent immediately to the entity requesting the analysis.
- C. System Pressure Test

1. Before connection (header) trenches are backfilled, the assembled Ground-Loop Heat-Pump Piping system shall be pressure tested with water at 100 psi (689 kPa) for 30 minutes with no observed leaks.
  - a. Do not to exceed SDR 11 pipe working pressure at bottom of the pipe used in Vertical bore applications
2. Before covering the well field, when system pressure testing is taking place, the contractor shall notify the Architect 24 hours before the test taking place.

### **3.06 RECORDING**

- A. The Vertical Bores Locations and all Well Field Valve Locations shall be documented by:
  1. Triangulated dimension from a known permanent bench mark and document on the Record Documents.
  2. The geographic location shall have a format in degrees, minutes, and seconds for latitude and longitude relative to the North American Datum 1983 (NAD1983) geodetic datum. Location accuracy shall be at least one place after the seconds decimal point: i.e., this format, latitude 38° 59' 59.9"N, longitude 94° 01' 01.0"W. Record and document on the Record Documents.
  3. The well driller shall take GPS coordinates of the wells and mark them on the Record Documents for future location of the Vertical Bores.
    - a. GPS coordinates shall be to the 100th of second.
- B. The Well Field Valve Locations shall be documented by:
  1. Triangulated dimension from a known permanent bench mark and document on the Record Documents.
- C. The System Purging shall be documented as to the following for min:
  1. Purge flow
  2. Pressure
  3. Time of starting
  4. Time when flow was reversed
  5. No of circuit valves open during the process
  6. Pressure on the purge pump after purging was complete.
  7. The operator who was executing the process
  8. (Certifications that water flow is free of debris)
- D. The System Pressure Test shall be documented as to the following:
  1. Date of the test
  2. Indication of what section of the well field was tested
  3. Pressure at start
  4. Time period of test
  5. Pressure at end
  6. Test operators name
- E. E. The Boring Log shall be documented as to the following:
  1. Location
  2. GPS Location
  3. Date & time vertical bore started
  4. Date & time vertical bore ended
  5. Formation recorded by depth
  6. Bore diameter
  7. Vertical pipe size
  8. Grout type used
  9. Grout portioned explained
  10. Type of drilling rig model used for bore
  11. Drilling mud
  12. Drilling log provided by
  13. Person who supervised the test bore drilling

### **3.07 CLEANING**

- A. Leave adjacent paved areas broom clean.
- B. Clear debris, including excess backfill and excavated dirt and rock, from heat exchanger area.
- C. System Purging:
  - 1. Shall be completed as per ASHRAE Publication: Ground-Source Geothermal Systems for Commercial and Institutional Buildings by Kavanaugh, S.P., and K. Rafferty. 1997
  - 2. A purging system consists of a tank (500 gal minimum), a pump capable of the conditions indicated on the drawings, suction filter in the base of the tank, return at or below the water level in the tank and a valve arrangement suitable for reversing flow through the well field.
  - 3. Before purging starts Architect shall be notified at least 24 hours in advance.
- D. Well Field System Purging:
  - 1. Each supply and return circuit shall be flushed and purged with a water velocity of two feet per second, the flow direction shall be cycled for a minimum of three times for a minimum of 10 minutes in each direction (until the water flow is free of any debris). The well field system purging shall be completed separately of the building system. The lines shall be left filled with clean water and then pressure tested.
- E. The Contractor shall be responsible for the removal of all cutting materials from the jobsite and the restoration of the site to its' original condition. The Contractor shall provide the necessary seeding and strawing to rehabilitate the disturbed areas.

### **3.08 PROTECTION**

- A. Protect area during excavation from excess runoff and erosion.
- B. Protect pipe protrusions from damage until connections to building systems are installed.
- C. During installation, all debris, and small animals shall be kept out of the pipe. Ends of the HDPE pipe used for the Heat Exchanger shall be sealed until the pipe is joined to the circuits. Sealing means heating the ends of the pipe and crimping the heat exchanger closed. Tape and or plastic caps are not considered as sealed.
- D. All pipe and conduit ends shall be kept sealed and lines left clean and unobstructed during construction.

### **3.09 CLOSEOUT ACTIVITES**

- A. Provide Owner items as specified on drawings including:
  - 1. Operator for Well Field valves. Provide written conformation indicating:
    - a. When turned over
    - b. Whom from Owner accepted

**END OF SECTION**

1. GENERAL

1.1. DESCRIPTION

- A. Provide all labor and materials for all excavation, well drilling, pipe trenches, grading, fill, seeding, lawn repair and backfill work of every kind needed to complete the construction work in accordance with the Contract Documents.
  - 1. Final fill, grading and seeding must be completed by 05/29/2023.
- B. The Contractor shall contact J.U.L.I.E. (1-800-892-0123) and verify with non-member utilities all underground services, shall mark same and maintain marking during construction.
  - 1. If private locator is needed, call Tri-County Locators, (815) 973-4568 or USIC.
  - 2. Mark information on Contract Record Drawings.
- C. Contractor shall be responsible for erosion control and compliance with local and IEPA regulations.
  - 1. File IEPA Erosion Control Permit for all operations opening up one (1) acre or more of soil.

1.2. RELATED WORK

- A. Specified elsewhere
  - 1. Section 23 2113.33 – Ground Loop Heat Pump Piping
- B. Contractor shall include in his contract testing by an independent testing agency all granular backfill work.
  - 1. Testing agency shall certify compaction is satisfactory for proposed construction purposes.
  - 2. Send reports and certification of compaction directly to the Architect and Owner.
- C. Owner may schedule additional independent testing at his option.

2. PRODUCTS

2.1. MATERIALS

- A. Earth fill or backfill
  - 1. Earth fill or backfill shall be natural earth, native to the general area of construction, free of clay soil, debris, rocks, unnatural materials

of any type, and any other material which may impair long term stability or performance of the earth.

B. Top soil

1. Topsoil shall be natural earth, native to the general area of construction, which is suitable to support vegetation without excessive use of fertilizers or other soil treatment.
2. This material shall be clean friable earth, free of sand, gravel, clay, debris or any materials which might impair the workability of the soil and/or its ability to sustain vegetation.

C. Seed and fertilizer

1. Current year date for seed.
2. Standard lawn seed, 30% Tall Fescue / 50% Red Fescue / 20% Annual Rye Grass. Variations will be considered.
3. 12-8-8 fertilizer, 500 lbs. per acre.

3. EXECUTION

3.1. SITE PREPARATION

- A. Establish working grades and lay out building and site requirements such that earth stockpiles will not interfere with construction processes or proper site drainage.
1. Remove overburden of clay and other material from drilling and trenching in excess of that used for fill.
- B. Install eight inches (8") to twelve inches (12") of topsoil from all areas subject to final grade changes. This earth shall be stockpiled from stripped areas for use as topsoil in the final grading operations, and clean black soil added as necessary.
- C. Complete base grading necessary in the work, stacking clay separately from the topsoil. Fill and compacted fill work necessary to achieve base grading may be completed at any time during the construction work coordinate with all trades to allow timely and efficient progress.
1. Some playground have fine gravel or wood mulch areas. These areas shall be restored with stockpiled material or new like material.

3.2. EXCAVATION

- A. If earth or conditions of doubtful or unexpected character are encountered, the observing Architect shall be notified and foundation work shall not proceed until his direction has been received.
- B. The Contractor shall connect up all field drainage tile encountered in excavations as directed by the Architect. All abandoned sewer, water and gas lines encountered shall be connected or removed as directed by Architect.

- C. Keep all excavations free of standing water.

### 3.3. FILL AND BACKFILL

- A. Fill under and within five feet (5') of paving, sidewalks, curbs, concrete slabs, drives, streets, etc., shall be gravel compacted to at least ninety-five percent (95%) of Standard Proctor maximum dry density with a maximum permissible variation of moisture from the optimum moisture content of two percent (2%).
- B. Earth fill may be employed in lawn and yard areas.
- C. **Earth fill shall be suitably compacted to prevent future settlement.**
  - 1. School grounds must be level or continuous to adjacent existing grades.

### 3.4. SURPLUS EARTH AND SITE DEBRIS

- A. Surplus earth from excavation and site preparation shall be:
  - 1. Clean earth, use for grading, stockpile remainder.
  - 2. Earth with rubble or construction debris; remove from site.
  - 3. Separate topsoil and clay or fill earth.

### 3.5. GRADING

- A. The Contractor shall execute the finish grade, the top six inches (6") of which shall consist of topsoil. The Contractor shall grade to uniform level and slope away from building for drainage.
- B. All grading shall be as indicated on the Drawings. Existing drainage patterns to adjacent property shall be maintained. No areas shall pond or retain water unless specifically identified on the Drawings.
- C. Repair all areas that settle and erode within the first year of Owner occupancy.

### 3.6. SEED - BY CONTRACTOR

- A. Fine grade and seed all areas disturbed by construction operations.
  - 1. Apply standard lawn seed Tall Fescue 30% / Red Fescue 50% / Annual Rye 20% maximum.
  - 2. Apply lawn fertilizer 12-12-12 or better to seeded area.
    - a. Apply seed and fertilizer scullery by Hydro seed method at rate of 1,000 lbs. per acre. Sullery may be based on Gro-Power Plus 5-3-1 or equal.
  - 3. Apply straw to all seeded areas.

- a. Apply straw at the rate of 1½ bales per 1,000 sq. ft.

### 3.7. WARRANTY

- A. During the one (1) year warranty period, re-grade any areas subject to settlement or erosion and reseed or sod as appropriate. Reseed or sod any areas of lawn which do not survive the first growing season excluding the following:

1. Areas subject to excessive traffic.

END 31 2320