

PROJECT:
Green Meadow Elementary School -
Early Site Package
5 Tiger Drive
Maynard, MA 01754
Project No.

ADDENDUM NO. 1 06/07/2024

Posted: 06/07/2024 at 2:59PM EDT

Awarding Authority/Owner:

Town of Maynard
195 Main Street
Maynard, MA 01754

Reference Contract Documents (drawings and specifications) dated 05/22/2024

The attention of Bidders submitting proposals for the above subject project is called to the following addendum to the specifications and drawings. The items set forth herein, whether of omission, addition, substitution, or clarifications are all to be included in and form a part of the proposal submitted.

THE NUMBER OF THIS ADDENDUM (1) MUST BE ENTERED IN THE APPROPRIATE SPACE "B" PROVIDED AFTER THE WORD "NUMBERS" OF THE CONTRACT FORM ENTITLED "FORM FOR GENERAL BID," AND IN SPACE "B" OF THE "FORM FOR SUB-BID."

BID DOCUMENT MODIFICATIONS ARE AS FOLLOWS.

Specifications:

- Add the following new technical sections. (See attached)
33 10 00 Water Utilities

- Replace the following technical sections in their entirety. (See attached)
31 21 01 Site Utilities Preparation

Clarifications:

GENERAL

RFI #9 - Type: General

Drawing ref: C-02.1, C-02.2

Section ref: N/A

Other ref: N/A

Question:

2. Some of the site plans need to show additional grading / contours: a. Please provide contours for the proposed roadway from the well area to the parking area b. Please provide the top and bottom of the proposed retaining walls – only one corner of one wall is shown on the plans. c. Please provide the contours for the final grading of the proposed well field – how do we leave the finished grade? Loam & seeded?

Response: (Prime Designer)

See addendum 01 narrative, specs and drawings for clarifications.

RFI #11 - Type: General

Drawing ref: C-00, C-01.1, C-01.2, C-01.3, C-01.4, C-02.1, C-02.2, C-02.3, C-02.4

Section ref: N/A

Other ref: N/A

Question:

Please provide the scale for drawings C-00 through C-02.4

Response: (Prime Designer)

See addendum 01 narrative, specs and drawings for clarifications.

CIVIL

RFI #2 - Type: Civil

Drawing ref: C-02.1, C-02.2, C-02.3, C-02.4

Section ref: 33 32 23

Question:

Regarding the tiered retaining walls at the west end of the site, what are the proposed grades between them?

Response: (Prime Designer)

See attached addendum 01 narrative and drawings for clarifications.

RFI #5 - Type: Civil

Section ref: 01 50 00

Question:

Regarding the construction fence, the plan detail calls out 8' but the written spec calls out 6'. Considering the temporary fence is panelized, 6' high would be more stable than 8' high. Please clarify.

Response: (Prime Designer)

See addendum 01 narrative specifications and drawings for clarifications.

RFI #6 - Type: Civil

Section ref: 32 31 70

Question:

Regarding the 4' CLF: The plans call out vinyl ctd fabric and galvanized post. Typically the framework and fabric match. Please confirm if the fence is galv or vinyl ctd. There are 2 different psi requirements for the concrete fence posts foundations. Please confirm either 5000 psi, which is excessive, or 3000 psi, which is more typical.

Response: (Prime Designer)

See addendum 01 narrative for clarifications to the drawings and specifications.

ELECTRICAL

RFI #1 - Type: Electrical

Drawing ref: C-02.3

Section ref: 31 21 01

Question:

The specs refer to relocating the existing transformer, but the drawings indicate that it is to be removed. If relocated, what work is required? Is there a proposed location? Will a new transformer be installed prior to removal of the existing?

Response: (Prime Designer)

The existing transformer will remain as is, see addendum 01 for narrative, specification and drawing clarifications.

Other Modifications / Attachments:

The following attachment includes additional modifications, clarifications and/or provisions not included in the items above in this Addendum.

See document at the end of document.

All other of the portions of the Contract Documents remain **unchanged**. Please be reminded to acknowledge this Addendum on the bid forms.

ATTACHMENTS

33 10 00 Water Utilities
31 21 01 Site Utilities Preparation
Addendum 01 Compiled Files.pdf

--- End of Addendum No. 1 ---

ADDENDUM NO. 1
to the Contract Documents Bid Set dated May 22, 2024

GREEN MEADOW ELEMETARY SCHOOL PROJECT
EARLY SITE BID PACKAGE
Maynard, Massachusetts

Mount Vernon Group Architects, Inc.
264 Exchange Street
Suite G4
Chicopee, MA 01013

Addendum Date: **June 07, 2024**

TO ALL BIDDERS AND SUB-BIDDERS

This Addendum modifies, amends, and supplements designated parts of the Contract Documents for – Green Meadow Elementary School Early Site Bid Package, Maynard, Massachusetts bid set dated May 22, 2024 and is hereby made a part thereof by reference and shall be as binding as though inserted in its entirety in the locations designated hereunder. It shall be the responsibility of each General Bidder to notify all sub-contractors and suppliers he/she proposes to use for the various parts of the works, of any changes or modifications contained in this Addendum. No claims for additional compensation because of the lack of knowledge of the contents of this Addendum will be considered.

THE NUMBER OF THIS ADDENDUM MUST BE INSERTED IN PARAGRAPH B. OF THE “FORM FOR GENERAL BID”

THIS ADDENDUM CONSISTS OF PAGES NUMBERED: **AD1-1 through AD1-2**

NEW SPECIFICATIONS: Pre-Bid Walk Thru Sign-in Sheet

NEW DRAWINGS:

GENERAL

CHANGES TO THE BID SET PROJECT MANUAL

TABLE OF CONTENTS

ITEM 01: Added Pre-Bid Walk-thru Sign-in Sheet
ITEM 02: Addes Specification Section 33 10 00 – Water Utilities

SECTION 31 21 01 – SITE UTILITIES PREPARATION

ITEM 01: Page 1, Article 1.02, remove:
“B. “The work includes the removal of the existing electrical transformer currently servicing the existing Green Meadow School and relocating the transformer, primary power feed and secondary power feed as needed to maintain operation of the existing building without interfering with the normal operation of the school.”

SECTION 33 10 00 – WATER UTILITIES

ITEM 01: Spec added to bid set.

CHANGES TO THE BID SET DRAWINGS

DRAWING C-00 – OVERALL PLAN

ITEM 01: Revised access drive entrance

ITEM 02: Revised retaining wall layout

DRAWING C-01.2 – DEMO PLAN

ITEM 01: Revised Limit of work, construction fence and silt sock layout

DRAWING C-01.3 – DEMO PLAN

ITEM 01: Revised Limit of work, construction fence and silt sock layout

ITEM 02: Existing transformer to remain

DRAWING C-02.1 – SITE PREPARATION PLAN

ITEM 01: Revised retaining wall layout

ITEM 02: Grades added to retaining wall

ITEM 03: Revised grades at access drive and parking area

ITEM 04: Note added for building pad prep

DRAWING C-02.2 – SITE PREPARATION PLAN

ITEM 01: Revised retaining wall layout

ITEM 02: Grades added to retaining wall

ITEM 03: Revised access drive layout

ITEM 04: Revised Limit of work, construction fence and silt sock layout

DRAWING C-02.3 – SITE PREPARATION PLAN

ITEM 01: Revised Limit of work, construction fence and silt sock layout

ITEM 02: Existing transformer to remain

ITEM 03: Revised access drive layout

DRAWING C-03.1 – DETAILS

ITEM 01: Revised chain link fence detail – posts to be vinyl coated

ITEM 02: Revised construction fence detail to be 6 feet high

END OF ADDENDUM NO. 1

Project GREEN MEADOW E.S.

Project No. 02021.10

Subject EARLY SITE PRE-BID CONTRACTS

Date 5.29.24 Prepared By α

Notes _____



MOUNT VERNON GROUP
ARCHITECTS

<u>NAME</u>	<u>Company</u>	<u>PHONE</u>	<u>EMAIL</u>
CHRIS W BLAKE	MVG	413-592-9700	CLBLAKE@MVGARCHITECTS.COM
MICHAEL MACURA	MACURA	508-330-6408	MIKE@MACURAEXCAVATING.COM
MARCO ROFFO	E.T.L. CORP.	339-221-2717	MROFFO@ETLCORP.COM
Collin Gudeman	Gerber Construction	860-576-4749	collin@gerberconstructioninc.com
Franklin Cruz Jr.	Manafort Brothers	401-965-4721	FRANK FCRUZ@MANAFORT.COM
Justin Marois	Marois Bros	508-791-8134	JMMarois@maroisbrothers.com
Chris Treiling	CDM Smith	518-424-6031	Treilingcr@cdmsmith.com
KAM PATEL	J V J CONTRACTORS	978-259-2154	Kamp@JVCcontractor.com
Cam Gosine	Brennan Consulting	603-494-6676	cgosine@brennanconsulting.com
LUIS ASCENSAO	MVG ARCHITECTS	978-337-4886	LASCENSAO@MVGARCHITECTS.COM

SECTION 31 21 01

SITE UTILITIES PREPARATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Related documents: Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 DESCRIPTION OF WORK

- A. This section consists of providing all materials labor and equipment including but not limited to laying out and preparing for and completing excavation and trenching for pipelines and all associated handling and storage of materials, dewatering as necessary, and subgrade preparation and surface restoration of the trench. Providing trench protection for workers and protection of the trench work. Obtaining permits required to perform the installation of each utility. The work includes preparing trenches including excavating and backfilling for utilities to be installed or completed by others.
- ~~B. The work includes the removal of the existing electrical transformer currently servicing the existing Green Meadow School and relocating the transformer, primary power feed and secondary power feed as needed to maintain operation of the existing building without interfering with the normal operation of the school. [AAD1]~~
- C. Install portions of the conduits to be used for electrical power in locations as noted on the plan.
- D. Provide excavation, trenching, and backfill for the geothermal piping that extends from the geothermal wells to the vault used to gather the piping.
- E. Provide excavation and backfill for the utility vault used to gather the well piping.
 - 1. The extent of work is as shown on the geothermal drawings and as specified in the relative specification sections.
 - 2. Remove and dispose of all unused soil excavated from the trenching operation.

1.03 RELATED WORK AS SPECIFIED ELSEWHERE

- A. Related sections, without limitation, include:
 - 1. Section 31 10 00 - Site Clearing
 - 2. Section 31 20 00 – Earth Moving
 - 3. Section 31 21 00 - Site Preparation
 - 4. Section 31 25 00 – Erosion and Sedimentation Controls
 - 5. Section 33 61 37 – Geothermal Ground-Source Heat Exchange System

1.04 SUBMITTALS

- A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures, Section 01 33 15 - NE-CHPSv3.2 Requirements, and in accordance with requirements of the Contract Documents.

PART 2 - PRODUCTS

- 1.01 Provide and install sand to backfill the geothermal piping field trenches per Section 33 61 37 – Geothermal Ground-Source Heat Exchange System specifications.

PART 3 - EXECUTION

3.01 DIG SAFE COORDINATION

- A. Contractor shall coordinate with DIG SAFE (811) and request a full mark out of all utilities on site and in public ways. The contractor shall mark out dig safe limits to coincide with the project utility limits and keep the dig safe limit marks visible by remarking the limits throughout the project construction. An electronic copy of the dig safe ticket shall be sent to the architect and the various Town Departments upon request. The contractor is required to renew the dig safe ticket at the intervals required by Dig Safe and call Dig Safe for remarks as needed.

3.02 UTILITY MARK OUT LIMITS

- A. Before excavation establish the route of proposed utility alignments in the field by marking out locations for review by the architect and confirm that the routes will be obtainable when compared with the dig safe marks labeled by various utility companies.
- B. Trench limits in pavement may be jack cut for temporary patching and shall be saw cut with power driven saws for final patching.
- C. Coordinate and mark out the locations of the geothermal trenches before excavation work begins for review by the Architect.

3.03 TEST PITS FOR CONFIRMATION

- A. Exposure of buried utilities that might interfere with alignment or grade shall be accomplished by Exploratory Excavation (test pits) prior to construction. If any existing utility interferes with the proposed work in either alignment or grade and has to be moved, such work shall be done by or arranged for by the CONTRACTOR.
- B. Exploratory Excavation via test pits performed by the contractor may be required either prior to or during construction to verify location(s) of the utilities or underground facilities when there are discrepancies with surface "locates" or discrepancies with how the utilities are identified on the drawings in relation to their true underground location.
- C. The CONTRACTOR shall communicate to the ENGINEER and they shall agree on the appropriateness to proceed with Exploratory Excavation prior to commencing with the work.

3.04 UTILITY EXCAVATION

- A. During excavation, materials suitable for backfilling shall be piled in an orderly manner and a sufficient distance from the banks of the trench to avoid overloading and to prevent slides or cave-ins. Excavated material shall be piled on one side of the trench only, to permit ready access to existing fire hydrants, valves, manholes and other appurtenances. Surface drainage of adjoining areas shall be unobstructed.
- B. All excavated materials not required or suitable for backfill shall be removed from the site and disposed of in a manner and/or by methods acceptable to OWNER. The architect will require certification of proper disposal procedures copies of dump slips, etc.
- C. The contractor shall grade or provide temporary dikes as necessary to prevent surface water from flowing into excavations, and any other water accumulating therein shall be promptly removed. Under no circumstances shall water be permitted to rise in un-backfilled trenches until after the pipe has been placed, tested and covered to final grade with backfill. Any pipe having its alignment or grade changed as a result of a flooded trench shall be re-laid at no additional cost to the OWNER.
- D. Adequate provisions shall be made for maintaining the flow of sewers, drains and water courses encountered during construction. Culverts, ditches, fences, crossings and structures that are disturbed by this construction, shall be satisfactorily restored to their original condition upon completion of the work.

3.05 SAFE SITE CONDITIONS

- A. The CONTRACTOR or a CONTRACTOR DESIGNATED COMPETENT PERSON under his/her employment shall be responsible for enforcing safety and maintaining safe working conditions and all trenching and shoring to conform to OSHA regulations.
- B. The CONTRACTOR shall employ qualified, properly trained personnel to design shoring, perform safety inspections of the trenches, and other operations involving safety procedures, as prescribed by OSHA.
- C. The CONTRACTOR shall do all shoring, bracing and tight sheeting required to prevent caving and to protect his workmen, in accordance with Occupational Safety and Health (OSHA) Regulation Requirements, and to protect adjacent property and structures.

3.06 STRUCTURES ENCOUNTERED

- A. The CONTRACTOR shall exercise every precaution to prevent damage to existing buildings or structures in the vicinity of his work. In the event of such damages, he shall repair them to the satisfaction of the owner of the damaged structure at no cost to the OWNER.

3.07 OVERHEAD UTILITIES

- A. The CONTRACTOR shall use extreme caution to avoid a conflict, contact, or damage to overhead utilities such as power lines, streetlights, telephone lines, television lines, poles or other appurtenances during the course of construction of the Project.

3.08 SURVEY MARKERS AND MONUMENTS

- A. The CONTRACTOR shall use every care and precaution to protect and not disturb any survey markers or monuments, such as those that might be located at lot or block corners, property pins, street intersection monuments or addition line demarcation. Such protection shall include marking with flagged high stakes and markers and field coordination with operators and other workers and close supervision. No monument shall be disturbed without prior approval of the OWNER and ENGINEER. Any survey marker or monument that is disturbed or destroyed by the CONTRACTOR without approval during construction of the Project shall be replaced at no cost to the OWNER by a licensed land surveyor.

3.10 DEWATERING TRENCHES AND DRILLING

- A. Where ground water is encountered in the excavation, it shall be removed to avoid interfering with pipe laying, footing placement and other construction operations. The contractor shall provide all dewatering design and equipment.
- B. Dewatering shall be considered a cost paid for as part of the contractor's utility installation and excavation work. No separate payment will be made for dewatering utility trenches or handling water generated by drilling operations.
- C. Discharge from dewatering operations shall be directed to storm sewers and into catch basins only based on the approval received from the Town DPW.
- D. All discharge dewatering systems shall control silt and any turbidity from entering the Town drainage system or adjacent wetlands. The use of silt sacks is required in Section 31 25 00 Temporary Erosion & Sediment Controls. All silt sacks shall be in place, inspected and approved before any excavation work shall commence.
- E. Discharge from dewatering operations shall be treated in accordance with rules and regulations established by the Massachusetts Department of Environmental Protection (MDEP). These activities require coverage under the Town of Maynard MS-4 permit.
- F. For general trench dewatering the contractor shall use silt bags fitted on all dewatering hoses. The silt bags shall be adequately sized to eliminate silt and turbidity from the dewatering discharge. The Town of Maynard has the right to inspect the contractor's dewatering equipment and stop the contractor's work if it is found that the contractor is in violation of the Town's MS-4 Permit or any of the Town's By-Laws.

- G. To mitigate/remove fines from the slurry generated by the geothermal well drilling the contractor shall employ a pump and filtering system with frac tanks or other containment features as needed to eliminate the silt and fines generated by the drilling operation. The materials, equipment, and design of this type of dewatering system shall be designed by a person competent in the assembly, operation, and maintenance of the filtering system.
- H. All water exiting the contractor's pumping and sedimentation/filtration equipment shall be clear and free of turbidity. The contractor's filter system and containment system shall be adequately sized to manage the water generated by the dewatering operation without overtopping or overflowing.
- I. All silt, fines or other waste generated by filtering and settling operations shall be legally disposed of by the contractor. The costs associated with disposing of the silt, fines and other waste material generated by dewatering shall be included as part of the cost of the utility and drilling installation. No separate payment will be made for dewatering of any kind.

3.11 GENERAL EXCAVATION OPERATIONS

- A. The CONTRACTOR shall excavate as necessary at the locations shown on the drawings, staked in the field or otherwise specified for the installation of the structure, service pipelines and other utilities as noted on the drawings or as required.
- B. The CONTRACTOR shall take precautions and protect all adjoining private and public property and facilities, including underground and overhead utilities, curbs, sidewalks, driveways, structures, trees, and fences. Any disturbed or damaged facilities will be suitably restored or replaced by the CONTRACTOR at no cost to the owner.
- C. Crossing under sidewalks or curbs may be made by tunneling is not allowed. If the CONTRACTOR elects to remove a portion of the sidewalk or curb, he must use a concrete saw for making neat joints corresponding to existing joints, compact the backfill as specified, and install a new concrete sidewalk or curb section.
- D. Excavations for manholes, hydrants, structures, and other appurtenances shall be sufficient to leave clearance adequate for proper compaction efforts on all sides. The depth, provisions for removing water, and other applicable portions of these specifications shall apply to excavation for appurtenances.

3.12 TRENCH DIMENSIONS

- A. Trench dimensions shall be as specified below:
 - 1. Trench width from the trench bottom to a point one foot (12 inches) above the top of the pipe shall be no less than the outside diameter of the pipe plus twenty-four (24) inches plus the shoring on each side of the trench. The width of the trench from the bottom of the trench to the existing ground surface shall be adequate to allow proper compaction effort along both sides of the pipe.
 - 2. Depth of Trench. Trench depth shall be as required for the invert grade or pipe bury depth shown on the plans. Care shall be taken not to excavate below the required depth.
 - 3. When soft or unstable material or rock is encountered at the subgrade, which will not uniformly support the pipe, such material shall be excavated to an additional depth as necessary and backfilled with Gravel Pipe Bedding Material per Section 31 20 00 Earth Moving.
 - 4. Were trench depths exceed 20 feet, the contractor shall provide trenching protection designed by a Registered Professional Engineer per OSHA standards.

3.13 TRENCH BOTTOM

- A. The bottom of the trenches shall be accurately graded to the line and grade show on the drawings or shall provide the cover depth required by the utility owner. Bedding material shall provide uniform bearing and support for each section of the pipe at every point along its entire length. Bell holes and depressions for joints shall be dug after the trench bedding has been graded, and shall be only of such length, depth and width as required for properly making the particular joint type. Unauthorized over depths shall be backfilled with bedding material at the CONTRACTOR's expense.

3.14 TIME OF OPEN TRENCHES

- A. The CONTRACTOR will be required to conduct his work so that trenches will remain open a minimum possible time.
- B. No trench excavating shall begin until approved compaction equipment is at the site where the excavating is to take place. All backfill and compacting shall be completed in all trenching and structural excavations within a maximum distance based on the work that can be accomplished in a day.
- C. The contractor shall provide road plates to cover trenches that are not backfilled and compacted at the end of a workday. The plates shall be shimmed and wedged with temporary bituminous when placed across roadways.
- D. No trenches are to be left plated over holiday weekends. Trenches shall be backfilled as soon as the utility is inspected and approved.

3.15 EQUIPMENT

- A. The use of trench digging machinery will be permitted except in places where its operation will cause damage to existing structures or features, in which case hand methods shall be employed.
- B. Any equipment on tracks, or that have outriggers which are to be used on pavement, shall be equipped with suitable pads to prevent damage to the pavement. All pavement damaged during construction by the CONTRACTOR's equipment shall be replaced to its original condition by the CONTRACTOR.

END OF SECTION

SECTION 33 10 00 {ADDENDUM 1}

WATER UTILITIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.
- B. Sustainable Design Intent: The Work of this Contract and Section shall include compliance with all requirements to achieve a minimum of 170 points in accordance with NE-CHPS version 3.2 Criteria. Work shall include, but not be limited to, Location and Transportation, Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, and Innovation as described in, and in accordance with requirements of Section 01 33 15 – NE-CHPSv3.2 Requirements, Section 01 81 15 – Sustainable Materials Requirements, and the Contract Documents.

1.02 DESCRIPTION OF WORK

- A. This work consists of removing and relocating an existing fire hydrant as noted on the drawings. Obtaining any permits from the Town of Maynard Department of Public Works (DPW) and coordination of all inspections and notifications as required by the Town of Maynard DPW and Town of Maynard Fire Department.
- B. This work includes but is not limited to all excavation and backfill, labor, equipment and materials needed to excavate the existing hydrant and existing pipe and connection relocate the hydrant to the proposed location, connection to the water main, install piping, gate valve and.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Related sections, without limitation, include:
 - 1. Section 31 20 00 - Earth Moving
 - 2. Section 31 21 00 - Site Preparation
 - 3. Section 31 21 01 – Site Utility Preparation
 - 4. Section 31 25 00 – Erosion and Sedimentation Control

1.04 REFERENCES

- A. AWWA (American Water Works Association) C151-09 - Ductile-Iron Pipe, Centrifugally Cast
- B. AWWA C153-19 – Ductile Iron Compact Fittings
- C. AWWA C104-08 - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings
- D. AWWA C651-23 – Disinfecting Water Mains
- E. AWWA C110-12 – Ductile-Iron and Gray Iron Fittings
- F. AWWA C111-12 – Standard for Rubber Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
- G. AWWA C515-15 Reduced-Wall, Resilient-Seated Gate Valves for Water Supply Service
- H. AWWA Standard Specifications for Hydrants and Valves
- I. DIPRA – (Ductile-Iron Pipe Research Association) Thrust Restraint Design for Ductile Iron Pipe (latest edition)
- J. AWWA C606- Standard for the Installation of Ductile-Iron Water Mains and Their Appurtenances
- K. AWWA (American Water Works Association) C651-23 – Disinfecting Water Mains

1.04 SUBMITTALS

- A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures, Section 01 33 15 - NE-CHPSv3.2 Requirements, and in accordance with requirements of the Contract Documents.

PART 2 - PRODUCTS

2.01 MATERIAL APPROVAL

- L. All materials incorporated into or connected to the Maynard water system shall be subject to approval of the submittal procedures listed herein and by Maynard DPW.

2.02 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Ductile Iron Pipe for water mains
 - 2. Ductile Iron Fittings for water mains
 - 3. Ductile Iron solid body couplings for water mains
 - 4. Ductile Iron gate valves for water mains
 - 5. Cast Iron gate valve boxes
 - 6. Thrust restraint glands and bolts for water mains
 - 7. Pre-Cast concrete thrust blocks

2.03 WATER PIPE VALVES AND FITTINGS

- A. Water pipe shall be cement-lined, seal-coated ductile iron pipe with push-on type joints. Pipe shall be thickness class 52 and shall conform to the latest revision of AWWA C151.
- B. Valves shall conform to the latest revision of AWWA C515 for gate valves. Valve type shall be as directed by the Town of Maynard DPW standard.
- C. Gate valves sizes 4 through 12-inch shall be of a resilient wedge design with cast ferrous components made of ductile iron and the valves shall be in compliance with AWWA C515. All valves shall be a Mueller Resilient Wedge Gate Valve manufactured by Mueller Company or Series 2500 Resilient Wedge Gate Valve manufactured by American Flow Control. The valves shall open RIGHT, clockwise. Gate valves shall be equipped with mechanical joints and retainer glands, unless otherwise specified by the Maynard DPW.
- D. The valves shall be designed for a safe working pressure of 250 psi. Valves shall be fusion-bonded epoxy coated on the interior surface unless otherwise specified by the Maynard DPW.
- E. Hydrant shall be reset with new restraint joints, rods and nuts.
- F. Hydrant Anchoring tees shall have main run ends as required for the installation. The branch shall have a plain end with an integral gland and rotating mechanical joint gland to provide a restrained connection with the adjacent valve.
- G. Fittings shall be ductile iron and conform to the latest revision of AWWA C153. All fittings shall be mechanical joint.
- H. Retainer glands shall be installed at all mechanical joints. Retainer glands shall be rated at 350 psi for 4-inch (4") through 24-inch (24") diameters, and 250 psi for glands larger than 24-inch (24").
- I. All nuts and bolts shall be of a type equal to ductile iron or KOR-10 steel T-bolts and nuts.
- J. Valve boxes shall be round, two-piece, sliding type, cast iron. The cover of the valve box shall be close fitting, substantially dirt tight and flush with the top of box rim. The cover shall include the word "WATER" prominently cast in

the top. The top section of the gate box shall be without a top flange. The lower section of the box shall be 4½-inch I.D., and shall have a bell-shaped bottom designed to enclose the operating nut and stuffing box of the valve without bearing on the valve bonnet. The boxes shall have at least 6-inches adjustment and when in the fully extended position, shall have a 4-inch lap. Valve boxes shall be installed for each buried valve.

- K. Couplings shall only be allowed when connecting standard outside diameter pipe to oversized or pit cast pipe. The coupling shall be of a type equal to Dresser Style 153, Romac Style 501, or an approved equal. Couplings shall be provided with plain, Grade 27 rubber gaskets and with black, steel, track-head bolts with nuts.
- L. Pre-cast concrete thrust blocks shall be manufactured by a (NPCA) national precast concrete association certified plant.

PART 3 - EXECUTION

3.01 NOTIFICATIONS AND VERIFICATION REQUIRED

- A. The contractor shall provide 72 hours notification to the Town of Maynard DPW before work begins to the existing hydrant and establish the location of the line valves that need to be closed. The contractor shall also provide the same notification to the residents via posted flyers or other communication as directed by the Water Department.
- B. The contractor shall also coordinate with the Town of Maynard police department regarding lane closures or public streets if needed and detail officers before any work begins. The cost of details is included in the cost of the water work.
- C. No work shall commence on the water connection until the contractor has performed a test pit to locate the existing water main and verified the depth, material type and size of the pipe and the existing pipe bell locations.

3.02 FIRE PROTECTION SPRINKLER CONTRACTOR LICENSE

- A. The installation of the fire hydrant including piping shall be performed by an individual or contractor that has a valid FIRE PROTECTION SPRINKLER CONTRACTOR LICENSE issued by: The Commonwealth of Massachusetts Division of Professional Licensure Office of Public Safety and Inspections.

3.03 CONNECTIONS TO EXISTING WATER MAIN

- A. The contractor shall perform a test pit to verify the depth, location material and size of the existing water main. No work on the water main will begin until all of the components needed to complete the operation are on site. The contractor shall also have road plated on site as needed to cover any trench excavations at the end of work day.
- B. All of the work described in this section and all water installations is subject to inspection by the Town of Maynard DPW or their designated representative either entirely or at specific intervals as required by the DPW Director. The contractor is responsible for coordinating and communicating with the inspectors and ensuring that the work is inspected by the DPW before any of the work is backfilled.

3.04 HYDRANT CONNECTIONS

- A. All gate boxes and the curb stop box shall be set plumb, clear from any debris and adjusted to finished pavement grade. All piping shall be assembled as per specifications with a minimum cover at least 5 feet below finished grade.
- B. The fire hydrant shall be set plumb in the location noted on the drawings with the largest connection facing the street. Back from the curb location and not interfering with the sidewalk clear path of travel. Provide solid concrete blocks under and behind the hydrant and crushed stone for weep drainage as per the drawings. The final mounting height shall leave the flanged connection higher than the finished grade as per the details.

- C. The building fire service will be continued and connected to the stub at the building. The completed pipe shall be disinfected, and leak tested by the contractor per the specifications. All DPW inspections shall be completed before the pipe and hydrant are backfilled.
- D. Trenches shall be backfilled in accordance with the drawings after the installations have been inspected and approved by Maynard DPW. Use back fill materials and meet compaction requirements noted in Section 31 20 00 Earth Moving.

3.05 AS BUILT INFORMATION REQUIRED

- A. The contractor shall provide Maynard DPW with as built information compiled via 2 swing ties at 60° skew or GPS and plotted on a legible scaled drawing in electronic format as follows:
 - 1. Record the center location of the tee connection at the main.
 - 2. Record the location of each gate valve and curb stop.

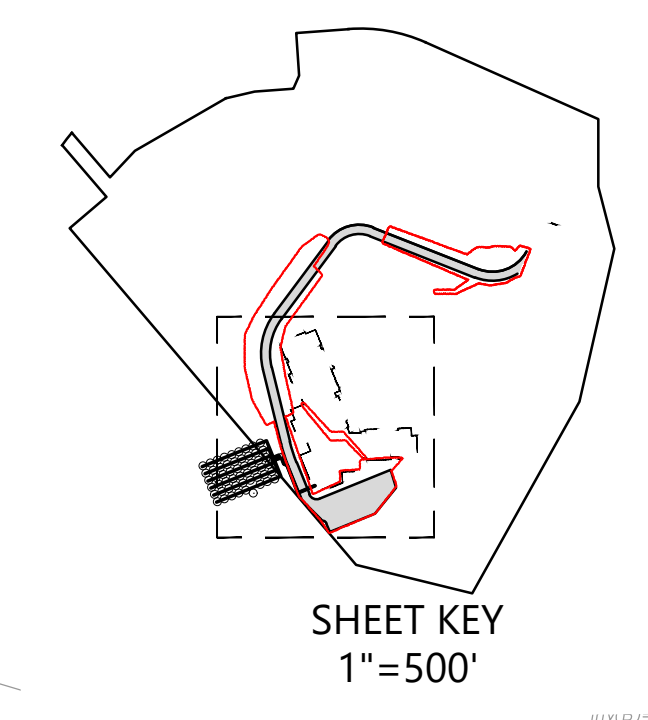
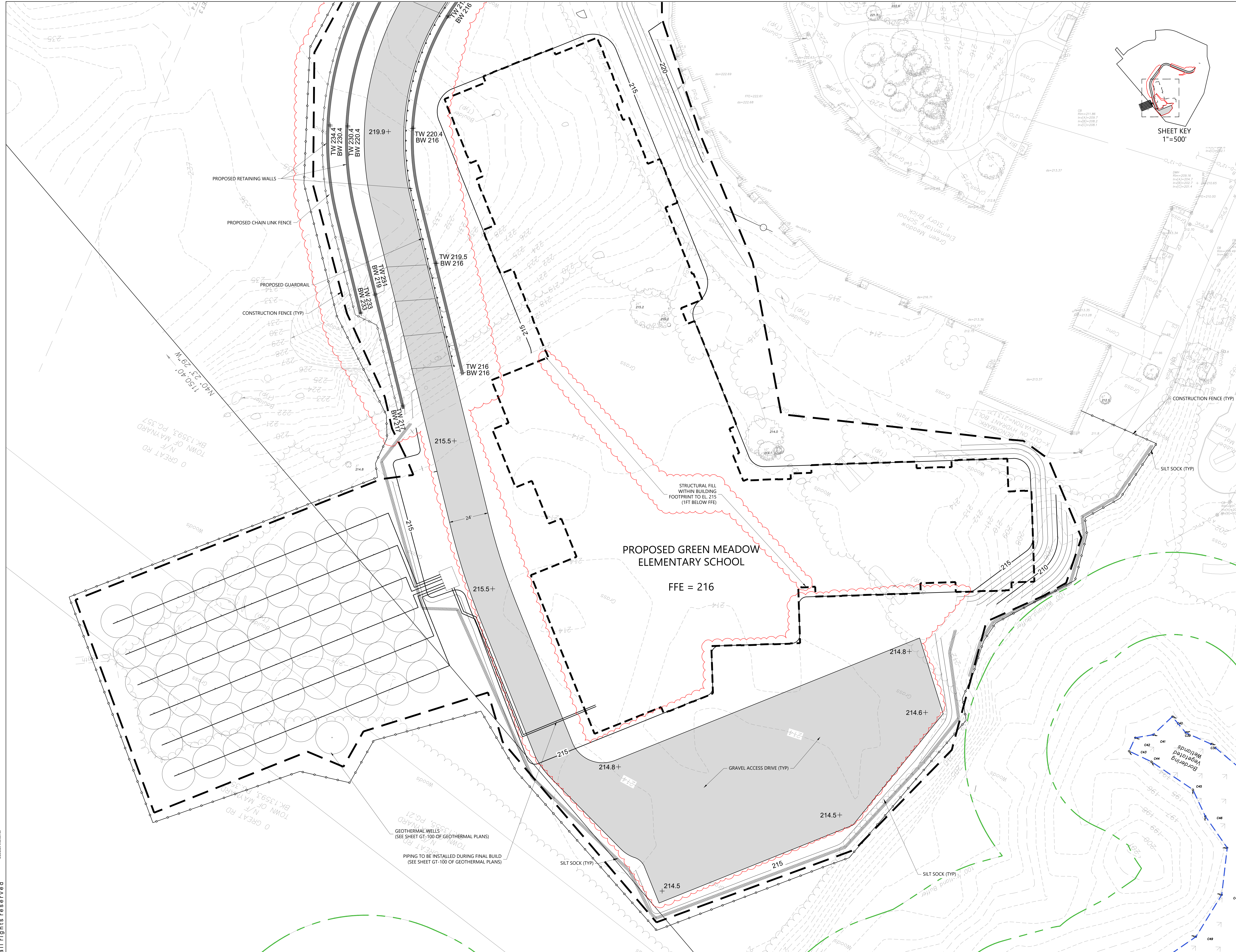
3.06 TRENCH PATCH, CURB AND SIDEWALK RESTORATION AND CLEAN UP

- A. The road and sidewalks shall be temporarily patched over the water trenches with 2 inches of hot mixed bituminous concrete pavement on compacted gravel. Final trench patch will be installed after trenches have stabilized per the trench patch detail included in the drawings. Refer to Section 32 10 03 Hot Mixed Asphalt Paving.
- B. Curbing displaced from installation shall be reset by the contractor when the sidewalks are repaired by the contractor. The curbing shall be stacked out of the way without interfering with traffic or pedestrian movement.
- C. Granite curbing will be reset to it's original location as detailed on the drawings and approved by the Town of Maynard. Any broken pieces of curbing shall be replaced in kind by the contractor at his/her own expense. All curbing reset work needed as a result of the water pipe installation is included in the water work. No separate pavement will be made for resetting curbing.
- D. Cement concrete sidewalk and aprons disturbed by the water pipe installation shall be restored in accordance with the drawing details to match existing and as approved by the Town of Maynard. Edges between old and new sidewalks shall be saw cut with power driven saws. The cost of sidewalk restoration work needed as a result of the water pipe installation is included in the water work. No separate pavement will be made for sidewalk restoration.
- E. All roadway and sidewalk surfaces shall be swept with water equipped sweepers daily and after the trenches are temp. paved.
- F. The contractor shall provide 1 inch steel road plates as needed to cover trenches/excavations during non-work hours.

3.07 RUBBISH REMOVAL

- A. The General Contractor shall remove and dispose daily all waste and debris in accordance with the requirements of Section 01 74 19 – Construction Waste Management and Disposal.

END OF SECTION



REVISIONS		
NUMBER	DESCRIPTION	DATE
1	ADDENDUM 1	6/7/2024

PROJECT PHASE
BID SET

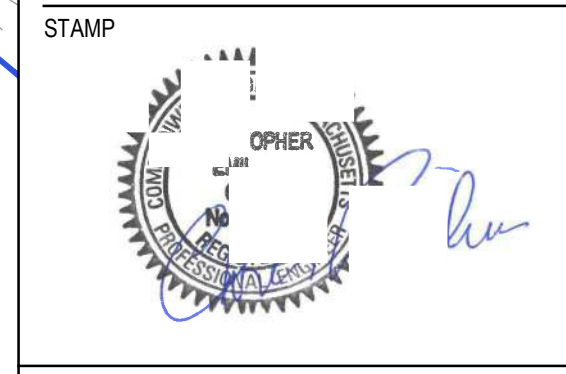
PROJECT NUMBER

OWNER / PROJECT NAME / LOCATION
TOWN OF MAYNARD
GREEN MEADOW
ELEMENTARY SCHOOL
EARLY SITE
PREPARATION
PACKAGE
5 TIGER DRIVE
MAYNARD, MA 01754

DRAWING TITLE
SITE PREPARATION PLAN

264 Exchange Street,
Suite G7
Chicopee, Massachusetts 01013

413 592 9700 T
413 592 9750 F
info@mvgarchitects.com E



DRAWING INFORMATION

SCALE 1" = 20'

DRAWN BY CG

CHECKED CE

DATE MAY 22, 2024

DRAWING NUMBER
C-02.1

SECTION 33 10 00 {ADDENDUM 1}

WATER UTILITIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. All the Contract Documents, including Drawings, General Conditions, Supplementary Conditions, and all Sections of Division 01 - General Requirements, apply to the Work of this Section.
- B. Sustainable Design Intent: The Work of this Contract and Section shall include compliance with all requirements to achieve a minimum of 170 points in accordance with NE-CHPS version 3.2 Criteria. Work shall include, but not be limited to, Location and Transportation, Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, and Innovation as described in, and in accordance with requirements of Section 01 33 15 – NE-CHPSv3.2 Requirements, Section 01 81 15 – Sustainable Materials Requirements, and the Contract Documents.

1.02 DESCRIPTION OF WORK

- A. This work consists of removing and relocating an existing fire hydrant as noted on the drawings. Obtaining any permits from the Town of Maynard Department of Public Works (DPW) and coordination of all inspections and notifications as required by the Town of Maynard DPW and Town of Maynard Fire Department.
- B. This work includes but is not limited to all excavation and backfill, labor, equipment and materials needed to excavate the existing hydrant and existing pipe and connection relocate the hydrant to the proposed location, connection to the water main, install piping, gate valve and.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. Related sections, without limitation, include:
 - 1. Section 31 20 00 - Earth Moving
 - 2. Section 31 21 00 - Site Preparation
 - 3. Section 31 21 01 – Site Utility Preparation
 - 4. Section 31 25 00 – Erosion and Sedimentation Control

1.04 REFERENCES

- A. AWWA (American Water Works Association) C151-09 - Ductile-Iron Pipe, Centrifugally Cast
- B. AWWA C153-19 – Ductile Iron Compact Fittings
- C. AWWA C104-08 - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings
- D. AWWA C651-23 – Disinfecting Water Mains
- E. AWWA C110-12 – Ductile-Iron and Gray Iron Fittings
- F. AWWA C111-12 – Standard for Rubber Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
- G. AWWA C515-15 Reduced-Wall, Resilient-Seated Gate Valves for Water Supply Service
- H. AWWA Standard Specifications for Hydrants and Valves
- I. DIPRA – (Ductile-Iron Pipe Research Association) Thrust Restraint Design for Ductile Iron Pipe (latest edition)
- J. AWWA C606- Standard for the Installation of Ductile-Iron Water Mains and Their Appurtenances
- K. AWWA (American Water Works Association) C651-23 – Disinfecting Water Mains

1.04 SUBMITTALS

- A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures, Section 01 33 15 - NE-CHPSv3.2 Requirements, and in accordance with requirements of the Contract Documents.

PART 2 - PRODUCTS

2.01 MATERIAL APPROVAL

- L. All materials incorporated into or connected to the Maynard water system shall be subject to approval of the submittal procedures listed herein and by Maynard DPW.

2.02 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Ductile Iron Pipe for water mains
 2. Ductile Iron Fittings for water mains
 3. Ductile Iron solid body couplings for water mains
 4. Ductile Iron gate valves for water mains
 5. Cast Iron gate valve boxes
 6. Thrust restraint glands and bolts for water mains
 7. Pre-Cast concrete thrust blocks

2.03 WATER PIPE VALVES AND FITTINGS

- A. Water pipe shall be cement-lined, seal-coated ductile iron pipe with push-on type joints. Pipe shall be thickness class 52 and shall conform to the latest revision of AWWA C151.
- B. Valves shall conform to the latest revision of AWWA C515 for gate valves. Valve type shall be as directed by the Town of Maynard DPW standard.
- C. Gate valves sizes 4 through 12-inch shall be of a resilient wedge design with cast ferrous components made of ductile iron and the valves shall be in compliance with AWWA C515. All valves shall be a Mueller Resilient Wedge Gate Valve manufactured by Mueller Company or Series 2500 Resilient Wedge Gate Valve manufactured by American Flow Control. The valves shall open RIGHT, clockwise. Gate valves shall be equipped with mechanical joints and retainer glands, unless otherwise specified by the Maynard DPW.
- D. The valves shall be designed for a safe working pressure of 250 psi. Valves shall be fusion-bonded epoxy coated on the interior surface unless otherwise specified by the Maynard DPW.
- E. Hydrant shall be reset with new restraint joints, rods and nuts.
- F. Hydrant Anchoring tees shall have main run ends as required for the installation. The branch shall have a plain end with an integral gland and rotating mechanical joint gland to provide a restrained connection with the adjacent valve.
- G. Fittings shall be ductile iron and conform to the latest revision of AWWA C153. All fittings shall be mechanical joint.
- H. Retainer glands shall be installed at all mechanical joints. Retainer glands shall be rated at 350 psi for 4-inch (4") through 24-inch (24") diameters, and 250 psi for glands larger than 24-inch (24").
- I. All nuts and bolts shall be of a type equal to ductile iron or KOR-10 steel T-bolts and nuts.
- J. Valve boxes shall be round, two-piece, sliding type, cast iron. The cover of the valve box shall be close fitting, substantially dirt tight and flush with the top of box rim. The cover shall include the word "WATER" prominently cast in

the top. The top section of the gate box shall be without a top flange. The lower section of the box shall be 4½-inch I.D., and shall have a bell-shaped bottom designed to enclose the operating nut and stuffing box of the valve without bearing on the valve bonnet. The boxes shall have at least 6-inches adjustment and when in the fully extended position, shall have a 4-inch lap. Valve boxes shall be installed for each buried valve.

- K. Couplings shall only be allowed when connecting standard outside diameter pipe to oversized or pit cast pipe. The coupling shall be of a type equal to Dresser Style 153, Romac Style 501, or an approved equal. Couplings shall be provided with plain, Grade 27 rubber gaskets and with black, steel, track-head bolts with nuts.
- L. Pre-cast concrete thrust blocks shall be manufactured by a (NPCA) national precast concrete association certified plant.

PART 3 - EXECUTION

3.01 NOTIFICATIONS AND VERIFICATION REQUIRED

- A. The contractor shall provide 72 hours notification to the Town of Maynard DPW before work begins to the existing hydrant and establish the location of the line valves that need to be closed. The contractor shall also provide the same notification to the residents via posted flyers or other communication as directed by the Water Department.
- B. The contractor shall also coordinate with the Town of Maynard police department regarding lane closures or public streets if needed and detail officers before any work begins. The cost of details is included in the cost of the water work.
- C. No work shall commence on the water connection until the contractor has performed a test pit to locate the existing water main and verified the depth, material type and size of the pipe and the existing pipe bell locations.

3.02 FIRE PROTECTION SPRINKLER CONTRACTOR LICENSE

- A. The installation of the fire hydrant including piping shall be performed by an individual or contractor that has a valid FIRE PROTECTION SPRINKLER CONTRACTOR LICENSE issued by: The Commonwealth of Massachusetts Division of Professional Licensure Office of Public Safety and Inspections.

3.03 CONNECTIONS TO EXISTING WATER MAIN

- A. The contractor shall perform a test pit to verify the depth, location material and size of the existing water main. No work on the water main will begin until all of the components needed to complete the operation are on site. The contractor shall also have road plated on site as needed to cover any trench excavations at the end of work day.
- B. All of the work described in this section and all water installations is subject to inspection by the Town of Maynard DPW or their designated representative either entirely or at specific intervals as required by the DPW Director. The contractor is responsible for coordinating and communicating with the inspectors and ensuring that the work is inspected by the DPW before any of the work is backfilled.

3.04 HYDRANT CONNECTIONS

- A. All gate boxes and the curb stop box shall be set plumb, clear from any debris and adjusted to finished pavement grade. All piping shall be assembled as per specifications with a minimum cover at least 5 feet below finished grade.
- B. The fire hydrant shall be set plumb in the location noted on the drawings with the largest connection facing the street. Back from the curb location and not interfering with the sidewalk clear path of travel. Provide solid concrete blocks under and behind the hydrant and crushed stone for weep drainage as per the drawings. The final mounting height shall leave the flanged connection higher than the finished grade as per the details.

- C. The building fire service will be continued and connected to the stub at the building. The completed pipe shall be disinfected, and leak tested by the contractor per the specifications. All DPW inspections shall be completed before the pipe and hydrant are backfilled.
- D. Trenches shall be backfilled in accordance with the drawings after the installations have been inspected and approved by Maynard DPW. Use back fill materials and meet compaction requirements noted in Section 31 20 00 Earth Moving.

3.05 AS BUILT INFORMATION REQUIRED

- A. The contractor shall provide Maynard DPW with as built information compiled via 2 swing ties at 60° skew or GPS and plotted on a legible scaled drawing in electronic format as follows:
 - 1. Record the center location of the tee connection at the main.
 - 2. Record the location of each gate valve and curb stop.

3.06 TRENCH PATCH, CURB AND SIDEWALK RESTORATION AND CLEAN UP

- A. The road and sidewalks shall be temporarily patched over the water trenches with 2 inches of hot mixed bituminous concrete pavement on compacted gravel. Final trench patch will be installed after trenches have stabilized per the trench patch detail included in the drawings. Refer to Section 32 10 03 Hot Mixed Asphalt Paving.
- B. Curbing displaced from installation shall be reset by the contractor when the sidewalks are repaired by the contractor. The curbing shall be stacked out of the way without interfering with traffic or pedestrian movement.
- C. Granite curbing will be reset to it's original location as detailed on the drawings and approved by the Town of Maynard. Any broken pieces of curbing shall be replaced in kind by the contractor at his/her own expense. All curbing reset work needed as a result of the water pipe installation is included in the water work. No separate pavement will be made for resetting curbing.
- D. Cement concrete sidewalk and aprons disturbed by the water pipe installation shall be restored in accordance with the drawing details to match existing and as approved by the Town of Maynard. Edges between old and new sidewalks shall be saw cut with power driven saws. The cost of sidewalk restoration work needed as a result of the water pipe installation is included in the water work. No separate pavement will be made for sidewalk restoration.
- E. All roadway and sidewalk surfaces shall be swept with water equipped sweepers daily and after the trenches are temp. paved.
- F. The contractor shall provide 1 inch steel road plates as needed to cover trenches/excavations during non-work hours.

3.07 RUBBISH REMOVAL

- A. The General Contractor shall remove and dispose daily all waste and debris in accordance with the requirements of Section 01 74 19 – Construction Waste Management and Disposal.

END OF SECTION

SECTION 31 21 01

SITE UTILITIES PREPARATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Related documents: Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 DESCRIPTION OF WORK

- A. This section consists of providing all materials labor and equipment including but not limited to laying out and preparing for and completing excavation and trenching for pipelines and all associated handling and storage of materials, dewatering as necessary, and subgrade preparation and surface restoration of the trench. Providing trench protection for workers and protection of the trench work. Obtaining permits required to perform the installation of each utility. The work includes preparing trenches including excavating and backfilling for utilities to be installed or completed by others.
- ~~B. The work includes the removal of the existing electrical transformer currently servicing the existing Green Meadow School and relocating the transformer, primary power feed and secondary power feed as needed to maintain operation of the existing building without interfering with the normal operation of the school. [AAD1]~~
- C. Install portions of the conduits to be used for electrical power in locations as noted on the plan.
- D. Provide excavation, trenching, and backfill for the geothermal piping that extends from the geothermal wells to the vault used to gather the piping.
- E. Provide excavation and backfill for the utility vault used to gather the well piping.
 - 1. The extent of work is as shown on the geothermal drawings and as specified in the relative specification sections.
 - 2. Remove and dispose of all unused soil excavated from the trenching operation.

1.03 RELATED WORK AS SPECIFIED ELSEWHERE

- A. Related sections, without limitation, include:
 - 1. Section 31 10 00 - Site Clearing
 - 2. Section 31 20 00 – Earth Moving
 - 3. Section 31 21 00 - Site Preparation
 - 4. Section 31 25 00 – Erosion and Sedimentation Controls
 - 5. Section 33 61 37 – Geothermal Ground-Source Heat Exchange System

1.04 SUBMITTALS

- A. Provide submittals in accordance with requirements of Section 01 33 00 – Submittal Procedures, Section 01 33 15 - NE-CHPSv3.2 Requirements, and in accordance with requirements of the Contract Documents.

PART 2 - PRODUCTS

- 1.01 Provide and install sand to backfill the geothermal piping field trenches per Section 33 61 37 – Geothermal Ground-Source Heat Exchange System specifications.

PART 3 - EXECUTION

3.01 DIG SAFE COORDINATION

- A. Contractor shall coordinate with DIG SAFE (811) and request a full mark out of all utilities on site and in public ways. The contractor shall mark out dig safe limits to coincide with the project utility limits and keep the dig safe limit marks visible by remarking the limits throughout the project construction. An electronic copy of the dig safe ticket shall be sent to the architect and the various Town Departments upon request. The contractor is required to renew the dig safe ticket at the intervals required by Dig Safe and call Dig Safe for remarks as needed.

3.02 UTILITY MARK OUT LIMITS

- A. Before excavation establish the route of proposed utility alignments in the field by marking out locations for review by the architect and confirm that the routes will be obtainable when compared with the dig safe marks labeled by various utility companies.
- B. Trench limits in pavement may be jack cut for temporary patching and shall be saw cut with power driven saws for final patching.
- C. Coordinate and mark out the locations of the geothermal trenches before excavation work begins for review by the Architect.

3.03 TEST PITS FOR CONFIRMATION

- A. Exposure of buried utilities that might interfere with alignment or grade shall be accomplished by Exploratory Excavation (test pits) prior to construction. If any existing utility interferes with the proposed work in either alignment or grade and has to be moved, such work shall be done by or arranged for by the CONTRACTOR.
- B. Exploratory Excavation via test pits performed by the contractor may be required either prior to or during construction to verify location(s) of the utilities or underground facilities when there are discrepancies with surface "locates" or discrepancies with how the utilities are identified on the drawings in relation to their true underground location.
- C. The CONTRACTOR shall communicate to the ENGINEER and they shall agree on the appropriateness to proceed with Exploratory Excavation prior to commencing with the work.

3.04 UTILITY EXCAVATION

- A. During excavation, materials suitable for backfilling shall be piled in an orderly manner and a sufficient distance from the banks of the trench to avoid overloading and to prevent slides or cave-ins. Excavated material shall be piled on one side of the trench only, to permit ready access to existing fire hydrants, valves, manholes and other appurtenances. Surface drainage of adjoining areas shall be unobstructed.
- B. All excavated materials not required or suitable for backfill shall be removed from the site and disposed of in a manner and/or by methods acceptable to OWNER. The architect will require certification of proper disposal procedures copies of dump slips, etc.
- C. The contractor shall grade or provide temporary dikes as necessary to prevent surface water from flowing into excavations, and any other water accumulating therein shall be promptly removed. Under no circumstances shall water be permitted to rise in un-backfilled trenches until after the pipe has been placed, tested and covered to final grade with backfill. Any pipe having its alignment or grade changed as a result of a flooded trench shall be re-laid at no additional cost to the OWNER.
- D. Adequate provisions shall be made for maintaining the flow of sewers, drains and water courses encountered during construction. Culverts, ditches, fences, crossings and structures that are disturbed by this construction, shall be satisfactorily restored to their original condition upon completion of the work.

3.05 SAFE SITE CONDITIONS

- A. The CONTRACTOR or a CONTRACTOR DESIGNATED COMPETENT PERSON under his/her employment shall be responsible for enforcing safety and maintaining safe working conditions and all trenching and shoring to conform to OSHA regulations.
- B. The CONTRACTOR shall employ qualified, properly trained personnel to design shoring, perform safety inspections of the trenches, and other operations involving safety procedures, as prescribed by OSHA.
- C. The CONTRACTOR shall do all shoring, bracing and tight sheeting required to prevent caving and to protect his workmen, in accordance with Occupational Safety and Health (OSHA) Regulation Requirements, and to protect adjacent property and structures.

3.06 STRUCTURES ENCOUNTERED

- A. The CONTRACTOR shall exercise every precaution to prevent damage to existing buildings or structures in the vicinity of his work. In the event of such damages, he shall repair them to the satisfaction of the owner of the damaged structure at no cost to the OWNER.

3.07 OVERHEAD UTILITIES

- A. The CONTRACTOR shall use extreme caution to avoid a conflict, contact, or damage to overhead utilities such as power lines, streetlights, telephone lines, television lines, poles or other appurtenances during the course of construction of the Project.

3.08 SURVEY MARKERS AND MONUMENTS

- A. The CONTRACTOR shall use every care and precaution to protect and not disturb any survey markers or monuments, such as those that might be located at lot or block corners, property pins, street intersection monuments or addition line demarcation. Such protection shall include marking with flagged high stakes and markers and field coordination with operators and other workers and close supervision. No monument shall be disturbed without prior approval of the OWNER and ENGINEER. Any survey marker or monument that is disturbed or destroyed by the CONTRACTOR without approval during construction of the Project shall be replaced at no cost to the OWNER by a licensed land surveyor.

3.10 DEWATERING TRENCHES AND DRILLING

- A. Where ground water is encountered in the excavation, it shall be removed to avoid interfering with pipe laying, footing placement and other construction operations. The contractor shall provide all dewatering design and equipment.
- B. Dewatering shall be considered a cost paid for as part of the contractor's utility installation and excavation work. No separate payment will be made for dewatering utility trenches or handling water generated by drilling operations.
- C. Discharge from dewatering operations shall be directed to storm sewers and into catch basins only based on the approval received from the Town DPW.
- D. All discharge dewatering systems shall control silt and any turbidity from entering the Town drainage system or adjacent wetlands. The use of silt sacks is required in Section 31 25 00 Temporary Erosion & Sediment Controls. All silt sacks shall be in place, inspected and approved before any excavation work shall commence.
- E. Discharge from dewatering operations shall be treated in accordance with rules and regulations established by the Massachusetts Department of Environmental Protection (MDEP). These activities require coverage under the Town of Maynard MS-4 permit.
- F. For general trench dewatering the contractor shall use silt bags fitted on all dewatering hoses. The silt bags shall be adequately sized to eliminate silt and turbidity from the dewatering discharge. The Town of Maynard has the right to inspect the contractor's dewatering equipment and stop the contractor's work if it is found that the contractor is in violation of the Town's MS-4 Permit or any of the Town's By-Laws.

- G. To mitigate/remove fines from the slurry generated by the geothermal well drilling the contractor shall employ a pump and filtering system with frac tanks or other containment features as needed to eliminate the silt and fines generated by the drilling operation. The materials, equipment, and design of this type of dewatering system shall be designed by a person competent in the assembly, operation, and maintenance of the filtering system.
- H. All water exiting the contractor's pumping and sedimentation/filtration equipment shall be clear and free of turbidity. The contractor's filter system and containment system shall be adequately sized to manage the water generated by the dewatering operation without overtopping or overflowing.
- I. All silt, fines or other waste generated by filtering and settling operations shall be legally disposed of by the contractor. The costs associated with disposing of the silt, fines and other waste material generated by dewatering shall be included as part of the cost of the utility and drilling installation. No separate payment will be made for dewatering of any kind.

3.11 GENERAL EXCAVATION OPERATIONS

- A. The CONTRACTOR shall excavate as necessary at the locations shown on the drawings, staked in the field or otherwise specified for the installation of the structure, service pipelines and other utilities as noted on the drawings or as required.
- B. The CONTRACTOR shall take precautions and protect all adjoining private and public property and facilities, including underground and overhead utilities, curbs, sidewalks, driveways, structures, trees, and fences. Any disturbed or damaged facilities will be suitably restored or replaced by the CONTRACTOR at no cost to the owner.
- C. Crossing under sidewalks or curbs may be made by tunneling is not allowed. If the CONTRACTOR elects to remove a portion of the sidewalk or curb, he must use a concrete saw for making neat joints corresponding to existing joints, compact the backfill as specified, and install a new concrete sidewalk or curb section.
- D. Excavations for manholes, hydrants, structures, and other appurtenances shall be sufficient to leave clearance adequate for proper compaction efforts on all sides. The depth, provisions for removing water, and other applicable portions of these specifications shall apply to excavation for appurtenances.

3.12 TRENCH DIMENSIONS

- A. Trench dimensions shall be as specified below:
 - 1. Trench width from the trench bottom to a point one foot (12 inches) above the top of the pipe shall be no less than the outside diameter of the pipe plus twenty-four (24) inches plus the shoring on each side of the trench. The width of the trench from the bottom of the trench to the existing ground surface shall be adequate to allow proper compaction effort along both sides of the pipe.
 - 2. Depth of Trench. Trench depth shall be as required for the invert grade or pipe bury depth shown on the plans. Care shall be taken not to excavate below the required depth.
 - 3. When soft or unstable material or rock is encountered at the subgrade, which will not uniformly support the pipe, such material shall be excavated to an additional depth as necessary and backfilled with Gravel Pipe Bedding Material per Section 31 20 00 Earth Moving.
 - 4. Were trench depths exceed 20 feet, the contractor shall provide trenching protection designed by a Registered Professional Engineer per OSHA standards.

3.13 TRENCH BOTTOM

- A. The bottom of the trenches shall be accurately graded to the line and grade show on the drawings or shall provide the cover depth required by the utility owner. Bedding material shall provide uniform bearing and support for each section of the pipe at every point along its entire length. Bell holes and depressions for joints shall be dug after the trench bedding has been graded, and shall be only of such length, depth and width as required for properly making the particular joint type. Unauthorized over depths shall be backfilled with bedding material at the CONTRACTOR's expense.

3.14 TIME OF OPEN TRENCHES

- A. The CONTRACTOR will be required to conduct his work so that trenches will remain open a minimum possible time.
 - B. No trench excavating shall begin until approved compaction equipment is at the site where the excavating is to take place. All backfill and compacting shall be completed in all trenching and structural excavations within a maximum distance based on the work that can be accomplished in a day.
 - C. The contractor shall provide road plates to cover trenches that are not backfilled and compacted at the end of a workday. The plates shall be shimmed and wedged with temporary bituminous when placed across roadways.
 - D. No trenches are to be left plated over holiday weekends. Trenches shall be backfilled as soon as the utility is inspected and approved.
- 3.15 EQUIPMENT
- A. The use of trench digging machinery will be permitted except in places where its operation will cause damage to existing structures or features, in which case hand methods shall be employed.
 - B. Any equipment on tracks, or that have outriggers which are to be used on pavement, shall be equipped with suitable pads to prevent damage to the pavement. All pavement damaged during construction by the CONTRACTOR's equipment shall be replaced to its original condition by the CONTRACTOR.

END OF SECTION